

APPENDIX A – TRAFFIC VOLUME DATA

Adams Street
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 A Volume
Site Code: 5996

Start	SB		NB		Combin		ed		04/25/18	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	
12:00	12	62	11	83	23	145				
12:15	14	89	7	80	21	169				
12:30	4	79	3	80	7	159				
12:45	6	68	6	60	12	128	63	601		
01:00	1	66	2	64	3	130				
01:15	3	52	4	58	7	110				
01:30	6	69	3	85	9	154				
01:45	2	92	0	69	2	161	21	555		
02:00	4	88	2	58	6	146				
02:15	1	100	2	76	3	176				
02:30	2	95	1	74	3	169				
02:45	2	97	1	67	3	164	15	655		
03:00	2	102	0	97	2	199				
03:15	0	108	3	81	3	189				
03:30	0	115	2	102	2	217				
03:45	2	118	2	90	4	208	11	813		
04:00	4	112	2	99	6	211				
04:15	2	109	5	101	7	210				
04:30	4	114	8	98	12	212				
04:45	7	113	5	106	12	219	37	852		
05:00	11	97	12	116	23	213				
05:15	13	122	26	109	39	231				
05:30	18	121	42	102	60	223				
05:45	13	107	68	94	81	201	203	868		
06:00	18	99	105	70	123	169				
06:15	29	108	158	89	187	197				
06:30	26	87	131	99	157	186				
06:45	40	77	135	87	175	164	642	716		
07:00	49	70	120	76	169	146				
07:15	54	79	125	55	179	134				
07:30	76	62	151	66	227	128				
07:45	69	46	162	58	231	104	806	512		
08:00	81	41	160	47	241	88				
08:15	59	46	134	57	193	103				
08:30	60	41	133	41	193	82				
08:45	67	37	133	41	200	78	827	351		
09:00	69	28	126	41	195	69				
09:15	81	26	117	46	198	72				
09:30	70	31	102	25	172	56				
09:45	62	21	101	25	163	46	728	243		
10:00	53	22	85	25	138	47				
10:15	59	20	94	20	153	40				
10:30	74	18	76	18	150	36				
10:45	49	17	88	25	137	42	578	165		
11:00	65	31	73	16	138	47				
11:15	73	8	65	25	138	33				
11:30	86	10	67	14	153	24				
11:45	76	11	62	6	138	17	567	121		
Total	1578	3331	2920	3121	4498	6452				
Percent	35.1%	51.6%	64.9%	48.4%						
Day Total		4909		6041		10950				
Peak	11:00	-	03:30	-	07:30	-	04:45	-	-	-
Vol.	300	-	454	-	607	-	886	-	-	-
P.H.F.	0.872		0.962		0.937		0.925			

Adams Street
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

186210 A Volume
Site Code: 5996

Start	SB		NB		Combin ed		04/26/18	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Thu	
12:00	11	66	15	62	26	128		
12:15	8	80	11	74	19	154		
12:30	5	74	6	93	11	167		
12:45	6	88	6	73	12	161	610	
01:00	4	75	5	72	9	147		
01:15	4	79	6	68	10	147		
01:30	2	84	2	72	4	156		
01:45	2	79	3	86	5	165	615	
02:00	2	114	0	61	2	175		
02:15	3	103	2	103	5	206		
02:30	3	106	1	82	4	188		
02:45	3	122	3	86	6	208	777	
03:00	0	102	1	101	1	203		
03:15	0	102	2	121	2	223		
03:30	3	111	2	94	5	205		
03:45	1	117	4	84	5	201	832	
04:00	4	99	2	95	6	194		
04:15	3	106	4	97	7	203		
04:30	2	97	8	86	10	183		
04:45	7	115	11	101	18	216	796	
05:00	8	93	12	111	20	204		
05:15	10	107	22	126	32	233		
05:30	15	116	32	80	47	196		
05:45	5	122	55	119	60	241	874	
06:00	20	107	90	91	110	198		
06:15	22	82	145	73	167	155		
06:30	23	84	152	99	175	183		
06:45	55	91	138	87	193	178	714	
07:00	56	76	128	70	184	146		
07:15	57	76	131	59	188	135		
07:30	78	81	168	62	246	143		
07:45	76	73	143	46	237	119	543	
08:00	51	57	138	66	189	123		
08:15	77	51	142	69	219	120		
08:30	63	54	168	59	231	113		
08:45	59	58	120	44	238	102	458	
09:00	73	41	137	54	210	95		
09:15	78	48	94	49	172	97		
09:30	81	40	88	28	169	68		
09:45	58	34	111	40	169	74	334	
10:00	71	25	93	33	164	58		
10:15	87	29	67	23	154	52		
10:30	62	25	74	29	136	54		
10:45	70	33	79	22	149	55	219	
11:00	81	20	63	22	144	42		
11:15	67	20	65	26	132	46		
11:30	84	25	67	17	151	42		
11:45	75	19	71	12	146	31	161	
Total	1635	3606	2887	3327	4522	6933		
Percent	36.2%	52.0%	63.8%	48.0%				
Day Total		5241		6214		11455		
Peak	11:00	-	05:15	-	07:30	-	05:00	-
Vol.	307	-	452	-	591	-	436	-
P.H.F.	0.914	-	0.926	-	0.879	-	0.865	-

Adams Street
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 A Class
Site Code: 5996

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/25/1														
8	0	29	5	0	1	0	0	1	0	0	0	0	0	36
01:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
02:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
03:00	0	2	1	0	0	0	0	0	1	0	0	0	0	4
04:00	0	13	3	0	1	0	0	0	0	0	0	0	0	17
05:00	0	42	8	0	4	0	0	1	0	0	0	0	0	55
06:00	1	93	15	1	2	1	0	0	0	0	0	0	0	113
07:00	6	203	32	2	4	1	0	0	0	0	0	0	0	248
08:00	2	222	29	1	6	5	0	0	2	0	0	0	0	267
09:00	0	227	41	5	6	3	0	0	0	0	0	0	0	282
10:00	3	169	51	2	7	3	0	0	0	0	0	0	0	235
11:00	0	235	56	0	6	2	0	1	0	0	0	0	0	300
12 PM	1	235	48	2	9	2	0	1	0	0	0	0	0	298
13:00	0	218	46	1	8	6	0	0	0	0	0	0	0	279
14:00	1	316	41	0	13	6	1	1	1	0	0	0	0	380
15:00	1	360	65	3	8	6	0	0	0	0	0	0	0	443
16:00	4	386	47	0	8	3	0	0	0	0	0	0	0	448
17:00	3	391	46	0	4	1	0	2	0	0	0	0	0	447
18:00	0	321	40	1	7	2	0	0	0	0	0	0	0	371
19:00	0	230	26	0	1	0	0	0	0	0	0	0	0	257
20:00	0	146	18	0	1	0	0	0	0	0	0	0	0	165
21:00	0	97	9	0	0	0	0	0	0	0	0	0	0	106
22:00	0	73	4	0	0	0	0	0	0	0	0	0	0	77
23:00	0	53	6	0	1	0	0	0	0	0	0	0	0	60
Total	22	4079	639	18	98	41	1	7	4	0	0	0	0	4909
Percent	0.4%	83.1%	13.0%	0.4%	2.0%	0.8%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	11:00	09:00	10:00	08:00		00:00	08:00					11:00
Vol.	6	235	56	5	7	5		1	2					300
PM Peak	16:00	17:00	15:00	15:00	14:00	13:00	14:00	17:00	14:00					16:00
Vol.	4	391	65	3	13	6	1	2	1					448

Adams Street
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 A Class
Site Code: 5996

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/26/1														
8	0	25	4	0	1	0	0	0	0	0	0	0	0	30
01:00	0	9	3	0	0	0	0	0	0	0	0	0	0	12
02:00	0	8	2	0	1	0	0	0	0	0	0	0	0	11
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
04:00	0	11	4	0	1	0	0	0	0	0	0	0	0	16
05:00	0	32	5	0	1	0	0	0	0	0	0	0	0	38
06:00	0	88	25	0	6	1	0	0	0	0	0	0	0	120
07:00	3	218	33	3	9	1	0	0	0	0	0	0	0	267
08:00	3	199	37	1	8	1	0	1	0	0	0	0	0	250
09:00	2	232	43	3	10	0	0	0	0	0	0	0	0	290
10:00	0	209	65	6	9	1	0	0	0	0	0	0	0	290
11:00	0	241	53	1	11	0	0	0	1	0	0	0	0	307
12 PM	1	231	60	2	12	2	0	0	0	0	0	0	0	308
13:00	3	234	58	3	17	2	0	0	0	0	0	0	0	317
14:00	2	341	86	1	14	1	0	0	0	0	0	0	0	445
15:00	2	323	82	1	23	1	0	0	0	0	0	0	0	432
16:00	0	326	70	2	18	0	0	0	1	0	0	0	0	417
17:00	3	357	59	0	17	0	0	2	0	0	0	0	0	438
18:00	2	301	48	2	10	1	0	0	0	0	0	0	0	364
19:00	0	252	48	1	4	0	0	1	0	0	0	0	0	306
20:00	0	196	20	0	3	1	0	0	0	0	0	0	0	220
21:00	0	144	18	0	1	0	0	0	0	0	0	0	0	163
22:00	1	100	9	0	2	0	0	0	0	0	0	0	0	112
23:00	0	74	9	0	1	0	0	0	0	0	0	0	0	84
Total	22	4154	842	26	179	12	0	4	2	0	0	0	0	5241
Percent	0.4%	79.3%	16.1%	0.5%	3.4%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	10:00	10:00	11:00	06:00		08:00	11:00					11:00
Vol.	3	241	65	6	11	1		1	1					307
PM Peak	13:00	17:00	14:00	13:00	15:00	12:00		17:00	16:00					14:00
Vol.	3	357	86	3	23	2		2	1					445

Adams Street
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 A Class
Site Code: 5996

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/25/1														
8	0	26	1	0	0	0	0	0	0	0	0	0	0	27
01:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	5	0	0	1	1	0	0	0	0	0	0	0	7
04:00	0	13	3	0	1	2	0	1	0	0	0	0	0	20
05:00	0	112	28	1	5	1	0	1	0	0	0	0	0	148
06:00	1	441	70	4	10	2	0	1	0	0	0	0	0	529
07:00	1	497	48	1	6	3	2	0	0	0	0	0	0	558
08:00	7	508	34	3	2	4	2	0	0	0	0	0	0	560
09:00	0	377	58	1	7	2	0	1	0	0	0	0	0	446
10:00	0	285	51	0	5	1	0	0	1	0	0	0	0	343
11:00	1	231	25	1	6	3	0	0	0	0	0	0	0	267
12 PM	0	262	32	0	7	0	1	0	1	0	0	0	0	303
13:00	0	229	35	2	4	4	1	0	1	0	0	0	0	276
14:00	0	238	31	0	6	0	0	0	0	0	0	0	0	275
15:00	2	313	44	3	5	1	1	0	0	1	0	0	0	370
16:00	5	354	40	0	2	2	0	1	0	0	0	0	0	404
17:00	7	383	26	2	3	0	0	0	0	0	0	0	0	421
18:00	0	319	21	1	2	2	0	0	0	0	0	0	0	345
19:00	0	237	17	1	0	0	0	0	0	0	0	0	0	255
20:00	1	172	11	0	1	0	0	0	0	1	0	0	0	186
21:00	0	127	10	0	0	0	0	0	0	0	0	0	0	137
22:00	0	82	6	0	0	0	0	0	0	0	0	0	0	88
23:00	0	56	5	0	0	0	0	0	0	0	0	0	0	61
Total	25	5281	597	20	73	28	7	5	3	2	0	0	0	6041
Percent	0.4%	87.4%	9.9%	0.3%	1.2%	0.5%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	06:00	06:00	06:00	08:00	07:00	04:00	10:00					08:00
Vol.	7	508	70	4	10	4	2	1	1					560
PM Peak	17:00	17:00	15:00	15:00	12:00	13:00	12:00	16:00	12:00	15:00				17:00
Vol.	7	383	44	3	7	4	1	1	1	1				421

Adams Street
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 A Class
Site Code: 5996

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/26/1														
8	0	32	5	0	1	0	0	0	0	0	0	0	0	38
01:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
04:00	0	17	4	0	2	2	0	0	0	0	0	0	0	25
05:00	0	62	41	1	15	0	0	2	0	0	0	0	0	121
06:00	1	275	189	2	53	4	0	1	0	0	0	0	0	525
07:00	4	444	92	4	24	1	1	0	0	0	0	0	0	570
08:00	3	495	58	1	9	1	0	1	0	0	0	0	0	568
09:00	0	354	61	2	10	1	0	2	0	0	0	0	0	430
10:00	1	246	54	5	5	1	0	1	0	0	0	0	0	313
11:00	0	203	51	0	10	0	0	2	0	0	0	0	0	266
12 PM	0	245	48	1	8	0	0	0	0	0	0	0	0	302
13:00	1	234	50	0	13	0	0	0	0	0	0	0	0	298
14:00	1	257	54	1	16	2	0	1	0	0	0	0	0	332
15:00	0	325	57	2	13	1	0	1	1	0	0	0	0	400
16:00	1	307	60	1	8	2	0	0	0	0	0	0	0	379
17:00	3	365	54	2	10	2	0	0	0	0	0	0	0	436
18:00	1	301	39	0	9	0	0	0	0	0	0	0	0	350
19:00	1	197	34	0	4	1	0	0	0	0	0	0	0	237
20:00	0	206	30	0	2	0	0	0	0	0	0	0	0	238
21:00	0	153	16	0	2	0	0	0	0	0	0	0	0	171
22:00	1	94	11	0	1	0	0	0	0	0	0	0	0	107
23:00	0	69	6	0	2	0	0	0	0	0	0	0	0	77
Total	18	4910	1016	22	217	18	1	11	1	0	0	0	0	6214
Percent	0.3%	79.0%	16.4%	0.4%	3.5%	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	06:00	10:00	06:00	06:00	07:00	05:00						07:00
Vol.	4	495	189	5	53	4	1	2						570
PM Peak	17:00	17:00	16:00	15:00	14:00	14:00		14:00	15:00					17:00
Vol.	3	365	60	2	16	2		1	1					436

Adams Street
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 A Speed
Site Code: 5996

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/25/ 18	0	0	0	2	5	23	5	1	0	0	0	0	0	36	39	37
01:00	0	0	0	0	5	5	1	1	0	0	0	0	0	12	39	36
02:00	0	0	1	0	2	4	2	0	0	0	0	0	0	9	40	35
03:00	0	0	0	0	2	1	1	0	0	0	0	0	0	4	41	36
04:00	0	1	0	3	4	8	0	1	0	0	0	0	0	17	38	33
05:00	0	0	0	2	12	25	13	3	0	0	0	0	0	55	41	37
06:00	0	0	2	5	49	38	16	3	0	0	0	0	0	113	39	35
07:00	1	1	16	22	109	71	27	1	0	0	0	0	0	248	38	33
08:00	2	6	28	54	84	86	7	0	0	0	0	0	0	267	37	31
09:00	0	0	0	25	130	102	21	4	0	0	0	0	0	282	38	34
10:00	0	1	3	18	125	76	11	1	0	0	0	0	0	235	37	34
11:00	0	0	4	41	130	101	21	3	0	0	0	0	0	300	37	34
12 PM	0	0	0	22	154	103	18	1	0	0	0	0	0	298	37	34
13:00	1	1	1	25	136	102	13	0	0	0	0	0	0	279	37	34
14:00	2	5	19	57	182	98	16	1	0	0	0	0	0	380	36	32
15:00	0	0	10	56	242	122	13	0	0	0	0	0	0	443	36	33
16:00	0	3	10	109	253	67	5	1	0	0	0	0	0	448	34	31
17:00	0	0	0	52	243	130	21	1	0	0	0	0	0	447	37	33
18:00	0	0	1	40	158	144	26	2	0	0	0	0	0	371	38	34
19:00	0	0	0	11	107	117	19	3	0	0	0	0	0	257	38	35
20:00	1	1	3	31	83	31	14	1	0	0	0	0	0	165	37	33
21:00	0	0	0	13	48	34	10	1	0	0	0	0	0	106	38	34
22:00	0	0	0	5	27	33	11	1	0	0	0	0	0	77	39	35
23:00	0	0	0	2	16	31	8	3	0	0	0	0	0	60	40	37
Total %	7 0.1%	19 0.4%	98 2.0%	595 12.1%	2306 47.0%	1552 31.6%	299 6.1%	33 0.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4909		
AM Peak	08:00	08:00	08:00	08:00	09:00	09:00	07:00	09:00						11:00		
Vol.	2	6	28	54	130	102	27	4						300		
PM Peak	14:00	14:00	14:00	16:00	16:00	18:00	18:00	19:00						16:00		
Vol.	2	5	19	109	253	144	26	3						448		

Stats
15th Percentile : 29 MPH
50th Percentile : 32 MPH
85th Percentile : 37 MPH
95th Percentile : 40 MPH

Mean Speed(Average) : 33 MPH
10 MPH Pace Speed : 30-39 MPH
Number in Pace : 3858
Percent in Pace : 78.6%
Number of Vehicles > 30 MPH : 3729
Percent of Vehicles > 30 MPH : 76.0%

Adams Street
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

186210 A Speed
Site Code: 5996

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/26/ 18	0	0	0	1	8	15	5	1	0	0	0	0	0	30	40	36
01:00	0	0	0	0	5	5	2	0	0	0	0	0	0	12	39	36
02:00	0	0	0	1	1	7	2	0	0	0	0	0	0	11	39	37
03:00	0	0	0	0	0	1	3	0	0	0	0	0	0	4	43	41
04:00	0	0	0	3	1	4	4	4	0	0	0	0	0	16	46	39
05:00	0	0	0	0	7	17	10	4	0	0	0	0	0	38	43	38
06:00	0	0	0	5	38	46	27	3	1	0	0	0	0	120	41	37
07:00	2	0	24	20	92	111	17	1	0	0	0	0	0	267	38	33
08:00	9	10	32	72	70	49	7	1	0	0	0	0	0	250	35	29
09:00	2	7	22	55	108	81	13	2	0	0	0	0	0	290	37	32
10:00	0	0	1	27	116	129	17	0	0	0	0	0	0	290	37	34
11:00	1	0	6	17	131	128	22	2	0	0	0	0	0	307	38	34
12 PM	0	1	4	6	96	155	42	3	1	0	0	0	0	308	38	36
13:00	0	0	1	1	80	169	55	10	1	0	0	0	0	317	40	37
14:00	14	14	16	62	144	161	27	6	1	0	0	0	0	445	37	32
15:00	0	0	3	10	135	211	67	5	1	0	0	0	0	432	39	36
16:00	0	1	1	9	115	221	65	4	1	0	0	0	0	417	39	36
17:00	0	0	0	4	87	254	78	13	1	0	0	1	0	438	40	37
18:00	0	3	3	11	112	179	52	4	0	0	0	0	0	364	39	36
19:00	0	0	0	5	90	150	55	4	2	0	0	0	0	306	40	36
20:00	0	0	0	14	84	96	24	2	0	0	0	0	0	220	38	35
21:00	0	0	0	15	59	71	15	2	1	0	0	0	0	163	38	35
22:00	1	1	3	11	38	36	19	1	0	2	0	0	0	112	40	35
23:00	0	0	0	6	26	37	13	2	0	0	0	0	0	84	39	36
Total	29	37	116	355	1643	2333	641	74	10	2	0	1	0	5241		
%	0.6%	0.7%	2.2%	6.8%	31.3%	44.5%	12.2%	1.4%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	08:00	11:00	10:00	06:00	04:00	06:00					11:00		
Vol.	9	10	32	72	131	129	27	4	1					307		
PM Peak	14:00	14:00	14:00	14:00	14:00	17:00	17:00	17:00	19:00	22:00		17:00		14:00		
Vol.	14	14	16	62	144	254	78	13	2	2		1		445		

Stats

15th Percentile :	29 MPH
50th Percentile :	34 MPH
85th Percentile :	38 MPH
95th Percentile :	42 MPH

Mean Speed(Average) :	35 MPH
10 MPH Pace Speed :	30-39 MPH
Number in Pace :	3976
Percent in Pace :	75.9%
Number of Vehicles > 30 MPH :	4375
Percent of Vehicles > 30 MPH :	83.5%

Adams Street
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 A Speed
Site Code: 5996

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/25/																
18	1	0	0	3	11	9	3	0	0	0	0	0	0	27	38	33
01:00	0	0	0	1	4	1	2	1	0	0	0	0	0	9	43	36
02:00	0	0	0	1	1	4	0	0	0	0	0	0	0	6	37	34
03:00	0	0	0	2	0	3	2	0	0	0	0	0	0	7	41	36
04:00	0	0	0	0	9	5	5	1	0	0	0	0	0	20	42	36
05:00	0	0	0	0	39	82	25	2	0	0	0	0	0	148	39	37
06:00	17	7	32	61	199	187	25	1	0	0	0	0	0	529	37	32
07:00	89	6	56	55	203	137	11	1	0	0	0	0	0	558	36	28
08:00	230	18	87	64	117	43	1	0	0	0	0	0	0	560	32	20
09:00	0	1	2	64	212	145	22	0	0	0	0	0	0	446	37	33
10:00	1	0	1	32	167	127	14	1	0	0	0	0	0	343	37	34
11:00	0	0	2	20	108	119	16	2	0	0	0	0	0	267	38	34
12 PM	0	0	1	11	150	124	17	0	0	0	0	0	0	303	37	34
13:00	10	14	11	18	127	83	10	2	1	0	0	0	0	276	37	32
14:00	0	0	3	32	133	95	10	0	2	0	0	0	0	275	37	34
15:00	0	6	10	59	198	88	9	0	0	0	0	0	0	370	36	32
16:00	2	4	26	130	184	54	4	0	0	0	0	0	0	404	33	30
17:00	0	0	1	74	203	130	13	0	0	0	0	0	0	421	37	33
18:00	0	0	10	27	180	110	16	2	0	0	0	0	0	345	37	33
19:00	0	0	1	36	124	86	8	0	0	0	0	0	0	255	37	33
20:00	0	0	6	50	82	47	1	0	0	0	0	0	0	186	36	32
21:00	0	0	0	17	85	31	3	1	0	0	0	0	0	137	36	33
22:00	0	0	0	2	32	44	8	2	0	0	0	0	0	88	38	36
23:00	0	0	0	9	24	21	4	3	0	0	0	0	0	61	38	34
Total	350	56	249	768	2592	1775	229	19	3	0	0	0	0	6041		
%	5.8%	0.9%	4.1%	12.7%	42.9%	29.4%	3.8%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	08:00	09:00	06:00	05:00	05:00						08:00		
Vol.	230	18	87	64	212	187	25	2						560		
PM Peak	13:00	13:00	16:00	16:00	17:00	17:00	12:00	23:00	14:00					17:00		
Vol.	10	14	26	130	203	130	17	3	2					421		

Stats

15th Percentile :	25 MPH
50th Percentile :	32 MPH
85th Percentile :	37 MPH
95th Percentile :	38 MPH

Mean Speed(Average) :	31 MPH
10 MPH Pace Speed :	30-39 MPH
Number in Pace :	4367
Percent in Pace :	72.3%
Number of Vehicles > 30 MPH :	4100
Percent of Vehicles > 30 MPH :	67.9%

Adams Street
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 A Speed
Site Code: 5996

