

Technical Appendix

Proposed Baldwin 2 Section Pk-8 School Brookline, Massachusetts

Prepared for:

**Jonathan Levi Architects
Boston, Massachusetts**

APPENDIX

TURNING MOVEMENT COUNTS
SEASONAL ADJUSTMENTS
AUTOMATIC TRAFFIC RECORDER COUNTS
SPEEDS
TRANSIT INFORMATION
CRASH DATA
BACKGROUND DEVELOPMENT
VEHICLE OCCUPANCY RATIO
TRIP GENERATION
CAPACITY ANALYSIS

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TURNING MOVEMENT COUNTS

School Peak Hour Traffic Volumes

File Name: C:\Users\stevil\Documents\2016\Ferris\Brookline, MA\VA\1759017990\0001.ppt
 Start Date: 9/26/2018
 Start Time: 7:00:00 AM
 Site Code: 79900001
 Comment 1: N/S Street : Hammond Street
 Comment 2: E/W Street: Boylston Street
 Comment 3: City/State : Brookline, MA
 Comment 4: Weather : Cloudy

Start Time	Hammond St From North				Hammond St From South				Boylston St From East				Boylston St From West				Hammond St From South	Boylston St From East	Hammond St From North	Boylston St From West
	Left	Thru	Right	Peds	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR				
07:00 AM	23	24	23	0	19	256	11	0	18	70	14	0	32	317	8	0	70	286	102	357
07:15 AM	30	44	13	0	45	294	9	0	12	85	22	0	25	241	7	0	87	348	119	273
07:30 AM	31	56	19	0	63	333	7	0	13	116	5	0	41	274	5	0	106	403	134	320
07:45 AM	35	79	23	0	48	266	6	1	21	102	13	0	46	242	5	0	137	321	136	293
	119	203	78	0	175	1149	33	1	64	373	54	0	144	1074	25	0	400	1358	491	1243
No Build	128	218	84	0	188	1232	35	1	69	400	58	0	154	1151	27	0	0.73	0.84	0.90	0.87
PHF	0.85	0.64	0.85	0	0.69	0.86	0.75	0.25	0.76	0.80	0.61	0	0.78	0.85	0.78	0.00	0.00	0.84	0.90	0.87
Truck	0	1	0	0	7	20	0	0	2	0	8	0	1	26	5	0	0	0	0	0
% Truck	0.0%	0.5%	0.0%	0.0%	4.0%	1.7%	0.0%	0.0%	3.1%	0.0%	14.8%	0.0%	0.7%	2.4%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%
bike/ped	1	1	0	2	0	0	0	17	0	4	1	2	0	1	0	27	0	0	0	0
01:30 PM	20	54	25	0	32	293	11	0	40	30	15	0	32	280	12	0	99	336	85	324
01:45 PM	32	65	23	0	52	256	17	0	20	22	17	0	39	232	12	0	110	325	59	283
02:00 PM	29	48	24	0	37	274	13	0	31	38	13	0	33	232	16	0	101	324	82	261
02:15 PM	32	37	38	0	31	321	7	0	39	44	19	0	43	287	11	0	107	369	102	321
	113	184	110	0	152	1144	48	0	130	134	64	1	147	1011	51	0	417	1344	328	1208
No Build	121	208	118	0	163	1227	51	0	139	144	69	0	158	1064	55	0	0.95	0.94	0.80	0.93
PHF	0.89	0.86	0.72	0	0.73	0.89	0.71	0.00	0.81	0.76	0.64	0	0.85	0.90	0.80	0.00	0.00	0.94	0.80	0.93
Truck	0	3	0	0	4	23	0	0	3	0	9	0	1	13	1	0	0	0	0	0
% Truck	0.0%	1.5%	0.0%	0.0%	2.6%	2.0%	0.0%	0.0%	2.3%	0.0%	14.1%	0.0%	0.7%	1.3%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PED	0	3	0	1	0	0	0	7	0	2	0	2	0	1	0	29	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Hammond Street
EW Street: Boylston Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900001
Site Code : 79900001
Start Date : 9/26/2018
Page No : 1

Groups Printed: Cars - Trucks

Start Time	Hammond St From North			Boylston St From East			Hammond St From South			Boylston St From West			U-TR	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
07:00 AM	23	24	23	19	256	11	18	70	14	32	317	8	0	815
07:15 AM	30	44	13	45	294	9	12	85	22	25	241	7	0	827
07:30 AM	31	56	19	63	333	7	13	116	5	41	274	5	0	963
07:45 AM	35	79	23	48	266	6	21	102	13	46	242	5	0	887
Total	119	203	78	175	1149	33	64	373	54	144	1074	25	0	3492
08:00 AM	37	70	38	48	299	9	35	90	22	39	239	12	1	939
08:15 AM	23	36	28	54	339	5	39	93	11	45	266	12	0	951
08:30 AM	29	40	23	48	275	13	36	74	26	43	263	5	0	875
08:45 AM	24	36	15	46	215	11	35	79	17	41	250	6	0	776
Total	113	182	104	196	1128	38	145	336	76	168	1018	35	1	3541
Grand Total	232	385	182	371	2277	71	209	709	130	312	2092	60	1	7033
Approch %	29	48.2	22.8	13.6	83.7	2.6	19.9	67.7	12.4	12.7	84.9	2.4	0	
Total %	3.3	5.5	2.6	5.3	32.4	1	3	10.1	1.8	4.4	29.7	0.9	0	
Cars	230	384	181	358	2234	69	202	706	115	306	2030	53	1	6871
% Cars	99.1	99.7	99.5	96.5	98.1	97.2	96.7	99.6	88.5	98.1	97	88.3	100	97.7
Trucks	2	1	1	13	43	2	7	3	15	6	62	7	0	162
% Trucks	0.9	0.3	0.5	3.5	1.9	2.8	3.3	0.4	11.5	1.9	3	11.7	0	2.3

Accurate Counts

978-664-2565

File Name : 79900001
 Site Code : 79900001
 Start Date : 9/26/2018
 Page No : 12

N/S Street : Hammond Street
 E/W Street : Boylston Street
 City/State : Brookline, MA
 Weather : Cloudy

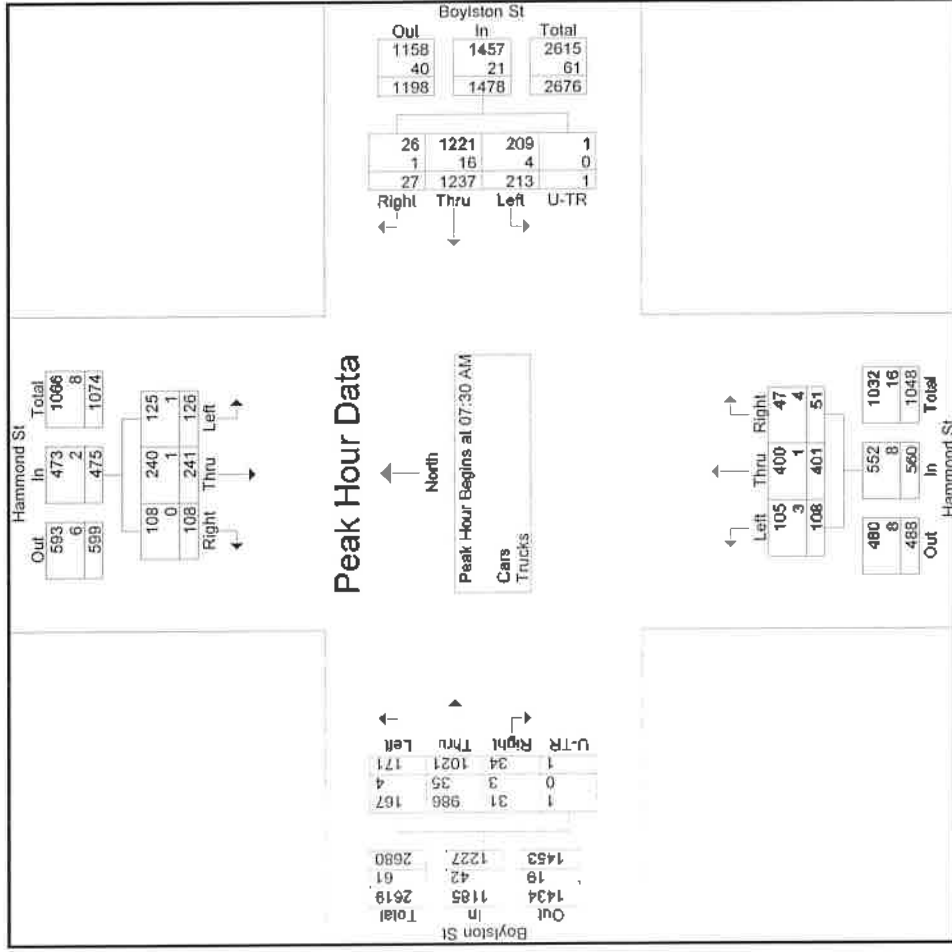
Start Time	Hammond St From North				Boylston St From East				Hammond St From South				Boylston St From West				Int. Total			
	Left	Thru	Right	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru		Right	U-TR	App. Total
07:30 AM	31	56	19	106	63	333	7	0	403	13	116	5		134	41	274	5	0	320	963
07:45 AM	35	79	23	137	48	266	6	1	321	21	102	13		136	46	242	5	0	293	887
08:00 AM	37	70	38	145	48	299	9	0	356	35	90	22		147	39	239	12	1	291	939
08:15 AM	23	36	28	87	54	339	5	0	398	39	93	11		143	45	266	12	0	323	951
Total Volume	126	241	108	475	213	1237	27	1	1478	108	401	51		560	171	1021	34	1	1227	3740
% App. Total	26.5	50.7	22.7		14.4	83.7	1.8	0.1		19.3	71.6	9.1			13.9	83.2	2.8	0.1		
PHF	.851	.763	.711	.819	.845	.912	.750	.250	.917	.692	.864	.580		.952	.929	.932	.708	.250	.950	.971
Cars	125	240	108	473	209	1221	26	1	1457	105	400	47		552	167	986	31	1	1185	3667
% Cars	99.2	99.6	100	99.6	98.1	98.7	96.3	100	98.6	97.2	99.8	92.2		98.6	97.7	96.6	91.2	100	96.6	98.0
Trucks	1	1	0	2	4	16	1	0	21	3	1	4		8	4	35	3	0	42	73
% Trucks	0.8	0.4	0	0.4	1.9	1.3	3.7	0	1.4	2.8	0.2	7.8		1.4	2.3	3.4	8.8	0	3.4	2.0

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Accurate Counts
978-664-2565

File Name : 79900001
 Site Code : 79900001
 Start Date : 9/26/2018
 Page No : 3

N/S Street : Hammond Street
 E/W Street : Boylston Street
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM	07:30 AM	07:45 AM	07:00 AM	
+0 mins.	30	44	13	87	
+15 mins.	31	56	19	106	32
+30 mins.	35	79	23	137	25
+45 mins.	37	70	38	145	41
Total Volume	133	249	93	475	144
% App. Total	28	52.4	19.6	100.0	29.9

Accurate Counts

978-664-2565

N/S Street : Hammond Street
 EW Street: Boylston Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900001
 Site Code : 79900001
 Start Date : 9/26/2018
 Page No : 1

Start Time	Groups Printed- Bikes- Peds																						
	Hammond St From North				Boylston St From East				Hammond St From South				Boylston St From West										
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total				
07:00 AM	0	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	2	7	1	8
07:15 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	3	7	0	0	7	7	0	7
07:30 AM	1	0	0	0	0	0	0	2	0	1	1	2	0	1	0	7	11	4	15	15	11	4	15
07:45 AM	0	0	0	2	0	0	0	6	0	3	0	0	0	0	0	15	23	3	26	26	23	3	26
Total	1	1	0	2	0	0	0	17	0	4	1	2	0	1	0	27	48	8	56	56	48	8	56
08:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	6	8	0	8	8	8	0	8
08:15 AM	0	0	0	0	0	0	0	8	0	0	0	3	1	0	0	5	16	1	17	17	16	1	17
08:30 AM	0	0	0	0	0	0	0	4	1	0	0	3	0	0	0	5	12	1	13	13	12	1	13
08:45 AM	0	0	0	0	0	0	0	2	0	1	0	1	0	0	0	8	11	1	12	12	11	1	12
Total	0	0	0	0	0	0	0	16	1	1	0	7	1	0	0	24	47	3	50	50	47	3	50
Grand Total	1	1	0	2	0	0	0	33	1	5	1	9	1	1	0	51	95	11	106	106	95	11	106
Approch %	50	50	0	0	0	0	0	14.3	14.3	71.4	14.3	0	50	50	0	0	89.6	10.4	10.4	10.4	89.6	10.4	10.4
Total %	9.1	9.1	0	0	0	0	0	9.1	9.1	45.5	9.1	0	9.1	9.1	0	0	89.6	10.4	10.4	10.4	89.6	10.4	10.4

Accurate Counts

978-664-2565

File Name : 79900001
 Site Code : 79900001
 Start Date : 9/26/2018
 Page No : 2

N/S Street : Hammond Street
 E/W Street : Boylston Street
 City/State : Brookline, MA
 Weather : Cloudy

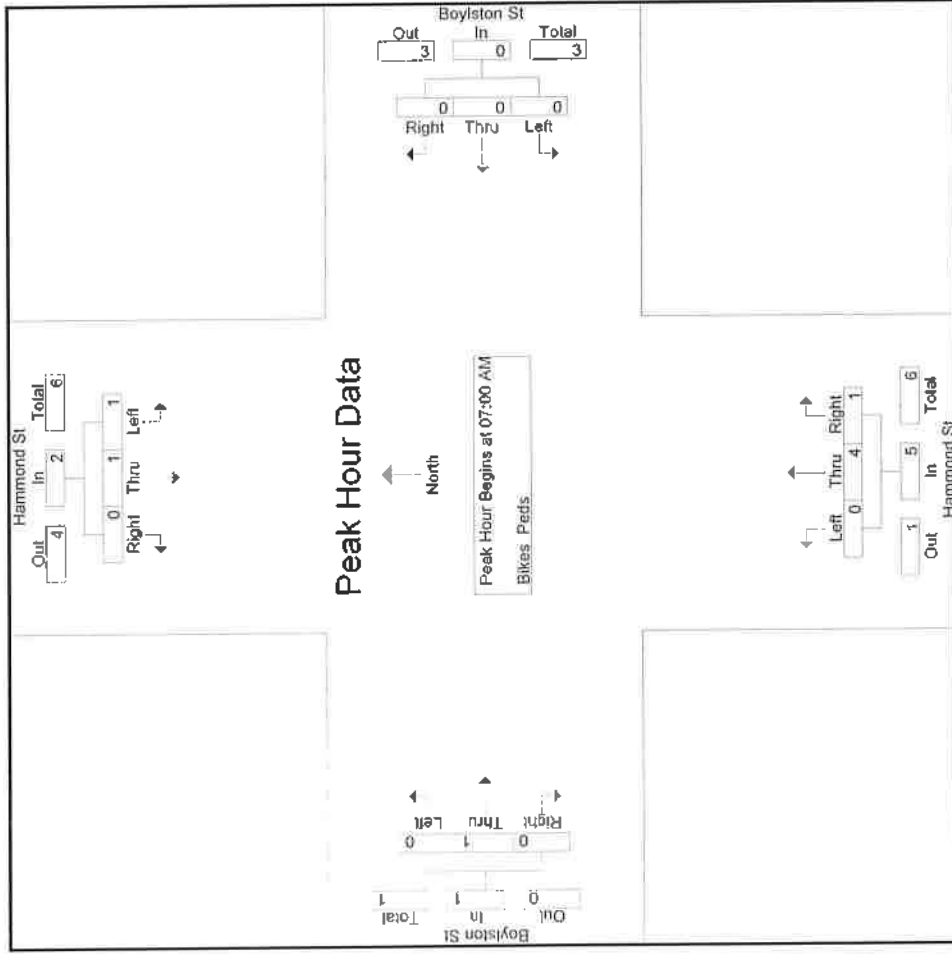
Start Time	Hammond St From North			Boylston St From East			Hammond St From South			Boylston St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	1	0	0	0	1	1	0	1	0	0	1	0	4
07:45 AM	0	0	0	0	3	0	0	3	0	0	0	0	3
Total Volume	1	1	0	0	4	1	0	4	1	0	1	0	8
% App. Total	50	50	0	0	80	20	0	80	20	0	100	0	500
PHF	.250	.250	.000	.000	.333	.250	.000	.333	.250	.000	.250	.000	.500

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Accurate Counts
978-664-2565

File Name : 79900001
Site Code : 79900001
Start Date : 9/26/2018
Page No : 3

N/S Street : Hammond Street
EW Street: Boylston Street
City/State : Brookline, MA
Weather : Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:30 AM					
+0 mins.	0	1	0	0	0	0	0	0	1	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	1	0	0	0	0	0	1	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	1	0	0	1
Total Volume	1	1	0	0	0	0	4	1	1	1	0	2
% App. Total	50	50	0	0	0	0	80	20	50	50	0	0

Accurate Counts

978-664-2565

N/S Street : Hammond Street
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 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900001
 Site Code : 79900001
 Start Date : 9/26/2018
 Page No : 1

Start Time	Groups Printed - Cars - Trucks													
	Hammond St From North			Boylston St From East			Hammond St From South			Boylston St From West				
	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	U-TR	Int. Total
01:00 PM	39	33	31	46	7	29	31	15	40	208	5	0	0	766
01:15 PM	30	11	32	40	15	35	25	22	41	230	12	0	0	758
01:30 PM	20	25	54	32	11	40	30	15	32	280	12	0	0	844
01:45 PM	32	23	55	52	17	20	22	17	39	232	12	0	0	777
Total	121	92	172	170	50	124	108	69	152	950	41	0	0	3145
02:00 PM	29	24	48	37	13	31	38	13	33	232	16	0	0	788
02:15 PM	32	38	37	31	7	39	44	19	43	267	11	0	0	889
02:30 PM	21	29	60	38	13	30	44	17	43	216	21	1	1	845
02:45 PM	40	28	71	49	13	36	50	13	43	226	10	0	0	875
Total	122	119	216	155	46	136	176	62	162	941	58	1	1	3397
03:00 PM	36	33	62	47	18	28	46	11	49	250	17	0	0	930
03:15 PM	30	38	100	49	19	36	84	11	42	226	9	0	0	945
03:30 PM	27	37	77	55	6	26	50	12	51	277	12	1	1	946
03:45 PM	29	28	95	28	10	30	52	12	35	272	13	0	0	951
Total	122	136	334	179	53	120	232	46	177	1025	51	1	1	3772
Grand Total	365	347	722	504	149	380	516	177	491	2916	150	2	2	10314
Approch %	25.5	24.2	50.3	11.9	3.5	35.4	48.1	16.5	13.8	81.9	4.2	0.1	0.1	98.4
Total %	3.5	3.4	7	4.9	1.4	3.7	5	1.7	4.8	28.3	1.5	0	0	10148
% Cars	364	346	714	491	148	374	513	163	485	2875	145	2	2	10148
% Cars	99.7	99.7	98.9	97.4	99.3	98.4	99.4	92.1	98.8	98.6	96.7	100	100	98.4
Trucks	1	1	8	13	1	6	3	14	6	41	5	0	0	166
% Trucks	0.3	0.3	1.1	2.6	0.7	1.6	0.6	7.9	1.2	1.4	3.3	0	0	1.6

Accurate Counts

978-664-2565

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 Page No : 2

N/S Street : Hammond Street
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 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Hammond St From North				Boylston St From East				Hammond St From South				Boylston St From West				Inl. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
03:00 PM	36	62	33	131	47	331	18	398	28	46	11	85	49	250	17	316	
03:15 PM	30	100	38	168	49	300	19	369	36	84	11	131	42	226	9	277	
03:30 PM	27	77	37	141	55	315	6	376	26	50	12	88	51	277	12	341	
03:45 PM	29	95	28	152	28	346	10	385	30	52	12	94	35	272	13	320	
Total Volume	122	334	136	592	179	1292	53	1528	120	232	46	398	177	1025	51	1254	
% App. Total	20.6	56.4	23	881	11.7	84.6	3.5	960	30.2	58.3	11.6	760	14.1	81.7	4.1	919	
PHF	.847	.835	.895	.881	.814	.934	.697	.500	.833	.690	.958	.760	.868	.925	.750	.250	
Cars	121	332	135	588	176	1272	53	1505	117	230	45	392	175	1018	47	1241	
% Cars	99.2	99.4	99.3	99.3	98.3	98.5	100	98.5	97.5	99.1	97.8	98.5	98.9	99.3	92.2	100	
Trucks	1	2	1	4	3	20	0	23	3	2	1	6	2	7	4	13	
% Trucks	0.8	0.6	0.7	0.7	1.7	1.5	0	1.5	2.5	0.9	2.2	1.5	1.1	0.7	7.8	1.0	

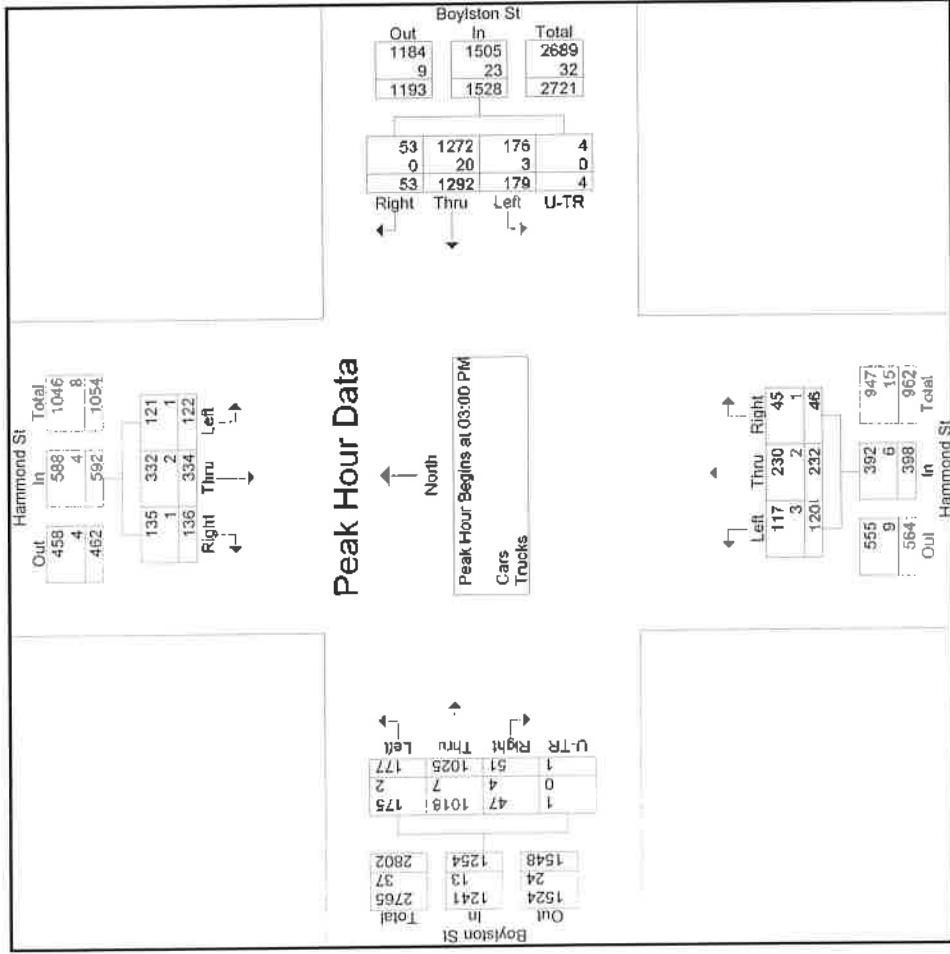
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 03:00 PM

Accurate Counts

978-664-2565

File Name : 79900001
 Site Code : 79900001
 Start Date : 9/26/2018
 Page No : 3

N/S Street : Hammond Street
 EW Street : Boylston Street
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:00 PM				02:30 PM				03:00 PM									
+0 mins.	36	62	33	131	47	331	18	2	398	30	44	17	91	49	250	17	0	316
+15 mins.	30	100	38	168	49	300	19	1	369	36	50	13	99	42	226	9	0	277
+30 mins.	27	77	37	141	55	315	6	0	376	28	46	11	85	51	277	12	1	341
+45 mins.	29	95	28	152	28	346	10	1	385	36	84	11	131	35	272	13	0	320
Total Volume	122	334	136	592	179	1292	53	4	1528	130	224	52	406	177	1025	51	1	1254
% App. Total	20.6	56.4	23	881	11.7	84.6	3.5	0.3	960	32	55.2	12.8	14.1	81.7	4.1	0.1		
PHF	.847	.835	.895	.881	.814	.934	.697	.500	.960	.903	.667	.765	.775	.868	.925	.750	.250	.919

Accurate Counts

978-664-2565

N/S Street : Hammond Street
 E/W Street : Boylston Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900001
 Site Code : 79900001
 Start Date : 9/26/2018
 Page No : 1

Start Time	Hammond St										Groups Printed- Bikes Peds										Total			
	From North					From East					From South					From West					Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds				
01:00 PM	0	0	0	2	0	0	0	4	0	0	0	3	0	0	1	0	11	0	0	0	0	20	1	21
01:15 PM	0	1	0	1	0	0	0	2	0	1	0	0	0	0	0	0	10	0	0	0	0	13	2	15
01:30 PM	0	1	0	1	0	0	0	2	0	0	0	0	0	1	0	4	0	1	0	0	7	2	9	
01:45 PM	0	1	0	0	0	0	3	0	0	0	2	0	0	0	0	9	0	0	0	0	14	1	15	
Total	0	3	0	4	0	0	11	0	0	1	0	5	0	0	2	34	0	2	0	0	54	6	60	
02:00 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	8	0	0	0	0	8	2	10	
02:15 PM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	8	0	0	0	0	10	1	11	
02:30 PM	0	1	0	0	0	0	1	0	0	0	0	2	0	0	13	0	0	0	0	0	16	1	17	
02:45 PM	0	1	0	0	0	0	3	0	0	0	0	0	0	0	6	0	0	0	0	0	9	1	10	
Total	0	3	0	0	0	0	6	0	0	2	0	2	0	0	35	0	0	0	0	0	43	5	48	
03:00 PM	0	1	0	1	0	0	3	0	0	0	0	0	0	0	10	0	0	0	0	0	14	1	15	
03:15 PM	0	1	0	1	0	0	5	0	0	0	0	1	0	0	14	0	0	0	0	0	21	2	23	
03:30 PM	0	1	0	1	0	0	1	0	0	1	0	0	0	0	7	0	0	0	0	0	9	3	12	
03:45 PM	0	0	0	0	0	0	4	0	0	1	0	1	0	0	7	0	0	0	0	0	12	1	13	
Total	0	3	0	3	0	0	13	0	0	2	0	2	0	0	38	0	0	0	0	0	56	7	63	
Grand Total	0	9	0	7	0	0	30	0	0	5	0	9	0	2	107	0	2	0	0	0	153	18	171	
Approach %	0	100	0	50	0	0	100	0	0	100	0	0	0	100	0	0	0	0	0	0	89.5	10.5		
Total %	0	50	0	5.6	0	0	27.8	0	0	27.8	0	0	0	11.1	0	0	0	0	0	0	89.5	10.5		

Accurate Counts
978-664-2565

File Name : 79900001
 Site Code : 79900001
 Start Date : 9/26/2018
 Page No : 2

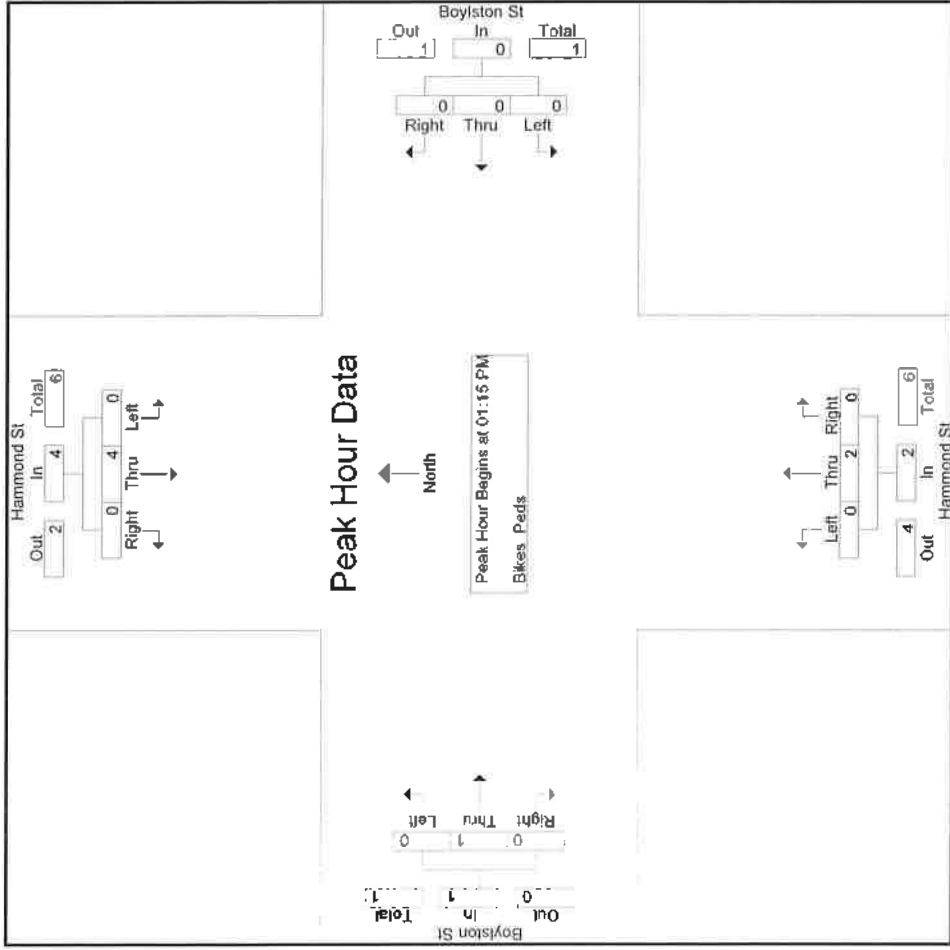
N/S Street : Hammond Street
 E/W Street : Boylston Street
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Hammond St From North			Boylston St From East			Hammond St From South			Boylston St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 01:15 PM														
01:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	1
01:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	4	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	100	0	0	100	0	0	1
PHF	.000	1.00	.000	.000	.000	.000	.000	.500	.000	.000	.250	.000	.250	.875

Accurate Counts
978-664-2565

File Name : 79900001
 Site Code : 79900001
 Start Date : 9/26/2018
 Page No : 3

N/S Street : Hammond Street
 E/W Street : Boylston Street
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	01:00 PM			01:15 PM			02:45 PM			01:15 PM			01:00 PM		
+0 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
+15 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	1	0	1	0	0	0	0	0	0	1	0
Total Volume	0	4	0	1	1	0	2	50	50	2	100	100	2	100	2
% App. Total	0	100	0	.250	.250	.000	.500	.500	.500	.000	.500	.500	.000	.500	.000
PHF	.000	1.000	.000	1.000	1.000	.000	1.000	1.000	1.000	.000	.500	.500	.000	.500	.000

School Peak Hour Traffic Volumes

File Name: C:\Users\sls\Documents\2018\Peria\Brookline, MA\VA\1796017960002.ppt

Start Date: 8/28/2018

Start Time: 7:00:00 AM

Site Code: 79900002

Comment 1: N/S Street - Hammond Street

Comment 2: EW Street - Heath Street

Comment 3: City/State : Brookline, MA

Comment 4: Weather : Cloudy

Start Time	Hammond St From North				Heath St From East				Hammond St From South				Heath St From West				Hammond St From South	Heath St From East	Hammond St From North	Heath St From West	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds					Left
07:00 AM	7	45	0	0	5	5	6	0	1	106	50	0	0	0	0	0	0	52	16	157	0
07:15 AM	5	84	1	0	11	2	11	0	1	96	39	0	0	0	0	0	0	90	24	136	0
07:30 AM	5	118	3	0	19	4	17	0	0	124	34	0	0	0	0	0	0	126	40	158	0
07:45 AM	3	122	7	0	35	5	34	0	4	116	45	0	0	0	0	0	0	132	74	165	1
No Build	20	369	11	0	70	16	68	0	6	442	168	0	0	0	0	0	0	400	154	616	1
PHF	0.71	0.76	0.39		0.50	0.80	0.50		0.38	0.89	0.84		0.00	0.00	0.25		0.76	0.52	0.83	0.25	
Truck	2	8	0		1	1	0		0	10	1		0.0%	0.0%	100.0%						
% Truck	10.0%	2.2%	0.0%		1.4%	6.3%	0.0%		0.0%	2.3%	0.6%		0.0%	0.0%	100.0%						
PED	0	1	0		7	1	0		0	5	0		0	0	0		17				
01:30 PM	5	85	8	0	13	5	24	0	3	51	24	0	0	0	0	0	0	98	42	78	0
01:45 PM	6	105	7	0	12	6	7	0	0	63	18	0	0	0	0	0	0	116	25	81	0
02:00 PM	4	85	5	0	13	2	20	0	7	63	20	0	0	0	0	0	0	94	35	90	0
02:15 PM	6	74	3	0	16	2	16	0	1	72	24	0	0	0	0	0	0	83	34	97	0
No Build	21	349	23	0	54	15	67	0	11	249	86	0	0	0	0	0	0	393	136	346	0
PHF	0.88	0.83	0.72		0.84	0.83	0.70		0.39	0.86	0.90		0.00	0.00	0.00		0.83	0.81	0.89	#DW/01	
Truck	0	8	0		1	0	2		0	10	0		0.0%	0.0%	0.0%						
% Truck	0.0%	2.3%	0.0%		1.9%	0.0%	3.0%		0.0%	4.0%	0.0%		0.0%	0.0%	0.0%						
PED	1	2	0		7	0	1		3	0	0		0	0	0		20				

Accurate Counts
978-664-2565

N/S Street : Hammond Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900002
 Site Code : 79900002
 Start Date : 9/26/2018
 Page No : 1

Start Time	Groups Printed- Cars - Trucks															
	Hammond St From North				Heath St From East				Hammond St From South				Heath St From West			
	Left	Thru	Right	Int. Total	Left	Thru	Right	Int. Total	Left	Thru	Right	Int. Total	Left	Thru	Right	Int. Total
07:00 AM	7	45	0		5	5	6		1	106	50		0	0	0	225
07:15 AM	5	84	1		11	2	11		1	96	39		0	0	0	250
07:30 AM	5	118	3		19	4	17		0	124	34		0	0	0	324
07:45 AM	3	122	7		35	5	34		4	116	45		0	0	1	372
Total	20	369	11		70	16	68		6	442	168		0	0	1	1171
08:00 AM	9	106	8		18	10	21		5	103	29		0	0	0	309
08:15 AM	9	97	7		16	9	32		8	109	22		0	0	0	309
08:30 AM	9	80	7		12	13	31		11	112	35		0	0	0	310
08:45 AM	3	71	7		15	11	27		2	95	19		0	0	0	250
Total	30	354	29		61	43	111		26	419	105		0	0	0	1178
Grand Total	50	723	40		131	59	179		32	861	273		0	0	1	2349
Approch %	6.2	88.9	4.9		35.5	16	48.5		2.7	73.8	23.4		0	0	100	
Total %	2.1	30.8	1.7		5.6	2.5	7.6		1.4	36.7	11.6		0	0	0	
Cars	48	706	40		129	58	178		32	837	272		0	0	0	2300
% Cars	96	97.6	100		98.5	98.3	99.4		100	97.2	99.6		0	0	0	97.9
Trucks	2	17	0		2	1	1		0	24	1		0	0	1	49
% Trucks	4	2.4	0		1.5	1.7	0.6		0	2.8	0.4		0	0	100	2.1

Accurate Counts

978-664-2565

File Name : 79900002
 Site Code : 79900002
 Start Date : 9/26/2018
 Page No : 2

N/S Street : Hammond Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

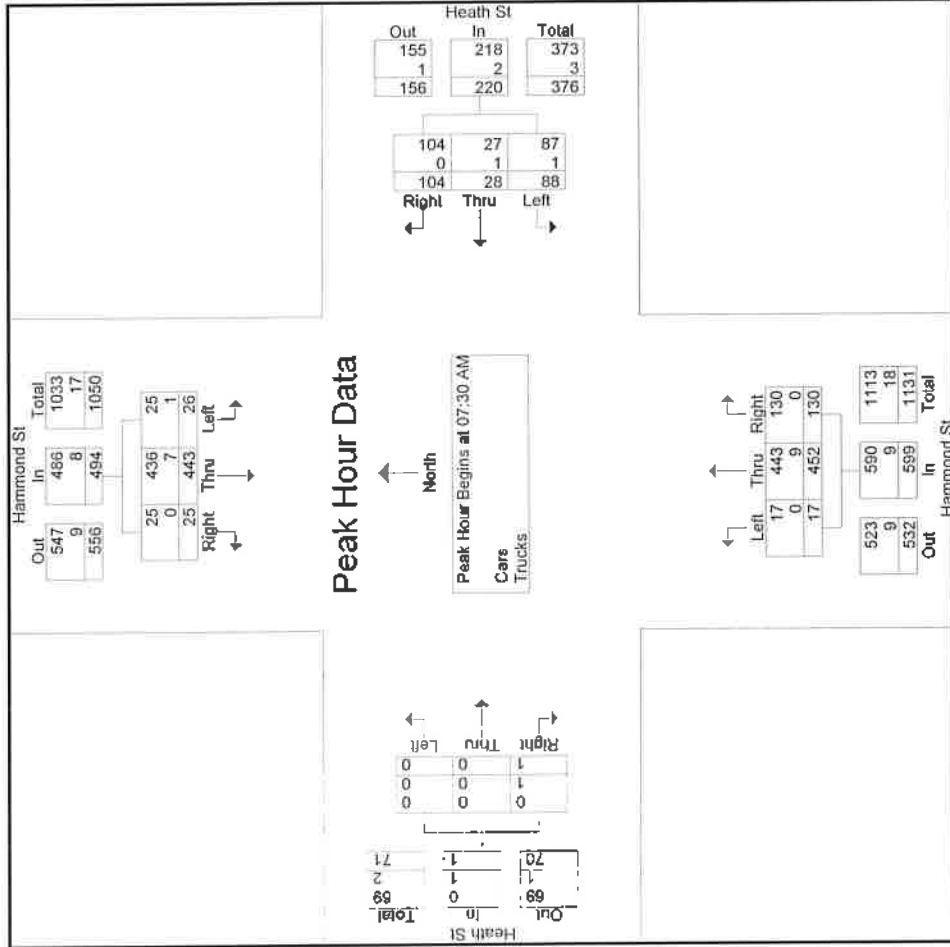
Start Time	Hammond St From North			Heath St From East			Hammond St From South			Heath St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
07:30 AM	5	118	3	19	4	17	0	124	34	158	0	0	0	324
07:45 AM	3	122	7	35	5	34	4	116	45	165	0	0	1	372
08:00 AM	9	106	8	18	10	21	5	103	29	137	0	0	0	309
08:15 AM	9	97	7	16	9	32	8	109	22	139	0	0	0	309
Total Volume	26	443	25	88	28	104	17	452	130	599	0	0	1	1314
% App. Total	5.3	89.7	5.1	40	12.7	47.3	2.8	75.5	21.7		0	0	100	
PHF	.722	.908	.781	.629	.700	.765	.531	.911	.722	.908	.000	.000	.250	.883
Cars	25	436	25	87	27	104	17	443	130	590	0	0	0	1294
% Cars	96.2	98.4	100	98.9	96.4	100	100	98.0	100	98.5	0	0	0	98.5
Trucks	1	7	0	1	1	0	0	9	0	9	0	0	1	20
% Trucks	3.8	1.6	0	1.1	3.6	0	0	2.0	0	1.5	0	0	100	1.5

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Accurate Counts
978-664-2565

File Name : 79900002
Site Code : 79900002
Start Date : 9/26/2018
Page No : 3

N/S Street : Hammond Street
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM	07:45 AM	07:00 AM	07:00 AM
+0 mins.	5	35	106	157
+15 mins.	3	18	98	136
+30 mins.	9	16	124	158
+45 mins.	9	12	116	165
Total Volume	26	81	442	616
% App. Total	5.3	15.7	71.8	27.3

Accurate Counts

978-664-2565

N/S Street : Hammond Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900002
 Site Code : 79900002
 Start Date : 9/26/2018
 Page No : 13

Start Time	Hammond St From North												Hammond St From South						Heath St From East						Hammond St From West						Exclu. Total	Inclu. Total	Int. Total			
	Left			Thru			Right			Peds			Left			Thru			Right			Peds			Left			Thru						Right		
01:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4
01:15 PM	0	0	0	0	0	7	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1	12
01:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	10
01:45 PM	1	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	7
Total	1	1	0	0	0	12	0	0	0	0	0	5	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	4	33			
02:00 PM	0	1	0	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	2	14
02:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4
02:30 PM	0	0	0	0	0	10	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1	12
02:45 PM	0	1	0	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	8
Total	0	2	0	0	0	18	0	0	1	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	5	38			
03:00 PM	0	1	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4
03:15 PM	0	1	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	2	11
03:30 PM	0	2	0	0	0	11	0	0	1	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	3	30
03:45 PM	0	0	0	0	0	8	0	0	0	0	0	5	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	2	17
Total	0	4	0	0	0	26	1	0	1	0	0	17	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	6	62			
Grand Total	1	7	0	0	0	56	1	1	2	0	0	25	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116	17	133			
Approach %	12.5	87.5	0	0	0	0	25	25	50	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87.2	12.8	0			
Total %	5.9	41.2	0	0	0	0	5.9	5.9	11.8	0	0	0	0	29.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87.2	12.8	0			

Accurate Counts

978-664-2565

N/S Street : Hammond Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900002
 Site Code : 79900002
 Start Date : 9/26/2018
 Page No : 14

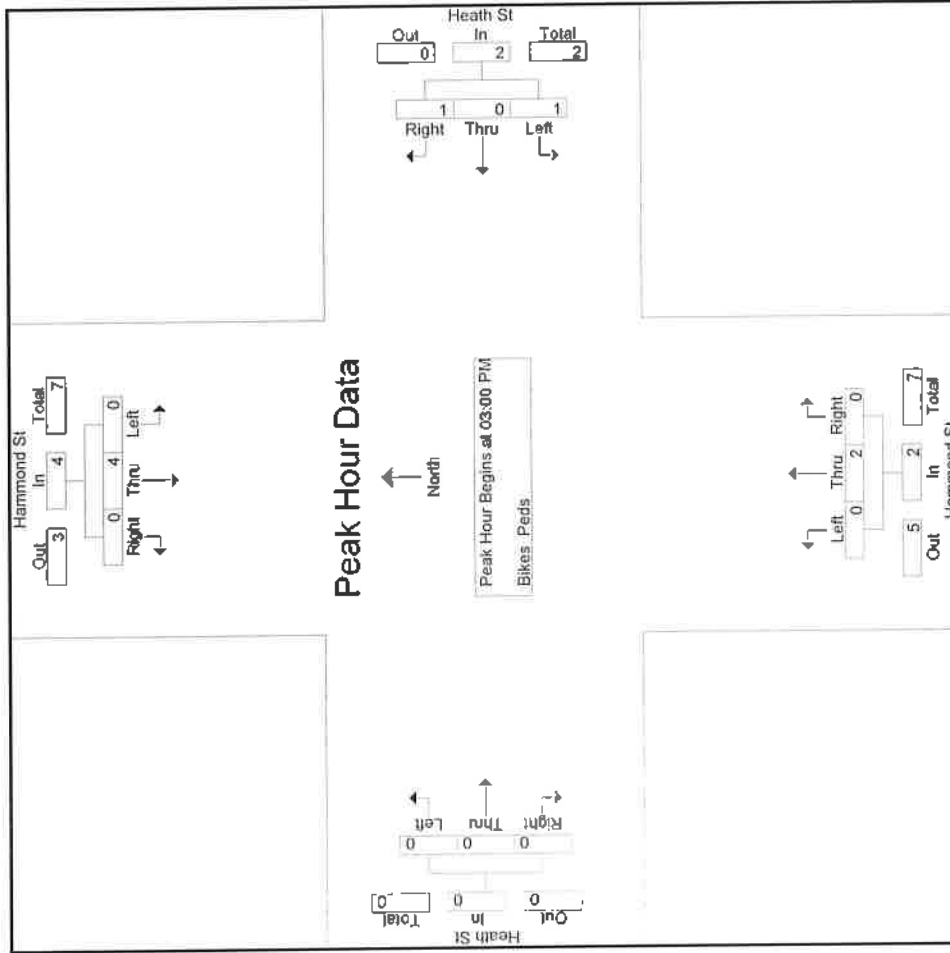
Start Time	Hammond St From North			Heath St From East			Hammond St From South			Heath St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 03:00 PM														
03:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	2
03:30 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	3
03:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Total Volume	0	4	0	1	0	1	0	2	0	0	0	0	0	8
% App. Total	0	100	0	50	0	50	0	100	0	0	0	0	0	0
PHF	.000	.500	.000	.250	.000	.250	.500	.250	.000	.000	.250	.000	.000	.667

Accurate Counts

978-664-2565

File Name : 79900002
 Site Code : 79900002
 Start Date : 9/26/2018
 Page No : 15

N/S Street : Hammond Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	02:45 PM			01:45 PM			01:00 PM			01:00 PM					
+0 mins.	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
+15 mins.	0	1	0	0	0	1	1	0	1	1	0	1	0	0	0
+30 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	5	0	0	1	1	2	0	2	2	0	2	0	0	0
% App. Total	0	100	0	0	50	50	100	0	100	0	0	0	0	0	0
PHF	.000	.625	.000	.250	.250	.250	.500	.000	.500	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Hammond Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900002
 File Code : 79900002
 Start Date : 9/26/2018
 Page No : 1

Start Time	Groups Printed- Cars - Trucks												
	Hammond St From North			Heath St From East			Hammond St From South			Heath St From West			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
01:00 PM	3	77	7	21	6	15	3	60	11	0	0	0	203
01:15 PM	4	72	4	11	3	18	3	63	15	0	0	0	193
01:30 PM	5	85	8	13	5	24	3	51	24	0	0	0	218
01:45 PM	6	105	7	12	6	7	0	63	18	0	0	0	224
Total	18	339	26	57	20	64	9	237	68	0	0	0	838
02:00 PM	4	85	5	13	2	20	7	63	20	0	0	0	219
02:15 PM	6	74	3	16	2	16	1	72	24	0	0	0	214
02:30 PM	5	105	8	17	7	21	5	88	26	0	0	0	282
02:45 PM	13	109	4	34	8	21	5	70	22	0	0	0	286
Total	28	373	20	80	19	78	18	293	92	0	0	0	1001
03:00 PM	6	125	8	36	5	18	6	68	26	0	0	0	288
03:15 PM	1	136	10	43	6	22	4	106	24	0	0	0	352
03:30 PM	6	144	4	38	9	21	5	71	22	0	0	0	320
03:45 PM	9	125	2	44	12	12	3	70	16	0	0	0	293
Total	22	530	24	161	32	73	18	315	88	0	0	0	1263
Grand Total	68	1242	70	298	71	215	45	845	248	0	0	0	3102
Approch %	4.9	90	5.1	51	12.2	36.8	4	74.3	21.8	0	0	0	
Total %	2.2	40	2.3	9.6	2.3	6.9	1.5	27.2	8	0	0	0	
% Cars	68	1216	70	295	71	212	44	823	248	0	0	0	3047
% Trucks	100	97.9	100	99	100	98.6	97.8	97.4	100	0	0	0	96.2
% Trucks	0	26	0	3	0	3	1	22	0	0	0	0	55
% Trucks	0	2.1	0	1	0	1.4	2.2	2.6	0	0	0	0	1.8

Accurate Counts

978-664-2565

File Name : 79900002
 Site Code : 79900002
 Start Date : 9/26/2018
 Page No : 2

N/S Street : Hammond Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Hammond St From North			Heath St From East			Hammond St From South			Heath St From West			Int. Total			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total				
03:00 PM	6	125	8	139	36	5	18	59	6	68	26	100	0	0	0	298
03:15 PM	1	136	10	147	43	6	22	71	4	106	24	134	0	0	0	352
03:30 PM	6	144	4	154	38	9	21	68	5	71	22	98	0	0	0	320
03:45 PM	9	125	2	136	44	12	12	68	3	70	16	89	0	0	0	293
Total Volume	22	530	24	576	161	32	73	266	18	315	88	421	0	0	0	1263
% App. Total	3.8	92	4.2	60.5	12	27.4	4.3	74.8	20.9	0	0	0	0	0	0	0
PHF	.611	.920	.600	.935	.915	.667	.830	.937	.750	.743	.846	.785	.000	.000	.000	.897
Cars	22	521	24	567	160	32	72	264	17	308	88	413	0	0	0	1244
% Cars	100	98.3	100	98.4	99.4	100	98.6	99.2	94.4	97.8	100	98.1	0	0	0	98.5
Trucks	0	9	0	9	1	0	1	2	1	7	0	8	0	0	0	19
% Trucks	0	1.7	0	1.6	0.6	0	1.4	0.8	5.6	2.2	0	1.9	0	0	0	1.5

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 03:00 PM

Accurate Counts

978-864-2565

N/S Street : Hammond Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900002
 Site Code : 79900002
 Start Date : 9/26/2018
 Page No : 13

Start Time	Groups Printed- Bikes Peds															
	Hammond St From North			Heath St From East			Hammond St From South			Heath St From West						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	5	12	1	13
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	6	9	0	9
07:30 AM	0	0	0	1	0	0	0	2	0	0	0	0	1	2	3	5
07:45 AM	0	0	0	1	0	0	1	3	0	0	0	0	5	7	3	10
Total	0	1	0	7	1	0	0	6	0	0	0	0	17	30	7	37
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	3
08:15 AM	0	0	0	1	0	0	1	0	0	0	0	0	2	4	0	4
08:30 AM	0	0	0	3	0	0	0	0	0	0	0	0	2	5	0	5
08:45 AM	0	0	0	2	0	0	0	1	0	0	1	0	1	3	2	5
Total	0	0	0	6	1	0	0	1	0	0	1	0	7	14	3	17
Grand Total	0	1	0	13	2	0	0	7	0	6	0	0	24	44	10	54
Approch %	0	100	0	100	0	0	0	100	0	100	0	0	100	81.5	18.5	
Total %	0	10	0	20	0	0	0	60	0	60	0	0	10	81.5	18.5	

Accurate Counts

978-664-2565

File Name : 79900002
 File Code : 79900002
 Start Date : 9/26/2018
 Page No : 14

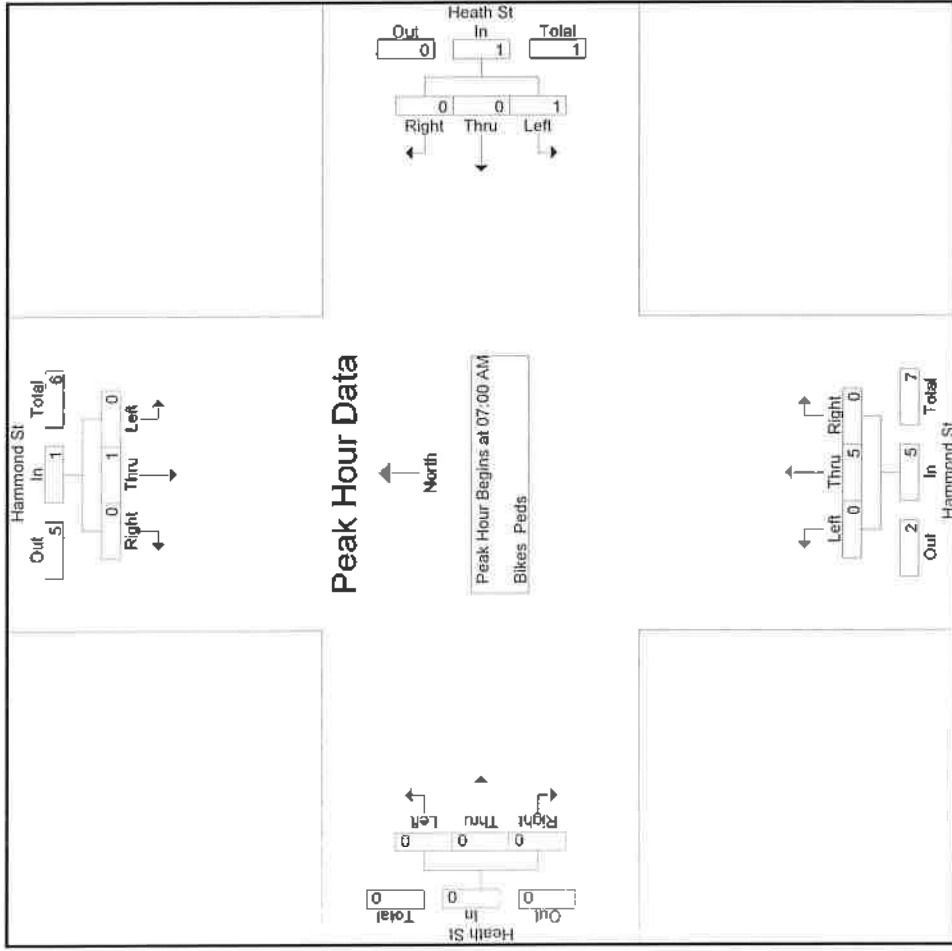
N/S Street : Hammond Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Hammond St From North			Heath St From East			Hammond St From South			Heath St From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 07:00 AM														
07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	0	0	2	0	0	0	0	2	3
07:45 AM	0	0	0	0	0	0	0	3	0	0	0	0	3	3
Total Volume	0	1	0	1	0	0	1	5	0	5	0	0	5	7
% App. Total	0	100	0	100	0	0	0	100	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.250	.000	.417	.000	.000	.000	.417	.583

Accurate Counts
978-664-2565

File Name : 79900002
 Site Code : 79900002
 Start Date : 9/26/2018
 Page No : 15

N/S Street : Hammond Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM	07:15 AM	07:30 AM	07:45 AM	08:00 AM	08:15 AM	08:30 AM	08:45 AM
+0 mins.	0	1	0	0	0	0	0	0
+15 mins.	0	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	2	0	0	0
+45 mins.	0	0	1	0	3	0	1	1
Total Volume	0	1	2	0	5	0	1	1
% App. Total	0	100	0	0	100	0	0	0

School Peak Hour Traffic Volumes

File Name: C:\Users\stev\Documents\2018\PenratBrookline, MA\VA\17990\79900003.ppd
 Start Date: 9/26/2018
 Start Time: 7:00:00 AM
 Site Code: 79900003
 Comment 1: N/S Street, Hammond Street
 Comment 2: EW Street: Recreation Rd / Driveway
 Comment 3: City/State: Brookline, MA
 Comment 4: Weather: Cloudy

Start Time	Hammond St From North			Recreation Rd From East			Hammond St From South			Dnwy From West			Hammond St Recreation Rd		Hammond St Dnwy		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Right	From South	From West	
07:00 AM	3	44	0	0	0	1	0	0	0	145	2	0	0	0	0	0	0
07:15 AM	2	96	0	0	0	2	0	0	0	130	1	0	0	0	0	0	0
07:30 AM	1	131	0	0	0	0	0	0	0	152	1	0	0	0	0	0	0
07:45 AM	2	159	0	0	0	0	0	0	0	157	2	0	0	0	0	0	0
	8	430	1	0	4	3	0	0	0	585	6	0	0	0	0	439	7
2025 No-Build	9	461	1	0	4	3	0	0	0	627	6	0	0	0	0	0	1
PHF	0.67	0.88	0.25		0.50	0.38		0.00	0.93	0.75		0.00	0.25		0.00	0.68	0.88
Truck	0	12	0		0	0		0	12	0		0	0		0	0	0
% Truck	0.0%	2.8%	0.0%		0.0%	0.0%		0.0%	2.1%	0.0%		0.0%	0.0%		0.0%	0.0%	0.0%
PED	0	2	0		1	0		0	1	0		3	0		0	0	17
01:30 PM	1	91	0	0	0	0	0	0	0	69	0	0	0	0	0	0	0
01:45 PM	2	114	0	0	0	1	0	0	0	82	2	0	0	0	0	0	0
02:00 PM	0	95	2	0	0	2	0	0	0	88	1	0	0	0	0	0	0
02:15 PM	0	86	0	0	1	0	0	0	0	89	0	0	0	0	0	0	0
	3	386	2	0	2	5	0	0	0	328	3	0	0	0	0	391	7
2025 No-Build	3	414	2	0	2	5	0	0	0	352	3	0	0	0	0	0	2
PHF	0.38	0.85	0.25		0.60	0.63		0.00	0.82	0.38		0.00	0.50		0.00	0.84	0.58
Truck	0	10	0		0	0		0	10	0		0	0		0	0	0
% Truck	0.0%	2.6%	0.0%		0.0%	0.0%		0.0%	3.0%	0.0%		0.0%	0.0%		0.0%	0.0%	50.0%
PED	0	2	0		1	0		0	1	0		1	0		0	0	25

Accurate Counts
978-664-2565

N/S Street : Hammond Street
E/W Street: Recreation Rd / Driveway
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900003
Site Code : 79900003
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Hammond St From North			Recreation Rd From East			Hammond St From South			Drwy From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	3	46	0	1	0	1	0	150	2	0	0	0	203
07:15 AM	2	101	0	0	0	2	0	134	1	0	0	0	240
07:30 AM	1	133	1	2	0	0	0	153	1	0	0	0	291
07:45 AM	2	162	0	1	0	0	0	160	2	0	0	1	328
Total	8	442	1	4	0	3	0	597	6	0	0	1	1062
08:00 AM	14	113	2	4	0	4	0	136	9	0	0	1	283
08:15 AM	8	99	0	8	0	12	0	119	8	0	0	0	254
08:30 AM	2	90	0	6	0	5	0	138	3	0	0	0	244
08:45 AM	2	91	0	1	0	2	0	131	3	0	0	0	230
Total	26	393	2	19	0	23	0	524	23	0	0	1	1011
Grand Total	34	835	3	23	0	26	0	1121	29	0	0	2	2073
Approch %	3.9	95.8	0.3	46.9	0	53.1	0	97.5	2.5	0	0	100	
Total %	1.6	40.3	0.1	1.1	0	1.3	0	54.1	1.4	0	0	0.1	
Cars	34	813	3	23	0	26	0	1093	29	0	0	2	2023
% Cars	100	97.4	100	100	0	100	0	97.5	100	0	0	100	97.6
Trucks	0	22	0	0	0	0	0	28	0	0	0	0	50
% Trucks	0	2.6	0	0	0	0	0	2.5	0	0	0	0	2.4

Accurate Counts

978-664-2665

N/S Street : Hammond Street
 EW Street: Recreation Rd / Driveway
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 2

Start Time	Hammond St From North			Recreation Rd From East			Hammond St From South			Drwy From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total
07:30 AM	1	133	1	2	0	0	0	153	1	154	0	0	0	291
07:45 AM	2	162	0	1	0	0	0	160	2	162	0	0	1	328
08:00 AM	14	113	2	4	0	4	0	136	9	145	0	0	1	283
08:15 AM	8	99	0	8	0	12	0	119	8	127	0	0	0	254
Total Volume	25	507	3	15	0	16	0	568	20	588	0	0	2	1156
% App. Total	4.7	94.8	0.6	48.4	0	51.6	0	96.6	3.4	100	0	0	100	
PHF	.446	.782	.375	.469	.000	.333	.000	.888	.556	.907	.000	.000	.500	.881
Cars	25	497	3	15	0	16	0	559	20	579	0	0	2	1137
% Cars	100	98.0	100	100	0	100	0	98.4	100	98.5	0	0	100	98.4
Trucks	0	10	0	0	0	0	0	9	0	9	0	0	0	19
% Trucks	0	2.0	0	0	0	0	0	1.6	0	1.5	0	0	0	1.6

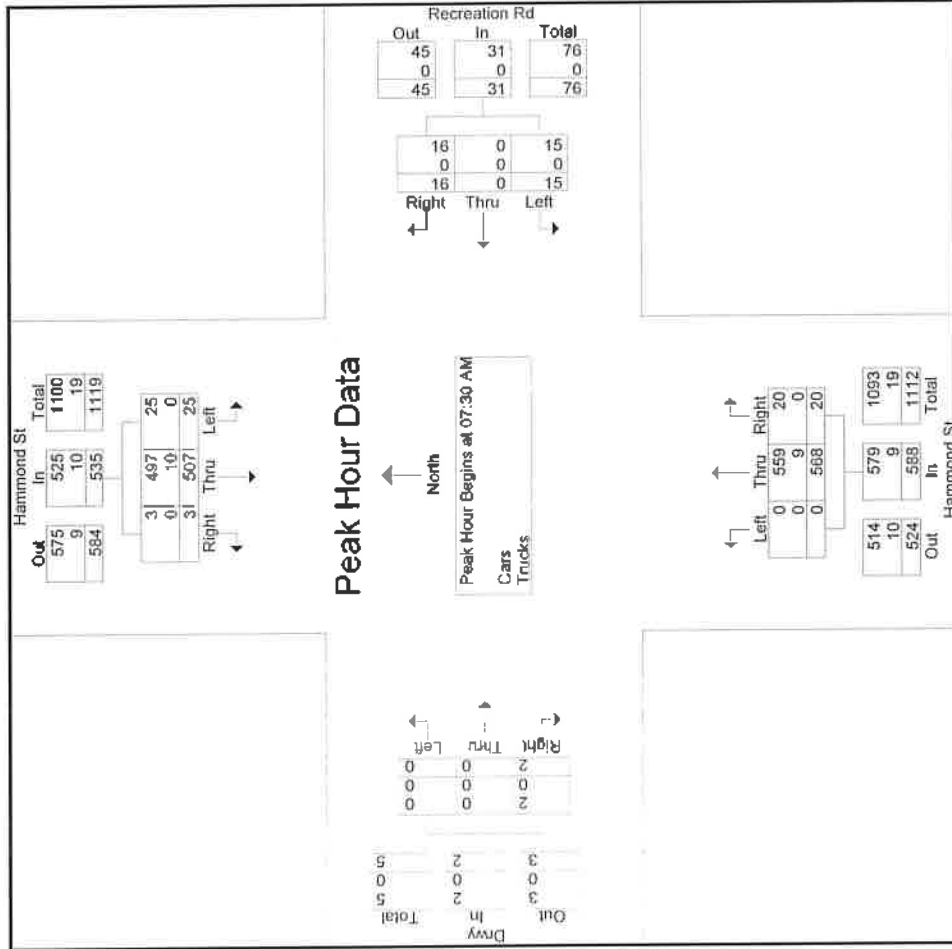
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Accurate Counts

978-664-2565

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 3

N/S Street : Hammond Street
 E/W Street : Recreation Rd / Driveway
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM	08:00 AM	07:00 AM	07:15 AM
+0 mins.	1	133	1	135
+15 mins.	2	162	0	164
+30 mins.	14	113	2	129
+45 mins.	8	99	0	107
Total Volume	25	507	3	535
% App. Total	4.7	94.8	0.6	45.2
				19
				45.2
				0
				0
				23
				54.8
				42
				0
				0
				99
				597
				603
				0
				0
				2
				100

Accurate Counts

978-664-2565

N/S Street : Hammond Street
 EW Street: Recreation Rd / Driveway
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 13

Start Time	Groups Printed- Bikes Peds														
	Hammond St From North			Recreation Rd From East			Hammond St From South			Drwy From West					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	3	1	4
07:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	6	1	7
07:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	1	3	4
07:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	7	1	10
Total	0	2	0	1	0	1	0	1	0	0	0	0	17	4	25
08:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	2	4	5
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	1	0	1	0	0	0	0	0	0	0	0	6	9	10
Grand Total	0	3	0	1	1	0	0	1	0	1	0	0	23	30	35
Approch %	0	100	0	100	0	0	0	100	0	0	0	0	0	0	0
Total %	0	60	0	20	0	0	0	20	0	0	0	0	0	85.7	14.3

Accurate Counts
978-664-2565

N/S Street : Hammond Street
 E/W Street : Recreation Rd / Driveway
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 14

Start Time	Hammond St From North			Recreation Rd From East			Hammond St From South			Drwy From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total
07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total Volume	0	2	0	1	0	0	0	1	0	0	0	0	0	4
% App. Total	0	100	0	100	0	0	0	100	0	0	0	0	0	1.00
PHF	.000	.500	.000	.250	.000	.000	.250	.000	.000	.250	.000	.000	.000	1.00

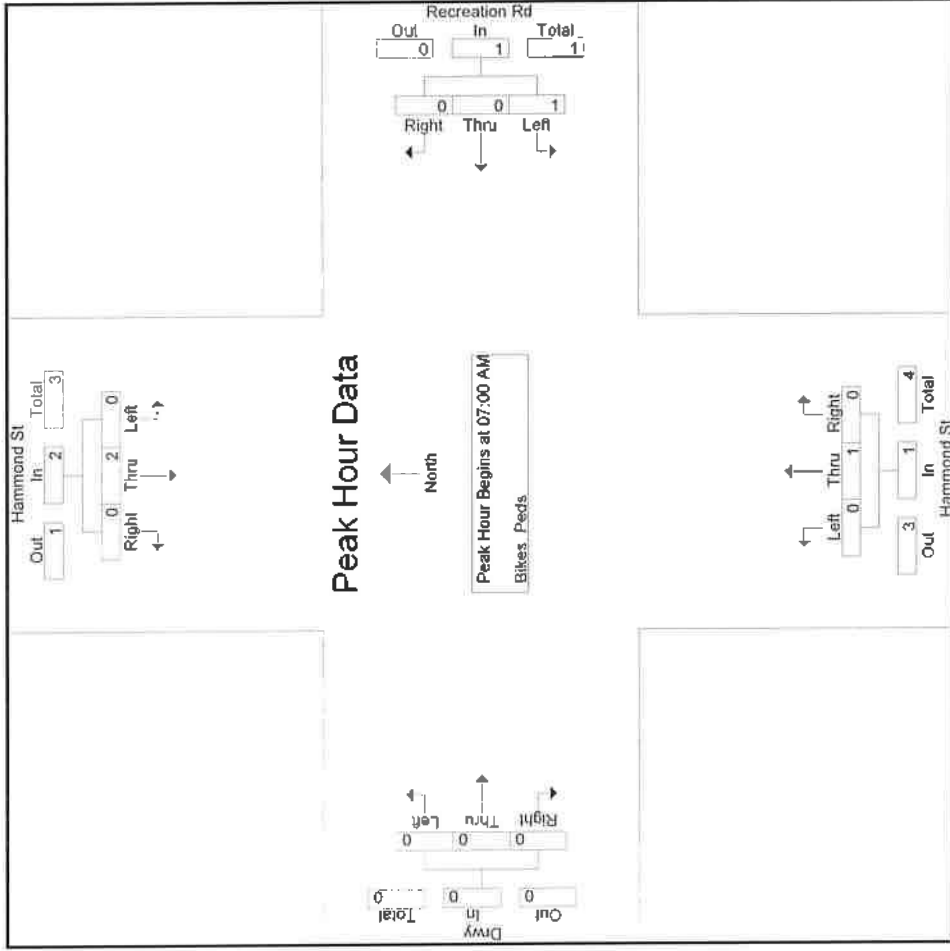
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Accurate Counts

978-664-2565

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 15

N/S Street : Hammond Street
 E/W Street: Recreation Rd / Driveway
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM			07:00 AM					
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Total Volume	0	2	0	2	1	0	0	0	0	1	0	1	0	0	0
% App. Total	0	100	0	100	0	0	0	0	0	100	0	0	0	0	0

Accurate Counts

978-664-2565

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 1

N/S Street : Hammond Street
 E/W Street : Recreation Rd / Driveway
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Groups Printed- Cars - Trucks												
	Hammond St From North			Recreation Rd From East			Hammond St From South			Drwy From West			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
01:00 PM	2	94	1	3	0	3	0	71	0	0	0	0	174
01:15 PM	0	83	1	2	0	0	0	81	0	0	0	0	167
01:30 PM	1	96	0	1	0	0	0	74	0	0	0	2	174
01:45 PM	2	116	0	0	0	1	0	84	2	0	0	1	206
Total	5	389	2	6	0	4	0	310	2	0	0	3	721
02:00 PM	0	97	2	0	0	2	0	90	1	0	0	0	192
02:15 PM	0	87	0	1	0	2	0	90	0	0	0	0	180
02:30 PM	0	118	0	1	0	1	0	119	1	0	0	0	240
02:45 PM	0	149	0	0	0	0	0	95	3	0	0	0	247
Total	0	451	2	2	0	5	0	394	5	0	0	0	859
03:00 PM	4	146	0	2	0	0	0	111	1	0	0	0	264
03:15 PM	3	190	0	1	0	1	0	118	1	0	0	0	314
03:30 PM	3	165	0	2	0	1	0	96	1	0	0	0	268
03:45 PM	4	160	1	3	0	3	0	89	5	0	0	0	265
Total	14	661	1	8	0	5	0	414	8	0	0	0	1111
Grand Total	19	1501	5	16	0	14	0	1118	15	0	0	3	2691
Approach %	1.2	98.4	0.3	53.3	0	46.7	0	98.7	1.3	0	0	100	
Total %	0.7	55.8	0.2	0.6	0	0.5	0	41.5	0.6	0	0	0.1	
Cars	19	1471	4	16	0	14	0	1095	15	0	0	2	2636
% Cars	100	98	80	100	0	100	0	97.9	100	0	0	66.7	98
Trucks	0	30	1	0	0	0	0	23	0	0	0	1	55
% Trucks	0	2	20	0	0	0	0	2.1	0	0	0	33.3	2

Accurate Counts
978-664-2565

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 2

N/S Street : Hammond Street
 E/W Street: Recreation Rd / Dnway
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Hammond St From North				Recreation Rd From East				Hammond St From South				Drwy From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
03:00 PM	4	146	0	150	2	0	0	2	0	111	1	112	0	0	0	0	264
03:15 PM	3	190	0	193	1	0	1	2	0	118	1	119	0	0	0	0	314
03:30 PM	3	165	0	168	2	0	1	3	0	96	1	97	0	0	0	0	268
03:45 PM	4	160	1	165	3	0	3	6	0	89	5	94	0	0	0	0	265
Total Volume	14	661	1	676	8	0	5	13	0	414	8	422	0	0	0	0	1111
% App. Total	2.1	97.8	0.1		61.5	0	38.5		0	98.1	1.9		0	0	0	0	
PHF	.875	.870	.250	.876	.667	.000	.417	.542	.000	.877	.400	.887	.000	.000	.000	.000	.885
Cars	14	652	1	667	8	0	5	13	0	407	8	415	0	0	0	0	1095
% Cars	100	98.6	100	98.7	100	0	100	100	0	98.3	100	98.3	0	0	0	0	98.6
Trucks	0	9	0	9	0	0	0	0	0	7	0	7	0	0	0	0	16
% Trucks	0	1.4	0	1.3	0	0	0	0	0	1.7	0	1.7	0	0	0	0	1.4

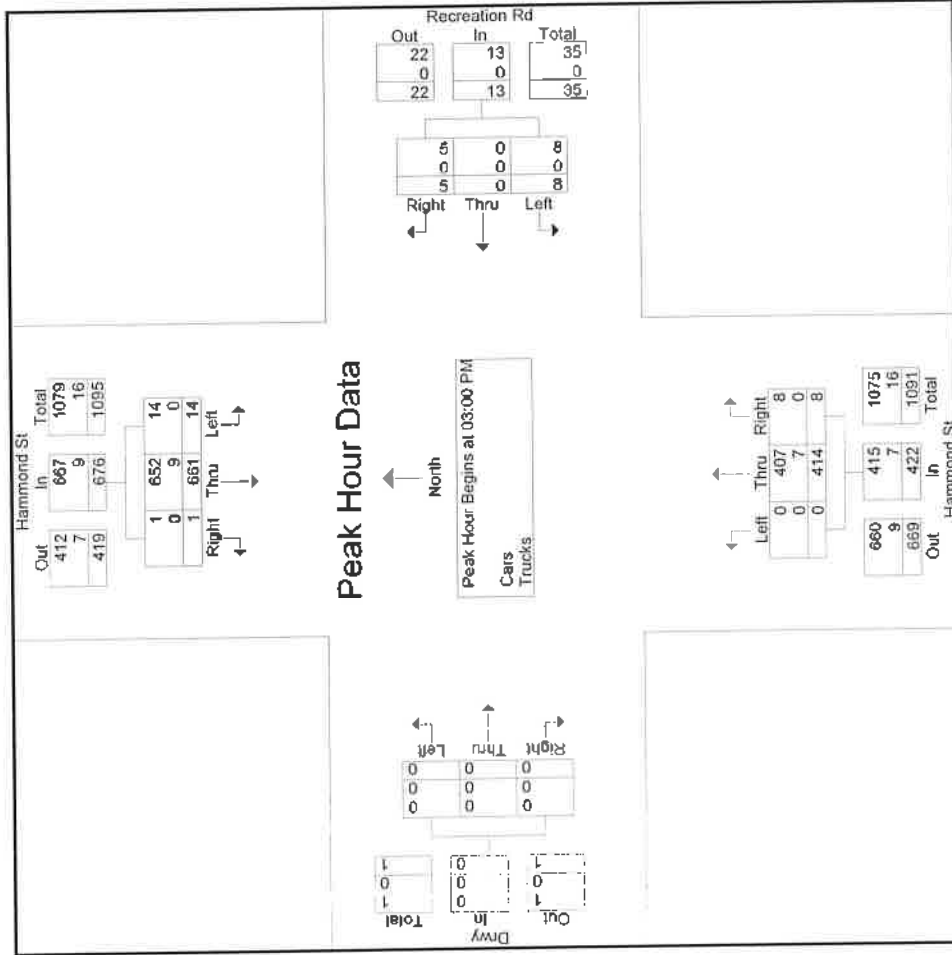
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 03:00 PM

Accurate Counts

978-664-2565

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 3

N/S Street : Hammond Street
 E/W Street : Recreation Rd / Driveway
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	03:00 PM		03:00 PM		02:30 PM		01:00 PM					
+0 mins.	4	146	0	150	2	0	0	120	0	0	0	0
+15 mins.	3	190	0	193	2	0	1	95	3	98	0	0
+30 mins.	3	165	0	168	2	0	1	111	1	112	0	2
+45 mins.	4	160	1	165	3	0	3	118	1	119	0	1
Total Volume	14	651	1	676	8	0	5	443	6	449	0	3
% App. Total	2.1	97.8	0.1	98.1	61.5	0	38.5	98.7	1.3	100	0	0
PHF	.875	.870	.250	.876	.667	.000	.417	.931	.500	.935	.000	.375

Accurate Counts

978-664-2565

N/S Street : Hammond Street
 E/W Street: Recreation Rd / Driveway
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 13

Start Time	Groups Printed- Bikes Peds																
	Hammond St From North			Recreation Rd From East			Hammond St From South			Drwy From West							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total	
01:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	3	4	1	5
01:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	3	5	2	7	
01:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	12	13	1	14	
01:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	3	5	0	5	
Total	0	2	0	0	0	0	0	3	0	2	0	0	21	27	4	31	
02:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	10	10	1	11	
02:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	
02:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	2	
02:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	3	3	2	5	
Total	0	3	0	0	0	0	0	0	0	2	0	0	14	14	5	19	
03:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
03:15 PM	0	2	0	0	0	0	0	1	0	0	0	0	5	6	2	8	
03:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	6	6	2	8	
03:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	6	8	1	9	
Total	0	5	0	0	0	0	0	1	0	1	0	0	17	20	6	26	
Grand Total	0	10	0	0	0	0	0	4	0	5	0	0	52	61	15	76	
Approch %	0	100	0	0	0	0	0	0	0	100	0	0	0	80.3	19.7		
Total %	0	66.7	0	0	0	0	0	0	0	33.3	0	0	0				

Accurate Counts

978-664-2565

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 14

N/S Street : Hammond Street
 E/W Street : Recreation Rd / Driveway
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Hammond St From North			Recreation Rd From East			Hammond St From South			Drwy From West			Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total
02:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	7	0	0	0	0	0	0	0	0	0	0	0	7
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.875	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.875

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1

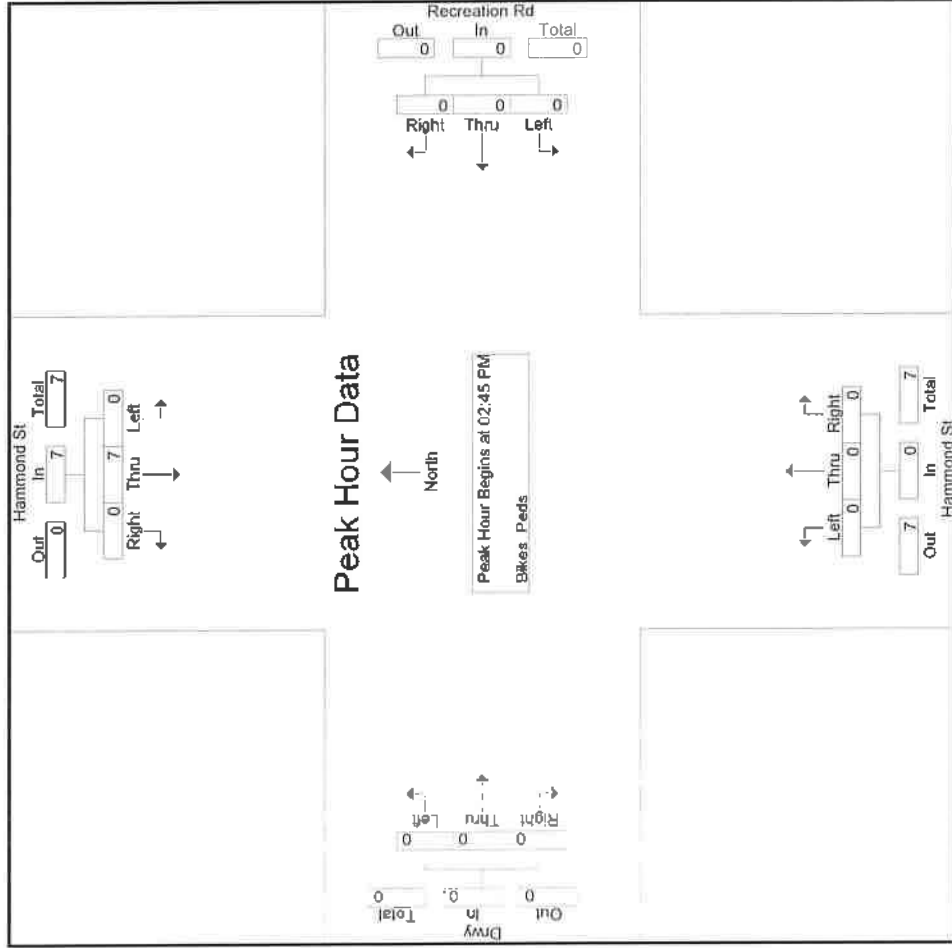
Peak Hour for Entire Intersection Begins at 02:45 PM

Accurate Counts

978-664-2565

File Name : 79900003
 Site Code : 79900003
 Start Date : 9/26/2018
 Page No : 15

N/S Street : Hammond Street
 E/W Street: Recreation Rd / Driveway
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:45 PM			01:00 PM			01:00 PM			01:00 PM					
+0 mins.	0	2	0	2	0	0	0	0	0	1	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0
+30 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	7	0	7	0	0	0	0	0	2	0	0	2	0	0
% App. Total	0	100	0	100	0	0	0	0	0	100	0	0	0	0	0
PHF	.000	.875	.000	.875	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000

Accurate Counts

978-664-2565

File Name : 79900004
 Site Code : 79900004
 Start Date : 9/26/2018
 Page No : 2

N/S Street : Hammond Street
 E/W Street : Woodland Rd / School Dwy
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Hammond St From North				Woodland Rd From East				Hammond St From South				Woodland Rd From West				School Dwy From Northwest										
	Left	Thru	Right	HoRl	App. Total	Left	Thru	Right	HoRl	App. Total	Left	Thru	Right	HoRl	App. Total	Left	Thru	Right	HoRl	App. Total	Left	Thru	Right	HoRl	App. Total	Int. Total	
07:15 AM	2	73	3	14	92	0	0	0	0	0	4	11	150	106	271	15	5	18	7	45	0	0	0	0	0	0	408
07:30 AM	1	110	6	29	146	0	0	1	1	1	2	39	178	135	354	22	11	28	3	64	0	0	0	0	0	0	565
07:45 AM	2	101	6	45	154	0	0	0	0	0	3	62	127	145	337	35	10	36	23	104	0	0	0	0	0	0	595
08:00 AM	1	105	3	6	115	0	0	0	0	0	8	10	140	134	292	13	9	27	9	58	0	0	0	0	0	0	465
Total Volume	6	389	18	94	507	0	0	1	1	1	17	122	595	520	1254	85	35	109	42	271	0	0	0	0	0	0	2033
% App Total PHF	1.2	76.7	3.6	18.5		0	0	0	100		1.4	9.7	47.4	41.5		31.4	12.9	40.2	15.5		0	0	0	0	0	0	.854
Cars	5	377	18	94	494	0	0	1	1	1	17	122	583	516	1238	85	35	108	42	270	0	0	0	0	0	0	2003
% Cars	83.3	96.9	100	100	97.4	0	0	0	100	100	100	98.0	99.2	98.7	98.7	100	100	99.1	100	99.6	0	0	0	0	0	0	98.5
Trucks	1	12	0	0	13	0	0	0	0	0	0	0	4	4	16	0	0	1	0	1	0	0	0	0	0	0	30
% Trucks	16.7	3.1	0	0	2.6	0	0	0	0	0	0	0	2.0	0.8	1.3	0	0	0.9	0	0.4	0	0	0	0	0	0	1.5

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Accurate Counts

978-664-2565

N/S Street : Hammond Street
 E/W Street : Woodland Rd / School Dwy
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900004
 Site Code : 79900004
 Start Date : 9/26/2018
 Page No : 13

Start Time	Groups Printed- Bikes Peds												Incl. Total														
	Hammond St From North				Woodland Rd From East				Hammond St From South					Woodland Rd From West				School Dwy From Northwest									
	Left	Thru	Right	HdRt	Left	Thru	BrRt	Right	Left	Thru	BrL	Right		HdL	Thru	Left	Right	HdL	Thru	BrL	Right	HdRt	BrRt	HdRt	BrRt		
07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4
07:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3
07:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	5
Total	0	2	0	0	0	0	0	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	10	6	16
08:00 AM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	1	0	0	0	0	0	2	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	7	4	11
Grand Total	0	3	0	0	0	0	0	4	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	17	10	27
Approch %	0	100	0	0	0	0	0	0	0	0	71.4	28.6	0	0	0	0	0	0	0	0	0	0	0	0	63	37	37
Total %	0	30	0	0	0	0	0	0	0	0	50	20	0	0	0	0	0	0	0	0	0	0	0	0	63	37	37

Accurate Counts

978-664-2565

File Name : 79900004
 Site Code : 79900004
 Start Date : 9/26/2018
 Page No : 14

N/S Street : Hammond Street
 E/W Street : Woodland Rd / School Dwy
 City/State : Brookline, MA
 Weather : Cloudy

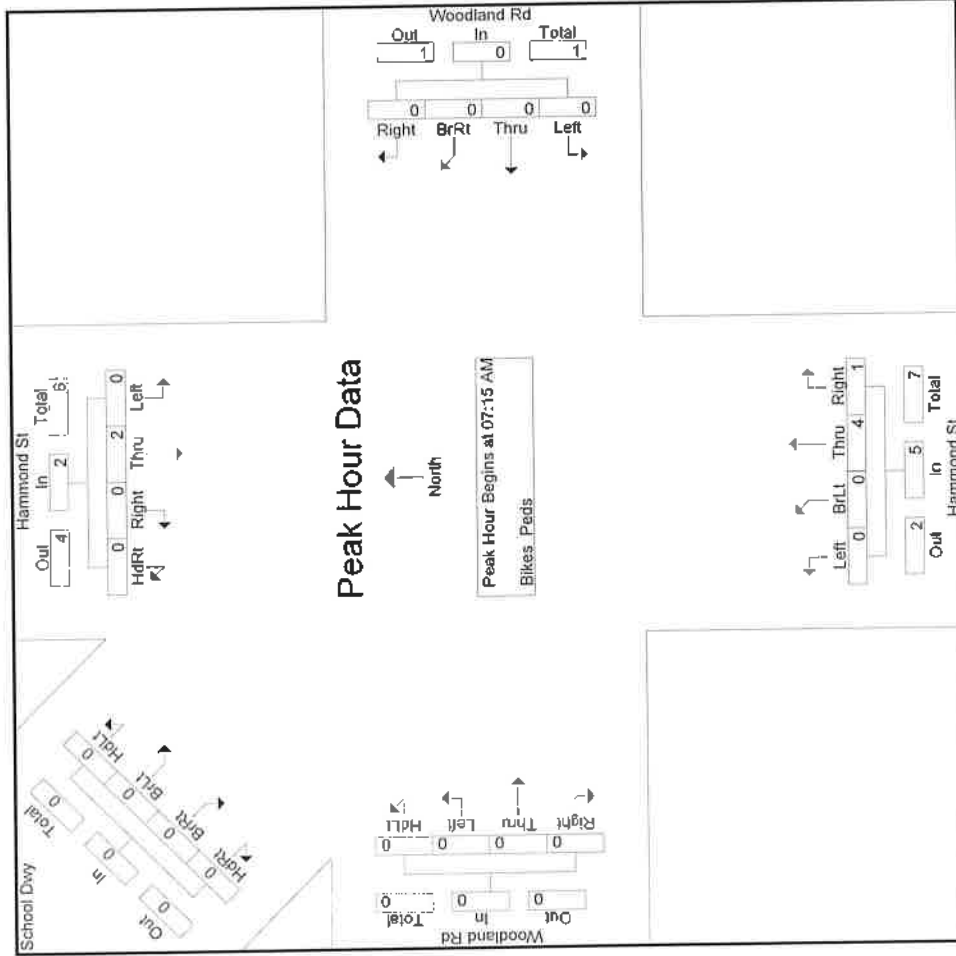
Start Time	Hammond St From North			Woodland Rd From East			Hammond St From South			Woodland Rd From West			School Dwy From Northwest			Int. Total				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	App. Total	App. Total	App. Total
07:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	3
08:00 AM	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Total Volume	0	2	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	0	0	7
% App. Total PHF	0	100	0	0	0	0	0	80	20	417	0	0	0	0	0	0	0	0	0	.583

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Accurate Counts
978-864-2565

File Name : 79900004
Site Code : 79900004
Start Date : 9/26/2018
Page No : 15

N/S Street : Hammond Street
E/W Street : Woodland Rd / School Dwy
City/State : Brookline, MA
Weather : Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM	07:30 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM
+0 mins	0	1	0	0	1	0	0
+15 mins	0	1	0	0	3	0	0
+30 mins	0	0	0	0	1	0	0
+45 mins	0	0	0	0	1	0	0
Total Volume	0	2	0	0	6	0	0
% App. Total	0	100	0	0	66.7	0	0

Accurate Counts

978-664-2565

File Name : 79900004
 Site Code : 79900004
 Start Date : 9/26/2018
 Page No : 1

N/S Street : Hammond Street
 EW Street : Woodland Rd / School Dwy
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Groups Printed- Cars - Trucks																											
	Hammond St					Woodland Rd					Hammond St					Woodland Rd					School Dwy							
	Left	Thru	Right	HdRt		Left	Thru	Right	HdLt		Left	Thru	Right	HdLt		Left	Thru	Right	HdLt		From Northwest	From Southwest	HdRt	Int. Total				
01:00 PM	0	89	1	3		0	0	0	0		2	0	70	14		1	2	7	0		0	0	0	0		0	0	189
01:15 PM	2	74	1	2		0	0	0	0		4	2	90	16		3	3	6	5		0	0	0	0		0	0	208
01:30 PM	0	97	1	2		0	0	0	0		2	1	67	20		1	2	3	3		0	0	0	0		0	0	199
01:45 PM	0	104	3	2		0	0	0	0		2	1	86	17		0	0	3	2		0	0	0	0		0	0	220
Total	2	364	6	9		0	0	0	0		10	4	313	67		5	7	19	10		0	0	0	0		0	0	816
02:00 PM	0	95	1	1		0	0	0	0		5	1	77	22		4	2	2	0		0	0	0	0		0	0	210
02:15 PM	0	99	0	0		0	0	0	0		2	1	88	18		4	2	6	4		0	0	0	0		0	0	224
02:30 PM	1	107	2	4		0	0	0	0		5	3	114	15		5	3	6	5		0	0	0	0		0	0	270
02:45 PM	0	133	4	3		0	0	0	0		2	3	94	16		4	1	3	7		0	0	0	0		0	0	270
Total	1	434	7	8		0	0	0	0		14	8	373	71		17	8	17	16		0	0	0	0		0	0	974
03:00 PM	1	149	4	6		0	0	0	0		9	1	112	24		3	9	4	7		0	0	0	0		0	0	329
03:15 PM	3	161	5	6		0	0	0	0		5	15	111	22		10	3	5	15		0	0	0	0		0	0	361
03:30 PM	0	144	5	14		0	0	0	0		3	9	87	18		15	7	9	13		0	0	0	0		0	0	324
03:45 PM	0	161	3	10		0	0	0	0		2	5	86	15		6	10	7	22		0	0	0	0		0	0	327
Total	4	615	17	36		0	0	0	0		19	30	396	79		34	29	25	57		0	0	0	0		0	0	1341
Grand Total	7	1413	30	53		0	0	0	0		43	42	1082	217		56	44	61	83		0	0	0	0		0	0	3131
Approch %	0.5	94	2	3.5		0	0	0	0		3.1	3	78.2	15.7		23	18	25	34		0	0	0	0		0	0	
Total %	0.2	45.1	1	1.7		0	0	0	0		1.4	1.3	34.6	6.9		1.8	1.4	1.9	2.7		0	0	0	0		0	0	
Cars	5	1387	28	53		0	0	0	0		43	42	1057	215		56	44	61	81		0	0	0	0		0	0	3072
% Cars	71.4	98.2	93.3	100		0	0	0	0		100	100	97.7	99.1		100	100	100	97.6		0	0	0	0		0	0	98.1
Trucks	2	26	2	0		0	0	0	0		0	0	25	2		0	0	0	2		0	0	0	0		0	0	59
% Trucks	28.6	1.8	6.7	0		0	0	0	0		0	0	2.3	0.9		0	0	0	2.4		0	0	0	0		0	0	1.9

Accurate Counts

978-664-2565

File Name : 79900004
 Site Code : 79900004
 Start Date : 9/26/2018
 Page No : 2

N/S Street : Hammond Street
 E/W Street : Woodland Rd / School Dwy
 City/State : Brookline, MA
 Weather : Cloudy

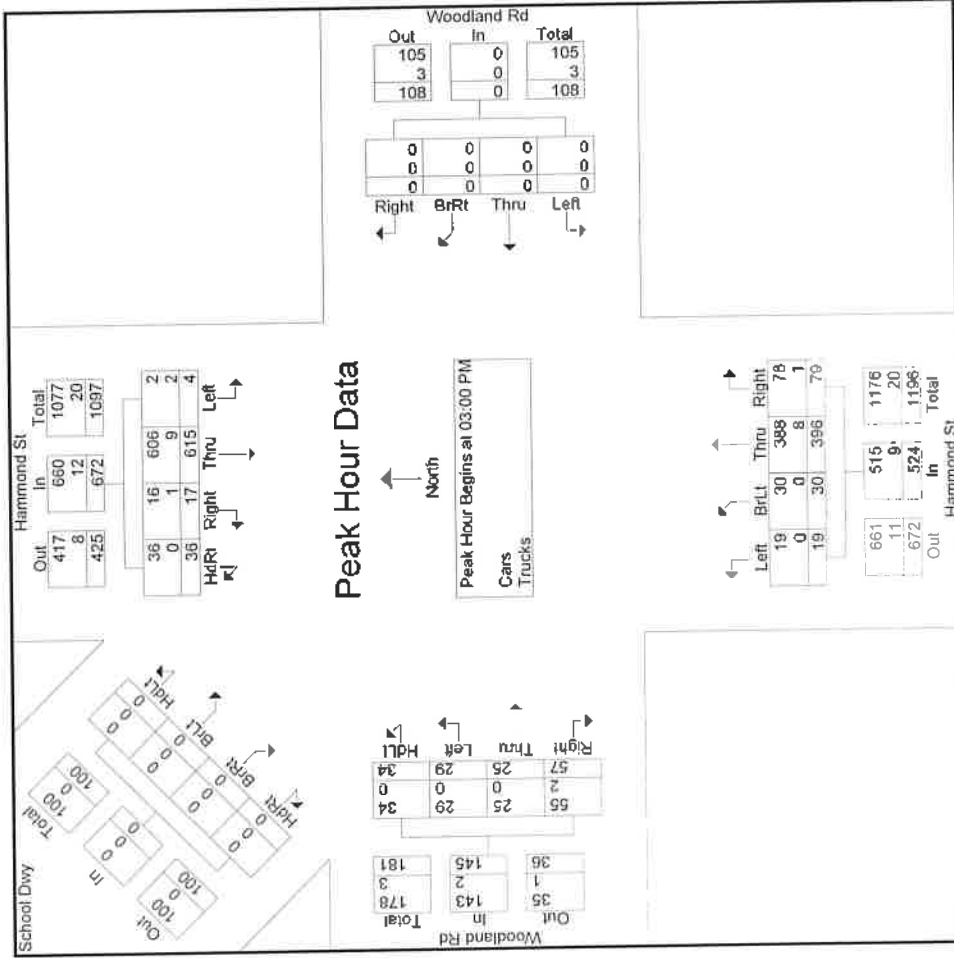
Start Time	Hammond St From North				Woodland Rd From East				Hammond St From South				Woodland Rd From West				School Dwy From Northwest														
	Left	Thru	Right	HdRt	Left	Thru	BRt	Right	Left	Thru	BRt	Right	HdL	Thru	Right	App. Total	HdL	Thru	BRt	Right	HdL	Thru	BRt	Right	HdRt	App. Total	Int. Total				
	App. Total				App. Total				App. Total				App. Total				App. Total				App. Total										
03:00 PM	1	149	4	6	0	0	0	0	9	1	112	24	3	9	4	7	3	9	4	7	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	3	161	5	6	0	0	0	0	5	15	111	22	10	3	5	15	10	3	5	15	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	144	5	14	0	0	0	0	3	9	87	18	15	7	9	13	15	7	9	13	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	161	3	10	0	0	0	0	2	5	86	15	6	10	7	22	6	10	7	22	0	0	0	0	0	0	0	0	0	0	0
Total Volume	4	615	17	36	0	0	0	0	19	30	396	79	34	29	25	57	34	29	25	57	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0.6	91.5	2.5	5.4	0	0	0	0	3.6	5.7	75.6	15.1	23.4	20	17.2	39.3	23.4	20	17.2	39.3	0	0	0	0	0	0	0	0	0	0	0
PHF	.333	.955	.850	.643	.000	.000	.000	.000	.528	.500	.884	.823	.567	.725	.694	.648	.567	.725	.694	.648	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
Cars	2	606	16	36	0	0	0	0	19	30	388	78	34	29	25	55	34	29	25	55	0	0	0	0	0	0	0	0	0	0	0
% Cars	50.0	98.5	94.1	100	0	0	0	0	100	100	98.0	98.7	100	100	100	96.5	100	100	100	96.5	0	0	0	0	0	0	0	0	0	0	0
Trucks	2	9	1	0	0	0	0	0	0	0	8	1	9	0	0	2	9	0	0	2	0	0	0	0	0	0	0	0	0	0	0
% Trucks	50.0	1.5	5.9	0	0	0	0	0	0	0	2.0	1.3	1.7	0	0	3.5	1.7	0	0	3.5	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 03:00 PM

Accurate Counts
978-664-2565

File Name : 79900004
Site Code : 79900004
Start Date : 9/26/2018
Page No : 3

N/S Street : Hammond Street
E/W Street : Woodland Rd / School Dwy
City/State : Brookline, MA
Weather : Cloudy



Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:00 PM				02:30 PM				03:00 PM				01:00 PM			
+0 mins.	1	149	4	6	160	0	0	0	5	3	114	15	137	7	23	0
+15 mins.	3	161	5	6	175	2	3	94	16	16	115	10	33	5	15	0
+30 mins.	0	144	5	14	163	0	1	112	24	146	146	15	7	9	13	0
+45 mins.	0	161	3	10	174	0	5	15	111	22	153	6	10	7	22	0
Total Volume	4	615	17	36	672	0	21	22	431	77	551	34	29	25	57	0
% App Total	0.6	91.5	2.5	5.4	960	0	3.8	4	78.2	14	23.4	20	17.2	39.3	806	0
PHF	.333	.955	.850	.643	.960	.000	.000	.000	.583	.367	.945	.802	.900	.694	.806	.000
Cars	2	606	16	36	660	0	21	22	426	76	545	34	29	25	55	0

Accurate Counts

978-664-2565

N/S Street : Hammond Street
 E/W Street : Woodland Rd / School Dwy
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900004
 Site Code : 79900004
 Start Date : 9/26/2018
 Page No : 13

Start Time	Hammond St From North												Woodland Rd From East						Hammond St From South						Woodland Rd From West						School Dwy From Northwest						Edu. Total	Inh. Total	Int. Total						
	Left			Thru			Right			HdRt			Peds			Left			Thru			Right			HdLt			Peds			BrLt			BrRt						HdRt			Peds		
01:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	7		
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
01:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4			
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2			
Total	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	4	14				
02:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	3				
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1		
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	1	41		
Total	0	1	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	3	45					
03:00 PM	0	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	2	12				
03:15 PM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5					
03:30 PM	0	3	0	0	0	0	0	1	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	4	45					
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5						
Total	0	5	0	0	0	0	0	1	0	0	0	26	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	59	8	67							
Grand Total	0	8	0	0	0	0	0	1	0	0	0	48	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	111	15	126								
Apprch %	0	100	0	0	0	0	0	100	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Total %	0	53.3	0	0	0	0	0	6.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88.1	11.9	0	0						

Accurate Counts
978-664-2565

File Name : 79900004
 Site Code : 79900004
 Start Date : 9/26/2018
 Page No : 14

N/S Street : Hammond Street
 E/W Street : Woodland Rd / School Dwy
 City/State : Brookline, MA
 Weather : Cloudy

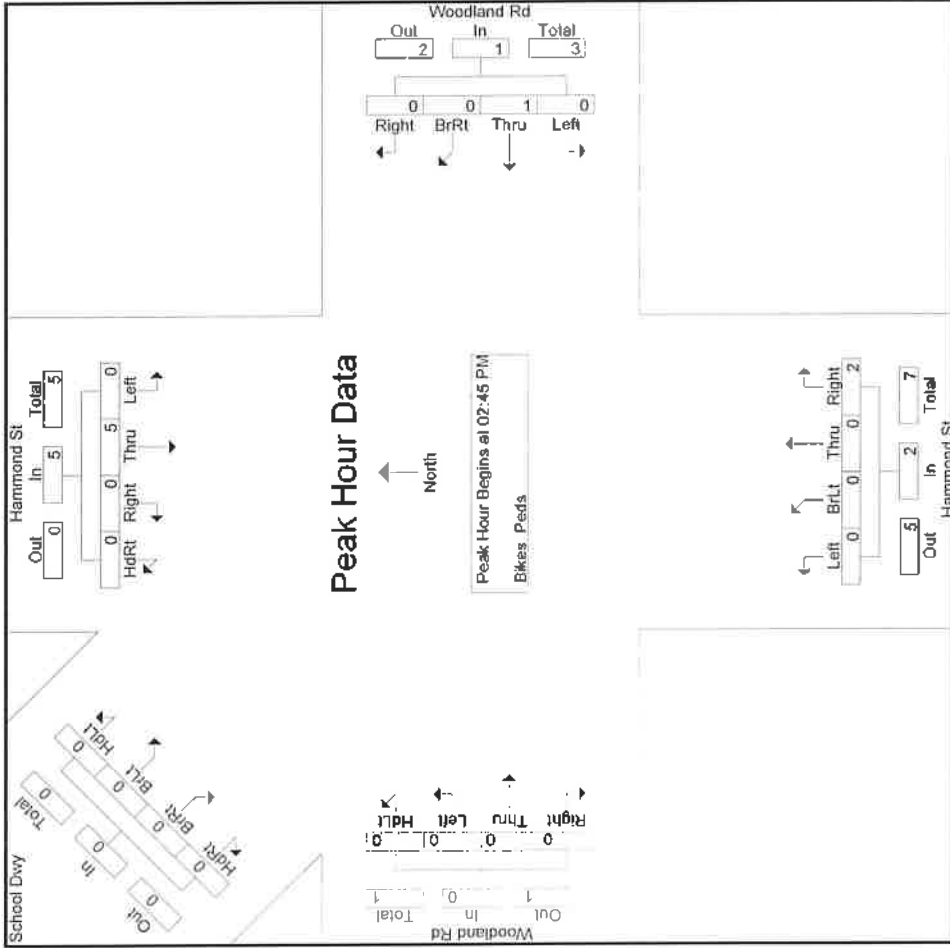
Start Time	Hammond St From North				Woodland Rd From East				Hammond St From South				Woodland Rd From West				School Dwy From Northwest										
	Left	Thru	Right	HdRt	Left	Thru	BkRt	Right	App. Total	Left	Thru	Right	HdL	App. Total	Left	Thru	Right	HdRt	App. Total	Left	Thru	BkL	Right	HdRt	App. Total	Int. Total	
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
03:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30 PM	0	3	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	5	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
% App. Total	0	100	0	0	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
PHF	.000	.417	.000	.000	.250	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 02:45 PM

Accurate Counts
978-664-2565

File Name : 79900004
 Site Code : 79900004
 Start Date : 9/26/2018
 Page No : 15

N/S Street : Hammond Street
 E/W Street : Woodland Rd / School Dwy
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	02:45 PM				02:15 PM				01:00 PM				01:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	3	0	3	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	5	0	5	0	1	0	1	0	0	1	2	3	0	0	0
% App. Total	0	100	0	100	0	100	0	100	0	0	33.3	66.7	0	0	0	0
PHF	.000	.417	.000	.417	.000	.250	.000	.250	.000	.000	.250	.500	.750	.000	.000	.000

School Peak Hour Traffic Volumes

File Name: C:\Users\stevil\Documents\2018\Petra\Brookline, MA\VA\17990\79900005.ppd

Start Date: 9/26/2018

Start Time: 7:00:00 AM

Site Code: 77900005

Comment 1: N/S Street : Oak Street

Comment 2: E/W Street: Heath Street

Comment 3: City/State : Brookline, MA

Comment 4: Weather : Cloudy

Start Time	Heath St From East			Oak St From South			Heath St From West			Phf by approach		
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds		Heath St From East	Oak St From South
07:00 AM	3	13	0	0	0	0	56	1	0	16	0	57
07:15 AM	1	24	0	2	2	0	40	4	0	25	4	44
07:30 AM	6	51	0	2	3	0	42	0	0	57	5	42
07:45 AM	6	63	0	3	1	0	49	0	0	69	4	49
No Build	16	151	0	7	6	0	187	5	0	167	13	192
PHF	0.67	0.60		0.58	0.50		0.83	0.31		0.61	0.65	0.84
Truck	0	2		0	0		4	0				
% Truck	0.0%	1.3%		0.0%	0.0%		2.1%	0.0%				
PED	0	1	1	0	0	0	0	0	5			
01:30 PM	0	35	0	0	1	0	27	1	0	35	1	28
01:45 PM	0	26	0	0	0	0	27	0	0	26	0	27
02:00 PM	0	32	0	0	0	0	28	0	0	32	0	28
02:15 PM	0	35	0	2	1	0	26	0	0	35	3	26
No Build	0	128	0	2	2	0	108	1	0	128	4	109
PHF	0.00	0.91		0.25	0.50		0.96	0.25		0.91	0.33	0.97
Truck	0	2		0	0		0	0				
% Truck	0.0%	1.6%		0.0%	0.0%		0.0%	0.0%				
PED	0	1	0	0	0	0	0	1	3			

Accurate Counts

978-664-2565

N/S Street : Oak Street
 E/W Street: Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900005
 Site Code : 77900005
 Start Date : 9/26/2018
 Page No : 1

Groups Printed- Cars - Trucks

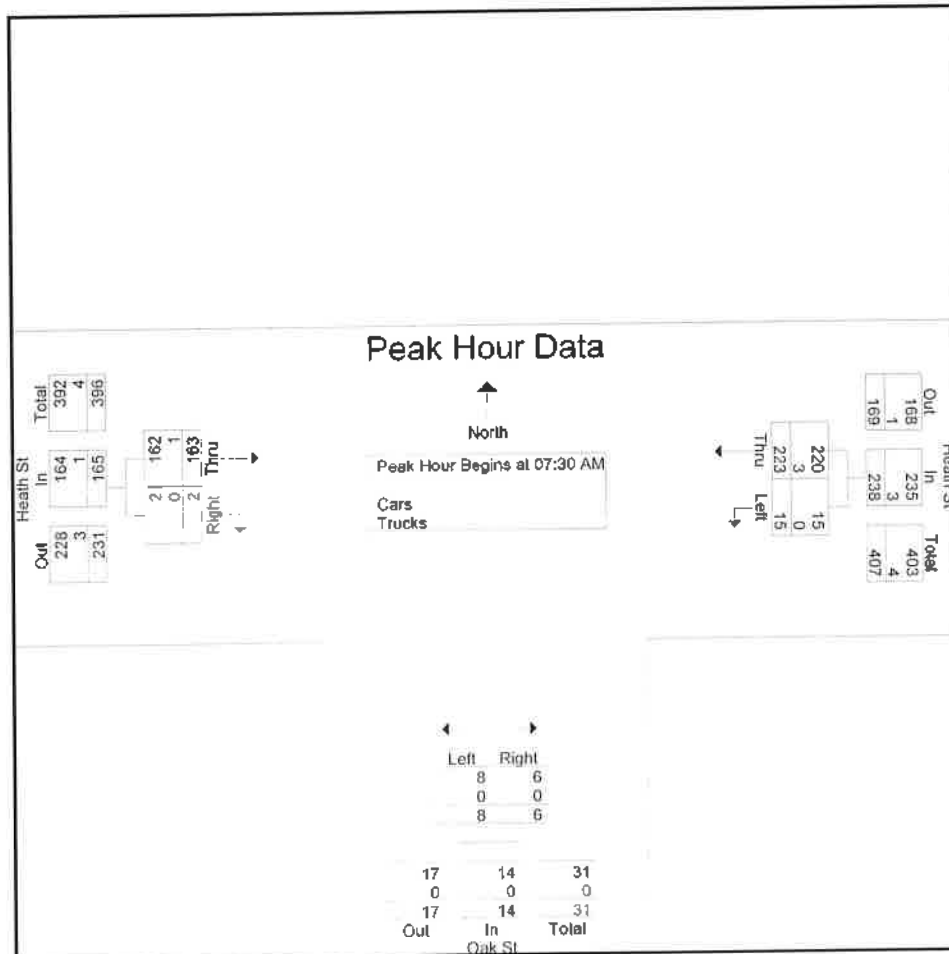
Start Time	Heath St From East		Oak St From South		Heath St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	3	13	0	0	56	1	73
07:15 AM	1	24	2	2	40	4	73
07:30 AM	6	51	2	3	42	0	104
07:45 AM	6	63	3	1	49	0	122
Total	16	151	7	6	187	5	372
08:00 AM	3	48	1	1	39	1	93
08:15 AM	0	61	2	1	33	1	98
08:30 AM	1	47	2	1	37	2	90
08:45 AM	4	51	0	0	33	0	88
Total	8	207	5	3	142	4	369
Grand Total	24	358	12	9	329	9	741
Apprch %	6.3	93.7	57.1	42.9	97.3	2.7	
Total %	3.2	48.3	1.6	1.2	44.4	1.2	
Cars	24	354	12	9	325	9	733
% Cars	100	98.9	100	100	98.8	100	98.9
Trucks	0	4	0	0	4	0	8
% Trucks	0	1.1	0	0	1.2	0	1.1

Accurate Counts
978-664-2565

N/S Street : Oak Street
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900005
Site Code : 77900005
Start Date : 9/26/2018
Page No : 2

Start Time	Heath St From East			Oak St From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	6	51	57	2	3	5	42	0	42	104
07:45 AM	6	63	69	3	1	4	49	0	49	122
08:00 AM	3	48	51	1	1	2	39	1	40	93
08:15 AM	0	61	61	2	1	3	33	1	34	98
Total Volume	15	223	238	8	6	14	163	2	165	417
% App. Total	6.3	93.7		57.1	42.9		98.8	1.2		
PHF	.625	.885	.862	.667	.500	.700	.832	.500	.842	.855
Cars	15	220	235	8	6	14	162	2	164	413
% Cars	100	98.7	98.7	100	100	100	99.4	100	99.4	99.0
Trucks	0	3	3	0	0	0	1	0	1	4
% Trucks	0	1.3	1.3	0	0	0	0.6	0	0.6	1.0



Accurate Counts
978-664-2565

N/S Street : Oak Street
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900005
Site Code : 77900005
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

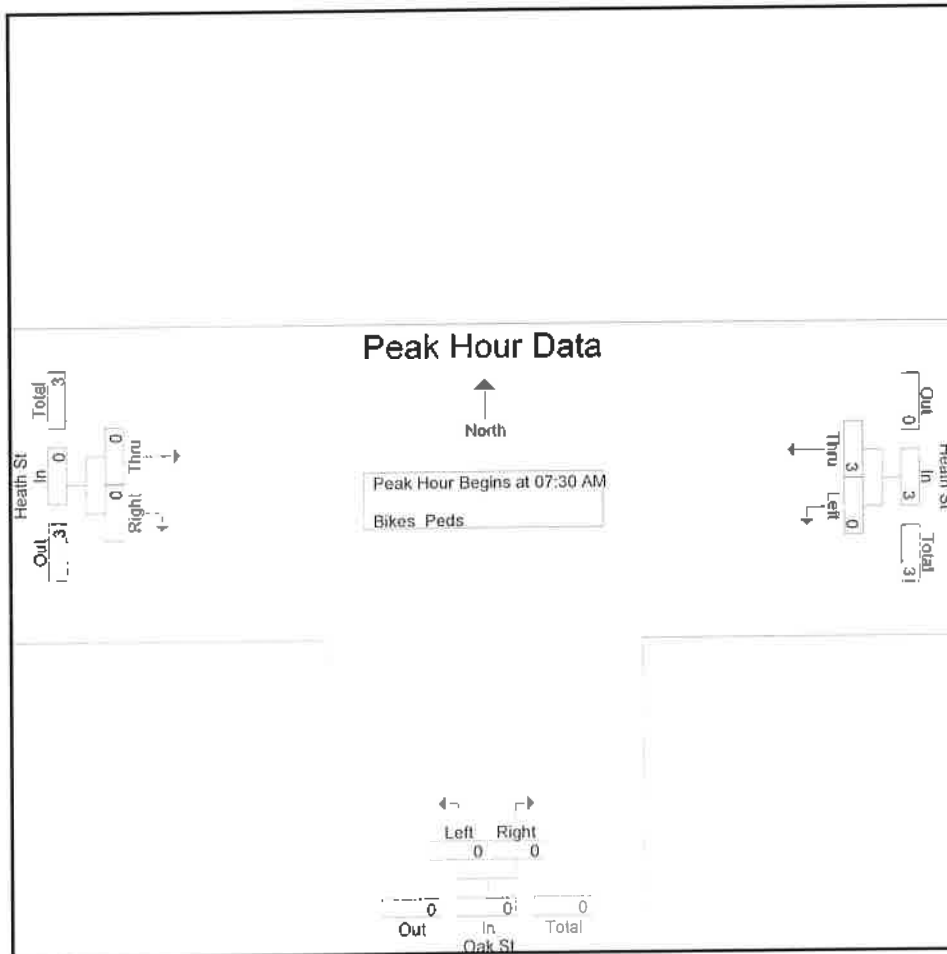
Start Time	Heath St From East			Oak St From South			Heath St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	1	0	0	0	0	0	2	3	0	3
07:15 AM	0	0	0	0	0	0	0	0	1	1	0	1
07:30 AM	0	1	0	0	0	0	0	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	0	0	2	2	0	2
Total	0	1	1	0	0	0	0	0	5	6	1	7
08:00 AM	0	1	0	0	0	0	0	0	0	0	1	1
08:15 AM	0	1	0	0	0	0	0	0	0	0	1	1
08:30 AM	0	0	0	0	0	1	0	0	1	2	0	2
08:45 AM	0	0	0	0	0	0	1	0	2	2	1	3
Total	0	2	0	0	0	1	1	0	3	4	3	7
Grand Total	0	3	1	0	0	1	1	0	8	10	4	14
Apprch %	0	100		0	0		100	0		71.4	28.6	
Total %	0	75		0	0		25	0				

Accurate Counts
978-664-2565

N/S Street : Oak Street
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900005
Site Code : 77900005
Start Date : 9/26/2018
Page No : 11

Start Time	Heath St From East			Oak St From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	1	1	0	0	0	0	0	0	1
08:15 AM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	3	3	0	0	0	0	0	0	3
% App. Total	0	100		0	0		0	0		
PHF	.000	.750	.750	.000	.000	.000	.000	.000	.000	.750



Accurate Counts
978-664-2565

File Name : 79900005
Site Code : 77900005
Start Date : 9/26/2018
Page No : 1

N/S Street : Oak Street
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

Groups Printed- Cars - Trucks

Start Time	Heath St From East		Oak St From South		Heath St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
01:00 PM	0	32	1	0	13	0	46
01:15 PM	0	38	0	0	20	0	58
01:30 PM	0	35	0	1	27	1	64
01:45 PM	0	26	0	0	27	0	53
Total	0	131	1	1	87	1	221
02:00 PM	0	32	0	0	28	0	60
02:15 PM	0	35	2	1	26	0	64
02:30 PM	0	45	0	0	31	0	76
02:45 PM	1	65	1	1	35	1	104
Total	1	177	3	2	120	1	304
03:00 PM	1	52	2	3	35	2	95
03:15 PM	2	66	3	0	23	1	95
03:30 PM	0	67	1	2	27	0	97
03:45 PM	5	70	1	0	21	3	100
Total	8	255	7	5	106	6	387
Grand Total	9	563	11	8	313	8	912
Apprch %	1.6	98.4	57.9	42.1	97.5	2.5	
Total %	1	61.7	1.2	0.9	34.3	0.9	
Cars	9	555	11	8	311	8	902
% Cars	100	98.6	100	100	99.4	100	98.9
Trucks	0	8	0	0	2	0	10
% Trucks	0	1.4	0	0	0.6	0	1.1

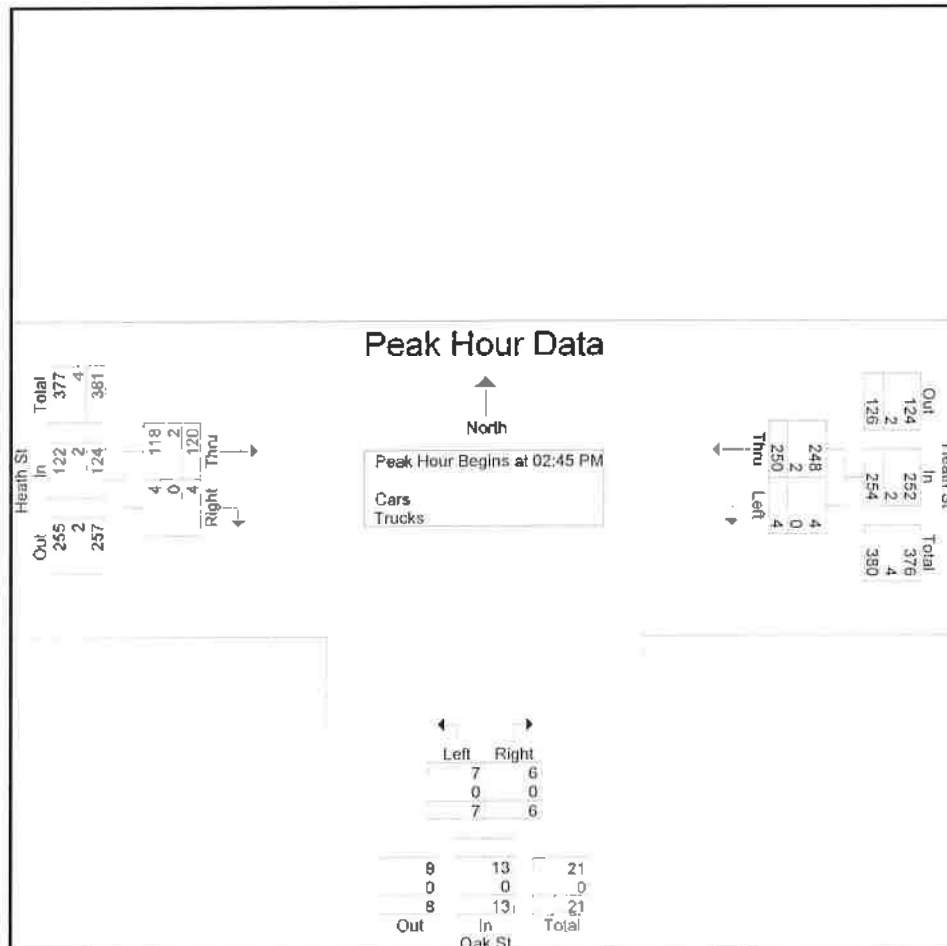
Accurate Counts

978-664-2565

N/S Street : Oak Street
 E/W Street: Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900005
 Site Code : 77900005
 Start Date : 9/26/2018
 Page No : 2

Start Time	Heath St From East			Oak St From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:45 PM										
02:45 PM	1	65	66	1	1	2	35	1	36	104
03:00 PM	1	52	53	2	3	5	35	2	37	95
03:15 PM	2	66	68	3	0	3	23	1	24	95
03:30 PM	0	67	67	1	2	3	27	0	27	97
Total Volume	4	250	254	7	6	13	120	4	124	391
% App. Total	1.6	98.4		53.8	45.2		96.8	3.2		
PHF	.500	.933	.934	.583	.500	.650	.857	.500	.838	.940
Cars	4	248	252	7	6	13	118	4	122	387
% Cars	100	99.2	99.2	100	100	100	98.3	100	98.4	99.0
Trucks	0	2	2	0	0	0	2	0	2	4
% Trucks	0	0.8	0.8	0	0	0	1.7	0	1.6	1.0



Accurate Counts
978-864-2565

N/S Street : Oak Street
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900005
Site Code : 77900005
Start Date : 9/26/2018
Page No : 10

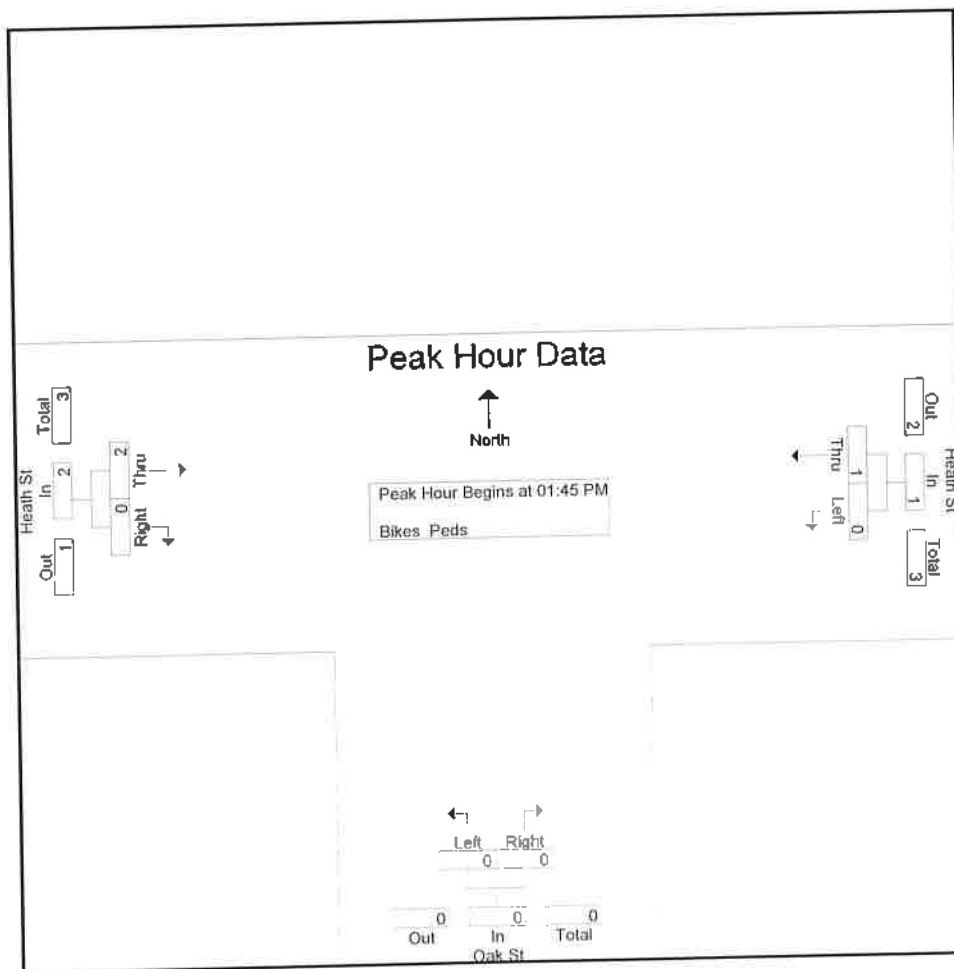
Start Time	Groups Printed- Bikes Peds									Exclu. Total	Inclu. Total	Int. Total
	Heath St From East			Oak St From South			Heath St From West					
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
01:00 PM	0	0	0	0	0	0	0	0	1	1	0	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	2	2	0	2
01:45 PM	0	0	0	0	0	0	1	0	1	1	1	2
Total	0	0	0	0	0	0	1	0	4	4	1	5
02:00 PM	0	1	0	0	0	0	0	0	0	0	1	1
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	1	0	0	0	1	1
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	1	0	0	0	2	2
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	3	0	0	0	0	0	1	4	0	4
03:30 PM	0	1	0	0	0	0	0	0	1	1	1	2
03:45 PM	0	0	0	0	0	0	0	0	1	1	0	1
Total	0	1	3	0	0	0	0	0	3	6	1	7
Grand Total	0	2	3	0	0	0	2	0	7	10	4	14
Approch %	0	100		0	0		100	0		71.4	28.6	
Total %	0	50		0	0		50	0				

Accurate Counts
978-664-2565

N/S Street : Oak Street
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900005
Site Code : 77900005
Start Date : 9/26/2018
Page No : 11

Start Time	Heath St From East			Oak St From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 01:45 PM										
01:45 PM	0	0	0	0	0	0	1	0	1	1
02:00 PM	0	1	1	0	0	0	0	0	0	1
02:15 PM	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	1	1	0	0	0	2	0	2	3
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.500	.000	.500	.750



School Peak Hour Traffic Volumes

File Name: C:\Users\stevi\Documents\2018\Petra\Brookline, MA\VA\7990\79900006.ppd

Start Date: 9/26/2018

Start Time: 7:00:00 AM

Site Code: 79900006

Comment 1: N/S Street : Dunster Road

Comment 2: E/W Street: Heath Street

Comment 3: City/State : Brookline, MA

Comment 4: Weather : Cloudy

Start Time	Dunster Rd From North			Heath St From East			Heath St From West			Dunster Rd From North	Heath St From East	Heath St From West
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	1	0	14	0	0	48	8	0	1	14	56
07:15 AM	2	1	0	30	0	0	42	5	0	3	30	47
07:30 AM	6	0	0	55	2	0	39	3	0	6	57	42
07:45 AM	8	2	0	67	1	0	43	7	0	10	68	50
	16	4	0	166	3	0	172	23	0	20	169	195
No Build	17	4	0	178	3	0	184	25	0	0.50	0.62	0.87
PHF	0.50	0.50	0.00	0.62	0.38	0.00	0.90	0.72	0.00	0.50	0.62	0.87
Truck	0	0	0	2	0	0	1	2	0			
% Truck	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	0.6%	8.7%	0.0%			
PED	0	0	3	1	1	1	0	0	0			
Phf by approach												
01:30 PM	7	2	0	34	0	0	18	6	0	9	34	24
01:45 PM	5	0	0	21	0	0	21	5	0	5	21	26
02:00 PM	7	3	0	30	0	0	17	11	0	10	30	28
02:15 PM	6	1	0	36	0	0	22	7	0	7	36	29
	25	6	0	121	0	0	78	29	0	31	121	107
No Build	27	6	0	130	0	0	84	31	0	0.78	0.84	0.92
PHF	0.89	0.50	0.00	0.84	0.00	0.00	0.89	0.66	0.00	0.78	0.84	0.92
Truck	0	0	0	2	0	0	0	0	0			
% Truck	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%			
PED	0	1	4	1	0	0	0	1	0			

Accurate Counts
978-664-2565

N/S Street : Dunster Road
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900006
Site Code : 79900006
Start Date : 9/26/2018
Page No : 1

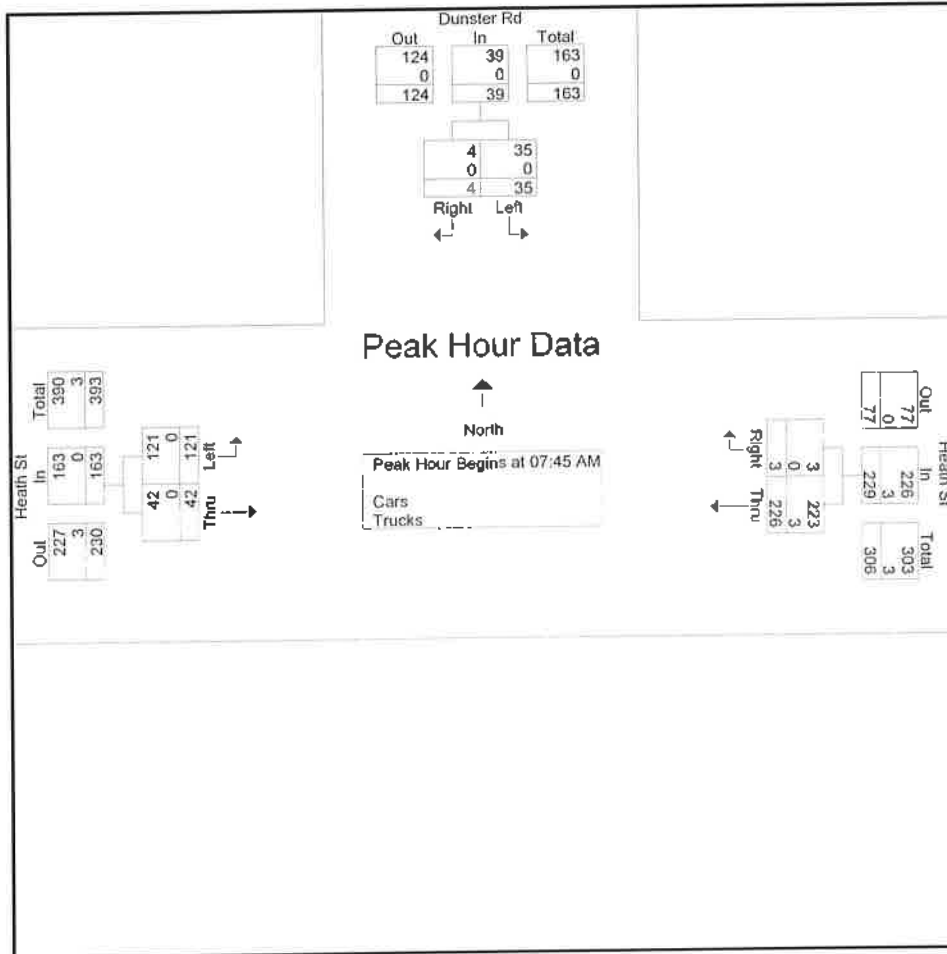
Start Time	Dunster Rd From North		Heath St From East		Heath St From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	0	1	14	0	48	8	71
07:15 AM	2	1	30	0	42	5	80
07:30 AM	6	0	55	2	39	3	105
07:45 AM	8	2	67	1	43	7	128
Total	16	4	166	3	172	23	384
08:00 AM	9	2	51	1	27	12	102
08:15 AM	7	0	57	1	21	9	95
08:30 AM	11	0	51	0	30	14	106
08:45 AM	5	2	53	1	24	11	96
Total	32	4	212	3	102	46	399
Grand Total	48	8	378	6	274	69	783
Apprch %	85.7	14.3	98.4	1.6	79.9	20.1	
Total %	6.1	1	48.3	0.8	35	8.8	
Cars	47	8	373	6	272	67	773
% Cars	97.9	100	98.7	100	99.3	97.1	98.7
Trucks	1	0	5	0	2	2	10
% Trucks	2.1	0	1.3	0	0.7	2.9	1.3

Accurate Counts
978-664-2565

N/S Street : Dunster Road
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900006
Site Code : 79900006
Start Date : 9/26/2018
Page No : 2

Start Time	Dunster Rd From North			Heath St From East			Heath St From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	8	2	10	67	1	68	43	7	50	128
08:00 AM	9	2	11	51	1	52	27	12	39	102
08:15 AM	7	0	7	57	1	58	21	9	30	95
08:30 AM	11	0	11	51	0	51	30	14	44	106
Total Volume	35	4	39	226	3	229	121	42	163	431
% App. Total	89.7	10.3		98.7	1.3		74.2	25.8		
PHF	.795	.500	.886	.843	.750	.842	.703	.750	.815	.842
Cars	35	4	39	223	3	226	121	42	163	428
% Cars	100	100	100	98.7	100	98.7	100	100	100	99.3
Trucks	0	0	0	3	0	3	0	0	0	3
% Trucks	0	0	0	1.3	0	1.3	0	0	0	0.7



Accurate Counts
978-664-2565

File Name : 79900006
Site Code : 79900006
Start Date : 9/26/2018
Page No : 10

N/S Street : Dunster Road
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

Start Time	Dunster Rd From North			Heath St From East			Heath St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	0	0	0	0	1	0	0	0	1	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	1	1	1	0	0	0	0	1	2	3
07:45 AM	0	0	2	0	0	0	0	0	0	2	0	2
Total	0	0	3	1	1	1	0	0	0	4	2	6
08:00 AM	0	0	0	1	0	0	0	0	0	0	1	1
08:15 AM	2	0	0	1	0	1	0	0	0	1	3	4
08:30 AM	0	0	1	0	0	0	0	0	0	1	0	1
08:45 AM	0	0	3	0	0	0	0	0	0	3	0	3
Total	2	0	4	2	0	1	0	0	0	5	4	9
Grand Total	2	0	7	3	1	2	0	0	0	9	6	15
Apprch %	100	0		75	25		0	0		60	40	
Total %	33.3	0		50	16.7		0	0				

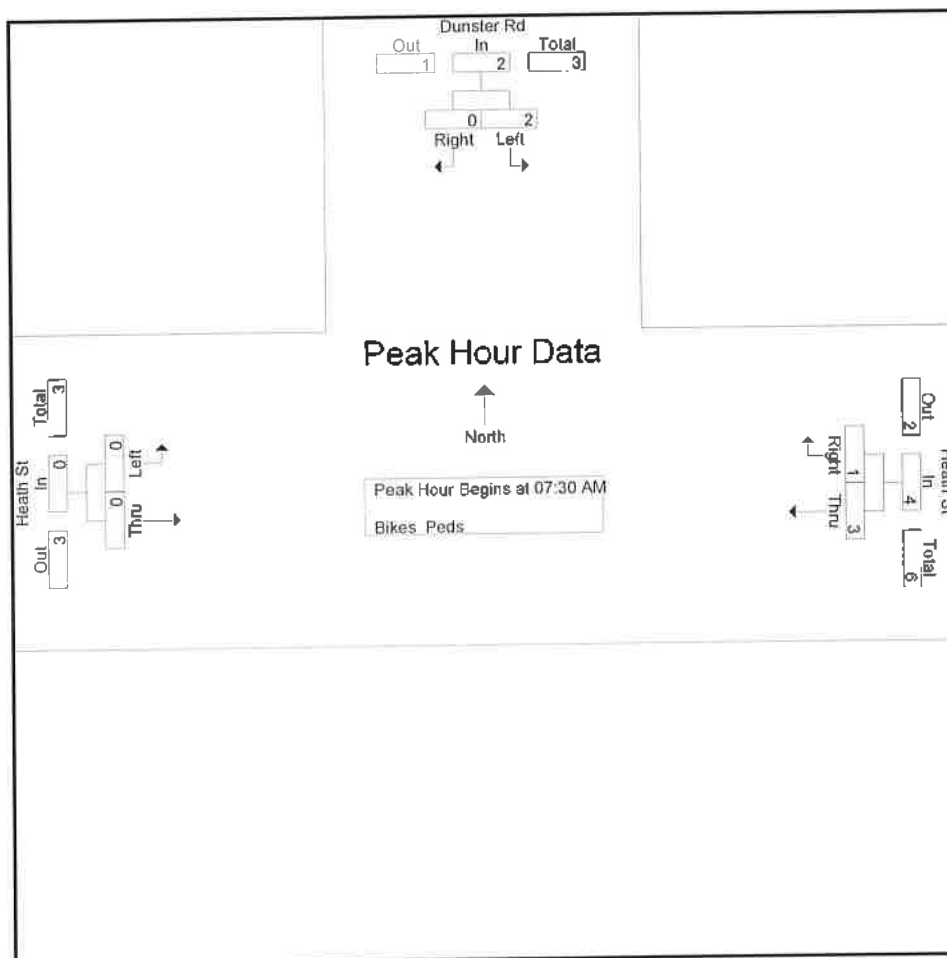
Accurate Counts

978-684-2565

N/S Street : Dunster Road
 E/W Street: Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900006
 Site Code : 79900006
 Start Date : 9/26/2018
 Page No : 11

Start Time	Dunster Rd From North			Heath St From East			Heath St From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	1	1	2	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	1	0	1	0	0	0	1
08:15 AM	2	0	2	1	0	1	0	0	0	3
Total Volume	2	0	2	3	1	4	0	0	0	6
% App. Total	100	0		75	25	.500	0	0	.000	.500
PHF	.250	.000	.250	.750	.250	.500	.000	.000	.000	.500



Accurate Counts
978-684-2565

N/S Street : Dunster Road
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900006
Site Code : 79900006
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Dunster Rd From North		Heath St From East		Heath St From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
01:00 PM	5	2	28	1	8	5	49
01:15 PM	6	2	37	1	14	8	68
01:30 PM	7	2	34	0	18	6	67
01:45 PM	5	0	21	0	21	5	52
Total	23	6	120	2	61	24	236
02:00 PM	7	3	30	0	17	11	68
02:15 PM	6	1	36	0	22	7	72
02:30 PM	2	2	46	2	21	8	81
02:45 PM	11	1	65	0	24	14	115
Total	26	7	177	2	84	40	336
03:00 PM	5	1	49	0	31	4	90
03:15 PM	6	1	74	2	17	6	106
03:30 PM	5	2	60	1	21	9	98
03:45 PM	1	3	69	0	13	6	92
Total	17	7	252	3	82	25	386
Grand Total	66	20	549	7	227	89	958
Apprch %	76.7	23.3	98.7	1.3	71.8	28.2	
Total %	6.9	2.1	57.3	0.7	23.7	9.3	
Cars	66	20	540	7	225	89	947
% Cars	100	100	98.4	100	99.1	100	98.9
Trucks	0	0	9	0	2	0	11
% Trucks	0	0	1.6	0	0.9	0	1.1

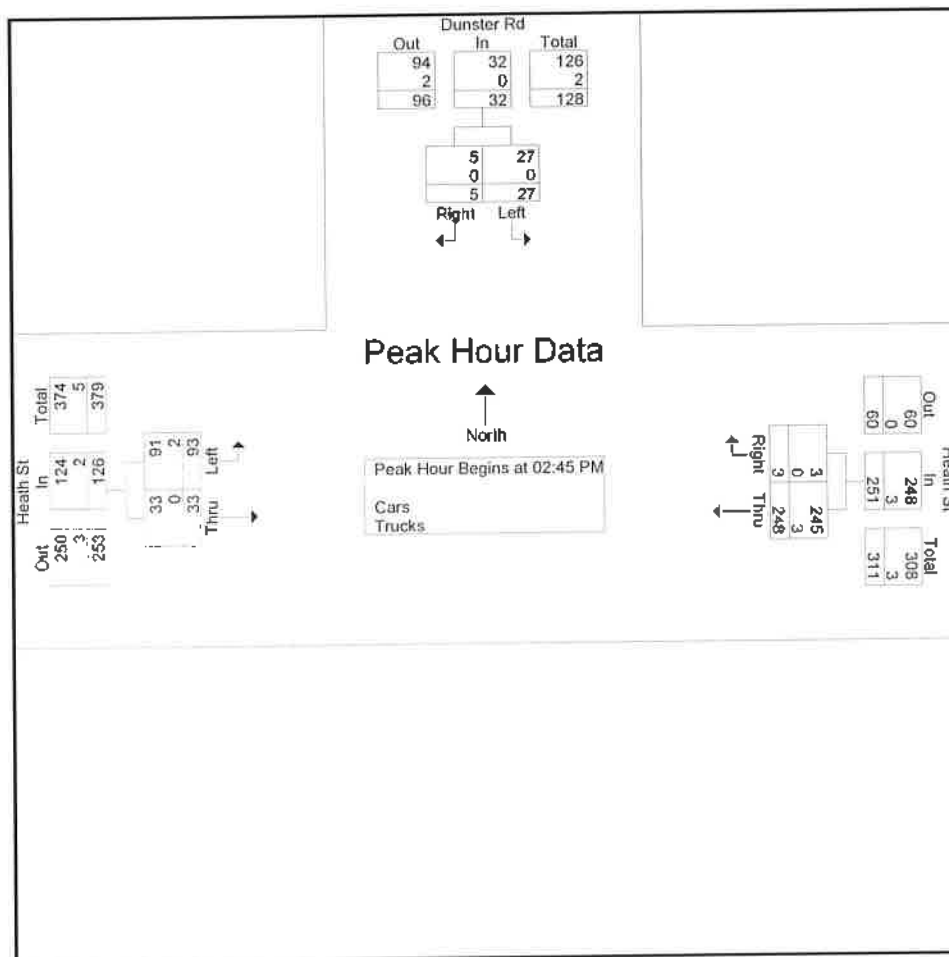
Accurate Counts

978-664-2665

N/S Street : Dunster Road
 E/W Street: Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900006
 Site Code : 79900006
 Start Date : 9/26/2018
 Page No : 2

Start Time	Dunster Rd From North			Heath St From East			Heath St From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:45 PM										
02:45 PM	11	1	12	65	0	65	24	14	38	115
03:00 PM	5	1	6	49	0	49	31	4	35	90
03:15 PM	6	1	7	74	2	76	17	6	23	106
03:30 PM	5	2	7	60	1	61	21	9	30	98
Total Volume	27	5	32	248	3	251	93	33	126	409
% App. Total	84.4	15.6		98.8	1.2		73.8	26.2		
PHF	.614	.625	.667	.838	.375	.826	.750	.589	.829	.889
Cars	27	5	32	245	3	248	91	33	124	404
% Cars	100	100	100	98.8	100	98.8	97.8	100	98.4	98.8
Trucks	0	0	0	3	0	3	2	0	2	5
% Trucks	0	0	0	1.2	0	1.2	2.2	0	1.6	1.2



Accurate Counts
978-664-2565

N/S Street : Dunster Road
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900006
Site Code : 79900006
Start Date : 9/26/2018
Page No : 10

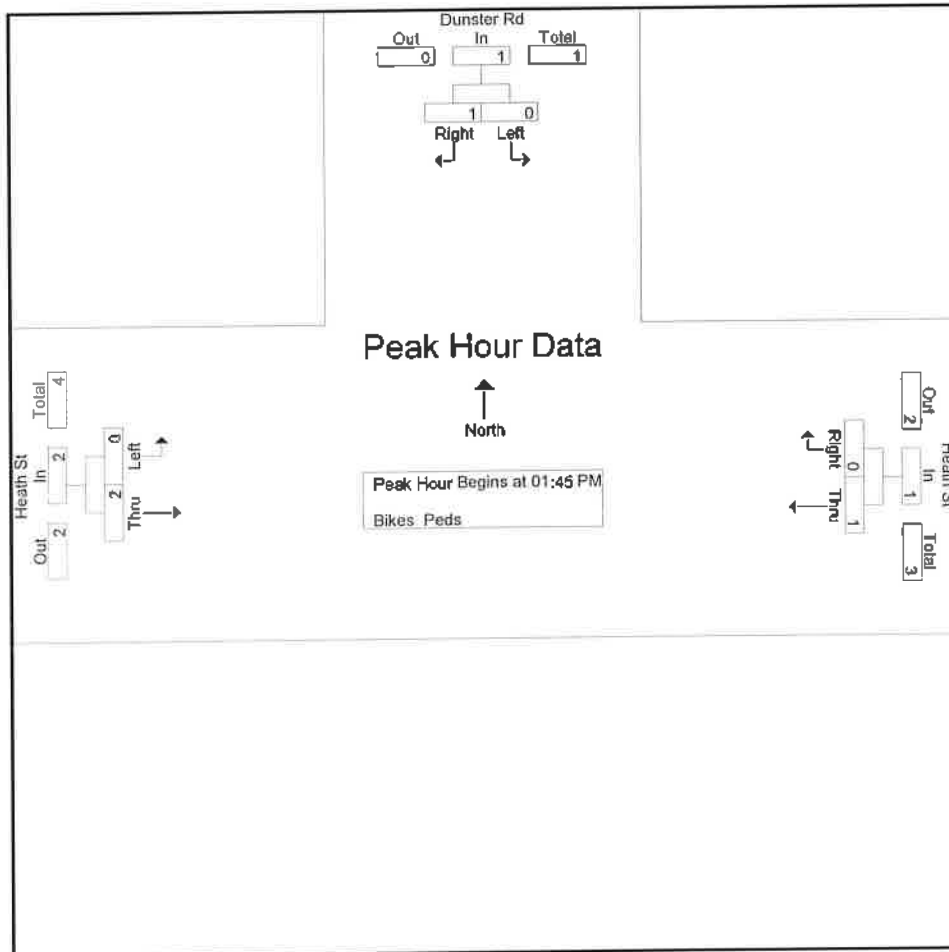
Start Time	Dunster Rd From North			Heath St From East			Heath St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
01:00 PM	0	0	3	0	0	0	0	0	0	3	0	3
01:15 PM	1	0	2	0	0	0	0	0	0	2	1	3
01:30 PM	0	0	1	0	0	0	0	0	0	1	0	1
01:45 PM	0	0	0	0	0	0	0	1	0	0	1	1
Total	1	0	6	0	0	0	0	1	0	6	2	8
02:00 PM	0	0	1	1	0	0	0	0	0	1	1	2
02:15 PM	0	1	2	0	0	0	0	0	0	2	1	3
02:30 PM	0	0	0	0	0	0	0	1	1	1	1	2
02:45 PM	0	0	2	0	1	0	0	0	2	4	1	5
Total	0	1	5	1	1	0	0	1	3	8	4	12
03:00 PM	0	0	3	0	0	0	0	0	0	3	0	3
03:15 PM	0	0	2	1	0	0	0	0	0	2	1	3
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	2	0	0	0	0	0	1	3	0	3
Total	0	0	7	1	0	0	0	0	1	8	1	9
Grand Total	1	1	18	2	1	0	0	2	4	22	7	29
Approch %	50	50		66.7	33.3		0	100				
Total %	14.3	14.3		28.6	14.3		0	28.6		75.9	24.1	

Accurate Counts
978-664-2565

N/S Street : Dunster Road
E/W Street: Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900006
Site Code : 79900006
Start Date : 9/26/2018
Page No : 11

Start Time	Dunster Rd From North			Heath St From East			Heath St From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 01:45 PM										
01:45 PM	0	0	0	0	0	0	0	1	1	1
02:00 PM	0	0	0	1	0	1	0	0	0	1
02:15 PM	0	1	1	0	0	0	0	0	0	1
02:30 PM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	1	1	1	0	1	0	2	2	4
% App. Total	0	100		100	0		0	100		
PHF	.000	.250	.250	.250	.000	.250	.000	.500	.500	1.00



Accurate Counts

978-664-2565

File Name : 79900007
 Site Code : 77900007
 Start Date : 9/26/2018
 Page No : 1

N/S Street : Cary Rd / Recreation Dr
 EW Street : Hammond Street
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Groups Printed: Cars - Trucks												
	Cary Rd From North			Heath St From East			Recreation Dr From South			Heath St From West			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	1	0	1	1	13	16	0	0	0	2	6	0	40
07:15 AM	1	0	2	0	24	30	0	0	0	0	6	0	63
07:30 AM	0	0	2	0	55	61	0	0	0	0	9	0	127
07:45 AM	0	0	1	0	70	45	0	0	0	1	13	0	130
Total	2	0	6	1	162	152	0	0	0	3	34	0	360
08:00 AM	1	0	1	1	45	51	0	0	0	0	19	0	118
08:15 AM	2	0	0	0	57	34	0	0	0	0	21	0	114
08:30 AM	0	0	2	0	51	28	0	0	0	1	23	0	105
08:45 AM	0	0	2	0	49	37	0	0	0	1	14	0	103
Total	3	0	5	1	202	150	0	0	0	2	77	0	440
Grand Total	5	0	11	2	364	302	0	0	0	5	111	0	800
Approach %	31.2	0	68.8	0.3	54.5	45.2	0	0	0	4.3	95.7	0	
Total %	0.6	0	1.4	0.2	45.5	37.8	0	0	0	0.6	13.9	0	
Cars	5	0	11	2	363	299	0	0	0	5	109	0	794
% Cars	100	0	100	100	99.7	99	0	0	0	100	98.2	0	99.2
Trucks	0	0	0	0	1	3	0	0	0	0	2	0	6
% Trucks	0	0	0	0	0.3	1	0	0	0	0	1.8	0	0.8

Accurate Counts
978-664-2565

File Name : 79900007
Site Code : 77900007
Start Date : 9/26/2018
Page No : 2

N/S Street : Cary Rd / Recreation Dr
EW Street : Hammond Street
City/State : Brookline, MA
Weather : Cloudy

Start Time	Cary Rd From North			Heath St From East			Recreation Dr From South			Heath St From West			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
07:30 AM	0	0	2	0	55	61	116	0	0	0	0	9	0	9	127
07:45 AM	0	0	1	0	70	45	115	0	0	0	0	13	0	14	130
08:00 AM	1	0	1	1	45	51	97	0	0	0	0	19	0	19	118
08:15 AM	2	0	0	0	57	34	91	0	0	0	0	21	0	21	114
Total Volume	3	0	4	1	227	191	419	0	0	0	0	62	0	63	489
% App. Total	42.9	0	57.1	0.2	54.2	45.6		0	0	0	0	98.4	0		
PHF	.375	.000	.500	.250	.811	.783	.903	.000	.000	.000	.000	.738	.000	.750	.940
Cars	3	0	4	1	226	188	415	0	0	0	0	61	0	62	484
% Cars	100	0	100	100	99.6	98.4	99.0	0	0	0	0	98.4	0	98.4	99.0
Trucks	0	0	0	0	1	3	4	0	0	0	0	1	0	1	5
% Trucks	0	0	0	0	0.4	1.6	1.0	0	0	0	0	1.6	0	1.6	1.0

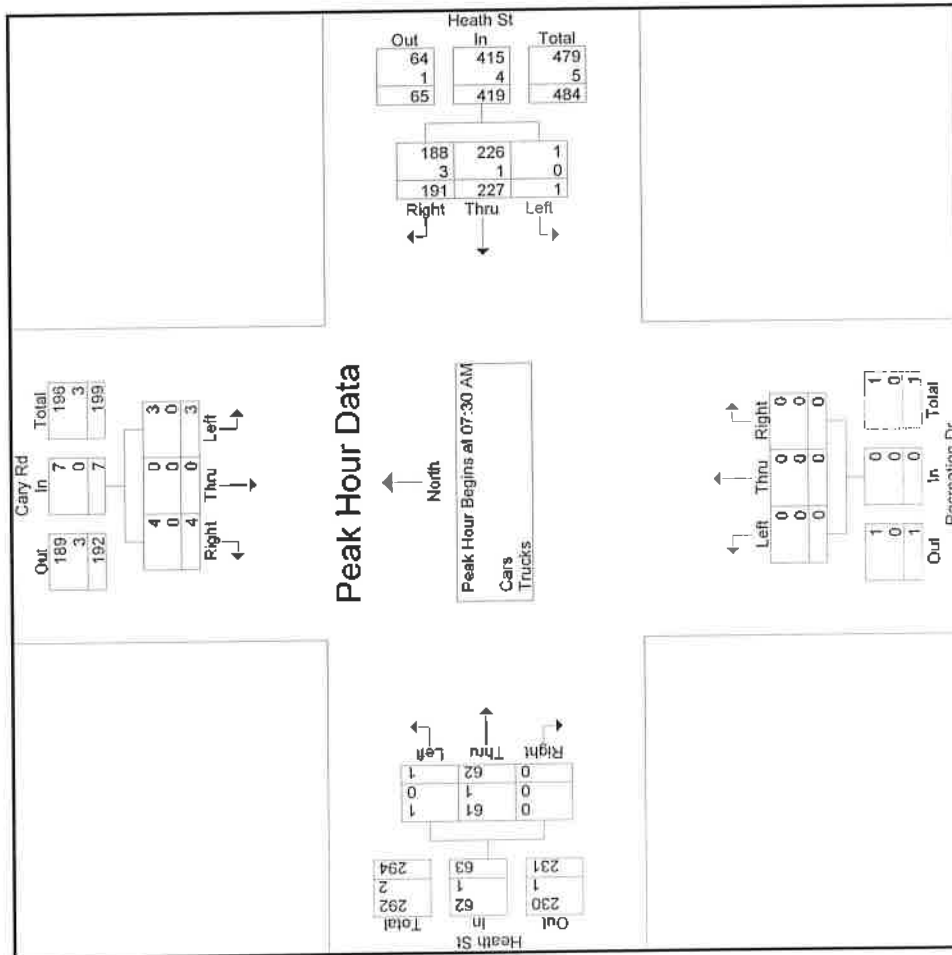
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:30 AM

Accurate Counts

978-664-2565

File Name : 79900007
 Site Code : 77900007
 Start Date : 9/26/2018
 Page No : 3

N/S Street : Cary Rd / Recreation Dr
 E/W Street : Hammond Street
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM	07:30 AM	07:00 AM	07:30 AM	07:00 AM	07:30 AM	08:00 AM
+0 mins.	1	0	1	2	61	116	19
+15 mins.	1	0	2	3	45	115	21
+30 mins.	0	0	2	2	51	97	24
+45 mins.	0	0	1	1	34	91	15
Total Volume	2	0	6	8	191	419	79
% App. Total	25	0	75	0.2	54.2	45.6	97.5