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/26/																
18	0	0	3	5	13	15	1	1	0	0	0	0	0	38	37	33
01:00	0	0	0	2	5	5	4	0	0	0	0	0	0	16	41	35
02:00	0	0	0	1	0	3	2	0	0	0	0	0	0	6	41	37
03:00	0	1	0	1	3	3	1	0	0	0	0	0	0	9	38	33
04:00	1	0	0	2	4	12	4	2	0	0	0	0	0	25	41	36
05:00	0	0	0	0	4	32	66	17	2	0	0	0	0	121	44	41
06:00	0	0	0	1	53	218	208	41	4	0	0	0	0	525	43	39
07:00	124	48	90	79	117	88	23	1	0	0	0	0	0	570	35	24
08:00	211	39	126	90	79	22	1	0	0	0	0	0	0	568	30	19
09:00	48	4	31	80	153	104	10	0	0	0	0	0	0	430	36	29
10:00	0	0	1	19	103	157	32	1	0	0	0	0	0	313	38	35
11:00	0	1	1	17	77	131	34	5	0	0	0	0	0	266	38	36
12 PM	0	0	2	18	99	140	39	3	1	0	0	0	0	302	38	35
13:00	1	1	0	14	78	159	41	4	0	0	0	0	0	298	39	36
14:00	3	12	31	50	102	100	32	2	0	0	0	0	0	332	38	32
15:00	0	0	2	8	101	219	67	3	0	0	0	0	0	400	39	36
16:00	0	1	1	6	105	194	68	4	0	0	0	0	0	379	40	36
17:00	0	1	0	5	121	233	65	10	1	0	0	0	0	436	39	36
18:00	1	0	2	6	99	176	58	8	0	0	0	0	0	350	40	36
19:00	0	0	1	16	73	108	37	2	0	0	0	0	0	237	39	36
20:00	0	0	0	13	97	98	27	2	1	0	0	0	0	238	38	35
21:00	0	1	1	20	56	75	13	5	0	0	0	0	0	171	38	35
22:00	0	1	0	7	43	46	9	1	0	0	0	0	0	107	38	35
23:00	0	0	0	0	23	40	9	3	2	0	0	0	0	77	40	37
Total	389	110	292	460	1608	2378	851	115	11	0	0	0	0	6214		
%	6.3%	1.8%	4.7%	7.4%	25.9%	38.3%	13.7%	1.9%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	07:00	08:00	08:00	09:00	06:00	06:00	06:00	06:00					07:00		
Vol.	211	48	126	90	153	218	208	41	4					570		
PM Peak	14:00	14:00	14:00	14:00	17:00	17:00	16:00	17:00	23:00					17:00		
Vol.	3	12	31	50	121	233	68	10	2					436		

Stats

15th Percentile :	25 MPH
50th Percentile :	34 MPH
85th Percentile :	39 MPH
95th Percentile :	42 MPH

Mean Speed(Average) :	33 MPH
10 MPH Pace Speed :	30-39 MPH
Number in Pace :	3986
Percent in Pace :	64.1%
Number of Vehicles > 30 MPH :	4641
Percent of Vehicles > 30 MPH :	74.7%

Randolph Avenue
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 B Volume
Site Code: 5996

Start	SB		NB		Combin		ed		04/25/18	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	
12:00	19	35	5	46	24	81				
12:15	10	33	5	37	15	70				
12:30	7	27	7	41	14	68				
12:45	4	34	3	51	7	85	60	304		
01:00	4	38	2	48	6	86				
01:15	7	33	4	57	11	90				
01:30	4	49	2	45	6	94				
01:45	0	29	1	49	1	78	24	348		
02:00	2	44	1	56	3	100				
02:15	2	49	2	65	4	114				
02:30	7	55	5	71	12	126				
02:45	1	59	8	65	9	124	28	464		
03:00	1	60	3	51	4	111				
03:15	1	67	1	69	2	136				
03:30	0	54	5	56	5	110				
03:45	2	56	4	67	6	123	17	480		
04:00	2	48	2	82	4	130				
04:15	2	58	8	60	10	118				
04:30	2	56	9	80	11	136				
04:45	7	66	22	52	29	118	54	502		
05:00	9	61	37	46	46	107				
05:15	11	60	80	83	91	143				
05:30	10	57	132	79	142	136				
05:45	13	60	121	93	301	153	413	539		
06:00	14	74	128	93	142	167				
06:15	13	39	97	54	110	93				
06:30	21	71	118	72	139	143				
06:45	31	65	88	49	268	114	510	517		
07:00	26	70	75	34	101	104				
07:15	38	53	55	34	93	87				
07:30	55	44	70	38	125	82				
07:45	46	51	56	40	146	91	421	364		
08:00	31	39	63	26	94	65				
08:15	36	41	47	38	83	79				
08:30	41	41	39	31	80	72				
08:45	48	40	53	35	130	75	358	291		
09:00	32	27	70	23	102	50				
09:15	33	32	101	21	134	53				
09:30	31	29	75	25	106	54				
09:45	37	29	87	20	89	49	466	206		
10:00	34	21	93	22	127	43				
10:15	28	21	95	19	123	40				
10:30	26	17	61	12	87	29				
10:45	32	16	60	17	70	33	429	145		
11:00	27	21	58	13	85	34				
11:15	30	23	46	20	76	43				
11:30	32	26	37	11	69	37				
11:45	42	23	60	8	52	31	332	145		
Total	911	2101	2201	2204	3112	4305				
Percent	29.3%	48.8%	70.7%	51.2%						
Day Total		3012		4405		7417				
Peak	07:15	-	06:30	-	05:30	-	05:30	-	05:15	-
Vol.	170	-	259	-	478	-	528	-	599	-
P.H.F.	0.773		0.875		0.905		0.930		0.897	

Randolph Avenue
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 B Volume
Site Code: 5996

Start	SB				NB				Combin ed		04/26/18		
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	20		32		8		44		28		76		
12:15	6		36		4		32		10		68		
12:30	13		38		9		57		22		95		
12:45	11	50	35	141	6	27	45	178	17	77	80	319	
01:00	5		45		4		37		9		82		
01:15	6		37		1		49		7		86		
01:30	6		44		2		57		8		101		
01:45	3	20	45	171	5	12	52	195	8	32	97	366	
02:00	1		39		5		64		6		103		
02:15	1		37		0		71		1		108		
02:30	7		50		1		60		8		110		
02:45	0	9	70	196	8	14	59	254	8	23	129	450	
03:00	4		52		3		59		7		111		
03:15	4		51		2		73		6		124		
03:30	1		54		4		43		5		97		
03:45	2	11	58	215	5	14	74	249	7	25	132	464	
04:00	1		60		3		74		4		134		
04:15	0		66		4		80		4		146		
04:30	5		68		12		72		17		140		
04:45	5	11	60	254	16	35	63	289	21	46	123	543	
05:00	5		63		27		67		32		130		
05:15	14		54		58		64		72		118		
05:30	12		70		104		77		116		147		
05:45	9	40	72	259	129	318	71	279	138	358	143	538	
06:00	8		48		134		70		142		118		
06:15	11		57		116		62		127		119		
06:30	15		53		105		46		120		99		
06:45	35	69	66	224	88	443	47	225	123	512	113	449	
07:00	36		53		84		55		120		108		
07:15	32		59		53		41		85		100		
07:30	47		57		54		38		101		95		
07:45	50	165	50	219	47	238	42	176	97	403	92	395	
08:00	39		65		62		37		101		102		
08:15	50		54		77		46		127		100		
08:30	34		43		56		40		90		83		
08:45	44	167	46	208	57	252	44	167	101	419	90	375	
09:00	30		54		63		31		93		85		
09:15	28		40		47		22		75		62		
09:30	37		35		63		24		100		59		
09:45	43	138	39	168	74	247	21	98	117	385	60	266	
10:00	32		26		94		16		126		42		
10:15	32		28		79		20		111		48		
10:30	37		28		67		26		104		54		
10:45	34	135	23	105	41	281	21	83	75	416	44	188	
11:00	37		25		66		13		103		38		
11:15	30		33		58		15		88		48		
11:30	39		19		54		10		93		29		
11:45	48	154	15	92	50	228	11	49	98	382	26	141	
Total	969		2252		2109		2242		3078		4494		
Percent	31.5%		50.1%		68.5%		49.9%						
Day Total			3221				4351				7572		
Peak	07:30	-	05:00	-	05:45	-	03:45	-	05:45	-	03:45	-	-
Vol.	186	-	259	-	484	-	300	-	527	-	552	-	-
P.H.F.	0.930		0.899		0.903		0.938		0.928		0.945		

Randolph Avenue
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 B Class
Site Code: 5996

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/25/1														
8	0	38	2	0	0	0	0	0	0	0	0	0	0	40
01:00	0	14	0	0	1	0	0	0	0	0	0	0	0	15
02:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
04:00	0	11	1	0	1	0	0	0	0	0	0	0	0	13
05:00	0	31	11	1	0	0	0	0	0	0	0	0	0	43
06:00	0	69	9	0	1	0	0	0	0	0	0	0	0	79
07:00	1	139	16	2	6	0	0	1	0	0	0	0	0	165
08:00	1	127	20	2	5	0	0	1	0	0	0	0	0	156
09:00	1	110	19	0	2	0	0	0	0	1	0	0	0	133
10:00	1	86	23	1	8	1	0	0	0	0	0	0	0	120
11:00	0	99	18	3	11	0	0	0	0	0	0	0	0	131
12 PM	0	97	24	3	5	0	0	0	0	0	0	0	0	129
13:00	1	114	27	2	2	2	0	0	1	0	0	0	0	149
14:00	0	170	29	0	6	0	0	1	1	0	0	0	0	207
15:00	0	187	36	1	10	2	0	1	0	0	0	0	0	237
16:00	1	183	32	0	10	1	0	1	0	0	0	0	0	228
17:00	0	211	18	3	5	0	0	1	0	0	0	0	0	238
18:00	0	219	27	2	0	1	0	0	0	0	0	0	0	249
19:00	0	192	24	0	1	1	0	0	0	0	0	0	0	218
20:00	0	146	15	0	0	0	0	0	0	0	0	0	0	161
21:00	0	106	9	0	0	0	0	1	1	0	0	0	0	117
22:00	0	67	8	0	0	0	0	0	0	0	0	0	0	75
23:00	0	86	7	0	0	0	0	0	0	0	0	0	0	93
Total	6	2517	376	20	74	8	0	7	3	1	0	0	0	3012
Percent	0.2%	83.6%	12.5%	0.7%	2.5%	0.3%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	10:00	11:00	11:00	10:00		07:00		09:00				07:00
Vol.	1	139	23	3	11	1		1		1				165
PM Peak	13:00	18:00	15:00	12:00	15:00	13:00		14:00	13:00					18:00
Vol.	1	219	36	3	10	2		1	1					249

Randolph Avenue
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 B Class
Site Code: 5996

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/26/1														
8	0	49	1	0	0	0	0	0	0	0	0	0	0	50
01:00	0	17	2	0	1	0	0	0	0	0	0	0	0	20
02:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
03:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
04:00	0	10	0	0	1	0	0	0	0	0	0	0	0	11
05:00	0	34	4	1	0	0	0	0	1	0	0	0	0	40
06:00	1	57	7	0	3	1	0	0	0	0	0	0	0	69
07:00	0	140	22	1	2	0	0	0	0	0	0	0	0	165
08:00	0	133	25	3	6	0	0	0	0	0	0	0	0	167
09:00	0	113	16	2	7	0	0	0	0	0	0	0	0	138
10:00	0	110	19	1	4	0	0	1	0	0	0	0	0	135
11:00	0	125	25	0	3	1	0	0	0	0	0	0	0	154
12 PM	0	119	17	1	3	0	1	0	0	0	0	0	0	141
13:00	0	133	33	1	3	1	0	0	0	0	0	0	0	171
14:00	2	158	23	2	8	2	0	1	0	0	0	0	0	196
15:00	1	165	40	2	5	1	0	1	0	0	0	0	0	215
16:00	2	207	33	0	9	1	0	2	0	0	0	0	0	254
17:00	1	217	36	2	2	1	0	0	0	0	0	0	0	259
18:00	2	190	28	0	4	0	0	0	0	0	0	0	0	224
19:00	2	188	28	0	1	0	0	0	0	0	0	0	0	219
20:00	2	177	25	1	2	1	0	0	0	0	0	0	0	208
21:00	1	147	17	1	2	0	0	0	0	0	0	0	0	168
22:00	1	96	7	0	0	1	0	0	0	0	0	0	0	105
23:00	0	83	7	0	2	0	0	0	0	0	0	0	0	92
Total	15	2686	417	18	68	10	1	5	1	0	0	0	0	3221
Percent	0.5%	83.4%	12.9%	0.6%	2.1%	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	08:00	08:00	09:00	06:00		10:00	05:00					08:00
Vol.	1	140	25	3	7	1		1	1					167
PM Peak	14:00	17:00	15:00	14:00	16:00	14:00	12:00	16:00						17:00
Vol.	2	217	40	2	9	2	1	2						259

Randolph Avenue
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 B Class
Site Code: 5996

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/25/1														
8	0	16	4	0	0	0	0	0	0	0	0	0	0	20
01:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
02:00	0	13	3	0	0	0	0	0	0	0	0	0	0	16
03:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
04:00	0	31	7	0	3	0	0	0	0	0	0	0	0	41
05:00	0	261	61	3	41	2	0	1	1	0	0	0	0	370
06:00	0	327	69	8	21	5	0	1	0	0	0	0	0	431
07:00	1	199	43	1	9	3	0	0	0	0	0	0	0	256
08:00	2	150	34	3	9	0	0	2	2	0	0	0	0	202
09:00	0	259	58	0	15	0	0	0	1	0	0	0	0	333
10:00	1	246	41	4	16	1	0	0	0	0	0	0	0	309
11:00	0	152	32	5	12	0	0	0	0	0	0	0	0	201
12 PM	0	131	34	1	9	0	0	0	0	0	0	0	0	175
13:00	0	161	28	1	8	0	0	1	0	0	0	0	0	199
14:00	2	206	35	0	13	1	0	0	0	0	0	0	0	257
15:00	0	201	31	2	9	0	0	0	0	0	0	0	0	243
16:00	2	211	48	0	11	0	0	2	0	0	0	0	0	274
17:00	0	254	36	0	11	0	0	0	0	0	0	0	0	301
18:00	0	221	39	1	5	0	0	2	0	0	0	0	0	268
19:00	0	129	16	0	1	0	0	0	0	0	0	0	0	146
20:00	0	119	10	0	0	1	0	0	0	0	0	0	0	130
21:00	0	72	11	0	6	0	0	0	0	0	0	0	0	89
22:00	0	60	5	0	5	0	0	0	0	0	0	0	0	70
23:00	0	43	9	0	0	0	0	0	0	0	0	0	0	52
Total	8	3483	655	29	204	13	0	9	4	0	0	0	0	4405
Percent	0.2%	79.1%	14.9%	0.7%	4.6%	0.3%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	06:00	06:00	06:00	05:00	06:00		08:00	08:00					06:00
Vol.	2	327	69	8	41	5		2	2					431
PM Peak	14:00	17:00	16:00	15:00	14:00	14:00		16:00						17:00
Vol.	2	254	48	2	13	1		2						301

Randolph Avenue
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 B Class
Site Code: 5996

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/26/1														
8	0	24	3	0	0	0	0	0	0	0	0	0	0	27
01:00	0	9	3	0	0	0	0	0	0	0	0	0	0	12
02:00	0	10	3	0	1	0	0	0	0	0	0	0	0	14
03:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
04:00	0	22	6	1	4	1	0	0	1	0	0	0	0	35
05:00	0	237	57	3	20	0	0	0	1	0	0	0	0	318
06:00	1	336	72	6	24	1	0	3	0	0	0	0	0	443
07:00	0	187	42	2	7	0	0	0	0	0	0	0	0	238
08:00	2	204	29	2	15	0	0	0	0	0	0	0	0	252
09:00	0	188	44	2	13	0	0	0	0	0	0	0	0	247
10:00	1	218	38	5	19	0	0	0	0	0	0	0	0	281
11:00	1	174	41	1	10	0	0	0	1	0	0	0	0	228
12 PM	2	138	28	0	8	0	0	1	1	0	0	0	0	178
13:00	1	159	24	2	8	0	0	0	1	0	0	0	0	195
14:00	3	206	41	0	3	0	0	1	0	0	0	0	0	254
15:00	0	193	48	0	7	1	0	0	0	0	0	0	0	249
16:00	0	234	42	0	10	0	0	3	0	0	0	0	0	289
17:00	3	238	30	0	7	0	0	1	0	0	0	0	0	279
18:00	0	189	27	0	8	1	0	0	0	0	0	0	0	225
19:00	2	155	14	0	5	0	0	0	0	0	0	0	0	176
20:00	0	143	21	0	3	0	0	0	0	0	0	0	0	167
21:00	1	82	12	0	2	0	0	0	1	0	0	0	0	98
22:00	0	72	9	0	2	0	0	0	0	0	0	0	0	83
23:00	0	42	5	0	2	0	0	0	0	0	0	0	0	49
Total	17	3473	640	24	178	4	0	9	6	0	0	0	0	4351
Percent	0.4%	79.8%	14.7%	0.6%	4.1%	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	06:00	06:00	06:00	06:00	04:00		06:00	04:00					06:00
Vol.	2	336	72	6	24	1		3	1					443
PM Peak	14:00	17:00	15:00	13:00	16:00	15:00		16:00	12:00					16:00
Vol.	3	238	48	2	10	1		3	1					289

Randolph Avenue
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 B Speed
Site Code: 5996

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/25/																
18	0	0	1	0	10	19	9	0	0	0	1	0	0	40	41	37
01:00	0	0	0	0	3	5	6	1	0	0	0	0	0	15	42	39
02:00	0	0	0	2	6	3	1	0	0	0	0	0	0	12	37	33
03:00	0	0	0	1	1	1	1	0	0	0	0	0	0	4	41	34
04:00	0	0	1	1	5	1	5	0	0	0	0	0	0	13	42	35
05:00	0	0	0	2	6	18	11	6	0	0	0	0	0	43	43	39
06:00	0	0	1	6	28	33	10	1	0	0	0	0	0	79	38	35
07:00	0	4	3	31	50	59	15	3	0	0	0	0	0	165	38	33
08:00	1	0	7	28	64	44	10	2	0	0	0	0	0	156	37	33
09:00	0	0	7	14	44	54	13	1	0	0	0	0	0	133	38	34
10:00	0	0	4	12	56	36	9	3	0	0	0	0	0	120	38	34
11:00	0	0	4	20	41	53	13	0	0	0	0	0	0	131	38	34
12 PM	0	1	1	12	59	40	15	1	0	0	0	0	0	129	38	34
13:00	4	1	5	29	55	45	9	1	0	0	0	0	0	149	37	32
14:00	1	1	5	22	63	88	26	1	0	0	0	0	0	207	38	34
15:00	0	0	2	14	90	90	35	6	0	0	0	0	0	237	39	35
16:00	0	1	2	18	79	102	24	2	0	0	0	0	0	228	38	35
17:00	0	0	2	26	84	88	35	3	0	0	0	0	0	238	39	35
18:00	0	0	1	34	99	89	20	4	1	1	0	0	0	249	38	34
19:00	0	1	7	29	86	79	13	3	0	0	0	0	0	218	37	34
20:00	0	1	5	41	67	40	7	0	0	0	0	0	0	161	36	32
21:00	0	2	2	16	61	27	8	1	0	0	0	0	0	117	37	33
22:00	0	1	3	9	28	20	10	4	0	0	0	0	0	75	40	34
23:00	0	0	1	8	31	39	11	3	0	0	0	0	0	93	39	35
Total	6	13	64	375	1116	1073	316	46	1	1	1	0	0	3012		
%	0.2%	0.4%	2.1%	12.5%	37.1%	35.6%	10.5%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	07:00	08:00	07:00	08:00	07:00	07:00	05:00			00:00			07:00		
Vol.	1	4	7	31	64	59	15	6			1			165		
PM Peak	13:00	21:00	19:00	20:00	18:00	16:00	15:00	15:00	18:00	18:00				18:00		
Vol.	4	2	7	41	99	102	35	6	1	1				249		

Stats

15th Percentile :	28 MPH
50th Percentile :	33 MPH
85th Percentile :	38 MPH
95th Percentile :	42 MPH

Mean Speed(Average) :	34 MPH
10 MPH Pace Speed :	30-39 MPH
Number in Pace :	2189
Percent in Pace :	72.7%
Number of Vehicles > 30 MPH :	2331
Percent of Vehicles > 30 MPH :	77.4%

Randolph Avenue
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 B Speed
Site Code: 5996

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/26/																
18	0	0	0	6	13	25	6	0	0	0	0	0	0	50	38	35
01:00	0	0	0	1	9	7	1	2	0	0	0	0	0	20	39	35
02:00	0	0	0	2	3	3	0	1	0	0	0	0	0	9	38	34
03:00	0	0	0	2	4	4	1	0	0	0	0	0	0	11	38	34
04:00	0	0	0	0	6	4	0	1	0	0	0	0	0	11	38	35
05:00	0	0	1	1	12	18	7	1	0	0	0	0	0	40	40	36
06:00	0	0	0	9	23	24	11	2	0	0	0	0	0	69	40	35
07:00	0	0	3	38	52	50	20	2	0	0	0	0	0	165	38	34
08:00	0	5	15	33	57	44	12	1	0	0	0	0	0	167	37	32
09:00	0	1	4	21	63	40	7	2	0	0	0	0	0	138	37	33
10:00	0	1	0	15	58	47	13	1	0	0	0	0	0	135	38	34
11:00	0	2	5	33	66	44	3	1	0	0	0	0	0	154	36	32
12 PM	1	0	5	18	49	54	12	2	0	0	0	0	0	141	38	34
13:00	1	0	2	16	56	79	16	1	0	0	0	0	0	171	38	35
14:00	0	1	4	24	60	79	26	1	1	0	0	0	0	196	38	35
15:00	0	1	3	9	62	98	36	6	0	0	0	0	0	215	40	36
16:00	0	0	3	11	87	121	27	5	0	0	0	0	0	254	38	35
17:00	1	1	1	18	81	98	53	5	1	0	0	0	0	259	40	36
18:00	0	1	5	20	73	93	30	2	0	0	0	0	0	224	38	35
19:00	0	1	9	23	86	79	17	3	1	0	0	0	0	219	38	34
20:00	0	1	6	41	93	57	10	0	0	0	0	0	0	208	37	33
21:00	0	0	7	26	81	48	5	1	0	0	0	0	0	168	37	33
22:00	0	0	1	9	57	26	10	1	1	0	0	0	0	105	38	34
23:00	0	0	1	6	36	36	12	1	0	0	0	0	0	92	38	35
Total	3	15	75	382	1187	1178	335	42	4	0	0	0	0	3221		
%	0.1%	0.5%	2.3%	11.9%	36.9%	36.6%	10.4%	1.3%	0.1%	0.0%	0.0%	0.0%	0.0%			
AM Peak		08:00	08:00	07:00	11:00	07:00	07:00	01:00						08:00		
Vol.		5	15	38	66	50	20	2						167		
PM Peak	12:00	14:00	19:00	20:00	20:00	16:00	17:00	15:00	14:00					17:00		
Vol.	1	1	9	41	93	121	53	6	1					259		

Stats

15th Percentile :	29 MPH
50th Percentile :	33 MPH
85th Percentile :	38 MPH
95th Percentile :	42 MPH

Mean Speed(Average) :	34 MPH
10 MPH Pace Speed :	30-39 MPH
Number in Pace :	2365
Percent in Pace :	73.4%
Number of Vehicles > 30 MPH :	2509
Percent of Vehicles > 30 MPH :	77.9%

Randolph Avenue
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 B Speed
Site Code: 5996