Accurate Counts
978-664-2565

File Name : 79900007
 Site Code : 77900007
 Start Date : 9/26/2018
 Page No : 13

N/S Street : Cary Rd / Recreation Dr
 EW Street : Hammond Street
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Groups Printed- Bikes Peds																		
	Cary Rd				Heath St				Recreation Dr				Heath St						
	From North	From East		From South		From West		From North	From East		From South		From West						
Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	4
08:00 AM	0	0	0	0	3	0	0	0	1	0	1	0	0	0	0	0	0	0	5
08:15 AM	0	0	0	0	4	0	0	0	3	0	1	0	0	0	0	0	0	0	8
08:30 AM	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3
08:45 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	8	0	0	0	6	0	4	0	0	0	0	0	0	0	18
Grand Total	0	0	0	0	10	0	0	0	6	0	5	0	0	0	1	0	0	0	22
Approch %	0	0	0	0	100	0	0	0	54.5	0	45.5	0	0	0	100	0	0	0	100
Total %	0	0	0	0	45.5	0	0	0	27.3	0	22.7	0	0	0	4.5	0	0	0	100

Accurate Counts

978-664-2565

File Name : 79900007
 Site Code : 77900007
 Start Date : 9/26/2018
 Page No : 14

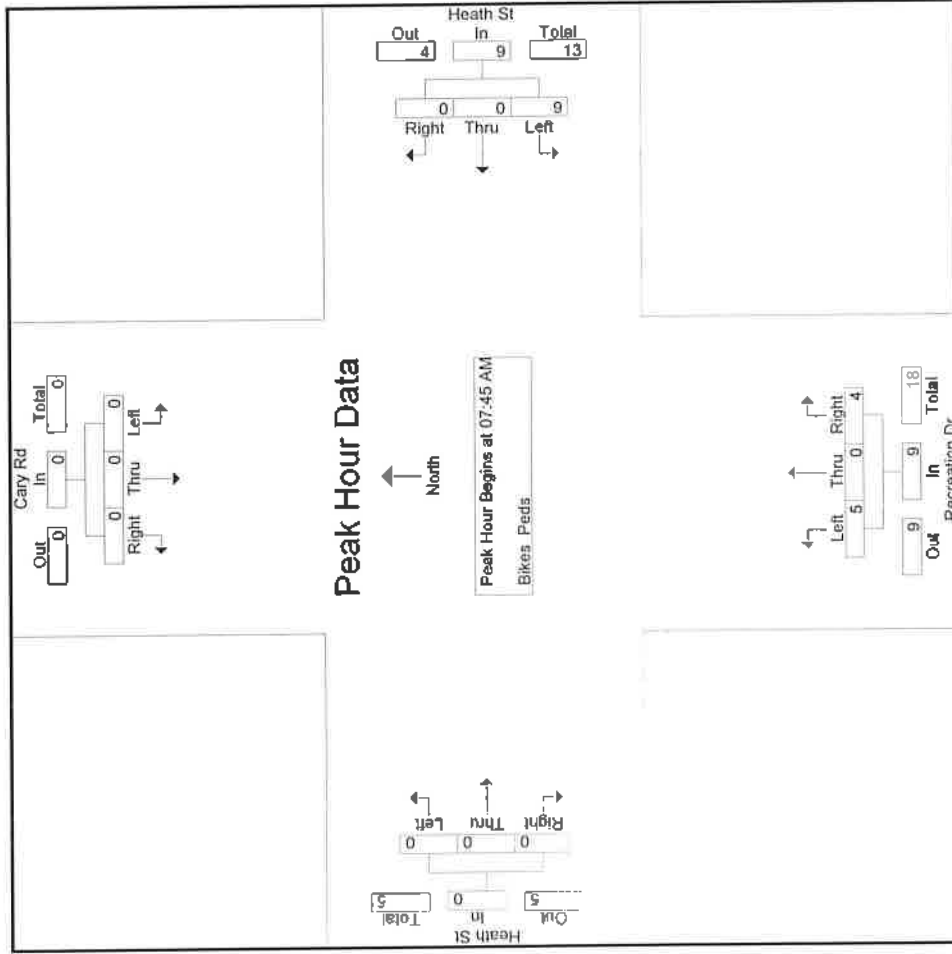
N/S Street : Cary Rd / Recreation Dr
 EW Street : Hammond Street
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Cary Rd From North			Heath St From East			Recreation Dr From South			Heath St From West			Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 07:45 AM														
07:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	3	1	0	1	2	0	0	0	0	5
08:15 AM	0	0	0	0	4	3	0	1	4	0	0	0	0	8
08:30 AM	0	0	0	0	0	1	0	2	3	0	0	0	0	3
Total Volume	0	0	0	0	9	5	0	4	9	0	0	0	0	18
% App. Total	0	0	0	0	100	55.6	0	44.4	56.3	0	0	0	0	56.3
PHF	.000	.000	.000	.000	.563	.417	.000	.500	.563	.000	.000	.000	.000	.563

Accurate Counts
978-664-2565

File Name : 79900007
Site Code : 77900007
Start Date : 9/26/2018
Page No : 15

N/S Street : Cary Rd / Recreation Dr
EW Street : Hammond Street
City/State : Brookline, MA
Weather : Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

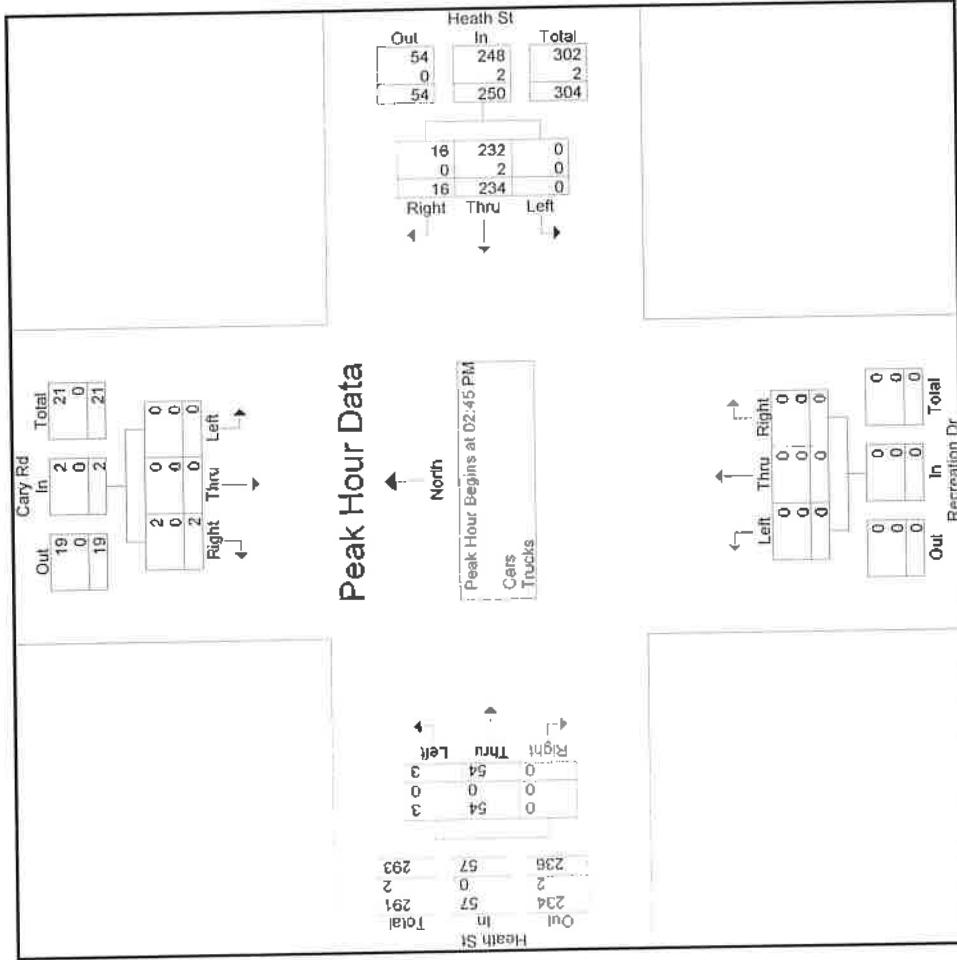
	07:00 AM	07:30 AM	08:00 AM	07:00 AM	07:30 AM	08:00 AM	07:00 AM
+0 mins.	0	0	0	0	0	0	1
+15 mins.	0	0	0	0	2	3	0
+30 mins.	0	0	0	0	3	1	0
+45 mins.	0	0	0	0	4	1	0
Total Volume	0	0	0	0	9	6	10
% App. Total	0	0	0	0	100	60	40

Accurate Counts

978-664-2565

File Name : 79900007
 Site Code : 77900007
 Start Date : 9/26/2018
 Page No : 3

N/S Street : Cary Rd / Recreation Dr
 E/W Street : Hammond Street
 City/State : Brookline, MA
 Weather : Cloudy



Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	01:15 PM	03:00 PM	01:00 PM	02:00 PM	
+0 mins.	1	2	53	1	16
+15 mins.	0	0	69	1	15
+30 mins.	1	3	67	0	7
+45 mins.	1	1	68	1	23
Total Volume	3	6	257	3	58
% App Total	50	50	100	4.9	95.1
PHF	.750	.500	.931	.750	.663

Accurate Counts

978-664-2565

File Name : 79900007
 Site Code : 77900007
 Start Date : 9/26/2018
 Page No : 13

N/S Street : Cary Rd / Recreation Dr
 E/W Street : Hammond Street
 City/State : Brookline, MA
 Weather : Cloudy

Start Time	Groups Printed- Bikes Peds																		
	Cary Rd			Heath St			Recreation Dr			Heath St									
	From North	From East	From South	From West	From North	From East	From South	From West	From North	From East	From South	From West							
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total	
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2
02:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2	2
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2	2
03:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	2
03:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
03:30 PM	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	3	3
03:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	3	0	0	0	0	3	0	0	1	0	0	0	0	0	7	7
Grand Total	0	0	1	4	0	0	1	0	3	0	0	2	0	0	1	1	10	11	11
Approch %	0	0	0	100	0	0	25	0	75	0	0	100	0	0	0	9.1	90.9		
Total %	0	0	0	40	0	0	10	0	30	0	0	20	0	0	0				

Accurate Counts
978-664-2565

File Name : 79900007
Site Code : 77900007
Start Date : 9/26/2018
Page No : 14

N/S Street : Cary Rd / Recreation Dr
E/W Street : Hammond Street
City/State : Brookline, MA
Weather : Cloudy

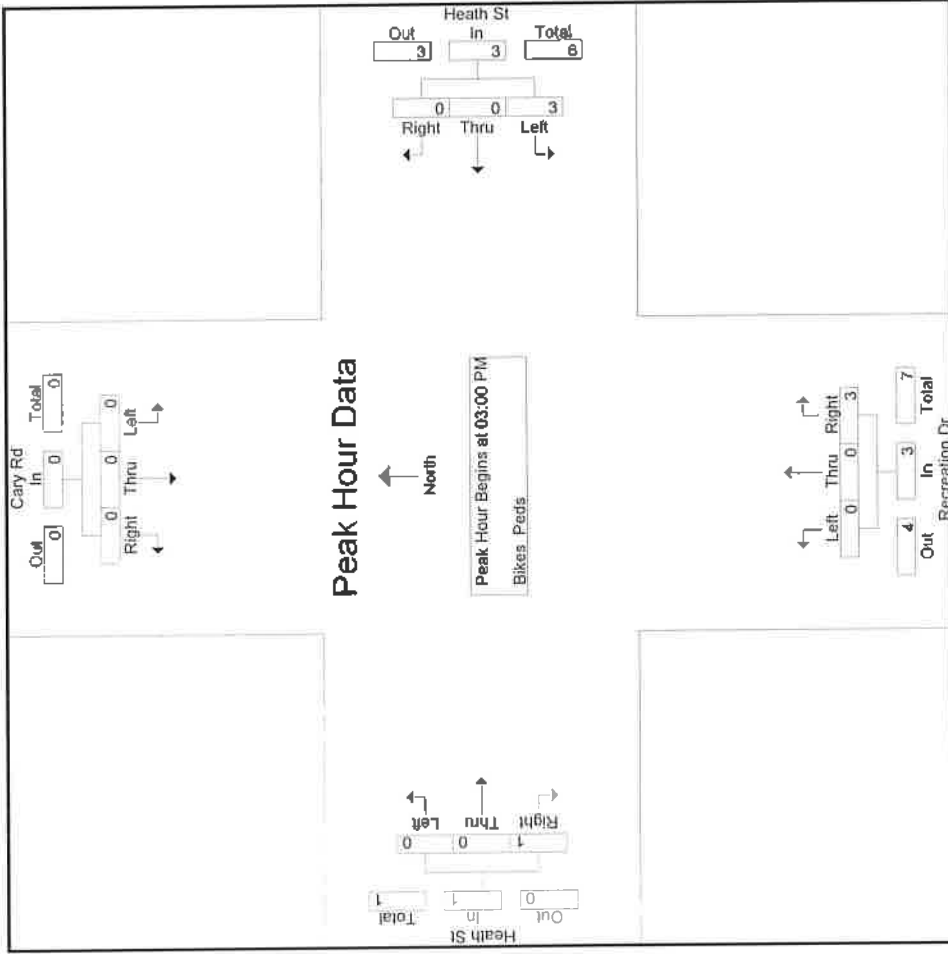
Start Time	Cary Rd From North			Heath St From East			Recreation Dr From South			Heath St From West					
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	1	0	1	0	0	1	1	0	0	0	0	2
03:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
03:30 PM	0	0	0	0	0	0	0	0	2	2	0	0	1	1	3
03:45 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	3	0	3	0	0	3	3	0	0	1	1	7
% App. Total	0	0	0	100	0	0	0	0	100	0	0	0	100	0	0
PHF	.000	.000	.000	.750	.000	.750	.000	.000	.375	.375	.000	.000	.250	.250	.583

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:00 PM

Accurate Counts
978-664-2565

N/S Street : Cary Rd / Recreation Dr
 E/W Street : Hammond Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900007
 Site Code : 77900007
 Start Date : 9/26/2018
 Page No : 15



Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	01:00 PM	03:00 PM	02:45 PM	01:15 PM
+0 mins.	0	1	0	0
+15 mins.	0	1	0	1
+30 mins.	0	0	0	0
+45 mins.	0	1	0	2
Total Volume	0	3	0	3
% App. Total	0	100	0	0
PHF	.000	.750	.000	.375
	.000	.000	.000	.000
	.000	.750	.000	.250
	.000	.000	.000	.250

School Peak Hour Traffic Volumes

File Name: C:\Users\stevit\Documents\2018\Petra\Brookline, MA\VA\17990179900009.ppd

Start Date: 9/26/2018

Start Time: 7:00:00 AM

Site Code: 77900009

Comment 1: N/S Street : Woodland Road

Comment 2: EW Street : Heath Street

Comment 3: City/State : Brookline, MA

Comment 4: Weather : Cloudy

Start Time	Heath St From East		Woodland Rd From South			Heath St From West			Phf by approach	
	Left	Thru	Left	Right	Peds	Thru	Right	Peds		
07:00 AM	0	9	0	20	62	0	6	0	82	6
07:15 AM	0	21	0	35	90	0	8	0	125	8
07:30 AM	0	39	0	76	100	0	9	0	176	9
07:45 AM	0	51	0	72	129	0	13	0	201	13
No Build	0	120	0	203	381	0	36	0	584	36
PHF	0.00	0.59	0.00	0.67	0.74	0.00	0.69	0.00	0.73	0.69
Truck	0	1	0	1	3	0	2	0		
% Truck	0.0%	0.8%	0.0%	0.5%	0.8%	0.0%	5.6%	0.0%		
PED	0	0	3	0	0	0	0	0		
<hr/>										
01:30 PM	0	30	0	8	23	0	12	0	31	12
01:45 PM	0	25	0	1	20	0	12	0	21	12
02:00 PM	0	30	0	6	14	0	14	0	20	14
02:15 PM	0	35	0	7	20	0	14	0	27	14
No Build	0	120	0	22	77	0	52	0	99	52
PHF	0.00	0.86	0.00	0.69	0.84	0.00	0.93	0.00	0.86	0.93
Truck	0	0	0	0	0	0	0	0		
% Truck	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
PED	0	1	1	0	1	0	1	0		

Accurate Counts
978-664-2565

N/S Street : Woodland Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900009
Site Code : 77900009
Start Date : 9/26/2018
Page No : 1

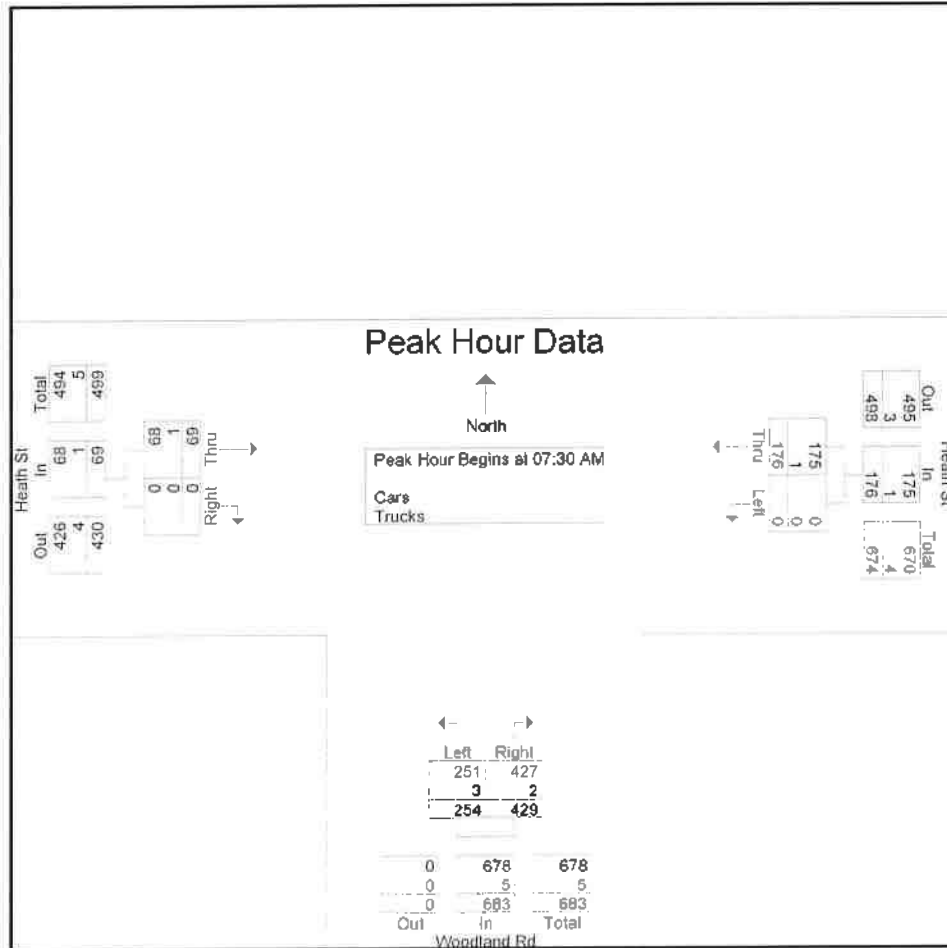
Start Time	Heath St From East		Woodland Rd From South		Heath St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	9	20	62	6	0	97
07:15 AM	0	21	35	90	8	0	154
07:30 AM	0	39	76	100	9	0	224
07:45 AM	0	51	72	129	13	0	265
Total	0	120	203	381	36	0	740
08:00 AM	0	37	63	99	22	0	221
08:15 AM	0	49	43	101	25	0	218
08:30 AM	0	43	39	79	30	0	191
08:45 AM	0	42	44	64	13	0	163
Total	0	171	189	343	90	0	793
Grand Total	0	291	392	724	126	0	1533
Apprch %	0	100	35.1	64.9	100	0	
Total %	0	19	25.6	47.2	8.2	0	
Cars	0	289	389	721	124	0	1523
% Cars	0	99.3	99.2	99.6	98.4	0	99.3
Trucks	0	2	3	3	2	0	10
% Trucks	0	0.7	0.8	0.4	1.6	0	0.7

Accurate Counts
978-664-2565

N/S Street : Woodland Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900009
Site Code : 77900009
Start Date : 9/26/2018
Page No : 2

Start Time	Heath St From East			Woodland Rd From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	39	39	76	100	176	9	0	9	224
07:45 AM	0	51	51	72	129	201	13	0	13	265
08:00 AM	0	37	37	63	99	162	22	0	22	221
08:15 AM	0	49	49	43	101	144	25	0	25	218
Total Volume	0	176	176	254	429	683	69	0	69	928
% App. Total	0	100		37.2	62.8		100	0		
PHF	.000	.863	.863	.836	.831	.850	.690	.000	.690	.875
Cars	0	175	175	251	427	678	68	0	68	921
% Cars	0	99.4	99.4	98.8	99.5	99.3	98.6	0	98.6	99.2
Trucks	0	1	1	3	2	5	1	0	1	7
% Trucks	0	0.6	0.6	1.2	0.5	0.7	1.4	0	1.4	0.8



Accurate Counts
978-864-2565

N/S Street : Woodland Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900009
Site Code : 77900009
Start Date : 9/26/2018
Page No : 10

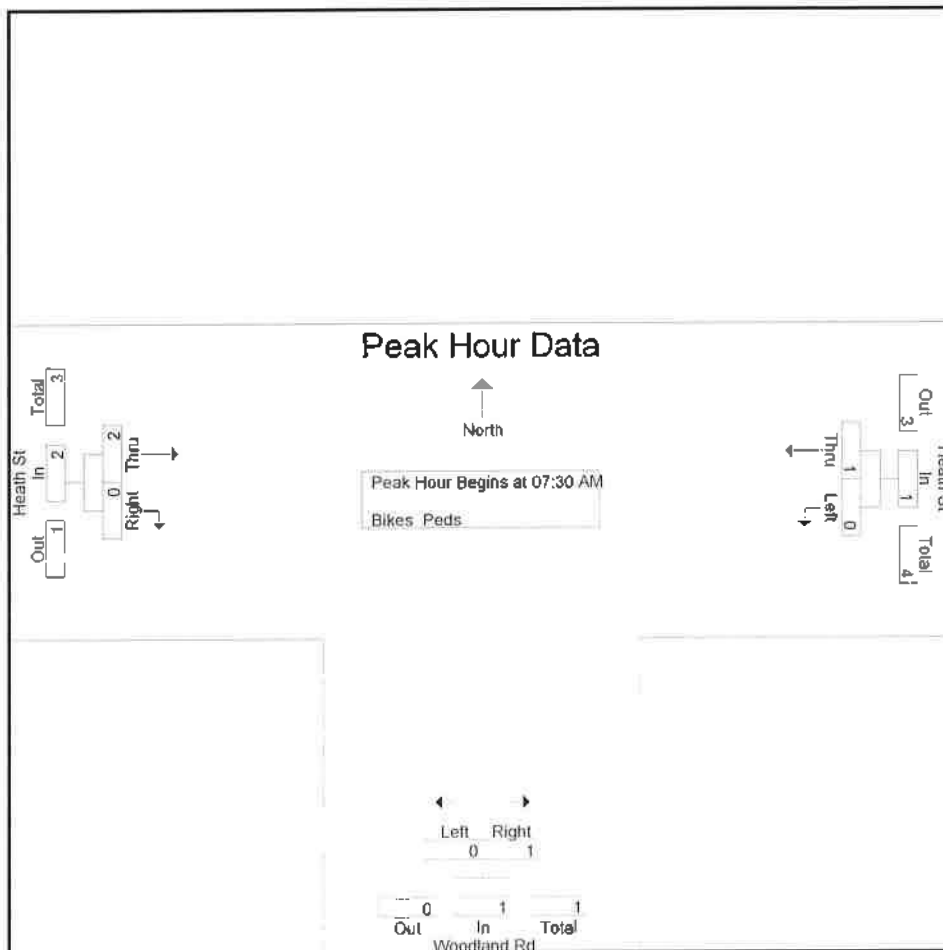
Start Time	Heath St From East			Woodland Rd From South			Heath St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	1	0	0	0	0	0	0	1	0	1
07:45 AM	0	0	2	0	0	0	0	0	0	2	0	2
Total	0	0	3	0	0	0	0	0	0	3	0	3
08:00 AM	0	0	4	0	0	0	0	0	0	4	0	4
08:15 AM	0	1	0	0	1	0	2	0	0	0	4	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	1	0	0	0	0	0	0	1	0	1
Total	0	1	5	0	1	0	2	0	0	5	4	9
Grand Total	0	1	8	0	1	0	2	0	0	8	4	12
Apprch %	0	100		0	100		100	0				
Total %	0	25		0	25		50	0		66.7	33.3	

Accurate Counts
978-664-2565

N/S Street : Woodland Road
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900009
 Site Code : 77900009
 Start Date : 9/26/2018
 Page No : 11

Start Time	Heath St From East			Woodland Rd From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	1	1	0	1	1	2	0	2	4
Total Volume	0	1	1	0	1	1	2	0	2	4
% App. Total	0	100		0	100		100	0		
PHF	.000	.250	.250	.000	.250	.250	.250	.000	.250	.250



Accurate Counts
978-664-2565

N/S Street : Woodland Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900009
Site Code : 77900009
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Heath St From East		Woodland Rd From South		Heath St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
01:00 PM	0	27	7	20	8	0	62
01:15 PM	0	31	7	19	13	0	70
01:30 PM	0	30	8	23	12	0	73
01:45 PM	0	25	1	20	12	0	58
Total	0	113	23	82	45	0	263
02:00 PM	0	30	6	14	14	0	64
02:15 PM	0	35	7	20	14	0	76
02:30 PM	0	39	9	18	9	0	75
02:45 PM	0	61	4	15	24	0	104
Total	0	165	26	67	61	0	319
03:00 PM	0	49	8	20	10	0	87
03:15 PM	0	62	8	22	10	0	102
03:30 PM	0	63	6	23	13	0	105
03:45 PM	0	56	10	12	9	0	87
Total	0	230	32	77	42	0	381
Grand Total	0	508	81	226	148	0	963
Apprch %	0	100	26.4	73.6	100	0	
Total %	0	52.8	8.4	23.5	15.4	0	
Cars	0	506	81	223	148	0	958
% Cars	0	99.6	100	98.7	100	0	99.5
Trucks	0	2	0	3	0	0	5
% Trucks	0	0.4	0	1.3	0	0	0.5

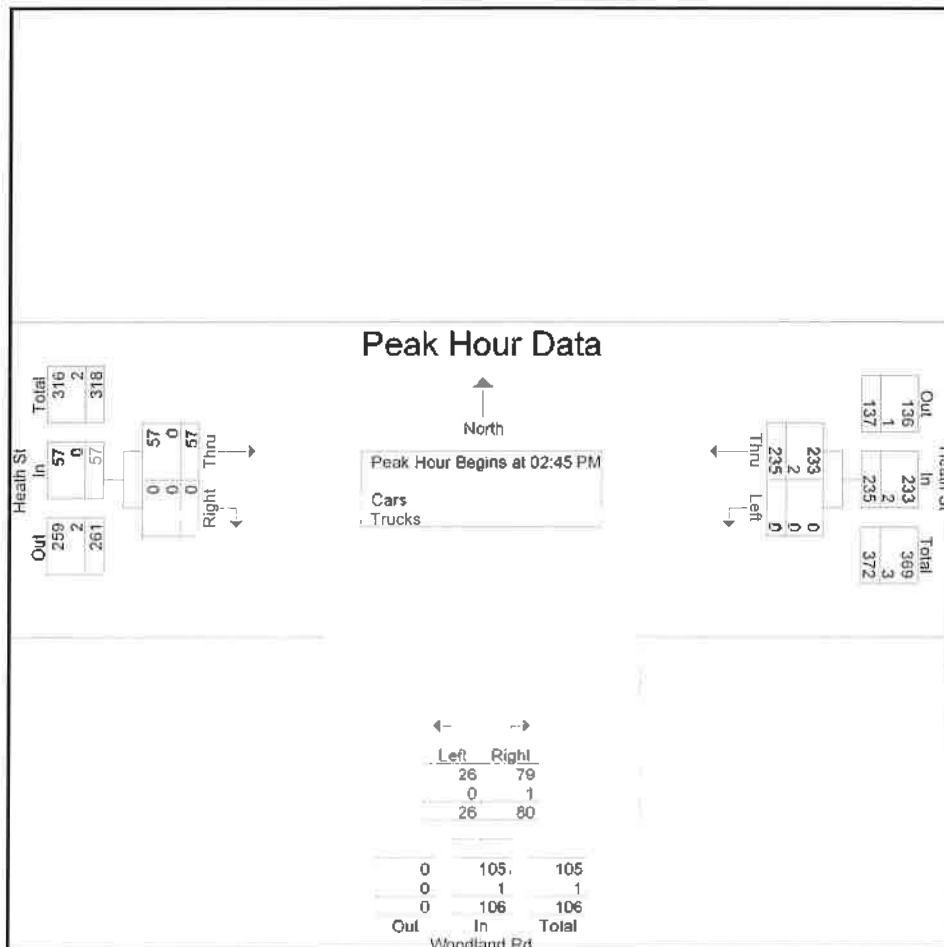
Accurate Counts

978-664-2565

N/S Street : Woodland Road
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900009
 Site Code : 77900009
 Start Date : 9/26/2018
 Page No : 2

Start Time	Heath St From East			Woodland Rd From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:45 PM										
02:45 PM	0	61	61	4	15	19	24	0	24	104
03:00 PM	0	49	49	8	20	28	10	0	10	87
03:15 PM	0	62	62	8	22	30	10	0	10	102
03:30 PM	0	63	63	6	23	29	13	0	13	105
Total Volume	0	235	235	26	80	106	57	0	57	398
% App. Total	0	100		24.5	75.5		100	0		
PHF	.000	.933	.933	.813	.870	.883	.594	.000	.594	.948
Cars	0	233	233	26	79	105	57	0	57	395
% Cars	0	99.1	99.1	100	98.8	99.1	100	0	100	99.2
Trucks	0	2	2	0	1	1	0	0	0	3
% Trucks	0	0.9	0.9	0	1.3	0.9	0	0	0	0.8



Accurate Counts

978-664-2565

N/S Street : Woodland Road
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900009
 Site Code : 77900009
 Start Date : 9/26/2018
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Heath St From East			Woodland Rd From South			Heath St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	1	0	0	0	1	1
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	1	0	1	0	0	0	2	2
Total	0	0	0	0	1	0	2	0	0	0	3	3
02:00 PM	0	1	0	0	0	0	0	0	0	0	1	1
02:15 PM	0	0	1	0	0	0	0	0	0	1	0	1
02:30 PM	0	0	0	0	0	0	1	0	0	0	1	1
02:45 PM	0	1	0	0	0	0	0	0	0	0	1	1
Total	0	2	1	0	0	0	1	0	0	1	3	4
03:00 PM	0	0	3	0	1	0	0	0	0	3	1	4
03:15 PM	0	0	1	0	0	1	0	0	1	3	0	3
03:30 PM	0	0	0	0	0	2	0	0	2	4	0	4
03:45 PM	0	0	3	0	0	1	0	0	0	4	0	4
Total	0	0	7	0	1	4	0	0	3	14	1	15
Grand Total	0	2	8	0	2	4	3	0	3	15	7	22
Approch %	0	100		0	100		100	0				
Total %	0	28.6		0	28.6		42.9	0		68.2	31.8	

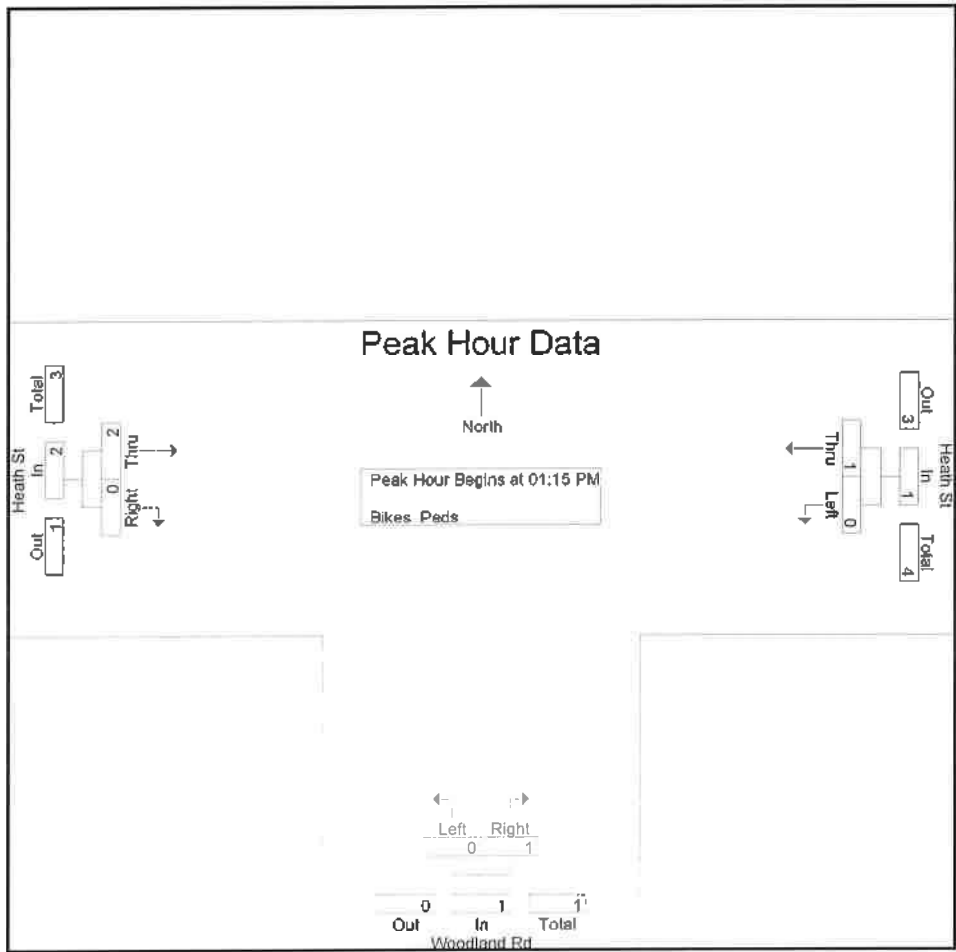
Accurate Counts

978-664-2565

N/S Street : Woodland Road
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900009
 Site Code : 77900009
 Start Date : 9/26/2018
 Page No : 11

Start Time	Heath St From East			Woodland Rd From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 01:15 PM										
01:15 PM	0	0	0	0	0	0	1	0	1	1
01:30 PM	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	1	1	1	0	1	2
02:00 PM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	1	1	0	1	1	2	0	2	4
% App. Total	0	100		0	100		100	0		
PHF	.000	.250	.250	.000	.250	.250	.500	.000	.500	.500



School Peak Hour Traffic Volumes

File Name: C:\Users\stevi\Documents\2018\Petra\Brookline, MA\VA\7990\79900010.ppd

Start Date: 9/26/2018

Start Time: 7:00:00 AM

Site Code: 77900010

Comment 1: N/S Street : Randolph Road

Comment 2: E/W Street : Heath Street

Comment 3: City/State : Brookline, MA

Comment 4: Weather : Cloudy

Start Time	Randolph Rd From North			Heath St From East			Heath St From West			Randolph Rd From North	Heath St From East		Heath St From West
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds		From East	From West	
07:00 AM	0	0	0	9	1	0	19	50	0	0	10	69	
07:15 AM	2	0	0	20	1	0	12	87	0	2	21	99	
07:30 AM	3	0	0	34	5	0	17	88	0	3	39	105	
07:45 AM	4	0	0	45	4	0	61	85	0	4	49	146	
	9	0	0	108	11	0	109	310	0	9	119	419	
No Build	10	0	0	120	12	0	117	332	0	0.56	0.61	0.72	
PHF	0.56	0.00	0.00	0.60	0.55	0.00	0.45	0.88	0	0.56	0.61	0.72	
Truck	0	0	0	1	0	0	3	3	0	0	0	0	
% Truck	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	2.8%	1.0%	0	0	0	0	
PED	0	0	0	0	0	0	0	0	0	0	0	0	
PHF by approach													
01:30 PM	2	2	0	31	1	0	8	30	0	4	32	38	
01:45 PM	4	1	0	22	4	0	4	29	0	5	26	33	
02:00 PM	2	0	0	30	2	0	3	24	0	2	32	27	
02:15 PM	3	0	0	34	7	0	5	28	0	3	41	33	
	11	3	0	117	14	0	20	111	0	14	131	131	
No Build	12	3	0	125	15	0	21	119	120	0	0.80	0.86	
PHF	0.69	0.38	0.00	0.86	0.50	0.00	0.63	0.93	0	0.70	0.80	0.86	
Truck	0	0	0	0	0	0	0	0	0	0	0	0	
% Truck	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
PED	0	0	0	1	0	0	0	2	3	0	0	0	

School Peak Hour Traffic Volumes

File Name: C:\Users\stevi\Documents\2018\Petra\Brookline, MA\VA\7990\79900011.ppd

Start Date: 9/26/2018

Start Time: 7:00:00 AM

Site Code: 77900011

Comment 1: N/S Street : Warren Street

Comment 2: E/W Street : Heath Street

Comment 3: City/State : Brookline, MA

Comment 4: Weather : Cloudy

Start Time	Heath St From East		Warren St From South			Heath St From West			Heath St From East	Warren St From South	Heath St From West	
	Left	Thru	Left	Right	Peds	Thru	Right	Peds				
07:00 AM	11	8	0	2	7	0	28	23	0	19	9	51
07:15 AM	6	20	0	15	16	0	41	35	0	26	31	76
07:30 AM	8	33	0	17	21	0	58	30	0	41	38	88
07:45 AM	12	26	0	27	47	0	72	32	0	38	74	104
No Build	37	87	0	61	91	0	199	120	0	124	152	319
PHF	0.77	0.66		0.56	0.48		0.69	0.86		0.76	0.51	0.77
Truck	0	2		0	1		0	1				
% Truck	0.0%	2.3%		0.0%	1.1%		0.0%	0.8%				
PED	0	0	0	0	1	1	0	0	0			
Phf by approach												
01:30 PM	8	22	0	4	7	0	11	7	0	30	11	18
01:45 PM	13	22	0	6	3	0	20	4	0	35	9	24
02:00 PM	6	13	0	12	2	0	9	11	0	19	14	20
02:15 PM	6	26	0	10	4	0	14	10	0	32	14	24
No Build	33	83	0	32	16	0	54	32	0	116	48	86
PHF	0.63	0.80		0.67	0.57		0.68	0.73		0.83	0.86	0.90
Truck	0	1		1	0		1	0				
% Truck	0.0%	1.2%		3.1%	0.0%		1.9%	0.0%				
PED	0	0	0	1	0	3	0	0	0			

Accurate Counts
978-664-2565

N/S Street : Randolph Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900010
Site Code : 77900010
Start Date : 9/26/2018
Page No : 1

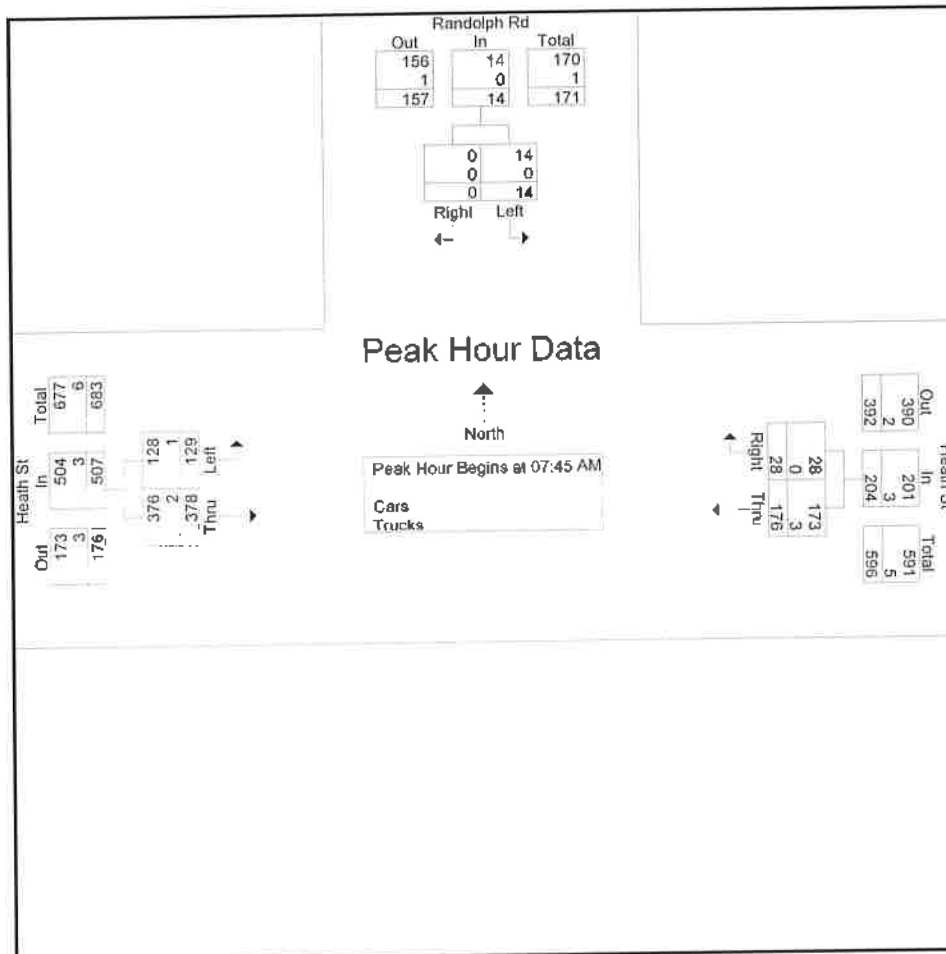
Start Time	Randolph Rd From North		Heath St From East		Heath St From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	0	0	9	1	19	50	79
07:15 AM	2	0	20	1	12	87	122
07:30 AM	3	0	34	5	17	88	147
07:45 AM	4	0	45	4	61	85	199
Total	9	0	108	11	109	310	547
08:00 AM	4	0	36	7	36	89	172
08:15 AM	4	0	50	8	19	105	186
08:30 AM	2	0	45	9	13	99	168
08:45 AM	0	0	41	9	19	58	127
Total	10	0	172	33	87	351	653
Grand Total	19	0	280	44	196	661	1200
Apprch %	100	0	86.4	13.6	22.9	77.1	
Total %	1.6	0	23.3	3.7	16.3	55.1	
Cars	19	0	277	44	193	658	1191
% Cars	100	0	98.9	100	98.5	99.5	99.2
Trucks	0	0	3	0	3	3	9
% Trucks	0	0	1.1	0	1.5	0.5	0.8

Accurate Counts
978-664-2565

N/S Street : Randolph Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900010
Site Code : 77900010
Start Date : 9/26/2018
Page No : 2

Start Time	Randolph Rd From North			Heath St From East			Heath St From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	4	0	4	45	4	49	61	85	146	199
08:00 AM	4	0	4	36	7	43	36	89	125	172
08:15 AM	4	0	4	60	8	68	19	105	124	186
08:30 AM	2	0	2	45	9	54	13	99	112	168
Total Volume	14	0	14	176	28	204	129	378	507	725
% App. Total	100	0	100	86.3	13.7	98.5	25.4	74.6	99.4	99.2
PHF	.875	.000	.875	.880	.778	.879	.529	.900	.868	.911
Cars	14	0	14	173	28	201	128	376	504	719
% Cars	100	0	100	98.3	100	98.5	99.2	99.5	99.4	99.2
Trucks	0	0	0	3	0	3	1	2	3	6
% Trucks	0	0	0	1.7	0	1.5	0.8	0.5	0.6	0.8



Accurate Counts
978-664-2565

N/S Street : Randolph Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900010
Site Code : 77900010
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

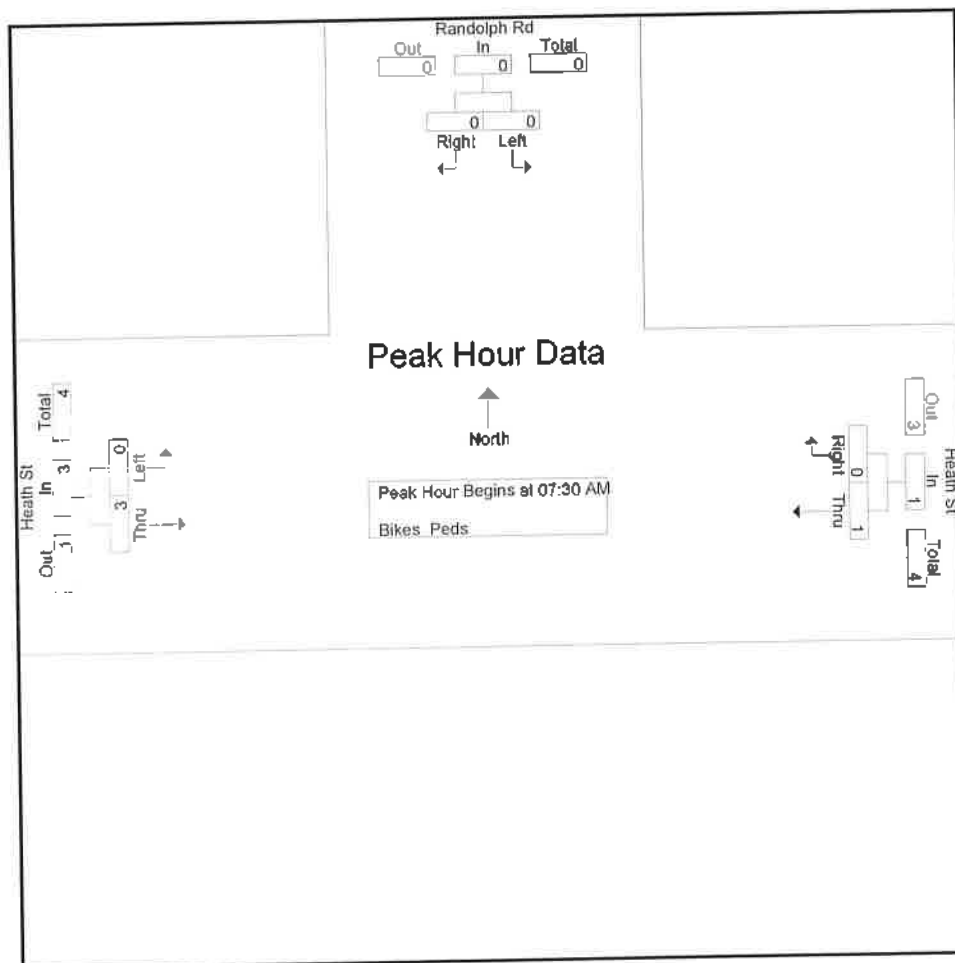
Start Time	Randolph Rd From North			Heath St From East			Heath St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	1	1	0	1
08:15 AM	0	0	0	1	0	0	0	3	0	0	4	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	3	1	1	4	5
Grand Total	0	0	0	1	0	0	0	3	1	1	4	5
Apprch %	0	0		100	0		0	100		20	80	
Total %	0	0		25	0		0	75				

Accurate Counts
978-664-2565

N/S Street : Randolph Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900010
Site Code : 77900010
Start Date : 9/26/2018
Page No : 11

Start Time	Randolph Rd From North			Heath St From East			Heath St From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	1	0	1	0	3	3	4
Total Volume	0	0	0	1	0	1	0	3	3	4
% App. Total	0	0	0	100	0	.250	0	100	.250	.250
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250	.250



Accurate Counts
978-664-2565

N/S Street : Randolph Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900010
Site Code : 77900010
Start Date : 9/26/2018
Page No : 1

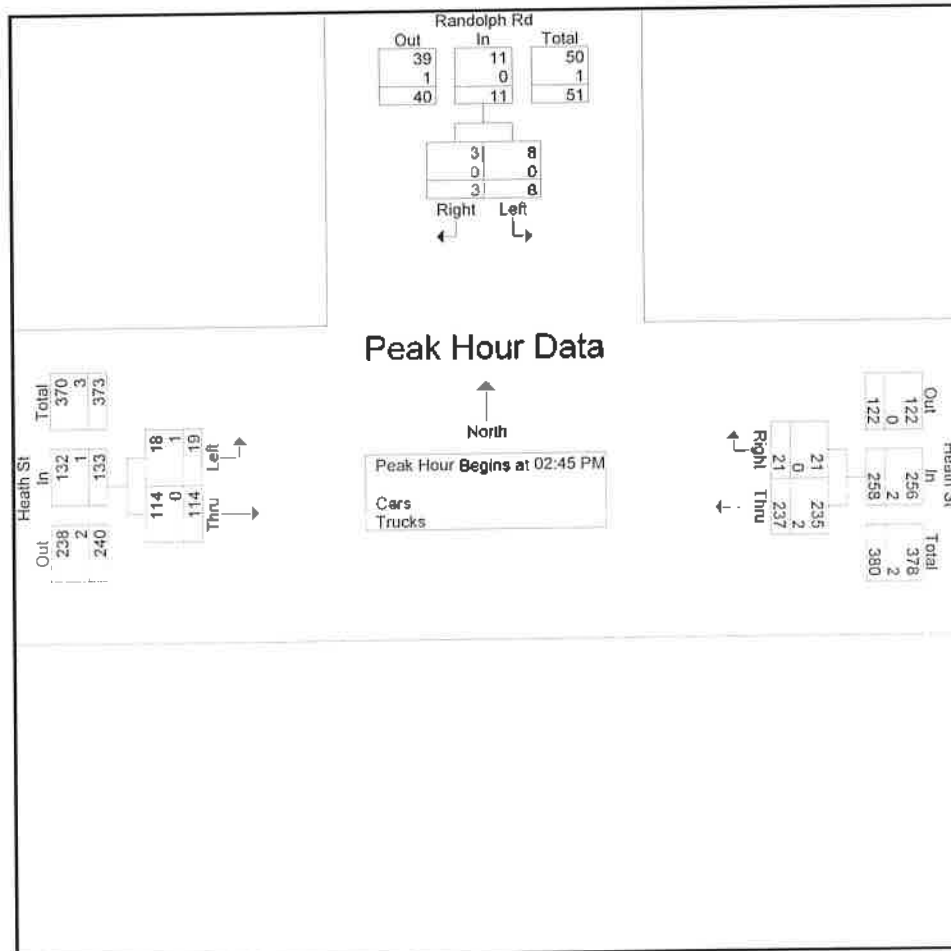
Start Time	Randolph Rd From North		Heath St From East		Heath St From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
01:00 PM	2	0	27	5	5	22	61
01:15 PM	0	0	31	1	6	27	65
01:30 PM	2	2	31	1	8	30	74
01:45 PM	4	1	22	4	4	29	64
Total	8	3	111	11	23	108	264
02:00 PM	2	0	30	2	3	24	61
02:15 PM	3	0	34	7	5	28	77
02:30 PM	0	1	38	7	4	23	73
02:45 PM	1	2	61	8	6	33	111
Total	6	3	163	24	18	108	322
03:00 PM	4	1	48	3	5	25	86
03:15 PM	0	0	65	5	2	30	102
03:30 PM	3	0	63	5	6	26	103
03:45 PM	3	2	64	7	2	20	98
Total	10	3	240	20	15	101	389
Grand Total :	24	9	514	55	56	317	975
Apprch %	72.7	27.3	90.3	9.7	15	85	
Total %	2.5	0.9	52.7	5.6	5.7	32.5	
Cars	24	9	511	55	54	316	969
% Cars	100	100	99.4	100	96.4	99.7	99.4
Trucks	0	0	3	0	2	1	6
% Trucks	0	0	0.6	0	3.6	0.3	0.6

Accurate Counts
978-664-2565

N/S Street : Randolph Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900010
Site Code : 77900010
Start Date : 9/26/2018
Page No : 2

Start Time	Randolph Rd From North			Heath St From East			Heath St From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:45 PM										
02:45 PM	1	2	3	61	8	69	6	33	39	111
03:00 PM	4	1	5	48	3	51	5	25	30	86
03:15 PM	0	0	0	65	5	70	2	30	32	102
03:30 PM	3	0	3	63	5	68	6	26	32	103
Total Volume	8	3	11	237	21	258	19	114	133	402
% App. Total	72.7	27.3		91.9	8.1		14.3	85.7		
PHF	.500	.375	.550	.912	.656	.921	.792	.864	.853	.905
Cars	8	3	11	235	21	256	18	114	132	399
% Cars	100	100	100	99.2	100	99.2	94.7	100	99.2	99.3
Trucks	0	0	0	2	0	2	1	0	1	3
% Trucks	0	0	0	0.8	0	0.8	5.3	0	0.8	0.7



Accurate Counts
978-664-2565

N/S Street : Randolph Road
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900010
Site Code : 77900010
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

Start Time	Randolph Rd From North			Heath St From East			Heath St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	1	0	0	1	1
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	2	2	2	2	4
Total	0	0	0	0	0	0	0	3	2	2	3	5
02:00 PM	0	0	0	1	0	1	0	0	0	1	1	2
02:15 PM	0	0	0	0	0	0	0	0	1	1	0	1
02:30 PM	0	0	0	0	0	0	0	1	0	0	1	1
02:45 PM	0	0	0	1	0	0	0	1	0	0	2	2
Total	0	0	0	2	0	1	0	2	1	2	4	6
03:00 PM	0	0	0	0	0	0	0	1	0	0	1	1
03:15 PM	0	0	0	1	0	0	0	0	0	0	1	1
03:30 PM	0	0	0	0	0	1	0	0	0	1	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	1	0	1	2	3
Grand Total	0	0	0	3	0	2	0	6	3	5	9	14
Approch %	0	0		100	0		0	100				
Total %	0	0		33.3	0		0	66.7		35.7	64.3	

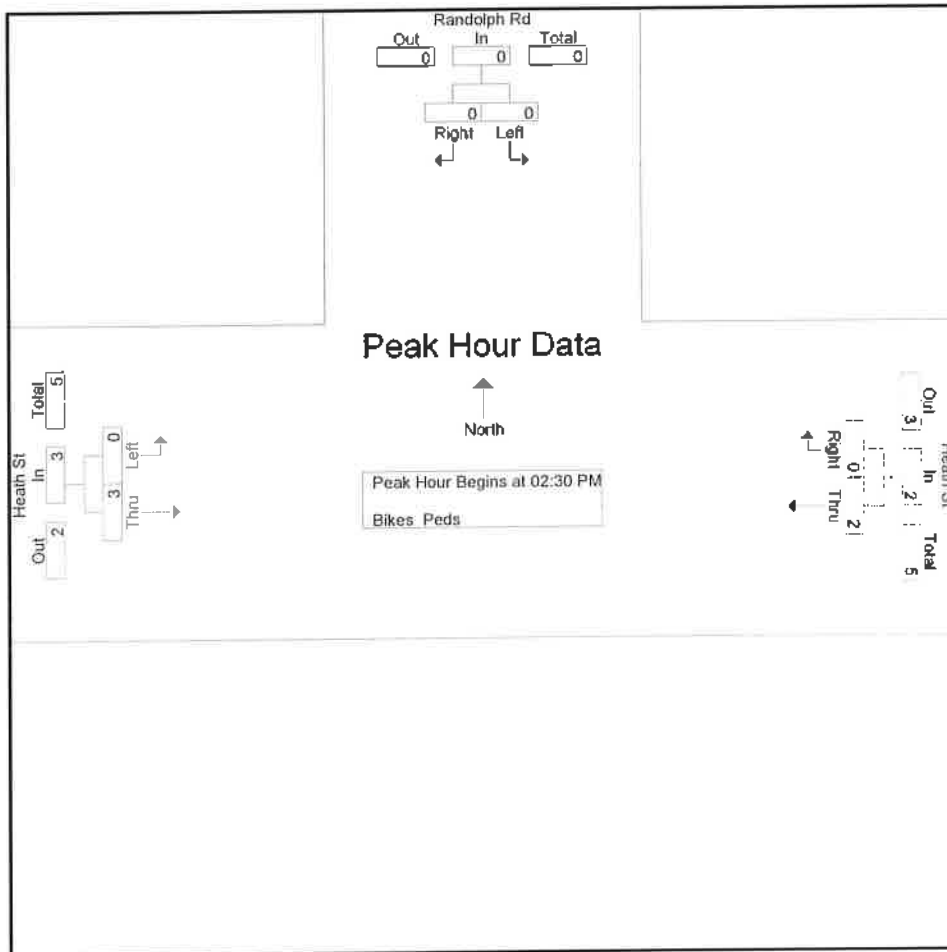
Accurate Counts

978-664-2565

N/S Street : Randolph Road
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900010
 Site Code : 77900010
 Start Date : 9/26/2018
 Page No : 11

Start Time	Randolph Rd From North			Heath St From East			Heath St From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:30 PM										
02:30 PM	0	0	0	0	0	0	0	1	1	1
02:45 PM	0	0	0	1	0	1	0	1	1	2
03:00 PM	0	0	0	0	0	0	0	1	1	1
03:15 PM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	0	0	2	0	2	0	3	3	5
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.500	.000	.500	.000	.750	.750	.825



School Peak Hour Traffic Volumes

File Name: C:\Users\stevf\Documents\2018\Peira\Brookline, MA\VAI\7990\7990012A.ppd

Start Date: 9/26/2016
 Start Time: 7:00:00 AM
 Site Code: 7990012A
 Comment 1: N/S Street : Hammond Street
 Comment 2: E/W Street : Rotary
 Comment 3: City/State : Brookline, MA
 Comment 4: Weather : Cloudy

Start Time	Hammond St From North			Rotary From East			Rotary From West			Hammond St From North	Rotary From East	Rotary From West
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	47	0	391	232	0	0	0	0	47	623	0
07:15 AM	0	90	0	433	275	0	0	0	0	90	708	0
07:30 AM	0	127	0	388	363	0	0	0	0	127	751	0
07:45 AM	0	139	0	435	335	0	0	0	0	139	770	0
No Build	0	403	0	1647	1205	0	0	0	0	403	2852	0
PHF	0.00	0.72		0.95	0.83		0.00	0.00		0.72	0.93	0.00
Truck	0	16		23	19		0	0				
% Truck	0.0%	4.0%		1.4%	1.6%		0.0%	0.0%				
PED	0	2		3	4		0	0				
01:30 PM	0	91	0	223	91	0	0	0	0	91	314	0
01:45 PM	0	115	0	266	104	0	0	0	0	115	370	0
02:00 PM	0	111	0	241	104	0	0	0	0	111	345	0
02:15 PM	0	101	0	287	122	0	0	0	0	101	409	0
No Build	0	418	0	1017	421	0	0	0	0	418	1438	0
PHF	0.00	0.91		0.89	0.86		0.00	0.00		0.91	0.88	0.00
Truck	0	11		11	13		0	0				
% Truck	0.0%	2.6%		1.1%	3.1%		0.0%	0.0%				
PED	0	2		0	2		0	0				

Accurate Counts
978-684-2565

N/S Street : Warren Street
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900011
Site Code : 77900011
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

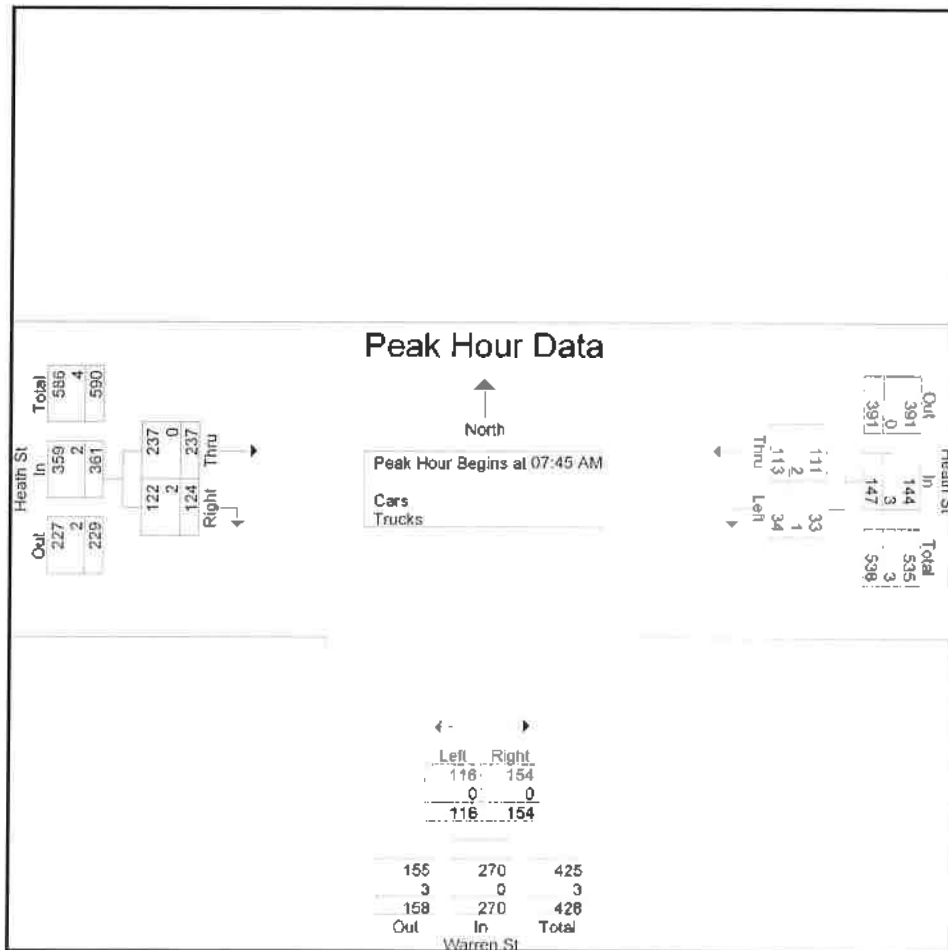
Start Time	Heath St From East		Warren St From South		Heath St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	11	8	2	7	28	23	79
07:15 AM	6	20	15	16	41	35	133
07:30 AM	8	33	17	21	58	30	167
07:45 AM	12	26	27	47	72	32	216
Total	37	87	61	91	199	120	595
08:00 AM	12	28	32	40	57	24	193
08:15 AM	7	31	29	39	62	29	197
08:30 AM	3	28	28	28	46	39	172
08:45 AM	6	24	26	12	25	15	108
Total	28	111	115	119	190	107	670
Grand Total	65	198	176	210	389	227	1265
Apprch %	24.7	75.3	45.6	54.4	63.1	36.9	
Total %	5.1	15.7	13.9	16.6	30.8	17.9	
Cars	64	196	176	209	389	225	1259
% Cars	98.5	99	100	99.5	100	99.1	99.5
Trucks	1	2	0	1	0	2	6
% Trucks	1.5	1	0	0.5	0	0.9	0.5

Accurate Counts
978-664-2565

N/S Street : Warren Street
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900011
Site Code : 77900011
Start Date : 9/26/2018
Page No : 2

Start Time	Heath St From East			Warren St From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	12	26	38	27	47	74	72	32	104	216
08:00 AM	12	28	40	32	40	72	57	24	81	193
08:15 AM	7	31	38	29	39	68	62	29	91	197
08:30 AM	3	28	31	28	28	56	46	39	85	172
Total Volume	34	113	147	116	154	270	237	124	361	778
% App. Total	23.1	76.9		43	57		65.7	34.3		
PHF	.708	.911	.919	.906	.819	.912	.823	.795	.868	.900
Cars	33	111	144	116	154	270	237	122	359	773
% Cars	97.1	98.2	98.0	100	100	100	100	98.4	99.4	99.4
Trucks	1	2	3	0	0	0	0	2	2	5
% Trucks	2.9	1.8	2.0	0	0	0	0	1.6	0.6	0.6



Accurate Counts
978-664-2585

N/S Street : Warren Street
EW Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900011
Site Code : 77900011
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

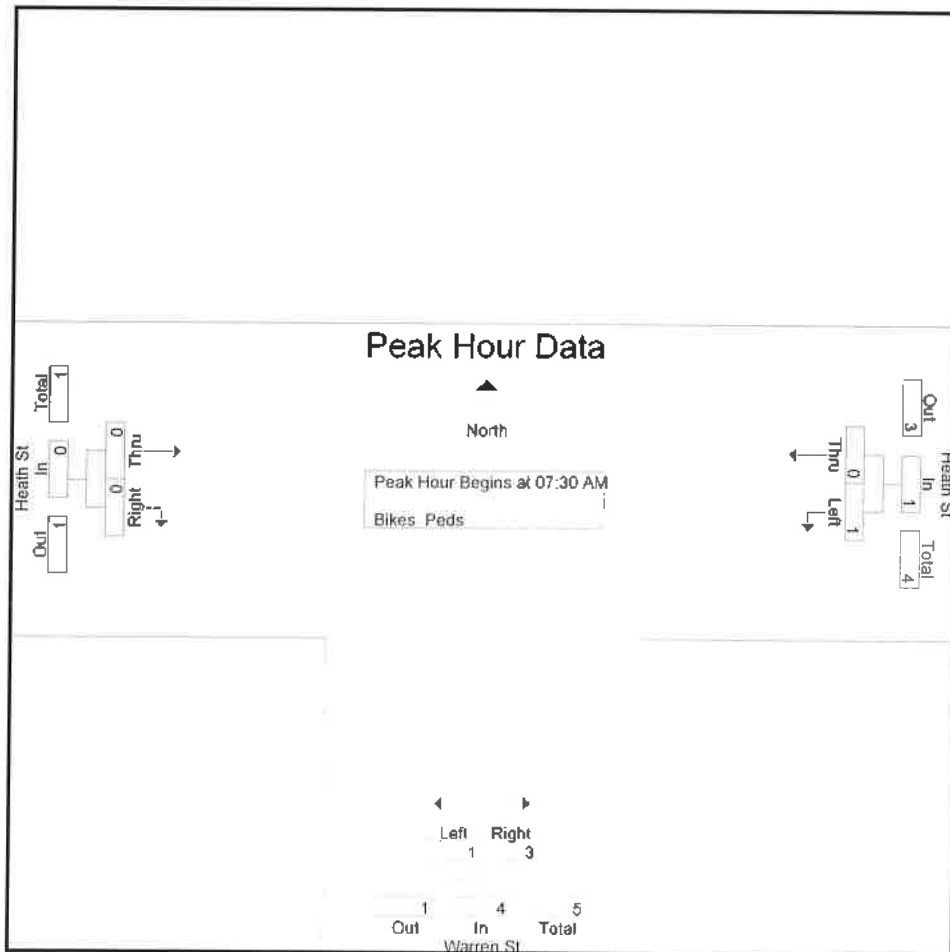
Start Time	Heath St From East			Warren St From South			Heath St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	1	1	0	0	0	1	1	2
Total	0	0	0	0	1	1	0	0	0	1	1	2
08:00 AM	1	0	0	0	2	0	0	0	0	0	3	3
08:15 AM	0	0	0	1	0	1	0	0	0	1	1	2
08:30 AM	0	0	0	0	0	1	0	0	0	1	0	1
08:45 AM	0	0	0	0	0	1	0	0	0	1	0	1
Total	1	0	0	1	2	3	0	0	0	3	4	7
Grand Total	1	0	0	1	3	4	0	0	0	4	5	9
Apprch %	100	0		25	75		0	0				
Total %	20	0		20	60		0	0		44.4	55.6	

Accurate Counts
978-664-2565

N/S Street : Warren Street
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900011
Site Code : 77900011
Start Date : 9/26/2018
Page No : 11

Start Time	Heath St From East			Warren St From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	1	1	0	0	0	1
08:00 AM	1	0	1	0	2	2	0	0	0	3
08:15 AM	0	0	0	1	0	1	0	0	0	1
Total Volume	1	0	1	1	3	4	0	0	0	5
% App. Total	100	0		25	75		0	0		
PHF	.250	.000	.250	.250	.375	.500	.000	.000	.000	.417



Accurate Counts

978-664-2565

N/S Street : Warren Street
 E/W Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900011
 Site Code : 77900011
 Start Date : 9/26/2018
 Page No : 1

Groups Printed- Cars - Trucks

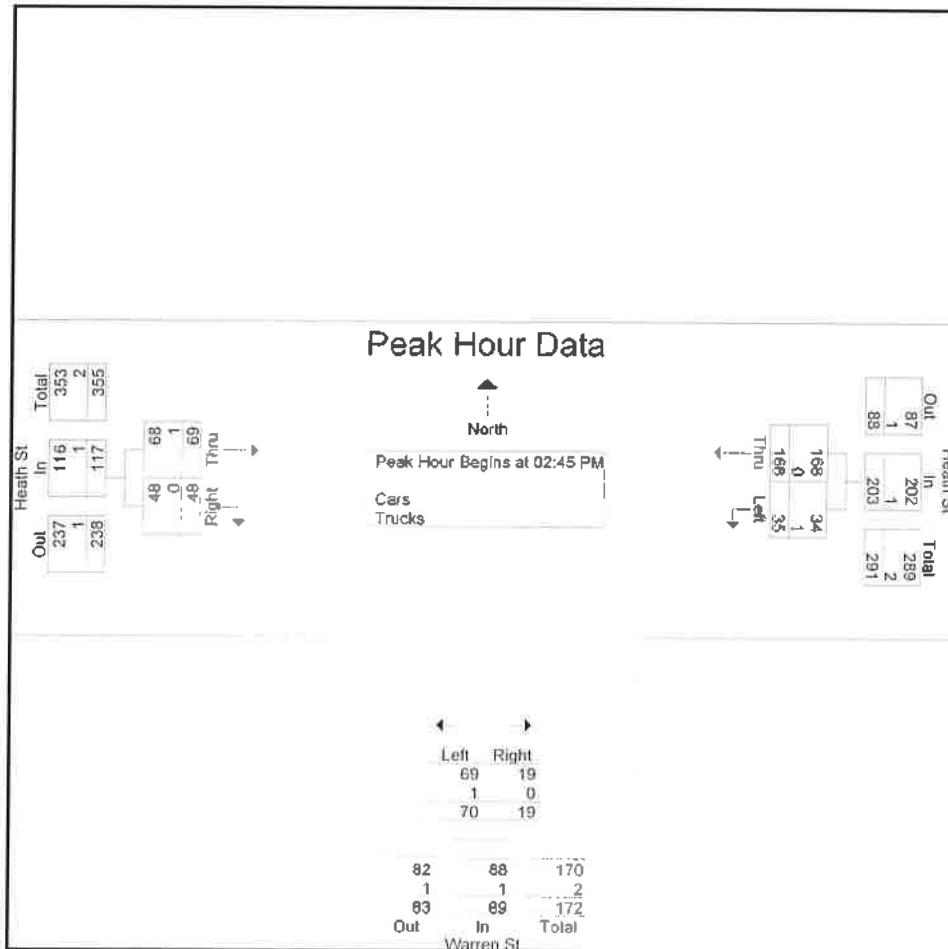
Start Time	Heath St From East		Warren St From South		Heath St From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
01:00 PM	7	17	7	2	15	11	59
01:15 PM	5	19	9	8	10	8	59
01:30 PM	8	22	4	7	11	7	59
01:45 PM	13	22	6	3	20	4	68
Total	33	80	26	20	56	30	245
02:00 PM	6	13	12	2	9	11	53
02:15 PM	6	26	10	4	14	10	70
02:30 PM	6	24	13	4	17	13	77
02:45 PM	11	44	15	4	20	15	109
Total	29	107	50	14	60	49	309
03:00 PM	9	39	11	4	14	14	91
03:15 PM	10	42	19	5	19	9	104
03:30 PM	5	43	25	6	16	10	105
03:45 PM	10	42	17	3	17	12	101
Total	34	166	72	18	66	45	401
Grand Total	96	353	148	52	182	124	955
Apprch %	21.4	78.6	74	26	59.5	40.5	
Total %	10.1	37	15.5	5.4	19.1	13	
Cars	95	351	145	52	179	124	946
% Cars	99	99.4	98	100	98.4	100	99.1
Trucks	1	2	3	0	3	0	9
% Trucks	1	0.6	2	0	1.6	0	0.9

Accurate Counts
978-864-2565

N/S Street : Warren Street
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900011
Site Code : 77900011
Start Date : 9/26/2018
Page No : 2

Start Time	Heath St From East			Warren St From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:45 PM										
02:45 PM	11	44	55	15	4	19	20	15	35	109
03:00 PM	9	39	48	11	4	15	14	14	28	91
03:15 PM	10	42	52	19	5	24	19	9	28	104
03:30 PM	5	43	48	25	6	31	16	10	26	105
Total Volume	35	168	203	70	19	89	69	48	117	409
% App. Total	17.2	82.8		78.7	21.3		59	41		
PHF	.795	.955	.923	.700	.792	.718	.863	.800	.836	.938
Cars	34	168	202	69	19	88	68	48	116	406
% Cars	97.1	100	99.5	98.6	100	98.9	98.6	100	99.1	99.3
Trucks	1	0	1	1	0	1	1	0	1	3
% Trucks	2.9	0	0.5	1.4	0	1.1	1.4	0	0.9	0.7



Accurate Counts
978-664-2565

N/S Street : Warren Street
E/W Street : Heath Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 79900011
Site Code : 77900011
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

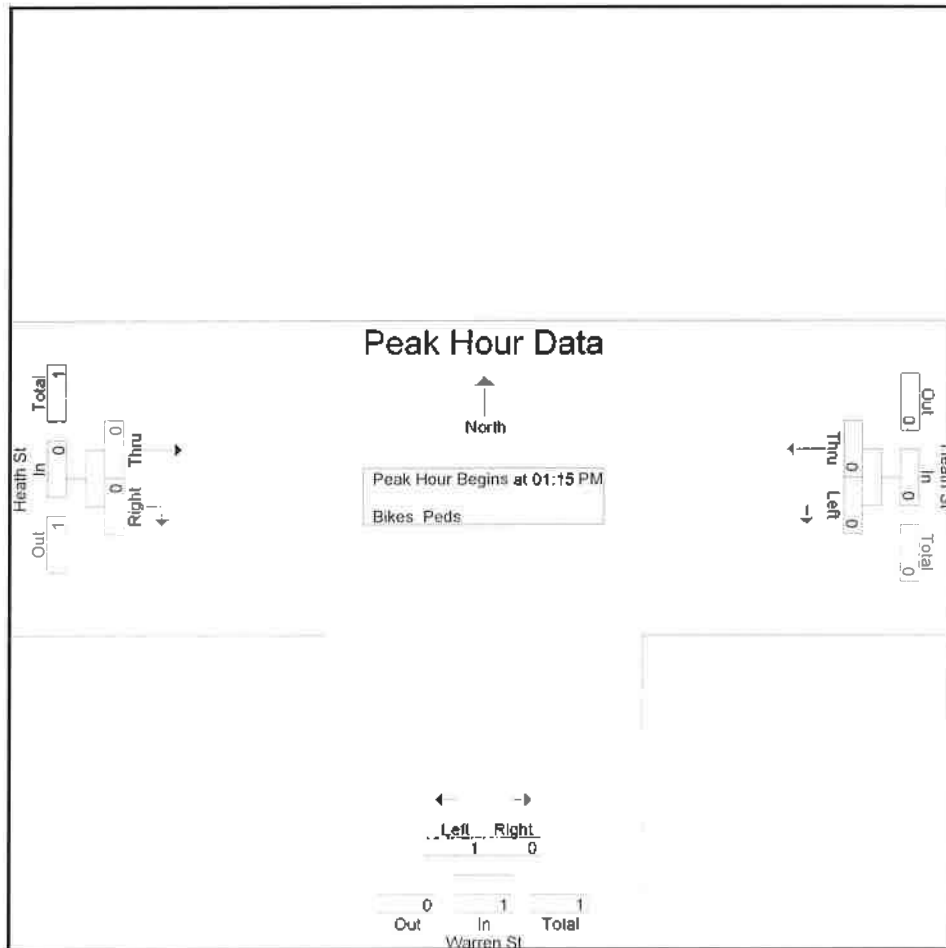
Start Time	Heath St From East			Warren St From South			Heath St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	1	0	0	0	1	0	1
Total	0	0	0	0	0	1	0	0	0	1	0	1
02:00 PM	0	0	0	1	0	0	0	0	0	0	1	1
02:15 PM	0	0	0	0	0	2	0	0	0	2	0	2
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	2	0	0	0	2	1	3
03:00 PM	0	0	0	0	0	0	1	0	0	0	1	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	1	0	0	0	0	0	0	1	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	0	1	0	0	1	1	2
Grand Total	0	0	1	1	0	3	1	0	0	4	2	6
Approch %	0	0		100	0		100	0				
Total %	0	0		50	0		50	0		66.7	33.3	

Accurate Counts
978-664-2565

N/S Street : Warren Street
 EW Street : Heath Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 79900011
 Site Code : 77900011
 Start Date : 9/26/2018
 Page No : 11

Start Time	Heath St From East			Warren St From South			Heath St From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 01:15 PM										
01:15 PM	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	0	0	1	0	1	0	0	0	1
% App. Total	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000	.250



School Peak Hour Traffic Volumes

File Name: C:\Users\stavi\Documents\2018\Petra\Brookline, MA\VAI\7990\7990012A.ppd

Start Date: 9/26/2018
 Start Time: 7:00:00 AM
 Site Code: 7990012A
 Comment 1: N/S Street : Hammond Street
 Comment 2: EW Street : Rotary
 Comment 3: City/State : Brookline, MA
 Comment 4: Weather : Cloudy

Start Time	Hammond St From North			Rotary From East			Rotary From West			Hammond St From North	Rotary From East	Rotary From West
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Phf by approach		
07:00 AM	0	47	0	391	232	0	0	0	0	47	623	0
07:15 AM	0	90	0	433	275	0	0	0	0	90	708	0
07:30 AM	0	127	0	388	363	0	0	0	0	127	751	0
07:45 AM	0	139	0	435	335	0	0	0	0	139	770	0
No Build	0	403	0	1647	1205	0	0	0	0	403	2852	0
PHF	0.00	0.72	0.00	0.95	0.83	0.00	0.00	0.00	0.00	0.72	0.93	0.00
Truck	0	16	0	23	19	0	0	0	0			
% Truck	0.0%	4.0%	0.0%	1.4%	1.6%	0.0%	0.0%	0.0%	0.0%			
PED	0	2	0	3	4	0	0	0	0			
<hr/>												
01:30 PM	0	91	0	223	91	0	0	0	0	91	314	0
01:45 PM	0	115	0	266	104	0	0	0	0	115	370	0
02:00 PM	0	111	0	241	104	0	0	0	0	111	345	0
02:15 PM	0	101	0	287	122	0	0	0	0	101	409	0
No Build	0	418	0	1017	421	0	0	0	0	418	1438	0
PHF	0.00	0.91	0.00	0.89	0.86	0.00	0.00	0.00	0.00	0.91	0.88	0.00
Truck	0	11	0	11	13	0	0	0	0			
% Truck	0.0%	2.6%	0.0%	1.1%	3.1%	0.0%	0.0%	0.0%	0.0%			
PED	0	2	0	0	2	0	0	0	0			

Accurate Counts

978-664-2565

N/S Street : Hammond Street
 E/W Street : Rotary
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 7990012A
 Site Code : 7990012A
 Start Date : 9/26/2018
 Page No : 1

Start Time	Hammond St From North		Rotary From East		Rotary From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	0	47	391	232	0	0	670
07:15 AM	0	90	433	275	0	0	798
07:30 AM	0	127	388	363	0	0	878
07:45 AM	0	139	435	335	0	0	909
Total	0	403	1647	1205	0	0	3255
08:00 AM	0	136	442	287	0	0	865
08:15 AM	0	121	437	254	0	0	812
08:30 AM	0	93	415	265	0	0	773
08:45 AM	0	101	426	220	0	0	747
Total	0	451	1720	1026	0	0	3197
Grand Total	0	854	3367	2231	0	0	6452
Apprch % :	0	100	60.1	39.9	0	0	
Total %	0	13.2	52.2	34.6	0	0	
Cars	0	827	3339	2191	0	0	6357
% Cars	0	96.8	99.2	98.2	0	0	98.5
Trucks	0	27	28	40	0	0	95
% Trucks	0	3.2	0.8	1.8	0	0	1.5

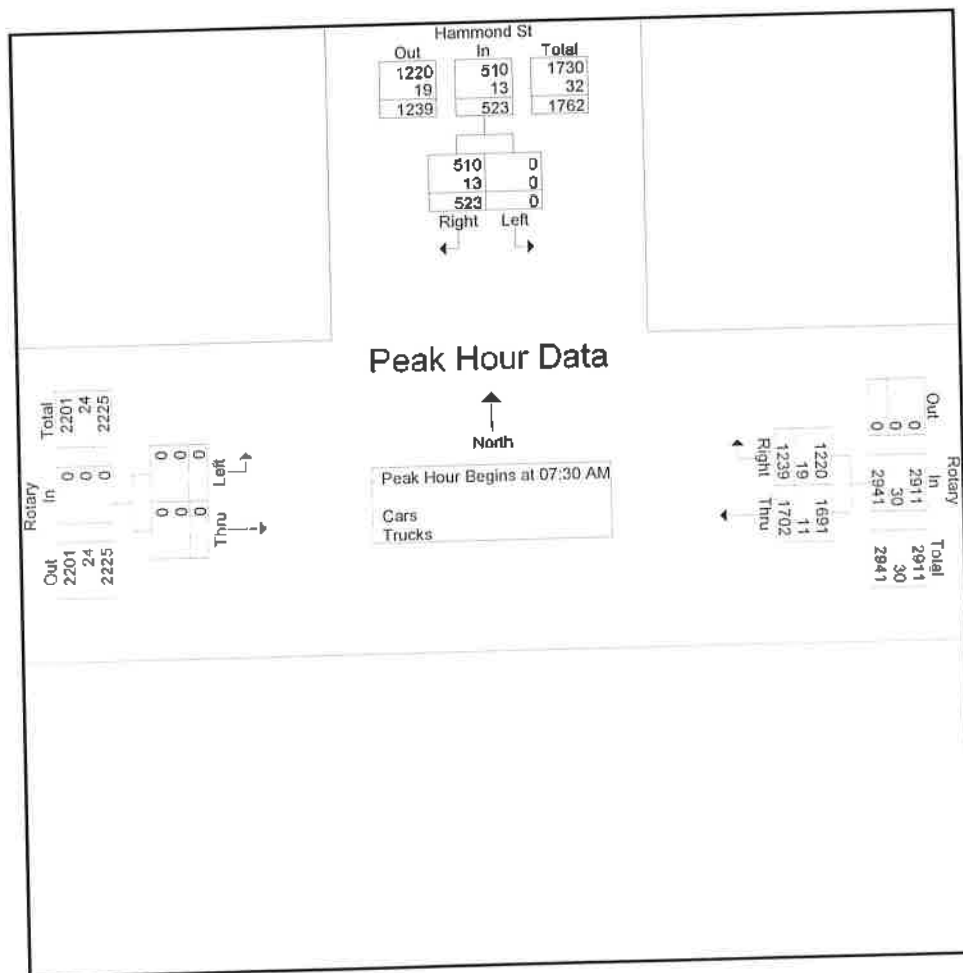
Accurate Counts

978-664-2565

N/S Street : Hammond Street
 E/W Street : Rotary
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 7990012A
 Site Code : 7990012A
 Start Date : 9/26/2018
 Page No : 2

Start Time	Hammond St From North			Rotary From East			Rotary From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	127	127	388	363	751	0	0	0	878
07:45 AM	0	139	139	435	335	770	0	0	0	909
08:00 AM	0	136	136	442	287	729	0	0	0	865
08:15 AM	0	121	121	437	254	691	0	0	0	812
Total Volume	0	523	523	1702	1239	2941	0	0	0	3464
% App. Total	0	100		57.9	42.1		0	0		
PHF	.000	.941	.941	.963	.853	.955	.000	.000	.000	.953
Cars	0	510	510	1691	1220	2911	0	0	0	3421
% Cars	0	97.5	97.5	99.4	98.5	99.0	0	0	0	98.8
Trucks	0	13	13	11	19	30	0	0	0	43
% Trucks	0	2.5	2.5	0.6	1.5	1.0	0	0	0	1.2



Accurate Counts
978-664-2565

N/S Street : Hammond Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012A
Site Code : 7990012A
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

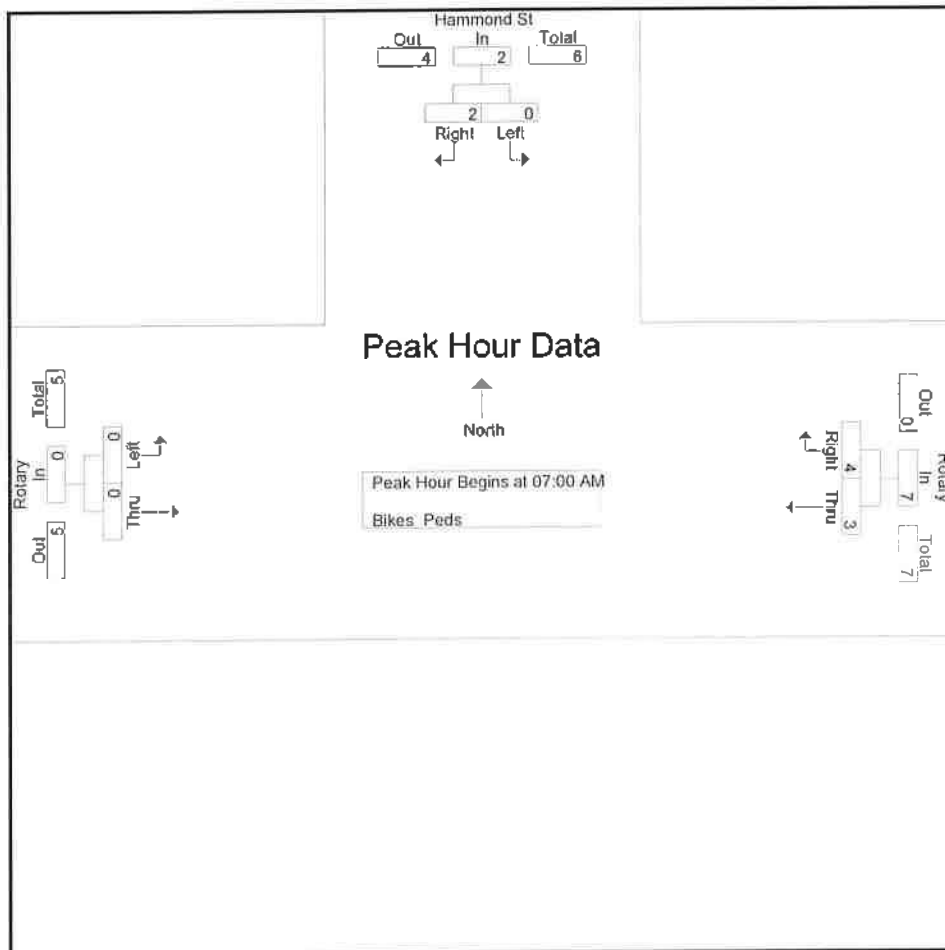
Start Time	Hammond St From North			Rotary From East			Rotary From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	1	0	1	0	0	0	0	0	0	2	2
07:15 AM	0	1	0	0	1	0	0	0	0	0	2	2
07:30 AM	0	0	0	0	1	0	0	0	0	0	1	1
07:45 AM	0	0	0	2	2	0	0	0	0	0	4	4
Total	0	2	0	3	4	0	0	0	0	0	9	9
08:00 AM	0	1	0	0	1	0	0	0	0	0	2	2
08:15 AM	0	0	0	1	1	0	0	0	0	0	2	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	2	0	0	0	0	0	4	4
Grand Total	0	3	0	4	6	0	0	0	0	0	13	13
Apprch %	0	100		40	60		0	0				
Total %	0	23.1		30.8	46.2		0	0		0	100	

Accurate Counts
978-664-2565

N/S Street : Hammond Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012A
Site Code : 7990012A
Start Date : 9/26/2018
Page No : 11

Start Time	Hammond St From North			Rotary From East			Rotary From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	1	1	1	0	1	0	0	0	2
07:15 AM	0	1	1	0	1	1	0	0	0	2
07:30 AM	0	0	0	0	1	1	0	0	0	1
07:45 AM	0	0	0	2	2	4	0	0	0	4
Total Volume	0	2	2	3	4	7	0	0	0	9
% App. Total	0	100		42.9	57.1		0	0		
PHF	.000	.500	.500	.375	.500	.438	.000	.000	.000	.563



Accurate Counts
978-664-2565

File Name : 7990012A
Site Code : 7990012A
Start Date : 9/26/2018
Page No : 1

N/S Street : Hammond Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

Groups Printed- Cars - Trucks

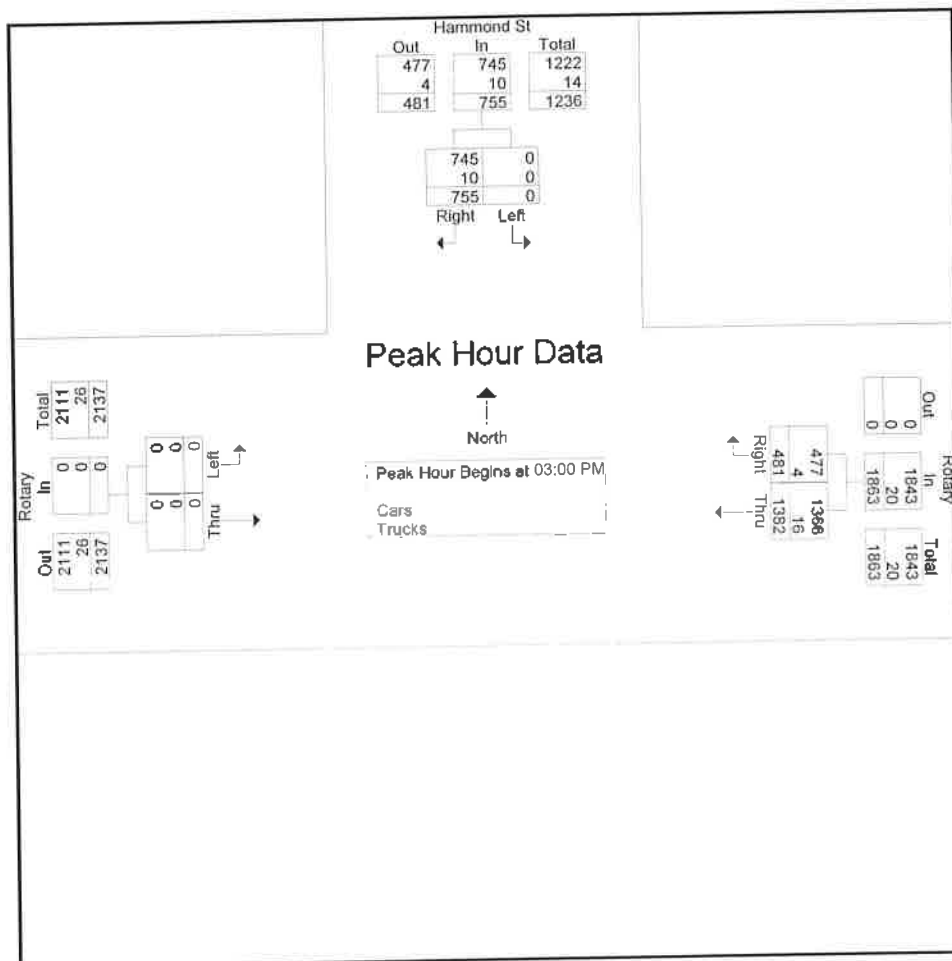
Start Time	Hammond St From North		Rotary From East		Rotary From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
01:00 PM	0	97	204	90	0	0	391
01:15 PM	0	90	271	105	0	0	466
01:30 PM	0	91	223	91	0	0	405
01:45 PM	0	115	266	104	0	0	485
Total	0	393	964	390	0	0	1747
02:00 PM	0	111	241	104	0	0	456
02:15 PM	0	101	287	122	0	0	510
02:30 PM	0	117	318	152	0	0	587
02:45 PM	0	142	355	121	0	0	618
Total	0	471	1201	499	0	0	2171
03:00 PM	0	185	328	120	0	0	633
03:15 PM	0	207	329	150	0	0	686
03:30 PM	0	177	356	109	0	0	642
03:45 PM	0	186	369	102	0	0	657
Total	0	755	1382	481	0	0	2618
Grand Total	0	1619	3547	1370	0	0	6536
Apprch %	0	100	72.1	27.9	0	0	
Total %	0	24.8	54.3	21	0	0	
Cars	0	1589	3510	1345	0	0	6444
% Cars	0	98.1	99	98.2	0	0	98.6
Trucks	0	30	37	25	0	0	92
% Trucks	0	1.9	1	1.8	0	0	1.4

Accurate Counts 978-664-2565

N/S Street : Hammond Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012A
Site Code : 7990012A
Start Date : 9/26/2018
Page No : 2

Start Time	Hammond St From North			Rotary From East			Rotary From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	0	185	185	328	120	448	0	0	0	633
03:15 PM	0	207	207	329	150	479	0	0	0	686
03:30 PM	0	177	177	356	109	465	0	0	0	642
03:45 PM	0	186	186	369	102	471	0	0	0	657
Total Volume	0	755	755	1382	481	1863	0	0	0	2618
% App. Total	0	100		74.2	25.8		0	0		
PHF	.000	.912	.912	.936	.802	.972	.000	.000	.000	.954
Cars	0	745	745	1366	477	1843	0	0	0	2588
% Cars	0	98.7	98.7	98.8	99.2	98.9	0	0	0	98.9
Trucks	0	10	10	16	4	20	0	0	0	30
% Trucks	0	1.3	1.3	1.2	0.8	1.1	0	0	0	1.1



Accurate Counts
978-664-2565

N/S Street : Hammond Street
E/W Street : Rotary
City/State : Brockline, MA
Weather : Cloudy

File Name : 7990012A
Site Code : 7990012A
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

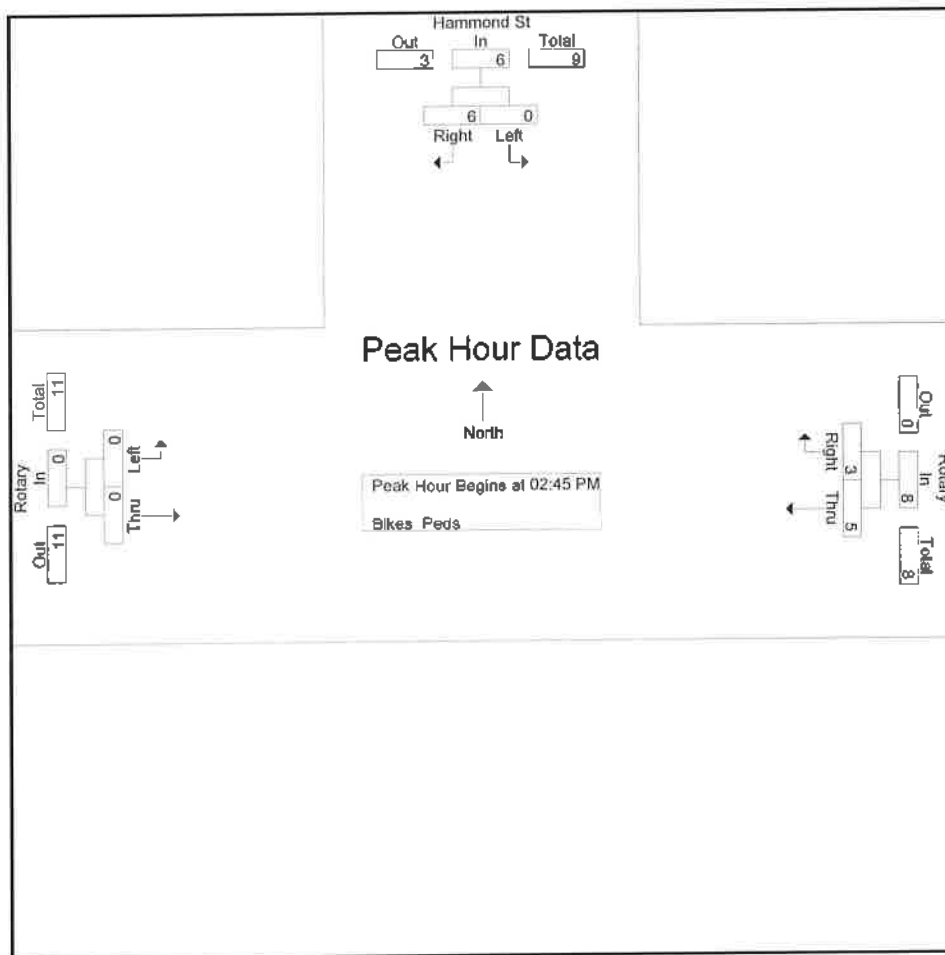
Start Time	Hammond St From North			Rotary From East			Rotary From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	1	0	0	0	0	0	1	1
01:30 PM	0	1	0	0	1	0	0	0	0	0	2	2
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	2	0	0	0	0	0	3	3
02:00 PM	0	1	0	0	0	0	0	0	0	0	1	1
02:15 PM	0	0	0	0	1	0	0	0	0	0	1	1
02:30 PM	0	0	0	1	0	0	0	0	0	0	1	1
02:45 PM	0	1	0	1	1	0	0	0	0	0	3	3
Total	0	2	0	2	2	0	0	0	0	0	6	6
03:00 PM	0	1	0	1	2	0	0	0	0	0	4	4
03:15 PM	0	1	0	2	0	0	0	0	0	0	3	3
03:30 PM	0	3	0	1	0	0	0	0	0	0	4	4
03:45 PM	0	0	0	0	1	0	0	0	0	0	1	1
Total	0	5	0	4	3	0	0	0	0	0	12	12
Grand Total	0	8	0	6	7	0	0	0	0	0	21	21
Apprch %	0	100		46.2	53.8		0	0				
Total %	0	38.1		28.6	33.3		0	0		0	100	

Accurate Counts
978-684-2565

N/S Street : Hammond Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012A
Site Code : 7990012A
Start Date : 9/26/2018
Page No : 11

Start Time	Hammond St From North			Rotary From East			Rotary From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:45 PM										
02:45 PM	0	1	1	1	1	2	0	0	0	3
03:00 PM	0	1	1	1	2	3	0	0	0	4
03:15 PM	0	1	1	2	0	2	0	0	0	3
03:30 PM	0	3	3	1	0	1	0	0	0	4
Total Volume	0	6	6	5	3	8	0	0	0	14
% App. Total	0	100		62.5	37.5		0	0		
PHF	.000	.500	.500	.625	.375	.667	.000	.000	.000	.875



School Peak Hour Traffic Volumes

File Name: C:\Users\stev\Documents\2018\Petra\Brookline, MA\VA\7990\7990012B.ppd

Start Date: 9/26/2018

Start Time: 7:00:00 AM

Site Code: 7990012B

Comment 1: N/S Street : Rotary

Comment 2: EW Street : Hammond Pond Parkway

Comment 3: City/State : Brookline, MA

Comment 4: Weather : Cloudy

Start Time	Rotary From North			Rotary From South			Hammond Pond Pkwy From West			Rotary From North	Rotary From South	Pond Pkwy From West
	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds			
07:00 AM	66	372	0	0	0	0	0	173	0	438	0	173
07:15 AM	126	397	0	0	0	0	0	207	0	523	0	207
07:30 AM	166	349	0	0	0	0	0	236	0	515	0	236
07:45 AM	172	402	0	0	0	0	0	256	0	574	0	256
	530	1520	0	0	0	0	0	872	0	2050	0	872
No Build	568	1630	0	0	0	0	0	935	0	0.89	0.00	0.85
PHF	0.77	0.95	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.89	0.00	0.85
Truck	23	16	0	0	0	0	0	9	0			
% Truck	4.3%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%			
PED	0	0	0	0	0	0	0	0	2			
PHF by approach												
01:30 PM	162	152	0	0	0	0	0	222	0	314	0	222
01:45 PM	195	186	0	0	0	0	0	224	0	381	0	224
02:00 PM	200	152	0	0	0	0	0	226	0	352	0	226
02:15 PM	191	197	0	0	0	0	0	269	0	388	0	269
	748	687	0	0	0	0	0	941	0	1435	0	941
No Build	802	737	0	0	0	0	0	1009	0	0.92	0.00	0.87
PHF	0.94	0.87	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.92	0.00	0.87
Truck	16	6	0	0	0	0	0	4	0			
% Truck	2.1%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%			
PED	0	2	0	0	0	0	0	2	1			

Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Hammond Pond Parkway
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012B
Site Code : 7990012B
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

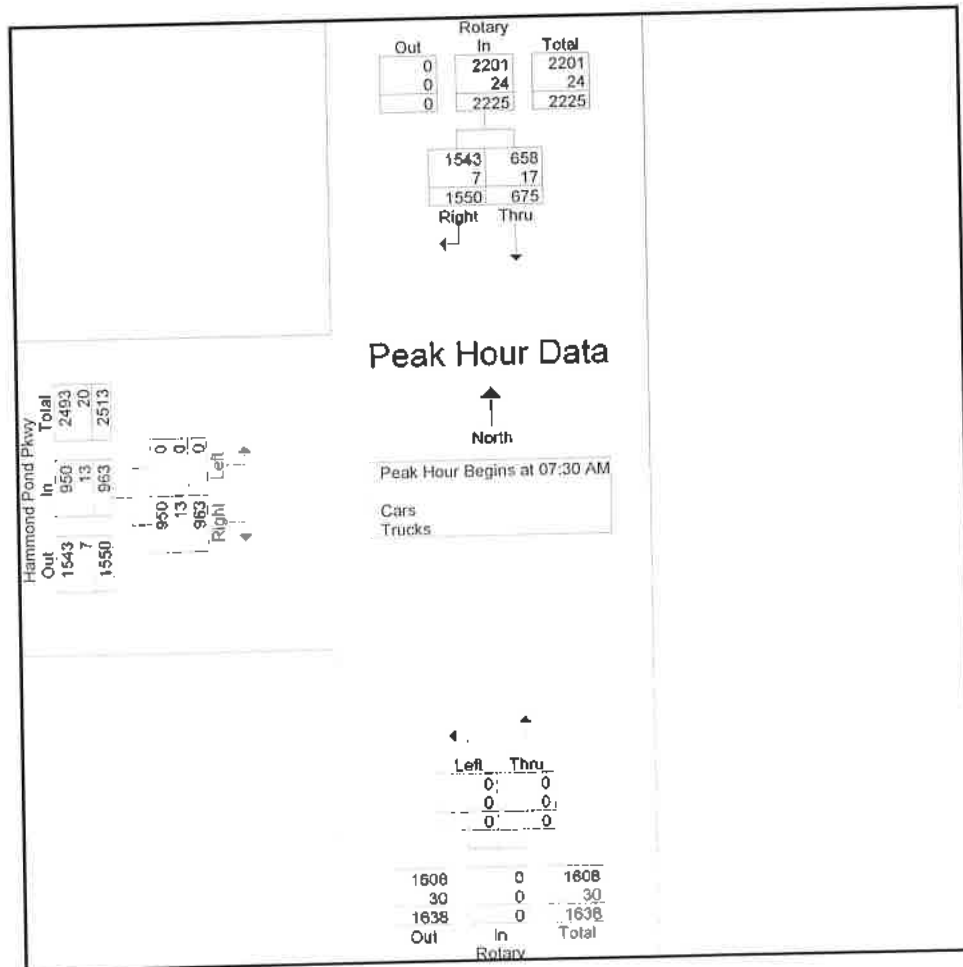
Start Time	Rotary From North		Rotary From South		Hammond Pond Pkwy From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	66	372	0	0	0	173	611
07:15 AM	126	397	0	0	0	207	730
07:30 AM	166	349	0	0	0	236	751
07:45 AM	172	402	0	0	0	256	830
Total	530	1520	0	0	0	872	2922
08:00 AM	173	405	0	0	0	243	821
08:15 AM	164	394	0	0	0	228	786
08:30 AM	130	378	0	0	0	211	719
08:45 AM	162	365	0	0	0	193	720
Total	629	1542	0	0	0	875	3046
Grand Total	1159	3062	0	0	0	1747	5968
Apprch %	27.5	72.5	0	0	0	100	
Total %	19.4	51.3	0	0	0	29.3	
Cars	1125	3041	0	0	0	1726	5892
% Cars	97.1	99.3	0	0	0	98.8	98.7
Trucks	34	21	0	0	0	21	76
% Trucks	2.9	0.7	0	0	0	1.2	1.3

Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Hammond Pond Parkway
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012B
Site Code : 7990012B
Start Date : 9/26/2018
Page No : 2

Start Time	Rotary From North			Rotary From South			Hammond Pond Pkwy From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	166	349	515	0	0	0	0	236	236	751
07:45 AM	172	402	574	0	0	0	0	256	256	830
08:00 AM	173	405	578	0	0	0	0	243	243	821
08:15 AM	164	394	558	0	0	0	0	228	228	786
Total Volume	675	1550	2225	0	0	0	0	963	963	3188
% App. Total	30.3	69.7		0	0		0	100		
PHF	.975	.957	.962	.000	.000	.000	.000	.940	.940	.960
Cars	658	1543	2201	0	0	0	0	950	950	3151
% Cars	97.5	99.5	98.9	0	0	0	0	98.7	98.7	98.8
Trucks	17	7	24	0	0	0	0	13	13	37
% Trucks	2.5	0.5	1.1	0	0	0	0	1.3	1.3	1.2



Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Hammond Pond Parkway
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012B
Site Code : 7990012B
Start Date : 9/26/2018
Page No : 10

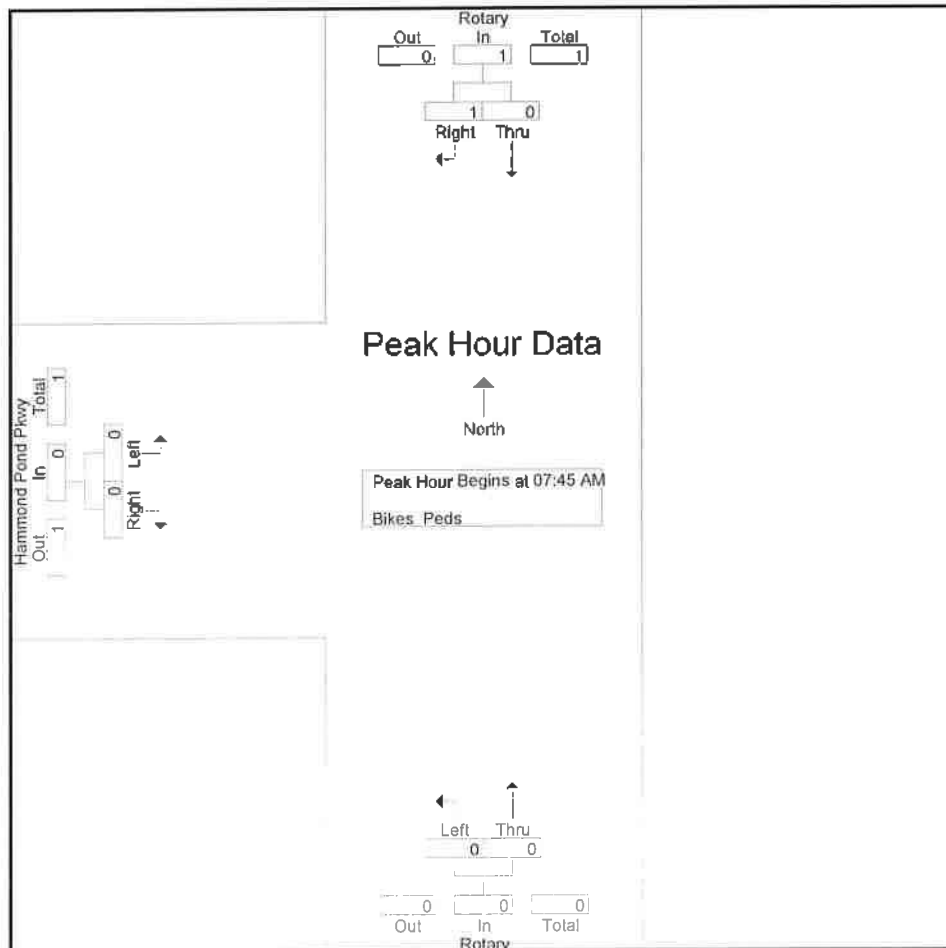
Start Time	Groups Printed- Bikes Peds									Exclu. Total	Inclu. Total	Int. Total
	Rotary From North			Rotary From South			Hammond Pond Pkwy From West					
	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds			
07:00 AM	0	0	0	0	0	0	0	0	2	2	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	2	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	0	0	0	0	0	0	0	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	1	1	0	1
Total	0	1	0	0	0	0	0	0	1	1	1	2
Grand Total	0	1	0	0	0	0	0	0	3	3	1	4
Apprch %	0	100		0	0		0	0				
Total %	0	100		0	0		0	0		75	25	

Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Hammond Pond Parkway
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012B
Site Code : 7990012B
Start Date : 9/26/2018
Page No : 11

Start Time	Rotary From North			Rotary From South			Hammond Pond Pkwy From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250



Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Hammond Pond Parkway
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012B
Site Code : 7990012B
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Rotary From North		Rotary From South		Hammond Pond Pkwy From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
01:00 PM	122	179	0	0	0	208	509
01:15 PM	150	211	0	0	0	215	576
01:30 PM	162	152	0	0	0	222	536
01:45 PM	195	186	0	0	0	224	605
Total	629	728	0	0	0	869	2226
02:00 PM	200	152	0	0	0	226	578
02:15 PM	191	197	0	0	0	269	657
02:30 PM	209	226	0	0	0	246	681
02:45 PM	279	218	0	0	0	280	777
Total	879	793	0	0	0	1021	2693
03:00 PM	299	214	0	0	0	319	832
03:15 PM	340	196	0	0	0	316	852
03:30 PM	332	201	0	0	0	272	805
03:45 PM	326	229	0	0	0	322	877
Total	1297	840	0	0	0	1229	3366
Grand Total	2805	2361	0	0	0	3119	8285
Apprch %	54.3	45.7	0	0	0	100	
Total %	33.9	28.5	0	0	0	37.6	
Cars	2758	2341	0	0	0	3101	8200
% Cars	98.3	99.2	0	0	0	99.4	99
Trucks	47	20	0	0	0	18	85
% Trucks	1.7	0.8	0	0	0	0.6	1

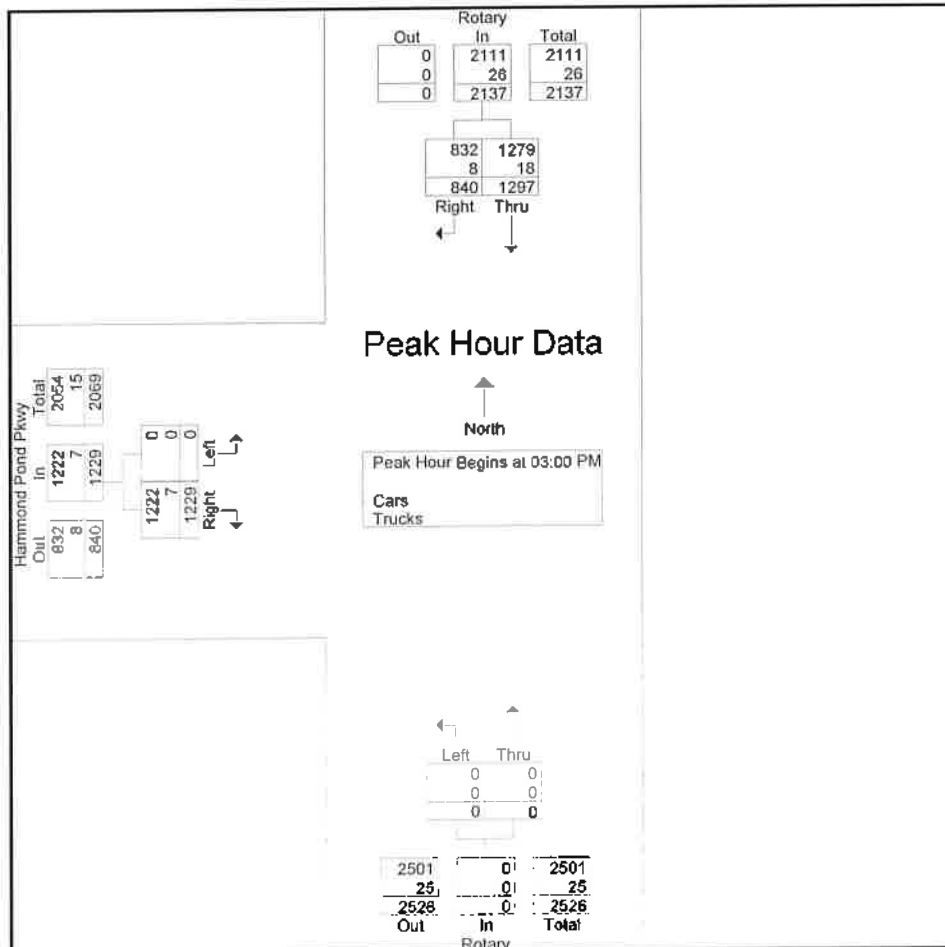
Accurate Counts

978-664-2565

N/S Street : Rotary
 E/W Street : Hammond Pond Parkway
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 7990012B
 Site Code : 7990012B
 Start Date : 9/26/2018
 Page No : 2

Start Time	Rotary From North			Rotary From South			Hammond Pond Pkwy From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	299	214	513	0	0	0	0	319	319	832
03:15 PM	340	196	536	0	0	0	0	316	316	852
03:30 PM	332	201	533	0	0	0	0	272	272	805
03:45 PM	326	229	555	0	0	0	0	322	322	877
Total Volume	1297	840	2137	0	0	0	0	1229	1229	3366
% App. Total	60.7	39.3		0	0		0	100		
PHF	.954	.917	.963	.000	.000	.000	.000	.954	.954	.960
Cars	1279	832	2111	0	0	0	0	1222	1222	3333
% Cars	98.6	99.0	98.8	0	0	0	0	99.4	99.4	99.0
Trucks	18	8	26	0	0	0	0	7	7	33
% Trucks	1.4	1.0	1.2	0	0	0	0	0.6	0.6	1.0



Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Hammond Pond Parkway
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012B
Site Code : 7990012B
Start Date : 9/26/2018
Page No : 10

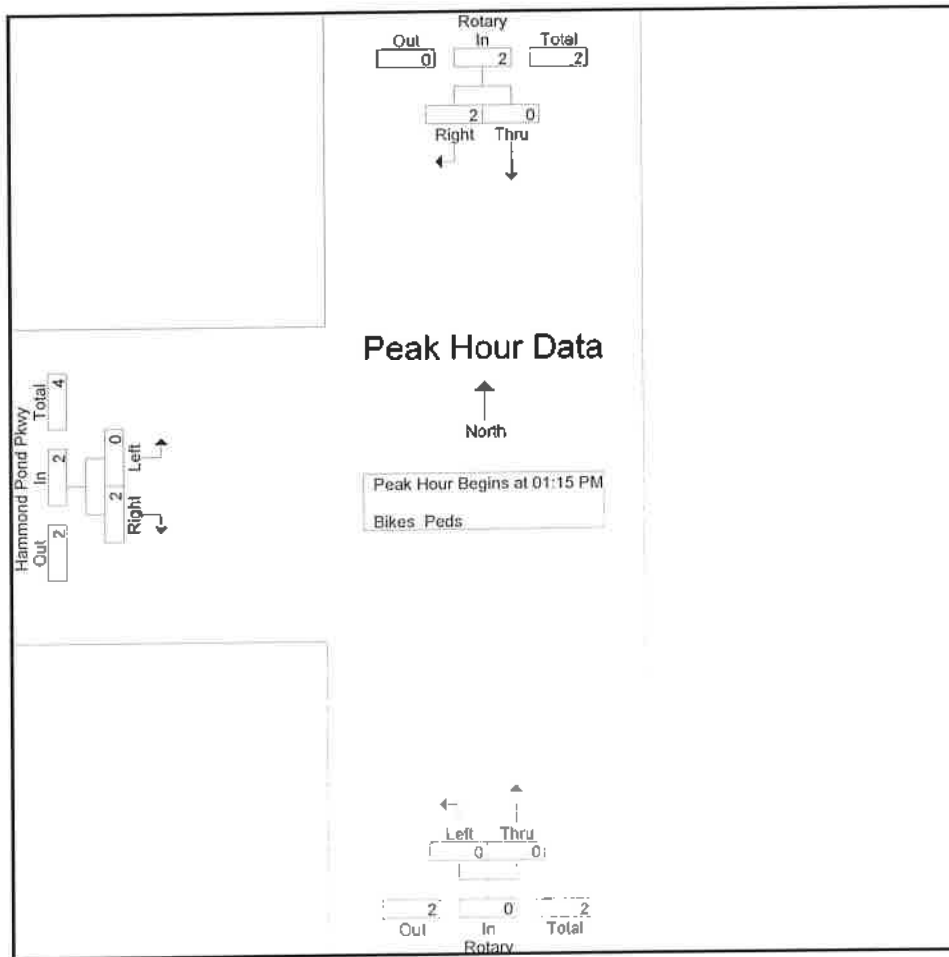
Start Time	Groups Printed- Bikes Peds									Exclu. Total	Inclu. Total	Int. Total
	Rotary From North			Rotary From South			Hammond Pond Pkwy From West					
	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds			
01:00 PM	0	0	0	0	0	0	0	0	3	3	0	3
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	3	3	0	3
02:00 PM	0	2	0	0	0	0	0	2	1	1	4	5
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	1	1	0	1
Total	0	2	0	0	0	0	0	2	2	2	4	6
03:00 PM	0	0	0	0	0	0	0	0	1	1	0	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	1	0	0	0	0	0	0	2	2	1	3
03:45 PM	0	2	0	0	0	0	0	0	1	1	2	3
Total	0	3	0	0	0	0	0	0	4	4	3	7
Grand Total	0	5	0	0	0	0	0	2	9	9	7	16
Apprch %	0	100		0	0		0	100				
Total %	0	71.4		0	0		0	28.6		56.2	43.8	

Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Hammond Pond Parkway
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012B
Site Code : 7990012B
Start Date : 9/26/2018
Page No : 11

Start Time	Rotary From North			Rotary From South			Hammond Pond Pkwy From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 01:15 PM										
01:15 PM	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	2	2	0	0	0	0	2	2	4
Total Volume	0	2	2	0	0	0	0	2	2	4
% App. Total	0	100		0	0		0	100		
PHF	.000	.250	.250	.000	.000	.000	.000	.250	.250	.250



School Peak Hour Traffic Volumes

File Name: C:\Users\stevil\Documents\2018\Petra\Brookline, MA\VA\17990\7990012C.ppd

Start Date: 9/26/2018

Start Time: 7:00:00 AM

Site Code: 7990012C

Comment 1: N/S Street : Newton Street

Comment 2: E/W Street : Rotary

Comment 3: City/State : Brookline, MA

Comment 4: Weather : Cloudy

Start Time	Rotary From East			Newton St From South			Rotary From West			Rotary From East	Newton St From South	Rotary From West
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	0	0	281	0	189	50	0	0	281	239
07:15 AM	0	0	0	0	276	0	248	85	0	0	276	333
07:30 AM	0	0	0	0	283	0	295	107	0	0	283	402
07:45 AM	0	0	0	0	219	0	333	95	0	0	219	428
No Build	0	0	0	0	1059	0	1065	337	0	0	1059	1402
PHF	0.00	0.00	0.00	0.00	0.94	0.00	0.80	0.79	0.00	0.00	0.94	0.82
Truck	0	0	0	0	13	0	21	11	0	0	11	0
% Truck	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	2.0%	3.3%	0.0%	0.0%	0.94	0.82
PED	0	0	0	0	1	1	0	4	0	0	4	0
PHF by approach												
01:30 PM	0	0	0	0	66	0	276	108	0	0	66	384
01:45 PM	0	0	0	0	79	0	285	134	0	0	79	419
02:00 PM	0	0	0	0	69	0	283	143	0	0	69	426
02:15 PM	0	0	0	0	102	0	316	144	0	0	102	460
No Build	0	0	0	0	316	0	1160	529	0	0	316	1689
PHF	0.00	0.00	0.00	0.00	0.77	0.00	0.92	0.92	0.00	0.00	0.77	0.92
Truck	0	0	0	0	7	0	13	7	0	0	7	0
% Truck	0.0%	0.0%	0.0%	0.0%	2.2%	0.0%	1.1%	1.3%	0.0%	0.0%	1.3%	0.92
PED	0	0	0	0	2	1	0	3	0	0	3	0

Accurate Counts
978-664-2565

File Name : 7990012C
Site Code : 7990012C
Start Date : 9/26/2018
Page No : 1

N/S Street : Newton Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

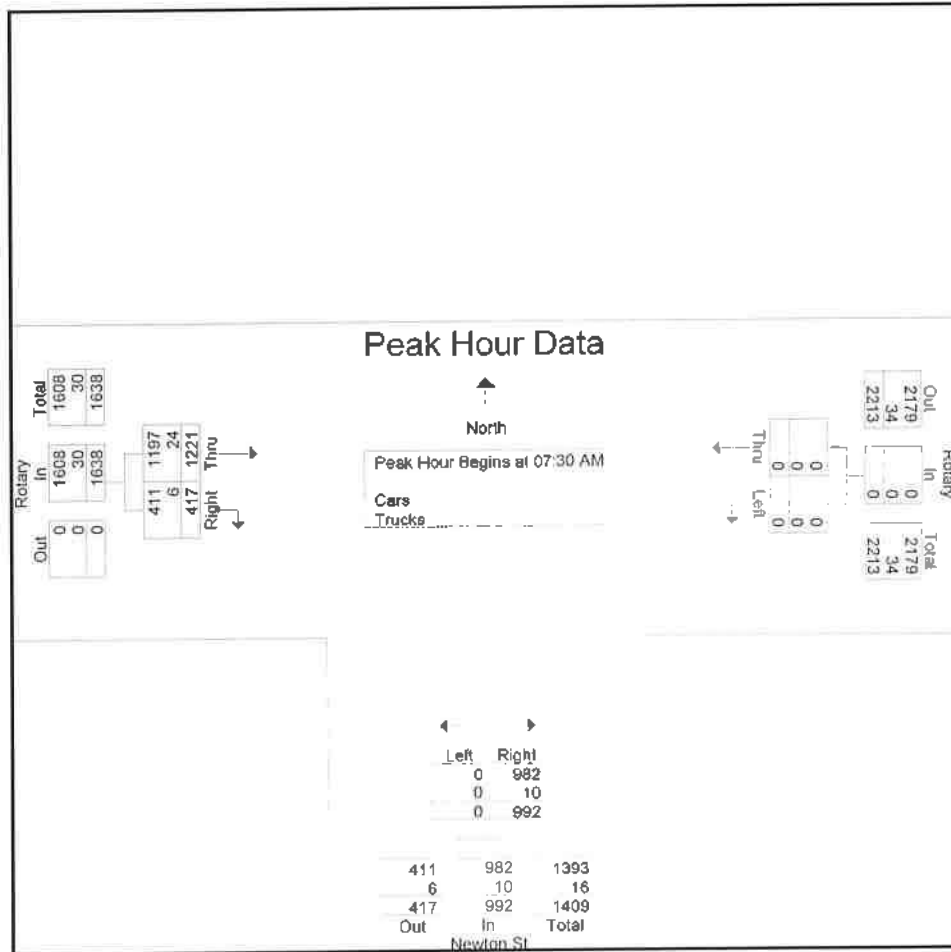
Start Time	Rotary From East		Newton St From South		Rotary From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	281	189	50	520
07:15 AM	0	0	0	276	248	85	609
07:30 AM	0	0	0	283	295	107	685
07:45 AM	0	0	0	219	333	95	647
Total	0	0	0	1059	1065	337	2461
08:00 AM	0	0	0	237	310	106	653
08:15 AM	0	0	0	253	283	109	645
08:30 AM	0	0	0	256	265	76	597
08:45 AM	0	0	0	232	240	115	587
Total	0	0	0	978	1098	406	2482
Grand Total	0	0	0	2037	2163	743	4943
Apprch %	0	0	0	100	74.4	25.6	
Total %	0	0	0	41.2	43.8	15	
Cars	0	0	0	2012	2124	727	4863
% Cars	0	0	0	98.8	98.2	97.8	98.4
Trucks	0	0	0	25	39	16	80
% Trucks	0	0	0	1.2	1.8	2.2	1.6

Accurate Counts
978-664-2565

N/S Street : Newton Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012C
Site Code : 7990012C
Start Date : 9/26/2018
Page No : 2

Start Time	Rotary From East			Newton St From South			Rotary From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	283	283	295	107	402	685
07:45 AM	0	0	0	0	219	219	333	95	428	647
08:00 AM	0	0	0	0	237	237	310	106	416	653
08:15 AM	0	0	0	0	253	253	283	109	392	645
Total Volume	0	0	0	0	992	992	1221	417	1638	2630
% App. Total	0	0		0	100		74.5	25.5		
PHF	.000	.000	.000	.000	.876	.876	.917	.956	.957	.960
Cars	0	0	0	0	982	982	1197	411	1608	2590
% Cars	0	0	0	0	99.0	99.0	98.0	98.6	98.2	98.5
Trucks	0	0	0	0	10	10	24	6	30	40
% Trucks	0	0	0	0	1.0	1.0	2.0	1.4	1.8	1.5



Accurate Counts
978-664-2565

File Name : 7990012C
Site Code : 7990012C
Start Date : 9/26/2018
Page No : 10

N/S Street : Newton Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

Start Time	Rotary From East			Newton St From South			Rotary From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	1	0	1	0	1	1	2
07:15 AM	0	0	0	0	0	0	0	1	0	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	1	0	0	2	0	0	3	3
Total	0	0	0	0	1	1	0	4	0	1	5	6
08:00 AM	0	0	0	0	1	0	0	1	0	0	2	2
08:15 AM	0	0	0	0	0	0	0	1	0	0	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	2	0	0	3	3
Grand Total	0	0	0	0	2	1	0	6	0	1	8	9
Apprch %	0	0		0	100		0	100				
Total %	0	0		0	25		0	75		11.1	88.9	

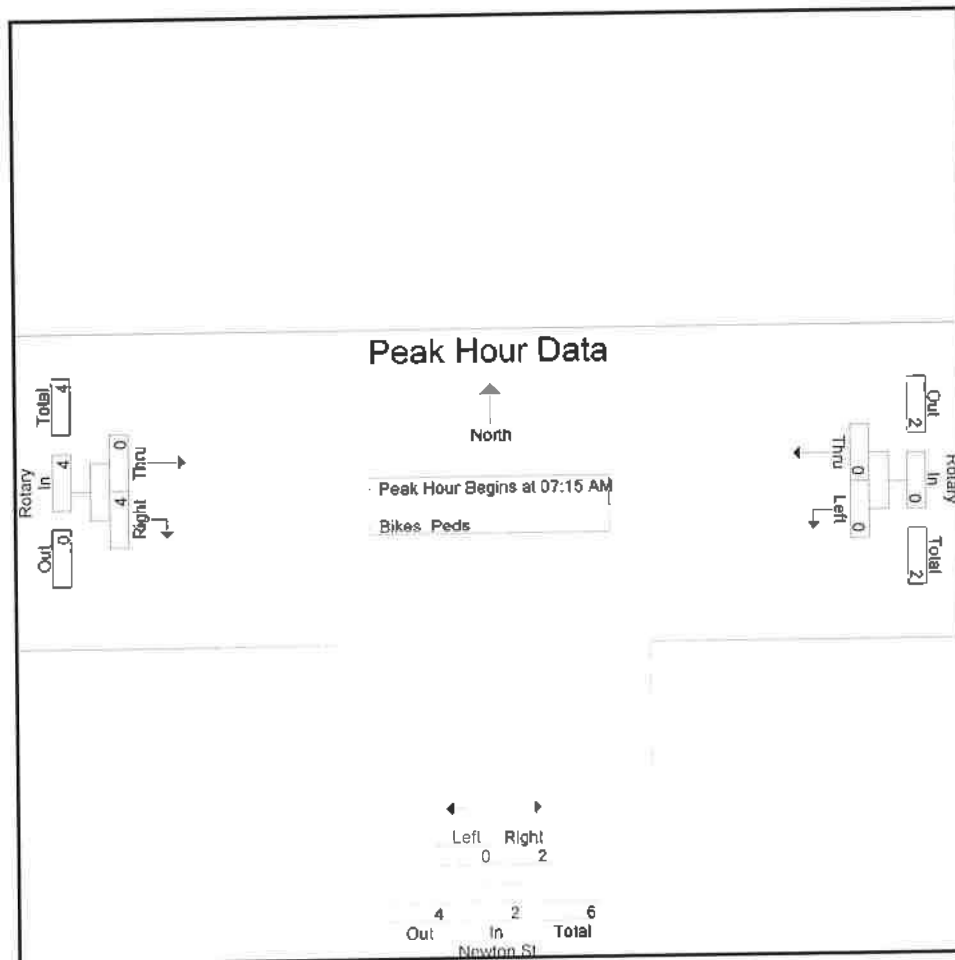
Accurate Counts

978-864-2565

N/S Street : Newton Street
 E/W Street : Rotary
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 7990012C
 Site Code : 7990012C
 Start Date : 9/26/2018
 Page No : 11

Start Time	Rotary From East			Newton St From South			Rotary From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	0	0	0	0	0	0	1	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	1	1	0	2	2	3
08:00 AM	0	0	0	0	1	1	0	1	1	2
Total Volume	0	0	0	0	2	2	0	4	4	6
% App. Total	0	0		0	100		0	100		
PHF	.000	.000	.000	.000	.500	.500	.000	.500	.500	.500



Accurate Counts
978-664-2565

N/S Street : Newton Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012C
Site Code : 7990012C
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

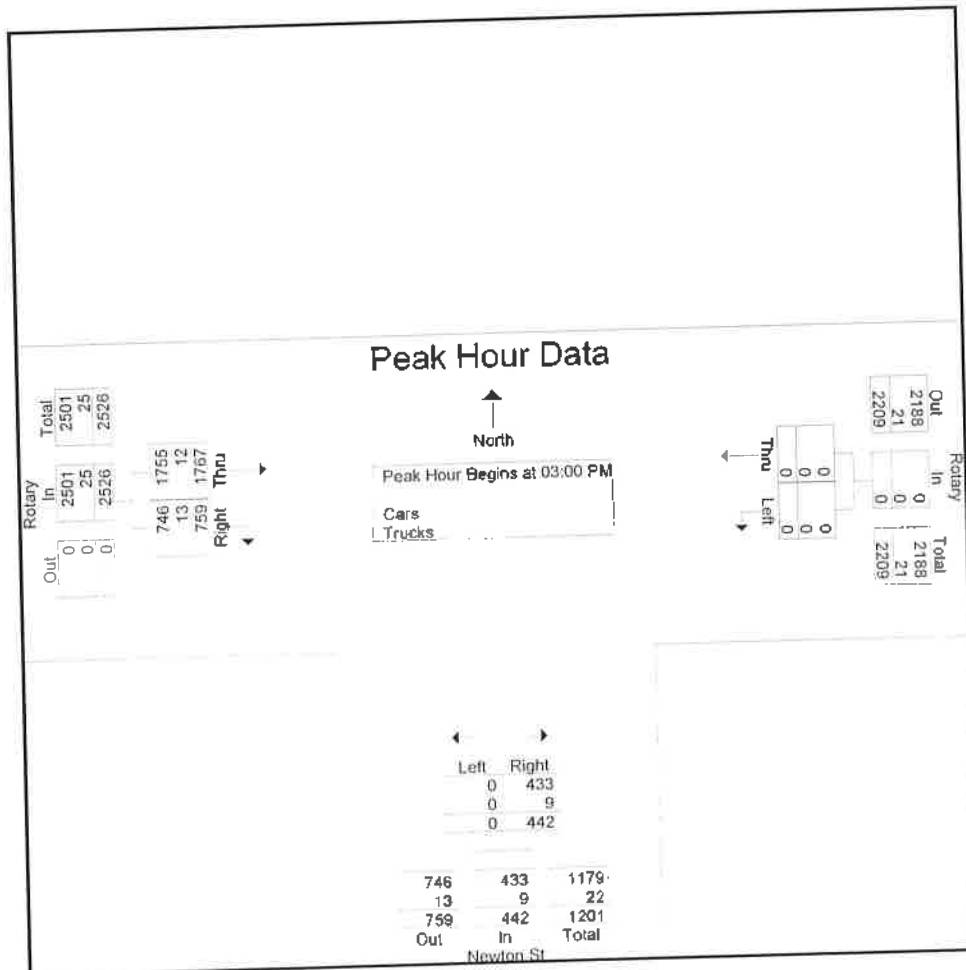
Start Time	Rotary From East		Newton St From South		Rotary From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
01:00 PM	0	0	0	88	258	72	418
01:15 PM	0	0	0	85	267	98	450
01:30 PM	0	0	0	66	276	108	450
01:45 PM	0	0	0	79	285	134	498
Total	0	0	0	318	1086	412	1816
02:00 PM	0	0	0	69	283	143	495
02:15 PM	0	0	0	102	316	144	562
02:30 PM	0	0	0	96	308	147	551
02:45 PM	0	0	0	92	349	210	651
Total	0	0	0	359	1256	644	2259
03:00 PM	0	0	0	107	431	187	725
03:15 PM	0	0	0	110	481	175	766
03:30 PM	0	0	0	109	402	202	713
03:45 PM	0	0	0	116	453	195	764
Total	0	0	0	442	1767	759	2968
Grand Total	0	0	0	1119	4109	1815	7043
Apprch %	0	0	0	100	69.4	30.6	
Total %	0	0	0	15.9	58.3	25.8	
Cars	0	0	0	1098	4069	1790	6957
% Cars	0	0	0	98.1	99	98.6	98.8
Trucks	0	0	0	21	40	25	86
% Trucks	0	0	0	1.9	1	1.4	1.2

Accurate Counts
978-664-2565

File Name : 7990012C
Site Code : 7990012C
Start Date : 9/26/2018
Page No : 2

N/S Street : Newton Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

Start Time	Rotary From East			Newton St From South			Rotary From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	0	0	0	0	107	107	431	187	618	725
03:15 PM	0	0	0	0	110	110	481	175	656	766
03:30 PM	0	0	0	0	109	109	402	202	604	713
03:45 PM	0	0	0	0	116	116	453	195	648	764
Total Volume	0	0	0	0	442	442	1767	759	2526	2968
% App. Total	0	0	0	0	100	100	70	30	100	100
PHF	.000	.000	.000	.000	.953	.953	.918	.939	.963	.969
Cars	0	0	0	0	433	433	1755	746	2501	2934
% Cars	0	0	0	0	98.0	98.0	99.3	98.3	99.0	98.9
Trucks	0	0	0	0	9	9	12	13	25	34
% Trucks	0	0	0	0	2.0	2.0	0.7	1.7	1.0	1.1



Accurate Counts
978-664-2565

N/S Street : Newton Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012C
Site Code : 7990012C
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

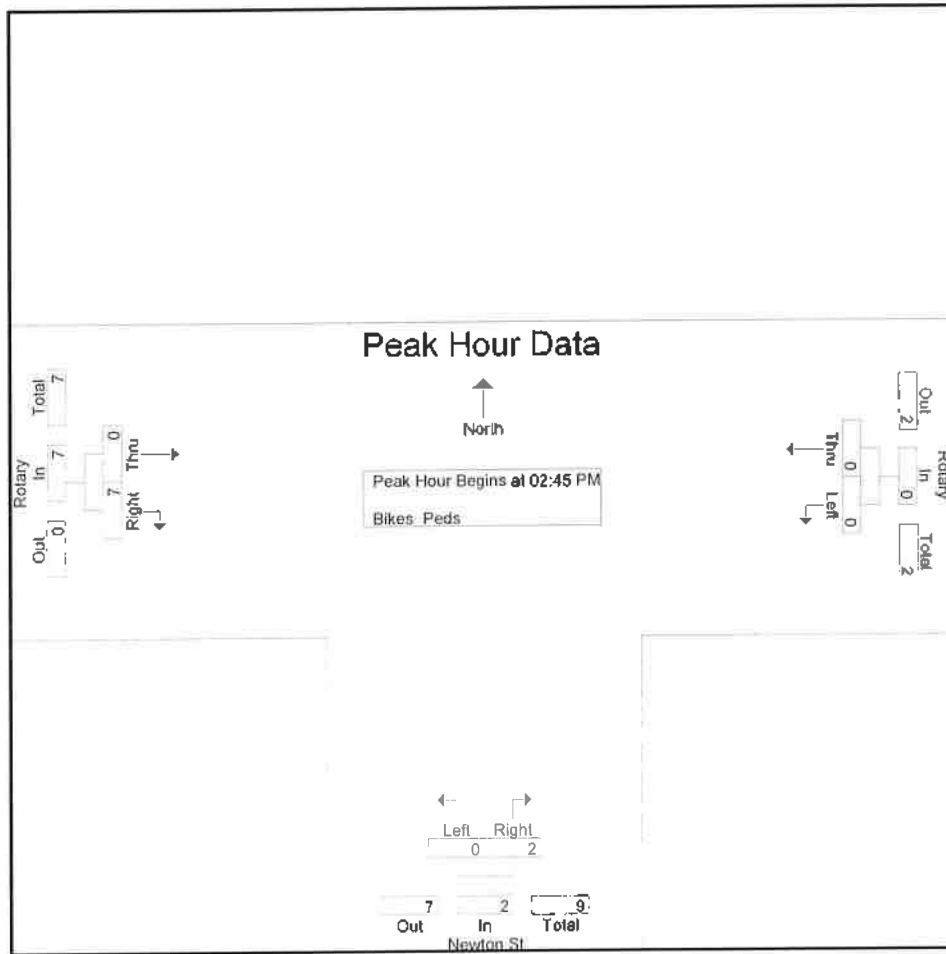
Start Time	Rotary From East			Newton St From South			Rotary From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
01:00 PM	0	0	0	1	0	0	0	0	0	0	1	1
01:15 PM	0	0	0	0	0	0	0	1	0	0	1	1
01:30 PM	0	0	0	0	1	0	0	1	0	0	2	2
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	1	0	0	2	0	0	4	4
02:00 PM	0	0	0	0	0	1	0	1	0	1	1	2
02:15 PM	0	0	0	0	1	0	0	1	0	0	2	2
02:30 PM	0	0	0	0	1	0	0	1	0	0	2	2
02:45 PM	0	0	0	0	1	1	0	1	0	1	2	3
Total	0	0	0	0	3	2	0	4	0	2	7	9
03:00 PM	0	0	0	0	0	1	0	1	0	1	1	2
03:15 PM	0	0	0	0	0	0	0	3	0	0	3	3
03:30 PM	0	0	0	0	1	1	0	2	0	1	3	4
03:45 PM	0	0	0	0	2	1	0	0	0	1	2	3
Total	0	0	0	0	3	3	0	6	0	3	9	12
Grand Total	0	0	0	1	7	5	0	12	0	5	20	25
Apprch %	0	0		12.5	87.5		0	100				
Total %	0	0		5	35		0	60		20	80	

Accurate Counts
978-664-2565

N/S Street : Newton Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012C
Site Code : 7990012C
Start Date : 9/26/2018
Page No : 11

Start Time	Rotary From East			Newton St From South			Rotary From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:45 PM										
02:45 PM	0	0	0	0	1	1	0	1	1	2
03:00 PM	0	0	0	0	0	0	0	1	1	1
03:15 PM	0	0	0	0	0	0	0	3	3	3
03:30 PM	0	0	0	0	1	1	0	2	2	3
Total Volume	0	0	0	0	2	2	0	7	7	9
% App. Total	0	0		0	100		0	100		
PHF	.000	.000	.000	.000	.500	.500	.000	.583	.583	.750



School Peak Hour Traffic Volumes

File Name: C:\Users\stev\Documents\2018\Petra\Brookline, MA\VAI\7990\7990012D.ppd
 Start Date: 9/26/2018
 Start Time: 7:00:00 AM
 Site Code: 7990012D
 Comment 1: N/S Street : Lagrange Street
 Comment 2: E/W Street : Rotary
 Comment 3: City/State : Brookline, MA
 Comment 4: Weather : Cloudy

Start Time	Rotary From East			Lagrange St From South			Rotary From West			Rotary From East	Lagrange St From South	Rotary From West
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	0	0	113	0	420	50	0	0	113	470
07:15 AM	0	0	0	0	103	0	445	79	0	0	103	524
07:30 AM	0	0	0	0	120	0	462	116	0	0	120	578
07:45 AM	0	0	0	0	104	0	447	105	0	0	104	552
	0	0	0	0	440	0	1774	350	0	0	440	2124
No Build	0	0	0	0	472	0	1902	375	0	0	472	0.92
PHF	0.00	0.00	0.00	0.00	0.92	0.00	0.96	0.75	0.00	0.00	0.92	
Truck	0	0	0	0	7	0	26	8	0	0	7	
% Truck	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	1.5%	2.3%	0.0%	0.0%	1.6%	
PED	0	0	0	0	0	0	0	0	0	0	0	
01:30 PM	0	0	0	0	67	0	234	108	0	0	67	342
01:45 PM	0	0	0	0	73	0	258	106	0	0	73	364
02:00 PM	0	0	0	0	84	0	252	100	0	0	84	352
02:15 PM	0	0	0	0	92	0	300	118	0	0	92	418
	0	0	0	0	316	0	1044	432	0	0	316	1476
No Build	0	0	0	0	339	0	1119	463	0	0	339	0.88
PHF	0.00	0.00	0.00	0.00	0.86	0.00	0.87	0.92	0.00	0.00	0.86	
Truck	0	0	0	0	6	0	16	4	0	0	6	
% Truck	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	1.5%	0.9%	0.0%	0.0%	1.9%	
PED	0	0	0	0	0	1	0	0	0	0	0	

Accurate Counts
978-664-2565

N/S Street : Lagrange Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012D
Site Code : 7990012D
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

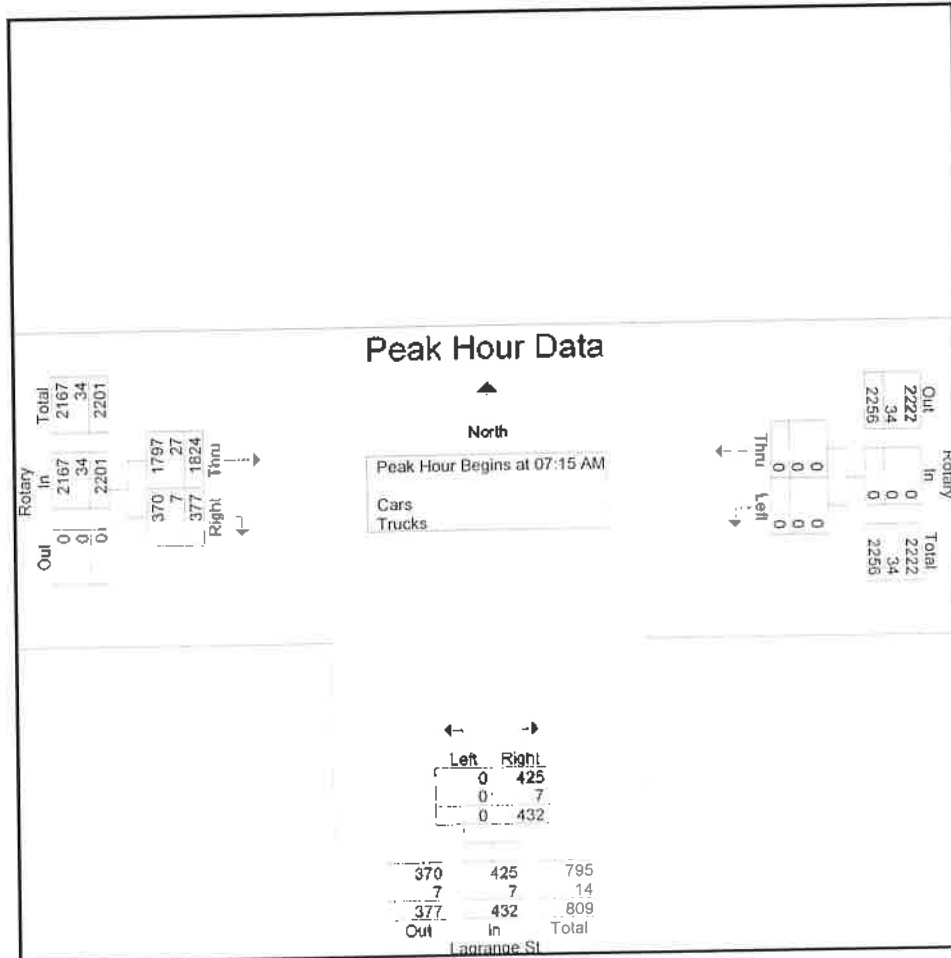
Start Time	Rotary From East		Lagrange St From South		Rotary From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	113	420	50	583
07:15 AM	0	0	0	103	445	79	627
07:30 AM	0	0	0	120	462	116	698
07:45 AM	0	0	0	104	447	105	656
Total	0	0	0	440	1774	350	2564
08:00 AM	0	0	0	105	470	77	652
08:15 AM	0	0	0	90	455	81	626
08:30 AM	0	0	0	109	448	73	630
08:45 AM	0	0	0	103	401	71	575
Total	0	0	0	407	1774	302	2483
Grand Total	0	0	0	847	3548	652	5047
Apprch %	0	0	0	100	84.5	15.5	
Total %	0	0	0	16.8	70.3	12.9	
Cars	0	0	0	834	3496	640	4970
% Cars	0	0	0	98.5	98.5	98.2	98.5
Trucks	0	0	0	13	52	12	77
% Trucks	0	0	0	1.5	1.5	1.8	1.5

Accurate Counts
978-664-2585

N/S Street : Lagrange Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012D
Site Code : 7990012D
Start Date : 9/26/2018
Page No : 2

Start Time	Rotary From East			Lagrange St From South			Rotary From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	0	0	0	103	103	445	79	524	627
07:30 AM	0	0	0	0	120	120	462	116	578	698
07:45 AM	0	0	0	0	104	104	447	105	552	656
08:00 AM	0	0	0	0	105	105	470	77	547	652
Total Volume	0	0	0	0	432	432	1824	377	2201	2633
% App. Total	0	0		0	100		82.9	17.1		
PHF	.000	.000	.000	.000	.900	.900	.970	.813	.952	.943
Cars	0	0	0	0	425	425	1797	370	2167	2592
% Cars	0	0	0	0	98.4	98.4	98.5	98.1	98.5	98.4
Trucks	0	0	0	0	7	7	27	7	34	41
% Trucks	0	0	0	0	1.6	1.6	1.5	1.9	1.5	1.6



Accurate Counts
978-664-2565

N/S Street : Lagrange Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012D
Site Code : 7990012D
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

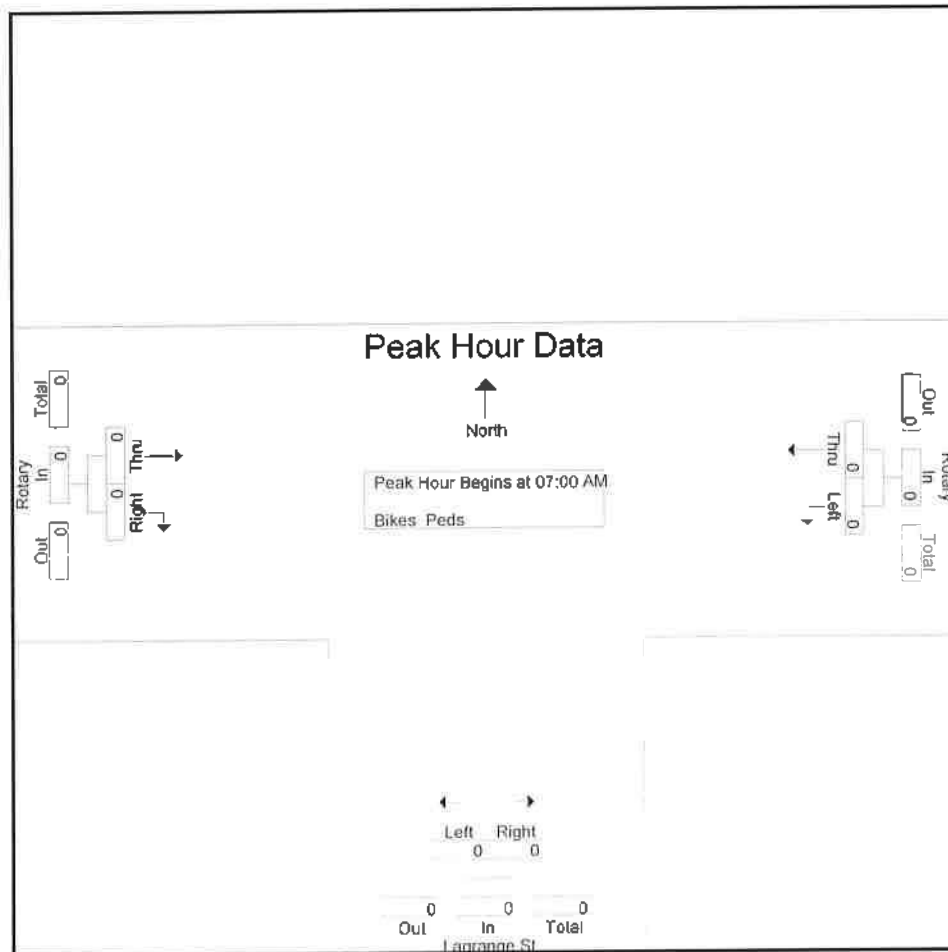
Start Time	Rotary From East			Lagrange St From South			Rotary From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		0	0	
Total %										0	0	

Accurate Counts
978-664-2565

N/S Street : Lagrange Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012D
Site Code : 7990012D
Start Date : 9/26/2018
Page No : 11

Start Time	Rotary From East			Lagrange St From South			Rotary From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Accurate Counts
978-664-2565

N/S Street : Lgrange Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012D
Site Code : 7990012D
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

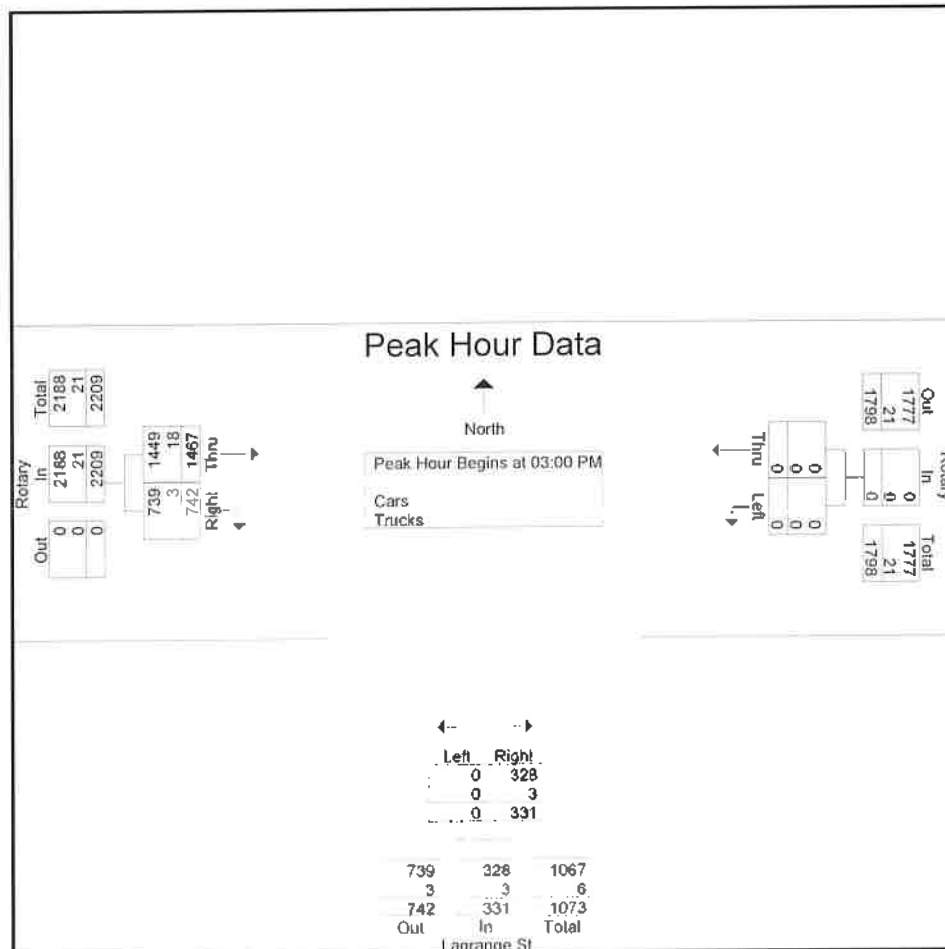
Start Time	Rotary From East		Lgrange St From South		Rotary From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
01:00 PM	0	0	0	75	261	85	421
01:15 PM	0	0	0	75	276	76	427
01:30 PM	0	0	0	67	234	108	409
01:45 PM	0	0	0	73	258	106	437
Total	0	0	0	290	1029	375	1694
02:00 PM	0	0	0	84	252	100	436
02:15 PM	0	0	0	92	300	118	510
02:30 PM	0	0	0	95	286	118	499
02:45 PM	0	0	0	93	319	122	534
Total	0	0	0	364	1157	458	1979
03:00 PM	0	0	0	88	361	177	626
03:15 PM	0	0	0	90	391	200	681
03:30 PM	0	0	0	64	342	169	575
03:45 PM	0	0	0	89	373	196	658
Total	0	0	0	331	1467	742	2540
Grand Total	0	0	0	985	3653	1575	6213
Apprch %	0	0	0	100	69.9	30.1	
Total %	0	0	0	15.9	58.8	25.4	
Cars	0	0	0	971	3605	1562	6138
% Cars	0	0	0	98.6	98.7	99.2	98.8
Trucks	0	0	0	14	48	13	75
% Trucks	0	0	0	1.4	1.3	0.8	1.2