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/25/ 18	0	0	0	3	6	6	5	0	0	0	0	0	0	20	41	35
01:00	0	0	0	1	5	0	1	1	1	0	0	0	0	9	47	36
02:00	0	0	0	0	8	8	0	0	0	0	0	0	0	16	37	35
03:00	0	0	0	1	5	3	2	2	0	0	0	0	0	13	44	37
04:00	0	0	0	5	12	15	5	3	1	0	0	0	0	41	41	36
05:00	0	0	2	27	150	140	41	8	1	1	0	0	0	370	38	35
06:00	0	0	5	92	219	98	14	2	1	0	0	0	0	431	36	32
07:00	0	0	4	50	125	63	13	1	0	0	0	0	0	256	37	33
08:00	0	3	31	90	64	13	1	0	0	0	0	0	0	202	32	28
09:00	24	8	37	121	109	27	7	0	0	0	0	0	0	333	33	28
10:00	1	1	16	73	160	53	4	1	0	0	0	0	0	309	35	31
11:00	0	1	4	57	105	30	3	1	0	0	0	0	0	201	34	31
12 PM	1	2	3	42	92	31	4	0	0	0	0	0	0	175	35	31
13:00	0	3	16	49	90	28	10	2	1	0	0	0	0	199	35	31
14:00	7	4	9	50	142	43	2	0	0	0	0	0	0	257	34	31
15:00	0	2	6	51	120	54	8	1	1	0	0	0	0	243	36	32
16:00	0	0	3	64	132	62	11	1	1	0	0	0	0	274	36	32
17:00	0	3	5	53	145	87	7	1	0	0	0	0	0	301	36	33
18:00	0	0	1	58	141	57	11	0	0	0	0	0	0	268	36	32
19:00	0	0	3	40	60	35	6	2	0	0	0	0	0	146	37	32
20:00	0	0	1	26	69	30	4	0	0	0	0	0	0	130	36	32
21:00	0	0	1	20	45	19	3	1	0	0	0	0	0	89	36	32
22:00	0	1	2	11	23	27	6	0	0	0	0	0	0	70	38	34
23:00	0	0	1	5	19	23	3	1	0	0	0	0	0	52	38	34
Total	33	28	150	989	2046	952	171	28	7	1	0	0	0	4405		
%	0.7%	0.6%	3.4%	22.5%	46.4%	21.6%	3.9%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	09:00	09:00	09:00	06:00	05:00	05:00	05:00	01:00	05:00				06:00		
Vol.	24	8	37	121	219	140	41	8	1	1				431		
PM Peak	14:00	14:00	13:00	16:00	17:00	17:00	16:00	13:00	13:00					17:00		
Vol.	7	4	16	64	145	87	11	2	1					301		

Stats
15th Percentile : 26 MPH
50th Percentile : 31 MPH
85th Percentile : 36 MPH
95th Percentile : 38 MPH

Mean Speed(Average) : 32 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 3035
Percent in Pace : 68.9%
Number of Vehicles > 30 MPH : 2796
Percent of Vehicles > 30 MPH : 63.5%

Randolph Avenue
south of Hutchinson Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 B Speed
Site Code: 5996

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/26/																
18	0	0	0	5	10	6	4	2	0	0	0	0	0	27	41	35
01:00	0	0	0	2	2	7	1	0	0	0	0	0	0	12	38	35
02:00	0	0	0	5	3	4	1	1	0	0	0	0	0	14	38	33
03:00	0	0	0	0	4	5	3	1	1	0	0	0	0	14	43	38
04:00	0	0	0	1	16	8	7	2	1	0	0	0	0	35	42	36
05:00	0	1	3	39	120	116	33	6	0	0	0	0	0	318	38	34
06:00	0	0	4	93	225	97	21	3	0	0	0	0	0	443	36	33
07:00	0	0	12	66	116	38	5	1	0	0	0	0	0	238	35	31
08:00	52	20	66	56	46	9	3	0	0	0	0	0	0	252	31	22
09:00	0	0	7	83	115	37	5	0	0	0	0	0	0	247	34	31
10:00	0	0	12	77	131	49	8	3	1	0	0	0	0	281	35	32
11:00	3	2	15	70	104	33	1	0	0	0	0	0	0	228	33	30
12 PM	1	1	12	45	79	36	4	0	0	0	0	0	0	178	35	31
13:00	0	1	4	27	113	36	13	1	0	0	0	0	0	195	36	33
14:00	0	0	3	57	117	65	11	1	0	0	0	0	0	254	36	33
15:00	0	0	4	34	128	69	12	2	0	0	0	0	0	249	37	33
16:00	0	1	13	40	136	78	17	3	1	0	0	0	0	289	37	33
17:00	1	3	3	49	137	70	11	5	0	0	0	0	0	279	37	33
18:00	0	0	3	27	110	66	11	5	3	0	0	0	0	225	37	34
19:00	0	0	2	32	101	38	3	0	0	0	0	0	0	176	35	32
20:00	0	2	13	46	82	23	1	0	0	0	0	0	0	167	33	30
21:00	0	0	2	26	47	18	3	1	1	0	0	0	0	98	36	32
22:00	0	0	2	10	46	20	5	0	0	0	0	0	0	83	37	33
23:00	0	0	5	5	14	17	5	1	0	2	0	0	0	49	39	35
Total	57	31	185	895	2002	945	188	38	8	2	0	0	0	4351		
%	1.3%	0.7%	4.3%	20.6%	46.0%	21.7%	4.3%	0.9%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	06:00	06:00	05:00	05:00	05:00	03:00					06:00		
Vol.	52	20	66	93	225	116	33	6	1					443		
PM Peak	12:00	17:00	16:00	14:00	17:00	16:00	16:00	17:00	18:00	23:00				16:00		
Vol.	1	3	13	57	137	78	17	5	3	2				289		

Stats

15th Percentile :	26 MPH
50th Percentile :	31 MPH
85th Percentile :	36 MPH
95th Percentile :	39 MPH

Mean Speed(Average) :	32 MPH
10 MPH Pace Speed :	30-39 MPH
Number in Pace :	2947
Percent in Pace :	67.7%
Number of Vehicles > 30 MPH :	2783
Percent of Vehicles > 30 MPH :	64.0%

115 Canton Ave
south of Brook Hill Road
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 C Volume
Site Code: 5996

Start	SB		NB		Combin		ed		04/25/18	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	
12:00	3	21	1	11	4	32				
12:15	0	14	1	14	1	28				
12:30	0	14	0	16	0	30				
12:45	1	16	0	16	1	32	122			
01:00	1	16	1	15	2	31				
01:15	2	18	0	10	2	28				
01:30	1	18	0	14	1	32				
01:45	0	25	0	10	0	35	126			
02:00	1	24	1	6	2	30				
02:15	0	27	0	15	0	42				
02:30	1	24	1	13	2	37				
02:45	2	29	0	9	2	38	147			
03:00	0	21	1	28	1	49				
03:15	0	26	0	33	0	59				
03:30	0	30	0	19	0	49				
03:45	0	41	0	22	0	63	220			
04:00	1	41	0	14	1	55				
04:15	0	24	1	16	1	40				
04:30	2	33	0	18	2	51				
04:45	1	42	2	10	3	52	198			
05:00	4	40	4	14	8	54				
05:15	3	58	7	20	10	78				
05:30	4	44	15	27	19	71				
05:45	5	49	24	20	29	69	272			
06:00	6	28	15	21	21	49				
06:15	5	33	31	19	36	52				
06:30	11	39	24	20	35	59				
06:45	13	26	35	7	48	33	193			
07:00	12	19	24	13	36	32				
07:15	24	13	24	10	48	23				
07:30	24	15	26	9	50	24				
07:45	26	8	38	8	64	16	95			
08:00	26	11	28	10	54	21				
08:15	29	8	22	13	51	21				
08:30	29	14	40	6	69	20				
08:45	28	9	47	2	75	11	73			
09:00	11	13	53	5	64	18				
09:15	21	7	28	5	49	12				
09:30	18	2	16	3	34	5				
09:45	15	3	13	3	28	6	41			
10:00	17	5	19	5	36	10				
10:15	13	2	11	4	24	6				
10:30	6	4	19	5	25	9				
10:45	19	1	20	2	39	3	28			
11:00	17	2	10	4	27	6				
11:15	16	1	11	1	27	2				
11:30	17	1	16	0	33	1				
11:45	17	1	9	2	26	3	12			
Total	452	960	638	567	1090	1527				
Percent	41.5%	62.9%	58.5%	37.1%						
Day Total		1412		1205		2617				
Peak	08:00	-	05:00	-	08:30	-	05:00	-	-	-
Vol.	112	-	191	-	168	-	272	-	-	-
P.H.F.	0.966		0.823		0.792		0.863			



PRECISION
DATA
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 C Volume
Site Code: 5996

115 Canton Ave
south of Brook Hill Road
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

186210 C Class
Site Code: 5996

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/25/1														
8	0	3	1	0	0	0	0	0	0	0	0	0	0	4
01:00	1	3	0	0	0	0	0	0	0	0	0	0	0	4
02:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
05:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
06:00	0	25	8	0	0	1	0	1	0	0	0	0	0	35
07:00	0	83	3	0	0	0	0	0	0	0	0	0	0	86
08:00	1	100	9	0	1	1	0	0	0	0	0	0	0	112
09:00	0	56	8	0	1	0	0	0	0	0	0	0	0	65
10:00	4	46	2	0	3	0	0	0	0	0	0	0	0	55
11:00	0	59	6	0	2	0	0	0	0	0	0	0	0	67
12 PM	0	60	5	0	0	0	0	0	0	0	0	0	0	65
13:00	0	69	8	0	0	0	0	0	0	0	0	0	0	77
14:00	3	86	12	0	0	2	0	1	0	0	0	0	0	104
15:00	3	101	9	2	3	0	0	0	0	0	0	0	0	118
16:00	5	122	13	0	0	0	0	0	0	0	0	0	0	140
17:00	0	178	12	0	1	0	0	0	0	0	0	0	0	191
18:00	0	122	3	0	1	0	0	0	0	0	0	0	0	126
19:00	0	53	2	0	0	0	0	0	0	0	0	0	0	55
20:00	0	39	3	0	0	0	0	0	0	0	0	0	0	42
21:00	0	23	2	0	0	0	0	0	0	0	0	0	0	25
22:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
Total	17	1267	108	2	12	4	0	2	0	0	0	0	0	1412
Percent	1.2%	89.7%	7.6%	0.1%	0.8%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	08:00		10:00	06:00		06:00						08:00
Vol.	4	100	9		3	1		1						112
PM Peak	16:00	17:00	16:00	15:00	15:00	14:00		14:00						17:00
Vol.	5	178	13	2	3	2		1						191

115 Canton Ave
south of Brook Hill Road
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

186210 C Class
Site Code: 5996

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/26/1														
8	1	3	1	0	0	0	0	0	0	0	0	0	0	5
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	1	5	2	0	0	0	0	0	0	0	0	0	0	8
05:00	0	12	0	0	1	0	0	0	0	0	0	0	0	13
06:00	0	28	4	0	0	0	0	0	0	0	0	0	0	32
07:00	5	78	8	0	1	1	0	0	0	0	0	0	0	93
08:00	3	79	7	0	1	2	0	0	0	0	0	0	0	92
09:00	0	70	6	0	2	0	0	0	0	0	0	0	0	78
10:00	3	50	10	0	2	0	0	0	0	0	0	0	0	65
11:00	0	50	12	0	0	0	0	0	0	0	0	0	0	62
12 PM	0	55	6	0	1	0	0	0	0	0	0	0	0	62
13:00	0	65	11	0	2	0	0	0	0	0	0	0	0	78
14:00	0	98	7	0	2	0	0	0	0	0	0	0	0	107
15:00	3	99	14	0	0	0	0	0	0	0	0	0	0	116
16:00	0	143	12	0	0	0	0	0	0	0	0	0	0	155
17:00	2	151	10	0	0	1	0	0	0	0	0	0	0	164
18:00	1	101	9	0	0	0	0	0	0	0	0	0	0	111
19:00	0	84	4	0	2	0	0	0	0	0	0	0	0	90
20:00	1	53	5	0	0	0	0	0	0	0	0	0	0	59
21:00	0	25	3	0	0	0	0	0	0	0	0	0	0	28
22:00	1	22	1	0	0	0	0	0	0	0	0	0	0	24
23:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
Total	21	1284	133	0	14	4	0	0	0	0	0	0	0	1456
Percent	1.4%	88.2%	9.1%	0.0%	1.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	11:00		09:00	08:00								07:00
Vol.	5	79	12		2	2								93
PM Peak	15:00	17:00	15:00		13:00	17:00								17:00
Vol.	3	151	14		2	1								164

115 Canton Ave
south of Brook Hill Road
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 C Class
Site Code: 5996

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/25/1														
8	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
05:00	0	35	14	0	1	0	0	0	0	0	0	0	0	50
06:00	1	88	11	0	3	0	0	1	0	1	0	0	0	105
07:00	1	100	8	0	3	0	0	0	0	0	0	0	0	112
08:00	0	125	9	1	1	1	0	0	0	0	0	0	0	137
09:00	0	90	18	0	2	0	0	0	0	0	0	0	0	110
10:00	0	57	7	3	2	0	0	0	0	0	0	0	0	69
11:00	1	38	6	0	1	0	0	0	0	0	0	0	0	46
12 PM	0	52	4	0	1	0	0	0	0	0	0	0	0	57
13:00	0	44	4	0	1	0	0	0	0	0	0	0	0	49
14:00	0	39	4	0	0	0	0	0	0	0	0	0	0	43
15:00	1	88	12	0	1	0	0	0	0	0	0	0	0	102
16:00	0	50	6	0	2	0	0	0	0	0	0	0	0	58
17:00	0	69	11	0	1	0	0	0	0	0	0	0	0	81
18:00	1	63	3	0	0	0	0	0	0	0	0	0	0	67
19:00	0	36	4	0	0	0	0	0	0	0	0	0	0	40
20:00	0	30	1	0	0	0	0	0	0	0	0	0	0	31
21:00	0	13	3	0	0	0	0	0	0	0	0	0	0	16
22:00	0	16	0	0	0	0	0	0	0	0	0	0	0	16
23:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
Total	5	1048	126	4	19	1	0	1	0	1	0	0	0	1205
Percent	0.4%	87.0%	10.5%	0.3%	1.6%	0.1%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	
AM Peak	06:00	08:00	09:00	10:00	06:00	08:00		06:00		06:00				08:00
Vol.	1	125	18	3	3	1		1		1				137
PM Peak	15:00	15:00	15:00		16:00									15:00
Vol.	1	88	12		2									102

115 Canton Ave
south of Brook Hill Road
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 C Class
Site Code: 5996

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/26/1														
8	0	7	1	0	0	0	0	0	0	0	0	0	0	8
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
05:00	0	34	12	0	1	0	0	0	0	0	0	0	0	47
06:00	0	96	17	0	2	0	0	2	0	0	0	0	0	117
07:00	0	115	10	0	0	2	0	0	0	0	0	0	0	127
08:00	3	162	13	1	2	1	0	0	0	0	0	0	0	182
09:00	0	110	22	0	5	0	0	0	0	0	0	0	0	137
10:00	1	47	9	0	5	0	0	0	0	0	0	0	0	62
11:00	3	46	3	0	3	1	0	1	0	0	0	0	0	57
12 PM	2	38	12	0	1	1	0	0	0	0	0	0	0	54
13:00	0	41	4	0	2	0	0	0	0	0	0	0	0	47
14:00	0	54	5	0	0	0	0	0	0	0	0	0	0	59
15:00	0	80	7	1	0	0	0	0	0	0	0	0	0	88
16:00	0	67	5	0	0	0	0	0	0	0	0	0	0	72
17:00	0	76	9	0	1	0	0	0	0	0	0	0	0	86
18:00	0	58	4	0	1	0	0	0	0	0	0	0	0	63
19:00	1	44	7	0	1	0	0	0	0	0	0	0	0	53
20:00	1	42	1	0	0	0	0	0	0	0	0	0	0	44
21:00	0	22	2	0	0	0	0	0	0	0	0	0	0	24
22:00	0	17	0	0	0	0	0	0	0	0	0	0	0	17
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
Total	11	1165	143	2	25	5	0	3	0	0	0	0	0	1354
Percent	0.8%	86.0%	10.6%	0.1%	1.8%	0.4%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	09:00	08:00	09:00	07:00		06:00						08:00
Vol.	3	162	22	1	5	2		2						182
PM Peak	12:00	15:00	12:00	15:00	13:00	12:00								15:00
Vol.	2	80	12	1	2	1								88

115 Canton Ave
south of Brook Hill Road
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 C Speed
Site Code: 5996

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/25/																
18	0	0	0	1	3	0	0	0	0	0	0	0	0	4	33	31
01:00	0	0	0	3	0	0	1	0	0	0	0	0	0	4	41	31
02:00	0	0	0	2	1	1	0	0	0	0	0	0	0	4	36	31
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	4	0	0	0	0	0	0	0	0	4	33	32
05:00	0	1	0	5	8	2	0	0	0	0	0	0	0	16	33	30
06:00	0	0	2	11	14	8	0	0	0	0	0	0	0	35	35	31
07:00	0	1	6	18	51	10	0	0	0	0	0	0	0	86	33	31
08:00	0	3	12	46	41	9	1	0	0	0	0	0	0	112	33	29
09:00	1	0	4	26	32	2	0	0	0	0	0	0	0	65	32	29
10:00	3	1	8	24	15	4	0	0	0	0	0	0	0	55	32	27
11:00	0	2	8	26	27	3	1	0	0	0	0	0	0	67	32	29
12 PM	0	2	7	21	24	9	2	0	0	0	0	0	0	65	34	30
13:00	0	2	6	30	29	10	0	0	0	0	0	0	0	77	33	30
14:00	0	4	3	35	50	11	1	0	0	0	0	0	0	104	33	30
15:00	2	1	9	45	45	13	3	0	0	0	0	0	0	118	33	30
16:00	2	2	7	27	73	26	3	0	0	0	0	0	0	140	35	31
17:00	3	1	11	51	89	34	2	0	0	0	0	0	0	191	35	31
18:00	0	0	9	29	75	11	2	0	0	0	0	0	0	126	33	31
19:00	1	1	0	18	28	6	1	0	0	0	0	0	0	55	33	30
20:00	0	0	5	16	17	3	0	1	0	0	0	0	0	42	33	30
21:00	0	1	5	7	7	4	1	0	0	0	0	0	0	25	35	29
22:00	0	0	0	4	7	1	0	0	0	0	0	0	0	12	33	31
23:00	0	0	0	1	2	1	0	0	0	0	1	0	0	5	60	38
Total	12	22	102	446	642	168	18	1	0	0	1	0	0	1412		
%	0.8%	1.6%	7.2%	31.6%	45.5%	11.9%	1.3%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%			
AM Peak	10:00	08:00	08:00	08:00	07:00	07:00	01:00							08:00		
Vol.	3	3	12	46	51	10	1							112		
PM Peak	17:00	14:00	17:00	17:00	17:00	17:00	15:00	20:00			23:00			17:00		
Vol.	3	4	11	51	89	34	3	1			1			191		

Stats

15th Percentile :	24 MPH
50th Percentile :	29 MPH
85th Percentile :	33 MPH
95th Percentile :	37 MPH

Mean Speed(Average) :	30 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	1088
Percent in Pace :	77.1%
Number of Vehicles > 30 MPH :	702
Percent of Vehicles > 30 MPH :	49.7%

115 Canton Ave
south of Brook Hill Road
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 C Speed
Site Code: 5996

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/26/																
18	0	0	1	2	2	0	0	0	0	0	0	0	0	5	32	28
01:00	0	0	0	2	0	1	0	0	0	0	0	0	0	3	36	30
02:00	0	0	0	0	1	0	1	0	0	0	0	0	0	2	42	37
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	2	6	0	0	0	0	0	0	0	0	8	33	31
05:00	0	0	0	3	6	3	1	0	0	0	0	0	0	13	37	33
06:00	1	0	2	10	15	3	1	0	0	0	0	0	0	32	33	30
07:00	0	1	16	31	36	8	1	0	0	0	0	0	0	93	33	29
08:00	4	3	7	45	28	5	0	0	0	0	0	0	0	92	32	28
09:00	1	3	6	36	27	5	0	0	0	0	0	0	0	78	32	28
10:00	3	2	8	27	16	9	0	0	0	0	0	0	0	65	33	28
11:00	0	2	19	23	16	2	0	0	0	0	0	0	0	62	31	27
12 PM	0	1	6	29	20	5	1	0	0	0	0	0	0	62	33	29
13:00	0	1	7	31	32	5	1	1	0	0	0	0	0	78	33	30
14:00	3	3	14	40	35	12	0	0	0	0	0	0	0	107	33	28
15:00	1	0	8	34	54	18	1	0	0	0	0	0	0	116	34	30
16:00	2	1	6	55	60	29	2	0	0	0	0	0	0	155	35	30
17:00	1	1	5	57	70	27	3	0	0	0	0	0	0	164	35	31
18:00	1	1	10	42	36	19	2	0	0	0	0	0	0	111	35	30
19:00	1	1	10	31	38	9	0	0	0	0	0	0	0	90	33	29
20:00	1	0	5	22	25	4	2	0	0	0	0	0	0	59	33	30
21:00	0	0	4	7	12	3	2	0	0	0	0	0	0	28	35	31
22:00	0	1	2	10	8	2	1	0	0	0	0	0	0	24	33	29
23:00	0	0	0	2	6	1	0	0	0	0	0	0	0	9	33	31
Total	19	21	136	541	549	170	19	1	0	0	0	0	0	1456		
%	1.3%	1.4%	9.3%	37.2%	37.7%	11.7%	1.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	11:00	08:00	07:00	10:00	02:00							07:00		
Vol.	4	3	19	45	36	9	1							93		
PM Peak	14:00	14:00	14:00	17:00	17:00	16:00	17:00	13:00						17:00		
Vol.	3	3	14	57	70	29	3	1						164		

Stats

15th Percentile :	24 MPH
50th Percentile :	29 MPH
85th Percentile :	33 MPH
95th Percentile :	37 MPH

Mean Speed(Average) :	29 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	1090
Percent in Pace :	74.9%
Number of Vehicles > 30 MPH :	629
Percent of Vehicles > 30 MPH :	43.2%

115 Canton Ave
south of Brook Hill Road
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 C Speed
Site Code: 5996

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/25/																
18	0	0	0	0	2	0	0	0	0	0	0	0	0	2	33	32
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1	33	32
02:00	0	0	0	0	1	1	0	0	0	0	0	0	0	2	37	35
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1	38	37
04:00	0	0	0	2	0	1	0	0	0	0	0	0	0	3	36	30
05:00	0	0	0	1	11	32	6	0	0	0	0	0	0	50	38	36
06:00	0	0	0	13	48	37	7	0	0	0	0	0	0	105	37	34
07:00	0	0	8	29	40	31	3	0	1	0	0	0	0	112	36	32
08:00	0	2	9	34	67	20	4	0	1	0	0	0	0	137	35	31
09:00	0	1	17	29	42	19	2	0	0	0	0	0	0	110	35	30
10:00	1	4	9	10	29	12	4	0	0	0	0	0	0	69	36	30
11:00	0	1	4	11	20	6	4	0	0	0	0	0	0	46	36	31
12 PM	0	0	9	12	25	11	0	0	0	0	0	0	0	57	35	30
13:00	0	4	2	10	25	7	1	0	0	0	0	0	0	49	34	30
14:00	0	0	2	10	22	8	0	0	1	0	0	0	0	43	35	32
15:00	1	3	4	25	44	23	2	0	0	0	0	0	0	102	36	31
16:00	2	1	3	10	24	16	2	0	0	0	0	0	0	58	36	31
17:00	0	2	10	19	34	12	3	1	0	0	0	0	0	81	35	31
18:00	0	0	6	11	33	15	1	1	0	0	0	0	0	67	36	32
19:00	0	0	3	4	18	13	2	0	0	0	0	0	0	40	37	33
20:00	0	2	3	11	13	2	0	0	0	0	0	0	0	31	32	29
21:00	0	1	3	1	7	3	1	0	0	0	0	0	0	16	36	30
22:00	0	0	2	5	6	3	0	0	0	0	0	0	0	16	35	30
23:00	0	0	1	1	2	3	0	0	0	0	0	0	0	7	37	32
Total	4	21	95	248	514	276	42	2	3	0	0	0	0	1205		
%	0.3%	1.7%	7.9%	20.6%	42.7%	22.9%	3.5%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	10:00	09:00	08:00	08:00	06:00	06:00		07:00					08:00		
Vol.	1	4	17	34	67	37	7		1					137		
PM Peak	16:00	13:00	17:00	15:00	15:00	15:00	17:00	17:00	14:00					15:00		
Vol.	2	4	10	25	44	23	3	1	1					102		

Stats
15th Percentile : 25 MPH
50th Percentile : 31 MPH
85th Percentile : 36 MPH
95th Percentile : 38 MPH

Mean Speed(Average) : 31 MPH
10 MPH Pace Speed : 30-39 MPH
Number in Pace : 790
Percent in Pace : 65.6%
Number of Vehicles > 30 MPH : 734
Percent of Vehicles > 30 MPH : 60.9%

115 Canton Ave
south of Brook Hill Road
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 C Speed
Site Code: 5996

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/26/																
18	0	0	2	0	6	0	0	0	0	0	0	0	0	8	33	30
01:00	0	0	0	0	2	1	0	0	0	0	0	0	0	3	36	34
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	1	0	1	0	0	0	0	0	0	0	0	2	32	27
05:00	0	0	0	2	16	21	7	1	0	0	0	0	0	47	39	36
06:00	0	1	10	6	44	46	10	0	0	0	0	0	0	117	38	34
07:00	1	3	8	34	49	28	4	0	0	0	0	0	0	127	36	31
08:00	1	4	19	71	59	28	0	0	0	0	0	0	0	182	34	29
09:00	0	3	17	44	47	25	1	0	0	0	0	0	0	137	35	30
10:00	2	1	2	19	27	8	3	0	0	0	0	0	0	62	35	30
11:00	3	8	10	14	16	5	1	0	0	0	0	0	0	57	33	26
12 PM	0	1	6	17	14	13	3	0	0	0	0	0	0	54	37	31
13:00	0	1	3	16	17	10	0	0	0	0	0	0	0	47	35	30
14:00	0	0	6	13	25	13	1	1	0	0	0	0	0	59	36	31
15:00	0	1	9	22	41	9	6	0	0	0	0	0	0	88	34	31
16:00	1	0	6	16	29	18	2	0	0	0	0	0	0	72	36	31
17:00	2	3	7	17	32	21	4	0	0	0	0	0	0	86	36	31
18:00	0	0	6	19	28	8	1	1	0	0	0	0	0	63	34	31
19:00	0	4	2	13	20	11	1	1	1	0	0	0	0	53	36	31
20:00	0	1	4	8	20	8	2	1	0	0	0	0	0	44	36	32
21:00	0	1	2	6	10	5	0	0	0	0	0	0	0	24	35	30
22:00	0	1	2	2	7	4	1	0	0	0	0	0	0	17	37	31
23:00	0	0	0	1	2	2	0	0	0	0	0	0	0	5	37	33
Total	10	33	122	340	512	284	47	5	1	0	0	0	0	1354		
%	0.7%	2.4%	9.0%	25.1%	37.8%	21.0%	3.5%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	08:00	08:00	08:00	06:00	06:00	05:00						08:00		
Vol.	3	8	19	71	59	46	10	1						182		
PM Peak	17:00	19:00	15:00	15:00	15:00	17:00	15:00	14:00	19:00					15:00		
Vol.	2	4	9	22	41	21	6	1	1					88		

Stats
15th Percentile : 24 MPH
50th Percentile : 30 MPH
85th Percentile : 36 MPH
95th Percentile : 38 MPH

Mean Speed(Average) : 31 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 852
Percent in Pace : 62.9%
Number of Vehicles > 30 MPH : 747
Percent of Vehicles > 30 MPH : 55.1%

26 Eliot Street
west of High Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 D Volume
Site Code: 5996

Start	EB				WB				Combined		04/25/18	
Time	A.M.		P.M.		A.M.		P.M.		A.M.	P.M.	Wed	
12:00	6		53		6		43		12	96		
12:15	2		61		8		51		10	112		
12:30	3		51		4		50		7	101		
12:45	3	14	60	225	3	21	42	186	6	102	411	
01:00	1		53		3		50		4	103		
01:15	1		52		5		35		6	87		
01:30	2		58		3		38		5	96		
01:45	3	7	46	209	3	14	45	168	6	91	377	
02:00	4		61		3		49		7	110		
02:15	1		79		5		43		6	122		
02:30	1		102		2		62		3	164		
02:45	1	7	82	324	1	11	56	210	2	138	534	
03:00	1		74		1		44		2	118		
03:15	0		95		3		58		3	153		
03:30	1		71		4		75		5	146		
03:45	2	4	82	322	0	8	68	245	2	150	567	
04:00	4		88		1		78		5	166		
04:15	4		81		2		82		6	163		
04:30	6		83		5		91		11	174		
04:45	8	22	59	311	1	9	89	340	9	148	651	
05:00	20		75		12		93		32	168		
05:15	26		81		5		77		31	158		
05:30	29		85		7		104		36	189		
05:45	34	109	126	367	6	30	101	375	40	227	742	
06:00	55		106		18		89		73	195		
06:15	77		75		19		74		96	149		
06:30	104		56		33		80		137	136		
06:45	149	385	56	293	30	100	62	305	179	118	598	
07:00	122		49		43		69		165	118		
07:15	133		58		53		51		186	109		
07:30	124		27		56		50		180	77		
07:45	160	539	37	171	47	199	56	226	207	93	397	
08:00	149		31		37		47		186	78		
08:15	127		41		40		51		167	92		
08:30	115		35		44		40		159	75		
08:45	147	538	22	129	50	171	38	176	197	60	305	
09:00	146		19		51		28		197	47		
09:15	115		20		33		35		148	55		
09:30	72		14		35		24		107	38		
09:45	68	401	14	67	38	157	25	112	106	39	179	
10:00	66		11		39		25		105	36		
10:15	58		11		40		17		98	28		
10:30	64		17		46		17		110	34		
10:45	60	248	9	48	43	168	14	73	103	23	121	
11:00	51		12		48		23		99	35		
11:15	55		10		33		28		88	38		
11:30	51		6		32		14		83	20		
11:45	52	209	4	32	40	153	11	76	92	15	108	
Total	2483		2498		1041		2492		3524	4990		
Percent	70.5%		50.1%		29.5%		49.9%					
Day Total		4981			3533				8514			
Peak	07:15	-	05:15	-	07:00	-	05:00	-	07:15	-	05:15	-
Vol.	566	-	398	-	199	-	375	-	759	-	769	-
P.H.F.	0.884		0.790		0.888		0.901		0.917		0.847	

26 Eliot Street
west of High Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 D Volume
Site Code: 5996

Start	EB		WB		Combin		ed		04/26/18	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Thu	
12:00	5	60	14	37	19	97				
12:15	5	59	5	39	10	98				
12:30	4	58	5	54	9	112				
12:45	2	16 66	243	6 30	47	177	8 46	113	420	
01:00	1	51		8	54		9	105		
01:15	2	69		4	49		6	118		
01:30	2	47		0	51		2	98		
01:45	3	8 67	234	1 13	55	209	4 21	122	443	
02:00	1	70		0	49		1	119		
02:15	1	63		3	45		4	108		
02:30	0	68		5	50		5	118		
02:45	1	3 102	303	2 10	43	187	3 13	145	490	
03:00	2	68		2	57		4	125		
03:15	0	82		0	64		0	146		
03:30	2	75		2	73		4	148		
03:45	2	6 92	317	1 5	62	256	3 11	154	573	
04:00	3	80		0	57		3	137		
04:15	6	82		1	66		7	148		
04:30	3	86		6	78		9	164		
04:45	6	18 100	348	4 11	86	287	10 29	186	635	
05:00	22	74		4	106		26	180		
05:15	24	83		7	105		31	188		
05:30	25	92		4	81		29	173		
05:45	27	98 68	317	5 20	94	386	32 118	162	703	
06:00	46	76		14	85		60	161		
06:15	74	66		29	80		103	146		
06:30	111	85		45	65		156	150		
06:45	104	335 41	268	42 130	68	298	146 465	109	566	
07:00	123	48		37	75		160	123		
07:15	140	56		54	61		194	117		
07:30	143	60		48	54		191	114		
07:45	172	578 53	217	43 182	54	244	215 760	107	461	
08:00	135	41		47	59		182	100		
08:15	99	43		40	55		139	98		
08:30	143	28		41	50		184	78		
08:45	164	541 36	148	34 162	52	216	198 703	88	364	
09:00	105	31		48	42		153	73		
09:15	95	34		54	43		149	77		
09:30	84	17		34	31		118	48		
09:45	66	350 20	102	52 188	29	145	118 538	49	247	
10:00	74	13		50	32		124	45		
10:15	57	19		42	22		99	41		
10:30	51	22		52	20		103	42		
10:45	66	248 15	69	42 186	23	97	108 434	38	166	
11:00	71	12		43	20		114	32		
11:15	46	9		53	22		99	31		
11:30	71	13		34	17		105	30		
11:45	65	253 7	41	48 178	13	72	113 431	20	113	
Total	2454	2607	1115	2574	3569	5181				
Percent	68.8%	50.3%	31.2%	49.7%						
Day Total		5061		3689		8750				
Peak	07:15	-	04:45	-	09:45	-	07:15	-	04:45	-
Vol.	590	-	349	-	196	-	386	-	727	-
P.H.F.	0.858		0.873		0.907		0.910		0.909	

26 Eliot Street
west of High Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 D Class
Site Code: 5996

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/25/1														
8	0	13	1	0	0	0	0	0	0	0	0	0	0	14
01:00	1	6	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	5	1	0	0	1	0	0	0	0	0	0	0	7
03:00	2	1	0	0	1	0	0	0	0	0	0	0	0	4
04:00	0	19	1	0	0	2	0	0	0	0	0	0	0	22
05:00	5	87	11	0	0	6	0	0	0	0	0	0	0	109
06:00	89	246	22	2	1	22	0	1	2	0	0	0	0	385
07:00	162	336	14	3	0	24	0	0	0	0	0	0	0	539
08:00	148	344	10	3	1	31	0	0	1	0	0	0	0	538
09:00	76	286	10	0	1	28	0	0	0	0	0	0	0	401
10:00	18	202	13	1	0	13	0	0	1	0	0	0	0	248
11:00	19	157	16	2	0	14	0	0	1	0	0	0	0	209
12 PM	22	177	10	1	3	11	0	0	1	0	0	0	0	225
13:00	17	163	11	1	1	15	1	0	0	0	0	0	0	209
14:00	31	260	10	2	5	15	0	0	0	1	0	0	0	324
15:00	31	259	16	0	0	15	0	1	0	0	0	0	0	322
16:00	18	260	15	2	1	14	0	0	1	0	0	0	0	311
17:00	56	288	7	0	1	15	0	0	0	0	0	0	0	367
18:00	39	231	10	0	0	12	0	0	0	1	0	0	0	293
19:00	11	149	6	0	0	5	0	0	0	0	0	0	0	171
20:00	15	99	1	0	0	14	0	0	0	0	0	0	0	129
21:00	8	53	2	0	0	4	0	0	0	0	0	0	0	67
22:00	2	44	1	0	1	0	0	0	0	0	0	0	0	48
23:00	0	29	2	0	1	0	0	0	0	0	0	0	0	32
Total	770	3714	190	17	17	261	1	2	7	2	0	0	0	4981
Percent	15.5%	74.6%	3.8%	0.3%	0.3%	5.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	06:00	07:00	03:00	08:00		06:00	06:00					07:00
Vol.	162	344	22	3	1	31		1	2					539
PM Peak	17:00	17:00	15:00	14:00	14:00	13:00	13:00	15:00	12:00	14:00				17:00
Vol.	56	288	16	2	5	15	1	1	1	1				367

26 Eliot Street
west of High Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 D Class
Site Code: 5996

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/26/1														
8	2	14	0	0	0	0	0	0	0	0	0	0	0	16
01:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
02:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
03:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	16	2	0	0	0	0	0	0	0	0	0	0	18
05:00	2	81	10	1	0	4	0	0	0	0	0	0	0	98
06:00	67	234	15	1	1	16	0	0	1	0	0	0	0	335
07:00	94	432	25	1	2	21	1	1	1	0	0	0	0	578
08:00	113	389	10	2	2	21	0	1	3	0	0	0	0	541
09:00	30	276	17	0	1	26	0	0	0	0	0	0	0	350
10:00	18	198	20	1	2	9	0	0	0	0	0	0	0	248
11:00	31	196	14	0	0	12	0	0	0	0	0	0	0	253
12 PM	10	205	14	1	0	12	0	1	0	0	0	0	0	243
13:00	17	195	11	0	1	9	0	1	0	0	0	0	0	234
14:00	12	265	13	0	2	9	1	0	1	0	0	0	0	303
15:00	18	272	18	0	1	7	0	0	1	0	0	0	0	317
16:00	26	283	20	1	1	16	0	1	0	0	0	0	0	348
17:00	16	277	18	1	0	5	0	0	0	0	0	0	0	317
18:00	12	236	14	0	1	5	0	0	0	0	0	0	0	268
19:00	11	187	12	0	0	7	0	0	0	0	0	0	0	217
20:00	5	134	5	0	0	4	0	0	0	0	0	0	0	148
21:00	5	93	4	0	0	0	0	0	0	0	0	0	0	102
22:00	1	65	3	0	0	0	0	0	0	0	0	0	0	69
23:00	0	37	3	0	1	0	0	0	0	0	0	0	0	41
Total	490	4100	250	9	15	183	2	5	7	0	0	0	0	5061
Percent	9.7%	81.0%	4.9%	0.2%	0.3%	3.6%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	07:00	08:00	07:00	09:00	07:00	07:00	08:00					07:00
Vol.	113	432	25	2	2	26	1	1	3					578
PM Peak	16:00	16:00	16:00	12:00	14:00	16:00	14:00	12:00	14:00					16:00
Vol.	26	283	20	1	2	16	1	1	1					348

26 Eliot Street
west of High Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 D Class
Site Code: 5996

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/25/1														
8	0	17	3	0	1	0	0	0	0	0	0	0	0	21
01:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14
02:00	0	10	0	0	1	0	0	0	0	0	0	0	0	11
03:00	0	4	2	0	1	1	0	0	0	0	0	0	0	8
04:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
05:00	0	27	2	0	1	0	0	0	0	0	0	0	0	30
06:00	1	83	15	0	1	0	0	0	0	0	0	0	0	100
07:00	2	172	21	1	2	1	0	0	0	0	0	0	0	199
08:00	2	149	17	0	2	1	0	0	0	0	0	0	0	171
09:00	1	125	23	2	6	0	0	0	0	0	0	0	0	157
10:00	2	139	22	1	3	1	0	0	0	0	0	0	0	168
11:00	1	128	20	0	2	1	0	1	0	0	0	0	0	153
12 PM	1	153	27	0	5	0	0	0	0	0	0	0	0	186
13:00	0	137	27	0	4	0	0	0	0	0	0	0	0	168
14:00	2	180	26	0	2	0	0	0	0	0	0	0	0	210
15:00	2	217	22	1	3	0	0	0	0	0	0	0	0	245
16:00	0	289	45	0	5	1	0	0	0	0	0	0	0	340
17:00	3	334	33	0	3	0	0	2	0	0	0	0	0	375
18:00	0	276	26	0	0	1	0	2	0	0	0	0	0	305
19:00	1	206	17	0	2	0	0	0	0	0	0	0	0	226
20:00	2	160	13	0	0	1	0	0	0	0	0	0	0	176
21:00	0	104	8	0	0	0	0	0	0	0	0	0	0	112
22:00	0	70	3	0	0	0	0	0	0	0	0	0	0	73
23:00	0	70	6	0	0	0	0	0	0	0	0	0	0	76
Total	20	3068	383	5	44	8	0	5	0	0	0	0	0	3533
Percent	0.6%	86.8%	10.8%	0.1%	1.2%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	09:00	09:00	09:00	03:00		11:00						07:00
Vol.	2	172	23	2	6	1		1						199
PM Peak	17:00	17:00	16:00	15:00	12:00	16:00		17:00						17:00
Vol.	3	334	45	1	5	1		2						375

26 Eliot Street
west of High Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 D Class
Site Code: 5996

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/26/1														
8	0	26	4	0	0	0	0	0	0	0	0	0	0	30
01:00	0	11	1	0	1	0	0	0	0	0	0	0	0	13
02:00	0	8	1	0	1	0	0	0	0	0	0	0	0	10
03:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
04:00	0	7	2	0	1	1	0	0	0	0	0	0	0	11
05:00	0	18	1	0	1	0	0	0	0	0	0	0	0	20
06:00	0	113	13	0	2	2	0	0	0	0	0	0	0	130
07:00	2	155	19	1	4	1	0	0	0	0	0	0	0	182
08:00	2	142	16	0	1	0	0	1	0	0	0	0	0	162
09:00	5	152	27	1	2	1	0	0	0	0	0	0	0	188
10:00	3	148	27	2	4	2	0	0	0	0	0	0	0	186
11:00	2	143	28	0	3	1	0	1	0	0	0	0	0	178
12 PM	1	152	21	1	2	0	0	0	0	0	0	0	0	177
13:00	2	182	21	0	3	1	0	0	0	0	0	0	0	209
14:00	3	158	23	0	2	1	0	0	0	0	0	0	0	187
15:00	0	213	36	0	5	1	0	1	0	0	0	0	0	256
16:00	4	239	39	1	4	0	0	0	0	0	0	0	0	287
17:00	1	337	39	0	2	4	0	3	0	0	0	0	0	386
18:00	5	252	37	1	2	0	0	1	0	0	0	0	0	298
19:00	4	213	27	0	0	0	0	0	0	0	0	0	0	244
20:00	1	198	13	0	2	1	0	1	0	0	0	0	0	216
21:00	0	138	7	0	0	0	0	0	0	0	0	0	0	145
22:00	0	83	12	0	2	0	0	0	0	0	0	0	0	97
23:00	0	62	9	0	1	0	0	0	0	0	0	0	0	72
Total	35	3154	424	7	45	16	0	8	0	0	0	0	0	3689
Percent	0.9%	85.5%	11.5%	0.2%	1.2%	0.4%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	07:00	11:00	10:00	07:00	06:00		08:00						09:00
Vol.	5	155	28	2	4	2		1						188
PM Peak	18:00	17:00	16:00	12:00	15:00	17:00		17:00						17:00
Vol.	5	337	39	1	5	4		3						386

26 Eliot Street
west of High Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

186210 D Speed
Site Code: 5996

EB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/25/																
18	0	0	5	7	2	0	0	0	0	0	0	0	0	14	28	26
01:00	1	1	2	3	0	0	0	0	0	0	0	0	0	7	27	21
02:00	0	0	4	2	1	0	0	0	0	0	0	0	0	7	28	25
03:00	0	0	4	0	0	0	0	0	0	0	0	0	0	4	23	22
04:00	0	0	12	8	2	0	0	0	0	0	0	0	0	22	28	25
05:00	1	3	51	47	7	0	0	0	0	0	0	0	0	109	28	25
06:00	74	59	195	54	3	0	0	0	0	0	0	0	0	385	23	19
07:00	166	133	221	19	0	0	0	0	0	0	0	0	0	539	22	16
08:00	170	120	230	18	0	0	0	0	0	0	0	0	0	538	22	16
09:00	93	96	194	17	1	0	0	0	0	0	0	0	0	401	22	18
10:00	17	98	121	12	0	0	0	0	0	0	0	0	0	248	22	19
11:00	31	76	88	14	0	0	0	0	0	0	0	0	0	209	23	18
12 PM	17	68	118	21	1	0	0	0	0	0	0	0	0	225	23	20
13:00	12	74	106	16	1	0	0	0	0	0	0	0	0	209	23	20
14:00	33	114	153	24	0	0	0	0	0	0	0	0	0	324	23	19
15:00	23	109	172	18	0	0	0	0	0	0	0	0	0	322	23	20
16:00	12	87	180	32	0	0	0	0	0	0	0	0	0	311	23	21
17:00	48	92	196	31	0	0	0	0	0	0	0	0	0	367	23	19
18:00	21	90	156	25	1	0	0	0	0	0	0	0	0	293	23	20
19:00	7	44	95	25	0	0	0	0	0	0	0	0	0	171	23	21
20:00	3	30	83	11	2	0	0	0	0	0	0	0	0	129	23	21
21:00	3	17	35	12	0	0	0	0	0	0	0	0	0	67	24	21
22:00	0	3	32	13	0	0	0	0	0	0	0	0	0	48	26	23
23:00	0	3	14	14	1	0	0	0	0	0	0	0	0	32	27	24
Total	732	1317	2467	443	22	0	0	0	0	0	0	0	0	4981		
%	14.7%	26.4%	49.5%	8.9%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	07:00	08:00	06:00	05:00									07:00		
Vol.	170	133	230	54	7									539		
PM Peak	17:00	14:00	17:00	16:00	20:00									17:00		
Vol.	48	114	196	32	2									367		

Stats

15th Percentile :	14 MPH
50th Percentile :	19 MPH
85th Percentile :	23 MPH
95th Percentile :	26 MPH

Mean Speed(Average) :	19 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	3784
Percent in Pace :	76.0%
Number of Vehicles > 30 MPH :	18
Percent of Vehicles > 30 MPH :	0.4%

26 Eliot Street
west of High Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 D Speed
Site Code: 5996

EB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/26/																
18	0	1	11	4	0	0	0	0	0	0	0	0	0	16	26	23
01:00	0	1	3	2	2	0	0	0	0	0	0	0	0	8	31	25
02:00	0	0	2	1	0	0	0	0	0	0	0	0	0	3	26	24
03:00	0	0	3	3	0	0	0	0	0	0	0	0	0	6	27	25
04:00	0	2	7	8	1	0	0	0	0	0	0	0	0	18	27	24
05:00	1	12	60	25	0	0	0	0	0	0	0	0	0	98	26	23
06:00	31	90	182	31	1	0	0	0	0	0	0	0	0	335	23	20
07:00	180	123	252	23	0	0	0	0	0	0	0	0	0	578	22	17
08:00	180	107	239	14	1	0	0	0	0	0	0	0	0	541	22	16
09:00	54	123	157	16	0	0	0	0	0	0	0	0	0	350	22	18
10:00	29	77	125	17	0	0	0	0	0	0	0	0	0	248	23	19
11:00	45	72	127	8	1	0	0	0	0	0	0	0	0	253	22	18
12 PM	20	83	124	16	0	0	0	0	0	0	0	0	0	243	23	19
13:00	18	77	121	18	0	0	0	0	0	0	0	0	0	234	23	20
14:00	17	93	160	32	1	0	0	0	0	0	0	0	0	303	23	20
15:00	8	83	191	34	1	0	0	0	0	0	0	0	0	317	23	21
16:00	35	95	194	24	0	0	0	0	0	0	0	0	0	348	23	20
17:00	22	41	205	48	1	0	0	0	0	0	0	0	0	317	24	21
18:00	20	47	165	33	3	0	0	0	0	0	0	0	0	268	23	21
19:00	15	65	123	14	0	0	0	0	0	0	0	0	0	217	23	20
20:00	3	41	90	13	1	0	0	0	0	0	0	0	0	148	23	21
21:00	5	14	53	28	2	0	0	0	0	0	0	0	0	102	26	22
22:00	2	5	40	17	5	0	0	0	0	0	0	0	0	69	27	23
23:00	0	1	21	14	5	0	0	0	0	0	0	0	0	41	28	25
Total	685	1253	2655	443	25	0	0	0	0	0	0	0	0	5061		
%	13.5%	24.8%	52.5%	8.8%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	07:00	06:00	01:00									07:00		
Vol.	180	123	252	31	2									578		
PM Peak	16:00	16:00	17:00	17:00	22:00									16:00		
Vol.	35	95	205	48	5									348		