Accurate Counts
978-664-2565

N/S Street : Lagrange Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012D
Site Code : 7990012D
Start Date : 9/26/2018
Page No : 2

Start Time	Rotary From East			Lagrange St From South			Rotary From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	0	0	0	0	88	88	361	177	538	626
03:15 PM	0	0	0	0	90	90	391	200	591	681
03:30 PM	0	0	0	0	64	64	342	169	511	575
03:45 PM	0	0	0	0	89	89	373	196	569	658
Total Volume	0	0	0	0	331	331	1467	742	2209	2540
% App. Total	0	0		0	100		66.4	33.6		
PHF	.000	.000	.000	.000	.919	.919	.938	.928	.934	.932
Cars	0	0	0	0	328	328	1449	739	2188	2516
% Cars	0	0	0	0	99.1	99.1	98.8	99.6	99.0	99.1
Trucks	0	0	0	0	3	3	18	3	21	24
% Trucks	0	0	0	0	0.9	0.9	1.2	0.4	1.0	0.9



Accurate Counts
978-664-2565

N/S Street : Lagrange Street
E/W Street : Rotary
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012D
Site Code : 7990012D
Start Date : 9/26/2018
Page No : 10

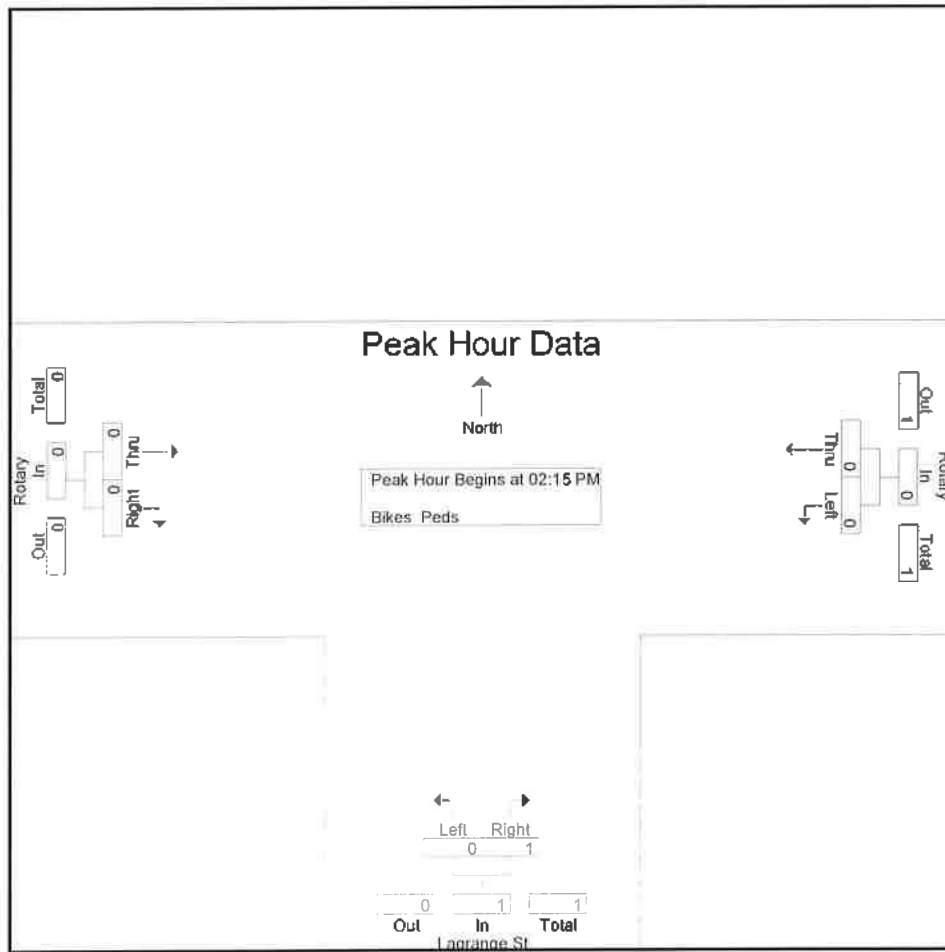
Start Time	Rotary From East			Lagrange St From South			Rotary From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
01:00 PM	0	0	0	0	0	1	0	0	0	1	0	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	1
02:00 PM	0	0	0	0	0	1	0	0	0	1	0	1
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	1
03:00 PM	0	0	0	0	1	0	0	0	0	0	1	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	0	1	1
Grand Total	0	0	0	0	1	2	0	0	0	2	1	3
Apprch %	0	0		0	100		0	0				
Total %	0	0		0	100		0	0		66.7	33.3	

Accurate Counts
978-664-2565

N/S Street : Lagrange Street
 E/W Street : Rotary
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 7990012D
 Site Code : 7990012D
 Start Date : 9/26/2018
 Page No : 11

Start Time	Rotary From East			Lagrange St From South			Rotary From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:15 PM										
02:15 PM	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	1	1	0	0	0	1
Total Volume	0	0	0	0	1	1	0	0	0	1
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250



School Peak Hour Traffic Volumes

File Name: C:\Users\stevil\Documents\2018\Petral\Brookline, MA\VA\17990\7990012E.ppt

Start Date: 9/26/2018

Start Time: 7:00:00 AM

Site Code: 7990012E

Comment 1: N/S Street : Rotary

Comment 2: E/W Street : Newton Street

Comment 3: City/State : Brookline, MA

Comment 4: Weather : Cloudy

Start Time	Rotary From North			Newton St From East			Rotary From South			Rotary From North	Newton St From East	Rotary From South
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	0	0	326	0	297	236	0	0	326	533
07:15 AM	0	0	0	0	365	0	343	205	0	0	365	548
07:30 AM	0	0	0	0	380	0	371	211	0	0	380	582
07:45 AM	0	0	0	0	492	0	278	273	0	0	492	551
No Build	0	0	0	0	1563	0	1289	925	0	0	1563	2214
PHF	0.00	0.00	0.00	0.00	0.79	0.00	0.87	0.85	0.00	0.00	0.79	0.95
Truck	0	0	0	0	26	0	16	17	0	0	0	0
% Truck	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	1.2%	1.8%	0.0%	0.0%	0.0%	0.0%
PED	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	202	0	112	189	0	0	202	301
01:45 PM	0	0	0	0	264	0	106	225	0	0	264	331
02:00 PM	0	0	0	0	226	0	119	217	0	0	226	336
02:15 PM	0	0	0	0	257	0	152	240	0	0	257	392
No Build	0	0	0	0	949	0	489	871	0	0	949	1360
PHF	0.00	0.00	0.00	0.00	0.90	0.00	0.80	0.91	0.00	0.00	0.90	0.87
Truck	0	0	0	0	4	0	20	2	0	0	0	0
% Truck	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	4.1%	0.2%	0.0%	0.0%	0.0%	0.0%
PED	0	0	0	0	0	0	0	0	0	0	0	0

Phf by approach

Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Newton Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012E
Site Code : 7990012E
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Rotary From North		Newton St From East		Rotary From South		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	326	297	236	859
07:15 AM	0	0	0	365	343	205	913
07:30 AM	0	0	0	380	371	211	962
07:45 AM	0	0	0	492	278	273	1043
Total	0	0	0	1563	1289	925	3777
08:00 AM	0	0	0	422	307	268	997
08:15 AM	0	0	0	389	302	243	934
08:30 AM	0	0	0	366	314	243	923
08:45 AM	0	0	0	349	297	207	853
Total	0	0	0	1526	1220	961	3707
Grand Total	0	0	0	3089	2509	1886	7484
Apprch %	0	0	0	100	57.1	42.9	
Total %	0	0	0	41.3	33.5	25.2	
Cars	0	0	0	3063	2467	1863	7393
% Cars	0	0	0	99.2	98.3	98.8	98.8
Trucks	0	0	0	26	42	23	91
% Trucks	0	0	0	0.8	1.7	1.2	1.2

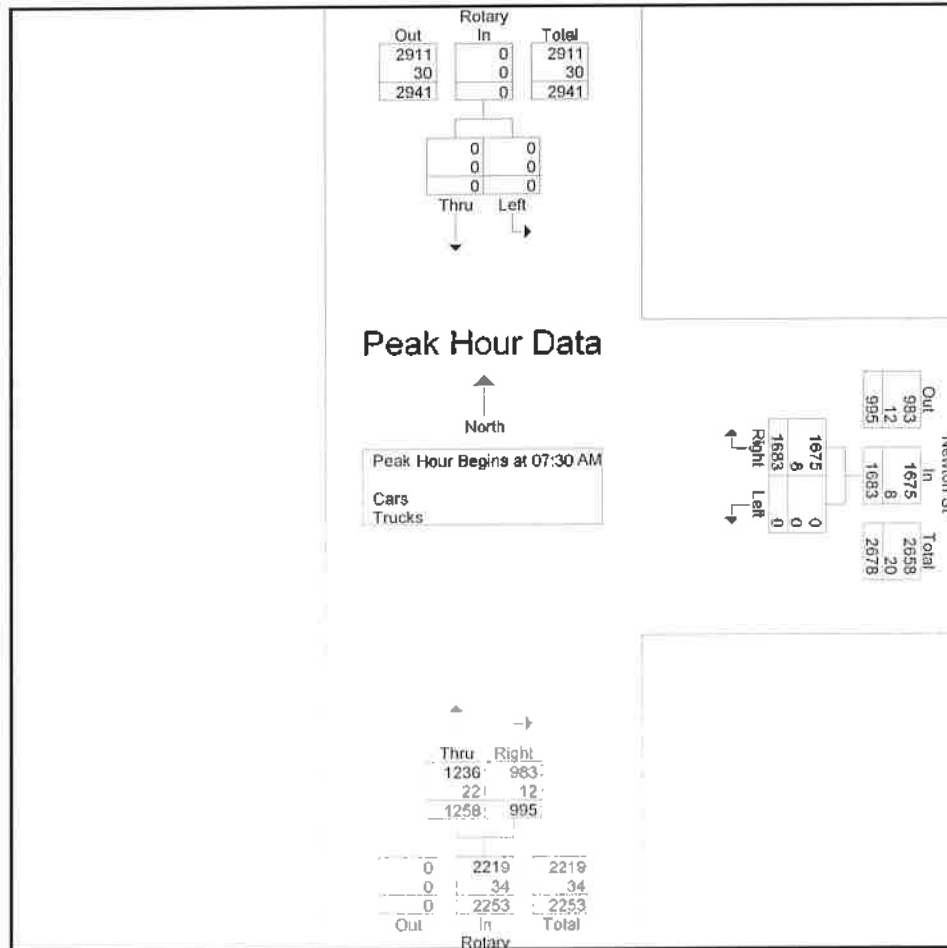
Accurate Counts

978-664-2565

N/S Street : Rotary
 E/W Street : Newton Street
 City/State : Brookline, MA
 Weather : Cloudy

File Name : 7990012E
 Site Code : 7990012E
 Start Date : 9/26/2018
 Page No : 2

Start Time	Rotary From North			Newton St From East			Rotary From South			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	380	380	371	211	582	962
07:45 AM	0	0	0	0	492	492	278	273	551	1043
08:00 AM	0	0	0	0	422	422	307	268	575	997
08:15 AM	0	0	0	0	389	389	302	243	545	934
Total Volume	0	0	0	0	1683	1683	1258	995	2253	3936
% App. Total	0	0		0	100		55.8	44.2		
PHF	.000	.000	.000	.000	.855	.855	.848	.911	.968	.943
Cars	0	0	0	0	1675	1675	1236	983	2219	3894
% Cars	0	0	0	0	99.5	99.5	98.3	98.8	98.5	98.9
Trucks	0	0	0	0	8	8	22	12	34	42
% Trucks	0	0	0	0	0.5	0.5	1.7	1.2	1.5	1.1



Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Newton Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012E
Site Code : 7990012E
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

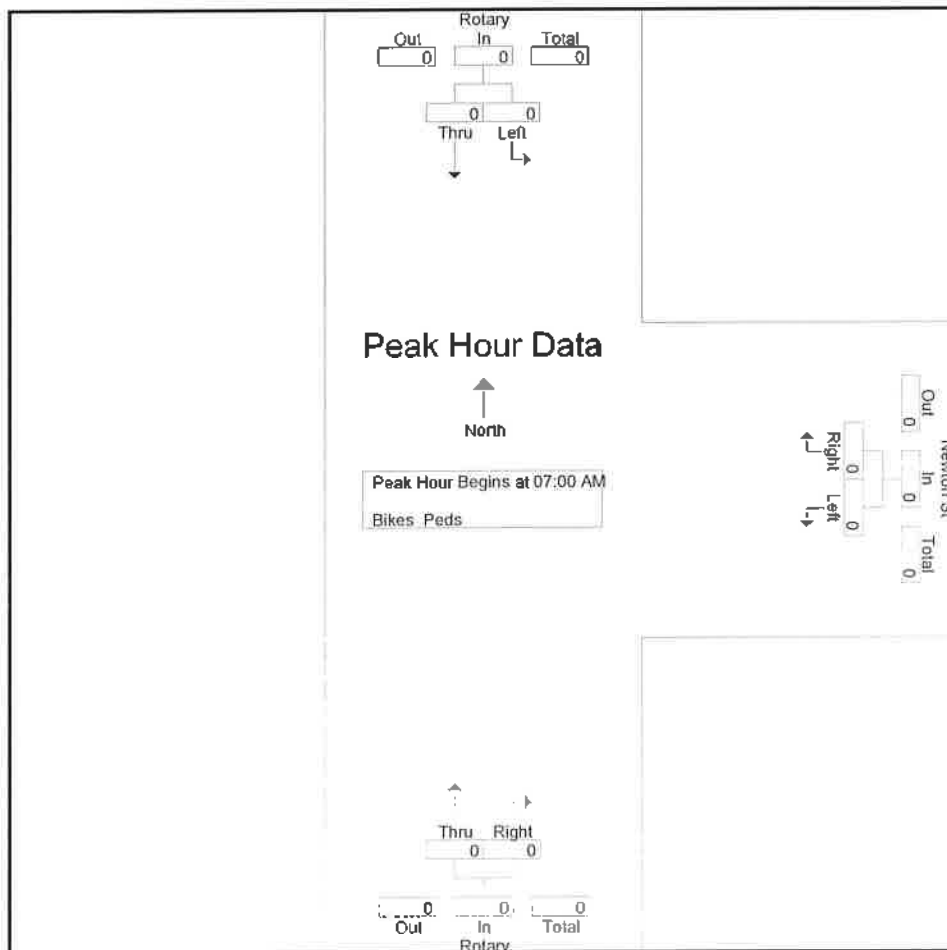
Start Time	Rotary From North			Newton St From East			Rotary From South			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0				
Total %										0	0	

Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Newton Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012E
Site Code : 7990012E
Start Date : 9/26/2018
Page No : 11

Start Time	Rotary From North			Newton St From East			Rotary From South			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Newton Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012E
Site Code : 7990012E
Start Date : 9/26/2018
Page No : 1

Groups Printed- Cars - Trucks

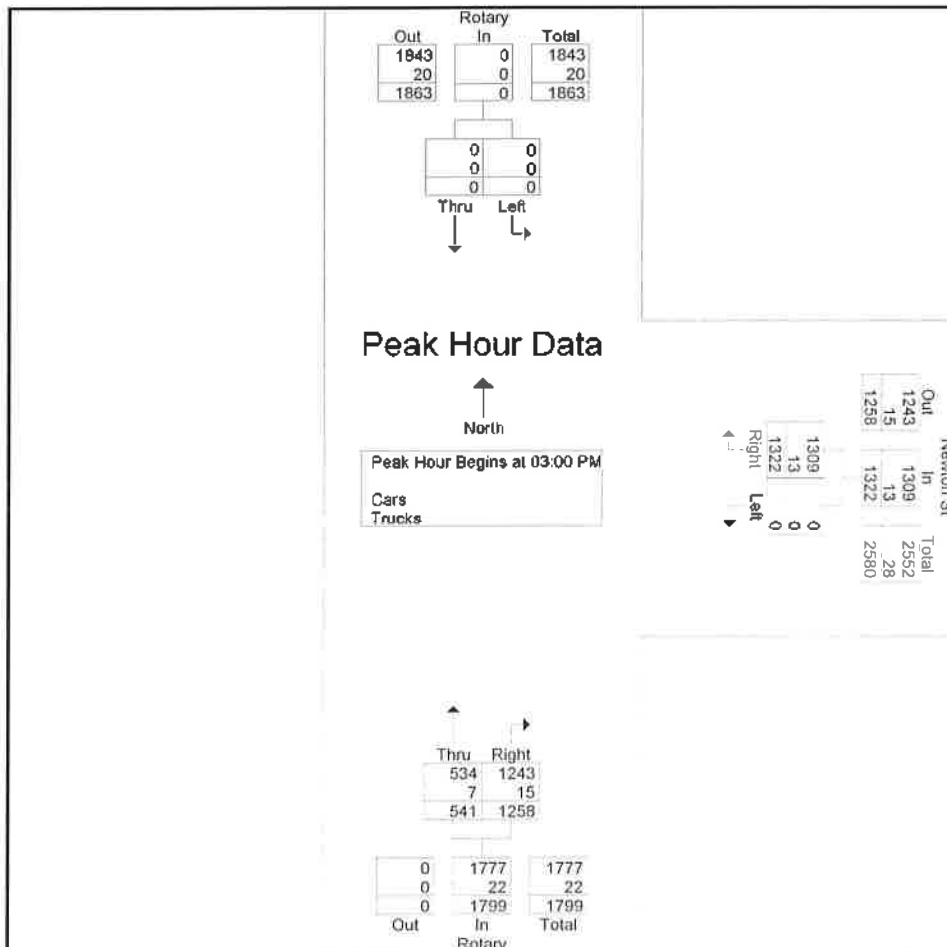
Start Time	Rotary From North		Newton St From East		Rotary From South		Int. Total
	Left	Thru	Left	Right	Thru	Right	
01:00 PM	0	0	0	157	137	199	493
01:15 PM	0	0	0	232	144	207	583
01:30 PM	0	0	0	202	112	189	503
01:45 PM	0	0	0	264	106	225	595
Total	0	0	0	855	499	820	2174
02:00 PM	0	0	0	226	119	217	562
02:15 PM	0	0	0	257	152	240	649
02:30 PM	0	0	0	316	154	227	697
02:45 PM	0	0	0	334	142	270	746
Total	0	0	0	1133	567	954	2654
03:00 PM	0	0	0	311	137	312	760
03:15 PM	0	0	0	307	172	309	788
03:30 PM	0	0	0	373	92	314	779
03:45 PM	0	0	0	331	140	323	794
Total	0	0	0	1322	541	1258	3121
Grand Total	0	0	0	3310	1607	3032	7949
Apprch %	0	0	0	100	34.6	65.4	
Total %	0	0	0	41.6	20.2	38.1	
Cars	0	0	0	3287	1568	3008	7863
% Cars	0	0	0	99.3	97.6	99.2	98.9
Trucks	0	0	0	23	39	24	86
% Trucks	0	0	0	0.7	2.4	0.8	1.1

Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Newton Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012E
Site Code : 7990012E
Start Date : 9/26/2018
Page No : 2

Start Time	Rotary From North			Newton St From East			Rotary From South			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	0	0	0	0	311	311	137	312	449	760
03:15 PM	0	0	0	0	307	307	172	309	481	788
03:30 PM	0	0	0	0	373	373	92	314	406	779
03:45 PM	0	0	0	0	331	331	140	323	463	794
Total Volume	0	0	0	0	1322	1322	541	1258	1799	3121
% App. Total	0	0		0	100		30.1	69.9		
PHF	.000	.000	.000	.000	.886	.886	.786	.974	.935	.983
Cars	0	0	0	0	1309	1309	534	1243	1777	3086
% Cars	0	0	0	0	99.0	99.0	98.7	98.8	98.8	98.9
Trucks	0	0	0	0	13	13	7	15	22	35
% Trucks	0	0	0	0	1.0	1.0	1.3	1.2	1.2	1.1



Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Newton Street
City/State : Brookline, MA
Weather : Cloudy

File Name : 7990012E
Site Code : 7990012E
Start Date : 9/26/2018
Page No : 10

Groups Printed- Bikes Peds

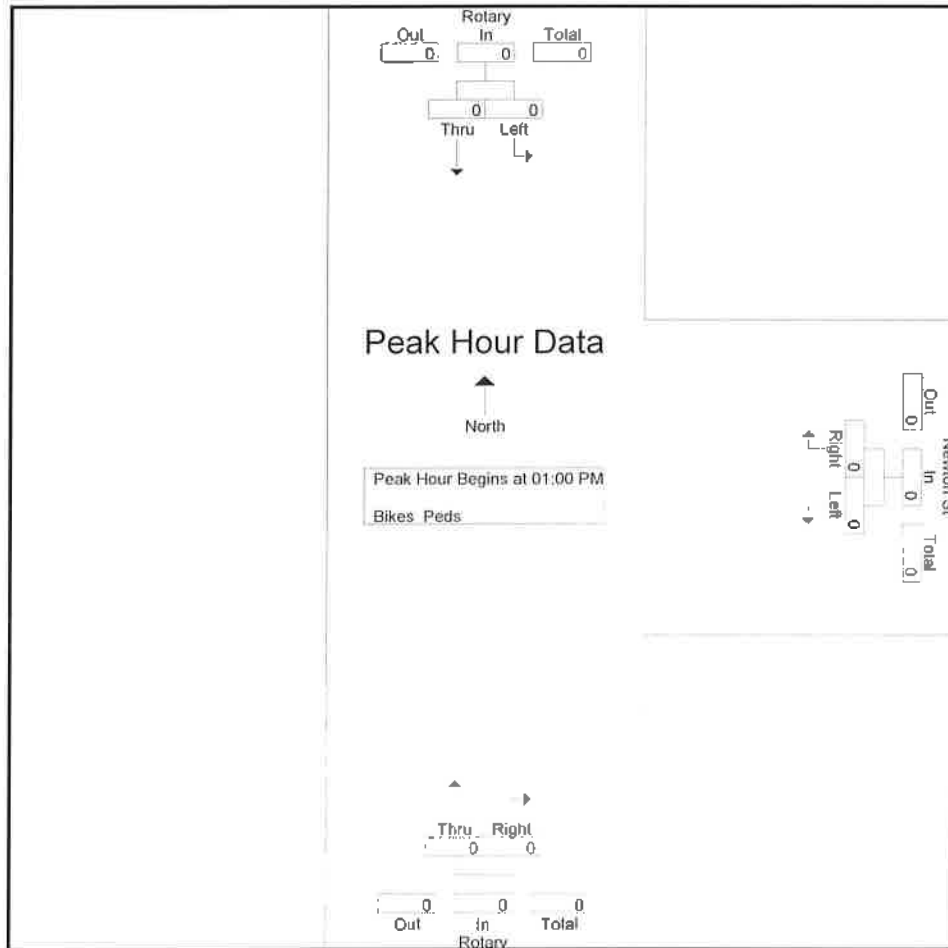
Start Time	Rotary From North			Newton St From East			Rotary From South			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0				
Total %										0	0	

Accurate Counts
978-664-2565

N/S Street : Rotary
E/W Street : Newton Street
City/State : Brookline, MA
Weather : Cloudy

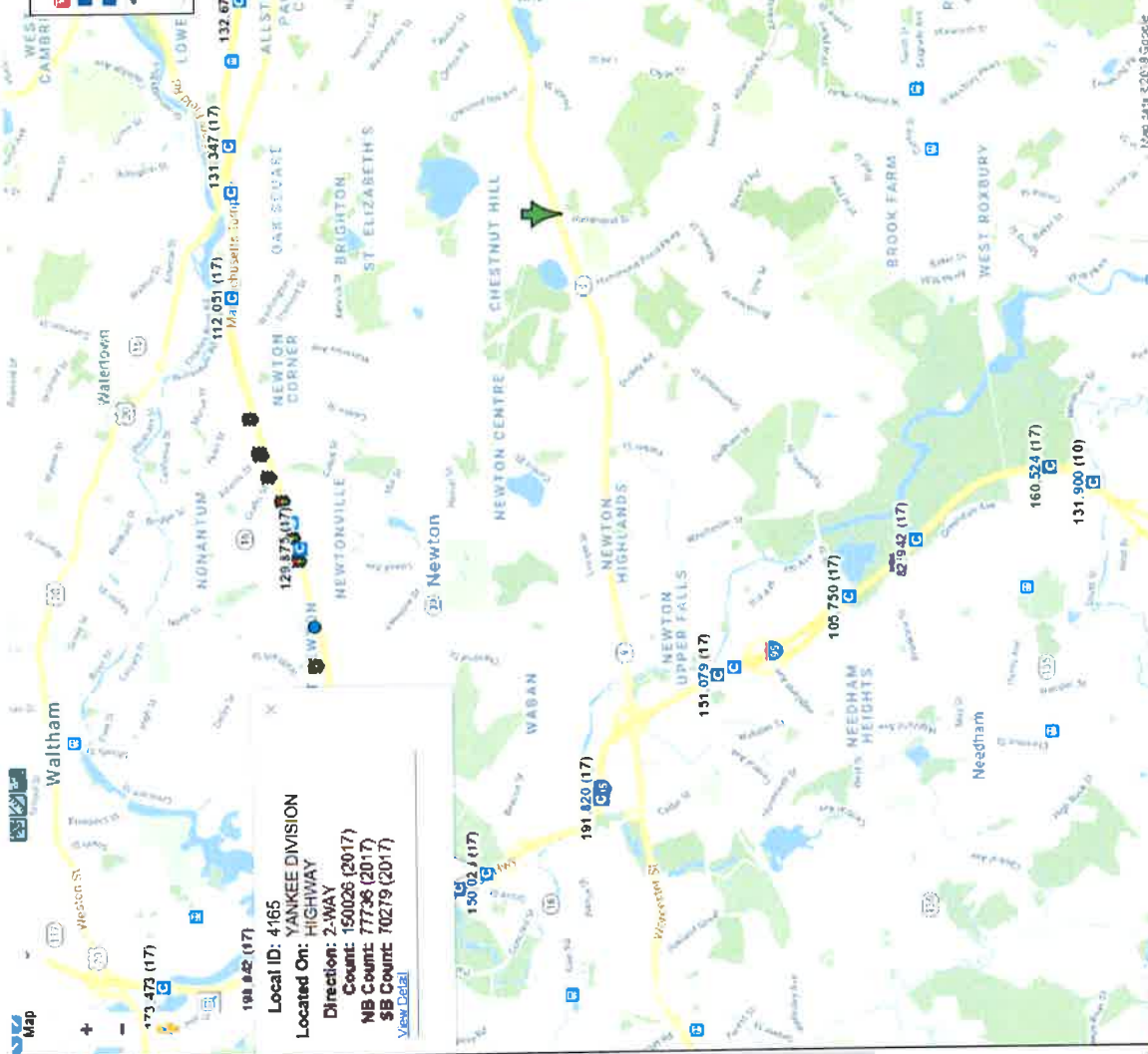
File Name : 7990012E
Site Code : 7990012E
Start Date : 9/26/2018
Page No : 11

Start Time	Rotary From North			Newton St From East			Rotary From South			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 01:00 PM										
01:00 PM	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



SEASONAL ADJUSTMENTS

- TCDS
- Cops: Locations
- Select by Polygon
- Select Using Buffer
- TCDS Locations
- Contours
- 2010 Traffic Flow
- AADT



Local ID: 4165
YANKEE DIVISION
Located On: HIGHWAY
Direction: 2-WAY
Count: 150026 (2017)
NB Count: 77735 (2017)
SB Count: 70279 (2017)
[View Detail](#)

Local ID: 4165
 YANKEE DIVISION
 Located On: HIGHWAY
 Direction: 2-WAY
 Count: 150026 (2017)
 NB Count: 77735 (2017)
 SB Count: 70279 (2017)
[View Detail](#)

Year	AAADT	DRV-30	K %	D %	PA	SC	SEC
2017	150,026	11,919	8	53	141,475 (94%)	8,551 (6%)	
2016	148,227	12,161	8	52	136,890 (94%)	9,337 (6%)	Growth from 2014
2016	152,066						
2014	143,323						
2013	142,303						

Year	AAADT	MB	MB	MB	MB	MB
2017	150,026	11,919	8	53	141,475 (94%)	8,551 (6%)
2016	148,227	12,161	8	52	136,890 (94%)	9,337 (6%)
2016	152,066					
2014	143,323					
2013	142,303					

Year	AAADT	MB	MB	MB	MB	MB
2017	150,026	11,919	8	53	141,475 (94%)	8,551 (6%)
2016	148,227	12,161	8	52	136,890 (94%)	9,337 (6%)
2016	152,066					
2014	143,323					
2013	142,303					

Local ID: 4165
 YANKEE DIVISION
 Located On: HIGHWAY
 Direction: 2-WAY
 Count: 150026 (2017)
 NB Count: 77735 (2017)
 SB Count: 70279 (2017)
[View Detail](#)

Year	AAADT	MB	MB	MB	MB	MB
2017	150,026	11,919	8	53	141,475 (94%)	8,551 (6%)
2016	148,227	12,161	8	52	136,890 (94%)	9,337 (6%)
2016	152,066					
2014	143,323					
2013	142,303					

Year	AAADT	MB	MB	MB	MB	MB
2017	150,026	11,919	8	53	141,475 (94%)	8,551 (6%)
2016	148,227	12,161	8	52	136,890 (94%)	9,337 (6%)
2016	152,066					
2014	143,323					
2013	142,303					

Year	AAADT	MB	MB	MB	MB	MB
2017	150,026	11,919	8	53	141,475 (94%)	8,551 (6%)
2016	148,227	12,161	8	52	136,890 (94%)	9,337 (6%)
2016	152,066					
2014	143,323					
2013	142,303					

Massachusetts Highway Department

Traffic Pattern by Month for 1/1/2017 - 12/31/2017

Factor Group	Station	Weight	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
U1-Boston	4165	1			0.901	0.952	1.016	1.043	0.973	0.991	1.035	1.032	0.995	0.955
	Average of Weighted Factors		0.000	0.000	0.901	0.952	1.016	1.043	0.973	0.991	1.035	1.032	0.995	0.955

Massachusetts Highway Department

4165: Monthly Hourly Volume for September 2017

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL		
1	1514	821	553	410	646	1664	3492	5327	7092	8814	10935	11260	11041	11135	10508	10081	10360	9728	8866	6800	5184	4665	4456	2855	147607		
2	1528	851	638	385	375	661	1723	3247	4791	6798	8568	10033	10812	10542	10577	10201	10235	10061	9955	8510	6889	4166	2387	1302	135235		
3	716	400	313	397	1223	5168	10159	11856	10645	10404	9241	8360	8542	8777	10354	10312	10641	11397	9943	6815	4692	3403	2028	1289	157075		
4	673	428	362	438	1221	5364	10681	11846	10320	10973	9733	9237	9289	9644	10803	10445	10673	11285	10482	7442	5195	3926	2617	1519	164596		
5	792	466	392	479	1176	5264	10760	11625	10614	11178	10058	9858	9210	9925	10375	10479	11024	11547	10499	7770	5478	4165	2692	1651	167577		
6	725	477	394	462	1240	5240	10621	11796	10991	8842	10331	9569	9564	9923	10237	10661	11004	11248	10392	7555	5775	4142	2614	1661	165284		
7	933	571	462	537	1127	4998	10132	12066	11175	10324	9782	9955	10253	10540	10326	10470	10433	10245	10088	7526	5562	4319	3350	2205	167389		
8	1327	782	542	472	605	1592	3232	5114	7269	8582	10140	10434	10223	10268	9995	10031	10055	9472	8610	7403	6598	5121	4163	2986	145016		
9	1708	995	683	404	379	715	1751	3037	5147	7046	9002	10237	11255	10230	9883	10216	9939	9319	7954	7673	5544	3966	2377	1273	130734		
10	649	468	349	439	1168	5053	10137	10855	10246	10874	9246	8788	8701	9255	10228	10378	10782	11478	9550	6810	4588	3298	2053	1295	156688		
11	678	457	400	482	1255	5025	10177	11305	10372	10772	9204	8886	8820	9533	10184	10497	11024	11507	9888	6535	4724	3503	2203	1348	158779		
12	692	419	344	416	1008	4702	9924	10363	9557	10273	9265	8580	8684	9237	10184	9921	10489	11007	10031	6945	4710	3954	2656	1581	154942		
13	754	503	359	460	1158	4964	10393	11798	11131	10799	9880	9507	9628	9879	10821	10250	10641	11342	10261	7630	5527	4064	2668	1635	166052		
14	820	573	422	495	1185	4532	9856	10493	10836	10766	9654	10020	9816	10039	9301	9811	9646	10147	9856	7542	4898	3946	3182	2283	160119		
15	1221	828	607	490	592	1510	3284	5176	6978	8802	10484	10738	11137	10618	10327	10215	10068	9831	8926	6659	5261	4632	3631	2721	144736		
16	1802	1016	663	484	396	751	1822	3719	6059	8796	10341	10444	10568	10421	9904	9818	9728	10363	9453	8176	6106	4004	2360	1374	138268		
17	724	428	344	438	1243	5281	10229	11193	10414	10686	9379	8820	8884	9408	10260	10396	10405	11176	10453	7937	4709	3379	2316	1508	159350		
18	717	411	371	462	1217	5152	10593	11905	10476	10825	9907	9067	8918	9651	10380	10589	10297	9687	8962	6801	4653	3956	2502	1534	159033		
19	758	414	379	484	1230	5214	10504	11664	10151	10188	10009	9695	8893	10177	10414	10680	10567	10748	10344	7486	5417	4321	2839	1599	164185		
20	814	510	359	476	1236	5285	10420	11477	10913	10533	10092	9410	9310	9888	10411	10362	10550	10986	9978	8162	5853	4333	2934	2063	166355		
21	1030	598	442	487	1181	4981	10171	11561	11412	10384	9959	10057	10482	10422	10022	9841	10454	11111	10193	8266	5621	4203	3609	2717	169204		
22	1352	908	622	453	601	1385	2850	4650	6763	8531	9843	10414	10223	10385	9805	9976	10002	9323	8451	6489	5636	4720	4164	3029	140575		
																									average	155400	
																										AADT	150,026
																											1,03582

Location ID: 4165
 County: Middlesex
 Functional Class: 1
 Location: YANKEE DIVISION HIGHWAY
 Seasonal Factor Group: U1-Boston
 Daily Factor Group: U1-Boston
 Axle Factor Group: U1-Boston
 Growth Factor Group:

AUTOMATIC TRAFFIC RECORDER COUNTS

Vanasse & Associates

35 New England Business Center Dr, Suite 140
Andover, MA 01810

Vanasse & Associates
Location: Heath Street
Location: East of Baldwin School
City: Brookline, MA

Site Code: 00799001

Start Time	01-Oct-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
12:00 AM	*	*	4	4	2	10	*	*	*	*	*	*	*	*	3	7
01:00	*	*	2	1	2	3	*	*	*	*	*	*	*	*	2	2
02:00	*	*	0	1	0	1	*	*	*	*	*	*	*	*	0	1
03:00	*	*	0	0	1	2	*	*	*	*	*	*	*	*	0	1
04:00	*	*	1	0	1	0	*	*	*	*	*	*	*	*	1	0
05:00	*	*	6	9	9	9	*	*	*	*	*	*	*	*	8	9
06:00	*	*	18	32	17	38	*	*	*	*	*	*	*	*	18	35
07:00	*	*	38	178	39	182	*	*	*	*	*	*	*	*	38	180
08:00	*	*	67	216	65	204	*	*	*	*	*	*	*	*	66	210
09:00	*	*	54	131	61	136	*	*	*	*	*	*	*	*	58	134
10:00	31	119	63	132	22	56	*	*	*	*	*	*	*	39	102	
11:00	53	136	46	131	*	*	*	*	*	*	*	*	*	50	134	
12:00 PM	67	172	74	166	*	*	*	*	*	*	*	*	*	70	169	
01:00	46	117	50	130	*	*	*	*	*	*	*	*	*	48	124	
02:00	57	183	40	156	*	*	*	*	*	*	*	*	*	48	170	
03:00	52	257	32	254	*	*	*	*	*	*	*	*	*	42	256	
04:00	56	281	58	358	*	*	*	*	*	*	*	*	*	57	320	
05:00	43	359	48	338	*	*	*	*	*	*	*	*	*	46	348	
06:00	39	233	38	291	*	*	*	*	*	*	*	*	*	38	262	
07:00	19	86	16	110	*	*	*	*	*	*	*	*	*	18	98	
08:00	21	69	16	75	*	*	*	*	*	*	*	*	*	18	72	
09:00	18	44	17	51	*	*	*	*	*	*	*	*	*	18	48	
10:00	8	25	13	31	*	*	*	*	*	*	*	*	*	10	28	
11:00	8	18	7	16	*	*	*	*	*	*	*	*	*	8	17	
Lane	518	2099	708	2811	219	641	0	0	0	0	0	0	0	0	704	2727
Day	2617		3519		860		0		0		0		0		3431	
AM Peak	11:00	11:00	08:00	08:00	08:00	08:00	-	-	-	-	-	-	-	-	08:00	08:00
Vol.	53	136	67	216	65	204	-	-	-	-	-	-	-	-	66	210
PM Peak	12:00	17:00	12:00	16:00	-	-	-	-	-	-	-	-	-	-	12:00	17:00
Vol.	67	359	74	358	-	-	-	-	-	-	-	-	-	-	70	348
Comb. Total	2617		3519		860		0		0		0		0		3431	
ADT	ADT 3,427		AADT 3,427		ADT 3,427		0		0		0		0		3431	

SPEEDS

Vanasse & Associates

35 New England Business Center Dr, Suite 140
Andover, MA 01810

Vanasse & Associates
Location: Heath Street
Location: East of Baldwin School
City: Brookline, MA

Site Code: 00799001

Eastbound		16	21	26	31	36	41	46	51	56	61	66	71	76	85th	95th
Start	Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total	Percent
10/03/18	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	29
	01:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	28
	02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*
	03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1	29
	04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	19
	05:00	0	1	2	4	1	1	0	0	0	0	0	0	0	9	33
	06:00	0	0	6	6	4	1	0	0	0	0	0	0	0	17	33
	07:00	3	1	10	19	6	0	0	0	0	0	0	0	0	39	30
	08:00	1	2	12	39	11	0	0	0	0	0	0	0	0	65	30
	09:00	3	4	6	35	10	2	1	0	0	0	0	0	0	61	31
	10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	7	9	37	107	32	4	4	1	0	0	0	0	0	0	197	
Percent	3.6%	4.6%	18.8%	54.3%	16.2%	2.0%	2.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
AM Peak	07:00	09:00	08:00	08:00	08:00	09:00	09:00	09:00	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	08.00	
Vol.	3	4	12	39	11	2	2	1							65	
PM Peak																
Vol.																
Grand	41	78	325	729	229	18	18	3	0	0	0	0	0	0	1423	
Total																
Percent	2.9%	5.5%	22.8%	51.2%	16.1%	1.3%	1.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		

Statistics

- 10 MPH Pace Speed : 21-30 MPH
- Number in Pace : 1054
- Percent in Pace : 74.1%
- Number of Vehicles > 30 MPH : 250
- Percent of Vehicles > 30 MPH : 17.6%
- Mean Speed(Average) : 27 MPH

Vanasse & Associates

35 New England Business Center Dr, Suite 140
Andover, MA 01810

Vanasse & Associates
Location: Heath Street
Location: East of Baldwin School
City: Brookline, MA

Site Code: 00799001

Westbound		1	16	21	26	31	36	41	46	51	56	61	66	71	76	85th	95th
Start	Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Percent	Percent
10/03/18	0	0	0	2	4	4	0	0	0	0	0	0	0	0	0	10	34
	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	34
	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	29	29
	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	29	29
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
	0	2	1	1	5	1	0	0	0	0	0	0	0	0	9	29	32
	0	2	6	14	14	15	1	0	0	0	0	0	0	0	38	33	34
	1	5	13	96	96	58	9	0	0	0	0	0	0	0	182	33	34
	2	3	14	116	116	65	4	0	0	0	0	0	0	0	204	32	34
	1	8	14	69	69	38	5	1	0	0	0	0	0	0	136	33	34
	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	5	20	50	307	307	183	19	1	0	0	0	0	0	0	0	585	
Percent	0.9%	3.4%	8.5%	52.5%	31.3%	3.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
AM Peak	08:00	09:00	08:00	08:00	08:00	08:00	07:00	09:00								08:00	
Vol.	2	8	14	116	116	65	9	1								204	
PM Peak																	
Vol.																	
Grand Total	30	115	849	2914	2914	1442	139	6	0	0	0	0	0	0	0	5495	
Percent	0.5%	2.1%	15.5%	53.0%	26.2%	2.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
15th Percentile	24 MPH																
50th Percentile	28 MPH																
85th Percentile	32 MPH																
95th Percentile	34 MPH																
10 MPH Pace Speed	26-35 MPH																
Number in Pace	4356																
Percent in Pace	79.3%																
Number of Vehicles > 30 MPH	1587																
Percent of Vehicles > 30 MPH	28.9%																
Mean Speed(Average)	28 MPH																

Statistics

Accurate Counts
978-664-2565

Location : Hammond Street
Location : North of Glance Road
City/State: Brookline, MA

7990SPD1

NB, SB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
10/02/18	0	0	1	3	12	19	6	1	0	0	0	0	0	0	42
01:00	0	0	0	2	10	7	3	1	0	0	0	0	0	0	23
02:00	0	0	0	1	6	7	3	1	0	0	0	0	0	0	18
03:00	0	0	0	0	6	3	2	1	1	1	0	0	0	0	14
04:00	0	0	0	0	8	8	9	1	0	0	1	0	0	0	27
05:00	2	1	3	9	38	63	23	9	0	0	0	0	0	0	148
06:00	1	6	1	21	123	192	100	18	1	0	0	0	0	0	463
07:00	2	5	28	96	251	354	152	21	7	1	0	0	0	0	917
08:00	4	5	14	84	354	325	88	8	1	0	0	0	0	0	881
09:00	2	5	9	80	248	283	142	26	2	0	0	0	0	0	797
10:00	0	2	4	45	182	311	134	22	4	0	0	0	0	0	704
11:00	0	4	13	38	149	278	102	18	2	0	0	0	0	0	602
12 PM	0	1	10	41	195	267	110	18	3	0	1	0	0	0	644
13:00	1	4	12	40	192	297	130	13	0	0	0	0	0	0	689
14:00	0	4	3	42	250	317	146	22	0	1	0	0	0	0	785
15:00	3	5	8	71	332	415	142	16	2	1	0	0	0	0	995
16:00	1	1	4	62	313	459	176	37	1	0	0	0	0	0	1054
17:00	6	3	22	104	413	443	129	16	3	0	0	0	0	0	1139
18:00	3	4	4	78	372	360	91	12	1	0	0	0	0	0	925
19:00	2	2	7	86	251	195	55	9	1	0	0	0	0	0	608
20:00	1	1	1	33	148	182	51	6	0	0	0	0	0	0	423
21:00	0	2	0	33	117	112	21	3	0	0	0	0	0	0	288
22:00	0	2	0	23	66	81	22	5	2	1	0	0	0	0	202
23:00	1	3	0	14	29	41	21	5	1	0	0	0	0	0	115
Total	29	60	144	1006	4065	5019	1856	285	32	5	2	0	0	0	12503

Daily
 15th Percentile : 30 MPH
 50th Percentile : 35 MPH
 85th Percentile : 40 MPH
 95th Percentile : 44 MPH
 Mean Speed(Average) : 36 MPH
 10 MPH Pace Speed : 31-40 MPH
 Number in Pace : 9064
 Percent in Pace : 72.7%
 Number of Vehicles > 35 MPH : 7199
 Percent of Vehicles > 35 MPH : 57.6%

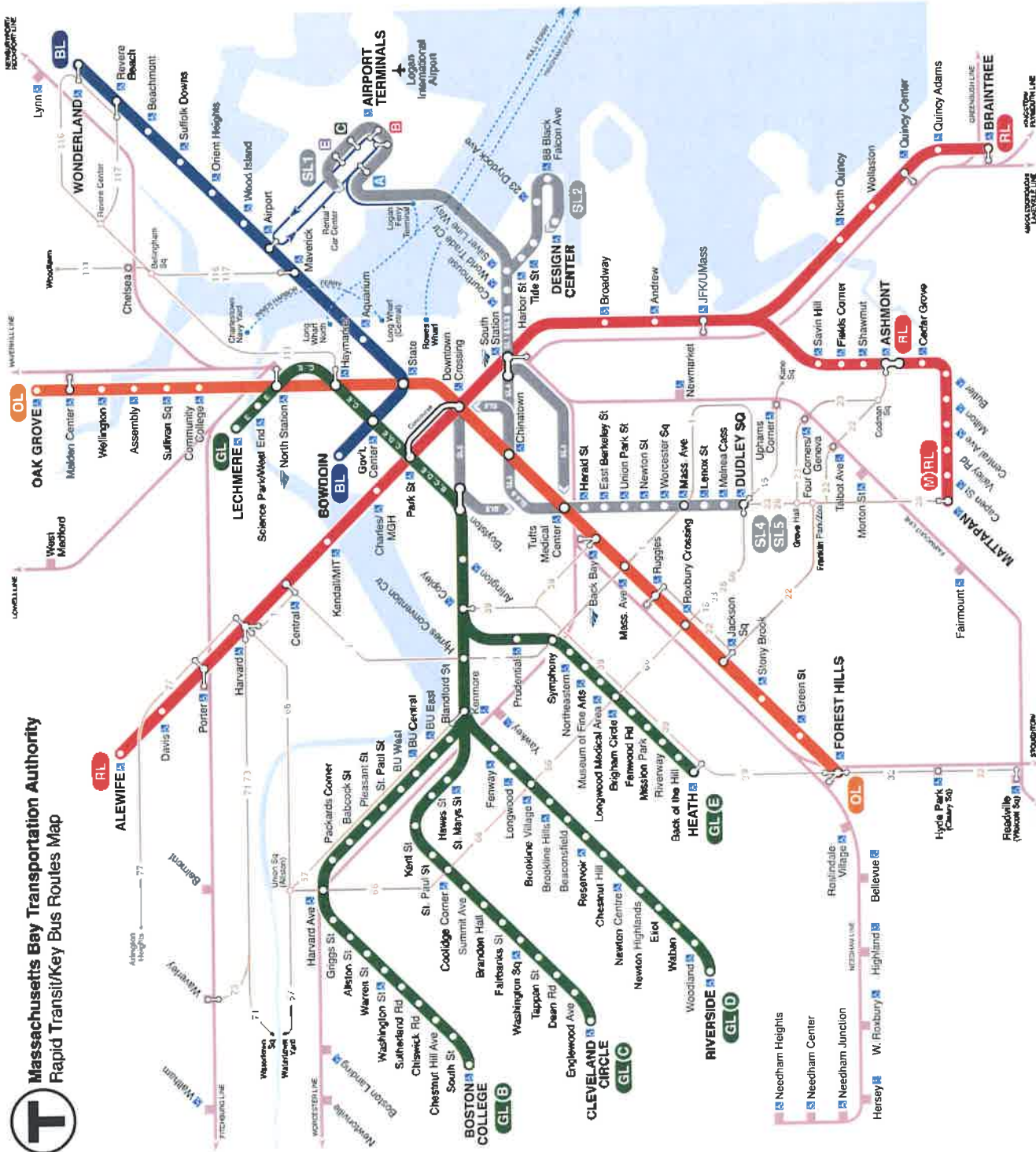
Grand Total	29	60	144	1006	4065	5019	1856	285	32	5	2	0	0	0	12503
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Overall
 15th Percentile : 30 MPH
 50th Percentile : 35 MPH
 85th Percentile : 40 MPH
 95th Percentile : 44 MPH
 Mean Speed(Average) : 36 MPH
 10 MPH Pace Speed : 31-40 MPH
 Number in Pace : 9064
 Percent in Pace : 72.7%
 Number of Vehicles > 35 MPH : 7199
 Percent of Vehicles > 35 MPH : 57.6%

TRANSIT INFORMATION



Massachusetts Bay Transportation Authority Rapid Transit/Key Bus Routes Map



Legend

- RL** RED LINE
- SL** SILVER LINE and branches
- GL** GREEN LINE and branches
- OL** ORANGE LINE
- BL** BLUE LINE
- MATTAPAN** MATTAPAN LINE
- COMMUTER RAIL** COMMUTER RAIL
- KEY BUS ROUTE** KEY BUS ROUTE
- FERRY** FERRY

- Accessible station** Accessible station
- Rapid Transit transfer station** Rapid Transit transfer station
- Commuter Rail transfer station** Commuter Rail transfer station
- Transfer at Park St** Transfer at Park St
- Transfer at South Station** Transfer at South Station
- Transfer at North Station** Transfer at North Station
- Transfer at Downtown Crossing** Transfer at Downtown Crossing
- Transfer at South Bay** Transfer at South Bay
- Transfer at South Shore** Transfer at South Shore
- Transfer at South Coast** Transfer at South Coast
- Transfer at South Bay** Transfer at South Bay
- Transfer at South Shore** Transfer at South Shore
- Transfer at South Coast** Transfer at South Coast

- Free Logan Airport shuttle bus** Free Logan Airport shuttle bus
- Airlink service** Airlink service
- System Accessible to Senior Only** System Accessible to Senior Only
- Customer Communications & Travel Info** Customer Communications & Travel Info
- MFTA Transit Police: 911** MFTA Transit Police: 911
- Elevator/escalator/lift updates: 800-382-5100** Elevator/escalator/lift updates: 800-382-5100

T Fares

PRICE PER TRIP	Local Bus	Bus + Bus	Rapid Transit	Bus + Rapid Transit
CharlieCard	\$1.70	\$1.70	\$2.25	\$2.25
CharlieTicket	\$2.00	\$2.00	\$2.75	\$4.75***
Cash-on-Board	\$2.00	\$4.00	\$2.75	\$4.75***
Student/Youth*	\$0.85	\$0.85	\$1.10	\$1.10
Senior/TAP**	\$0.85	\$0.85	\$1.10	\$1.10
UNLIMITED TRIP PASSES				
1-Day	\$12.00	\$12.00	\$12.00	\$12.00
7-Day	\$21.25	\$21.25	\$21.25	\$21.25
Monthly	\$55.00	\$55.00	\$84.50	\$84.50
Senior/TAP Monthly \$30.00/month for unlimited travel on Local Bus and Rapid Transit				

VALID PASSES: LinkPass (\$84.50/mo.); Student/Youth LinkPass* (\$30/mo.); Senior/TAP LinkPass* (\$30/mo.); and express bus, commuter rail, and boat passes.

FREE FARES: Children 11 and under ride free when accompanied by an adult; Blind Access CharlieCard holders ride free: if using a guide, the guide rides free

* Requires Student CharlieCard or Youth CharlieCard. Student CharlieCards are available to students through participating middle schools and high schools. Youth CharlieCards are available through community partners in the Boston metro area. Visit www.mbta.com/youthpass for details.

** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

*** For Silver Line SL4 or SL5 pay \$2.75. Also see "transfers."

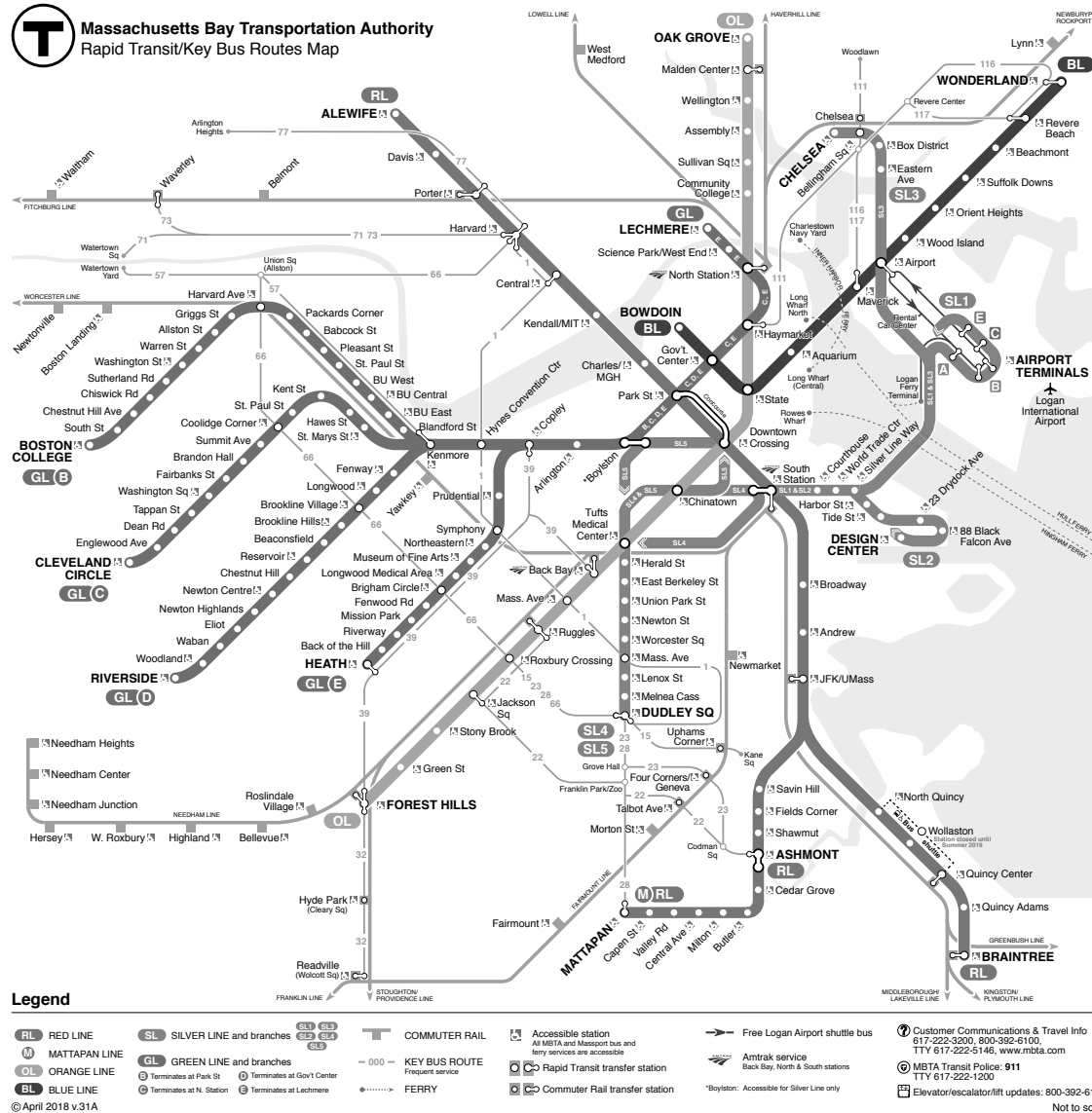
TRANSFERS

If paying with a CharlieTicket or CharlieCard, discounted transfers that are available are automatic — just use the same ticket or card throughout your trip. If paying with cash onboard a vehicle, free transfers are only allowed between rapid transit lines and inside paid platform areas at gated stations.

SCHEDULES

Schedules are available at the following stations: Park Street, Airport, Malden, Harvard, Haymarket (Green Line Level), Back Bay, Downtown Crossing (Orange Line Level), and Quincy Center, or ask a Customer Service Agent. Schedules are also available at the State Transportation Building (10 Park Plaza), 45 High St, and online at mbta.com.

T Massachusetts Bay Transportation Authority Rapid Transit/Key Bus Routes Map



Rapid Transit

Effective September 2, 2018



T Massachusetts Bay Transportation Authority *massDOT*
Massachusetts Department of Transportation

Information 617-222-3200 • 1-800-392-6100
(TTY) 617-222-5146 • www.mbta.com

Rapid Transit Line	Weekday							Saturday					Sunday						
	First Trip	AM Peak	Midday	PM Peak	Evening	Late Night	Last Trip	First Trip	AM Peak	PM Peak	Evening	Late Night	Last Trip	First Trip	AM Peak	PM Peak	Evening	Late Night	Last Trip
Red Line																			
Alewife Braintree*	5:24AM	9 min	14 min	9 min	12 min	12 min	12:15AM	5:24AM	14 min	14 min	14 min	14 min	12:15AM	6:08AM	15 min	15 min	15 min	16 min	12:15AM
	5:13AM	9 min	14 min	9 min	12 min	12 min	12:17AM	5:15AM	14 min	14 min	14 min	14 min	12:17AM	6:00AM	15 min	15 min	15 min	16 min	12:17AM
Alewife Ashmont	5:16AM	9 min	14 min	9 min	12 min	12 min w	12:22AM	5:16AM	14 min	14 min	14 min	14 min w	12:22AM	6:00AM	15 min	15 min	15 min	16 min	w 12:22AM
	5:16AM	9 min	14 min	9 min	12 min	12 min w	12:30AM	5:16AM	14 min	14 min	14 min	14 min w	12:30AM	6:00AM	15 min	15 min	15 min	16 min	w 12:30AM
"M" Ashmont Mattapan	5:17AM	5 min	8 min	5 min	12 min	12 min w	1:05AM	5:15AM	26 min	12 min	12 min	26 min w	1:05AM	6:03AM	26 min	12 min	12 min	26 min	w 1:05AM
	5:05AM	5 min	8 min	5 min	12 min	12 min	12:53AM	5:05AM	26 min	12 min	12 min	26 min	12:53AM	5:51AM	26 min	12 min	12 min	26 min	12:53AM
Blue Line																			
Wonderland	5:13AM	5 min	9 min	5 min	9 min	9 min	12:28AM	5:25AM	9 min	9 min	9 min	13 min	12:28AM	5:58AM	13 min	9 min	9 min	13 min	12:28AM
Orient Heights	5:13AM	5 min	9 min	5 min	9 min	9 min	12:33AM	5:13AM	9 min	9 min	9 min	13 min	12:33AM	6:03AM	13 min	9 min	9 min	13 min	12:33AM
Bowdoin	5:29AM	5 min	9 min	5 min	9 min	9 min	w 1:00AM	5:29AM	9 min	9 min	9 min	13 min	w 1:00AM	6:21AM	13 min	9 min	9 min	13 min	w 1:00AM
Orange Line																			
Oak Grove	5:16AM	6 min	9 min	6 min	10 min	10 min w	12:30AM	5:16AM	10 min	9 min	11 min	11 min w	12:30AM	6:00AM	13 min	11 min	11 min	11 min	w 12:30AM
Forest Hills	5:16AM	6 min	9 min	6 min	10 min	10 min w	12:28AM	5:16AM	10 min	9 min	11 min	11 min w	12:28AM	6:00AM	13 min	11 min	11 min	11 min	w 12:28AM
Green Line																			
B Boston College Park Street	5:01AM	6 min	8 min	6 min	8 min	9 min	12:10AM	4:45AM ²	11 min	7 min	7 min	11 min	12:09AM	5:20AM ²	12 min	9 min	7 min	10 min	12:10AM
	5:42AM	6 min	8 min	6 min	8 min	9 min	w 12:52AM	5:40AM	11 min	7 min	7 min	11 min	w 12:52AM	6:12AM	12 min	9 min	7 min	10 min	w 12:52AM
C Cleveland Circle North Station	5:01AM ¹	6 min	9 min	7 min	7 min	10 min	12:10AM	4:50AM ²	10 min	9 min	8 min	10 min	12:10AM	5:30AM ²	12 min	11 min	9 min	12 min	12:10AM
	5:55AM	6 min	9 min	7 min	7 min	10 min	w 12:46AM	5:30AM	10 min	9 min	8 min	10 min	w 12:46AM	6:06AM	12 min	11 min	9 min	12 min	w 12:46AM
D Riverside Government Ctr.	4:56AM	6 min	8 min	6 min	8 min	11 min	12:05AM	4:55AM	13 min	9 min	8 min	10 min	12:02AM	5:25AM	13 min	11 min	11 min	11 min	12:05AM
	5:41AM	6 min	8 min	6 min	8 min	11 min	w 12:49AM	5:38AM	13 min	9 min	8 min	10 min	w 12:49AM	6:10AM	13 min	11 min	11 min	11 min	w 12:49AM
E Lechmere Heath Street	5:01AM	6 min	8 min	6 min	9 min	9 min	12:30AM	5:01AM	11 min	9 min	11 min	11 min	12:30AM	5:35AM	12 min	12 min	12 min	12 min	12:30AM
	5:38AM	6 min	8 min	6 min	9 min	9 min	12:47AM ³	5:39AM	11 min	9 min	11 min	11 min	12:47AM ³	6:15AM	12 min	12 min	12 min	12 min	12:47AM ³
Silver Line																			
SL1 Logan Airport South Station	5:38AM	8 min	9 min	10 min	9 min	12 min	f 2:30AM	5:33AM	12 min	12 min	12 min	12 min	f 2:30AM	5:50AM	12 min	8 min	8 min	8 min	f 2:30AM
	5:40AM	8 min	9 min	10 min	9 min	12 min	1:00AM	5:35AM	12 min	12 min	12 min	12 min	1:00AM	6:12AM	12 min	8 min	8 min	8 min	1:00AM
SL2 Design Center South Station	6:03AM	5 min	10 min	5 min	9 min	15 min	12:30AM	6:10AM	15 min	15 min	15 min	15 min	12:35AM	6:50AM	15 min	15 min	15 min	15 min	12:34AM
	5:45AM	5 min	10 min	5 min	9 min	15 min	12:50AM	5:50AM	15 min	15 min	15 min	15 min	12:49AM	6:35AM	15 min	15 min	15 min	15 min	12:48AM
SL3 Chelsea Station South Station	5:00AM	12 min	15 min	12 min	12 min	15 min	f 1:22AM	5:30AM	12 min	12 min	15 min	15 min	f 1:25AM	6:30AM	15 min	15 min	15 min	15 min	f 1:25AM
	4:31AM	12 min	15 min	12 min	12 min	15 min	w 12:55AM	4:53AM	12 min	12 min	15 min	15 min	w 12:55AM	5:53AM	15 min	15 min	15 min	15 min	w 12:55AM
SL4 Dudley Station South Station	5:20AM	12 min	16 min	14 min	12 min	19 min	12:20AM	5:23AM	15 min	15 min	15 min	20 min	12:20AM	6:02AM	15 min	15 min	15 min	20 min	12:20AM
	5:35AM	12 min	16 min	14 min	12 min	19 min	x 2:54AM	5:40AM	15 min	15 min	15 min	20 min	x 2:54AM	6:20AM	15 min	15 min	15 min	20 min	x 2:54AM
SL5 Dudley Station Downtown Xing	5:15AM	8 min	10 min	8 min	7 min	17 min	12:53AM	5:19AM	10 min	10 min	11 min	11 min	12:46AM	6:00AM	10 min	8 min	9 min	9 min	12:25AM
	5:32AM	8 min	10 min	8 min	7 min	17 min	w 1:07AM	5:34AM	10 min	10 min	11 min	11 min	w 1:00AM	6:15AM	10 min	8 min	9 min	9 min	w 12:47AM

Schedule Periods (approximate):

AM Rush Hour: 6:30 AM - 9:00 AM
 Midday: 9:00 AM - 3:30 PM
 PM Rush Hour: 3:30 PM - 6:30 PM
 Evening: 6:30 PM - 8:00 PM
 Late Night: 8:00 PM - CLOSE

Red Line Note:

*Braintree Line:
 Due to construction on Wollaston Station the station will be closed. During construction shuttle buses will operate between Wollaston, North Quincy, and Quincy Center Stations. Please visit mbta.com/alerts for updated service information.

Mattapan Note:

Saturday and Sunday before 10:00 AM and after 8:00 PM trips depart every 26 minutes and the rest of the day every 12 minutes. Also, see Mattapan Line Schedule Card.

Green Line Notes:

- 1 - The first two C Line AM inbound trips run through to Lechmere Station on weekdays.
- 2 - The first B Line and second C Line AM inbound trips run through to Lechmere Station on weekends.
- 3 - The 12:32AM trip from Heath St is the last connecting train to other lines downtown. The 12:47AM trip from Heath St. runs in service to Lechmere with no guaranteed connections.

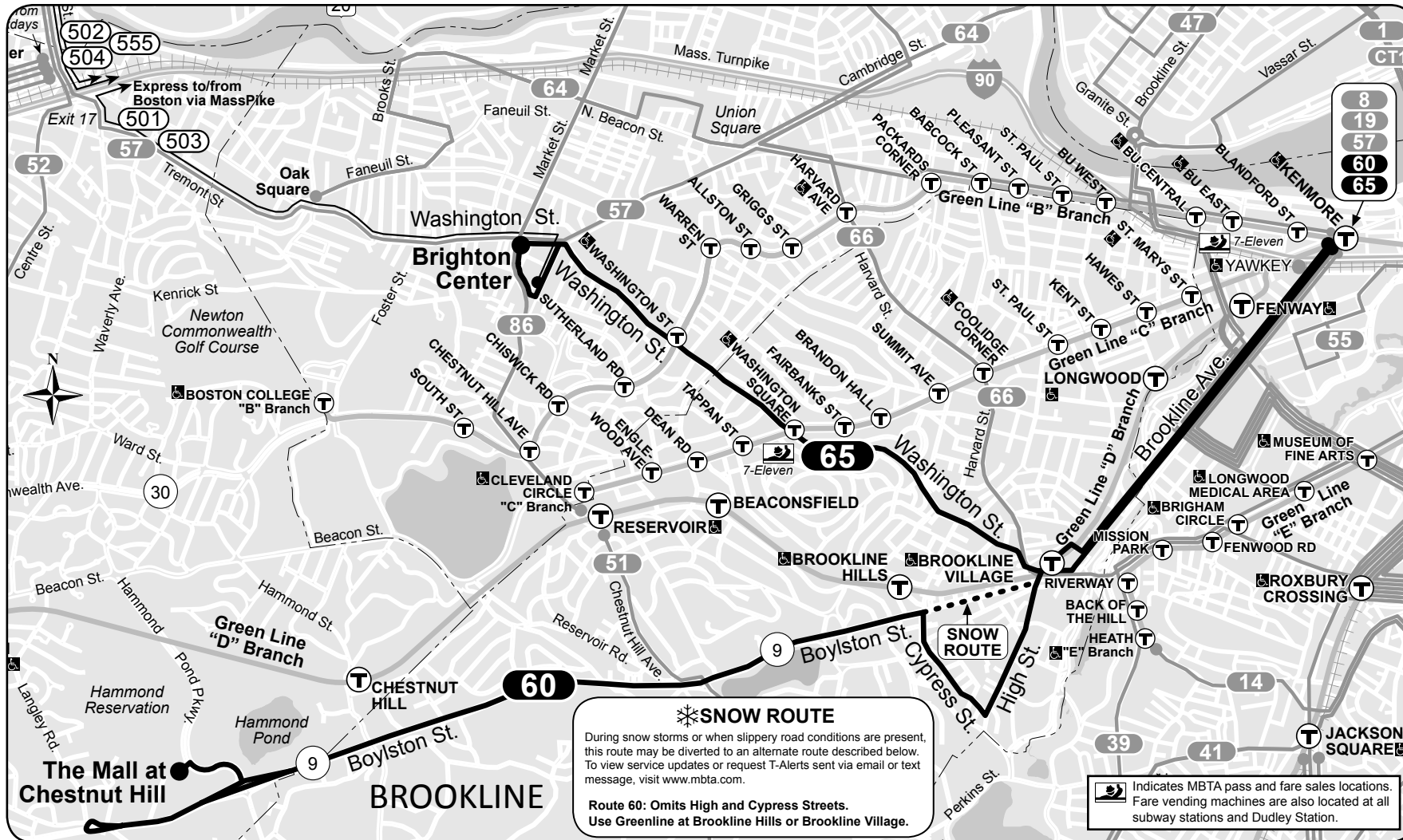
f - After exiting Ted Williams Tunnel bus will only service World Trade Center and South Station stops.

w - Last trips wait at some stations, primarily in the Downtown area, for connecting service. Departure times are approximate.

x - Trip departs from Summer St. @ Dorchester Ave. and omits Essex Street stop.

Fall 2018 & Winter 2019 Holidays
 9/3/18: see Sunday 10/8/18: see Weekday
 11/22/18, 12/25/18, 1/1/19: see Sunday
 1/21/19 & 2/18/19: see Saturday
 Silver Line see Weekday

Route 60 Chestnut Hill - Kenmore Station
Route 65 Brighton Center - Kenmore Station



60•65

Effective September 2, 2018

60 Chestnut Hill-Kenmore Station
65 Brighton Center-Kenmore Station

Serving

- The Mall at Chestnut Hill
- St. Elizabeth's Medical Center
- Brookline Village
- Longwood Medical Area
- Beth Israel Deaconess Medical Center
- Fenway Park
- Green Line



Massachusetts Bay Transportation Authority *massDOT*
 Massachusetts Department of Transportation

Information 617-222-3200 • 1-800-392-6100
 (TTY) 617-222-5146 • www.mbta.com

CRASH DATA

MassDOT

CRASH RATE WORKSHEET

CITY/TOWN : Brookline COUNT DATE : 2016
 DISTRICT : 6 UNSIGNALIZED : SIGNALIZED : Yes

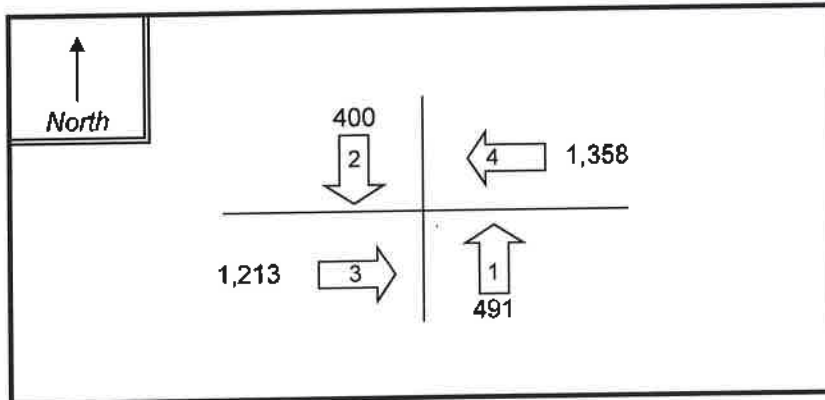
MHD USE ONLY
 Source #

~ INTERSECTION DATA ~

MAJOR STREET : Boylston Street
 MINOR STREET(S) : Hammond Street

ST #
 ST #
 ST #
 ST #
 ST #

INTERSECTION
 DIAGRAM
 (Label Approaches)



INTERSECTION
 REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (AM/PM) :	491	400	1,213	1,358		3,462

"K" FACTOR : APPROACH ADT : ADT = TOTAL VOL"K" FACT.
Crash rate and >0.71

TOTAL # OF ACCIDENTS : # OF YEARS : AVERAGE # OF ACCIDENTS (A) :

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(ADT * 365)}$

Comments : Crash rate is significant if > 0.52 crashes per mev for an unsignalized intersection and >0.71 crashes per mev for a signalized intersection for MassDOT District 6.

MassDOT

CRASH RATE WORKSHEET

CITY/TOWN : Brookline COUNT DATE : 2016
 DISTRICT : 6 UNSIGNALIZED : SIGNALIZED : Yes

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Hammond Street

ST #

MINOR STREET(S) : Heath Street

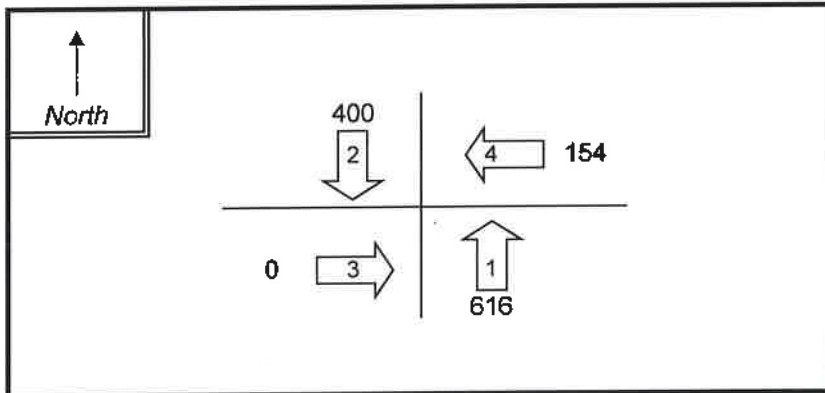
ST #

ST #

ST #

ST #

**INTERSECTION
DIAGRAM**
(Label Approaches)



INTERSECTION

REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (AM/PM) :	616	400	0	154		1,170

"K" FACTOR : APPROACH ADT : ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : # OF YEARS : AVERAGE # OF ACCIDENTS (A) :

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(ADT * 365)}$

Comments : Crash rate is significant if > 0.52 crashes per mev for an unsignalized intersection and > 0.71 crashes per mev for a signalized intersection for MassDOT District 6.

MassDOT

CRASH RATE WORKSHEET

CITY/TOWN : Brookline COUNT DATE : 2016
 DISTRICT : 6 UNSIGNALIZED : Yes SIGNALIZED :

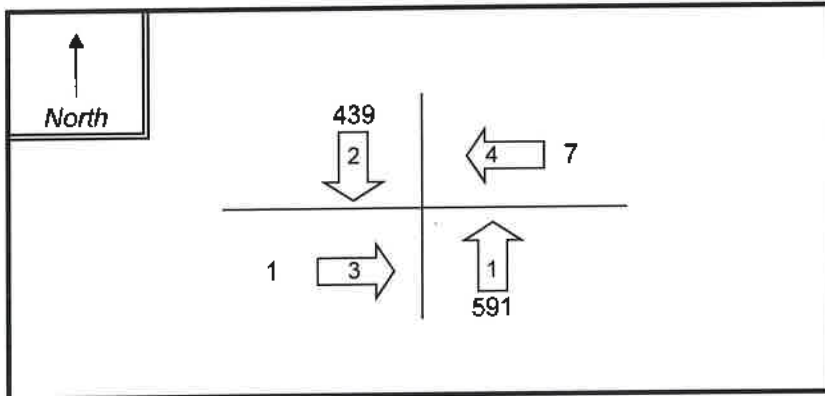
MHD USE ONLY
 Source #

~ INTERSECTION DATA ~

MAJOR STREET : Hammond Street
 MINOR STREET(S) : Soule Rec Driveway

ST #
 ST #
 ST #
 ST #
 ST #

**INTERSECTION
 DIAGRAM**
 (Label Approaches)



INTERSECTION
 REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (AM/PM) :	591	439	1	7		1,038

"K" FACTOR : APPROACH ADT : ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : # OF YEARS : AVERAGE # OF ACCIDENTS (A) :

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(ADT * 365)}$

Comments : Crash rate is significant if > 0.52 crashes per mev for an unsignalized intersection and >0.71 crashes per mev for a signalized intersection for MassDOT District 6.

MassDOT

CRASH RATE WORKSHEET

CITY/TOWN: Brookline COUNT DATE: 2016
 DISTRICT: 6 UNSIGNALIZED: Yes SIGNALIZED:

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET: Hammond Street
 MINOR STREET(S): Woodland Road

ST #

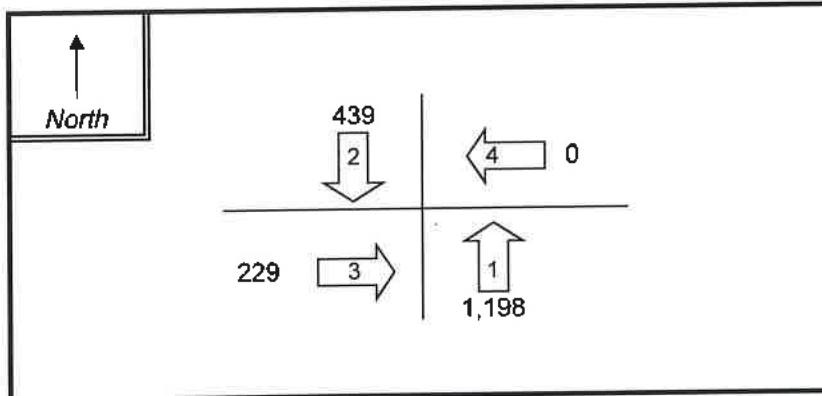
ST #

ST #

ST #

ST #

**INTERSECTION
 DIAGRAM**
 (Label Approaches)



INTERSECTION
 REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (AM/PM) :	1,198	439	229	0		1,866

"K" FACTOR: APPROACH ADT: ADT = TOTAL VOL*"K" FACT.

TOTAL # OF ACCIDENTS: # OF YEARS: AVERAGE # OF ACCIDENTS (A):

CRASH RATE CALCULATION: RATE = $\frac{(A * 1,000,000)}{(ADT * 365)}$

Comments: Crash rate is significant if > 0.52 crashes per mev for an unsignalized intersection and > 0.71 crashes per mev for a signalized intersection for MassDOT District 6.

MassDOT

CRASH RATE WORKSHEET

CITY/TOWN : Brookline COUNT DATE : 2016
 DISTRICT : 6 UNSIGNALIZED : Yes SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Heath Street

ST #

MINOR STREET(S) : Dunster Street

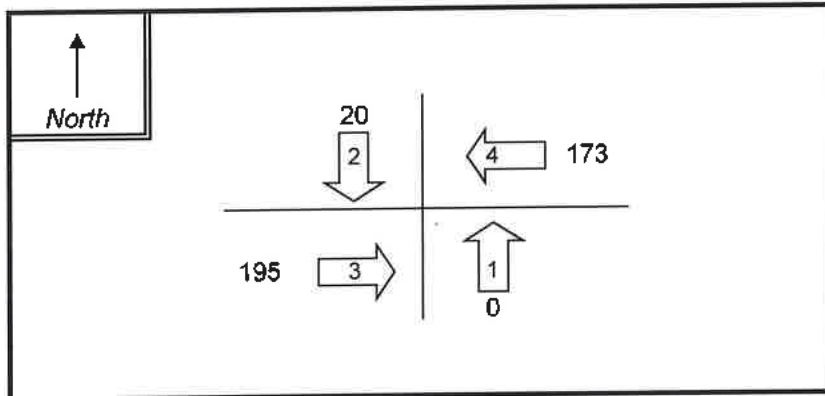
ST #

ST #

ST #

ST #

**INTERSECTION
DIAGRAM
(Label Approaches)**



INTERSECTION

REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (AM/PM) :	0	20	195	173		388

"K" FACTOR : APPROACH ADT : ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : # OF YEARS : AVERAGE # OF ACCIDENTS (A) :

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(ADT * 365)}$

Comments : Crash rate is significant if > 0.52 crashes per mev for an unsignalized intersection and >0.71 crashes per mev for a signalized intersection for MassDOT District 6.

MassDOT

CRASH RATE WORKSHEET

CITY/TOWN : Brookline COUNT DATE : 2016
 DISTRICT : 6 UNSIGNALIZED : Yes SIGNALIZED :

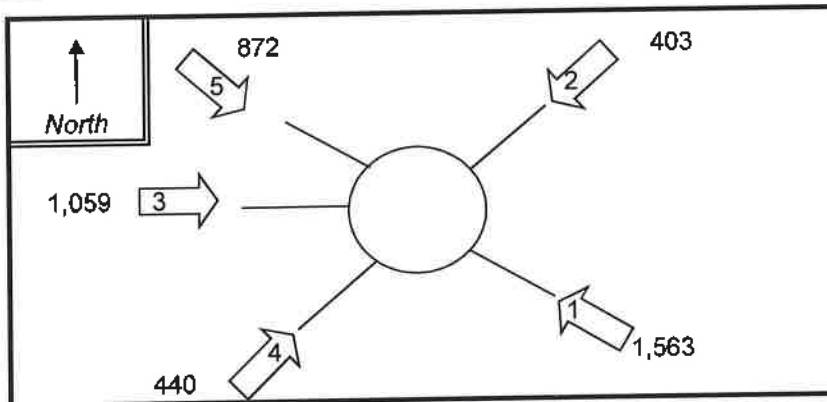
MHD USE ONLY
 Source #

~ INTERSECTION DATA ~

MAJOR STREET : Hammond Pond Parkway
 MINOR STREET(S) : Hammond Street
Newton Street (West)
LeGrange Street
Newton Street (South)

ST #
 ST #
 ST #
 ST #
 ST #

**INTERSECTION
 DIAGRAM**
 (Label Approaches)



INTERSECTION
 REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	NEB	SEB	
VOLUMES (AM/PM) :	1,563	403	1,059	440	872	4,337

"K" FACTOR : APPROACH ADT : ADT = TOTAL VOL*"K" FACT.

TOTAL # OF ACCIDENTS : # OF YEARS : AVERAGE # OF ACCIDENTS (A) :

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(ADT * 365)}$

Comments : Crash rate is significant if > 0.52 crashes per mev for an unsignalized intersection and > 0.71 crashes per mev for a signalized intersection for MassDOT District 6.

Crash Number	Crash Date	Crash Time	City/Town	Dist	Crash Severity	Maximum Injury Severity Reported	Manner of Collision	Vehicle Action Prior to Crash	Vehicle Travel Direction	First Harmful Event Location	Vehicle Sequence of Events	Driver Contributing Codes	Road Surface	Ambient Light	Wind or Condition	Street Number	Roadway	Intersection Roadway/Landmarker	Traffic Way	Speed Limit	roadway Intersecting Type	Traffic Control Device Type	Traffic Device Functioning	Schoolbus Related	Gooding Method
Boylston Street at Hammond Street																									
4784512	10/14/2016	8:45 PM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Non-incapacitating	Single vehicle crash	V1: Travelling straight ahead	V1:W	Roadway	V1:(Collision with pedestrian)	D1:(No improper driving)	Dry	Dark - lighted roadway	Clear		BOYLSTON ST Rte 9 E / HAMMOND ST		Two-way, divided, positive median barrier	40	Four-way intersection	Traffic control signal	Yes, device functioning	No, school bus not involved	At Intersection
4784512	11/14/2016	10:05 AM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Possible	Sideswipe, same direction	V1: Changing lanes / V2: Travelling straight ahead	V1:W / V2:W	Roadway	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	D1:(Failed to yield right of way) D2:(No improper driving)	Dry	Daylight	Clear		BOYLSTON STREET Rte 9 W / HAMMOND STREET		Two-way, divided, positive median barrier	40	Four-way intersection	Traffic control signal	Yes, device functioning	No, school bus not involved	At Intersection
4784510	12/15/2016	12:10 PM	BROOKLINE	6	Not Reported	Not reported	Not reported	V1: Turning right	V1:W	Not reported	V1:(Collision with motor vehicle in traffic)	D1:()	Dry	Daylight	Clear		HAMMOND STREET / BOYLSTON STREET Rte 9 W		Two-way, divided, positive median barrier	40	Four-way intersection	Traffic control signal	Yes, device functioning	Operator Designated	
4784512	12/23/2016	4:15 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:W / V2:W	Roadway	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	D1:(Fatigued/asleep) D2:(No improper driving)	Dry	Dusk - lighted roadway	Clear	1220	BOYLSTON STREET Rte 9 E		Two-way, divided, positive median barrier	30	Not at junction	Traffic control signal	Yes, device functioning	No, school bus not involved	At Intersection
4784510	12/5/2016	7:30 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic / V3: Travelling straight ahead	V1:E / V2:E / V3:E	Roadway	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic) V3:(Collision with motor vehicle in traffic)	D1:(No improper driving) D2:(No improper driving) D3:(Followed too closely)	Dry	Dark - lighted roadway	Clear		BOYLSTON STREET Rte 9 E		Two-way, divided, positive median barrier	30	Not at junction	Traffic control signal	Yes, device functioning	No, school bus not involved	At Address
Hammond Street at Heath Street																									
4784511	7/29/2013	6:00 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, opposite direction	V1: Travelling straight ahead / V2: Travelling straight ahead / V3: Travelling straight ahead	V1:S / V2:W / V3:N	Roadway	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic) V3:(Collision with motor vehicle in traffic)	D1:(No improper driving) D2:(Visibility obstructed) D3:(No improper driving)	Dry	Daylight	Clear		HEATH STREET	HAMMOND D STREET	Two-way, not divided	30	Four-way intersection	Traffic control signal	Yes, device functioning	No, school bus not involved	At Intersection
4784512	10/6/2015	8:58 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Turning left / V2: Travelling straight ahead	V1:W / V2:W	Roadway	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	D1:(No improper driving) D2:(Disregarded traffic signs, signals, road markings)	Dry	Dark - lighted roadway	Clear		HAMMOND STREET / HEATH STREET		Two-way, not divided	30	Four-way intersection	Traffic control signal	Yes, device functioning	No, school bus not involved	At Intersection
4784511	4/29/2016	3:03 PM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Non-incapacitating	Angle	V1: Travelling straight ahead / V2: Turning left	V1:W / V2:W	Roadway	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	D1:(No improper driving) D2:(Failed to yield right of way)	Dry	Daylight	Clear		HAMMOND STREET / HEATH STREET	CENTRAL CLEANERS	Two-way, not divided	30	Four-way intersection	Traffic control signal	Yes, device functioning	No, school bus not involved	At Intersection
Heath Street at Dunster Road																									
4784511	2/26/2014	8:17 AM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Possible	Angle	V1: Travelling straight ahead / V2: Entering traffic lane	V1:N / V2:W	Roadway	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic) V3:(Collision with motor vehicle in traffic)	D1:(No improper driving) D2:(Failed to yield right of way) D3:(Inattention)	Dry	Daylight	Clear	652	HAMMOND ST		Two-way, divided, unpruned median	35	Not at junction	No controls	Not reported	No, school bus not involved	At Address
4784511	9/30/2015	9:54 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Backing / V2: Parked	V1:W / V2:W	Outside roadway	V1:(Collision with parked motor vehicle) V2:(Collision with motor vehicle in traffic)	D3:(Inattention) D2:()	Wet	Daylight	Rain	652	HAMMOND ST		Two-way, not divided	15	Drive way	No controls	Not reported	No, school bus not involved	At Address
Hammond Street at Woodland Road																									
4784511	1/13/2012	5:10 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:W / V2:W	Roadway	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	D1:(No improper driving) D2:(No improper driving)	Dry	Dark - lighted roadway	Clear		WOODLAND ROAD / HAMMOND STREET		Two-way, not divided	35	Four-way intersection	No controls	Not reported	No, school bus not involved	At Intersection

Crash Number	Crash Date	Crash Time	City/Town	Dist	Crash Severity	Maximum Injury Severity Reported	Number of Collision	Vehicle Action Prior to Crash	Vehicle Travel Direction	Dist. Halted Event	Dist. Halted Event Location	Vehicle Sequence of Events	Driver Contributing Code(s)	Road Surface	Ambient Light	Weather Condition	Street Number	Roadway	Near Intersection Roadway/ Landmarker	Traffic Way	Speed Limit	Roadway Intersection Type	Traffic Control Device Type	Traffic Device Monitoring	Schedule Number	Geocoding Method
301342	1/12/2012	4:55 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Single vehicle crash	V1: Travelling straight ahead / V2: Travelling straight ahead	V1E / V2N	Collision with other	Shoulder - unpaved	V2: (Collision with fence)	D1: (No improper driving) D2: (No improper driving)	Dry	Dark - lighted roadway	Clear		HAMMOND STREET / WOODLAND ROAD		Two-way, not divided	35	Four-way intersection	No controls	Not reported	No, school bus not involved	At Intersection
348834	12/8/2012	11:23 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Not reported	V1: Travelling straight ahead / V2: Travelling straight ahead	V1N / V2E	Not reported	Not reported	V1: (Collision with motor vehicle in traffic)	D1: (Failed to yield right of way)	Wet	Daylight	Rain		HAMMOND STREET / WOODLAND ROAD		Not reported	35	Four-way intersection	Stop signs	Not reported	Not reported	At Intersection
361367	9/26/2013	5:30 PM	BROOKLINE	6	Non-fatal injury (non-injured)	Non-fatal injury - Non incapacitating	Head-on	V1: Entering traffic lane	V1E	Collision with motorcycle (bicycle, tricycle, unicycle, pedal car)	Roadway	V1: (Collision with cyclist)	D1: (Inattention)	Dry	Daylight	Clear		WOODLAND ROAD / HAMMOND STREET		Two-way, not divided	25	T-intersection	No controls	Not reported	No, school bus not involved	At Intersection
386548	1/4/2014	9:30 AM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Possible	Angle	V1: Travelling straight ahead / V2: Entering traffic lane	V1N / V2E	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic)		Wet	Daylight	Cloudy		HAMMOND STREET / WOODLAND ROAD		Two-way, not divided	35	Four-way intersection	Stop signs	Yes, device functioning	No, school bus not involved	At Intersection
383345	4/10/2014	5:00 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Making U-turn / V2: Travelling straight ahead / V3: Travelling straight ahead	V1N / V2N / V3N	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (No improper driving)	Dry	Daylight	Clear	794	HAMMOND ST		Two-way, not divided	35	Not at junction	No controls	Not reported	No, school bus not involved	At Address
407488	7/23/2014	3:25 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Possible	Single vehicle crash	V1: Turning right	V1N	Collision with tree	Outside roadway	V1: (Collision with tree)	D1: (Made an improper turn)	Dry	Daylight	Clear		HAMMOND ST / WOODLAND RD		Two-way, not divided	35	Four-way intersection	No controls	Not reported	No, school bus not involved	At Intersection
401491	11/10/2014	12:00 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Entering traffic lane	V1S / V2E	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HAMMOND STREET / WOODLAND ROAD		Two-way, not divided	0	T-intersection	No controls	Not reported	No, school bus not involved	At Intersection
407519	12/11/2014	6:28 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury	Angle	V1: Travelling straight ahead / V2: Turning left	V1S / V2E	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failed to yield right of way)	Wet	Dark - lighted roadway	Clear		HAMMOND ST / WOODLAND RD		Two-way, not divided	30	Four-way intersection	No controls	Not reported	No, school bus not involved	At Intersection
409361	10/7/2015	11:00 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Travelling straight ahead	V1N / V2B	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HAMMOND STREET / WOODLAND ROAD		Two-way, not divided	35	Four-way intersection	Stop signs	Yes, device functioning	No, school bus not involved	At Intersection
412644	12/27/2015	3:45 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Travelling straight ahead	V1N / V2E	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Dusk	Cloudy		HAMMOND ST / WOODLAND RD		Two-way, not divided	35	Four-way intersection	No controls	Not reported	No, school bus not involved	At Intersection
418258	4/27/2016	8:55 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Entering traffic lane	V1N / V2E	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HAMMOND ST / WOODLAND RD		Two-way, not divided	35	Four-way intersection	No controls	Not reported	No, school bus not involved	At Intersection
417321	8/18/2016	8:00 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1N / V2E	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic)	D1: (Collision with motor vehicle in traffic)	Dry	Daylight	Cloudy		HAMMOND ST / WOODLAND RD		Two-way, not divided	35	Not at junction	No controls	Not reported	No, school bus not involved	At Intersection
Heath Street at Dunster Road																										
407485	1/3/2014	1:27 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Single vehicle crash	V1: Travelling straight ahead	V1E	Collision with utility pole	Shoulder - paved	V1: (Collision with motor vehicle in traffic)	D1: (Visibility obstructed)	Ice	Daylight	Snow/Blowing sand,		HEATH ST / DUNSTER RD		Two-way, divided, unprotected median	30	Not at junction	No controls	Not reported	No, school bus not involved	At Intersection

Crash Number	Crash Date	Crash Time	City/Town	Bus	Crash Severity	Maximum Injury Severity Reported	Manner of Collision	Vehicle Action Prior to Crash	Vehicle Travel Directions	First Harmful Event	First Harmful Event Location	Vehicle Sequence of Events	Driver Contributing Codes	Road Surface	Ambient Light	Weather or Condition	Street Number	Roadway	Near Intersection/ Landmarker	Traffic Way	Speed Limit	Roadway Intersection Type	Traffic Control Device Type	Traffic Device Functioning	Schoolbus Related	Geocoding Method
286951	1/20/2012	3:45 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Single vehicle crash	V1: Travelling straight ahead	V1S	Collision with curb	Dulside roadway	V1:(Collision with curb);(Collision with trees)	D1:(Physical impairment)	Wet	Dark - lighted roadway	Snow		HAMMOND POND PARKWAY / HORACE JAMES CIRCLE /		Not reported	25	Traffic circle	Traffic control signal	Yes, device functioning	No, school bus not involved	At Intersection
309376	4/1/2012	10:35 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Single vehicle crash	V1: Travelling straight ahead	V1N	Collision with other light pole or other post/support	Roadside	V1:(an off road left);(pole with light pole or other post/support)	D1:(Sweeping or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway, etc)	Dry	Dark - lighted roadway	Cloudy		HORACE JAMES CIRCLE		One-way, not divided	25	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	Rotary
305894	4/25/2012	8:11 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Travelling straight ahead	V1N / V2N	Collision with motor vehicle in traffic	Roadway	V1:(Collision with motor vehicle in traffic); V2:(Collision with motor vehicle in traffic)	D1:(Failure to keep in proper lane or running off road); D2:(No improper driving)	Dry	Daylight	Cloudy		HAMMOND POND PARKWAY	HORACE JAMES CIRCLE	One-way, not divided	25	Traffic circle	No controls	Not reported	No, school bus not involved	Off Intersection
305357	3/28/2012	5:40 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Non-incapacitating	Rear-end	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1N / V2N	Collision with motor vehicle in traffic	Roadway	V1:(Collision with motor vehicle in traffic); V2:(Collision with motor vehicle in traffic)	D1:(Other improper action); D2:(No improper driving)	Dry	Daylight	Clear	24	LAGRANGE STREET		Two-way, not divided	30	Not reported	Stop signs	Not reported	No, school bus not involved	At Address
316655	7/11/2012	4:05 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1N / V2N	Collision with motor vehicle in traffic	Roadway	V1:(Collision with motor vehicle in traffic); V2:(Collision with motor vehicle in traffic)	D1:(No improper driving); D2:(No improper driving)	Dry	Daylight	Clear		LAGRANGE STREET / HORACE JAMES CIRCLE		Two-way, not divided	30	Traffic circle	No controls	No, device not functioning	No, school bus not involved	At Intersection
320333	10/12/2012	5:24 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, same direction	V1: Changing lanes / V2: Travelling straight ahead	V1W / V2W	Collision with motor vehicle in traffic	Roadway	V1:(Collision with motor vehicle in traffic); V2:(Collision with motor vehicle in traffic)	D1:(Failed to yield right of way); D2:(No improper driving)	Dry	Daylight	Clear		HORACE JAMES CIRCLE	HAMMOND STREET	One-way, not divided	30	Traffic circle	No controls	Not reported	No, school bus not involved	Off Intersection
327940	12/2/2012	3:35 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Non-incapacitating	Rear-end	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic / V3: Travelling straight ahead	V1S / V2S / V3S	Collision with motor vehicle in traffic	Roadway	V1:(Collision with motor vehicle in traffic); V2:(Collision with motor vehicle in traffic); V3:(Collision with motor vehicle in traffic)	D1:(No improper driving); D2:(No improper driving); D3:(Followed too closely)	Dry	Daylight	Clear	68	HAMMOND POND PARKWAY		Two-way, not divided	40	Traffic circle	No controls	Not reported	No, school bus not involved	At Address
332188	4/13/2013	6:15 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Single vehicle crash	V1: Travelling straight ahead	V1N	Collision with utility pole	Roadway	V1:(Collision with light pole or other post/support)	D1:(Exceeded authorized speed limit)	Wet	Dawn	Rain		HORACE JAMES CIRCLE / WEST ROXBURY PARKWAY		One-way, not divided	30	Traffic circle	No controls	Not reported	No, school bus not involved	Operator Designated
340377	4/26/2013	12:00 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Turning left / V2: Travelling straight ahead	V1W / V2S	Collision with motor vehicle in traffic	Roadway	V1:(Collision with motor vehicle in traffic); V2:(Collision with motor vehicle in traffic)	D1:(Other improper action)	Dry	Daylight	Clear	32	HAMMOND POND PARKWAY	HORACE JAMES CIRCLE	Two-way, not divided	35	Not at Junction	No controls	No, device not functioning	No, school bus not involved	Off Intersection
340386	5/3/2013	4:51 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Possible	Angle	V1: Travelling straight ahead / V2: Entering traffic lane	V1S / V2E	Collision with motor vehicle in traffic	Roadway	V1:(Collision with motor vehicle in traffic); V2:(Collision with motor vehicle in traffic)	D1:(No improper driving); D2:(Failed to yield right of way)	Dry	Daylight	Clear		HORACE JAMES CIRCLE / NEWTON STREET /		One-way, not divided	25	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection
342227	5/13/2013	7:05 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Possible	Sideswipe, same direction	V1: Turning left	V1E	Collision with pedalcycle (bicycle, tricycle, unicycle, pedal car)	Roadway	V1:(Collision with cyclist)	D1:(visibility obstructed)	Dry	Daylight	Clear		HORACE JAMES CIRCLE /		One-way, not divided	35	Traffic circle	No controls	Not reported	No, school bus not involved	Rotary
344022	4/11/2013	2:40 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1W / V2W	Collision with motor vehicle in traffic	Roadway	V1:(Collision with motor vehicle in traffic); V2:(Collision with motor vehicle in traffic)	D1:(No improper driving); D2:(Followed too closely);(inattention)	Dry	Daylight	Clear		HORACE JAMES CIRCLE / HAMMOND STREET / WEST ROXBURY PARKWAY		One-way, not divided	25	Traffic circle	Yield signs	Not reported	No, school bus not involved	Operator Designated
360012	9/19/2013	5:45 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Changing lanes / V2: Travelling straight ahead	V1N / V2N	Collision with motor vehicle in traffic	Roadway	V1:(Collision with motor vehicle in traffic); V2:(Collision with motor vehicle in traffic)	D1:(Failed to yield right of way); D2:(No improper driving)	Not reported	Daylight	Clear		HORACE JAMES CIRCLE RE UNKNOWN		One-way, not divided	25	Traffic circle	No controls	Not reported	No, school bus not involved	Rotary

Crash Number	Crash Date	Crash Time	City/Town	Obs #	Crash Severity	Minimum Injury Severity Reported	Manner of Collision	Vehicle Action Prior to Crash	Vehicle Travel Directions	First Harmful Event	First Harmful Event Location	Vehicle Sequence of Events	Driver Contributing Codes	Road Surface	Ambient Light	Weather Condition	Street Number	Roadway	Nearest Intersection	Traffic Way	Speed Limit	Signage/Control Type	Traffic Control	Trucks/Device Functioning	Schoolbus Involved	Crash/Injury Method
360653	9/12/2013	2:00 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Turning right / V2: Entering traffic lane	V1:S / V2:E	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Cloudy		HORACE JAMES CIRCLE / NEWTON STREET		Unknown	20	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection	
363375	8/1/2013	10:00 AM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Possible	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:S / V2:S	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Followed too closely / inattention)	Dry	Daylight	Clear		HORACE JAMES CIRCLE		Two-way, divided, unprotected median	20	Yield signs	No, device not functioning	No, school bus not involved	Rotary	
363379A	11/4/2013	4:47 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Entering traffic lane	V1:S / V2:E	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HORACE JAMES CIRCLE / NEWTON STREET		One-way, not divided	25	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection	
366650	11/21/2013	7:20 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Turning right / V2: Turning right	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway, etc)	Dry	Daylight	Clear		HAMMOND POND PARKWAY	HORACE JAMES CIRCLE	One-way, not divided	25	No controls	Not reported	No, school bus not involved	Off Intersection	
372822	2/18/2014	2:00 PM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - incapacitating	Rear-end	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1:S / V2:S	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Followed too closely)	Snow	Daylight	Snow		HORACE JAMES CIRCLE /		Two-way, not divided	25	Yield signs	Yes, device functioning	No, school bus not involved	Rotary	
372844	12/16/2013	8:25 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, same direction	V1: Entering traffic lane / V2: Travelling straight ahead	V1:W / V2:W	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (Failed to yield right of way) D2: (No improper driving)	Dry	Daylight	Clear		HAMMOND POND PARKWAY Rte UNKNOWN	HORACE JAMES CIRCLE	Two-way, divided, unprotected median	35	Yield signs	Yes, device functioning	No, school bus not involved	Off Intersection	
374896	1/15/2014	9:27 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, same direction	V1: Turning left / V2: Travelling straight ahead	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (Failed to yield right of way) D2: (No improper driving)	Dry	Daylight	Clear		HAMMOND POND PARKWAY Rte UNKNOWN	HORACE JAMES CIRCLE	Two-way, divided, positive median barrier	30	Warning signs	Yes, device functioning	No, school bus not involved	Off Intersection	
380150	2/7/2014	5:58 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Inattention)	Dry	Dark - lighted roadway	Clear		HORACE JAMES CIRCLE		One-way, not divided	0	Yield signs	Yes, device functioning	No, school bus not involved	Rotary	
380401	2/17/2014	11:25 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Entering traffic lane	V1:S / V2:E	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		NEWTON STREET / LAGRANGE STREET /		One-way, not divided	20	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection	
384733	6/6/2014	5:46 PM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - incapacitating	Angle	V1: Travelling straight ahead / V2: Entering traffic lane	V1:S / V2:S	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HAMMOND POND PARKWAY Rte UNKNOWN	HORACE JAMES CIRCLE	One-way, not divided	15	No controls	Not reported	No, school bus not involved	Off Intersection	
386130	5/29/2014	3:15 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, same direction	V1: Changing lanes / V2: Travelling straight ahead	V1:W / V2:W	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (Failed to yield right of way) D2: (No improper driving)	Dry	Daylight	Clear		HORACE JAMES CIRCLE / HAMMOND STREET / HAMMOND POND PARKWAY	HORACE JAMES CIRCLE / ROTARY	One-way, not divided	30	No controls	Not reported	No, school bus not involved	Operator Designated	
392293	8/7/2014	2:11 PM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - incapacitating	Sideswipe, same direction	V1: Travelling straight ahead / V2: Changing lanes	V1:W / V2:W	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HAMMOND POND PARKWAY Rte UNKNOWN	HORACE JAMES CIRCLE	One-way, not divided	25	Yield signs	Yes, device functioning	No, school bus not involved	Off Intersection	
396695	9/18/2014	6:30 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, same direction	V1: Travelling straight ahead / V2: Changing lanes	V1:N / V2:W	Collision with motor vehicle in traffic	Roadway	V1: (Collision with motor vehicle in traffic) V2: (Collision with motor vehicle in traffic)	D1: (No improper driving) D2: (Failure to keep in proper lane or running off road)	Dry	Daylight	Clear		HORACE JAMES CIRCLE		One-way, not divided	25	Yield signs	Yes, device functioning	No, school bus not involved	Rotary	

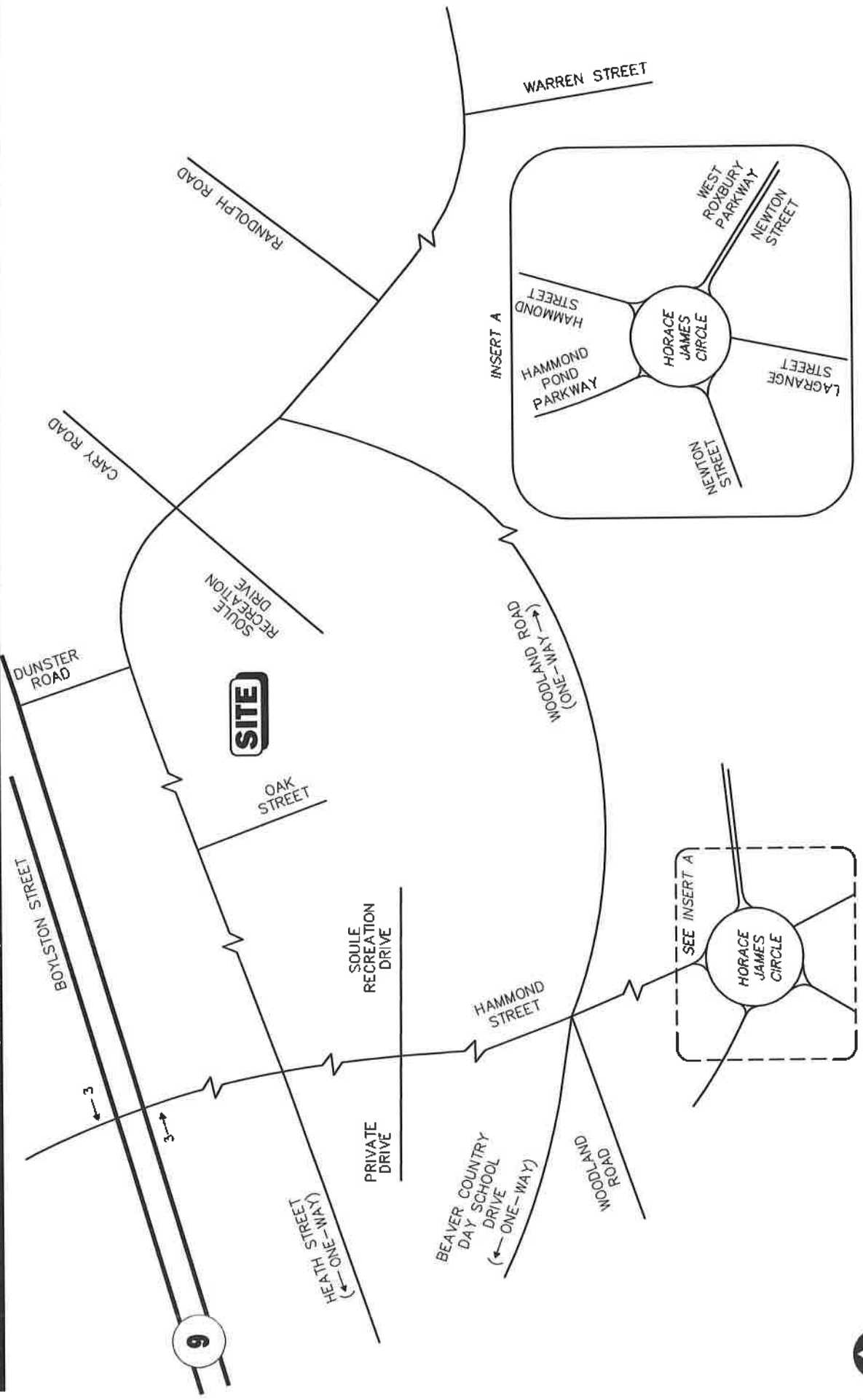
Crash Number	Crash Date	Crash Time	City/Town	Day	Crash Severity	Maximum Injury Severity Reported	Manner of Collision	Vehicle Action Prior to Crash	Vehicles Travel Direction	First Mutual Event	First Mutual Event Location	Vehicle Sequence of Events	Driver Contributing Codes	Road Surface	Ambient Light	Weather or Conditions	Street Number	Highway	Near Intersection Roadway/Landmark	Traffic Way	Speed Limit	Roadway Intersection Type	Traffic Control Device Type	Traffic Device Functioning	Schools Related	Grading Method
4972016	10/23/2014	3:23 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1: S / V2: S	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Other improper action)	Dry	Daylight	Cloudy		HAMMOND POND PARKWAY Rte UNKNOWN	HORACE JAMES CIRCLE	Two-way, divided, unprotec median	25	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	Off Intersection
4972017	12/18/2014	7:48 AM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Possible	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1: N / V2: N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Inattention)	Wet	Daylight	Cloudy/Rain		HAMMOND POND PARKWAY Rte UNKNOWN	HORACE JAMES CIRCLE	Two-way, not divided	35	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	Off Intersection
4972018	1/13/2015	4:58 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Entering traffic lane / V2: Travelling straight ahead	V1: N / V2: N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Followed too closely)	Dry	Daylight	Clear		HAMMOND POND PARKWAY / HORACE JAMES CIRCLE /		Two-way, divided, positive median barrier	30	Traffic circle	No controls	Not reported	No, school bus not involved	At Intersection
4972019	4/27/2015	8:00 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, same direction	V1: Entering traffic lane / V2: Travelling straight ahead	V1: E / V2: S	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (Failed to yield right of way) D2: (No improper driving)	Dry	Daylight	Cloudy		NEWTON STREET / HORACE JAMES CIRCLE		One-way, not divided	30	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	Operator Designated
4972020	6/27/2015	3:08 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Single vehicle crash	V1: Turning left	V1: E	Collision with curb	Median	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (Operating vehicle in erratic, reckless, careless, negligent or aggressive manner)	Dry	Dark - lighted roadway	Not Reported		HAMMOND POND PARKWAY Rte UNKNOWN	HORACE JAMES CIRCLE	One-way, not divided	30	Traffic circle	No controls	Not reported	No, school bus not involved	Off Intersection
4972021	9/28/2014	12:50 PM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Possible	Angle	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: S / V2: E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		NEWTON ST / LAGRANGE ST / HORACE JAMES ROTARY		Two-way, divided, positive median barrier	20	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection
4972022	10/14/2014	5:54 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Entering traffic lane / V2: Travelling straight ahead	V1: N / V2: E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (Failed to yield right of way) D2: (No improper driving)	Dry	Daylight	Clear		HORACE JAMES CIRCLE / NEWTON STREET		One-way, not divided	30	Traffic circle	No controls	Not reported	No, school bus not involved	At Intersection
4972023	11/1/2014	5:30 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Turning right / V2: Travelling straight ahead	V1: S / V2: E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Wet	Dark - lighted roadway	Rain		NEWTON ST / HORACE JAMES CIRCLE		Reported but invalid	30	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection
4972024	12/13/2014	1:38 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, same direction	V1: Leaving traffic lane / V2: Turning left	V1: N / V2: N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failure to sleep in proper lane or running off road) (Other improper action)	Dry	Daylight	Clear		HORACE JAMES CIRCLE	HAMMOND STREET	One-way, not divided	30	Traffic circle	Yield signs	No, device not functioning	No, school bus not involved	Off Intersection
4972025	1/26/2015	10:55 AM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Possible	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1: S / V2: S	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way) (Followed too closely)	Dry	Daylight	Cloudy		HAMMOND POND PARKWAY / HORACE JAMES CIRCLE	HORACE JAMES ROTARY	Two-way, not divided	20	Traffic circle	No controls	Not reported	No, school bus not involved	Operator Designated
4972026	3/27/2015	6:20 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, same direction	V1: Changing lanes / V2: Changing lanes	V1: S / V2: S	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Cloudy		HORACE JAMES CIRCLE / HAMMOND POND PARKWAY		One-way, not divided	30	Traffic circle	No controls	Not reported	No, school bus not involved	Operator Designated
4972027	7/10/2015	2:50 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: S / V2: N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		NEWTON ST / HORACE JAMES CIRCLE		One-way, not divided	30	Traffic circle	No controls	Not reported	No, school bus not involved	At Intersection
4972028	10/3/2015	9:51 AM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Possible	Single vehicle crash	V1: Overtaking/passing	V1: N	Collision with pedalcycle, bicycle, tricycle, unicycle, pedal cart	Roadway	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	D1: (Failed to yield right of way)	Wet	Daylight	Cloudy/Rain		HORACE JAMES CIRCLE Rte UNKNOWN		One-way, not divided	25	Traffic circle	No controls	Not reported	No, school bus not involved	Rotary

Crash Number	Crash Date	Crash Time	City/Town	Dist	Crash Severity	Maximum Injury Severity Reported	Manner of Collision	Vehicle Action Prior to Crash	Vehicle Travel Directions	First Reported Event	First (Main) Event Location	Vehicle Sequence of Events	Driver Contributing Codes	Road Surface	Ambient Light	Weather Condition	Street Number	Highway	Map Intersection Roadway/Landmarker	Trav. Way	Speed Limit	roadway Intersection Type	Traffic Control Device Type	Traffic Device Functioning	Schoolbus Involved	Geocoding Method
429724	10/15/2015	4:45 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Turning right / V2: Turning right	V1:S / V2:S	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failure to keep in proper lane or running off road) (Make an improper turn)	Dry	Daylight	Clear		HAMMOND POND PARKWAY / HORACE JAMES CIRCLE / NEWTON STREET		One-way, not divided	0	Yield signs	Yes, device functioning	No, school bus not involved	Operator Designated	
410377	10/21/2015	11:55 AM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Possible	Sideswipe opposite direction	V1: Turning right / V2: Slowing or stopped in traffic	V1:S / V2:N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (Failure to keep in proper lane or running off road) (Treatment) D2: (No improper driving)	Wet	Daylight	Cloudy/Rain		LAGRANGE STREET / NEWTON STREET		Two-way, not divided	0	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection	
410233	9/30/2015	8:55 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (Followed too closely) D2: (No improper driving)	Wet	Daylight	Rain		HORACE JAMES CIRCLE Rte UNKNOWN		Two-way, divided, positive median barrier	30	Yield signs	Yes, device functioning	No, school bus not involved	Rotary	
411020	11/09/2015	2:01 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Non incapacitating	Angle	V1: Traveling straight ahead / V2: Traveling straight ahead	V1:B / V2:B	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (Failed to yield right of way) D2: (Disregarded traffic signs, signals, road markings) D3: (No improper driving)	Dry	Daylight	Clear		NEWTON ST / HORACE JAMES CIRCLE		One-way, not divided	30	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection	
411007	11/3/2015	7:20 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Turning right / V2: Entering traffic lane	V1:B / V2:B	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (Failed to yield right of way) D2: (Dry	Dark - lighted roadway	Clear		HORACE JAMES CIR / NEWTON ST		One-way, not divided	30	No controls	Not reported	No, school bus not involved	At Intersection	
411597	11/16/2015	3:40 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Other improper action)	Dry	Daylight	Clear		HORACE JAMES CIRCLE		Two-way, divided, positive median barrier	30	Yield signs	Yes, device functioning	No, school bus not involved	Rotary	
413015	12/20/2015	10:15 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Turning right	V1:S / V2:E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HAMMOND POND PARKWAY	HORACE JAMES CIRCLE	Two-way, divided, positive median barrier	30	Yield signs	Yes, device functioning	No, school bus not involved	Off Intersection	
411621	12/25/2015	6:28 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Traveling straight ahead / V2: Travelling straight ahead	V1:B / V2:B	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (Failed to yield right of way) D2: (No improper driving)	Wet	Dark - lighted roadway	Rain		HORACE JAMES CIRCLE / NEWTON STREET		One-way, not divided	20	No controls	Not reported	No, school bus not involved	At Intersection	
413389	1/8/2016	3:21 PM	BROOKLINE	6	Fatal injury	Fatal injury	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead / V3: Travelling straight ahead	V1:E / V2:E / V3:W	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic V3: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Cloudy	15	LAGRANGE STREET		Two-way, not divided	25	No controls	Not reported	No, school bus not involved	At Address	
418741	1/25/2016	8:52 AM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Non incapacitating	Angle	V1: Travelling straight ahead / V2: Entering traffic lane	V1:S / V2:E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HORACE JAMES CIRCLE	WEST ROXBURY PARKWAY	One-way, not divided	30	Yield signs	Yes, device functioning	No, school bus not involved	Off Intersection	
410591	2/13/2016	3:30 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe same direction	V1: Travelling straight ahead	V1:W	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic	D1: (No improper driving)	Dry	Daylight	Clear		HORACE JAMES ROTARY / LAGRANGE ST. / NEWTON ST.		Unknown	30	No controls	Not reported	No, school bus not involved	At Intersection	
411300	2/18/2016	10:31 AM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Non incapacitating	Single vehicle crash	V1: Turning right	V1:B	Collision with pedestrian	Roadway	V1: Collision with pedestrian	D1: (Failed to yield right of way)	Dry	Daylight	Clear		LAGRANGE STREET / HORACE JAMES CIRCLE		Two-way, not divided	30	No controls	Not reported	No, school bus not involved	At Intersection	
437098	2/19/2016	7:00 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Turning right / V2: Entering traffic lane	V1:S / V2:E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Cloudy		HORACE JAMES CIRCLE	LAGRANGE E STREET	One-way, not divided	30	Yield signs	Yes, device functioning	No, school bus not involved	Off Intersection	

Crash Number	Crash Date	Crash Time	City/Town	File #	Crash Severity	Maximum Injury Severity Reported	Manner of Collision	Vehicle Action Prior to Crash	Vehicle Travel Directions	First Minimal Event	First Headed Event Location	Vehicle Sequence of Events	Driver Contributing Codes	Road Surface	Ambient Light	Weather or Conditions	Street Number	Roadway	Near Intersection Roadway/ Landmarker	Traffic Way	Speed Limit	Reversible Interchange Sign Type	Traffic Control Device Type	Traffic Device Functioning	Schools Related	Geocoding Method
415735	3/13/2016	3:30 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic / V3: Travelling straight ahead / V4: Turning right	V1:S / V2:S / V3:S / V4:S	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic V3: Collision with motor vehicle in traffic V4: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (No improper driving) D3: (Followed too closely) D4: ()	Dry	Daylight	Clear		HORACE JAMES CIRCLE Rte UNKNOWN		Not reported	25	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	Rotary
415736	2/25/2016	4:11 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:S / V2:S	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Followed too closely)	Dry	Daylight	Not Reported		HAMMOND POND PARKWAY Rte UNKNOWN	HORACE JAMES CIRCLE	One-way, not divided	25	Traffic circle	Yield signs	Not reported	No, school bus not involved	Diff Intersection
415738	4/6/2016	11:45 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:N / V2:E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: ()	Dry	Daylight	Cloudy		HORACE JAMES CIRCLE / HAMMOND STREET /		Two-way, not divided	25	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection
425439	4/12/2016	5:50 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Possible	Rear-end	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:W / V2:B	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Followed too closely)	Dry	Daylight	Clear		HAMMOND POND PARKWAY / HORACE JAMES CIRCLE		One-way, not divided	30	Traffic circle	No controls	Not reported	No, school bus not involved	At Intersection
432255	3/19/2016	5:40 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:E / V2:E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (Followed too closely) D2: (No improper driving)	Dry	Daylight	Clear		NEWTON STREET / LAGRANGE STREET		Two-way, divided, positive median barrier	20	Traffic circle	No controls	Not reported	No, school bus not involved	At Intersection
430036	5/8/2016	4:45 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Rear-end	V1: Entering traffic lane / V2: Travelling straight ahead	V1:S / V2:S	Not reported	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (Followed too closely) D2: (No improper driving)	Dry	Daylight	Clear		HAMMOND POND PARKWAY / HORACE JAMES CIRCLE		Two-way, divided, positive median barrier	25	Traffic circle	No controls	Yes, device functioning	No, school bus not involved	Operator Designated
420740	5/27/2016	3:55 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Not reported / V2: Travelling straight ahead	V1:N / V2:W	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (Failed to yield right of way) D2: (No improper driving)	Dry	Daylight	Not Reported		HORACE JAMES CIRCLE Rte UNKNOWN		Two-way, divided, positive median barrier	20	Traffic circle	Yield signs	Not reported	No, school bus not involved	Rotary
420548	6/2/2016	7:30 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Possible	Angle	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:E / V2:E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		NEWTON ST / LAGRANGE ST		One-way, not divided	30	Traffic circle	No controls	Not reported	No, school bus not involved	At Intersection
421515	6/29/2016	5:40 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead	V1:B / V2:B	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HORACE JAMES CIRCLE / NEWTON ST / LAGRANGE ST		One-way, not divided	30	Traffic circle	No controls	Not reported	No, school bus not involved	At Intersection
4228970	7/15/2016	1:27 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Non-incapacitating	Rear-end	V1: Travelling straight ahead	V1:W	Collision with motorcycle (bicycle, triplex, unicycle, pedal car)	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with cyclist	D1: ()	Dry	Daylight	Clear		HORACE JAMES CIRCLE / HAMMOND POND PARKWAY /		One-way, not divided	25	Traffic circle	No controls	Not reported	No, school bus not involved	At Intersection
422278	7/20/2016	8:53 AM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Non-incapacitating	Sideswipe e, same direction	V1: Entering traffic lane / V2: Entering traffic lane	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: () D2: ()	Dry	Daylight	Clear		HORACE JAMES CIRCLE Rte UNKNOWN		One-way, not divided	25	Traffic circle	No controls	Not reported	No, school bus not involved	Rotary
4245179	8/28/2016	4:30 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Non-incapacitating	Sideswipe e, same direction	V1: Turning left / V2: Turning right	V1:S / V2:S	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HORACE JAMES CIRCLE		Two-way, not divided	25	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	Rotary
4259123	9/9/2016	12:26 PM	BROOKLINE	6	Non-fatal injury (none injured)	Non-fatal injury - Non-incapacitating	Rear-end	V1: Travelling straight ahead / V2: Entering traffic lane	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic V2: Collision with motor vehicle in traffic	D1: (Followed too closely) D2: (No improper driving)	Dry	Daylight	Clear		WEST ROXBURY PARKWAY / HORACE JAMES CIRCLE		One-way, not divided	30	Traffic circle	Yield signs	Not reported	No, school bus not involved	At Intersection

Crash Number	Crash Date	Crash Time	City/Town	Dist	Crash Severity	Maximum Injury Severity Reported	Number of Collisions	Vehicle Action Prior to Crash	Vehicle Travel Direction	First Reported Event	First Harmful Event Location	Vehicle Sequence of Events	Driver Contributing Codes	Road Surface	Ambient Light	Weather or Condition	Street or Corridor Number	Roadway	Nearest Intersection/ Landmarker	Traffic Way	Speed Limit	roadway Intersection Type	Traffic Control Device Type	Traffic Device Functioning	Schoolbus Related	Geocoding Method
425229	9/24/2016	12:45 AM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Non incapacitating	Single vehicle crash	V1: Travelling straight ahead	V1:N	Collision with other light pole or other post/support	Median	V1: Collision with light pole or other post/support	D1: Failure to keep in proper lane or running off road	Wet	Dark - lighted roadway	Rain		HORACE JAMES CIRCLE	NEWTON STREET	One-way, not divided	40	Four-way intersection	Yield signs	No, device not functioning	No, school bus not involved	Off Intersection
427185	10/29/2016	5:50 PM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Possible	Angle	V1: Turning right / V2: Entering traffic lane	V1:N / V2:E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic; Separation of units; V2: Collision with motor vehicle in traffic; Separation of units	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Cloudy		HORACE JAMES ROTARY / NEWTON ST / LAGRANGE ST		One-way, not divided	20	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection
4276278	10/27/2016	3:05 PM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Non incapacitating	Angle	V1: Travelling straight ahead / V2: Turning right	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic; V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HORACE JAMES CIRCLE / HAMMOND POND PARKWAY / HAMMOND STREET		One-way, not divided	30	Traffic circle	No controls	Not reported	No, school bus not involved	Operator Designated
428242	11/12/2016	7:54 PM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Non incapacitating	Sideswipe, same direction	V1: Travelling straight ahead / V2: Leaving traffic lane	V1:W / V2:W	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic; V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Inattention)	Dry	Dark - lighted roadway	Clear		HAMMOND POND PARKWAY Rte UNKNOWN	HORACE JAMES CIRCLE	One-way, not divided	20	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	Off Intersection
428437	11/13/2016	5:05 PM	BROOKLINE	6	Non-fatal injury	Non-fatal injury - Possible	Rear-end	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic; V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to follow too closely)	Dry	Dark - lighted roadway	Clear	20	LAGRANGE ST		Two-way, not divided	30	Unknown	No controls	Not reported	No, school bus not involved	At Address
428478	11/8/2016	7:05 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Other / V2: Entering traffic lane	V1:S / V2:S	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic; V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HORACE JAMES CIRCLE / HAMMOND POND PARKWAY		Two-way, divided, positive median barrier	25	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection
428637	11/13/2016	9:43 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Turning right / V2: Travelling straight ahead	V1:W / V2:W	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic; V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failure to keep in proper lane or running off road)	Dry	Daylight	Clear		HORACE JAMES CIRCLE Rte UNKNOWN	HAMMOND POND PARKWAY	One-way, not divided	25	Traffic circle	No controls	Not reported	No, school bus not involved	Off Intersection
429233	11/17/2016	3:56 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, same direction	V1: Turning left / V2: Turning left	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic; V2: Collision with motor vehicle in traffic	D1: (D2: (Dry	Daylight	Clear		HORACE JAMES CIRCLE		One-way, not divided	25	Traffic circle	No controls	Not reported	Yes, school bus involved	Rotary
430235	12/20/2016	10:10 AM	BROOKLINE	6	Property damage only (none injured)	No injury	Angle	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:S / V2:E	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic; V2: Collision with motor vehicle in traffic	D1: (No improper driving) D2: (Failed to yield right of way)	Dry	Daylight	Clear		HORACE JAMES ROTARY / NEWTON ST / LAGRANGE ST		Two-way, divided, positive median barrier	20	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection
431770	12/4/2016	2:40 PM	BROOKLINE	6	Property damage only (none injured)	No injury	Sideswipe, same direction	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:N / V2:N	Collision with motor vehicle in traffic	Roadway	V1: Collision with motor vehicle in traffic; V2: Collision with motor vehicle in traffic	D1: (Failure to keep in proper lane or running off road) D2: (Other improper action)	Dry	Daylight	Clear		HAMMOND POND PARKWAY / HORACE JAMES CIRCLE		Two-way, divided, positive median barrier	25	Traffic circle	Yield signs	Yes, device functioning	No, school bus not involved	At Intersection

BACKGROUND DEVELOPMENT



Not To Scale

Figure A-1

WAI Vanasse & Associates, Inc.
 Transportation Engineers & Planners

Mixed-Use Development
Weekday Morning
1,180 Boylston Street
School Peak Hour Traffic Volume

Legend:
 XX Weekday Morning
 (XX) Weekday Evening

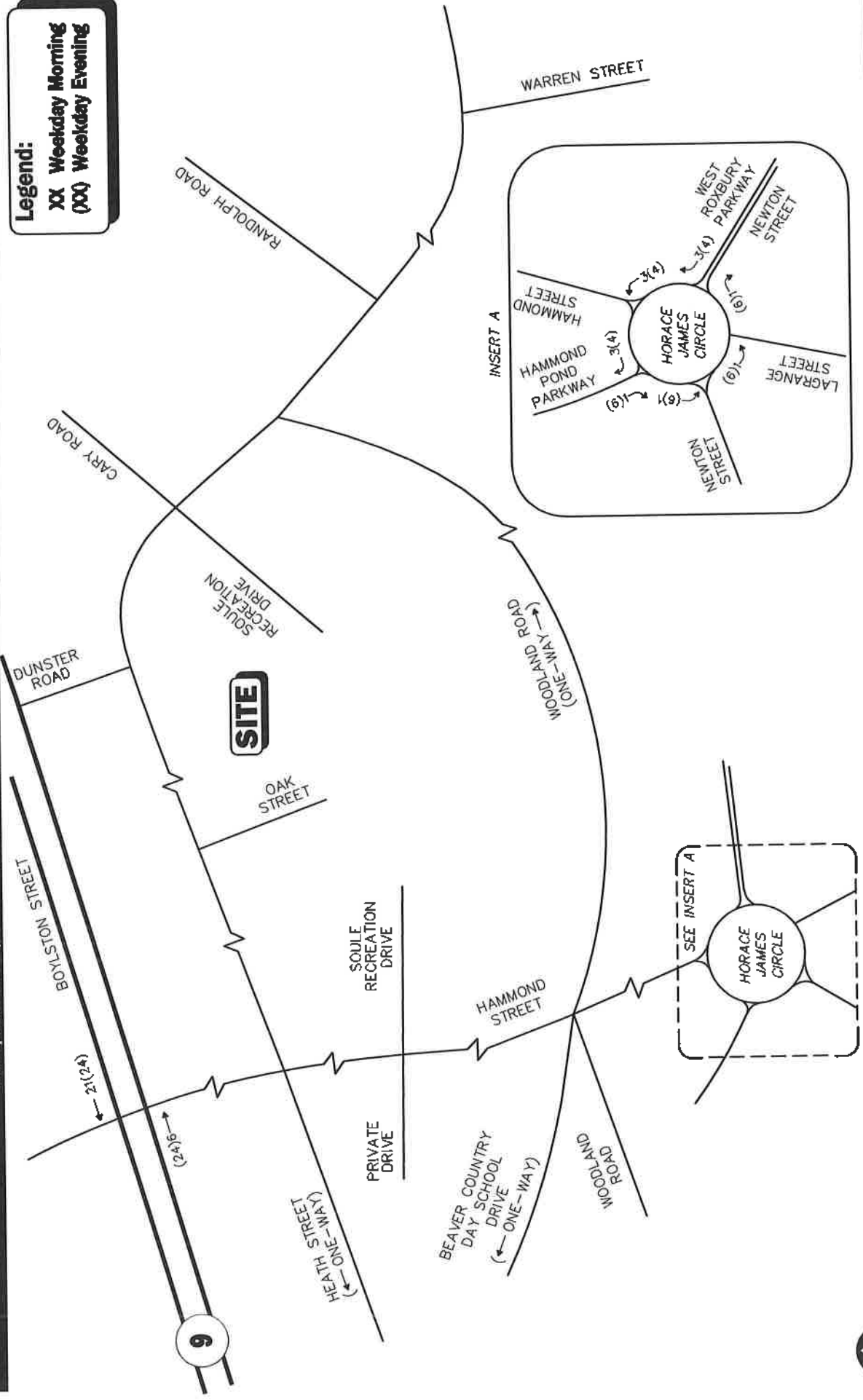


Figure A-2

**Atrium Mall
 Medical-Dental Office
 School Peak Hour Traffic Volume**

Not To Scale

Vanasse & Associates, Inc.
 Transportation Engineers & Planners



VEHICLE OCCUPANY RATIO

Job: Brooline, MA
 Location : Baker School
 Title: AM/PM Drop off's Observations

Job number: 7382
 Date: 1/12/17

Vehicles	7:35	7:48	8:00		2:15	2:30	2:45
1	1	2	2		1	1	1
2	1	1	2			1	1
3	3	1	1			2	2
4	1	1	1			1	2
5	2	1	1			1	1
6	1	1	2			1	2
7	1	2	1			1	1
8	2	2	2			2	2
9	1	1	1			1	
10	2	1	1			2	
11	2	1	1			1	
12	1	2	1			2	
13	1	2				1	
14	2	1				1	
15	1	2				1	
16	1	2				4	
17	1	1				2	
18	1	2				2	
19	1	2				1	
20		1					
21		3					
22		1					
23		2					
24		1					
25		1					
26		2					
27		1					
28		1					
29		3					
30		1					
TOTAL	26	45	16		1	28	12

		AM *	PM**
Total Children	<u>71</u>	1.45	<u>40</u> 1.48
Total Vehicle	49		27
	* 7:35 to 8:00 AM		
	**2:30 to 3:00 PM	Average:	1.47

TRIP GENERATION

Institute of Transportation Engineers (ITE)
Trip Generation, 9th Edition
Land Use Code (LUC) 520 - Elementary School

Average Vehicle Trips Ends vs: Students
 Independent Variable (X): 453

R2
0.7
Equation
 AVERAGE WEEKDAY DAILY
 T = 2.13(X)-184.07
 T = 2.13(X)-184.07
 T = 780.82
 T = 780 vehicle trips
 with 50% (390 vph) entering and 50% (390 vph) exiting.

Rate
 AVERAGE WEEKDAY DAILY
 T = 1.89 * (X)
 T = 1.89 * 453
 T = 856.17
 T = 856 vehicle trips
 with 50% (428 vph) entering and 50% (428 vph) exiting.

--

WEEKDAY MORNING PEAK HOUR 7:00 - 9:00 AM
 T = 0.67 * (X)
 T = 0.67 * 453
 T = 303.51
 T = 304 vehicle trips
 with 55% (167 vph) entering and 45% (137 vph) exiting.

--

WEEKDAY EVENING PEAK HOUR OF GENERATOR
 T = 0.34 * (X)
 T = 0.34 * 453
 T = 154.02
 T = 154 vehicle trips
 with 45% (69 vph) entering and 55% (85 vph) exiting.

CAPACITY ANALYSIS

Boylston Street (Route 9) at Hammond Street
Hammond Street at Heath Street
Hammond Street at Soule Recreation Drive and Private Drive
Hammond Street at Woodland Road
Heath Street at Oak Street
Heath Street at Site Driveway (Entrance only)
Heath Street at Dunster Road
Boylston Street (Route 9) at Dunster
Heath Street at Cary Road and Soule Recreation Drive
Heath Street at Woodland Road
Heath Street at Randolph Road
Heath Street at Warren Street
James Horace Circle

Boylston Street (Route 9) at Hammond Street

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

2018 Existing - Weekday Morning
11/07/2018

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗		↕			↕	↗
Traffic Volume (vph)	144	1074	25	176	1149	33	64	373	54	119	203	78
Future Volume (vph)	144	1074	25	176	1149	33	64	373	54	119	203	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	10	11
Storage Length (ft)	220		0	330		150	0		0	0		100
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.997				0.850		0.983				0.850
Flt Protected	0.950			0.950				0.994			0.982	
Satd. Flow (prot)	1728	3514	0	1678	3539	1615	0	3572	0	0	3309	1561
Flt Permitted	0.950			0.950				0.994			0.982	
Satd. Flow (perm)	1728	3514	0	1678	3539	1615	0	3572	0	0	3309	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				76		9				99
Link Speed (mph)		40			45			25			25	
Link Distance (ft)		710			770			351			593	
Travel Time (s)		12.1			11.7			9.6			16.2	
Peak Hour Factor	0.87	0.87	0.87	0.84	0.84	0.84	0.90	0.90	0.90	0.75	0.75	0.75
Heavy Vehicles (%)	1%	2%	20%	4%	2%	0%	3%	0%	15%	0%	0%	0%
Adj. Flow (vph)	166	1234	29	210	1368	39	71	414	60	159	271	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	1263	0	210	1368	39	0	545	0	0	430	104
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	0.96	1.00	1.00	1.09	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	pm+ov

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

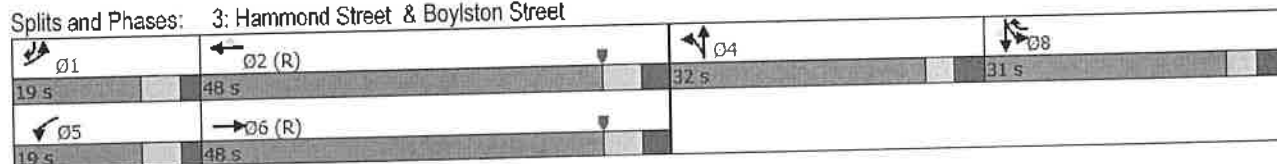
2018 Existing - Weekday Morning
11/07/2018

	↖	→	↘	↙	←	↖	↘	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	1	6		5	2	8	4	4		8	8	1
Permitted Phases						2						8
Detector Phase	1	6		5	2	8	4	4		8	8	1
Switch Phase										4.0	4.0	4.0
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		30.0	30.0	10.0
Minimum Split (s)	10.0	60.0		10.0	60.0	30.0	30.0	30.0		31.0	31.0	19.0
Total Split (s)	19.0	48.0		19.0	48.0	31.0	32.0	32.0		23.8%	23.8%	14.6%
Total Split (%)	14.6%	36.9%		14.6%	36.9%	23.8%	24.6%	24.6%		25.0	25.0	13.0
Maximum Green (s)	13.0	41.0		13.0	41.0	25.0	26.0	26.0		3.0	3.0	4.0
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	3.0		3.0	3.0	2.0
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	3.0	3.0		-2.0	-2.0	-2.0
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0	-2.0		-2.0				4.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0				4.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
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		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	Ped	Ped	Ped		Ped	Ped	None
Walk Time (s)		20.0			20.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		20.0			20.0	18.0	19.0	19.0		18.0	18.0	
Pedestrian Calls (#/hr)		10			10	3	8	8		3	3	
Act Effct Green (s)	16.1	44.0		17.1	45.0	70.8		27.1				25.8
Actuated g/C Ratio	0.12	0.34		0.13	0.35	0.54		0.21				0.20
v/c Ratio	0.78	1.06		0.95	1.12	0.04		0.73				0.66
Control Delay	79.2	85.3		105.3	104.1	0.3		20.0				53.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		1.0				0.0
Total Delay	79.2	85.3		105.3	104.1	0.3		21.0				53.2
LOS	E	F		F	F	A		C				D
Approach Delay		84.6			101.8			21.0				44.2
Approach LOS		F			F			C				D

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.12
 Intersection Signal Delay: 77.7
 Intersection Capacity Utilization 76.5%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service D

Splits and Phases: 3: Hammond Street & Boylston Street











Queues

2018 Existing - Weekday Morning

11/07/2018

3: Hammond Street & Boylston Street

								
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	166	1263	210	1368	39	545	430	104
v/c Ratio	0.78	1.06	0.95	1.12	0.04	0.73	0.66	0.17
Control Delay	79.2	85.3	105.3	104.1	0.3	20.0	53.2	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Total Delay	79.2	85.3	105.3	104.1	0.3	21.0	53.2	6.7
Queue Length 50th (ft)	136	~615	177	~708	0	99	178	3
Queue Length 95th (ft)	#249	#713	#322	#754	0	103	188	25
Internal Link Dist (ft)		630		690		271	513	
Turn Bay Length (ft)	220		330		150			100
Base Capacity (vph)	215	1190	221	1224	928	776	687	616
Starvation Cap Reductn	0	0	0	0	0	74	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	1.06	0.95	1.12	0.04	0.78	0.63	0.17

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

2018 Existing - Weekday Afternoon
11/07/2018

	↖	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↙	↕	↗		↕			↕	↗
Traffic Volume (vph)	147	1011	51	152	1144	48	130	134	64	113	194	110
Future Volume (vph)	147	1011	51	152	1144	48	130	134	64	113	194	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	10	11
Storage Length (ft)	220		0	330		150	0		0	0		100
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.993				0.850		0.971				0.850
Flt Protected	0.950			0.950				0.981			0.982	
Satd. Flow (prot)	1728	3548	0	1694	3539	1615	0	3433	0	0	3267	1561
Flt Permitted	0.950			0.950				0.981			0.982	
Satd. Flow (perm)	1728	3548	0	1694	3539	1615	0	3433	0	0	3267	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				76		21				116
Link Speed (mph)		40			45			25			25	
Link Distance (ft)		710			770			351			593	
Travel Time (s)		12.1			11.7			9.6			16.2	
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.80	0.80	0.80	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	2%	3%	2%	0%	2%	0%	14%	0%	2%	0%
Adj. Flow (vph)	158	1087	55	162	1217	51	163	168	80	119	204	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	1142	0	162	1217	51	0	411	0	0	323	116
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left		Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	0.96	1.00	1.00	1.09	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	pm+ov

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

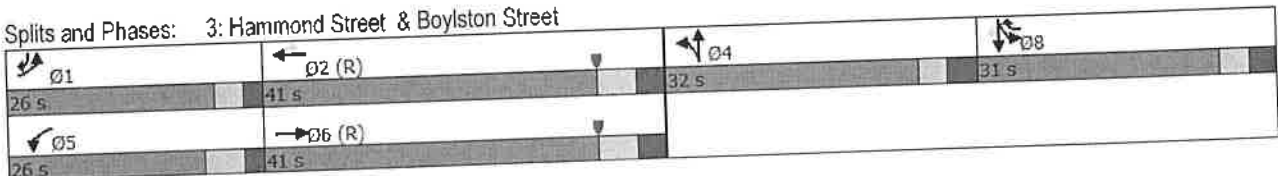
2018 Existing - Weekday Afternoon
11/07/2018

	↖	→	↘	↙	←	↖	↘	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	1	6		5	2	8	4	4		8	8	1
Permitted Phases						2				8	8	1
Detector Phase	1	6		5	2	8	4	4		8	8	1
Switch Phase										4.0	4.0	4.0
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	60.0		10.0	60.0	29.0	30.0	30.0		29.0	29.0	10.0
Total Split (s)	26.0	41.0		26.0	41.0	31.0	32.0	32.0		31.0	31.0	26.0
Total Split (%)	20.0%	31.5%		20.0%	31.5%	23.8%	24.6%	24.6%		23.8%	23.8%	20.0%
Maximum Green (s)	21.0	34.0		20.0	34.0	25.0	26.0	26.0		25.0	25.0	21.0
Yellow Time (s)	3.0	4.0		4.0	4.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	3.0	3.0		3.0	3.0	2.0
Lost Time Adjust (s)	-1.0	-3.0		-2.0	-3.0	-2.0		-2.0			-2.0	-1.0
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
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		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Walk Time (s)		10.0			10.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		20.0			20.0	18.0	19.0	19.0		18.0	18.0	
Pedestrian Calls (#/hr)		11			11	5	7	7		5	5	
Act Effct Green (s)	17.9	52.1		19.1	53.3	73.7		22.4			20.4	42.3
Actuated g/C Ratio	0.14	0.40		0.15	0.41	0.57		0.17			0.16	0.33
v/c Ratio	0.66	0.80		0.65	0.84	0.05		0.68			0.63	0.20
Control Delay	66.2	41.2		64.3	42.4	0.9		76.2			56.5	5.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.4			0.0	0.0
Total Delay	66.2	41.2		64.3	42.4	0.9		76.5			56.5	5.1
LOS	E	D		E	D	A		E			E	A
Approach Delay		44.2			43.4			76.5			43.0	
Approach LOS		D			D			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 47.4
 Intersection Capacity Utilization 71.3%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service C

Splits and Phases: 3: Hammond Street & Boylston Street











Queues

2018 Existing - Weekday Afternoon

3: Hammond Street & Boylston Street

11/07/2018

								
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	158	1142	162	1217	51	411	323	116
v/c Ratio	0.66	0.80	0.65	0.84	0.05	0.68	0.63	0.20
Control Delay	66.2	41.2	64.3	42.4	0.9	76.2	56.5	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	66.2	41.2	64.3	42.4	0.9	76.5	56.5	5.1
Queue Length 50th (ft)	128	440	130	476	0	183	136	0
Queue Length 95th (ft)	194	#726	200	#795	6	210	178	37
Internal Link Dist (ft)		630		690		271	513	
Turn Bay Length (ft)	220		330		150			100
Base Capacity (vph)	296	1424	291	1450	1026	755	678	635
Starvation Cap Reductn	0	0	0	0	0	77	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.80	0.56	0.84	0.05	0.61	0.48	0.18

Intersection Summary

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

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

2025 No Build - Weekday Morning
11/07/2018

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕		↙	↕	↗		↕			↕	↗
Traffic Volume (vph)	154	1060	27	189	1256	35	69	400	58	128	218	84
Future Volume (vph)	154	1060	27	189	1256	35	69	400	58	128	218	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	10	11
Storage Length (ft)	220		0	330		150	0		0	0		100
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.996				0.850		0.984				0.850
Flt Protected	0.950			0.950				0.993			0.982	
Satd. Flow (prot)	1728	3510	0	1678	3539	1615	0	3572	0	0	3309	1561
Flt Permitted	0.950			0.950				0.993			0.982	
Satd. Flow (perm)	1728	3510	0	1678	3539	1615	0	3572	0	0	3309	1561
Right Turn on Red			Yes			Yes		Yes				Yes
Satd. Flow (RTOR)		2				76		9				99
Link Speed (mph)		40			45			25			25	
Link Distance (ft)		710			770			351			593	
Travel Time (s)		12.1			11.7			9.6			16.2	
Peak Hour Factor	0.87	0.87	0.87	0.84	0.84	0.84	0.90	0.90	0.90	0.75	0.75	0.75
Heavy Vehicles (%)	1%	2%	20%	4%	2%	0%	3%	0%	15%	0%	0%	0%
Adj. Flow (vph)	177	1218	31	225	1495	42	77	444	64	171	291	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	1249	0	225	1495	42	0	585	0	0	462	112
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	0.96	1.00	1.00	1.09	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	pm+ov

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

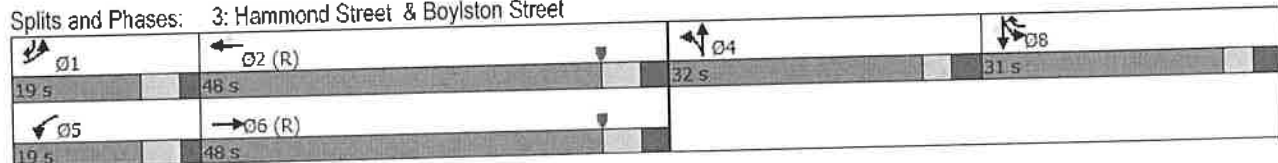
2025 No Build - Weekday Morning
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	1	6		5	2	8	4	4		8	8	1
Permitted Phases						2						8
Detector Phase	1	6		5	2	8	4	4		8	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	60.0		10.0	60.0	30.0	30.0	30.0		30.0	30.0	10.0
Total Split (s)	19.0	48.0		19.0	48.0	31.0	32.0	32.0		31.0	31.0	19.0
Total Split (%)	14.6%	36.9%		14.6%	36.9%	23.8%	24.6%	24.6%		23.8%	23.8%	14.6%
Maximum Green (s)	13.0	41.0		13.0	41.0	25.0	26.0	26.0		25.0	25.0	13.0
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	3.0		3.0	3.0	4.0
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	3.0	3.0		3.0	3.0	2.0
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0	-2.0		-2.0			-2.0	-2.0
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
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		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	Ped	Ped	Ped		Ped	Ped	None
Walk Time (s)		20.0			20.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		20.0			20.0	18.0	19.0	19.0		18.0	18.0	
Pedestrian Calls (#/hr)		10			10	3	8	8		3	3	
Act Effct Green (s)	16.1	44.0		16.7	44.6	70.6		27.3			26.0	46.1
Actuated g/C Ratio	0.12	0.34		0.13	0.34	0.54		0.21			0.20	0.35
w/c Ratio	0.83	1.05		1.05	1.23	0.05		0.77			0.70	0.18
Control Delay	85.5	82.0		128.4	149.3	0.4		21.1			54.6	7.7
Queue Delay	0.0	0.0		0.0	0.0	0.0		1.8			0.0	0.0
Total Delay	85.5	82.0		128.4	149.3	0.4		22.8			54.6	7.7
LOS	F	F		F	F	A		C			D	A
Approach Delay		82.4			143.1			22.8			45.4	
Approach LOS		F			F			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 1.23
 Intersection Signal Delay: 94.1
 Intersection Capacity Utilization 81.2%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service D

Splits and Phases: 3: Hammond Street & Boylston Street











Queues

2025 No Build - Weekday Morning

3: Hammond Street & Boylston Street

11/07/2018

								
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	177	1249	225	1495	42	585	462	112
v/c Ratio	0.83	1.05	1.05	1.23	0.05	0.77	0.70	0.18
Control Delay	85.5	82.0	128.4	149.3	0.4	21.1	54.6	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0
Total Delay	85.5	82.0	128.4	149.3	0.4	22.8	54.6	7.7
Queue Length 50th (ft)	148	-603	-214	-825	0	83	192	7
Queue Length 95th (ft)	#270	#700	#352	#864	1	110	202	30
Internal Link Dist (ft)		630		690		271	513	
Turn Bay Length (ft)	220		330		150			100
Base Capacity (vph)	214	1189	215	1213	923	776	687	617
Starvation Cap Reductn	0	0	0	0	0	79	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	1.05	1.05	1.23	0.05	0.84	0.67	0.18

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

2025 No Build - Weekday Afternoon
11/07/2018

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↕			↗	↖
Traffic Volume (vph)	158	1108	55	163	1251	51	139	144	69	121	208	118
Future Volume (vph)	158	1108	55	163	1251	51	139	144	69	121	208	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	10	11
Storage Length (ft)	220		0	330		150	0		0	0		100
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00
Friction		0.993				0.850		0.971				0.850
Flt Protected	0.950			0.950				0.981			0.982	
Satd. Flow (prot)	1728	3548	0	1694	3539	1615	0	3432	0	0	3267	1561
Flt Permitted	0.950			0.950				0.981			0.982	
Satd. Flow (perm)	1728	3548	0	1694	3539	1615	0	3432	0	0	3267	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				76		21				124
Link Speed (mph)		40			45			25			25	
Link Distance (ft)		710			770			351			593	
Travel Time (s)		12.1			11.7			9.6			16.2	
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.80	0.80	0.80	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	2%	3%	2%	0%	2%	0%	14%	0%	2%	0%
Adj. Flow (vph)	170	1191	59	173	1331	54	174	180	86	127	219	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	1250	0	173	1331	54	0	440	0	0	346	124
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	0.96	1.00	1.00	1.09	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	pm+ov

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

2025 No Build - Weekday Afternoon
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	1	6		5	2	8	4	4		8	8	1
Permitted Phases						2						8
Detector Phase	1	6		5	2	8	4	4		8	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	60.0		10.0	60.0	29.0	30.0	30.0		29.0	29.0	10.0
Total Split (s)	26.0	41.0		26.0	41.0	31.0	32.0	32.0		31.0	31.0	26.0
Total Split (%)	20.0%	31.5%		20.0%	31.5%	23.8%	24.6%	24.6%		23.8%	23.8%	20.0%
Maximum Green (s)	21.0	34.0		20.0	34.0	25.0	26.0	26.0		25.0	25.0	21.0
Yellow Time (s)	3.0	4.0		4.0	4.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	3.0	3.0		3.0	3.0	2.0
Lost Time Adjust (s)	-1.0	-3.0		-2.0	-3.0	-2.0		-2.0				-1.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0				4.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
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		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Walk Time (s)		10.0			10.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		20.0			20.0	18.0	19.0	19.0		18.0	18.0	
Pedestrian Calls (#/hr)		11			11	5	7	7		5	5	
Act Effct Green (s)	18.4	49.8		19.5	51.0	72.3		23.4			21.3	43.7
Actuated g/C Ratio	0.14	0.38		0.15	0.39	0.56		0.18			0.16	0.34
v/c Ratio	0.70	0.92		0.68	0.96	0.06		0.69			0.65	0.20
Control Delay	68.0	50.6		65.8	55.6	1.0		29.7			56.3	4.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.3			0.0	0.0
Total Delay	68.0	50.6		65.8	55.6	1.0		30.0			56.3	4.9
LOS	E	D		E	E	A		C			E	A
Approach Delay		52.7			54.9			30.0			42.7	
Approach LOS		D			D			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 49.8
 Intersection Capacity Utilization 76.2%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 3: Hammond Street & Boylston Street