Stats

15th Percentile :	14 MPH
50th Percentile :	20 MPH
85th Percentile :	23 MPH
95th Percentile :	26 MPH

Mean Speed(Average) :	19 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	3908
Percent in Pace :	77.2%
Number of Vehicles > 30 MPH :	20
Percent of Vehicles > 30 MPH :	0.4%

26 Eliot Street
west of High Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 D Speed
Site Code: 5996

WB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/25/																
18	0	2	11	6	2	0	0	0	0	0	0	0	0	21	28	24
01:00	1	2	5	4	2	0	0	0	0	0	0	0	0	14	28	23
02:00	1	3	5	2	0	0	0	0	0	0	0	0	0	11	24	20
03:00	0	2	5	1	0	0	0	0	0	0	0	0	0	8	23	21
04:00	0	0	1	6	1	1	0	0	0	0	0	0	0	9	32	28
05:00	0	3	13	11	3	0	0	0	0	0	0	0	0	30	28	24
06:00	4	3	67	24	2	0	0	0	0	0	0	0	0	100	26	23
07:00	3	33	124	37	2	0	0	0	0	0	0	0	0	199	25	22
08:00	3	33	114	20	1	0	0	0	0	0	0	0	0	171	23	21
09:00	10	29	103	14	1	0	0	0	0	0	0	0	0	157	23	21
10:00	11	39	94	23	1	0	0	0	0	0	0	0	0	168	23	21
11:00	10	44	77	21	1	0	0	0	0	0	0	0	0	153	23	20
12 PM	9	37	116	24	0	0	0	0	0	0	0	0	0	186	23	21
13:00	2	37	93	35	1	0	0	0	0	0	0	0	0	168	25	22
14:00	15	48	117	29	1	0	0	0	0	0	0	0	0	210	23	21
15:00	2	49	149	43	2	0	0	0	0	0	0	0	0	245	24	22
16:00	5	57	235	41	2	0	0	0	0	0	0	0	0	340	23	22
17:00	3	48	265	57	2	0	0	0	0	0	0	0	0	375	24	22
18:00	6	82	192	23	2	0	0	0	0	0	0	0	0	305	23	21
19:00	6	55	135	29	1	0	0	0	0	0	0	0	0	226	23	21
20:00	2	25	112	35	2	0	0	0	0	0	0	0	0	176	25	22
21:00	2	18	64	26	2	0	0	0	0	0	0	0	0	112	26	22
22:00	0	5	44	19	5	0	0	0	0	0	0	0	0	73	27	24
23:00	0	13	34	26	3	0	0	0	0	0	0	0	0	76	27	23
Total	95	667	2175	556	39	1	0	0	0	0	0	0	0	3533		
%	2.7%	18.9%	61.6%	15.7%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	11:00	07:00	07:00	05:00	04:00								07:00		
Vol.	11	44	124	37	3	1								199		
PM Peak	14:00	18:00	17:00	17:00	22:00									17:00		
Vol.	15	82	265	57	5									375		

Stats
15th Percentile : 17 MPH
50th Percentile : 21 MPH
85th Percentile : 24 MPH
95th Percentile : 27 MPH

Mean Speed(Average) : 22 MPH
10 MPH Pace Speed : 15-24 MPH
Number in Pace : 2842
Percent in Pace : 80.4%
Number of Vehicles > 30 MPH : 32
Percent of Vehicles > 30 MPH : 0.9%

26 Eliot Street
west of High Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 D Speed
Site Code: 5996

WB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/26/																
18	0	5	19	5	1	0	0	0	0	0	0	0	0	30	25	22
01:00	1	2	4	4	2	0	0	0	0	0	0	0	0	13	29	23
02:00	0	0	4	3	3	0	0	0	0	0	0	0	0	10	31	26
03:00	1	1	2	1	0	0	0	0	0	0	0	0	0	5	25	19
04:00	0	1	4	4	2	0	0	0	0	0	0	0	0	11	29	25
05:00	2	2	8	7	1	0	0	0	0	0	0	0	0	20	27	22
06:00	0	18	81	29	1	1	0	0	0	0	0	0	0	130	25	23
07:00	4	43	110	23	2	0	0	0	0	0	0	0	0	182	23	21
08:00	3	34	111	11	3	0	0	0	0	0	0	0	0	162	23	21
09:00	7	46	112	21	2	0	0	0	0	0	0	0	0	188	23	21
10:00	17	48	106	15	0	0	0	0	0	0	0	0	0	186	23	20
11:00	9	55	96	17	1	0	0	0	0	0	0	0	0	178	23	20
12 PM	10	43	104	20	0	0	0	0	0	0	0	0	0	177	23	21
13:00	4	48	135	21	1	0	0	0	0	0	0	0	0	209	23	21
14:00	3	48	108	28	0	0	0	0	0	0	0	0	0	187	23	21
15:00	4	48	178	26	0	0	0	0	0	0	0	0	0	256	23	21
16:00	8	60	170	48	1	0	0	0	0	0	0	0	0	287	24	21
17:00	5	73	256	51	1	0	0	0	0	0	0	0	0	386	23	22
18:00	10	73	181	32	2	0	0	0	0	0	0	0	0	298	23	21
19:00	8	71	131	31	3	0	0	0	0	0	0	0	0	244	23	21
20:00	1	18	142	51	3	1	0	0	0	0	0	0	0	216	26	23
21:00	1	9	91	40	4	0	0	0	0	0	0	0	0	145	26	23
22:00	0	8	49	34	4	2	0	0	0	0	0	0	0	97	27	24
23:00	1	3	32	33	2	1	0	0	0	0	0	0	0	72	27	24
Total	99	757	2234	555	39	5	0	0	0	0	0	0	0	3689		
%	2.7%	20.5%	60.6%	15.0%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	11:00	09:00	06:00	02:00	06:00								09:00		
Vol.	17	55	112	29	3	1								188		
PM Peak	12:00	17:00	17:00	17:00	21:00	22:00								17:00		
Vol.	10	73	256	51	4	2								386		

Stats

15th Percentile :	17 MPH
50th Percentile :	21 MPH
85th Percentile :	24 MPH
95th Percentile :	27 MPH

Mean Speed(Average) :	21 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	2991
Percent in Pace :	81.1%
Number of Vehicles > 30 MPH :	36
Percent of Vehicles > 30 MPH :	1.0%

Adams Street
north of Eliot Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

186210 E Volume
Site Code: 5996

Start		SB		NB		Combin ed		04/25/18	
Time	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	Wed	
12:00	33	88		14	118	47	206		
12:15	26	113		9	110	35	223		
12:30	12	95		12	106	24	201		
12:45	9	87	383	8	43	100	434	17	123
01:00	10	117		7	112	17	229		817
01:15	12	89		6	113	18	202		
01:30	13	107		5	111	18	218		
01:45	4	107	420	4	22	107	443	8	61
02:00	5	145		2	103	7	248		863
02:15	5	136		3	116	8	252		
02:30	11	125		8	124	19	249		
02:45	3	129	535	6	19	143	486	9	43
03:00	5	147		5	112	10	259		1021
03:15	4	159		4	136	8	295		
03:30	5	146		9	106	14	252		
03:45	3	162	614	5	23	121	475	8	40
04:00	7	146		7	125	14	271		1089
04:15	6	171		24	128	30	299		
04:30	9	162		18	134	27	296		
04:45	11	174	653	33	82	109	496	44	115
05:00	25	177		50	119	75	296		1149
05:15	20	160		120	143	140	303		
05:30	28	172		201	130	229	302		
05:45	31	169	678	195	566	165	557	226	670
06:00	43	154		264	152	307	306		1235
06:15	33	135		283	128	316	263		
06:30	43	177		265	135	308	312		
06:45	48	163	629	200	1012	105	520	248	1179
07:00	53	170		191	92	244	262		1149
07:15	69	127		157	82	226	209		
07:30	95	113		151	77	246	190		
07:45	84	115	525	184	683	89	340	268	984
08:00	89	107		146	75	235	182		865
08:15	72	91		161	82	233	173		
08:30	92	92		170	60	262	152		
08:45	83	79	369	196	673	60	277	279	1009
09:00	78	66		199	54	277	120		646
09:15	86	73		224	67	310	140		
09:30	71	59		188	51	259	110		
09:45	94	55	253	193	804	41	213	287	1133
10:00	76	47		173	39	249	86		466
10:15	81	45		175	32	256	77		
10:30	87	35		158	36	245	71		
10:45	98	37	164	151	657	43	150	249	999
11:00	94	57		120	27	214	84		314
11:15	85	40		105	36	190	76		
11:30	113	48		110	22	223	70		
11:45	120	37	182	107	442	11	96	227	854
Total	2184	5405		5026	4487	7210	9892		278
Percent	30.3%	54.6%		69.7%	45.4%				
Day Total		7589			9513		17102		
Peak	11:00	-	04:15	-	06:00	-	05:15	-	-
Vol.	412	-	684	-	1012	-	590	-	1179
P.H.F.	0.858	-	0.966	-	0.894	-	0.933	-	0.932

Adams Street
north of Eliot Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 E Volume
Site Code: 5996

Start	SB		NB		Combin		ed		04/26/18	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Thu	
12:00	34	101	15	114	49	215				
12:15	11	98	15	95	26	193				
12:30	19	101	16	125	35	226				
12:45	19	83 106	406 11	57 104	438 30	140 210	844			
01:00	11	121	5	83	16	204				
01:15	15	103	6	113	21	216				
01:30	7	122	7	110	14	232				
01:45	3	36 109	455 7	25 120	426 10	61 229	881			
02:00	3	132	5	102	8	234				
02:15	6	126	2	142	8	268				
02:30	12	140	1	110	13	250				
02:45	5	26 164	562 9	17 120	474 14	43 284	1036			
03:00	7	134	7	132	14	266				
03:15	4	122	3	154	7	276				
03:30	3	158	5	125	8	283				
03:45	1	15 159	573 11	26 144	555 12	41 303	1128			
04:00	5	121	6	134	11	255				
04:15	5	138	14	146	19	284				
04:30	7	173	17	105	24	278				
04:45	17	34 156	588 29	66 114	499 46	100 270	1087			
05:00	10	166	56	135	66	301				
05:15	27	150	82	128	109	278				
05:30	22	168	157	142	179	310				
05:45	15	74 149	633 215	510 123	528 230	584 272	1161			
06:00	33	133	234	134	267	267				
06:15	34	155	293	113	327	268				
06:30	36	146	263	112	299	258				
06:45	59	162 138	572 221	1011 107	466 280	1173 245	1038			
07:00	70	147	180	99	250	246				
07:15	59	131	226	93	285	224				
07:30	89	154	124	75	213	229				
07:45	77	295 127	559 190	720 104	371 267	1015 231	930			
08:00	71	135	161	93	232	228				
08:15	92	114	203	105	295	219				
08:30	76	123	212	88	288	211				
08:45	89	328 111	483 189	765 92	378 278	1093 203	861			
09:00	81	101	179	65	260	166				
09:15	78	93	179	68	257	161				
09:30	82	82	151	34	233	116				
09:45	111	352 66	342 167	676 48	215 278	1028 114	557			
10:00	100	60	193	37	293	97				
10:15	100	63	150	41	250	104				
10:30	103	62	130	59	233	121				
10:45	94	397 61	246 128	601 42	179 222	998 103	425			
11:00	115	51	124	39	239	90				
11:15	91	54	115	33	206	87				
11:30	91	48	117	22	208	70				
11:45	109	406 37	190 105	461 21	115 214	867 58	305			
Total	2208	5609	4935	4644	7143	10253				
Percent	30.9%	54.7%	69.1%	45.3%						
Day Total		7817		9579		17396				
Peak	09:45	-	04:30	-	06:00	-	05:00	-	-	-
Vol.	414	-	645	-	1011	-	1161	-	-	-
P.H.F.	0.932		0.932		0.863		0.904		0.897	0.936

Adams Street
north of Eliot Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 E Class
Site Code: 5996

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/25/1														
8	0	71	7	0	2	0	0	0	0	0	0	0	0	80
01:00	1	33	4	0	1	0	0	0	0	0	0	0	0	39
02:00	0	23	0	0	1	0	0	0	0	0	0	0	0	24
03:00	0	13	3	0	0	0	0	0	1	0	0	0	0	17
04:00	0	28	3	0	1	1	0	0	0	0	0	0	0	33
05:00	1	86	12	1	2	1	0	1	0	0	0	0	0	104
06:00	3	143	18	1	0	2	0	0	0	0	0	0	0	167
07:00	11	254	24	0	9	2	0	0	0	1	0	0	0	301
08:00	13	291	17	0	6	6	0	1	2	0	0	0	0	336
09:00	7	291	22	3	4	1	0	1	0	0	0	0	0	329
10:00	9	289	33	0	6	3	0	2	0	0	0	0	0	342
11:00	4	341	52	2	7	5	0	1	0	0	0	0	0	412
12 PM	4	321	41	3	7	4	0	2	1	0	0	0	0	383
13:00	7	351	52	2	5	3	0	0	0	0	0	0	0	420
14:00	3	461	49	0	13	3	1	3	1	1	0	0	0	535
15:00	15	515	63	3	9	7	0	1	1	0	0	0	0	614
16:00	10	576	51	1	12	1	0	1	0	0	1	0	0	653
17:00	11	618	31	0	6	5	1	2	3	0	0	1	0	678
18:00	14	569	34	2	3	5	0	1	1	0	0	0	0	629
19:00	9	480	32	0	1	2	0	0	1	0	0	0	0	525
20:00	2	347	18	0	0	2	0	0	0	0	0	0	0	369
21:00	3	232	15	0	0	2	0	1	0	0	0	0	0	253
22:00	0	158	6	0	0	0	0	0	0	0	0	0	0	164
23:00	1	168	13	0	0	0	0	0	0	0	0	0	0	182
Total	128	6659	600	18	95	55	2	17	11	2	1	1	0	7589
Percent	1.7%	87.7%	7.9%	0.2%	1.3%	0.7%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	11:00	09:00	07:00	08:00		10:00	08:00	07:00				11:00
Vol.	13	341	52	3	9	6		2	2	1				412
PM Peak	15:00	17:00	15:00	12:00	14:00	15:00	14:00	14:00	17:00	14:00	16:00	17:00		17:00
Vol.	15	618	63	3	13	7	1	3	3	1	1	1		678

Adams Street
north of Eliot Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 E Class
Site Code: 5996

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/26/1														
8	0	78	4	0	1	0	0	0	0	0	0	0	0	83
01:00	0	31	3	0	2	0	0	0	0	0	0	0	0	36
02:00	0	21	3	0	2	0	0	0	0	0	0	0	0	26
03:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
04:00	1	29	3	0	1	0	0	0	0	0	0	0	0	34
05:00	0	64	5	1	1	2	0	0	1	0	0	0	0	74
06:00	2	135	22	0	2	1	0	0	0	0	0	0	0	162
07:00	4	259	20	0	3	7	0	2	0	0	0	0	0	295
08:00	9	288	23	2	2	2	0	1	1	0	0	0	0	328
09:00	5	311	26	2	6	1	0	1	0	0	0	0	0	352
10:00	7	327	45	5	4	8	0	0	1	0	0	0	0	397
11:00	3	354	40	1	7	1	0	0	0	0	0	0	0	406
12 PM	10	332	53	0	6	4	1	0	0	0	0	0	0	406
13:00	5	395	43	4	6	1	0	1	0	0	0	0	0	455
14:00	5	493	51	1	7	2	0	3	0	0	0	0	0	562
15:00	11	495	54	1	6	5	0	1	0	0	0	0	0	573
16:00	5	523	43	1	7	1	2	5	1	0	0	0	0	588
17:00	10	573	37	1	4	2	1	2	0	1	2	0	0	633
18:00	8	506	44	2	5	3	0	2	0	1	0	0	1	572
19:00	10	509	32	0	4	1	1	1	0	0	1	0	0	559
20:00	7	436	36	0	2	2	0	0	0	0	0	0	0	483
21:00	2	320	16	1	2	1	0	0	0	0	0	0	0	342
22:00	2	229	12	0	2	1	0	0	0	0	0	0	0	246
23:00	0	175	14	0	1	0	0	0	0	0	0	0	0	190
Total	106	6897	630	22	83	45	5	19	4	2	3	0	1	7817
Percent	1.4%	88.2%	8.1%	0.3%	1.1%	0.6%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	10:00	10:00	11:00	10:00		07:00	05:00					11:00
Vol.	9	354	45	5	7	8		2	1					406
PM Peak	15:00	17:00	15:00	13:00	14:00	15:00	16:00	16:00	16:00	17:00	17:00		18:00	17:00
Vol.	11	573	54	4	7	5	2	5	1	1	2		1	633

Adams Street
north of Eliot Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 E Class
Site Code: 5996

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/25/1														
8	0	41	2	0	0	0	0	0	0	0	0	0	0	43
01:00	1	20	1	0	0	0	0	0	0	0	0	0	0	22
02:00	1	17	1	0	0	0	0	0	0	0	0	0	0	19
03:00	0	22	0	0	1	0	0	0	0	0	0	0	0	23
04:00	2	62	13	0	2	2	0	1	0	0	0	0	0	82
05:00	4	412	100	4	38	2	0	5	1	0	0	0	0	566
06:00	13	852	115	7	18	5	0	2	0	0	0	0	0	1012
07:00	35	593	40	2	7	4	0	2	0	0	0	0	0	683
08:00	45	577	32	1	6	8	0	1	0	3	0	0	0	673
09:00	23	671	90	2	8	5	1	2	1	0	1	0	0	804
10:00	7	552	76	6	9	4	0	3	0	0	0	0	0	657
11:00	2	367	54	3	10	4	0	0	2	0	0	0	0	442
12 PM	3	370	53	2	5	1	0	0	0	0	0	0	0	434
13:00	4	381	42	3	6	3	0	3	1	0	0	0	0	443
14:00	6	420	53	0	7	0	0	0	0	0	0	0	0	486
15:00	11	394	53	3	5	6	1	2	0	0	0	0	0	475
16:00	7	427	48	0	8	3	0	3	0	0	0	0	0	496
17:00	12	480	54	2	4	2	0	3	0	0	0	0	0	557
18:00	16	342	129	2	26	3	0	2	0	0	0	0	0	520
19:00	1	252	80	1	4	1	0	1	0	0	0	0	0	340
20:00	4	195	70	0	5	2	0	0	1	0	0	0	0	277
21:00	2	141	62	0	8	0	0	0	0	0	0	0	0	213
22:00	6	114	22	0	8	0	0	0	0	0	0	0	0	150
23:00	2	72	19	0	2	0	0	1	0	0	0	0	0	96
Total	207	7774	1209	38	187	55	2	31	6	3	1	0	0	9513
Percent	2.2%	81.7%	12.7%	0.4%	2.0%	0.6%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	06:00	06:00	06:00	05:00	08:00	09:00	05:00	11:00	08:00	09:00			06:00
Vol.	45	852	115	7	38	8	1	5	2	3	1			1012
PM Peak	18:00	17:00	18:00	13:00	18:00	15:00	15:00	13:00	13:00					17:00
Vol.	16	480	129	3	26	6	1	3	1					557

Adams Street
north of Eliot Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 E Class
Site Code: 5996

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/26/1														
8	2	48	5	0	2	0	0	0	0	0	0	0	0	57
01:00	0	23	2	0	0	0	0	0	0	0	0	0	0	25
02:00	0	13	3	0	1	0	0	0	0	0	0	0	0	17
03:00	2	21	3	0	0	0	0	0	0	0	0	0	0	26
04:00	3	43	11	1	5	2	0	0	1	0	0	0	0	66
05:00	0	396	95	4	11	1	0	2	1	0	0	0	0	510
06:00	22	835	120	7	16	4	1	5	0	0	1	0	0	1011
07:00	34	632	47	2	2	2	0	0	1	0	0	0	0	720
08:00	36	649	56	4	8	10	0	1	1	0	0	0	0	765
09:00	13	570	70	0	17	1	2	2	1	0	0	0	0	676
10:00	12	499	68	8	8	2	1	3	0	0	0	0	0	601
11:00	3	377	63	2	14	0	0	1	1	0	0	0	0	461
12 PM	5	360	59	1	10	2	0	1	0	0	0	0	0	438
13:00	6	339	56	5	19	0	0	0	1	0	0	0	0	426
14:00	9	388	63	1	9	1	0	3	0	0	0	0	0	474
15:00	12	445	82	3	9	0	0	2	1	1	0	0	0	555
16:00	7	421	54	1	12	1	0	2	0	0	1	0	0	499
17:00	8	454	59	2	5	0	0	0	0	0	0	0	0	528
18:00	11	405	46	0	4	0	0	0	0	0	0	0	0	466
19:00	3	329	35	0	3	1	0	0	0	0	0	0	0	371
20:00	7	334	31	0	3	3	0	0	0	0	0	0	0	378
21:00	1	193	19	0	1	1	0	0	0	0	0	0	0	215
22:00	4	165	8	0	2	0	0	0	0	0	0	0	0	179
23:00	5	98	8	0	2	1	0	1	0	0	0	0	0	115
Total	205	8037	1063	41	163	32	4	23	8	1	2	0	0	9579
Percent	2.1%	83.9%	11.1%	0.4%	1.7%	0.3%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	06:00	06:00	10:00	09:00	08:00	09:00	06:00	04:00		06:00			06:00
Vol.	36	835	120	8	17	10	2	5	1		1			1011
PM Peak	15:00	17:00	15:00	13:00	13:00	20:00		14:00	13:00	15:00	16:00			15:00
Vol.	12	454	82	5	19	3		3	1	1	1			555

Adams Street
north of Eliot Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 E Speed
Site Code: 5996

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/25/ 18	3	6	26	31	13	1	0	0	0	0	0	0	0	80	29	25
01:00	0	5	15	14	4	1	0	0	0	0	0	0	0	39	28	25
02:00	0	3	11	8	1	0	1	0	0	0	0	0	0	24	28	24
03:00	0	0	8	8	1	0	0	0	0	0	0	0	0	17	28	25
04:00	0	5	11	10	5	2	0	0	0	0	0	0	0	33	31	25
05:00	3	6	38	44	12	1	0	0	0	0	0	0	0	104	28	25
06:00	4	20	88	49	5	1	0	0	0	0	0	0	0	167	27	23
07:00	38	60	176	25	2	0	0	0	0	0	0	0	0	301	23	20
08:00	59	75	181	19	2	0	0	0	0	0	0	0	0	336	23	19
09:00	48	67	167	38	9	0	0	0	0	0	0	0	0	329	23	20
10:00	54	62	134	89	3	0	0	0	0	0	0	0	0	342	26	20
11:00	72	78	160	87	15	0	0	0	0	0	0	0	0	412	26	20
12 PM	47	82	148	95	11	0	0	0	0	0	0	0	0	383	26	21
13:00	79	94	162	79	5	1	0	0	0	0	0	0	0	420	25	19
14:00	135	139	215	42	4	0	0	0	0	0	0	0	0	535	23	18
15:00	167	166	247	33	1	0	0	0	0	0	0	0	0	614	22	17
16:00	173	207	223	47	3	0	0	0	0	0	0	0	0	653	22	17
17:00	192	207	238	39	2	0	0	0	0	0	0	0	0	678	22	17
18:00	152	167	251	54	5	0	0	0	0	0	0	0	0	629	23	18
19:00	90	142	220	69	4	0	0	0	0	0	0	0	0	525	23	19
20:00	42	82	172	67	6	0	0	0	0	0	0	0	0	369	25	20
21:00	28	53	107	60	5	0	0	0	0	0	0	0	0	253	26	21
22:00	6	29	56	61	11	1	0	0	0	0	0	0	0	164	27	23
23:00	15	30	68	60	8	1	0	0	0	0	0	0	0	182	27	22
Total	1407	1785	3122	1128	137	9	1	0	0	0	0	0	0	7589		
%	18.5%	23.5%	41.1%	14.9%	1.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	08:00	10:00	11:00	04:00	02:00							11:00		
Vol.	72	78	181	89	15	2	1							412		
PM Peak	17:00	16:00	18:00	12:00	12:00	13:00								17:00		
Vol.	192	207	251	95	11	1								678		

Stats

15th Percentile :	11 MPH
50th Percentile :	19 MPH
85th Percentile :	24 MPH
95th Percentile :	27 MPH

Mean Speed(Average) :	19 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	4907
Percent in Pace :	64.7%
Number of Vehicles > 30 MPH :	120
Percent of Vehicles > 30 MPH :	1.6%

Adams Street
north of Eliot Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 E Speed
Site Code: 5996

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/26/																
18	2	6	29	36	10	0	0	0	0	0	0	0	0	83	28	25
01:00	0	4	13	13	4	2	0	0	0	0	0	0	0	36	29	25
02:00	1	1	6	12	6	0	0	0	0	0	0	0	0	26	30	26
03:00	0	1	5	6	3	0	0	0	0	0	0	0	0	15	30	26
04:00	0	4	8	16	6	0	0	0	0	0	0	0	0	34	29	26
05:00	0	3	30	34	7	0	0	0	0	0	0	0	0	74	28	25
06:00	3	27	86	40	6	0	0	0	0	0	0	0	0	162	26	23
07:00	37	60	169	28	1	0	0	0	0	0	0	0	0	295	23	20
08:00	46	50	199	29	4	0	0	0	0	0	0	0	0	328	23	20
09:00	44	68	166	66	8	0	0	0	0	0	0	0	0	352	25	20
10:00	53	91	159	86	8	0	0	0	0	0	0	0	0	397	26	20
11:00	71	75	150	100	9	0	0	0	1	0	0	0	0	406	26	20
12 PM	63	100	162	72	9	0	0	0	0	0	0	0	0	406	25	20
13:00	56	101	189	95	12	2	0	0	0	0	0	0	0	455	26	20
14:00	96	150	218	90	8	0	0	0	0	0	0	0	0	562	24	19
15:00	118	151	217	78	9	0	0	0	0	0	0	0	0	573	24	19
16:00	147	144	222	65	10	0	0	0	0	0	0	0	0	588	23	18
17:00	105	192	246	82	8	0	0	0	0	0	0	0	0	633	23	19
18:00	109	170	200	81	11	1	0	0	0	0	0	0	0	572	24	19
19:00	114	123	241	70	11	0	0	0	0	0	0	0	0	559	23	19
20:00	67	93	199	107	14	3	0	0	0	0	0	0	0	483	26	21
21:00	25	58	153	85	18	3	0	0	0	0	0	0	0	342	27	22
22:00	13	36	100	87	9	0	0	0	1	0	0	0	0	246	27	23
23:00	4	18	83	72	13	0	0	0	0	0	0	0	0	190	27	24
Total	1174	1726	3250	1450	204	11	0	0	2	0	0	0	0	7817		
%	15.0%	22.1%	41.6%	18.5%	2.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	10:00	08:00	11:00	00:00	01:00			11:00					11:00		
Vol.	71	91	199	100	10	2			1					406		
PM Peak	16:00	17:00	17:00	20:00	21:00	20:00			22:00					17:00		
Vol.	147	192	246	107	18	3			1					633		

Stats

15th Percentile :	13 MPH
50th Percentile :	20 MPH
85th Percentile :	25 MPH
95th Percentile :	28 MPH

Mean Speed(Average) :	20 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	4976
Percent in Pace :	63.7%
Number of Vehicles > 30 MPH :	176
Percent of Vehicles > 30 MPH :	2.3%

Adams Street
north of Eliot Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

186210 E Speed
Site Code: 5996

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/25/																
18	1	0	5	21	12	3	1	0	0	0	0	0	0	43	32	28
01:00	1	0	6	6	6	1	2	0	0	0	0	0	0	22	33	28
02:00	0	1	4	12	0	1	0	1	0	0	0	0	0	19	28	27
03:00	0	0	3	11	7	1	1	0	0	0	0	0	0	23	32	29
04:00	2	2	7	38	27	6	0	0	0	0	0	0	0	82	32	28
05:00	14	19	67	250	189	26	1	0	0	0	0	0	0	566	32	28
06:00	101	117	369	334	87	4	0	0	0	0	0	0	0	1012	28	23
07:00	173	160	314	33	3	0	0	0	0	0	0	0	0	683	22	17
08:00	213	125	316	19	0	0	0	0	0	0	0	0	0	673	22	17
09:00	134	146	366	138	19	1	0	0	0	0	0	0	0	804	25	20
10:00	2	5	183	376	91	0	0	0	0	0	0	0	0	657	28	26
11:00	3	6	100	230	97	6	0	0	0	0	0	0	0	442	30	27
12 PM	2	4	96	238	92	2	0	0	0	0	0	0	0	434	30	27
13:00	3	8	126	247	56	2	0	1	0	0	0	0	0	443	28	26
14:00	5	8	146	256	69	2	0	0	0	0	0	0	0	486	28	26
15:00	13	16	180	209	55	2	0	0	0	0	0	0	0	475	28	25
16:00	5	13	166	263	45	4	0	0	0	0	0	0	0	496	28	25
17:00	8	25	223	244	52	5	0	0	0	0	0	0	0	557	28	25
18:00	19	21	112	209	144	15	0	0	0	0	0	0	0	520	31	26
19:00	1	1	64	168	99	6	1	0	0	0	0	0	0	340	31	28
20:00	0	6	54	153	59	5	0	0	0	0	0	0	0	277	30	27
21:00	2	3	33	114	54	7	0	0	0	0	0	0	0	213	31	27
22:00	1	1	24	75	43	6	0	0	0	0	0	0	0	150	32	28
23:00	0	1	12	54	26	2	1	0	0	0	0	0	0	96	31	28
Total	703	688	2976	3698	1332	107	7	2	0	0	0	0	0	9513		
%	7.4%	7.2%	31.3%	38.9%	14.0%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	07:00	06:00	10:00	05:00	05:00	01:00	02:00						06:00		
Vol.	213	160	369	376	189	26	2	1						1012		
PM Peak	18:00	17:00	17:00	16:00	18:00	18:00	19:00	13:00						17:00		
Vol.	19	25	223	263	144	15	1	1						557		

Stats

15th Percentile :	19 MPH
50th Percentile :	24 MPH
85th Percentile :	29 MPH
95th Percentile :	32 MPH

Mean Speed(Average) :	24 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	6674
Percent in Pace :	70.2%
Number of Vehicles > 30 MPH :	1182
Percent of Vehicles > 30 MPH :	12.4%

Adams Street
north of Eliot Street
City, State: Milton, MA
Client: BETA/ J. Curewitz



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

186210 E Speed
Site Code: 5996

NB

Start Time	14	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th %ile	Ave Speed
	14	19	24	29	34	39	44	49	54	59	64	69	9999			
04/26/																
18	1	0	4	25	24	3	0	0	0	0	0	0	0	57	32	29
01:00	0	0	4	11	9	1	0	0	0	0	0	0	0	25	32	28
02:00	0	0	6	7	4	0	0	0	0	0	0	0	0	17	30	26
03:00	0	1	2	13	6	4	0	0	0	0	0	0	0	26	34	29
04:00	0	0	12	35	15	4	0	0	0	0	0	0	0	66	32	28
05:00	3	7	83	335	76	6	0	0	0	0	0	0	0	510	29	27
06:00	139	174	406	252	39	1	0	0	0	0	0	0	0	1011	26	21
07:00	194	127	363	32	4	0	0	0	0	0	0	0	0	720	23	17
08:00	182	115	373	88	7	0	0	0	0	0	0	0	0	765	23	18
09:00	68	78	265	235	30	0	0	0	0	0	0	0	0	676	27	22
10:00	21	20	163	342	54	1	0	0	0	0	0	0	0	601	28	25
11:00	0	4	84	285	85	3	0	0	0	0	0	0	0	461	30	27
12 PM	2	7	111	232	78	8	0	0	0	0	0	0	0	438	30	27
13:00	1	7	73	230	108	6	1	0	0	0	0	0	0	426	31	27
14:00	5	9	105	245	101	9	0	0	0	0	0	0	0	474	30	27
15:00	17	25	179	236	92	6	0	0	0	0	0	0	0	555	29	25
16:00	6	8	140	246	93	6	0	0	0	0	0	0	0	499	30	26
17:00	0	4	156	270	93	5	0	0	0	0	0	0	0	528	30	26
18:00	1	15	119	245	83	3	0	0	0	0	0	0	0	466	29	26
19:00	3	5	101	173	80	9	0	0	0	0	0	0	0	371	31	27
20:00	2	6	97	220	52	1	0	0	0	0	0	0	0	378	28	26
21:00	1	4	51	117	37	5	0	0	0	0	0	0	0	215	30	27
22:00	0	3	31	100	39	6	0	0	0	0	0	0	0	179	31	27
23:00	1	1	22	63	23	3	1	1	0	0	0	0	0	115	31	27
Total	647	620	2950	4037	1232	90	2	1	0	0	0	0	0	9579		
%	6.8%	6.5%	30.8%	42.1%	12.9%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	06:00	06:00	10:00	11:00	05:00								06:00		
Vol.	194	174	406	342	85	6								1011		
PM Peak	15:00	15:00	15:00	17:00	13:00	14:00	13:00	23:00						15:00		
Vol.	17	25	179	270	108	9	1	1						555		

Stats

15th Percentile :	19 MPH
50th Percentile :	24 MPH
85th Percentile :	28 MPH
95th Percentile :	32 MPH

Mean Speed(Average) :	24 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	6987
Percent in Pace :	72.9%
Number of Vehicles > 30 MPH :	1079
Percent of Vehicles > 30 MPH :	11.3%

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class:

Cars and Heavy Vehicles (Combined)

	Adams Street				Adams Street				Canton Avenue				Total	
	from North				from South				from West					
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total		
7:00 AM	42	53	0	95	162	1	0	163	1	42	0	43	301	
7:15 AM	37	60	0	97	159	7	0	166	3	68	0	71	334	
7:30 AM	44	78	0	122	151	8	0	159	1	52	0	53	334	
7:45 AM	50	67	0	117	153	0	0	153	6	47	0	53	323	
Total	173	258	0	431	625	16	0	641	11	209	0	220	1292	
8:00 AM	46	60	0	106	135	3	0	138	4	55	0	59	303	
8:15 AM	52	79	0	131	185	4	0	189	4	53	0	57	377	
8:30 AM	41	55	0	96	163	2	0	165	5	51	0	56	317	
8:45 AM	41	67	0	108	141	4	0	145	3	52	0	55	308	
Total	180	261	0	441	624	13	0	637	16	211	0	227	1305	
9:00 AM	32	76	0	108	180	6	0	186	5	60	0	65	359	
9:15 AM	37	71	0	108	111	7	0	118	4	71	1	76	302	
9:30 AM	40	70	0	110	92	1	0	93	7	62	0	69	272	
9:45 AM	47	54	0	101	113	6	0	119	3	72	1	76	296	
Total	156	271	0	427	496	20	0	516	19	265	2	286	1229	
10:00 AM	50	68	0	118	102	3	0	105	1	92	0	93	316	
10:15 AM	35	80	0	115	62	1	0	63	4	96	0	100	278	
10:30 AM	42	61	0	103	76	3	0	79	3	71	0	74	256	
10:45 AM	35	60	0	95	70	3	0	73	8	51	0	59	227	
Total	162	269	0	431	310	10	0	320	16	310	0	326	1077	
11:00 AM	40	70	0	110	59	2	0	61	12	79	0	91	262	
11:15 AM	27	57	0	84	57	1	0	58	5	61	0	66	208	
11:30 AM	31	72	0	103	60	6	0	66	11	55	0	66	235	
11:45 AM	44	65	0	109	68	7	0	75	7	51	1	59	243	
Total	142	264	0	406	244	16	0	260	35	246	1	282	948	
12:00 PM	40	60	0	100	60	5	0	65	4	49	2	55	220	
12:15 PM	36	70	0	106	58	6	0	64	8	41	0	49	219	
12:30 PM	39	66	0	105	89	9	0	98	6	56	0	62	265	
12:45 PM	41	74	0	115	71	9	0	80	10	50	1	61	256	
Total	156	270	0	426	278	29	0	307	28	196	3	227	960	
1:00 PM	56	67	0	123	64	5	0	69	5	34	0	39	231	
1:15 PM	36	80	0	116	62	8	0	70	5	46	0	51	237	
1:30 PM	55	67	0	122	69	5	0	74	7	65	0	72	268	
1:45 PM	44	73	1	118	81	6	0	87	7	50	0	57	262	
Total	191	287	1	479	276	24	0	300	24	195	0	219	998	
2:00 PM	43	105	0	148	57	8	0	65	8	64	0	72	285	
2:15 PM	44	94	0	138	99	10	0	109	8	70	0	78	325	
2:30 PM	71	100	0	171	73	2	0	75	2	63	0	65	311	
2:45 PM	70	113	0	183	88	11	0	99	11	54	0	65	347	
Total	228	412	0	640	317	31	0	348	29	251	0	280	1268	
3:00 PM	53	94	0	147	89	10	0	99	8	65	0	73	319	
3:15 PM	66	95	1	162	125	7	0	132	8	74	0	82	376	
3:30 PM	63	107	0	170	85	7	0	92	6	55	0	61	323	
3:45 PM	79	111	0	190	92	12	0	104	6	76	0	82	376	
Total	261	407	1	669	391	36	0	427	28	270	0	298	1394	
4:00 PM	70	93	0	163	84	8	0	92	3	77	0	80	335	
4:15 PM	71	95	0	166	85	17	0	102	5	81	1	87	355	
4:30 PM	67	86	0	153	74	10	0	84	7	69	0	76	313	
4:45 PM	77	115	0	192	89	13	0	102	4	57	0	61	355	
Total	285	389	0	674	332	48	0	380	19	284	1	304	1358	
5:00 PM	67	82	0	149	85	20	0	105	5	79	0	84	338	
5:15 PM	65	101	0	166	94	27	0	121	7	69	1	77	364	
5:30 PM	76	104	0	180	74	10	0	84	13	87	0	100	364	
5:45 PM	75	109	0	184	104	21	0	125	7	75	0	82	391	
Total	283	396	0	679	357	78	0	435	32	310	1	343	1457	
Grand Total	2217	3484	2	5703	4250	321	0	4571	257	2747	8	3012	13286	
Approach %	38.9	61.1	0.0		93.0	7.0	0.0		8.5	91.2	0.3			
Total %	16.7	26.2	0.0	42.9	32.0	2.4	0.0	34.4	1.9	20.7	0.1	22.7		
Exiting Leg Total	6999				3741				2546				13286	
Cars	2166	3389	2	5557	4140	316	0	4456	246	2675	7	2928	12941	
% Cars	97.7	97.3	100.0	97.4	97.4	98.4	0.0	97.5	95.7	97.4	87.5	97.2	97.4	
Exiting Leg Total	6817				3635				2489				12941	
Heavy Vehicles	51	95	0	146	110	5	0	115	11	72	1	84	345	
% Heavy Vehicles	2.3	2.7	0.0	2.6	2.6	1.6	0.0	2.5	4.3	2.6	12.5	2.8	2.6	
Exiting Leg Total	182				106				57				345	

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

Adams Street				Adams Street				Canton Avenue				Total
from North				from South				from West				
Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	

AM Peak Hour Analysis from 07:00 AM to 10:00 AM begins at:

8:15 AM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
8:15 AM	52	79	0	131	185	4	0	189	4	53	0	57	377
8:30 AM	41	55	0	96	163	2	0	165	5	51	0	56	317
8:45 AM	41	67	0	108	141	4	0	145	3	52	0	55	308
9:00 AM	32	76	0	108	180	6	0	186	5	60	0	65	359
Total Volume	166	277	0	443	669	16	0	685	17	216	0	233	1361
% Approach Total	37.5	62.5	0.0		97.7	2.3	0.0		7.3	92.7	0.0		
PHF	0.798	0.877	0.000	0.845	0.904	0.667	0.000	0.906	0.850	0.900	0.000	0.896	0.903
Cars	158	259	0	417	647	16	0	663	15	211	0	226	1306
Cars %	95.2	93.5	0.0	94.1	96.7	100.0	0.0	96.8	88.2	97.7	0.0	97.0	96.0
Heavy Vehicles	8	18	0	26	22	0	0	22	2	5	0	7	55
Heavy Vehicles %	4.8	6.5	0.0	5.9	3.3	0.0	0.0	3.2	11.8	2.3	0.0	3.0	4.0
Cars Enter Leg	158	259	0	417	647	16	0	663	15	211	0	226	1306
Heavy Enter Leg	8	18	0	26	22	0	0	22	2	5	0	7	55
Total Entering Leg	166	277	0	443	669	16	0	685	17	216	0	233	1361
Cars Exiting Leg				858				274				174	1306
Heavy Exiting Leg				27				20				8	55
Total Exiting Leg				885				294				182	1361

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

1:45 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
1:45 PM	44	73	1	118	81	6	0	87	7	50	0	57	262
2:00 PM	43	105	0	148	57	8	0	65	8	64	0	72	285
2:15 PM	44	94	0	138	99	10	0	109	8	70	0	78	325
2:30 PM	71	100	0	171	73	2	0	75	2	63	0	65	311
Total Volume	202	372	1	575	310	26	0	336	25	247	0	272	1183
% Approach Total	35.1	64.7	0.2		92.3	7.7	0.0		9.2	90.8	0.0		
PHF	0.711	0.886	0.250	0.841	0.783	0.650	0.000	0.771	0.781	0.882	0.000	0.872	0.910
Cars	194	362	1	557	301	26	0	327	24	243	0	267	1151
Cars %	96.0	97.3	100.0	96.9	97.1	100.0	0.0	97.3	96.0	98.4	0.0	98.2	97.3
Heavy Vehicles	8	10	0	18	9	0	0	9	1	4	0	5	32
Heavy Vehicles %	4.0	2.7	0.0	3.1	2.9	0.0	0.0	2.7	4.0	1.6	0.0	1.8	2.7
Cars Enter Leg	194	362	1	557	301	26	0	327	24	243	0	267	1151
Heavy Enter Leg	8	10	0	18	9	0	0	9	1	4	0	5	32
Total Entering Leg	202	372	1	575	310	26	0	336	25	247	0	272	1183
Cars Exiting Leg				545				386				220	1151
Heavy Exiting Leg				13				11				8	32
Total Exiting Leg				558				397				228	1183

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

5:00 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
5:00 PM	67	82	0	149	85	20	0	105	5	79	0	84	338
5:15 PM	65	101	0	166	94	27	0	121	7	69	1	77	364
5:30 PM	76	104	0	180	74	10	0	84	13	87	0	100	364
5:45 PM	75	109	0	184	104	21	0	125	7	75	0	82	391
Total Volume	283	396	0	679	357	78	0	435	32	310	1	343	1457
% Approach Total	41.7	58.3	0.0		82.1	17.9	0.0		9.3	90.4	0.3		
PHF	0.931	0.908	0.000	0.923	0.858	0.722	0.000	0.870	0.615	0.891	0.250	0.858	0.932
Cars	281	394	0	675	353	76	0	429	31	306	1	338	1442
Cars %	99.3	99.5	0.0	99.4	98.9	97.4	0.0	98.6	96.9	98.7	100.0	98.5	99.0
Heavy Vehicles	2	2	0	4	4	2	0	6	1	4	0	5	15
Heavy Vehicles %	0.7	0.5	0.0	0.6	1.1	2.6	0.0	1.4	3.1	1.3	0.0	1.5	1.0
Cars Enter Leg	281	394	0	675	353	76	0	429	31	306	1	338	1442
Heavy Enter Leg	2	2	0	4	4	2	0	6	1	4	0	5	15
Total Entering Leg	283	396	0	679	357	78	0	435	32	310	1	343	1457
Cars Exiting Leg				659				425				358	1442
Heavy Exiting Leg				8				3				4	15
Total Exiting Leg				667				428				362	1457

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class:

Cars-Combined (Motorcycles, Cars, Light Goods)

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	41	52	0	93	156	1	0	157	1	40	0	41	291
7:15 AM	37	58	0	95	158	6	0	164	3	67	0	70	329
7:30 AM	43	77	0	120	147	8	0	155	1	49	0	50	325
7:45 AM	50	66	0	116	151	0	0	151	6	45	0	51	318
Total	171	253	0	424	612	15	0	627	11	201	0	212	1263
8:00 AM	44	60	0	104	131	3	0	134	4	52	0	56	294
8:15 AM	51	73	0	124	183	4	0	187	2	50	0	52	363
8:30 AM	40	52	0	92	154	2	0	156	5	51	0	56	304
8:45 AM	39	64	0	103	135	4	0	139	3	50	0	53	295
Total	174	249	0	423	603	13	0	616	14	203	0	217	1256
9:00 AM	28	70	0	98	175	6	0	181	5	60	0	65	344
9:15 AM	36	71	0	107	110	7	0	117	4	69	1	74	298
9:30 AM	39	67	0	106	92	1	0	93	7	57	0	64	263
9:45 AM	46	49	0	95	107	5	0	112	3	70	1	74	281
Total	149	257	0	406	484	19	0	503	19	256	2	277	1186
10:00 AM	50	66	0	116	99	3	0	102	1	87	0	88	306
10:15 AM	33	75	0	108	61	1	0	62	4	93	0	97	267
10:30 AM	42	56	0	98	74	3	0	77	3	68	0	71	246
10:45 AM	33	58	0	91	70	3	0	73	7	49	0	56	220
Total	158	255	0	413	304	10	0	314	15	297	0	312	1039
11:00 AM	39	68	0	107	56	2	0	58	12	76	0	88	253
11:15 AM	26	57	0	83	55	1	0	56	5	59	0	64	203
11:30 AM	31	70	0	101	57	6	0	63	10	53	0	63	227
11:45 AM	44	64	0	108	65	7	0	72	7	51	1	59	239
Total	140	259	0	399	233	16	0	249	34	239	1	274	922
12:00 PM	39	60	0	99	59	5	0	64	3	47	1	51	214
12:15 PM	35	69	0	104	56	6	0	62	7	40	0	47	213
12:30 PM	39	64	0	103	88	9	0	97	5	56	0	61	261
12:45 PM	39	71	0	110	65	9	0	74	10	48	1	59	243
Total	152	264	0	416	268	29	0	297	25	191	2	218	931
1:00 PM	55	62	0	117	63	5	0	68	5	33	0	38	223
1:15 PM	36	78	0	114	61	8	0	69	4	44	0	48	231
1:30 PM	54	64	0	118	64	4	0	68	7	62	0	69	255
1:45 PM	43	68	1	112	79	6	0	85	7	48	0	55	252
Total	188	272	1	461	267	23	0	290	23	187	0	210	961
2:00 PM	41	103	0	144	55	8	0	63	8	64	0	72	279
2:15 PM	41	93	0	134	94	10	0	104	7	70	0	77	315
2:30 PM	69	98	0	167	73	2	0	75	2	61	0	63	305
2:45 PM	70	108	0	178	84	11	0	95	11	54	0	65	338
Total	221	402	0	623	306	31	0	337	28	249	0	277	1237
3:00 PM	49	91	0	140	84	10	0	94	8	64	0	72	306
3:15 PM	63	94	1	158	124	7	0	131	7	72	0	79	368
3:30 PM	63	104	0	167	85	7	0	92	6	55	0	61	320
3:45 PM	79	111	0	190	90	12	0	102	6	74	0	80	372
Total	254	400	1	655	383	36	0	419	27	265	0	292	1366
4:00 PM	70	90	0	160	82	8	0	90	3	75	0	78	328
4:15 PM	68	94	0	162	84	17	0	101	5	81	1	87	350
4:30 PM	65	86	0	151	73	10	0	83	7	68	0	75	309
4:45 PM	75	114	0	189	88	13	0	101	4	57	0	61	351
Total	278	384	0	662	327	48	0	375	19	281	1	301	1338
5:00 PM	67	82	0	149	84	20	0	104	5	78	0	83	336
5:15 PM	64	99	0	163	93	26	0	119	7	68	1	76	358
5:30 PM	75	104	0	179	72	10	0	82	12	86	0	98	359
5:45 PM	75	109	0	184	104	20	0	124	7	74	0	81	389
Total	281	394	0	675	353	76	0	429	31	306	1	338	1442
Grand Total	2166	3389	2	5557	4140	316	0	4456	246	2675	7	2928	12941
Approach %	39.0	61.0	0.0		92.9	7.1	0.0		8.4	91.4	0.2		
Total %	16.7	26.2	0.0	42.9	32.0	2.4	0.0	34.4	1.9	20.7	0.1	22.6	
Exiting Leg Total				6817				3635				2489	12941