Ø1 26 s	Ø2 (R) 41 s	Ø4 32 s	Ø8 31 s
Ø5 26 s	Ø6 (R) 41 s		

Queues

2025 No Build - Weekday Afternoon

3: Hammond Street & Boylston Street

11/07/2018

								
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	170	1250	173	1331	54	440	346	124
v/c Ratio	0.70	0.92	0.68	0.96	0.06	0.69	0.65	0.20
Control Delay	68.0	50.6	65.8	55.6	1.0	29.7	56.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	68.0	50.6	65.8	55.6	1.0	30.0	56.3	4.9
Queue Length 50th (ft)	138	531	138	577	0	180	145	0
Queue Length 95th (ft)	211	#827	215	#901	6	96	188	38
Internal Link Dist (ft)		630		690		271	513	
Turn Bay Length (ft)	220		330		150			100
Base Capacity (vph)	293	1361	290	1387	998	755	678	647
Starvation Cap Reductn	0	0	0	0	0	50	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.92	0.60	0.96	0.05	0.62	0.51	0.19

Intersection Summary

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

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

2025 Build - Weekday Morning
11/07/2018

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↗			↗	↖
Traffic Volume (vph)	154	1068	38	216	1256	35	78	408	58	130	236	84
Future Volume (vph)	154	1068	38	216	1256	35	78	408	58	130	236	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	10	11
Storage Length (ft)	220		0	330		150	0		0	0		100
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.995				0.850		0.984				0.850
Flt Protected	0.950			0.950				0.993			0.983	
Satd. Flow (prot)	1728	3500	0	1678	3539	1615	0	3573	0	0	3312	1561
Flt Permitted	0.950			0.950				0.993			0.983	
Satd. Flow (perm)	1728	3500	0	1678	3539	1615	0	3573	0	0	3312	1561
Right Turn on Red			Yes			Yes		Yes				Yes
Satd. Flow (RTOR)		3				76		9				93
Link Speed (mph)		40			45			25			25	
Link Distance (ft)		710			770			351			593	
Travel Time (s)		12.1			11.7			9.6			16.2	
Peak Hour Factor	0.87	0.87	0.87	0.84	0.84	0.84	0.90	0.90	0.90	0.75	0.75	0.75
Heavy Vehicles (%)	1%	2%	20%	4%	2%	0%	3%	0%	15%	0%	0%	0%
Adj. Flow (vph)	177	1228	44	257	1495	42	87	453	64	173	315	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	1272	0	257	1495	42	0	604	0	0	488	112
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	0.96	1.00	1.00	1.09	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	pm+ov

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

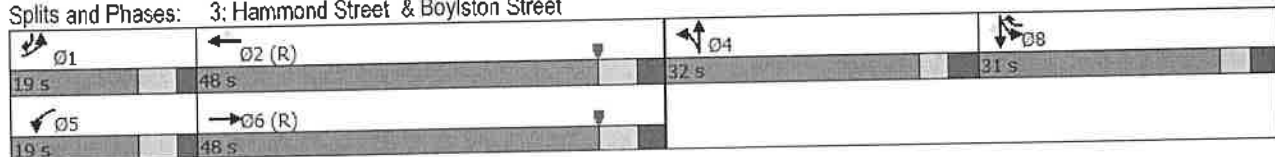
2025 Build - Weekday Morning
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	1	6		5	2	8	4	4		8	8	1
Permitted Phases						2						8
Detector Phase	1	6		5	2	8	4	4		8	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	60.0		10.0	60.0	30.0	30.0	30.0		30.0	30.0	10.0
Total Split (s)	19.0	48.0		19.0	48.0	31.0	32.0	32.0		31.0	31.0	19.0
Total Split (%)	14.6%	36.9%		14.6%	36.9%	23.8%	24.6%	24.6%		23.8%	23.8%	14.6%
Maximum Green (s)	13.0	41.0		13.0	41.0	25.0	26.0	26.0		25.0	25.0	13.0
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	3.0		3.0	3.0	4.0
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	3.0	3.0		3.0	3.0	2.0
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0	-2.0		-2.0				-2.0
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0		4.0				4.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
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		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	Ped	Ped	Ped		Ped	Ped	None
Walk Time (s)		20.0			20.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		20.0			20.0	18.0	19.0	19.0		18.0	18.0	
Pedestrian Calls (#/hr)		10			10	3	8	8		3	3	
Act Effect Green (s)	15.8	44.0		16.4	44.6	70.8		27.4				26.2
Actuated g/C Ratio	0.12	0.34		0.13	0.34	0.54		0.21				0.20
v/c Ratio	0.84	1.07		1.22	1.23	0.05		0.79				0.73
Control Delay	88.3	88.9		180.1	149.3	0.4		22.0				55.8
Queue Delay	0.0	0.0		0.0	0.0	0.0		3.1				0.0
Total Delay	88.3	88.9		180.1	149.3	0.4		25.2				55.8
LOS	F	F		F	F	A		C				E
Approach Delay		88.9			150.2			25.2				47.0
Approach LOS		F			F			C				D

Intersection Summary









Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 99.3
 Intersection Capacity Utilization 82.3%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service E

Splits and Phases: 3: Hammond Street & Boylston Street



Queues
3: Hammond Street & Boylston Street

2025 Build - Weekday Morning
11/07/2018

								
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	177	1272	257	1495	42	604	488	112
v/c Ratio	0.84	1.07	1.22	1.23	0.05	0.79	0.73	0.18
Control Delay	88.3	88.9	180.1	149.3	0.4	22.0	55.8	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0
Total Delay	88.3	88.9	180.1	149.3	0.4	25.2	55.8	8.6
Queue Length 50th (ft)	149	~625	~280	~825	0	98	202	10
Queue Length 95th (ft)	#270	#722	#414	#864	1	m121	213	34
Internal Link Dist (ft)		630		690		271	513	
Turn Bay Length (ft)	220		330		150			100
Base Capacity (vph)	210	1186	211	1213	923	776	687	612
Starvation Cap Reductn	0	0	0	0	0	94	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	1.07	1.22	1.23	0.05	0.89	0.71	0.18

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

2025 Build - Weekday Afternoon
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	1113	56	170	1251	51	149	148	69	122	215	118
Future Volume (vph)	158	1113	56	170	1251	51	149	148	69	122	215	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	13	12	12	10	11
Storage Length (ft)	220		0	330		150	0		0	0		100
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.993				0.850		0.972				0.850
Flt Protected	0.950			0.950				0.980			0.982	
Satd. Flow (prot)	1728	3548	0	1694	3539	1615	0	3435	0	0	3267	1561
Flt Permitted	0.950			0.950				0.980			0.982	
Satd. Flow (perm)	1728	3548	0	1694	3539	1615	0	3435	0	0	3267	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				76		20				124
Link Speed (mph)		40			45			25				25
Link Distance (ft)		710			770			351				593
Travel Time (s)		12.1			11.7			9.6				16.2
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.80	0.80	0.80	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	2%	3%	2%	0%	2%	0%	14%	0%	2%	0%
Adj. Flow (vph)	170	1197	60	181	1331	54	186	185	86	128	226	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	1257	0	181	1331	54	0	457	0	0	354	124
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.00	1.04	1.00	1.00	1.00	0.96	1.00	1.00	1.09	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA		Split	NA	pm+ov

Lanes, Volumes, Timings
3: Hammond Street & Boylston Street

2025 Build - Weekday Afternoon
11/07/2018

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	1	6		5	2	8	4	4		8	8	1
Permitted Phases						2						8
Detector Phase	1	6		5	2	8	4	4		8	8	1
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	60.0		10.0	60.0	29.0	30.0	30.0		29.0	29.0	10.0
Total Split (s)	26.0	41.0		26.0	41.0	31.0	32.0	32.0		31.0	31.0	26.0
Total Split (%)	20.0%	31.5%		20.0%	31.5%	23.8%	24.6%	24.6%		23.8%	23.8%	20.0%
Maximum Green (s)	21.0	34.0		20.0	34.0	25.0	26.0	26.0		25.0	25.0	21.0
Yellow Time (s)	3.0	4.0		4.0	4.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	3.0	3.0		3.0	3.0	2.0
Lost Time Adjust (s)	-1.0	-3.0		-2.0	-3.0	-2.0		-2.0			-2.0	-1.0
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
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		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None		None	None	None
Walk Time (s)		10.0			10.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		20.0			20.0	18.0	19.0	19.0		18.0	18.0	
Pedestrian Calls (#/hr)		11			11	5	7	7		5	5	
Act Effct Green (s)	18.3	48.6		19.9	50.2	71.8		23.9			21.6	43.9
Actuated g/C Ratio	0.14	0.37		0.15	0.39	0.55		0.18			0.17	0.34
v/c Ratio	0.70	0.95		0.70	0.97	0.06		0.71			0.65	0.20
Control Delay	68.4	55.0		66.7	58.9	1.0		27.3			56.1	4.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.3			0.0	0.0
Total Delay	68.4	55.0		66.7	58.9	1.0		27.6			56.1	4.9
LOS	E	D		E	E	A		C			E	A
Approach Delay		56.6			57.8			27.6			42.9	
Approach LOS		E			E			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 52.0 Intersection LOS: D
 Intersection Capacity Utilization 76.8% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Hammond Street & Boylston Street









↖ Ø1 26 s	← Ø2 (R) 41 s	↖ Ø4 32 s	↘ Ø8 31 s
↙ Ø5 26 s	→ Ø6 (R) 41 s		

Queues

2025 Build - Weekday Afternoon

3: Hammond Street & Boylston Street

11/07/2018

								
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	170	1257	181	1331	54	457	354	124
v/c Ratio	0.70	0.95	0.70	0.97	0.06	0.71	0.65	0.20
Control Delay	68.4	55.0	66.7	58.9	1.0	27.3	56.1	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	68.4	55.0	66.7	58.9	1.0	27.6	56.1	4.9
Queue Length 50th (ft)	138	545	145	584	0	148	148	0
Queue Length 95th (ft)	212	#835	225	#901	6	90	192	38
Internal Link Dist (ft)		630		690		271	513	
Turn Bay Length (ft)	220		330		150			100
Base Capacity (vph)	292	1329	291	1366	989	755	678	650
Starvation Cap Reductn	0	0	0	0	0	50	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.95	0.62	0.97	0.05	0.65	0.52	0.19

Intersection Summary

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

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

2018 Existing - Weekday Morning
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↑			↑	
Traffic Volume (vph)	0	0	0	70	16	68	6	442	168	20	369	11
Future Volume (vph)	0	0	0	70	16	68	6	442	168	20	369	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	11	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.940			0.959			0.996	
Frt Protected					0.978						0.998	
Satd. Flow (prot)	0	0	0	0	1728	0	0	3404	0	0	3389	0
Frt Permitted					0.978			0.949			0.950	
Satd. Flow (perm)	0	0	0	0	1728	0	0	3230	0	0	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					28			39			5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		250			609			1186			351	
Travel Time (s)		6.8			16.6			32.3			9.6	
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.75	0.93	0.93	0.93	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	100%	1%	6%	0%	0%	2%	1%	10%	2%	0%
Adj. Flow (vph)	0	0	0	93	21	91	6	475	181	26	486	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	205	0	0	662	0	0	526	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases					4			6			5	2
Permitted Phases				4			6			2		
Detector Phase				4	4		6	6		5	2	

Hammond Street at Heath Street

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

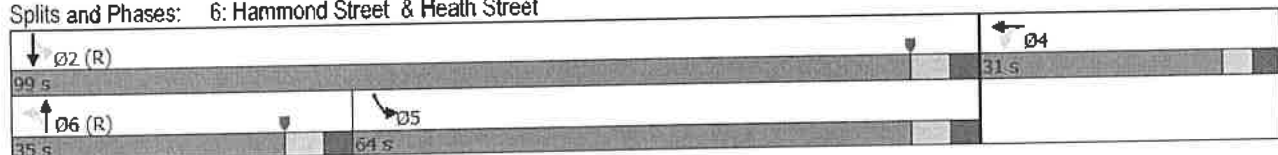
2018 Existing - Weekday Morning
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)				26.0	26.0		23.0	23.0		11.0	23.0	
Total Split (s)				31.0	31.0		35.0	35.0		64.0	99.0	
Total Split (%)				23.8%	23.8%		26.9%	26.9%		49.2%	76.2%	
Maximum Green (s)				25.0	25.0		28.0	28.0		57.0	92.0	
Yellow Time (s)				3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)					-2.0			-3.0			-3.0	
Total Lost Time (s)					4.0			4.0			4.0	
Lead/Lag							Lead	Lead		Lag		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode				None	None		C-Max	C-Max		Max	C-Max	
Walk Time (s)				7.0	7.0		5.0	5.0			5.0	
Flash Dont Walk (s)				13.0	13.0		5.0	5.0			11.0	
Pedestrian Calls (#/hr)				10	10		2	2			6	
Act Effct Green (s)					20.6			37.4			101.4	
Actuated g/C Ratio					0.16			0.29			0.78	
w/c Ratio					0.69			0.69			0.20	
Control Delay					56.2			44.0			0.6	
Queue Delay					0.0			0.0			0.3	
Total Delay					56.2			44.0			0.9	
LOS					E			D			A	
Approach Delay					56.2			44.0			0.9	
Approach LOS					E			D			A	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 28 (22%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.69
 Intersection Signal Delay: 29.5
 Intersection Capacity Utilization 41.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 6: Hammond Street & Heath Street



Queues

2018 Existing - Weekday Morning

11/07/2018

6: Hammond Street & Heath Street



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	205	662	526
v/c Ratio	0.69	0.69	0.20
Control Delay	56.2	44.0	0.6
Queue Delay	0.0	0.0	0.3
Total Delay	56.2	44.0	0.9
Queue Length 50th (ft)	143	247	7
Queue Length 95th (ft)	171	341	m10
Internal Link Dist (ft)	529	1106	271
Turn Bay Length (ft)			
Base Capacity (vph)	381	957	2593
Starvation Cap Reductn	0	0	1355
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.54	0.69	0.42

Intersection Summary

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

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

2018 Existing - Weekday Afternoon
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↕			↕	
Traffic Volume (vph)	0	0	0	54	15	67	11	249	86	21	349	23
Future Volume (vph)	0	0	0	54	15	67	11	249	86	21	349	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	11	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.934			0.963			0.991	
Flt Protected					0.981			0.998			0.997	
Satd. Flow (prot)	0	0	0	0	1702	0	0	3372	0	0	3388	0
Flt Permitted					0.981			0.934			0.945	
Satd. Flow (perm)	0	0	0	0	1702	0	0	3156	0	0	3211	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					36			33			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		250			629			214			351	
Travel Time (s)		6.8			17.2			5.8			9.6	
Peak Hour Factor	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	2%	0%	3%	0%	4%	0%	0%	2%	0%
Adj. Flow (vph)	0	0	0	67	19	83	12	280	97	25	420	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	169	0	0	389	0	0	473	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases					4			6			5	2
Permitted Phases				4			6			2		
Detector Phase				4	4		6	6		5	2	

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

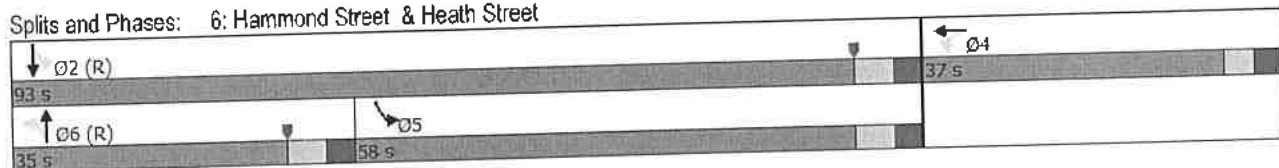
2018 Existing - Weekday Afternoon
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)				26.0	26.0		23.0	23.0		11.0	23.0	
Total Split (s)				37.0	37.0		35.0	35.0		58.0	93.0	
Total Split (%)				28.5%	28.5%		26.9%	26.9%		44.6%	71.5%	
Maximum Green (s)				31.0	31.0		28.0	28.0		51.0	86.0	
Yellow Time (s)				3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)					-2.0			-3.0			-3.0	
Total Lost Time (s)					4.0			4.0			4.0	
Lead/Lag							Lead	Lead		Lag		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode				None	None		C-Max	C-Max		Max	C-Max	
Walk Time (s)				7.0	7.0		5.0	5.0			5.0	
Flash Dont Walk (s)				13.0	13.0		5.0	5.0			11.0	
Pedestrian Calls (#/hr)				7	7		3	3			7	
Act Effct Green (s)					17.7			46.3			104.3	
Actuated g/C Ratio					0.14			0.36			0.80	
v/c Ratio					0.65			0.34			0.18	
Control Delay					52.3			29.9			2.0	
Queue Delay					0.0			0.0			0.6	
Total Delay					52.3			29.9			2.6	
LOS					D			C			A	
Approach Delay					52.3			29.9			2.6	
Approach LOS					D			C			A	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 92 (71%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 21.0
 Intersection Capacity Utilization 38.8%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 6: Hammond Street & Heath Street



Queues

2018 Existing - Weekday Afternoon

11/07/2018

6: Hammond Street & Heath Street

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	169	389	473
v/c Ratio	0.65	0.34	0.18
Control Delay	52.3	29.9	2.0
Queue Delay	0.0	0.0	0.6
Total Delay	52.3	29.9	2.6
Queue Length 50th (ft)	107	114	9
Queue Length 95th (ft)	152	169	24
Internal Link Dist (ft)	549	134	271
Turn Bay Length (ft)			
Base Capacity (vph)	458	1145	2651
Starvation Cap Reductn	0	0	1722
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.37	0.34	0.51
Intersection Summary			

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

2025 No Build - Weekday Morning
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↕			↕	
Traffic Volume (vph)	0	0	0	75	17	73	6	474	180	21	397	12
Future Volume (vph)	0	0	0	75	17	73	6	474	180	21	397	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	11	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr _t					0.940			0.959			0.996	
Fl _t Protected					0.978						0.998	
Satd. Flow (prot)	0	0	0	0	1728	0	0	3404	0	0	3298	0
Fl _t Permitted					0.978			0.949			0.946	
Satd. Flow (perm)	0	0	0	0	1728	0	0	3230	0	0	3127	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					28			39			6	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		250			359			1036			351	
Travel Time (s)		6.8			9.8			28.3			9.6	
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.75	0.93	0.93	0.93	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	100%	1%	6%	0%	0%	2%	1%	10%	2%	100%
Adj. Flow (vph)	0	0	0	100	23	97	6	510	194	28	522	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	220	0	0	710	0	0	566	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases					4			6			5	2
Permitted Phases				4			6			2		
Detector Phase				4	4		6	6		5	2	

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

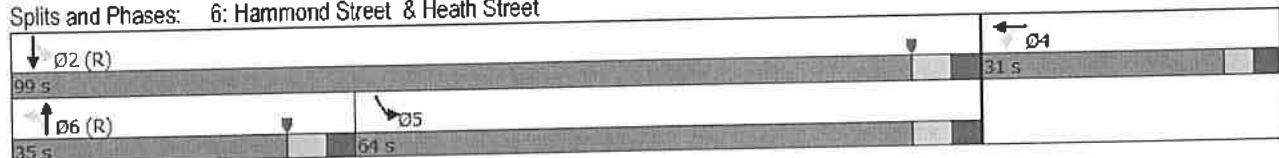
2025 No Build - Weekday Morning
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)				26.0	26.0		23.0	23.0		11.0	23.0	
Total Split (s)				31.0	31.0		35.0	35.0		64.0	99.0	
Total Split (%)				23.8%	23.8%		26.9%	26.9%		49.2%	76.2%	
Maximum Green (s)				25.0	25.0		28.0	28.0		57.0	92.0	
Yellow Time (s)				3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)					-2.0			-3.0			-3.0	
Total Lost Time (s)					4.0			4.0			4.0	
Lead/Lag							Lead	Lead		Lag		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode				None	None		C-Max	C-Max		Max	C-Max	
Walk Time (s)				7.0	7.0		5.0	5.0			5.0	
Flash Dont Walk (s)				13.0	13.0		5.0	5.0			11.0	
Pedestrian Calls (#/hr)				10	10		2	2			6	
Act Effct Green (s)					21.4			36.6			100.6	
Actuated g/C Ratio					0.16			0.28			0.77	
v/c Ratio					0.72			0.76			0.23	
Control Delay					57.4			47.1			0.7	
Queue Delay					0.0			0.1			0.3	
Total Delay					57.4			47.2			1.0	
LOS					E			D			A	
Approach Delay					57.4			47.2			1.0	
Approach LOS					E			D			A	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 28 (22%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 31.2
 Intersection Capacity Utilization 43.2%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 6: Hammond Street & Heath Street



Queues

2025 No Build - Weekday Morning

6: Hammond Street & Heath Street

11/07/2018

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	220	710	566
v/c Ratio	0.72	0.76	0.23
Control Delay	57.4	47.1	0.7
Queue Delay	0.0	0.1	0.3
Total Delay	57.4	47.2	1.0
Queue Length 50th (ft)	155	275	8
Queue Length 95th (ft)	183	#398	m10
Internal Link Dist (ft)	279	956	271
Turn Bay Length (ft)			
Base Capacity (vph)	381	937	2500
Starvation Cap Reductn	0	0	1266
Spillback Cap Reductn	0	14	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.58	0.77	0.46

Intersection Summary

- # 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.

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

2025 No Build - Weekday Afternoon
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Volume (vph)	0	0	0	58	16	72	12	267	92	23	374	25
Future Volume (vph)	0	0	0	58	16	72	12	267	92	23	374	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	11	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.934			0.963			0.991	
Flt Protected					0.980			0.998			0.997	
Satd. Flow (prot)	0	0	0	0	1700	0	0	3372	0	0	3388	0
Flt Permitted					0.980			0.931			0.941	
Satd. Flow (perm)	0	0	0	0	1700	0	0	3146	0	0	3198	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					36			32			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		250			499			214			351	
Travel Time (s)		6.8			13.6			5.8			9.6	
Peak Hour Factor	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	2%	0%	3%	0%	4%	0%	0%	2%	0%
Adj. Flow (vph)	0	0	0	72	20	89	13	300	103	28	451	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	181	0	0	416	0	0	509	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.00
Turning Speed (mph)	15		9		15		9		15		15	9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases					4			6			5	2
Permitted Phases					4			6			5	2
Detector Phase					4	4		6	6		5	2

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

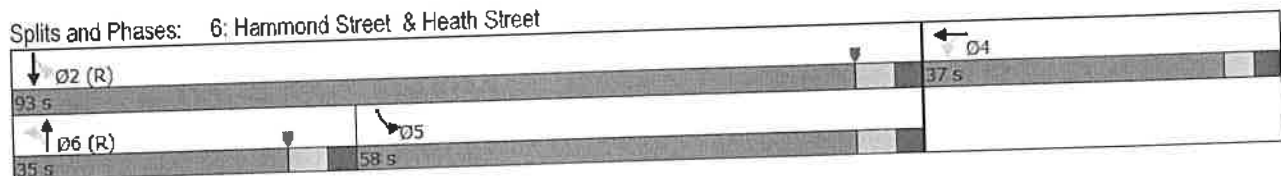
2025 No Build - Weekday Afternoon
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)				26.0	26.0		23.0	23.0		11.0	23.0	
Total Split (s)				37.0	37.0		35.0	35.0		58.0	93.0	
Total Split (%)				28.5%	28.5%		26.9%	26.9%		44.6%	71.5%	
Maximum Green (s)				31.0	31.0		28.0	28.0		51.0	86.0	
Yellow Time (s)				3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)						-2.0						-3.0
Total Lost Time (s)					4.0			4.0				4.0
Lead/Lag							Lead	Lead		Lag		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode				None	None		C-Max	C-Max		Max	C-Max	
Walk Time (s)				7.0	7.0		5.0	5.0			5.0	
Flash Dont Walk (s)				13.0	13.0		5.0	5.0			11.0	
Pedestrian Calls (#/hr)				7	7		3	3			7	
Act Effct Green (s)					18.7			45.3			103.3	
Actuated g/C Ratio					0.14			0.35			0.79	
v/c Ratio					0.66			0.37			0.19	
Control Delay					52.8			31.3			2.2	
Queue Delay					0.0			0.0			0.3	
Total Delay					52.8			31.3			2.5	
LOS					D			C			A	
Approach Delay					52.8			31.3			2.5	
Approach LOS					D			C			A	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 32 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 21.5
 Intersection Capacity Utilization 40.9%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 6: Hammond Street & Heath Street



Queues

2025 No Build - Weekday Afternoon

11/07/2018

6: Hammond Street & Heath Street

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	181	416	509
v/c Ratio	0.66	0.37	0.19
Control Delay	52.8	31.3	2.2
Queue Delay	0.0	0.0	0.3
Total Delay	52.8	31.3	2.5
Queue Length 50th (ft)	117	126	16
Queue Length 95th (ft)	161	185	m52
Internal Link Dist (ft)	419	134	271
Turn Bay Length (ft)			
Base Capacity (vph)	458	1118	2623
Starvation Cap Reductn	0	0	1383
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.40	0.37	0.41

Intersection Summary

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

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

2025 Build - Weekday Morning
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↕			↕	
Traffic Volume (vph)	0	0	0	119	24	90	6	474	252	43	430	12
Future Volume (vph)	0	0	0	119	24	90	6	474	252	43	430	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	11	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr _t					0.948			0.948			0.996	
Fl _t Protected					0.975						0.996	
Satd. Flow (prot)	0	0	0	0	1737	0	0	3367	0	0	3292	0
Fl _t Permitted					0.975			0.949			0.796	
Satd. Flow (perm)	0	0	0	0	1737	0	0	3195	0	0	2631	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					22			69			5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		250			359			1036			351	
Travel Time (s)		6.8			9.8			28.3			9.6	
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.75	0.93	0.93	0.93	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	100%	1%	6%	0%	0%	2%	1%	10%	2%	100%
Adj. Flow (vph)	0	0	0	159	32	120	6	510	271	57	566	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	311	0	0	787	0	0	639	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases					4			6			5	2
Permitted Phases				4			6			2		
Detector Phase				4	4		6	6		5	2	

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

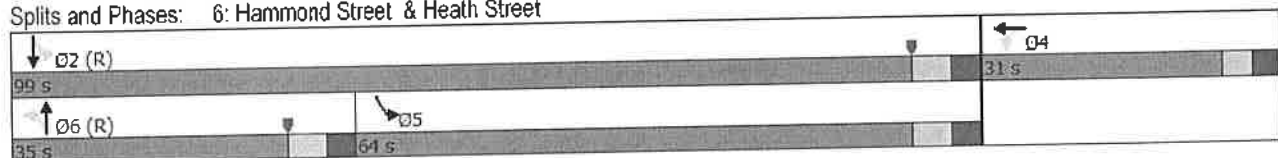
2025 Build - Weekday Morning
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)				26.0	26.0		23.0	23.0		11.0	23.0	
Total Split (s)				31.0	31.0		35.0	35.0		64.0	99.0	
Total Split (%)				23.8%	23.8%		26.9%	26.9%		49.2%	76.2%	
Maximum Green (s)				25.0	25.0		28.0	28.0		57.0	92.0	
Yellow Time (s)				3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)					-2.0			-3.0			-3.0	
Total Lost Time (s)					4.0			4.0			4.0	
Lead/Lag							Lead	Lead		Lag		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode				None	None		C-Max	C-Max		Max	C-Max	
Walk Time (s)				7.0	7.0		5.0	5.0			5.0	
Flash Dont Walk (s)				13.0	13.0		5.0	5.0			11.0	
Pedestrian Calls (#/hr)				10	10		2	2			6	
Act Effct Green (s)					25.7			32.3			96.3	
Actuated g/C Ratio					0.20			0.25			0.74	
v/c Ratio					0.86			0.93			0.28	
Control Delay					69.9			61.9			1.0	
Queue Delay					0.0			3.1			0.4	
Total Delay					69.9			65.0			1.4	
LOS					E			E			A	
Approach Delay					69.9			65.0			1.4	
Approach LOS					E			E			A	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 28 (22%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 42.5
 Intersection Capacity Utilization 58.2%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service B

Splits and Phases: 6: Hammond Street & Heath Street



Queues
6: Hammond Street & Heath Street

2025 Build - Weekday Morning
 11/07/2018













	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	311	787	639
v/c Ratio	0.86	0.93	0.28
Control Delay	69.9	61.9	1.0
Queue Delay	0.0	3.1	0.4
Total Delay	69.9	65.0	1.4
Queue Length 50th (ft)	236	322	14
Queue Length 95th (ft)	273	#455	m13
Internal Link Dist (ft)	279	956	271
Turn Bay Length (ft)			
Base Capacity (vph)	378	846	2256
Starvation Cap Reductn	0	0	1034
Spillback Cap Reductn	0	26	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.82	0.96	0.52

Intersection Summary

- # 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.

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

2025 Build - Weekday Afternoon
11/07/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Volume (vph)	0	0	0	93	22	84	12	269	125	38	374	25
Future Volume (vph)	0	0	0	93	22	84	12	269	125	38	374	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	11	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.943			0.954			0.991	
Flt Protected					0.977			0.999			0.996	
Satd. Flow (prot)	0	0	0	0	1713	0	0	3352	0	0	3386	0
Flt Permitted					0.977			0.932			0.908	
Satd. Flow (perm)	0	0	0	0	1713	0	0	3127	0	0	3087	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					27			51			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		250			499			214			351	
Travel Time (s)		6.8			13.6			5.8			9.6	
Peak Hour Factor	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	2%	0%	3%	0%	4%	0%	0%	2%	0%
Adj. Flow (vph)	0	0	0	115	27	104	13	302	140	46	451	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	246	0	0	455	0	0	527	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases					4			6			5	2
Permitted Phases				4			6			2		
Detector Phase				4	4		6	6		5	2	

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

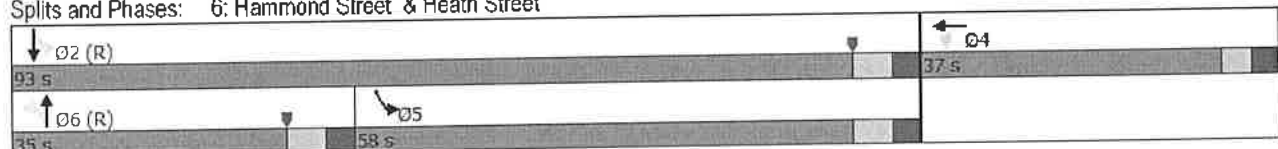
2025 Build - Weekday Afternoon
11/07/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)				26.0	26.0		23.0	23.0		11.0	23.0	
Total Split (s)				37.0	37.0		35.0	35.0		58.0	93.0	
Total Split (%)				28.5%	28.5%		26.9%	26.9%		44.6%	71.5%	
Maximum Green (s)				31.0	31.0		28.0	28.0		51.0	86.0	
Yellow Time (s)				3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)					-2.0			-3.0			-3.0	
Total Lost Time (s)					4.0			4.0			4.0	
Lead/Lag							Lead	Lead		Lag		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode				None	None		C-Max	C-Max		Max	C-Max	
Walk Time (s)				7.0	7.0		5.0	5.0			5.0	
Flash Dont Walk (s)				13.0	13.0		5.0	5.0			11.0	
Pedestrian Calls (#/hr)				7	7		3	3			7	
Act Effct Green (s)					24.1			39.9			97.9	
Actuated g/C Ratio					0.19			0.31			0.75	
v/c Ratio					0.73			0.46			0.22	
Control Delay					56.0			35.0			3.2	
Queue Delay					0.0			0.0			0.3	
Total Delay					56.0			35.0			3.4	
LOS					E			C			A	
Approach Delay					56.0			35.0			3.4	
Approach LOS					E			C			A	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 32 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 25.6
 Intersection Capacity Utilization 45.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 6: Hammond Street & Heath Street



Queues

6: Hammond Street & Heath Street













	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	246	455	527
v/c Ratio	0.73	0.46	0.22
Control Delay	56.0	35.0	3.2
Queue Delay	0.0	0.0	0.3
Total Delay	56.0	35.0	3.4
Queue Length 50th (ft)	176	144	20
Queue Length 95th (ft)	218	212	m66
Internal Link Dist (ft)	419	134	271
Turn Bay Length (ft)			
Base Capacity (vph)	454	994	2451
Starvation Cap Reductn	0	0	1197
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.54	0.46	0.42

Intersection Summary

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

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

2025 Build Mitigated - Weekday Morning
12/03/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Volume (vph)	0	0	0	119	24	90	6	474	252	43	430	12
Future Volume (vph)	0	0	0	119	24	90	6	474	252	43	430	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	11	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.948			0.948			0.996	
Flt Protected					0.975						0.996	
Satd. Flow (prot)	0	0	0	0	1737	0	0	3367	0	0	3292	0
Flt Permitted					0.975						0.996	
Satd. Flow (perm)	0	0	0	0	1737	0	0	3367	0	0	3292	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					24			69			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		250			352			1127			260	
Travel Time (s)		6.8			9.6			30.7			7.1	
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.75	0.93	0.93	0.93	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	100%	1%	6%	0%	0%	2%	1%	10%	2%	100%
Adj. Flow (vph)	0	0	0	159	32	120	6	510	271	57	566	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	311	0	0	787	0	0	639	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Split	NA		Split	NA	
Protected Phases					6		8	8		10	10	
Permitted Phases				6			8	8		10	10	
Detector Phase				6	6		8	8		10	10	

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

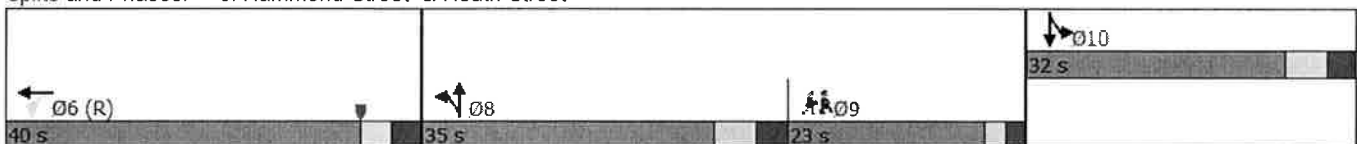
2025 Build Mitigated - Weekday Morning
12/03/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)				26.0	26.0		23.0	23.0		23.0	23.0	
Total Split (s)				40.0	40.0		35.0	35.0		32.0	32.0	
Total Split (%)				30.8%	30.8%		26.9%	26.9%		24.6%	24.6%	
Maximum Green (s)				34.0	34.0		28.0	28.0		25.0	25.0	
Yellow Time (s)				3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)					-2.0			-3.0			-3.0	
Total Lost Time (s)					4.0			4.0			4.0	
Lead/Lag							Lead	Lead				
Lead-Lag Optimize?							Yes	Yes				
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode				C-Max	C-Max		None	None		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					36.0			31.0			43.0	
Actuated g/C Ratio					0.28			0.24			0.33	
v/c Ratio					0.62			0.92			0.59	
Control Delay					44.2			60.8			10.2	
Queue Delay					0.0			6.6			4.1	
Total Delay					44.2			67.5			14.2	
LOS					D			E			B	
Approach Delay					44.2			67.5			14.2	
Approach LOS					D			E			B	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 43.7
 Intersection Capacity Utilization 58.2%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service B

Splits and Phases: 6: Hammond Street & Heath Street



Lane Group	Ø9
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	20.0
Total Split (s)	23.0
Total Split (%)	18%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Dont Walk (s)	11.0
Pedestrian Calls (#/hr)	15
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Queues
6: Hammond Street & Heath Street

2025 Build Mitigated - Weekday Morning
12/03/2018













	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	311	787	639
v/c Ratio	0.62	0.92	0.59
Control Delay	44.2	60.8	10.2
Queue Delay	0.0	6.6	4.1
Total Delay	44.2	67.5	14.2
Queue Length 50th (ft)	213	316	27
Queue Length 95th (ft)	246	#436	m144
Internal Link Dist (ft)	272	1047	180
Turn Bay Length (ft)			
Base Capacity (vph)	498	855	1090
Starvation Cap Reductn	0	0	360
Spillback Cap Reductn	0	50	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.62	0.98	0.88

Intersection Summary

- # 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.

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

2025 Build Mitigated - Weekday Afternoon
12/03/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	93	22	84	12	269	125	38	374	25
Future Volume (vph)	0	0	0	93	22	84	12	269	125	38	374	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	11	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.943			0.954			0.991	
Flt Protected					0.977			0.999			0.996	
Satd. Flow (prot)	0	0	0	0	1713	0	0	3352	0	0	3386	0
Flt Permitted					0.977			0.999			0.996	
Satd. Flow (perm)	0	0	0	0	1713	0	0	3352	0	0	3386	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					27			51			5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		250			398			214			255	
Travel Time (s)		6.8			10.9			5.8			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	2%	0%	3%	0%	4%	0%	0%	2%	0%
Adj. Flow (vph)	0	0	0	115	27	104	13	302	140	46	451	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	246	0	0	455	0	0	527	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Split	NA		Split	NA	
Protected Phases					6		8	8		10	10	
Permitted Phases				6			8	8		10	10	
Detector Phase				6	6		8	8		10	10	

Lanes, Volumes, Timings
6: Hammond Street & Heath Street

2025 Build Mitigated - Weekday Afternoon
12/03/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)				26.0	26.0		23.0	23.0		23.0	23.0	
Total Split (s)				35.0	35.0		35.0	35.0		37.0	37.0	
Total Split (%)				26.9%	26.9%		26.9%	26.9%		28.5%	28.5%	
Maximum Green (s)				29.0	29.0		28.0	28.0		30.0	30.0	
Yellow Time (s)				3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)					-2.0			-3.0			-3.0	
Total Lost Time (s)					4.0			4.0			4.0	
Lead/Lag							Lead	Lead				
Lead-Lag Optimize?							Yes	Yes				
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode				C-Max	C-Max		None	None		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)					31.0			24.7			54.3	
Actuated g/C Ratio					0.24			0.19			0.42	
v/c Ratio					0.57			0.67			0.37	
Control Delay					44.8			47.8			12.6	
Queue Delay					0.0			0.0			0.8	
Total Delay					44.8			47.8			13.5	
LOS					D			D			B	
Approach Delay					44.8			47.8			13.5	
Approach LOS					D			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 32.5
 Intersection Capacity Utilization 45.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 6: Hammond Street & Heath Street



Lane Group	Ø9
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	20.0
Total Split (s)	23.0
Total Split (%)	18%
Maximum Green (s)	19.0
Yellow Time (s)	2.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Dont Walk (s)	11.0
Pedestrian Calls (#/hr)	15
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Queues
6: Hammond Street & Heath Street

	←	↑	↓
Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	246	455	527
v/c Ratio	0.57	0.67	0.37
Control Delay	44.8	47.8	12.6
Queue Delay	0.0	0.0	0.8
Total Delay	44.8	47.8	13.5
Queue Length 50th (ft)	164	167	38
Queue Length 95th (ft)	221	211	m178
Internal Link Dist (ft)	318	134	175
Turn Bay Length (ft)			
Base Capacity (vph)	429	838	1416
Starvation Cap Reductn	0	0	571
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.57	0.54	0.62

Intersection Summary

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

Hammond Street at Soule Recreation Drive and Private Drive

5: Hammond Street & Privite Drive/Soule Recreation Drive

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	4	0	3	0	585	6	8	430	1
Future Vol, veh/h	0	0	1	4	0	3	0	585	6	8	430	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	88	88	88	93	93	93	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	3	0
Mvmt Flow	0	0	1	5	0	3	0	629	6	11	573	1

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	911	1231	287	941	1228	318	574	0	0	635	0	0
Stage 1	596	596	-	632	632	-	-	-	-	-	-	-
Stage 2	315	635	-	309	596	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	232	179	716	221	180	684	1009	-	-	958	-	-
Stage 1	462	495	-	440	477	-	-	-	-	-	-	-
Stage 2	676	476	-	682	495	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	228	176	716	218	177	684	1009	-	-	958	-	-
Mov Cap-2 Maneuver	228	176	-	218	177	-	-	-	-	-	-	-
Stage 1	462	487	-	440	477	-	-	-	-	-	-	-
Stage 2	673	476	-	669	487	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	17	0	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1009	-	-	716	308	958	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.026	0.011	-	-
HCM Control Delay (s)	0	-	-	10	17	8.8	0.1	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

5: Hammond Street & Private Drive/Soule Recreation Drive

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	0	0	2	2	0	5	0	328	3	3	386	2
Future Vol, veh/h	0	0	2	2	0	5	0	328	3	3	386	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	93	93	93	84	84	84
Heavy Vehicles, %	0	0	50	0	0	0	0	3	0	0	3	0
Mvmt Flow	0	0	3	3	0	7	0	353	3	4	460	2

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	646	825	231	593	825	178	462	0	0	356	0	0
Stage 1	469	469	-	355	355	-	-	-	-	-	-	-
Stage 2	177	356	-	238	470	-	-	-	-	4.1	-	-
Critical Hdwy	7.5	6.5	7.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.8	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	361	310	643	393	310	841	1110	-	-	1214	-	-
Stage 1	549	564	-	641	633	-	-	-	-	-	-	-
Stage 2	813	633	-	750	563	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	357	309	643	390	309	841	1110	-	-	1214	-	-
Mov Cap-2 Maneuver	357	309	-	390	309	-	-	-	-	-	-	-
Stage 1	549	562	-	641	633	-	-	-	-	-	-	-
Stage 2	807	633	-	744	561	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	10.8	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1110	-	-	643	632	1214	-	-
HCM Lane V/C Ratio	-	-	-	0.004	0.015	0.003	-	-
HCM Control Delay (s)	0	-	-	10.6	10.8	8	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	4	0	3	0	627	6	9	461	1
Future Vol, veh/h	0	0	1	4	0	3	0	627	6	9	461	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	88	88	88	93	93	93	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	3	0
Mvmt Flow	0	0	1	5	0	3	0	674	6	12	615	1

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	977	1320	308	1009	1317	340	616	0	0	680	0	0
Stage 1	640	640	-	677	677	-	-	-	-	-	-	-
Stage 2	337	680	-	332	640	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	208	158	694	197	159	662	974	-	-	922	-	-
Stage 1	435	473	-	414	455	-	-	-	-	-	-	-
Stage 2	656	454	-	661	473	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	204	155	694	194	156	662	974	-	-	922	-	-
Mov Cap-2 Maneuver	204	155	-	194	156	-	-	-	-	-	-	-
Stage 1	435	464	-	414	455	-	-	-	-	-	-	-
Stage 2	653	454	-	647	464	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s	10.2		18.3			0			0.3		
HCM LOS	B		C								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	974	-	-	694	278	922	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.029	0.013	-	-
HCM Control Delay (s)	0	-	-	10.2	18.3	9	0.1	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕↕			↕↕	
Traffic Vol, veh/h	0	0	2	2	0	5	0	352	3	3	414	2
Future Vol, veh/h	0	0	2	2	0	5	0	352	3	3	414	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	93	93	93	84	84	84
Heavy Vehicles, %	0	0	50	0	0	0	0	3	0	0	3	0
Mvmt Flow	0	0	3	3	0	7	0	378	3	4	493	2

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	691	883	248	635	883	191	495	0	0	381	0	0
Stage 1	502	502	-	380	380	-	-	-	-	-	-	-
Stage 2	189	381	-	255	503	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.8	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	335	287	625	367	287	825	1079	-	-	1189	-	-
Stage 1	525	545	-	619	617	-	-	-	-	-	-	-
Stage 2	800	617	-	733	545	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	331	286	625	364	286	825	1079	-	-	1189	-	-
Mov Cap-2 Maneuver	331	286	-	364	286	-	-	-	-	-	-	-
Stage 1	525	542	-	619	617	-	-	-	-	-	-	-
Stage 2	794	617	-	726	542	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1079	-	-	625	606	1189	-	-
HCM Lane V/C Ratio	-	-	-	0.004	0.015	0.003	-	-
HCM Control Delay (s)	0	-	-	10.8	11	8	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	4	0	3	0	669	6	9	539	1
Future Vol, veh/h	0	0	1	4	0	3	0	669	6	9	539	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	88	88	88	93	93	93	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	3	0
Mvmt Flow	0	0	1	5	0	3	0	719	6	12	719	1

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1104	1469	360	1106	1466	363	720	0	0	725	0	0
Stage 1	744	744	-	722	722	-	-	-	-	-	-	-
Stage 2	360	725	-	384	744	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	168	129	642	168	129	640	891	-	-	887	-	-
Stage 1	377	424	-	389	434	-	-	-	-	-	-	-
Stage 2	636	433	-	616	424	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	164	126	642	165	126	640	891	-	-	887	-	-
Mov Cap-2 Maneuver	164	126	-	165	126	-	-	-	-	-	-	-
Stage 1	377	414	-	389	434	-	-	-	-	-	-	-
Stage 2	633	433	-	601	414	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.6		20.4		0		0.2	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	891	-	-	642	242	887	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.033	0.014	-	-
HCM Control Delay (s)	0	-	-	10.6	20.4	9.1	0.1	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Vol, veh/h	0	0	2	2	0	5	0	387	3	3	449	2
Future Vol, veh/h	0	0	2	2	0	5	0	387	3	3	449	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	93	93	93	84	84	84
Heavy Vehicles, %	0	0	50	0	0	0	0	3	0	0	3	0
Mvmt Flow	0	0	3	3	0	7	0	416	3	4	535	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	752	963	269	694	963	210	537	0	0	419	0	0
Stage 1	544	544	-	418	418	-	-	-	-	-	-	-
Stage 2	208	419	-	276	545	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.8	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	303	258	603	333	258	802	1041	-	-	1151	-	-
Stage 1	496	522	-	588	594	-	-	-	-	-	-	-
Stage 2	780	593	-	712	522	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	299	257	603	330	257	802	1041	-	-	1151	-	-
Mov Cap-2 Maneuver	299	257	-	330	257	-	-	-	-	-	-	-
Stage 1	496	519	-	588	594	-	-	-	-	-	-	-
Stage 2	774	593	-	705	519	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	11.4	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1041	-	-	603	569	1151	-	-
HCM Lane V/C Ratio	-	-	-	0.004	0.016	0.003	-	-
HCM Control Delay (s)	0	-	-	11	11.4	8.1	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Hammond Street at Woodland Road

Lanes, Volumes, Timings
11: Hammond Street

2018 Existing - Weekday Morning
11/07/2018

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	27	94	34	130	604	464	5	325	109	0	0
Future Volume (vph)	27	94	34	130	604	464	5	325	109	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12	13	13	12	12	12
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00
Friction		0.971			0.942			0.963			
Flt Protected		0.962			0.995			0.999			
Satd. Flow (prot)	0	1999	0	0	3337	0	0	3580	0	0	0
Flt Permitted		0.962			0.805			0.940			
Satd. Flow (perm)	0	1999	0	0	2700	0	0	3369	0	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)		23			418			133			
Link Speed (mph)		30			25			30		30	
Link Distance (ft)		1286			355			1186		897	
Travel Time (s)		29.2			9.7			27.0		20.4	
Peak Hour Factor	0.75	0.75	0.75	0.85	0.85	0.85	0.75	0.75	0.75	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	2%	1%	20%	0%	0%	0%	0%
Adj. Flow (vph)	36	125	45	153	711	546	7	433	145	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	206	0	0	1410	0	0	585	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		16			0			0		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.00	0.85	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	15	9	15		9	15		9	15	9
Number of Detectors	1	1		1	2		1	2			
Detector Template	Left	Left		Left	Thru		Left	Thru			
Leading Detector (ft)	20	20		20	100		20	100			
Trailing Detector (ft)	0	0		0	0		0	0			
Detector 1 Position(ft)	0	0		0	0		0	0			
Detector 1 Size(ft)	20	20		20	6		20	6			
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex			
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 2 Position(ft)					94			94			
Detector 2 Size(ft)					6			6			
Detector 2 Type					CI+Ex			CI+Ex			
Detector 2 Channel											
Detector 2 Extend (s)					0.0			0.0			
Turn Type	Perm	Prot		Perm	NA		Perm	NA			
Protected Phases		4			2			6			
Permitted Phases	4			2			6				
Detector Phase	4	4		2	2		6	6			

Lanes, Volumes, Timings
11: Hammond Street

2018 Existing - Weekday Morning
11/07/2018

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Switch Phase											
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0			
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0			
Total Split (s)	20.0	20.0		40.0	40.0		40.0	40.0			
Total Split (%)	33.3%	33.3%		66.7%	66.7%		66.7%	66.7%			
Maximum Green (s)	16.0	16.0		36.0	36.0		36.0	36.0			
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5			
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5			
Lost Time Adjust (s)		0.0			0.0			0.0			
Total Lost Time (s)		4.0			4.0			4.0			
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			
Recall Mode	None	None		Max	Max		Max	Max			
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			
Pedestrian Calls (#/hr)	0	0		0	0		0	0			
Act Effct Green (s)		10.7			40.8			40.8			
Actuated g/C Ratio		0.18			0.69			0.69			
v/c Ratio		0.54			0.71			0.25			
Control Delay		24.1			6.9			3.4			
Queue Delay		0.0			0.0			0.0			
Total Delay		24.1			6.9			3.4			
LOS		C			A			A			
Approach Delay		24.1			6.9			3.4			
Approach LOS		C			A			A			

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 59.5
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 7.5 Intersection LOS: A
 Intersection Capacity Utilization 66.7% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 11: Hammond Street

Ø2 40 s	Ø4 20 s
Ø6 40 s	

Queues
11: Hammond Street

2018 Existing - Weekday Morning
11/07/2018

	↖	↑	↓
Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	206	1410	585
v/c Ratio	0.54	0.71	0.25
Control Delay	24.1	6.9	3.4
Queue Delay	0.0	0.0	0.0
Total Delay	24.1	6.9	3.4
Queue Length 50th (ft)	57	76	23
Queue Length 95th (ft)	82	157	38
Internal Link Dist (ft)	1206	275	1106
Turn Bay Length (ft)			
Base Capacity (vph)	556	1981	2350
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.37	0.71	0.25
Intersection Summary			

HCM 2010 TWSC
17: Hammond Street & Woodland Road

2018 Existing - Weekday Afternoon
11/08/2018

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations	↔		↔			↔				
Traffic Vol, veh/h	14	9	15	318	77	0	395	10	0	0
Future Vol, veh/h	14	9	15	318	77	0	395	10	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	-	None	-	-
Storage Length	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	75	75	94	94	94	93	93	93	92	92
Heavy Vehicles, %	0	0	0	4	0	0	2	0	0	0
Mvmt Flow	19	12	16	338	82	0	425	11	0	0

Major/Minor	Minor2	Major1			Major2		
Conflicting Flow All	632	218	436	0	0	420	0
Stage 1	431	-	-	-	-	-	-
Stage 2	201	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	2.2	-
Pot Cap-1 Maneuver	417	792	1134	-	-	1150	-
Stage 1	629	-	-	-	-	-	-
Stage 2	819	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	409	792	1134	-	-	1150	-
Mov Cap-2 Maneuver	409	-	-	-	-	-	-
Stage 1	617	-	-	-	-	-	-
Stage 2	819	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1134	-	-	576	1150	-	-
HCM Lane V/C Ratio	0.014	-	-	0.067	-	-	-
HCM Control Delay (s)	8.2	0.1	-	11.7	0	-	-
HCM Lane LOS	A	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	-	-

Lanes, Volumes, Timings
11: Hammond Street & Woodland Road

2025 No Build - Weekday Morning
11/07/2018

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	29	101	36	140	648	497	5	348	117	0	0
Future Volume (vph)	29	101	36	140	648	497	5	348	117	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12	13	13	12	12	12
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00
Frt		0.971			0.942			0.963			
Flt Protected		0.962			0.995			0.999			
Satd. Flow (prot)	0	1999	0	0	3337	0	0	3581	0	0	0
Flt Permitted		0.962			0.791			0.939			
Satd. Flow (perm)	0	1999	0	0	2653	0	0	3366	0	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)		23			416			134			
Link Speed (mph)		30			25			30		30	
Link Distance (ft)		554			286			1036		559	
Travel Time (s)		12.6			7.8			23.5		12.7	
Peak Hour Factor	0.75	0.75	0.75	0.85	0.85	0.85	0.75	0.75	0.75	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	2%	1%	20%	0%	0%	0%	0%
Adj. Flow (vph)	39	135	48	165	762	585	7	464	156	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	222	0	0	1512	0	0	627	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		16			0			0		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.00	0.85	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	15	9	15		9	15		9	15	9
Number of Detectors	1	1		1	2		1	2			
Detector Template	Left	Left		Left	Thru		Left	Thru			
Leading Detector (ft)	20	20		20	100		20	100			
Trailing Detector (ft)	0	0		0	0		0	0			
Detector 1 Position(ft)	0	0		0	0		0	0			
Detector 1 Size(ft)	20	20		20	6		20	6			
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 2 Position(ft)					94			94			
Detector 2 Size(ft)					6			6			
Detector 2 Type					Cl+Ex			Cl+Ex			
Detector 2 Channel											
Detector 2 Extend (s)					0.0			0.0			
Turn Type	Perm	Prot		Perm	NA		Perm	NA			
Protected Phases		4			2			6			
Permitted Phases	4			2			6				
Detector Phase	4	4		2	2		6	6			

Lanes, Volumes, Timings
11: Hammond Street & Woodland Road

2025 No Build - Weekday Morning
11/07/2018

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Switch Phase											
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0			
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0			
Total Split (s)	20.0	20.0		40.0	40.0		40.0	40.0			
Total Split (%)	33.3%	33.3%		66.7%	66.7%		66.7%	66.7%			
Maximum Green (s)	16.0	16.0		36.0	36.0		36.0	36.0			
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5			
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5			
Lost Time Adjust (s)		0.0			0.0			0.0			
Total Lost Time (s)		4.0			4.0			4.0			
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			
Recall Mode	None	None		Max	Max		Max	Max			
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			
Pedestrian Calls (#/hr)	0	0		0	0		0	0			
Act Effct Green (s)		11.2			40.3			40.3			
Actuated g/C Ratio		0.19			0.68			0.68			
v/c Ratio		0.56			0.78			0.27			
Control Delay		24.3			9.4			3.6			
Queue Delay		0.0			0.0			0.0			
Total Delay		24.3			9.4			3.6			
LOS		C			A			A			
Approach Delay		24.3			9.4			3.6			
Approach LOS		C			A			A			

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 59.5
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 9.3
 Intersection Capacity Utilization 70.8%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 11: Hammond Street & Woodland Road

02 40 s	04 20 s
06 40 s	

Queues

2025 No Build - Weekday Morning

11: Hammond Street & Woodland Road

11/07/2018

	↙	↑	↓
Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	222	1512	627
v/c Ratio	0.56	0.78	0.27
Control Delay	24.3	9.4	3.6
Queue Delay	0.0	0.0	0.0
Total Delay	24.3	9.4	3.6
Queue Length 50th (ft)	61	98	27
Queue Length 95th (ft)	88	205	44
Internal Link Dist (ft)	474	206	956
Turn Bay Length (ft)			
Base Capacity (vph)	555	1931	2323
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.40	0.78	0.27
Intersection Summary			

Lanes, Volumes, Timings
17: Hammond Street & Woodland Road

2025 No Build - Weekday Afternoon
11/09/2018

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	10	15	10	16	341	83	0	423	10	0	0
Future Volume (vph)	10	15	10	16	341	83	0	423	10	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	12	12	13	12	12
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00
Fr't		0.962			0.972			0.996			
Flt Protected		0.965			0.998						
Satd. Flow (prot)	0	1999	0	0	3397	0	0	3527	0	0	0
Flt Permitted		0.965			0.937						
Satd. Flow (perm)	0	1999	0	0	3189	0	0	3527	0	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)		36			74			6			
Link Speed (mph)		30			30			30		30	
Link Distance (ft)		565			1216			889		662	
Travel Time (s)		12.8			27.6			20.2		15.0	
Peak Hour Factor	0.75	0.75	0.75	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	13	20	13	17	363	88	0	455	11	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	46	0	0	468	0	0	466	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		16			0			0		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00
Turning Speed (mph)	15	15	9	15		9	15		9	15	9
Number of Detectors	1	1		1	2		1	2			
Detector Template	Left	Left		Left	Thru		Left	Thru			
Leading Detector (ft)	20	20		20	100		20	100			
Trailing Detector (ft)	0	0		0	0		0	0			
Detector 1 Position(ft)	0	0		0	0		0	0			
Detector 1 Size(ft)	20	20		20	6		20	6			
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex			
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 2 Position(ft)					94			94			
Detector 2 Size(ft)					6			6			
Detector 2 Type					CI+Ex			CI+Ex			
Detector 2 Channel											
Detector 2 Extend (s)					0.0			0.0			
Turn Type	Perm	Prot		Perm	NA			NA			
Protected Phases		4			2			6			
Permitted Phases	4			2			6				
Detector Phase	4	4		2	2		6	6			

Lanes, Volumes, Timings
17: Hammond Street & Woodland Road

2025 No Build - Weekday Afternoon
11/09/2018

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Switch Phase											
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0			
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5			
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5			
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%			
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0			
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5			
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0			
Lost Time Adjust (s)		0.0			0.0			0.0			
Total Lost Time (s)		4.5			4.5			4.5			
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			
Recall Mode	None	None		Min	Min		Min	Min			
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			
Pedestrian Calls (#/hr)	0	0		0	0		0	0			
Act Effct Green (s)		6.0			26.3			26.3			
Actuated g/C Ratio		0.21			0.92			0.92			
v/c Ratio		0.10			0.16			0.14			
Control Delay		6.8			1.3			1.4			
Queue Delay		0.0			0.0			0.0			
Total Delay		6.8			1.3			1.4			
LOS		A			A			A			
Approach Delay		6.8			1.3			1.4			
Approach LOS		A			A			A			

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 28.7
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.16
 Intersection Signal Delay: 1.6
 Intersection Capacity Utilization 35.7%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 17: Hammond Street & Woodland Road

↑ 02 22.5 s	→ 04 22.5 s
↓ 06 22.5 s	

Queues
17: Hammond Street & Woodland Road

2025 No Build - Weekday Afternoon
 11/09/2018

	↖	↑	↓
Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	46	468	466
v/c Ratio	0.10	0.16	0.14
Control Delay	6.8	1.3	1.4
Queue Delay	0.0	0.0	0.0
Total Delay	6.8	1.3	1.4
Queue Length 50th (ft)	1	0	0
Queue Length 95th (ft)	14	30	33
Internal Link Dist (ft)	485	1136	809
Turn Bay Length (ft)			
Base Capacity (vph)	1296	2926	3230
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.04	0.16	0.14
Intersection Summary			

Lanes, Volumes, Timings
11: Hammond Street & Woodland Road

2025 Build - Weekday Morning
11/07/2018

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	38	101	36	140	721	513	23	392	117	0	0
Future Volume (vph)	38	101	36	140	721	513	23	392	117	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	12	12	13	13	12	12	12
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00
Frt		0.972			0.944			0.967			
Flt Protected		0.962			0.995			0.998			
Satd. Flow (prot)	0	2002	0	0	3343	0	0	3569	0	0	0
Flt Permitted		0.962			0.779			0.849			
Satd. Flow (perm)	0	2002	0	0	2617	0	0	3036	0	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)		21			367			107			
Link Speed (mph)		30			25			30		30	
Link Distance (ft)		554			286			1036		559	
Travel Time (s)		12.6			7.8			23.5		12.7	
Peak Hour Factor	0.75	0.75	0.75	0.85	0.85	0.85	0.75	0.75	0.75	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	2%	1%	20%	0%	0%	0%	0%
Adj. Flow (vph)	51	135	48	165	848	604	31	523	156	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	234	0	0	1617	0	0	710	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		16			0			0		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.00	0.85	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	15	9	15		9	15		9	15	9
Number of Detectors	1	1		1	2		1	2			
Detector Template	Left	Left		Left	Thru		Left	Thru			
Leading Detector (ft)	20	20		20	100		20	100			
Trailing Detector (ft)	0	0		0	0		0	0			
Detector 1 Position(ft)	0	0		0	0		0	0			
Detector 1 Size(ft)	20	20		20	6		20	6			
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex			
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 2 Position(ft)					94			94			
Detector 2 Size(ft)					6			6			
Detector 2 Type					CI+Ex			CI+Ex			
Detector 2 Channel											
Detector 2 Extend (s)					0.0			0.0			
Turn Type	Perm	Prot		Perm	NA		Perm	NA			
Protected Phases		4			2			6			
Permitted Phases	4			2			6				
Detector Phase	4	4		2	2		6	6			

Lanes, Volumes, Timings
 11: Hammond Street & Woodland Road

2025 Build - Weekday Morning
 11/07/2018

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Switch Phase											
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0			
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0			
Total Split (s)	20.0	20.0		40.0	40.0		40.0	40.0			
Total Split (%)	33.3%	33.3%		66.7%	66.7%		66.7%	66.7%			
Maximum Green (s)	16.0	16.0		36.0	36.0		36.0	36.0			
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5			
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5			
Lost Time Adjust (s)		0.0			0.0			0.0			
Total Lost Time (s)		4.0			4.0			4.0			
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			
Recall Mode	None	None		Max	Max		Max	Max			
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			
Pedestrian Calls (#/hr)	0	0		0	0		0	0			
Act Effct Green (s)		11.6			40.0			40.0			
Actuated g/C Ratio		0.19			0.67			0.67			
v/c Ratio		0.58			0.86			0.34			
Control Delay		24.7			13.6			4.5			
Queue Delay		0.0			0.0			0.0			
Total Delay		24.7			13.6			4.5			
LOS		C			B			A			
Approach Delay		24.7			13.6			4.5			
Approach LOS		C			B			A			

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 59.6
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 12.1
 Intersection Capacity Utilization 75.6%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 11: Hammond Street & Woodland Road

Ø2 40 s	Ø4 20 s
Ø6 40 s	

Queues

2025 Build - Weekday Morning

11: Hammond Street & Woodland Road

11/07/2018

	↘	↑	↓
Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	234	1617	710
v/c Ratio	0.58	0.86	0.34
Control Delay	24.7	13.6	4.5
Queue Delay	0.0	0.0	0.0
Total Delay	24.7	13.6	4.5
Queue Length 50th (ft)	65	137	36
Queue Length 95th (ft)	94	#358	57
Internal Link Dist (ft)	474	206	956
Turn Bay Length (ft)			
Base Capacity (vph)	554	1878	2074
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.42	0.86	0.34

Intersection Summary

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

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
17: Hammond Street & Woodland Road

2025 Build - Weekday Afternoon
11/08/2018

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	10	15	10	16	370	88	0	423	10	0	0
Future Volume (vph)	10	15	10	16	370	88	0	423	10	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	12	12	12	12	12	13	12	12
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00
Fr _t		0.962			0.972			0.996			
Fl _t Protected		0.965			0.998						
Satd. Flow (prot)	0	1999	0	0	3396	0	0	3527	0	0	0
Fl _t Permitted		0.965			0.939						
Satd. Flow (perm)	0	1999	0	0	3195	0	0	3527	0	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)		36			73			6			
Link Speed (mph)		30			30			30		30	
Link Distance (ft)		565			1216			889		662	
Travel Time (s)		12.8			27.6			20.2		15.0	
Peak Hour Factor	0.75	0.75	0.75	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	13	20	13	17	394	94	0	455	11	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	46	0	0	505	0	0	466	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		16			0			0		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00
Turning Speed (mph)	15	15	9	15		9	15		9	15	9
Number of Detectors	1	1		1	2		1	2			
Detector Template	Left	Left		Left	Thru		Left	Thru			
Leading Detector (ft)	20	20		20	100		20	100			
Trailing Detector (ft)	0	0		0	0		0	0			
Detector 1 Position(ft)	0	0		0	0		0	0			
Detector 1 Size(ft)	20	20		20	6		20	6			
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0			
Detector 2 Position(ft)					94			94			
Detector 2 Size(ft)					6			6			
Detector 2 Type					Cl+Ex			Cl+Ex			
Detector 2 Channel											
Detector 2 Extend (s)					0.0			0.0			
Turn Type	Perm	Prot		Perm	NA			NA			
Protected Phases		4			2			6			
Permitted Phases	4			2			6				
Detector Phase	4	4		2	2		6	6			

Lanes, Volumes, Timings
 17: Hammond Street & Woodland Road

2025 Build - Weekday Afternoon
 11/08/2018

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Switch Phase											
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0			
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5			
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5			
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%			
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0			
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5			
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0			
Lost Time Adjust (s)		0.0			0.0			0.0			
Total Lost Time (s)		4.5			4.5			4.5			
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			
Recall Mode	None	None		Min	Min		Min	Min			
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			
Pedestrian Calls (#/hr)	0	0		0	0		0	0			
Act Effect Green (s)		6.0			26.6			26.6			
Actuated g/C Ratio		0.21			0.92			0.92			
v/c Ratio		0.10			0.17			0.14			
Control Delay		6.9			1.3			1.4			
Queue Delay		0.0			0.0			0.0			
Total Delay		6.9			1.3			1.4			
LOS		A			A			A			
Approach Delay		6.9			1.3			1.4			
Approach LOS		A			A			A			

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 29
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.17
 Intersection Signal Delay: 1.6
 Intersection Capacity Utilization 36.7%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 17: Hammond Street & Woodland Road

	Ø2		Ø4
22.5 s		22.5 s	
	Ø6		
22.5 s			

Queues
17: Hammond Street & Woodland Road

2025 Build - Weekday Afternoon
 11/08/2018

	↙	↑	↓
Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	46	505	466
v/c Ratio	0.10	0.17	0.14
Control Delay	6.9	1.3	1.4
Queue Delay	0.0	0.0	0.0
Total Delay	6.9	1.3	1.4
Queue Length 50th (ft)	1	0	0
Queue Length 95th (ft)	15	33	33
Internal Link Dist (ft)	485	1136	809
Turn Bay Length (ft)			
Base Capacity (vph)	1283	2935	3234
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.04	0.17	0.14
Intersection Summary			

Heath Street at Oak Street

HCM 2010 TWSC
8: Oak Street & Heath Street

2018 Existing - Weekday Morning
11/08/2018

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↕	↕	
Traffic Vol, veh/h	187	5	16	151	7	6
Future Vol, veh/h	187	5	16	151	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	75	75	75	75
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	223	6	21	201	9	8

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	229	0	469
Stage 1	-	-	-	-	226
Stage 2	-	-	-	-	243
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1351	-	556
Stage 1	-	-	-	-	816
Stage 2	-	-	-	-	802
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1351	-	546
Mov Cap-2 Maneuver	-	-	-	-	546
Stage 1	-	-	-	-	801
Stage 2	-	-	-	-	802

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	645	-	-	1351	-
HCM Lane V/C Ratio	0.027	-	-	0.016	-
HCM Control Delay (s)	10.7	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 2010 TWSC
8: Oak Street & Heath Street

2018 Existing - Weekday Afternoon
11/08/2018

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	1	
Traffic Vol, veh/h	108	1	0	128	2	2
Future Vol, veh/h	108	1	0	128	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	75	75	75	75
Heavy Vehicles, %	0	0	0	2	0	0
Mvmt Flow	111	1	0	171	3	3

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	112	0	283
Stage 1	-	-	-	-	112
Stage 2	-	-	-	-	171
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1490	-	711
Stage 1	-	-	-	-	918
Stage 2	-	-	-	-	864
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1490	-	711
Mov Cap-2 Maneuver	-	-	-	-	711
Stage 1	-	-	-	-	918
Stage 2	-	-	-	-	864

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	812	-	-	1490	-
HCM Lane V/C Ratio	0.007	-	-	-	-
HCM Control Delay (s)	9.5	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 2010 TWSC
8: Oak Street & Heath Street

2025 No Build - Weekday Morning
11/08/2018

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	↙
Traffic Vol, veh/h	200	5	17	162	8	6
Future Vol, veh/h	200	5	17	162	8	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	75	75	75	75
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	238	6	23	216	11	8

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	244	0	503 241
Stage 1	-	-	-	-	241 -
Stage 2	-	-	-	-	262 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1334	-	532 803
Stage 1	-	-	-	-	804 -
Stage 2	-	-	-	-	786 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1334	-	521 803
Mov Cap-2 Maneuver	-	-	-	-	521 -
Stage 1	-	-	-	-	788 -
Stage 2	-	-	-	-	786 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	613	-	-	1334	-
HCM Lane V/C Ratio	0.03	-	-	0.017	-
HCM Control Delay (s)	11.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖			↗	↖	↗
Traffic Vol, veh/h	116	1	0	137	2	2
Future Vol, veh/h	116	1	0	137	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	75	75	75	75
Heavy Vehicles, %	0	0	0	2	0	0
Mvmt Flow	120	1	0	183	3	3

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	121	0	304 121
Stage 1	-	-	-	-	121 -
Stage 2	-	-	-	-	183 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1479	-	692 936
Stage 1	-	-	-	-	909 -
Stage 2	-	-	-	-	853 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1479	-	692 936
Mov Cap-2 Maneuver	-	-	-	-	692 -
Stage 1	-	-	-	-	909 -
Stage 2	-	-	-	-	853 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	796	-	-	1479	-
HCM Lane V/C Ratio	0.007	-	-	-	-
HCM Control Delay (s)	9.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 2010 TWSC
8: Oak Street & Heath Street

2025 Build - Weekday Morning
11/08/2018

Intersection						
Int Delay, s/veh	9.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖		↗		↘	
Traffic Vol, veh/h	294	5	17	167	71	54
Future Vol, veh/h	294	5	17	167	71	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	68	68	63	63	40	40
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	432	7	27	265	178	135

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	439	0
Stage 1	-	-	-	436
Stage 2	-	-	-	319
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1132	-
Stage 1	-	-	-	656
Stage 2	-	-	-	741
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1132	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	638
Stage 2	-	-	-	741

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	29.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	447	-	-	1132	-
HCM Lane V/C Ratio	0.699	-	-	0.024	-
HCM Control Delay (s)	29.7	-	-	8.3	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	5.3	-	-	0.1	-

HCM 2010 TWSC
8: Oak Street & Heath Street

2025 Build - Weekday Afternoon
11/08/2018

Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	1	
Traffic Vol, veh/h	164	1	0	145	47	12
Future Vol, veh/h	164	1	0	145	47	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	68	68	63	63	50	50
Heavy Vehicles, %	0	0	0	2	0	0
Mvmt Flow	241	1	0	230	94	24

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	242	0	472 242
Stage 1	-	-	-	-	242 -
Stage 2	-	-	-	-	230 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1336	-	554 802
Stage 1	-	-	-	-	803 -
Stage 2	-	-	-	-	813 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1336	-	554 802
Mov Cap-2 Maneuver	-	-	-	-	554 -
Stage 1	-	-	-	-	803 -
Stage 2	-	-	-	-	813 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	591	-	-	1336	-
HCM Lane V/C Ratio	0.2	-	-	-	-
HCM Control Delay (s)	12.6	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Lanes, Volumes, Timings
9: Oak Street & Heath Street

2025 Build - Weekday Morning - Mitigated
11/08/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖			↖	↖	
Traffic Volume (vph)	294	5	17	167	71	54
Future Volume (vph)	294	5	17	167	71	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998				0.942	
Flt Protected				0.995	0.972	
Satd. Flow (prot)	1860	0	0	1873	1740	0
Flt Permitted				0.940	0.972	
Satd. Flow (perm)	1860	0	0	1770	1740	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2				114	
Link Speed (mph)	30			25	30	
Link Distance (ft)	359			481	214	
Travel Time (s)	8.2			13.1	4.9	
Peak Hour Factor	0.68	0.68	0.63	0.63	0.40	0.40
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Adj. Flow (vph)	432	7	27	265	178	135
Shared Lane Traffic (%)						
Lane Group Flow (vph)	439	0	0	292	313	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Detector Phase	4		8	8	2	
Switch Phase						

Lanes, Volumes, Timings
9: Oak Street & Heath Street

2025 Build - Weekday Morning - Mitigated
11/08/2018

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.0		20.0	20.0	20.0	
Total Split (s)	20.0		20.0	20.0	20.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	16.0		16.0	16.0	16.0	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5	0.5	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.0			4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	None	Min	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.7			11.7	9.2	
Actuated g/C Ratio	0.40			0.40	0.31	
v/c Ratio	0.59			0.41	0.50	
Control Delay	11.1			8.8	8.7	
Queue Delay	0.0			0.0	0.0	
Total Delay	11.1			8.8	8.7	
LOS	B			A	A	
Approach Delay	11.1			8.8	8.7	
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other
 Cycle Length: 40
 Actuated Cycle Length: 29.3
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 9.8
 Intersection Capacity Utilization 36.8%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 9: Oak Street & Heath Street

02 20 s	04 20 s
08 20 s	08 20 s

Queues
9: Oak Street & Heath Street



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	439	292	313
v/c Ratio	0.59	0.41	0.50
Control Delay	11.1	8.8	8.7
Queue Delay	0.0	0.0	0.0
Total Delay	11.1	8.8	8.7
Queue Length 50th (ft)	43	26	21
Queue Length 95th (ft)	83	50	16
Internal Link Dist (ft)	279	401	134
Turn Bay Length (ft)			
Base Capacity (vph)	1070	1017	1048
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.41	0.29	0.30

Intersection Summary

Lanes, Volumes, Timings
9: Oak Street & Heath Street

2025 Build - Weekday Afternoon - Mitigated
11/08/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Volume (vph)	164	1	0	145	47	12
Future Volume (vph)	164	1	0	145	47	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr't	0.999				0.973	
Flt Protected					0.962	
Satd. Flow (prot)	1898	0	0	1863	1778	0
Flt Permitted					0.962	
Satd. Flow (perm)	1898	0	0	1863	1778	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1				24	
Link Speed (mph)	30			25	30	
Link Distance (ft)	499			375	281	
Travel Time (s)	11.3			10.2	6.4	
Peak Hour Factor	0.68	0.68	0.63	0.63	0.50	0.50
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%
Adj. Flow (vph)	241	1	0	230	94	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	242	0	0	230	118	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA			NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Detector Phase	4		8	8	2	
Switch Phase						

Lanes, Volumes, Timings
9: Oak Street & Heath Street

2025 Build - Weekday Afternoon - Mitigated
11/08/2018



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.0		20.0	20.0	20.0	
Total Split (s)	20.0		20.0	20.0	20.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	16.0		16.0	16.0	16.0	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5	0.5	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	4.0			4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	None	Min	
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	8.3			8.3	10.6	
Actuated g/C Ratio	0.34			0.34	0.44	
v/c Ratio	0.37			0.36	0.15	
Control Delay	7.6			7.5	6.1	
Queue Delay	0.0			0.0	0.0	
Total Delay	7.6			7.5	6.1	
LOS	A			A	A	
Approach Delay	7.6			7.5	6.1	
Approach LOS	A			A	A	

Intersection Summary

Area Type: Other
 Cycle Length: 40
 Actuated Cycle Length: 24.2
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.37
 Intersection Signal Delay: 7.3
 Intersection Capacity Utilization 18.7%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 9: Oak Street & Heath Street

← Ø2	→ Ø4
20 s	20 s
	← Ø8
	20 s

Queues
9: Oak Street & Heath Street

2025 Build - Weekday Afternoon - Mitigated
11/08/2018



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	242	230	118
v/c Ratio	0.37	0.36	0.15
Control Delay	7.6	7.5	6.1
Queue Delay	0.0	0.0	0.0
Total Delay	7.6	7.5	6.1
Queue Length 50th (ft)	16	16	7
Queue Length 95th (ft)	31	27	12
Internal Link Dist (ft)	419	295	201
Turn Bay Length (ft)			
Base Capacity (vph)	1269	1245	1318
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.19	0.18	0.09

Intersection Summary

Heath Street at Site Driveway (Entrance only)