AM Peak Hour Analysis from 07:00 AM to 10:00 AM begins at:

8:15 AM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
8:15 AM	51	73	0	124	183	4	0	187	2	50	0	52	363

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Cars-Combined (Motorcycles, Cars, Light Goods)

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
8:30 AM	40	52	0	92	154	2	0	156	5	51	0	56	304
8:45 AM	39	64	0	103	135	4	0	139	3	50	0	53	295
9:00 AM	28	70	0	98	175	6	0	181	5	60	0	65	344
Total Volume	158	259	0	417	647	16	0	663	15	211	0	226	1306
% Approach Total	37.9	62.1	0.0		97.6	2.4	0.0		6.6	93.4	0.0		
PHF	0.775	0.887	0.000	0.841	0.884	0.667	0.000	0.886	0.750	0.879	0.000	0.869	0.899
Entering Leg	158	259	0	417	647	16	0	663	15	211	0	226	1306
Exiting Leg				858				274				174	1306
Total				1275				937				400	2612

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

1:45 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
1:45 PM	43	68	1	112	79	6	0	85	7	48	0	55	252
2:00 PM	41	103	0	144	55	8	0	63	8	64	0	72	279
2:15 PM	41	93	0	134	94	10	0	104	7	70	0	77	315
2:30 PM	69	98	0	167	73	2	0	75	2	61	0	63	305
Total Volume	194	362	1	557	301	26	0	327	24	243	0	267	1151
% Approach Total	34.8	65.0	0.2		92.0	8.0	0.0		9.0	91.0	0.0		
PHF	0.703	0.879	0.250	0.834	0.801	0.650	0.000	0.786	0.750	0.868	0.000	0.867	0.913
Entering Leg	194	362	1	557	301	26	0	327	24	243	0	267	1151
Exiting Leg				545				386				220	1151
Total				1102				713				487	2302

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

5:00 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
5:00 PM	67	82	0	149	84	20	0	104	5	78	0	83	336
5:15 PM	64	99	0	163	93	26	0	119	7	68	1	76	358
5:30 PM	75	104	0	179	72	10	0	82	12	86	0	98	359
5:45 PM	75	109	0	184	104	20	0	124	7	74	0	81	389
Total Volume	281	394	0	675	353	76	0	429	31	306	1	338	1442
% Approach Total	41.6	58.4	0.0		82.3	17.7	0.0		9.2	90.5	0.3		
PHF	0.937	0.904	0.000	0.917	0.849	0.731	0.000	0.865	0.646	0.890	0.250	0.862	0.927
Entering Leg	281	394	0	675	353	76	0	429	31	306	1	338	1442
Exiting Leg				659				425				358	1442
Total				1334				854				696	2884

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class:

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Adams Street				Adams Street				Canton Avenue				
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	1	1	0	2	6	0	0	6	0	2	0	2	10
7:15 AM	0	2	0	2	1	1	0	2	0	1	0	1	5
7:30 AM	1	1	0	2	4	0	0	4	0	3	0	3	9
7:45 AM	0	1	0	1	2	0	0	2	0	2	0	2	5
Total	2	5	0	7	13	1	0	14	0	8	0	8	29
8:00 AM	2	0	0	2	4	0	0	4	0	3	0	3	9
8:15 AM	1	6	0	7	2	0	0	2	2	3	0	5	14
8:30 AM	1	3	0	4	9	0	0	9	0	0	0	0	13
8:45 AM	2	3	0	5	6	0	0	6	0	2	0	2	13
Total	6	12	0	18	21	0	0	21	2	8	0	10	49
9:00 AM	4	6	0	10	5	0	0	5	0	0	0	0	15
9:15 AM	1	0	0	1	1	0	0	1	0	2	0	2	4
9:30 AM	1	3	0	4	0	0	0	0	0	5	0	5	9
9:45 AM	1	5	0	6	6	1	0	7	0	2	0	2	15
Total	7	14	0	21	12	1	0	13	0	9	0	9	43
10:00 AM	0	2	0	2	3	0	0	3	0	5	0	5	10
10:15 AM	2	5	0	7	1	0	0	1	0	3	0	3	11
10:30 AM	0	5	0	5	2	0	0	2	0	3	0	3	10
10:45 AM	2	2	0	4	0	0	0	0	1	2	0	3	7
Total	4	14	0	18	6	0	0	6	1	13	0	14	38
11:00 AM	1	2	0	3	3	0	0	3	0	3	0	3	9
11:15 AM	1	0	0	1	2	0	0	2	0	2	0	2	5
11:30 AM	0	2	0	2	3	0	0	3	1	2	0	3	8
11:45 AM	0	1	0	1	3	0	0	3	0	0	0	0	4
Total	2	5	0	7	11	0	0	11	1	7	0	8	26
12:00 PM	1	0	0	1	1	0	0	1	1	2	1	4	6
12:15 PM	1	1	0	2	2	0	0	2	1	1	0	2	6
12:30 PM	0	2	0	2	1	0	0	1	1	0	0	1	4
12:45 PM	2	3	0	5	6	0	0	6	0	2	0	2	13
Total	4	6	0	10	10	0	0	10	3	5	1	9	29
1:00 PM	1	5	0	6	1	0	0	1	0	1	0	1	8
1:15 PM	0	2	0	2	1	0	0	1	1	2	0	3	6
1:30 PM	1	3	0	4	5	1	0	6	0	3	0	3	13
1:45 PM	1	5	0	6	2	0	0	2	0	2	0	2	10
Total	3	15	0	18	9	1	0	10	1	8	0	9	37
2:00 PM	2	2	0	4	2	0	0	2	0	0	0	0	6
2:15 PM	3	1	0	4	5	0	0	5	1	0	0	1	10
2:30 PM	2	2	0	4	0	0	0	0	0	2	0	2	6
2:45 PM	0	5	0	5	4	0	0	4	0	0	0	0	9
Total	7	10	0	17	11	0	0	11	1	2	0	3	31
3:00 PM	4	3	0	7	5	0	0	5	0	1	0	1	13
3:15 PM	3	1	0	4	1	0	0	1	1	2	0	3	8
3:30 PM	0	3	0	3	0	0	0	0	0	0	0	0	3
3:45 PM	0	0	0	0	2	0	0	2	0	2	0	2	4
Total	7	7	0	14	8	0	0	8	1	5	0	6	28
4:00 PM	0	3	0	3	2	0	0	2	0	2	0	2	7
4:15 PM	3	1	0	4	1	0	0	1	0	0	0	0	5
4:30 PM	2	0	0	2	1	0	0	1	0	1	0	1	4
4:45 PM	2	1	0	3	1	0	0	1	0	0	0	0	4
Total	7	5	0	12	5	0	0	5	0	3	0	3	20
5:00 PM	0	0	0	0	1	0	0	1	0	1	0	1	2
5:15 PM	1	2	0	3	1	1	0	2	0	1	0	1	6
5:30 PM	1	0	0	1	2	0	0	2	1	1	0	2	5
5:45 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
Total	2	2	0	4	4	2	0	6	1	4	0	5	15
Grand Total	51	95	0	146	110	5	0	115	11	72	1	84	345
Approach %	34.9	65.1	0.0		95.7	4.3	0.0		13.1	85.7	1.2		
Total %	14.8	27.5	0.0	42.3	31.9	1.4	0.0	33.3	3.2	20.9	0.3	24.3	
Exiting Leg Total				182				106				57	345
Buses	11	22	0	33	26	0	0	26	1	12	0	13	72
% Buses	21.6	23.2	0.0	22.6	23.6	0.0	0.0	22.6	9.1	16.7	0.0	15.5	20.9
Exiting Leg Total				38				23				11	72
Single-Unit Trucks	38	70	0	108	79	5	0	84	9	56	1	66	258
% Single-Unit	74.5	73.7	0.0	74.0	71.8	100.0	0.0	73.0	81.8	77.8	100.0	78.6	74.8

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
Exiting Leg Total	135				79				44				258
Articulated Trucks	2	3	0	5	5	0	0	5	1	4	0	5	15
% Articulated	3.9	3.2	0.0	3.4	4.5	0.0	0.0	4.3	9.1	5.6	0.0	6.0	4.3
Exiting Leg Total	9				4				2				15

AM Peak Hour Analysis from 07:00 AM to 10:00 AM begins at:

8:15 AM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
8:15 AM	1	6	0	7	2	0	0	2	2	3	0	5	14
8:30 AM	1	3	0	4	9	0	0	9	0	0	0	0	13
8:45 AM	2	3	0	5	6	0	0	6	0	2	0	2	13
9:00 AM	4	6	0	10	5	0	0	5	0	0	0	0	15
Total Volume	8	18	0	26	22	0	0	22	2	5	0	7	55
% Approach Total	30.8	69.2	0.0		100.0	0.0	0.0		28.6	71.4	0.0		
PHF	0.500	0.750	0.000	0.650	0.611	0.000	0.000	0.611	0.250	0.417	0.000	0.350	0.917
Buses	2	5	0	7	5	0	0	5	1	0	0	1	13
Buses %	25.0	27.8	0.0	26.9	22.7	0.0	0.0	22.7	50.0	0.0	0.0	14.3	23.6
Single-Unit Trucks	6	13	0	19	16	0	0	16	1	5	0	6	41
Single-Unit %	75.0	72.2	0.0	73.1	72.7	0.0	0.0	72.7	50.0	100.0	0.0	85.7	74.5
Articulated Trucks	0	0	0	0	1	0	0	1	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	4.5	0.0	0.0	4.5	0.0	0.0	0.0	0.0	1.8
Buses	2	5	0	7	5	0	0	5	1	0	0	1	13
Single-Unit Trucks	6	13	0	19	16	0	0	16	1	5	0	6	41
Articulated Trucks	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Entering Leg	8	18	0	26	22	0	0	22	2	5	0	7	55
Buses				5				6				2	13
Single-Unit Trucks				21				14				6	41
Articulated Trucks				1				0				0	1
Total Exiting Leg				27				20				8	55

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

12:45 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
12:45 PM	2	3	0	5	6	0	0	6	0	2	0	2	13
1:00 PM	1	5	0	6	1	0	0	1	0	1	0	1	8
1:15 PM	0	2	0	2	1	0	0	1	1	2	0	3	6
1:30 PM	1	3	0	4	5	1	0	6	0	3	0	3	13
Total Volume	4	13	0	17	13	1	0	14	1	8	0	9	40
% Approach Total	23.5	76.5	0.0		92.9	7.1	0.0		11.1	88.9	0.0		
PHF	0.500	0.650	0.000	0.708	0.542	0.250	0.000	0.583	0.250	0.667	0.000	0.750	0.769
Buses	3	2	0	5	2	0	0	2	0	0	0	0	7
Buses %	75.0	15.4	0.0	29.4	15.4	0.0	0.0	14.3	0.0	0.0	0.0	0.0	17.5
Single-Unit Trucks	1	11	0	12	11	1	0	12	1	8	0	9	33
Single-Unit %	25.0	84.6	0.0	70.6	84.6	100.0	0.0	85.7	100.0	100.0	0.0	100.0	82.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	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
Buses	3	2	0	5	2	0	0	2	0	0	0	0	7
Single-Unit Trucks	1	11	0	12	11	1	0	12	1	8	0	9	33
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	4	13	0	17	13	1	0	14	1	8	0	9	40
Buses				2				2				3	7
Single-Unit Trucks				19				12				2	33
Articulated Trucks				0				0				0	0
Total Exiting Leg				21				14				5	40

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

2:15 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
2:15 PM	3	1	0	4	5	0	0	5	1	0	0	1	10
2:30 PM	2	2	0	4	0	0	0	0	0	2	0	2	6
2:45 PM	0	5	0	5	4	0	0	4	0	0	0	0	9
3:00 PM	4	3	0	7	5	0	0	5	0	1	0	1	13

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class:

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
Total Volume	9	11	0	20	14	0	0	14	1	3	0	4	38
% Approach Total	45.0	55.0	0.0		100.0	0.0	0.0		25.0	75.0	0.0		
PHF	0.563	0.550	0.000	0.714	0.700	0.000	0.000	0.700	0.250	0.375	0.000	0.500	0.731
Buses	2	2	0	4	3	0	0	3	0	0	0	0	7
Buses %	22.2	18.2	0.0	20.0	21.4	0.0	0.0	21.4	0.0	0.0	0.0	0.0	18.4
Single-Unit Trucks	7	9	0	16	10	0	0	10	1	3	0	4	30
Single-Unit %	77.8	81.8	0.0	80.0	71.4	0.0	0.0	71.4	100.0	100.0	0.0	100.0	78.9
Articulated Trucks	0	0	0	0	1	0	0	1	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	7.1	0.0	0.0	7.1	0.0	0.0	0.0	0.0	2.6
Buses	2	2	0	4	3	0	0	3	0	0	0	0	7
Single-Unit Trucks	7	9	0	16	10	0	0	10	1	3	0	4	30
Articulated Trucks	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Entering Leg	9	11	0	20	14	0	0	14	1	3	0	4	38
Buses				3				2				2	7
Single-Unit Trucks				13				10				7	30
Articulated Trucks				1				0				0	1
Total Exiting Leg				17				12				9	38

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class:

Cars

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	36	46	0	82	141	1	0	142	0	31	0	31	255
7:15 AM	33	53	0	86	133	4	0	137	3	61	0	64	287
7:30 AM	39	70	0	109	138	5	0	143	1	44	0	45	297
7:45 AM	45	64	0	109	140	0	0	140	6	41	0	47	296
Total	153	233	0	386	552	10	0	562	10	177	0	187	1135
8:00 AM	41	55	0	96	118	2	0	120	4	40	0	44	260
8:15 AM	42	69	0	111	167	4	0	171	2	44	0	46	328
8:30 AM	35	45	0	80	137	2	0	139	4	47	0	51	270
8:45 AM	35	55	0	90	120	3	0	123	2	46	0	48	261
Total	153	224	0	377	542	11	0	553	12	177	0	189	1119
9:00 AM	27	63	0	90	166	5	0	171	4	49	0	53	314
9:15 AM	31	65	0	96	93	6	0	99	4	63	1	68	263
9:30 AM	34	60	0	94	82	1	0	83	7	46	0	53	230
9:45 AM	40	45	0	85	93	5	0	98	1	62	1	64	247
Total	132	233	0	365	434	17	0	451	16	220	2	238	1054
10:00 AM	44	52	0	96	89	2	0	91	0	73	0	73	260
10:15 AM	25	68	0	93	54	1	0	55	4	85	0	89	237
10:30 AM	40	49	0	89	72	3	0	75	3	61	0	64	228
10:45 AM	30	47	0	77	63	3	0	66	7	43	0	50	193
Total	139	216	0	355	278	9	0	287	14	262	0	276	918
11:00 AM	35	58	0	93	49	0	0	49	11	69	0	80	222
11:15 AM	23	46	0	69	48	1	0	49	5	52	0	57	175
11:30 AM	28	63	0	91	48	5	0	53	9	45	0	54	198
11:45 AM	39	55	0	94	55	6	0	61	5	41	1	47	202
Total	125	222	0	347	200	12	0	212	30	207	1	238	797
12:00 PM	31	44	0	75	53	5	0	58	3	42	1	46	179
12:15 PM	30	60	0	90	51	6	0	57	7	33	0	40	187
12:30 PM	36	57	0	93	77	8	0	85	5	52	0	57	235
12:45 PM	36	65	0	101	56	8	0	64	10	39	0	49	214
Total	133	226	0	359	237	27	0	264	25	166	1	192	815
1:00 PM	47	55	0	102	55	5	0	60	4	28	0	32	194
1:15 PM	28	70	0	98	54	5	0	59	3	37	0	40	197
1:30 PM	43	50	0	93	60	4	0	64	6	57	0	63	220
1:45 PM	41	62	1	104	69	4	0	73	6	44	0	50	227
Total	159	237	1	397	238	18	0	256	19	166	0	185	838
2:00 PM	34	82	0	116	47	7	0	54	8	59	0	67	237
2:15 PM	40	75	0	115	79	9	0	88	6	64	0	70	273
2:30 PM	60	86	0	146	64	2	0	66	2	60	0	62	274
2:45 PM	62	87	0	149	75	11	0	86	10	49	0	59	294
Total	196	330	0	526	265	29	0	294	26	232	0	258	1078
3:00 PM	38	77	0	115	71	10	0	81	8	56	0	64	260
3:15 PM	55	80	1	136	115	7	0	122	6	67	0	73	331
3:30 PM	54	83	0	137	79	7	0	86	5	49	0	54	277
3:45 PM	74	100	0	174	79	9	0	88	6	71	0	77	339
Total	221	340	1	562	344	33	0	377	25	243	0	268	1207
4:00 PM	64	77	0	141	75	8	0	83	3	64	0	67	291
4:15 PM	64	83	0	147	78	15	0	93	5	78	1	84	324
4:30 PM	58	77	0	135	69	9	0	78	7	60	0	67	280
4:45 PM	66	100	0	166	80	11	0	91	4	52	0	56	313
Total	252	337	0	589	302	43	0	345	19	254	1	274	1208
5:00 PM	62	73	0	135	80	18	0	98	5	70	0	75	308
5:15 PM	58	85	0	143	83	23	0	106	6	61	1	68	317
5:30 PM	72	95	0	167	66	9	0	75	12	77	0	89	331
5:45 PM	71	101	0	172	98	19	0	117	7	70	0	77	366
Total	263	354	0	617	327	69	0	396	30	278	1	309	1322
Grand Total	1926	2952	2	4880	3719	278	0	3997	226	2382	6	2614	11491
Approach %	39.5	60.5	0.0		93.0	7.0	0.0		8.6	91.1	0.2		
Total %	16.8	25.7	0.0	42.5	32.4	2.4	0.0	34.8	2.0	20.7	0.1	22.7	
Exiting Leg Total				6103				3178				2210	11491

AM Peak Hour Analysis from 07:00 AM to 10:00 AM begins at:

7:30 AM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:30 AM	39	70	0	109	138	5	0	143	1	44	0	45	297

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Cars

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:45 AM	45	64	0	109	140	0	0	140	6	41	0	47	296
8:00 AM	41	55	0	96	118	2	0	120	4	40	0	44	260
8:15 AM	42	69	0	111	167	4	0	171	2	44	0	46	328
Total Volume	167	258	0	425	563	11	0	574	13	169	0	182	1181
% Approach Total	39.3	60.7	0.0		98.1	1.9	0.0		7.1	92.9	0.0		
PHF	0.928	0.921	0.000	0.957	0.843	0.550	0.000	0.839	0.542	0.960	0.000	0.968	0.900
Entering Leg	167	258	0	425	563	11	0	574	13	169	0	182	1181
Exiting Leg				732				271				178	1181
Total				1157				845				360	2362

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

1:45 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
1:45 PM	41	62	1	104	69	4	0	73	6	44	0	50	227
2:00 PM	34	82	0	116	47	7	0	54	8	59	0	67	237
2:15 PM	40	75	0	115	79	9	0	88	6	64	0	70	273
2:30 PM	60	86	0	146	64	2	0	66	2	60	0	62	274
Total Volume	175	305	1	481	259	22	0	281	22	227	0	249	1011
% Approach Total	36.4	63.4	0.2		92.2	7.8	0.0		8.8	91.2	0.0		
PHF	0.729	0.887	0.250	0.824	0.820	0.611	0.000	0.798	0.688	0.887	0.000	0.889	0.922
Entering Leg	175	305	1	481	259	22	0	281	22	227	0	249	1011
Exiting Leg				487				327				197	1011
Total				968				608				446	2022

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

5:00 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
5:00 PM	62	73	0	135	80	18	0	98	5	70	0	75	308
5:15 PM	58	85	0	143	83	23	0	106	6	61	1	68	317
5:30 PM	72	95	0	167	66	9	0	75	12	77	0	89	331
5:45 PM	71	101	0	172	98	19	0	117	7	70	0	77	366
Total Volume	263	354	0	617	327	69	0	396	30	278	1	309	1322
% Approach Total	42.6	57.4	0.0		82.6	17.4	0.0		9.7	90.0	0.3		
PHF	0.913	0.876	0.000	0.897	0.834	0.750	0.000	0.846	0.625	0.903	0.250	0.868	0.903
Entering Leg	263	354	0	617	327	69	0	396	30	278	1	309	1322
Exiting Leg				605				384				333	1322
Total				1222				780				642	2644