HCM Unsignalized Intersection Capacity Analysis
 9: Site Driveway & Heath Street

2025 Build - Weekday Morning
 11/08/2018

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖		
Traffic Volume (veh/h)	279	69	42	184	0	0
Future Volume (Veh/h)	279	69	42	184	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.65	0.65	0.58	0.58	0.92	0.92
Hourly flow rate (vph)	429	106	72	317	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			535		943	482
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			535		943	482
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		100	100
cM capacity (veh/h)			1043		274	588
Direction, Lane #						
	EB 1	WB 1				
Volume Total	535	389				
Volume Left	0	72				
Volume Right	106	0				
cSH	1700	1043				
Volume to Capacity	0.31	0.07				
Queue Length 95th (ft)	0	6				
Control Delay (s)	0.0	2.2				
Lane LOS			A			
Approach Delay (s)	0.0	2.2				
Approach LOS						
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			37.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 9: Site Drive & Heath Street

2025 Build - Weekday Afternoon
 11/07/2018

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖			↗		
Traffic Volume (veh/h)	140	36	19	145	0	0
Future Volume (Veh/h)	140	36	19	145	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.65	0.65	0.58	0.58	0.92	0.92
Hourly flow rate (vph)	215	55	33	250	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			270		558	242
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			270		558	242
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	100
cM capacity (veh/h)			1293		478	796
Direction, Lane #						
	EB 1	WB 1				
Volume Total	270	283				
Volume Left	0	33				
Volume Right	55	0				
cSH	1700	1293				
Volume to Capacity	0.16	0.03				
Queue Length 95th (ft)	0	2				
Control Delay (s)	0.0	1.1				
Lane LOS		A				
Approach Delay (s)	0.0	1.1				
Approach LOS						
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			24.9%	ICU Level of Service	A	
Analysis Period (min)			15			

Heath Street at Dunster Road

HCM 2010 TWSC
14: Heath Street & Dunster Road

2018 Existing - Weekday Morning
11/07/2018

Intersection
Int Delay, s/veh 4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1		3	4
Traffic Vol, veh/h	172	23	170	3	16	4
Future Vol, veh/h	172	23	170	3	16	4
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	75	75	75	75
Heavy Vehicles, %	1	9	1	0	0	0
Mvmt Flow	198	26	227	4	21	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	231	0	0	651	229
Stage 1	-	-	-	229	-
Stage 2	-	-	-	422	-
Critical Hdwy	4.11	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	3.5	3.3
Pot Cap-1 Maneuver	1343	-	-	436	815
Stage 1	-	-	-	814	-
Stage 2	-	-	-	666	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1343	-	-	371	815
Mov Cap-2 Maneuver	-	-	-	371	-
Stage 1	-	-	-	692	-
Stage 2	-	-	-	666	-

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1343	-	-	-	416
HCM Lane V/C Ratio	0.147	-	-	-	0.064
HCM Control Delay (s)	8.1	0	-	-	14.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.2

HCM 2010 TWSC
14: Heath Street & Dunster Road

2018 Existing - Weekday Afternoon
11/07/2018

Intersection						
Int Delay, s/veh	3.6					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↗		↖	
Traffic Vol, veh/h	78	30	123	0	25	6
Future Vol, veh/h	78	30	123	0	25	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	84	84	78	78
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	85	33	146	0	32	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	146	0	0	349	146
Stage 1	-	-	-	146	-
Stage 2	-	-	-	203	-
Critical Hdwy	4.1	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	3.5	3.3
Pot Cap-1 Maneuver	1448	-	-	652	906
Stage 1	-	-	-	886	-
Stage 2	-	-	-	836	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1448	-	-	613	906
Mov Cap-2 Maneuver	-	-	-	613	-
Stage 1	-	-	-	833	-
Stage 2	-	-	-	836	-

Approach	EB	WB	SB
HCM Control Delay, s	5.5	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	654
HCM Lane V/C Ratio	0.059	-	-	-	0.061
HCM Control Delay (s)	7.6	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

HCM 2010 TWSC
 14: Heath Street & Dunster Road

2025 No Build - Weekday Morning
 11/07/2018

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	184	25	182	3	17	4
Future Vol, veh/h	184	25	182	3	17	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	75	75	75	75
Heavy Vehicles, %	1	9	1	0	0	0
Mvmt Flow	211	29	243	4	23	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	247	0	0	696	245
Stage 1	-	-	-	245	-
Stage 2	-	-	-	451	-
Critical Hdwy	4.11	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	3.5	3.3
Pot Cap-1 Maneuver	1325	-	-	411	799
Stage 1	-	-	-	800	-
Stage 2	-	-	-	646	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1325	-	-	344	799
Mov Cap-2 Maneuver	-	-	-	344	-
Stage 1	-	-	-	670	-
Stage 2	-	-	-	646	-

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1325	-	-	-	386
HCM Lane V/C Ratio	0.16	-	-	-	0.073
HCM Control Delay (s)	8.2	0	-	-	15.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.6	-	-	-	0.2

HCM 2010 TWSC
 14: Heath Street & Dunster Road

2025 No Build - Weekday Afternoon
 11/07/2018

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1		Y	
Traffic Vol, veh/h	84	32	132	0	27	6
Future Vol, veh/h	84	32	132	0	27	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	84	84	78	78
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	91	35	157	0	35	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	157	0	0	374	157
Stage 1	-	-	-	157	-
Stage 2	-	-	-	217	-
Critical Hdwy	4.1	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	3.5	3.3
Pot Cap-1 Maneuver	1435	-	-	631	894
Stage 1	-	-	-	876	-
Stage 2	-	-	-	824	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1435	-	-	590	894
Mov Cap-2 Maneuver	-	-	-	590	-
Stage 1	-	-	-	819	-
Stage 2	-	-	-	824	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1435	-	-	-	629
HCM Lane V/C Ratio	0.064	-	-	-	0.067
HCM Control Delay (s)	7.7	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

HCM 2010 TWSC
14: Heath Street & Dunster Road

2025 Build - Weekday Morning
11/08/2018

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		←	→		↔	
Traffic Vol, veh/h	216	66	221	3	19	12
Future Vol, veh/h	216	66	221	3	19	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	75	75	75	75
Heavy Vehicles, %	1	9	1	0	0	0
Mvmt Flow	248	76	295	4	25	16

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	299	0	0	869	297
Stage 1	-	-	-	297	-
Stage 2	-	-	-	572	-
Critical Hdwy	4.11	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	3.5	3.3
Pot Cap-1 Maneuver	1268	-	-	325	747
Stage 1	-	-	-	758	-
Stage 2	-	-	-	569	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1268	-	-	259	747
Mov Cap-2 Maneuver	-	-	-	259	-
Stage 1	-	-	-	603	-
Stage 2	-	-	-	569	-

Approach	EB	WB	SB
HCM Control Delay, s	6.5	0	16.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1268	-	-	-	347
HCM Lane V/C Ratio	0.196	-	-	-	0.119
HCM Control Delay (s)	8.5	0	-	-	16.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.7	-	-	-	0.4

HCM 2010 TWSC
 14: Heath Street & Dunster Road

2025 Build - Weekday Afternoon
 11/07/2018

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	87	51	153	3	27	12
Future Vol, veh/h	87	51	153	3	27	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	84	84	78	78
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	95	55	182	4	35	15

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	186	0	0	429	184
Stage 1	-	-	-	184	-
Stage 2	-	-	-	245	-
Critical Hdwy	4.1	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	3.5	3.3
Pot Cap-1 Maneuver	1401	-	-	587	864
Stage 1	-	-	-	852	-
Stage 2	-	-	-	800	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1401	-	-	546	864
Mov Cap-2 Maneuver	-	-	-	546	-
Stage 1	-	-	-	792	-
Stage 2	-	-	-	800	-

Approach	EB	WB	SB
HCM Control Delay, s	4.9	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1401	-	-	-	616
HCM Lane V/C Ratio	0.067	-	-	-	0.081
HCM Control Delay (s)	7.8	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Boylston Street (Route 9) at Dunster

HCM 2010 TWSC
 9: Dunster Road & Boyliston Street

2018 Existing - Weekday Morning
 11/09/2018

Intersection						
Int Delay, s/veh	4.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	1228	20	0	0	0	175
Future Vol, veh/h	1228	20	0	0	0	175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	92	92	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1411	23	0	0	0	233

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	717
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	372
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	372
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	29.6
HCM LOS		D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	372	-	-
HCM Lane V/C Ratio	0.627	-	-
HCM Control Delay (s)	29.6	-	-
HCM Lane LOS	D	-	-
HCM 95th %tile Q(veh)	4.1	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↓					↑
Traffic Vol, veh/h	1157	31	0	0	0	78
Future Vol, veh/h	1157	31	0	0	0	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	92	92	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1244	33	0	0	0	100

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	639
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	419
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	419
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	16.3
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	419	-	-
HCM Lane V/C Ratio	0.239	-	-
HCM Control Delay (s)	16.3	-	-
HCM Lane LOS	C	-	-
HCM 95th %ile Q(veh)	0.9	-	-

Intersection						
Int Delay, s/veh	4.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	1226	21	0	0	0	187
Future Vol, veh/h	1226	21	0	0	0	187
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	92	92	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1409	24	0	0	0	249

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	717
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	372
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	372
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	32.3
HCM LOS		D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	372	-	-
HCM Lane V/C Ratio	0.67	-	-
HCM Control Delay (s)	32.3	-	-
HCM Lane LOS	D	-	-
HCM 95th %tile Q(veh)	4.7	-	-

HCM 2010 TWSC
 9: Dunster Road & Boyliston Street

2025 No Build - Weekday Afternoon
 11/09/2018

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↓					↑
Traffic Vol, veh/h	1265	33	0	0	0	84
Future Vol, veh/h	1265	33	0	0	0	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	92	92	78	78
Heavy Vehicles, %	2	2	2	0	2	2
Mvmt Flow	1360	35	0	0	0	108

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	698
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	383
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	383
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	18
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	383	-	-
HCM Lane V/C Ratio	0.281	-	-
HCM Control Delay (s)	18	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	1.1	-	-

HCM 2010 TWSC
17: Dunster Road & Boylston Street

2025 Build - Weekday Morning
11/09/2018

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑↑
Traffic Vol, veh/h	1226	31	0	0	0	69
Future Vol, veh/h	1226	31	0	0	0	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT-Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	92	92	75	75
Heavy Vehicles, %	0	0	3	3	4	4
Mvmt Flow	1409	36	0	0	0	92

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	723
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.98
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.34
Pot Cap-1 Maneuver	-	-	0	364
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	364
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	18.2
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	364	-	-
HCM Lane V/C Ratio	0.253	-	-
HCM Control Delay (s)	18.2	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	1	-	-

HCM 2010 TWSC
 18: Dunster Road & Boylston Streer

2025 Build - Weekday Afternoon
 11/09/2018

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Vol, veh/h	1265	39	0	0	0	90
Future Vol, veh/h	1265	39	0	0	0	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	92	92	78	78
Heavy Vehicles, %	0	0	0	0	3	3
Mvmt Flow	1360	42	0	0	0	115

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	701
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.33
Pot Cap-1 Maneuver	-	-	0	379
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	379
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	18.6
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	379	-	-
HCM Lane V/C Ratio	0.304	-	-
HCM Control Delay (s)	18.6	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	1.3	-	-

Heath Street at Cary Road

HCM 2010 TWSC
 15: Soule Recreation Drive/Cary Road & Heath Street

2018 Existing - Weekday Morning
 11/08/2018

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	36	0	1	167	155	0	0	0	2	0	6
Future Vol, veh/h	3	36	0	1	167	155	0	0	0	2	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	6	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	48	0	1	223	207	0	0	0	3	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	430	0	0	48	0	0	389	488	48	385	385	327
Stage 1	-	-	-	-	-	-	56	56	-	329	329	-
Stage 2	-	-	-	-	-	-	333	432	-	56	56	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1140	-	-	1572	-	-	574	483	1027	577	552	719
Stage 1	-	-	-	-	-	-	961	852	-	688	650	-
Stage 2	-	-	-	-	-	-	685	586	-	961	852	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1140	-	-	1572	-	-	565	481	1027	575	549	719
Mov Cap-2 Maneuver	-	-	-	-	-	-	565	481	-	575	549	-
Stage 1	-	-	-	-	-	-	957	849	-	685	649	-
Stage 2	-	-	-	-	-	-	677	585	-	957	849	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	0	10.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1140	-	-	1572	-	-	677
HCM Lane V/C Ratio	-	0.004	-	-	0.001	-	-	0.016
HCM Control Delay (s)	0	8.2	0	-	7.3	0	-	10.4
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

HCM 2010 TWSC
 15: Soule Recreation Drive/Cary Road & Heath Street

2018 Existing - Weekday Afternoon
 11/08/2018

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	52	0	0	120	22	1	0	0	2	0	2
Future Vol, veh/h	3	52	0	0	120	22	1	0	0	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	85	85	85	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	60	0	0	141	26	1	0	0	3	0	3

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	167	0	0	60	0	0	222	233	60	220	220	154
Stage 1	-	-	-	-	-	-	66	66	-	154	154	-
Stage 2	-	-	-	-	-	-	156	167	-	66	66	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1423	-	-	1556	-	-	738	671	1011	740	682	897
Stage 1	-	-	-	-	-	-	950	844	-	853	774	-
Stage 2	-	-	-	-	-	-	851	764	-	950	844	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1423	-	-	1556	-	-	735	670	1011	739	681	897
Mov Cap-2 Maneuver	-	-	-	-	-	-	735	670	-	739	681	-
Stage 1	-	-	-	-	-	-	948	842	-	851	774	-
Stage 2	-	-	-	-	-	-	848	764	-	948	842	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	9.9	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	735	1423	-	-	1556	-	-	810
HCM Lane V/C Ratio	0.002	0.002	-	-	-	-	-	0.007
HCM Control Delay (s)	9.9	7.5	0	-	0	-	-	9.5
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

HCM 2010 TWSC
 15: Soule Recreation Drive/Cary Road & Heath Street

2025 No Build - Weekday Morning
 11/08/2018

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	3	39	0	1	179	166	0	0	0	2	0	6
Future Vol, veh/h	3	39	0	1	179	166	0	0	0	2	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	6	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	52	0	1	239	221	0	0	0	3	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	460	0	0	52	0	0	416	522	52	412	412	350
Stage 1	-	-	-	-	-	-	60	60	-	352	352	-
Stage 2	-	-	-	-	-	-	356	462	-	60	60	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1112	-	-	1567	-	-	551	462	1021	554	533	698
Stage 1	-	-	-	-	-	-	957	849	-	669	635	-
Stage 2	-	-	-	-	-	-	666	568	-	957	849	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1112	-	-	1567	-	-	543	460	1021	552	530	698
Mov Cap-2 Maneuver	-	-	-	-	-	-	543	460	-	552	530	-
Stage 1	-	-	-	-	-	-	953	846	-	666	634	-
Stage 2	-	-	-	-	-	-	658	567	-	953	846	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0			0			10.6		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1112	-	-	1567	-	-	655
HCM Lane V/C Ratio	-	0.004	-	-	0.001	-	-	0.016
HCM Control Delay (s)	-	0	8.2	0	7.3	0	-	10.6
HCM Lane LOS	-	A	A	A	A	A	-	B
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

HCM 2010 TWSC
 15: Soule Recreation Drive/Cary Road & Heath Street

2025 No Build - Weekday Afternoon
 11/08/2018

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	3	56	0	0	129	24	1	0	0	2	0	2
Future Vol, veh/h	3	56	0	0	129	24	1	0	0	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	85	85	85	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	65	0	0	152	28	1	0	0	3	0	3

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	180	0	0	65	0	0	239	251	65	237	237	166
Stage 1	-	-	-	-	-	-	71	71	-	166	166	-
Stage 2	-	-	-	-	-	-	168	180	-	71	71	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1408	-	-	1550	-	-	719	656	1005	722	667	884
Stage 1	-	-	-	-	-	-	944	840	-	841	765	-
Stage 2	-	-	-	-	-	-	839	754	-	944	840	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1408	-	-	1550	-	-	715	655	1005	721	666	884
Mov Cap-2 Maneuver	-	-	-	-	-	-	715	655	-	721	666	-
Stage 1	-	-	-	-	-	-	942	838	-	839	765	-
Stage 2	-	-	-	-	-	-	836	754	-	942	838	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	10	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	715	1408	-	-	1550	-	-	794
HCM Lane V/C Ratio	0.002	0.002	-	-	-	-	-	0.007
HCM Control Delay (s)	10	7.6	0	-	0	-	-	9.6
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

HCM 2010 TWSC
 15: Soule Recreation Drive/Cary Road & Heath Street

2025 Build - Weekday Morning
 11/08/2018

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	18	67	0	1	218	180	0	0	0	7	0	6
Future Vol, veh/h	18	67	0	1	218	180	0	0	0	7	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	6	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	24	89	0	1	291	240	0	0	0	9	0	8

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	531	0	0	89	0	0	554	670	89	550	550	411
Stage 1	-	-	-	-	-	-	137	137	-	413	413	-
Stage 2	-	-	-	-	-	-	417	533	-	137	137	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1047	-	-	1519	-	-	446	381	975	449	446	645
Stage 1	-	-	-	-	-	-	871	787	-	620	597	-
Stage 2	-	-	-	-	-	-	617	528	-	871	787	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1047	-	-	1519	-	-	432	371	975	440	435	645
Mov Cap-2 Maneuver	-	-	-	-	-	-	432	371	-	440	435	-
Stage 1	-	-	-	-	-	-	850	768	-	605	596	-
Stage 2	-	-	-	-	-	-	609	527	-	850	768	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0	0	12.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1047	-	-	1519	-	-	516
HCM Lane V/C Ratio	-	0.023	-	-	0.001	-	-	0.034
HCM Control Delay (s)	0	8.5	0	-	7.4	0	-	12.2
HCM Lane LOS		A	A	A	A	A		B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1

HCM 2010 TWSC
 15: Soule Recreation Drive/Cary Road & Heath Street

2025 Build - Weekday Afternoon
 11/08/2018

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	73	0	0	151	34	1	0	0	13	0	2
Future Vol, veh/h	5	73	0	0	151	34	1	0	0	13	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	85	85	85	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	85	0	0	178	40	1	0	0	17	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	218	0	0	85	0	0	297	315	85	295	295	198
Stage 1	-	-	-	-	-	-	97	97	-	198	198	-
Stage 2	-	-	-	-	-	-	200	218	-	97	97	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1364	-	-	1524	-	-	659	604	980	661	620	848
Stage 1	-	-	-	-	-	-	914	819	-	808	741	-
Stage 2	-	-	-	-	-	-	806	726	-	914	819	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1364	-	-	1524	-	-	654	601	980	658	617	848
Mov Cap-2 Maneuver	-	-	-	-	-	-	654	601	-	658	617	-
Stage 1	-	-	-	-	-	-	909	815	-	804	741	-
Stage 2	-	-	-	-	-	-	803	726	-	909	815	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	10.5	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	654	1364	-	-	1524	-	-	678
HCM Lane V/C Ratio	0.002	0.004	-	-	-	-	-	0.029
HCM Control Delay (s)	10.5	7.7	0	-	0	-	-	10.5
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Heath Street at Woodland Road

HCM 2010 TWSC
 21: Woodland Road & Heath Street

2018 Existing - Weekday Morning
 11/08/2018

Intersection

Int Delay, s/veh	7.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	
Traffic Vol, veh/h	38	0	0	120	203	381
Future Vol, veh/h	38	0	0	120	203	381
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	6	0	0	1	0	1
Mvmt Flow	51	0	0	160	271	508

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	211	51
Stage 1	-	-	-	51	-
Stage 2	-	-	-	160	-
Critical Hdwy	-	-	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	3.5	3.309
Pot Cap-1 Maneuver	-	0	0	782	1020
Stage 1	-	0	0	977	-
Stage 2	-	0	0	874	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	782	1020
Mov Cap-2 Maneuver	-	-	-	782	-
Stage 1	-	-	-	977	-
Stage 2	-	-	-	874	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1563	-	-
HCM Lane V/C Ratio	0.498	-	-
HCM Control Delay (s)	9.6	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	2.9	-	-

Intersection						
Int Delay, s/veh	3.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	↑
Traffic Vol, veh/h	54	0	0	120	22	77
Future Vol, veh/h	54	0	0	120	22	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	86	86	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	58	0	0	140	28	96

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	198	58
Stage 1	-	-	-	58	-
Stage 2	-	-	-	140	-
Critical Hdwy	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	-	0	0	795	1014
Stage 1	-	0	0	970	-
Stage 2	-	0	0	892	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	795	1014
Mov Cap-2 Maneuver	-	-	-	795	-
Stage 1	-	-	-	970	-
Stage 2	-	-	-	892	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1304	-	-
HCM Lane V/C Ratio	0.095	-	-
HCM Control Delay (s)	8.1	-	-
HCM Lane LOS	A	-	-
HCM 95th %ile Q(veh)	0.3	-	-

HCM 2010 TWSC
21: Woodland Road & Heath Street

2025 No Build - Weekday Morning
11/08/2018

Intersection

Int Delay, s/veh 7.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	
Traffic Vol, veh/h	41	0	0	129	217	408
Future Vol, veh/h	41	0	0	129	217	408
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	6	0	0	1	0	1
Mvmt Flow	55	0	0	172	289	544

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	227 55
Stage 1	-	-	-	-	55 -
Stage 2	-	-	-	-	172 -
Critical Hdwy	-	-	-	-	6.4 6.21
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	-	-	3.5 3.309
Pot Cap-1 Maneuver	-	0	0	-	766 1015
Stage 1	-	0	0	-	973 -
Stage 2	-	0	0	-	863 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	766 1015
Mov Cap-2 Maneuver	-	-	-	-	766 -
Stage 1	-	-	-	-	973 -
Stage 2	-	-	-	-	863 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1555	-	-
HCM Lane V/C Ratio	0.536	-	-
HCM Control Delay (s)	10	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	3.3	-	-

HCM 2010 TWSC
 21: Woodland Road & Heath Street

2025 No Build - Weekday Afternoon
 11/08/2018

Intersection						
Int Delay, s/veh	3.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	↑
Traffic Vol, veh/h	58	0	0	129	24	83
Future Vol, veh/h	58	0	0	129	24	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	86	86	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	62	0	0	150	30	104

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	212 62
Stage 1	-	-	-	-	62 -
Stage 2	-	-	-	-	150 -
Critical Hdwy	-	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	-	0	0	-	781 1009
Stage 1	-	0	0	-	966 -
Stage 2	-	0	0	-	883 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	781 1009
Mov Cap-2 Maneuver	-	-	-	-	781 -
Stage 1	-	-	-	-	966 -
Stage 2	-	-	-	-	883 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1301	-	-
HCM Lane V/C Ratio	0.103	-	-
HCM Control Delay (s)	8.1	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-

Intersection						
Int Delay, s/veh	7.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	
Traffic Vol, veh/h	74	0	0	172	227	408
Future Vol, veh/h	74	0	0	172	227	408
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	6	0	0	1	0	1
Mvmt Flow	99	0	0	229	303	544

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	328 99
Stage 1	-	-	-	-	99 -
Stage 2	-	-	-	-	229 -
Critical Hdwy	-	-	-	-	6.4 6.21
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	-	-	3.5 3.309
Pot Cap-1 Maneuver	-	0	0	-	671 960
Stage 1	-	0	0	-	930 -
Stage 2	-	0	0	-	814 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	671 960
Mov Cap-2 Maneuver	-	-	-	-	671 -
Stage 1	-	-	-	-	930 -
Stage 2	-	-	-	-	814 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1494	-	-
HCM Lane V/C Ratio	0.567	-	-
HCM Control Delay (s)	10.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	3.8	-	-

HCM 2010 TWSC
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Intersection

Int Delay, s/veh 2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	
Traffic Vol, veh/h	86	0	0	154	31	84
Future Vol, veh/h	86	0	0	154	31	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	86	86	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	92	0	0	179	39	105

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	271	92
Stage 1	-	-	-	92	-
Stage 2	-	-	-	179	-
Critical Hdwy	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	-	0	0	723	971
Stage 1	-	0	0	937	-
Stage 2	-	0	0	857	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	723	971
Mov Cap-2 Maneuver	-	-	-	723	-
Stage 1	-	-	-	937	-
Stage 2	-	-	-	857	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1329	-	-
HCM Lane V/C Ratio	0.108	-	-
HCM Control Delay (s)	8	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-

Heath Street at Randolph Road

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	109	310	120	11	9	0
Future Vol, veh/h	109	310	120	11	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	3	1	1	0	0	0
Mvmt Flow	145	413	160	15	12	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	175	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1395	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1395	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1395	-	-	-	280
HCM Lane V/C Ratio	0.104	-	-	-	0.043
HCM Control Delay (s)	7.9	0	-	-	18.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1

HCM 2010 TWSC
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Intersection

Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	20	111	117	14	11	3
Future Vol, veh/h	20	111	117	14	11	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	75	75	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	129	156	19	14	4

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	175	0	0	341	166
Stage 1	-	-	-	166	-
Stage 2	-	-	-	175	-
Critical Hdwy	4.1	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	3.5	3.3
Pot Cap-1 Maneuver	1414	-	-	659	884
Stage 1	-	-	-	868	-
Stage 2	-	-	-	860	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1414	-	-	647	884
Mov Cap-2 Maneuver	-	-	-	647	-
Stage 1	-	-	-	852	-
Stage 2	-	-	-	860	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1414	-	-	-	686
HCM Lane V/C Ratio	0.016	-	-	-	0.026
HCM Control Delay (s)	7.6	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	117	332	129	12	10	0
Future Vol, veh/h	117	332	129	12	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	3	1	1	0	0	0
Mvmt Flow	156	443	172	16	13	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	0	935	180
Stage 1	-	-	-	180	-
Stage 2	-	-	-	755	-
Critical Hdwy	4.13	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	3.5	3.3
Pot Cap-1 Maneuver	1380	-	-	297	868
Stage 1	-	-	-	856	-
Stage 2	-	-	-	468	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1380	-	-	252	868
Mov Cap-2 Maneuver	-	-	-	252	-
Stage 1	-	-	-	728	-
Stage 2	-	-	-	468	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	20.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1380	-	-	-	252
HCM Lane V/C Ratio	0.113	-	-	-	0.053
HCM Control Delay (s)	7.9	0	-	-	20.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.2

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	21	120	126	15	12	3
Future Vol, veh/h	21	120	126	15	12	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None	-	- None	-	- None	-
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	75	75	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	140	168	20	15	4

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	0	366	178
Stage 1	-	-	-	178	-
Stage 2	-	-	-	188	-
Critical Hdwy	4.1	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	3.5	3.3
Pot Cap-1 Maneuver	1398	-	-	638	870
Stage 1	-	-	-	858	-
Stage 2	-	-	-	849	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1398	-	-	626	870
Mov Cap-2 Maneuver	-	-	-	626	-
Stage 1	-	-	-	842	-
Stage 2	-	-	-	849	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1398	-	-	-	663
HCM Lane V/C Ratio	0.017	-	-	-	0.028
HCM Control Delay (s)	7.6	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

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Intersection

Int Delay, s/veh 1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	117	365	172	12	10	0
Future Vol, veh/h	117	365	172	12	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	3	1	1	0	0	0
Mvmt Flow	156	487	229	16	13	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	245	0	-	0	1036 237
Stage 1	-	-	-	-	237 -
Stage 2	-	-	-	-	799 -
Critical Hdwy	4.13	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.227	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1315	-	-	-	259 807
Stage 1	-	-	-	-	807 -
Stage 2	-	-	-	-	446 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1315	-	-	-	217 807
Mov Cap-2 Maneuver	-	-	-	-	217 -
Stage 1	-	-	-	-	675 -
Stage 2	-	-	-	-	446 -

Approach	EB	WB	SB
HCM Control Delay, s	2	0	22.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1315	-	-	-	217
HCM Lane V/C Ratio	0.119	-	-	-	0.061
HCM Control Delay (s)	8.1	0	-	-	22.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.2

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	21	149	149	15	12	5
Future Vol, veh/h	21	149	149	15	12	5
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	75	75	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	173	199	20	15	6

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	219	0	0	430	209
Stage 1	-	-	-	209	-
Stage 2	-	-	-	221	-
Critical Hdwy	4.1	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	3.5	3.3
Pot Cap-1 Maneuver	1362	-	-	586	836
Stage 1	-	-	-	831	-
Stage 2	-	-	-	821	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1362	-	-	575	836
Mov Cap-2 Maneuver	-	-	-	575	-
Stage 1	-	-	-	815	-
Stage 2	-	-	-	821	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1362	-	-	-	633
HCM Lane V/C Ratio	0.018	-	-	-	0.034
HCM Control Delay (s)	7.7	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Heath Street at Warren Street

HCM 2010 TWSC
 11: Heath Street & Warren Street

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Intersection						
Int Delay, s/veh	4.2					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↘		↑			↗
Traffic Vol, veh/h	61	91	199	120	37	87
Future Vol, veh/h	61	91	199	120	37	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	77	77	76	76
Heavy Vehicles, %	0	1	0	0	0	2
Mvmt Flow	81	121	258	156	49	114

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	548	336	0	0	414
Stage 1	336	-	-	-	-
Stage 2	212	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.2
Pot Cap-1 Maneuver	501	708	-	-	1156
Stage 1	728	-	-	-	-
Stage 2	828	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	478	708	-	-	1156
Mov Cap-2 Maneuver	478	-	-	-	-
Stage 1	695	-	-	-	-
Stage 2	828	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	14.2	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	593	1156	-
HCM Lane V/C Ratio	-	-	0.342	0.042	-
HCM Control Delay (s)	-	-	14.2	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %ile Q(veh)	-	-	1.5	0.1	-

HCM 2010 TWSC
11: Heath Street & Warren Street

2018 Existing - Weekday Afternoon
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Intersection						
Int Delay, s/veh	2.9					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↖		↑			↗
Traffic Vol, veh/h	32	16	54	32	33	83
Future Vol, veh/h	32	16	54	32	33	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	90	90	83	83
Heavy Vehicles, %	3	0	2	0	0	1
Mvmt Flow	37	19	60	36	40	100

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	258	78	0	0	96
Stage 1	78	-	-	-	-
Stage 2	180	-	-	-	-
Critical Hdwy	6.43	6.2	-	-	4.1
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.527	3.3	-	-	2.2
Pot Cap-1 Maneuver	729	988	-	-	1510
Stage 1	943	-	-	-	-
Stage 2	849	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	709	988	-	-	1510
Mov Cap-2 Maneuver	709	-	-	-	-
Stage 1	917	-	-	-	-
Stage 2	849	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	10	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	-	783	1510
HCM Lane V/C Ratio	-	-	0.071	0.026
HCM Control Delay (s)	-	-	10	7.4
HCM Lane LOS	-	-	B	A
HCM 95th %ile Q(veh)	-	-	0.2	0.1

Intersection						
Int Delay, s/veh	4.5					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↘		↗		↔	
Traffic Vol, veh/h	65	98	213	129	40	93
Future Vol, veh/h	65	98	213	129	40	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	77	77	76	76
Heavy Vehicles, %	0	1	0	0	0	2
Mvmt Flow	87	131	277	168	53	122

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	589	361	0	0	445	0
Stage 1	361	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	474	686	-	-	1126	-
Stage 1	710	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	450	686	-	-	1126	-
Mov Cap-2 Maneuver	450	-	-	-	-	-
Stage 1	674	-	-	-	-	-
Stage 2	815	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	15.2	0	2.5
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	-	567	1126
HCM Lane V/C Ratio	-	-	0.383	0.047
HCM Control Delay (s)	-	-	15.2	8.4
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.8	0.1

HCM 2010 TWSC
11: Heath Street & Warren Street

2025 No Build - Weekday Afternoon
11/08/2018

Intersection						
Int Delay, s/veh	2.9					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	34	17	58	34	35	89
Future Vol, veh/h	34	17	58	34	35	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	90	90	83	83
Heavy Vehicles, %	3	0	2	0	0	1
Mvmt Flow	40	20	64	38	42	107

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	274	83	0	0	102	0
Stage 1	83	-	-	-	-	-
Stage 2	191	-	-	-	-	-
Critical Hdwy	6.43	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	713	982	-	-	1503	-
Stage 1	938	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	692	982	-	-	1503	-
Mov Cap-2 Maneuver	692	-	-	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	839	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	10.1	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	-	768	1503
HCM Lane V/C Ratio	-	-	0.077	0.028
HCM Control Delay (s)	-	-	10.1	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Intersection

Int Delay, s/veh 5.2

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	85	98	229	146	40	116
Future Vol, veh/h	85	98	229	146	40	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	77	77	76	76
Heavy Vehicles, %	0	1	0	0	0	2
Mvmt Flow	113	131	297	190	53	153

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	651	392	0
Stage 1	392	-	-
Stage 2	259	-	-
Critical Hdwy	6.4	6.21	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.309	-
Pot Cap-1 Maneuver	436	659	-
Stage 1	687	-	-
Stage 2	789	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	413	659	-
Mov Cap-2 Maneuver	413	-	-
Stage 1	651	-	-
Stage 2	789	-	-

Approach	NW	NE	SW
HCM Control Delay, s	18.1	0	2.2
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	516	1086	-
HCM Lane V/C Ratio	-	-	0.473	0.048	-
HCM Control Delay (s)	-	-	18.1	8.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.5	0.2	-

Intersection						
Int Delay, s/veh	2.8					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	42	17	74	47	35	104
Future Vol, veh/h	42	17	74	47	35	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	90	90	83	83
Heavy Vehicles, %	3	0	2	0	0	1
Mvmt Flow	49	20	82	52	42	125

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	317	108	0	0	134
Stage 1	108	-	-	-	-
Stage 2	209	-	-	-	-
Critical Hdwy	6.43	6.2	-	-	4.1
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.527	3.3	-	-	2.2
Pot Cap-1 Maneuver	674	951	-	-	1463
Stage 1	914	-	-	-	-
Stage 2	824	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	653	951	-	-	1463
Mov Cap-2 Maneuver	653	-	-	-	-
Stage 1	886	-	-	-	-
Stage 2	824	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	10.5	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	-	718	1463
HCM Lane V/C Ratio	-	-	0.096	0.029
HCM Control Delay (s)	-	-	10.5	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %ile Q(veh)	-	-	0.3	0.1

James Horace Circle

MOVEMENT SUMMARY

Site: Existing AM

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total	Flows HV %	Deg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Lagrange Street											
3b	L3	36	2.0	2.322	646.7	LOS F	93.6	2376.8	1.00	4.27	3.3
3a	L1	190	2.0	2.322	646.7	LOS F	93.6	2376.8	1.00	4.27	3.3
8	T1	116	2.0	2.322	646.7	LOS F	93.6	2376.8	1.00	4.27	3.3
18	R2	136	2.0	2.322	646.7	LOS F	93.6	2376.8	1.00	4.27	3.3
Approach		478	2.0	2.322	646.7	LOS F	93.6	2376.8	1.00	4.27	3.3
East: Newton Street											
1	L2	189	2.0	0.727	26.0	LOS D	3.8	97.3	0.78	0.91	26.1
1a	L1	205	2.0	0.727	26.0	LOS D	3.8	97.3	0.78	0.91	25.6
16a	R1	959	2.0	1.690	336.7	LOS F	131.6	3343.8	1.00	6.01	5.7
16	R2	625	2.0	0.396	0.1	LOS A	0.0	0.0	0.00	0.00	37.2
Approach		1978	2.0	1.690	168.5	LOS F	131.6	3343.8	0.64	3.10	9.9
North: Hammond Street											
7	L2	192	4.0	0.620	26.2	LOS D	2.4	61.3	0.82	0.91	26.6
4	T1	51	4.0	0.620	26.2	LOS D	2.4	61.3	0.82	0.91	26.2
14a	R1	45	4.0	0.704	30.1	LOS D	2.9	75.4	0.83	0.96	25.4
14b	R3	249	4.0	0.704	30.1	LOS D	2.9	75.4	0.83	0.96	24.4
Approach		537	4.0	0.704	28.3	LOS D	2.9	75.4	0.82	0.94	25.4
NorthWest: Hammond Pond Parkway											
7bx	L3	382	1.0	1.188	120.6	LOS F	50.4	1271.1	1.00	3.18	13.2
7ax	L1	422	1.0	1.188	120.6	LOS F	50.4	1271.1	1.00	3.18	13.0
14ax	R1	94	1.0	0.338	10.0	LOS A	1.1	28.2	0.54	0.56	26.8
14x	R2	127	1.0	0.338	10.0	LOS A	1.1	28.2	0.54	0.56	26.1
Approach		1026	1.0	1.188	96.8	LOS F	50.4	1271.1	0.90	2.61	14.6
SouthWest: Newton Street (West)											
5x	L2	426	1.0	1.521	267.3	LOS F	84.8	2137.7	1.00	5.09	7.1
5ax	L1	297	1.0	1.521	267.3	LOS F	84.8	2137.7	1.00	5.09	7.1
12ax	R1	316	1.0	0.905	52.3	LOS F	6.7	170.0	0.94	1.29	20.8
12bx	R3	88	1.0	0.905	52.3	LOS F	6.7	170.0	0.94	1.29	19.7
Approach		1127	1.0	1.521	190.2	LOS F	84.8	2137.7	0.98	3.73	9.2
All Vehicles		5147	1.8	2.322	188.7	LOS F	131.6	3343.8	0.82	3.02	9.2

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

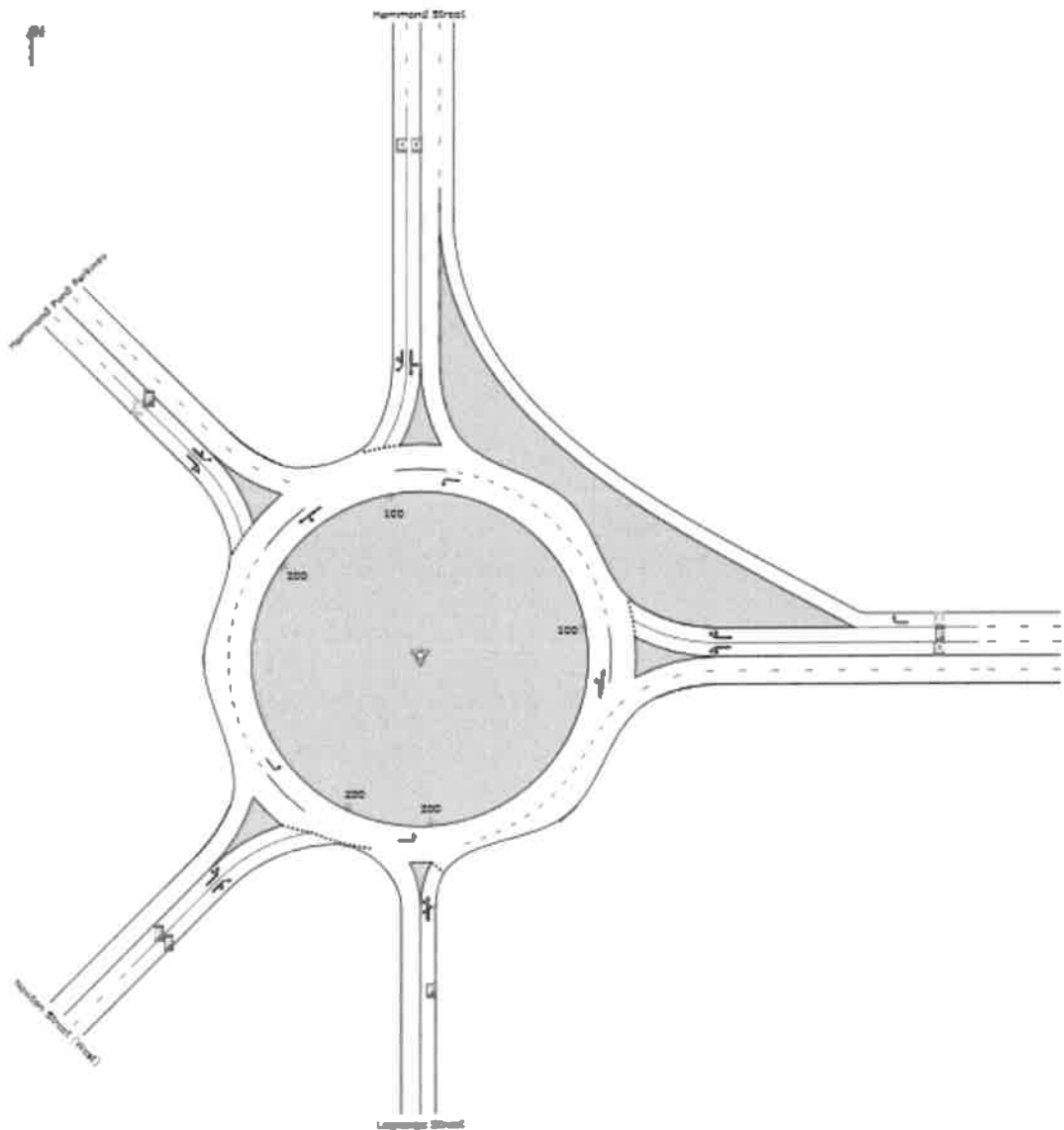
LEVEL OF SERVICE

Site: Existing AM

New Site
Roundabout

All Movement Classes

	South	East	North	Northwest	Southwest	Intersection
LOS	F	F	D	F	F	F



Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

 Site: Existing PM

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Lagrange Street											
3b	L3	36	2.0	1.078	106.7	LOS F	17.6	448.3	1.00	2.05	13.7
3a	L1	131	2.0	1.078	106.7	LOS F	17.6	448.3	1.00	2.05	13.4
8	T1	53	2.0	1.078	106.7	LOS F	17.6	448.3	1.00	2.05	13.7
18	R2	147	2.0	1.078	106.7	LOS F	17.6	448.3	1.00	2.05	13.5
Approach		367	2.0	1.078	106.7	LOS F	17.6	448.3	1.00	2.05	13.5
East: Newton Street											
1	L2	199	1.0	0.662	16.9	LOS C	3.6	91.0	0.66	0.72	29.0
1a	L1	301	1.0	0.662	16.9	LOS C	3.6	91.0	0.66	0.72	28.4
16a	R1	360	1.0	0.490	12.0	LOS B	2.1	52.3	0.57	0.60	31.7
16	R2	194	1.0	0.122	0.0	LOS A	0.0	0.0	0.00	0.00	37.2
Approach		1054	1.0	0.662	12.1	LOS B	3.6	91.0	0.51	0.55	30.9
North: Hammond Street											
7	L2	185	3.0	0.505	17.2	LOS C	1.8	45.3	0.71	0.77	29.6
4	T1	62	3.0	0.505	17.2	LOS C	1.8	45.3	0.71	0.77	29.1
14a	R1	48	3.0	0.464	16.7	LOS C	1.6	41.1	0.72	0.77	30.0
14b	R3	165	3.0	0.464	16.7	LOS C	1.6	41.1	0.72	0.77	28.6
Approach		459	3.0	0.505	17.0	LOS C	1.8	45.3	0.71	0.77	29.2
NorthWest: Hammond Pond Parkway											
7bx	L3	180	1.0	1.119	97.9	LOS F	33.4	842.6	1.00	2.58	15.0
7ax	L1	514	1.0	1.119	97.9	LOS F	33.4	842.6	1.00	2.58	14.8
14ax	R1	177	1.0	0.651	19.9	LOS C	3.2	81.0	0.71	0.84	24.0
14x	R2	210	1.0	0.651	19.9	LOS C	3.2	81.0	0.71	0.84	23.5
Approach		1082	1.0	1.119	70.0	LOS F	33.4	842.6	0.90	1.96	17.0
SouthWest: Newton Street (West)											
5x	L2	130	2.0	0.431	16.7	LOS C	1.4	36.5	0.73	0.78	27.4
5ax	L1	56	2.0	0.431	16.7	LOS C	1.4	36.5	0.73	0.78	28.0
12ax	R1	169	2.0	0.490	17.6	LOS C	1.7	42.5	0.73	0.79	30.4
12bx	R3	56	2.0	0.490	17.6	LOS C	1.7	42.5	0.73	0.79	28.0
Approach		410	2.0	0.490	17.2	LOS C	1.7	42.5	0.73	0.79	28.7
All Vehicles		3373	1.5	1.119	42.2	LOS E	33.4	842.6	0.74	1.22	21.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

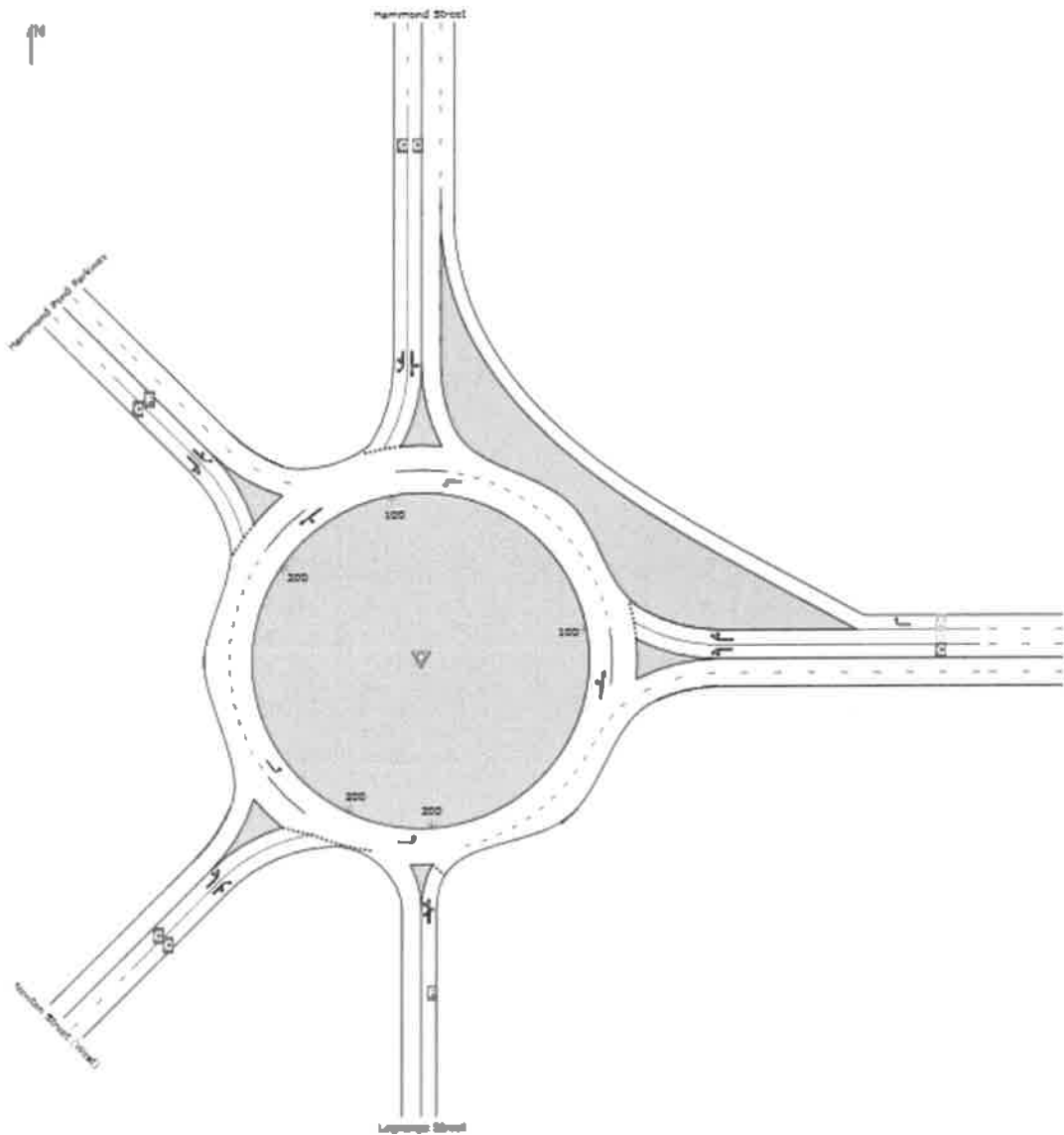
LEVEL OF SERVICE

Site: Existing PM

New Site
Roundabout

All Movement Classes

	South	East	North	Northwest	Southwest	Intersection
LOS	F	B	C	F	C	E



Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

 Site: No-Build AM

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Lagrange Street											
3b	L3	38	2.0	2.514	732.0	LOS F	105.6	2681.4	1.00	4.43	2.9
3a	L1	204	2.0	2.514	732.0	LOS F	105.6	2681.4	1.00	4.43	2.9
8	T1	125	2.0	2.514	732.0	LOS F	105.6	2681.4	1.00	4.43	2.9
18	R2	146	2.0	2.514	732.0	LOS F	105.6	2681.4	1.00	4.43	2.9
Approach		513	2.0	2.514	732.0	LOS F	105.6	2681.4	1.00	4.43	2.9
East: Newton Street											
1	L2	201	2.0	0.768	28.9	LOS D	4.4	112.1	0.80	0.96	25.3
1a	L1	220	2.0	0.768	28.9	LOS D	4.4	112.1	0.80	0.96	24.8
16a	R1	1033	2.0	1.796	383.2	LOS F	152.8	3880.7	1.00	6.45	5.1
16	R2	671	2.0	0.425	0.1	LOS A	0.0	0.0	0.00	0.00	37.2
Approach		2125	2.0	1.796	192.0	LOS F	152.8	3880.7	0.65	3.33	9.0
North: Hammond Street											
7	L2	207	4.0	0.685	31.0	LOS D	2.8	72.3	0.84	0.97	25.3
4	T1	55	4.0	0.685	31.0	LOS D	2.8	72.3	0.84	0.97	24.9
14a	R1	48	4.0	0.769	36.4	LOS E	3.5	90.4	0.86	1.03	23.6
14b	R3	267	4.0	0.769	36.4	LOS E	3.5	90.4	0.86	1.03	22.8
Approach		576	4.0	0.769	34.0	LOS D	3.5	90.4	0.85	1.00	23.9
NorthWest: Hammond Pond Parkway											
7bx	L3	409	1.0	1.320	174.6	LOS F	75.4	1899.5	1.00	4.17	10.2
7ax	L1	454	1.0	1.320	174.6	LOS F	75.4	1899.5	1.00	4.17	10.1
14ax	R1	101	1.0	0.378	11.0	LOS B	1.3	33.0	0.57	0.60	26.5
14x	R2	136	1.0	0.378	11.0	LOS B	1.3	33.0	0.57	0.60	25.8
Approach		1101	1.0	1.320	139.3	LOS F	75.4	1899.5	0.91	3.40	11.6
SouthWest: Newton Street (West)											
5x	L2	456	1.0	1.649	322.9	LOS F	103.0	2595.3	1.00	5.64	6.1
5ax	L1	318	1.0	1.649	322.9	LOS F	103.0	2595.3	1.00	5.64	6.1
12ax	R1	338	1.0	0.981	68.9	LOS F	10.5	263.9	0.98	1.58	18.1
12bx	R3	95	1.0	0.981	68.9	LOS F	10.5	263.9	0.98	1.58	17.2
Approach		1207	1.0	1.649	231.8	LOS F	103.0	2595.3	0.99	4.19	7.9
All Vehicles		5523	1.8	2.514	223.9	LOS F	152.8	3880.7	0.83	3.39	8.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

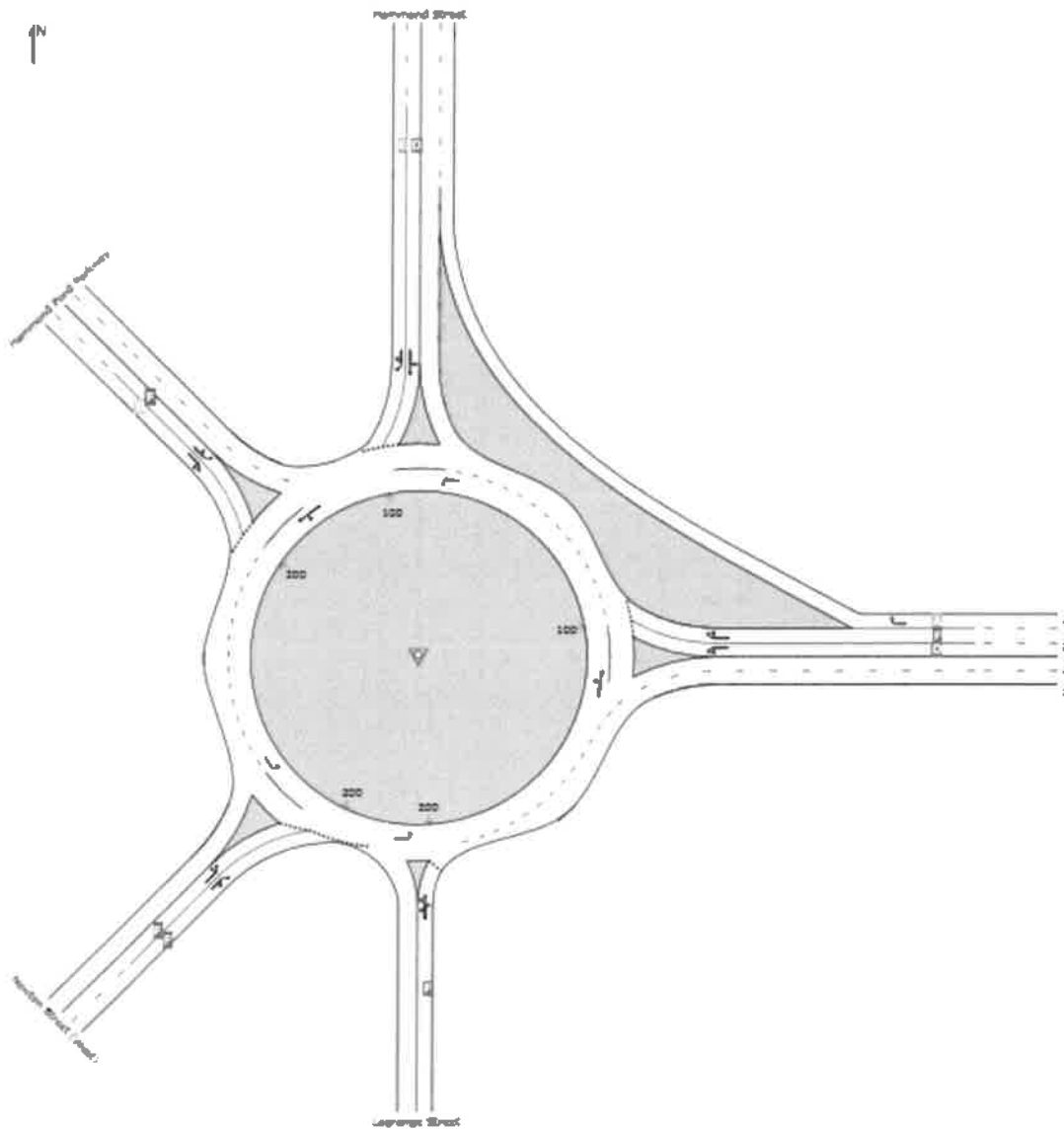
LEVEL OF SERVICE

Site: No-Build AM

New Site
Roundabout

All Movement Classes

	South	East	North	Northwest	Southwest	Intersection
LOS	F	F	D	F	F	F



Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: No-Build PM

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Lagrange Street											
3b	L3	38	2.0	1.168	137.5	LOS F	25.9	657.4	1.00	2.48	11.6
3a	L1	141	2.0	1.168	137.5	LOS F	25.9	657.4	1.00	2.48	11.4
8	T1	57	2.0	1.168	137.5	LOS F	25.9	657.4	1.00	2.48	11.6
18	R2	157	2.0	1.168	137.5	LOS F	25.9	657.4	1.00	2.48	11.5
Approach		393	2.0	1.168	137.5	LOS F	25.9	657.4	1.00	2.48	11.4
East: Newton Street											
1	L2	213	1.0	0.711	19.2	LOS C	4.3	108.1	0.70	0.78	28.2
1a	L1	323	1.0	0.711	19.2	LOS C	4.3	108.1	0.70	0.78	27.7
16a	R1	391	1.0	0.533	13.0	LOS B	2.4	60.9	0.59	0.64	31.2
16	R2	209	1.0	0.131	0.0	LOS A	0.0	0.0	0.00	0.00	37.2
Approach		1137	1.0	0.711	13.5	LOS B	4.3	108.1	0.53	0.59	30.3
North: Hammond Street											
7	L2	198	3.0	0.573	20.6	LOS C	2.1	54.4	0.76	0.83	28.5
4	T1	67	3.0	0.573	20.6	LOS C	2.1	54.4	0.76	0.83	28.0
14a	R1	52	3.0	0.523	19.6	LOS C	1.9	48.5	0.76	0.83	28.9
14b	R3	176	3.0	0.523	19.6	LOS C	1.9	48.5	0.76	0.83	27.6
Approach		492	3.0	0.573	20.2	LOS C	2.1	54.4	0.76	0.83	28.1
NorthWest: Hammond Pond Parkway											
7bx	L3	193	1.0	1.263	153.5	LOS F	57.8	1457.1	1.00	3.69	11.2
7ax	L1	559	1.0	1.263	153.5	LOS F	57.8	1457.1	1.00	3.69	11.1
14ax	R1	190	1.0	0.729	25.1	LOS D	4.0	101.0	0.78	0.96	22.7
14x	R2	225	1.0	0.729	25.1	LOS D	4.0	101.0	0.78	0.96	22.3
Approach		1167	1.0	1.263	107.8	LOS F	57.8	1457.1	0.92	2.72	13.4
SouthWest: Newton Street (West)											
5x	L2	139	2.0	0.469	18.1	LOS C	1.6	40.9	0.75	0.81	27.0
5ax	L1	60	2.0	0.469	18.1	LOS C	1.6	40.9	0.75	0.81	27.6
12ax	R1	181	2.0	0.532	19.3	LOS C	1.9	48.0	0.75	0.82	29.7
12bx	R3	60	2.0	0.532	19.3	LOS C	1.9	48.0	0.75	0.82	27.4
Approach		439	2.0	0.532	18.8	LOS C	1.9	48.0	0.75	0.82	28.2
All Vehicles		3628	1.5	1.263	58.8	LOS F	57.8	1457.1	0.77	1.54	18.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

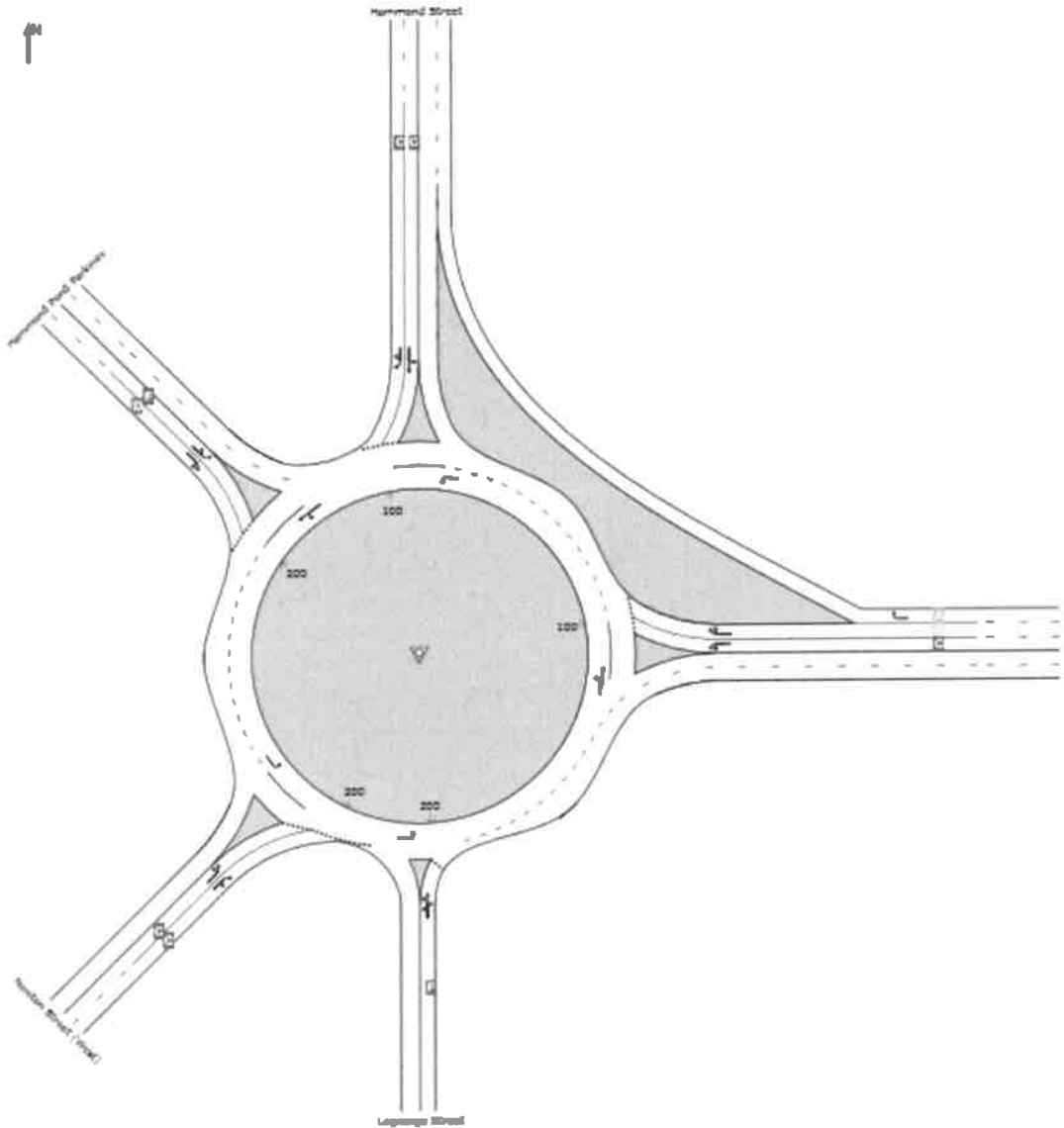
LEVEL OF SERVICE

Site: No-Build PM

New Site
Roundabout

All Movement Classes

	South	East	North	Northwest	Southwest	Intersection
LOS	F	B	C	F	C	F



Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

 Site: Build AM

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Lagrange Street											
3b	L3	38	2.0	2.612	775.6	LOS F	112.0	2845.4	1.00	4.50	2.8
3a	L1	204	2.0	2.612	775.6	LOS F	112.0	2845.4	1.00	4.50	2.8
8	T1	145	2.0	2.612	775.6	LOS F	112.0	2845.4	1.00	4.50	2.8
18	R2	146	2.0	2.612	775.6	LOS F	112.0	2845.4	1.00	4.50	2.8
Approach		533	2.0	2.612	775.6	LOS F	112.0	2845.4	1.00	4.50	2.8
East: Newton Street											
1	L2	201	2.0	0.758	27.8	LOS D	4.3	109.3	0.79	0.94	25.6
1a	L1	220	2.0	0.758	27.8	LOS D	4.3	109.3	0.79	0.94	25.1
16a	R1	1033	2.0	1.775	373.4	LOS F	150.6	3826.2	1.00	6.40	5.2
16	R2	741	2.0	0.469	0.1	LOS A	0.0	0.0	0.00	0.00	37.1
Approach		2195	2.0	1.775	181.1	LOS F	150.6	3826.2	0.62	3.19	9.4
North: Hammond Street											
7	L2	240	4.0	0.800	41.9	LOS E	3.9	101.9	0.89	1.09	22.7
4	T1	67	4.0	0.800	41.9	LOS E	3.9	101.9	0.89	1.09	22.4
14a	R1	61	4.0	0.798	39.5	LOS E	3.9	99.5	0.88	1.06	22.9
14b	R3	267	4.0	0.798	39.5	LOS E	3.9	99.5	0.88	1.06	22.1
Approach		635	4.0	0.800	40.6	LOS E	3.9	101.9	0.88	1.07	22.4
NorthWest: Hammond Pond Parkway											
7bx	L3	409	1.0	1.378	199.5	LOS F	83.4	2101.6	1.00	4.52	9.3
7ax	L1	454	1.0	1.378	199.5	LOS F	83.4	2101.6	1.00	4.52	9.2
14ax	R1	101	1.0	0.395	11.8	LOS B	1.4	35.0	0.59	0.63	26.2
14x	R2	136	1.0	0.395	11.8	LOS B	1.4	35.0	0.59	0.63	25.6
Approach		1101	1.0	1.378	159.0	LOS F	83.4	2101.6	0.91	3.68	10.6
SouthWest: Newton Street (West)											
5x	L2	456	1.0	1.708	349.3	LOS F	110.4	2782.1	1.00	5.84	5.7
5ax	L1	335	1.0	1.708	349.3	LOS F	110.4	2782.1	1.00	5.84	5.7
12ax	R1	338	1.0	0.995	73.1	LOS F	11.4	288.1	0.99	1.66	17.5
12bx	R3	95	1.0	0.995	73.1	LOS F	11.4	288.1	0.99	1.66	16.7
Approach		1224	1.0	1.708	251.7	LOS F	110.4	2782.1	1.00	4.36	7.4
All Vehicles		5688	1.8	2.612	232.0	LOS F	150.6	3826.2	0.82	3.42	7.9

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

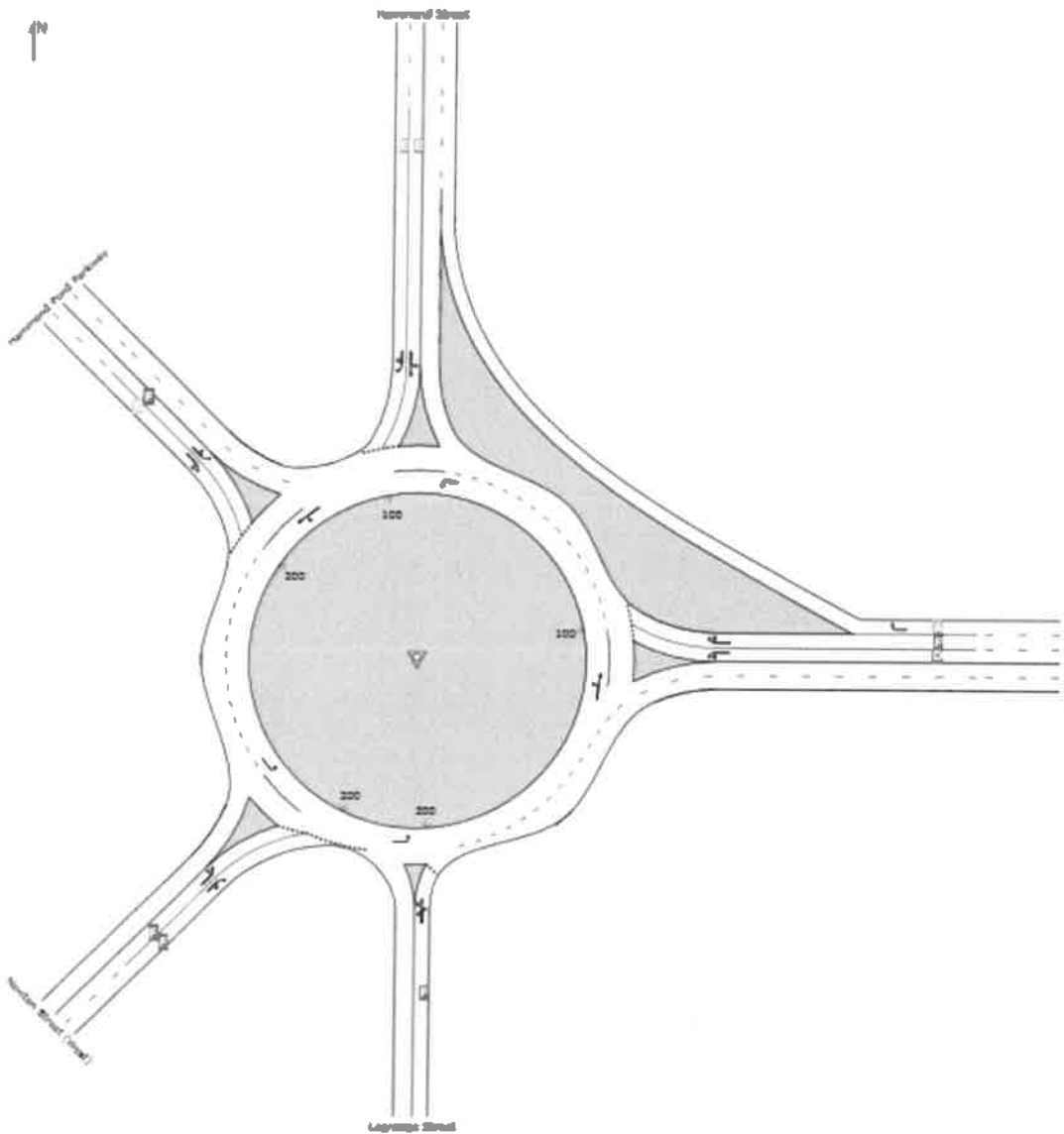
LEVEL OF SERVICE

Site: Build AM

New Site
Roundabout

All Movement Classes

	South	East	North	Northwest	Southwest	Intersection
LOS	F	F	E	F	F	F



Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: Build PM

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Lagrange Street											
3b	L3	38	2.0	1.215	155.2	LOS F	30.0	762.5	1.00	2.68	10.6
3a	L1	141	2.0	1.215	155.2	LOS F	30.0	762.5	1.00	2.68	10.5
8	T1	65	2.0	1.215	155.2	LOS F	30.0	762.5	1.00	2.68	10.6
18	R2	157	2.0	1.215	155.2	LOS F	30.0	762.5	1.00	2.68	10.5
Approach		401	2.0	1.215	155.2	LOS F	30.0	762.5	1.00	2.68	10.5
East: Newton Street											
1	L2	213	1.0	0.713	19.3	LOS C	4.3	108.6	0.70	0.79	28.2
1a	L1	323	1.0	0.713	19.3	LOS C	4.3	108.6	0.70	0.79	27.6
16a	R1	391	1.0	0.535	13.1	LOS B	2.4	61.2	0.60	0.64	31.2
16	R2	231	1.0	0.145	0.0	LOS A	0.0	0.0	0.00	0.00	37.2
Approach		1159	1.0	0.713	13.4	LOS B	4.3	108.6	0.53	0.58	30.4
North: Hammond Street											
7	L2	223	3.0	0.642	23.8	LOS C	2.6	66.2	0.78	0.88	27.4
4	T1	75	3.0	0.642	23.8	LOS C	2.6	66.2	0.78	0.88	27.0
14a	R1	59	3.0	0.539	20.2	LOS C	2.0	50.7	0.76	0.83	28.7
14b	R3	176	3.0	0.539	20.2	LOS C	2.0	50.7	0.76	0.83	27.4
Approach		533	3.0	0.642	22.2	LOS C	2.6	66.2	0.77	0.86	27.5
NorthWest: Hammond Pond Parkway											
7bx	L3	193	1.0	1.299	168.9	LOS F	62.7	1581.0	1.00	3.92	10.4
7ax	L1	559	1.0	1.299	168.9	LOS F	62.7	1581.0	1.00	3.92	10.4
14ax	R1	190	1.0	0.752	27.4	LOS D	4.2	106.7	0.80	1.01	22.2
14x	R2	225	1.0	0.752	27.4	LOS D	4.2	106.7	0.80	1.01	21.8
Approach		1167	1.0	1.299	118.6	LOS F	62.7	1581.0	0.93	2.89	12.7
SouthWest: Newton Street (West)											
5x	L2	139	2.0	0.497	19.3	LOS C	1.7	44.3	0.76	0.83	26.7
5ax	L1	69	2.0	0.497	19.3	LOS C	1.7	44.3	0.76	0.83	27.2
12ax	R1	181	2.0	0.538	19.8	LOS C	1.9	48.7	0.76	0.83	29.5
12bx	R3	60	2.0	0.538	19.8	LOS C	1.9	48.7	0.76	0.83	27.2
Approach		448	2.0	0.538	19.5	LOS C	1.9	48.7	0.76	0.83	27.9
All Vehicles		3708	1.5	1.299	63.8	LOS F	62.7	1581.0	0.77	1.60	18.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

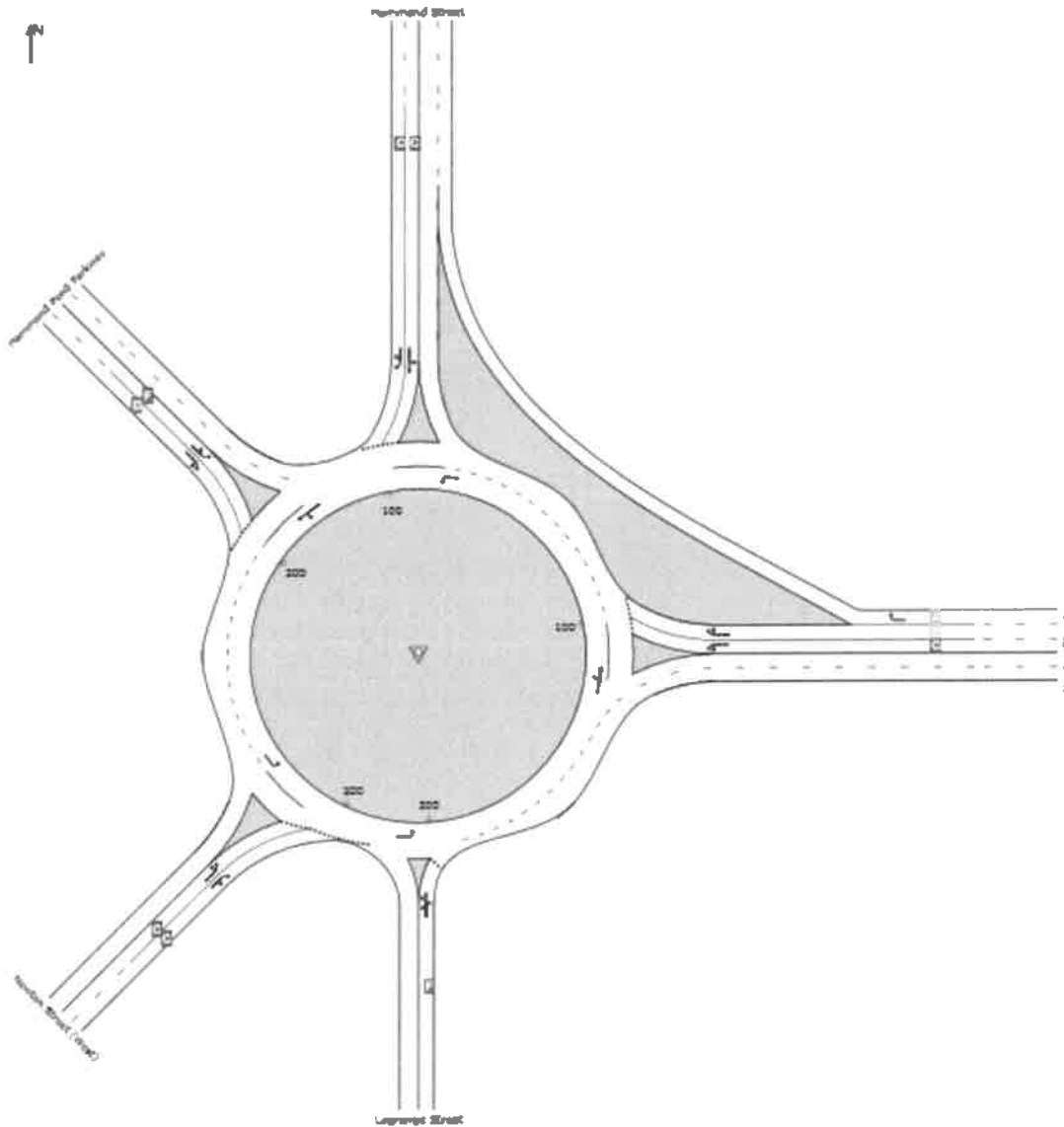
LEVEL OF SERVICE

Site: Build PM

New Site
Roundabout

All Movement Classes

	South	East	North	Northwest	Southwest	Intersection
LOS	F	B	C	F	C	F



Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.