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Light Goods Vehicle

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	5	6	0	11	15	0	0	15	1	9	0	10	36
7:15 AM	4	5	0	9	25	2	0	27	0	6	0	6	42
7:30 AM	4	7	0	11	9	3	0	12	0	5	0	5	28
7:45 AM	5	2	0	7	11	0	0	11	0	4	0	4	22
Total	18	20	0	38	60	5	0	65	1	24	0	25	128
8:00 AM	3	5	0	8	13	1	0	14	0	12	0	12	34
8:15 AM	9	4	0	13	16	0	0	16	0	6	0	6	35
8:30 AM	5	7	0	12	17	0	0	17	1	4	0	5	34
8:45 AM	4	9	0	13	15	1	0	16	1	4	0	5	34
Total	21	25	0	46	61	2	0	63	2	26	0	28	137
9:00 AM	1	7	0	8	9	1	0	10	1	11	0	12	30
9:15 AM	5	6	0	11	17	1	0	18	0	6	0	6	35
9:30 AM	5	7	0	12	10	0	0	10	0	11	0	11	33
9:45 AM	6	4	0	10	14	0	0	14	2	8	0	10	34
Total	17	24	0	41	50	2	0	52	3	36	0	39	132
10:00 AM	6	14	0	20	10	1	0	11	1	14	0	15	46
10:15 AM	8	7	0	15	7	0	0	7	0	8	0	8	30
10:30 AM	2	7	0	9	2	0	0	2	0	7	0	7	18
10:45 AM	3	11	0	14	7	0	0	7	0	6	0	6	27
Total	19	39	0	58	26	1	0	27	1	35	0	36	121
11:00 AM	4	10	0	14	7	2	0	9	1	6	0	7	30
11:15 AM	3	11	0	14	7	0	0	7	0	7	0	7	28
11:30 AM	3	7	0	10	9	1	0	10	1	8	0	9	29
11:45 AM	5	9	0	14	10	1	0	11	2	10	0	12	37
Total	15	37	0	52	33	4	0	37	4	31	0	35	124
12:00 PM	8	16	0	24	6	0	0	6	0	5	0	5	35
12:15 PM	5	8	0	13	5	0	0	5	0	7	0	7	25
12:30 PM	3	7	0	10	11	1	0	12	0	4	0	4	26
12:45 PM	3	6	0	9	9	1	0	10	0	9	1	10	29
Total	19	37	0	56	31	2	0	33	0	25	1	26	115
1:00 PM	8	7	0	15	8	0	0	8	1	5	0	6	29
1:15 PM	8	8	0	16	7	3	0	10	1	6	0	7	33
1:30 PM	11	13	0	24	4	0	0	4	1	5	0	6	34
1:45 PM	2	6	0	8	10	2	0	12	1	4	0	5	25
Total	29	34	0	63	29	5	0	34	4	20	0	24	121
2:00 PM	7	21	0	28	8	1	0	9	0	5	0	5	42
2:15 PM	1	17	0	18	14	1	0	15	1	6	0	7	40
2:30 PM	7	12	0	19	9	0	0	9	0	1	0	1	29
2:45 PM	8	21	0	29	9	0	0	9	1	5	0	6	44
Total	23	71	0	94	40	2	0	42	2	17	0	19	155
3:00 PM	11	14	0	25	13	0	0	13	0	8	0	8	46
3:15 PM	8	13	0	21	9	0	0	9	1	5	0	6	36
3:30 PM	8	21	0	29	6	0	0	6	1	6	0	7	42
3:45 PM	5	11	0	16	11	3	0	14	0	3	0	3	33
Total	32	59	0	91	39	3	0	42	2	22	0	24	157
4:00 PM	6	13	0	19	7	0	0	7	0	11	0	11	37
4:15 PM	4	11	0	15	6	1	0	7	0	3	0	3	25
4:30 PM	7	9	0	16	4	1	0	5	0	8	0	8	29
4:45 PM	9	13	0	22	8	2	0	10	0	5	0	5	37
Total	26	46	0	72	25	4	0	29	0	27	0	27	128
5:00 PM	5	9	0	14	3	2	0	5	0	8	0	8	27
5:15 PM	6	14	0	20	10	3	0	13	1	7	0	8	41
5:30 PM	3	9	0	12	6	1	0	7	0	8	0	8	27
5:45 PM	4	7	0	11	6	1	0	7	0	3	0	3	21
Total	18	39	0	57	25	7	0	32	1	26	0	27	116
Grand Total	237	431	0	668	419	37	0	456	20	289	1	310	1434
Approach %	35.5	64.5	0.0		91.9	8.1	0.0		6.5	93.2	0.3		
Total %	16.5	30.1	0.0	46.6	29.2	2.6	0.0	31.8	1.4	20.2	0.1	21.6	
Exiting Leg Total				708				451				275	1434

AM Peak Hour Analysis from 07:00 AM to 10:00 AM begins at:

9:15 AM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
9:15 AM	5	6	0	11	17	1	0	18	0	6	0	6	35

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Light Goods Vehicle

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
9:30 AM	5	7	0	12	10	0	0	10	0	11	0	11	33
9:45 AM	6	4	0	10	14	0	0	14	2	8	0	10	34
10:00 AM	6	14	0	20	10	1	0	11	1	14	0	15	46
Total Volume	22	31	0	53	51	2	0	53	3	39	0	42	148
% Approach Total	41.5	58.5	0.0		96.2	3.8	0.0		7.1	92.9	0.0		
PHF	0.917	0.554	0.000	0.663	0.750	0.500	0.000	0.736	0.375	0.696	0.000	0.700	0.804
Entering Leg	22	31	0	53	51	2	0	53	3	39	0	42	148
Exiting Leg				90				34				24	148
Total				143				87				66	296

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

1:30 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
1:30 PM	11	13	0	24	4	0	0	4	1	5	0	6	34
1:45 PM	2	6	0	8	10	2	0	12	1	4	0	5	25
2:00 PM	7	21	0	28	8	1	0	9	0	5	0	5	42
2:15 PM	1	17	0	18	14	1	0	15	1	6	0	7	40
Total Volume	21	57	0	78	36	4	0	40	3	20	0	23	141
% Approach Total	26.9	73.1	0.0		90.0	10.0	0.0		13.0	87.0	0.0		
PHF	0.477	0.679	0.000	0.696	0.643	0.500	0.000	0.667	0.750	0.833	0.000	0.821	0.839
Entering Leg	21	57	0	78	36	4	0	40	3	20	0	23	141
Exiting Leg				56				60				25	141
Total				134				100				48	282

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

2:45 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
2:45 PM	8	21	0	29	9	0	0	9	1	5	0	6	44
3:00 PM	11	14	0	25	13	0	0	13	0	8	0	8	46
3:15 PM	8	13	0	21	9	0	0	9	1	5	0	6	36
3:30 PM	8	21	0	29	6	0	0	6	1	6	0	7	42
Total Volume	35	69	0	104	37	0	0	37	3	24	0	27	168
% Approach Total	33.7	66.3	0.0		100.0	0.0	0.0		11.1	88.9	0.0		
PHF	0.795	0.821	0.000	0.897	0.712	0.000	0.000	0.712	0.750	0.750	0.000	0.844	0.913
Entering Leg	35	69	0	104	37	0	0	37	3	24	0	27	168
Exiting Leg				61				72				35	168
Total				165				109				62	336

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class:

Buses

	Adams Street				Adams Street				Canton Avenue				
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	0	1	0	1	3	0	0	3	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	1	0	2	1	0	0	1	0	0	0	0	3
7:45 AM	0	0	0	0	1	0	0	1	0	1	0	1	2
Total	1	2	0	3	5	0	0	5	0	1	0	1	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	3	0	4	0	0	0	0	1	0	0	1	5
8:30 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
8:45 AM	1	1	0	2	0	0	0	0	0	0	0	0	2
Total	2	4	0	6	2	0	0	2	1	0	0	1	9
9:00 AM	0	1	0	1	3	0	0	3	0	0	0	0	4
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
9:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	2
9:45 AM	0	2	0	2	1	0	0	1	0	0	0	0	3
Total	0	3	0	3	4	0	0	4	0	3	0	3	10
10:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	2
10:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
10:30 AM	0	2	0	2	0	0	0	0	0	0	0	0	2
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	0	4	0	0	0	0	0	1	0	1	5
11:00 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	0	2	0	1	0	1	3
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
12:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
12:45 PM	1	0	0	1	1	0	0	1	0	0	0	0	2
Total	1	1	0	2	1	0	0	1	0	1	0	1	4
1:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
1:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	2
1:30 PM	1	0	0	1	1	0	0	1	0	0	0	0	2
1:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	2	2	0	4	1	0	0	1	0	1	0	1	6
2:00 PM	1	0	0	1	2	0	0	2	0	0	0	0	3
2:15 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	2
Total	1	2	0	3	4	0	0	4	0	0	0	0	7
3:00 PM	2	0	0	2	1	0	0	1	0	0	0	0	3
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	1	0	0	1	0	1	0	1	2
Total	2	1	0	3	2	0	0	2	0	1	0	1	6
4:00 PM	0	2	0	2	1	0	0	1	0	0	0	0	3
4:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	3	0	3	2	0	0	2	0	1	0	1	6
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	1	0	0	1	1	0	0	1	0	0	0	0	2
5:30 PM	1	0	0	1	2	0	0	2	0	1	0	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	2	3	0	0	3	0	2	0	2	7
Grand Total	11	22	0	33	26	0	0	26	1	12	0	13	72
Approach %	33.3	66.7	0.0		100.0	0.0	0.0		7.7	92.3	0.0		
Total %	15.3	30.6	0.0	45.8	36.1	0.0	0.0	36.1	1.4	16.7	0.0	18.1	
Exiting Leg Total				38				23				11	72

AM Peak Hour Analysis from 07:00 AM to 10:00 AM begins at:

8:15 AM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Buses

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
8:15 AM	1	3	0	4	0	0	0	0	1	0	0	1	5
8:30 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
8:45 AM	1	1	0	2	0	0	0	0	0	0	0	0	2
9:00 AM	0	1	0	1	3	0	0	3	0	0	0	0	4
Total Volume	2	5	0	7	5	0	0	5	1	0	0	1	13
% Approach Total	28.6	71.4	0.0		100.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.500	0.417	0.000	0.438	0.417	0.000	0.000	0.417	0.250	0.000	0.000	0.250	0.650
Entering Leg	2	5	0	7	5	0	0	5	1	0	0	1	13
Exiting Leg				5				6				2	13
Total				12				11				3	26

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

1:15 PM	Adams Street				Adams Street				Canton Avenue				Total	
	from North				from South				from West					
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total		
1:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	2
1:30 PM	1	0	0	1	1	0	0	1	0	0	0	0	0	2
1:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	1
2:00 PM	1	0	0	1	2	0	0	2	0	0	0	0	0	3
Total Volume	2	2	0	4	3	0	0	3	0	1	0	1	1	8
% Approach Total	50.0	50.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0			
PHF	0.500	0.250	0.000	0.500	0.375	0.000	0.000	0.375	0.000	0.250	0.000	0.250		0.667
Entering Leg	2	2	0	4	3	0	0	3	0	1	0	1		8
Exiting Leg				4				2				2		8
Total				8				5				3		16

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

4:45 PM	Adams Street				Adams Street				Canton Avenue				Total	
	from North				from South				from West					
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total		
4:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	1	0	0	1	1	0	0	1	0	0	0	0	0	2
5:30 PM	1	0	0	1	2	0	0	2	0	1	0	1	4	
Total Volume	2	1	0	3	3	0	0	3	0	2	0	2	8	
% Approach Total	66.7	33.3	0.0		100.0	0.0	0.0		0.0	100.0	0.0			
PHF	0.500	0.250	0.000	0.750	0.375	0.000	0.000	0.375	0.000	0.500	0.000	0.500	0.500	
Entering Leg	2	1	0	3	3	0	0	3	0	2	0	2	8	
Exiting Leg				5				1				2	8	
Total				8				4				4	16	

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class:

Single-Unit Trucks

	Adams Street				Adams Street				Canton Avenue				Total	
	from North				from South				from West					
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total		
7:00 AM	1	0	0	1	3	0	0	3	0	2	0	2	6	
7:15 AM	0	2	0	2	1	1	0	2	0	1	0	1	5	
7:30 AM	0	0	0	0	3	0	0	3	0	3	0	3	6	
7:45 AM	0	1	0	1	1	0	0	1	0	1	0	1	3	
Total	1	3	0	4	8	1	0	9	0	7	0	7	20	
8:00 AM	2	0	0	2	4	0	0	4	0	3	0	3	9	
8:15 AM	0	3	0	3	2	0	0	2	1	3	0	4	9	
8:30 AM	1	3	0	4	7	0	0	7	0	0	0	0	11	
8:45 AM	1	2	0	3	5	0	0	5	0	2	0	2	10	
Total	4	8	0	12	18	0	0	18	1	8	0	9	39	
9:00 AM	4	5	0	9	2	0	0	2	0	0	0	0	11	
9:15 AM	1	0	0	1	1	0	0	1	0	1	0	1	3	
9:30 AM	1	3	0	4	0	0	0	0	0	3	0	3	7	
9:45 AM	1	3	0	4	5	1	0	6	0	2	0	2	12	
Total	7	11	0	18	8	1	0	9	0	6	0	6	33	
10:00 AM	0	1	0	1	2	0	0	2	0	4	0	4	7	
10:15 AM	2	4	0	6	1	0	0	1	0	3	0	3	10	
10:30 AM	0	3	0	3	2	0	0	2	0	3	0	3	8	
10:45 AM	2	2	0	4	0	0	0	0	1	2	0	3	7	
Total	4	10	0	14	5	0	0	5	1	12	0	13	32	
11:00 AM	1	2	0	3	1	0	0	1	0	3	0	3	7	
11:15 AM	1	0	0	1	2	0	0	2	0	2	0	2	5	
11:30 AM	0	2	0	2	3	0	0	3	0	1	0	1	6	
11:45 AM	0	1	0	1	3	0	0	3	0	0	0	0	4	
Total	2	5	0	7	9	0	0	9	0	6	0	6	22	
12:00 PM	1	0	0	1	1	0	0	1	1	1	1	3	5	
12:15 PM	1	1	0	2	2	0	0	2	1	0	0	1	5	
12:30 PM	0	1	0	1	1	0	0	1	1	0	0	1	3	
12:45 PM	1	3	0	4	5	0	0	5	0	2	0	2	11	
Total	3	5	0	8	9	0	0	9	3	3	1	7	24	
1:00 PM	0	5	0	5	1	0	0	1	0	1	0	1	7	
1:15 PM	0	0	0	0	1	0	0	1	1	2	0	3	4	
1:30 PM	0	3	0	3	4	1	0	5	0	3	0	3	11	
1:45 PM	1	5	0	6	2	0	0	2	0	0	0	0	8	
Total	1	13	0	14	8	1	0	9	1	6	0	7	30	
2:00 PM	0	2	0	2	0	0	0	0	0	0	0	0	2	
2:15 PM	3	1	0	4	3	0	0	3	1	0	0	1	8	
2:30 PM	2	2	0	4	0	0	0	0	0	2	0	2	6	
2:45 PM	0	3	0	3	3	0	0	3	0	0	0	0	6	
Total	5	8	0	13	6	0	0	6	1	2	0	3	22	
3:00 PM	2	3	0	5	4	0	0	4	0	1	0	1	10	
3:15 PM	3	1	0	4	0	0	0	0	1	2	0	3	7	
3:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	2	
3:45 PM	0	0	0	0	1	0	0	1	0	1	0	1	2	
Total	5	6	0	11	5	0	0	5	1	4	0	5	21	
4:00 PM	0	1	0	1	1	0	0	1	0	1	0	1	3	
4:15 PM	3	0	0	3	0	0	0	0	0	0	0	0	3	
4:30 PM	1	0	0	1	1	0	0	1	0	0	0	0	2	
4:45 PM	2	0	0	2	0	0	0	0	0	0	0	0	2	
Total	6	1	0	7	2	0	0	2	0	1	0	1	10	
5:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1	
5:15 PM	0	0	0	0	0	1	0	1	0	1	0	1	2	
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1	
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1	
Total	0	0	0	0	1	2	0	3	1	1	0	2	5	
Grand Total	38	70	0	108	79	5	0	84	9	56	1	66	258	
Approach %	35.2	64.8	0.0		94.0	6.0	0.0		13.6	84.8	1.5			
Total %	14.7	27.1	0.0	41.9	30.6	1.9	0.0	32.6	3.5	21.7	0.4	25.6		
Exiting Leg Total				135				79				44	258	

AM Peak Hour Analysis from 07:00 AM to 10:00 AM begins at:

8:15 AM

Adams Street				Adams Street				Canton Avenue				Total
from North				from South				from West				
Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
8:15 AM	0	3	0	3	2	0	0	2	1	3	0	4	9
8:30 AM	1	3	0	4	7	0	0	7	0	0	0	0	11
8:45 AM	1	2	0	3	5	0	0	5	0	2	0	2	10
9:00 AM	4	5	0	9	2	0	0	2	0	0	0	0	11
Total Volume	6	13	0	19	16	0	0	16	1	5	0	6	41
% Approach Total	31.6	68.4	0.0		100.0	0.0	0.0		16.7	83.3	0.0		
PHF	0.375	0.650	0.000	0.528	0.571	0.000	0.000	0.571	0.250	0.417	0.000	0.375	0.932
Entering Leg	6	13	0	19	16	0	0	16	1	5	0	6	41
Exiting Leg				21				14				6	41
Total				40				30				12	82

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

12:45 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
12:45 PM	1	3	0	4	5	0	0	5	0	2	0	2	11
1:00 PM	0	5	0	5	1	0	0	1	0	1	0	1	7
1:15 PM	0	0	0	0	1	0	0	1	1	2	0	3	4
1:30 PM	0	3	0	3	4	1	0	5	0	3	0	3	11
Total Volume	1	11	0	12	11	1	0	12	1	8	0	9	33
% Approach Total	8.3	91.7	0.0		91.7	8.3	0.0		11.1	88.9	0.0		
PHF	0.250	0.550	0.000	0.600	0.550	0.250	0.000	0.600	0.250	0.667	0.000	0.750	0.750
Entering Leg	1	11	0	12	11	1	0	12	1	8	0	9	33
Exiting Leg				19				12				2	33
Total				31				24				11	66

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

2:15 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
2:15 PM	3	1	0	4	3	0	0	3	1	0	0	1	8
2:30 PM	2	2	0	4	0	0	0	0	0	2	0	2	6
2:45 PM	0	3	0	3	3	0	0	3	0	0	0	0	6
3:00 PM	2	3	0	5	4	0	0	4	0	1	0	1	10
Total Volume	7	9	0	16	10	0	0	10	1	3	0	4	30
% Approach Total	43.8	56.3	0.0		100.0	0.0	0.0		25.0	75.0	0.0		
PHF	0.583	0.750	0.000	0.800	0.625	0.000	0.000	0.625	0.250	0.375	0.000	0.500	0.750
Entering Leg	7	9	0	16	10	0	0	10	1	3	0	4	30
Exiting Leg				13				10				7	30
Total				29				20				11	60

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class:

Articulated Trucks

	Adams Street				Adams Street				Canton Avenue				
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	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	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	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	0
10:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	1	0	1	1
2:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	1	0	0	1	1	0	0	1	0	0	0	0	2
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
4:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	1	1	0	2	1	0	0	1	0	1	0	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	2	0	2	0	0	0	0	0	1	0	1	3
Grand Total	2	3	0	5	5	0	0	5	1	4	0	5	15
Approach %	40.0	60.0	0.0		100.0	0.0	0.0		20.0	80.0	0.0		
Total %	13.3	20.0	0.0	33.3	33.3	0.0	0.0	33.3	6.7	26.7	0.0	33.3	
Exiting Leg Total	9				4				2				15

AM Peak Hour Analysis from 07:00 AM to 10:00 AM begins at:

8:00 AM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	0	0	0	1	0	0	1	0	0	0	0	1
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	1	0	0	1	0	0	0	0	1
Exiting Leg				1				0				0	1
Total				1				1				0	2

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

11:15 AM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	0	0	0	0	1	1	0	2
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0			50.0	50.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.250	0.250	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0		1	1	0	2
Exiting Leg				1				1					0
Total				1				1					2
													4

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street				Adams Street				Canton Avenue				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	1	1	0	2	1	0	0	1	0	1	0	1	4
% Approach Total	50.0	50.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.250	0.250	0.000	0.500	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.250	1.000
Entering Leg	1	1	0	2	1	0	0	1	0	1	0	1	4
Exiting Leg				2				1				1	4
Total				4				2				2	8

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Adams Street						Adams Street						Canton Avenue						Total
	from North						from South						from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	0	0	0	0	0	1	0	0	0	0	1	0	2	0	0	0	2	3
% Approach Total	0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.500	0.750
Entering Leg	0	0	0	0	0	0	1	0	0	0	0	1	0	2	0	0	0	2	3
Exiting Leg						3						0						0	3
Total						3						1						2	6

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

10:00 AM	Adams Street						Adams Street						Canton Avenue						Total
	from North						from South						from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
Exiting Leg						1						0						0	1
Total						1						1						0	2

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

4:45 PM	Adams Street						Adams Street						Canton Avenue						Total	
	from North						from South						from West							
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total		
4:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1
5:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	2
Total Volume	1	2	0	0	0	3	2	0	0	0	0	0	2	0	0	0	0	0	0	5
% Approach Total	33.3	66.7	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.500	0.000	0.000	0.000	0.750	0.500	0.000	0.000	0.000	0.000	0.500		0.000	0.000	0.000	0.000	0.000	0.000	0.625
Entering Leg	1	2	0	0	0	3	2	0	0	0	0	2	0	0	0	0	0	0	0	5
Exiting Leg						2						2							1	5
Total						5						4							1	10

PDI File #: **186210 A (east)**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Canton Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Pedestrians

	Adams Street						Adams Street						Canton Avenue						Total	
	from North						from South						from West							
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-WB	CW-SB	Total		
7:45 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Total Volume	0	0	0	25	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	25
% Approach Total	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.313	0.000	0.313	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.313
Entering Leg	0	0	0	25	0	25	0	0	0	0	0	0		0	0	0	0	0	0	25
Exiting Leg						25						0							0	25
Total						50						0							0	50

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

11:00 AM	Adams Street						Adams Street						Canton Avenue						Total	
	from North						from South						from West							
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total		
11:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
% Approach Total	0.0	0.0	0.0	25.0	75.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.250	0.250	0.333	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.333
Entering Leg	0	0	0	1	3	4	0	0	0	0	0	0		0	0	0	0	0	0	4
Exiting Leg						4						0							0	4
Total						8						0							0	8

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

5:00 PM	Adams Street						Adams Street						Canton Avenue						Total	
	from North						from South						from West							
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total		
5:00 PM	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2	
5:30 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:45 PM	0	0	0	1	1	2	0	0	0	1	0	1	0	0	0	0	0	0	3	
Total Volume	0	0	0	2	5	7	0	0	0	1	1	2	0	0	0	0	1	1	10	
% Approach Total	0.0	0.0	0.0	28.6	71.4		0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	100.0			
PHF	0.000	0.000	0.000	0.500	0.417	0.438	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.000	0.250	0.250	0.625	
Entering Leg	0	0	0	2	5	7	0	0	0	1	1	2	0	0	0	0	1	1	10	
Exiting Leg						7						2						1	10	
Total						14						4						2	20	

PDI File #: **186210 A (west)**
 Location: **NW: High Street**
 Location: **E: Canton Avenue W: Canton Avenue SW: Randolph Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
10:00 AM	0	20	34	0	54	75	0	0	0	75	0	13	0	0	13	0	1	1	0	2	144
10:15 AM	0	14	25	0	39	79	0	1	0	80	1	14	0	0	15	3	1	3	0	7	141
10:30 AM	0	11	34	0	45	60	0	0	0	60	0	17	0	0	17	3	2	1	0	6	128
Total Volume	0	62	127	1	190	268	0	2	0	270	1	60	0	0	61	7	7	5	0	19	540
% Approach Total	0.0	32.6	66.8	0.5		99.3	0.0	0.7	0.0		1.6	98.4	0.0	0.0		36.8	36.8	26.3	0.0		
PHF	0.000	0.775	0.934	0.250	0.880	0.848	0.000	0.500	0.000	0.844	0.250	0.882	0.000	0.000	0.897	0.583	0.583	0.417	0.000	0.679	0.938
Entering Leg	0	62	127	1	190	268	0	2	0	270	1	60	0	0	61	7	7	5	0	19	540
Exiting Leg					334					135					71					0	540
Total					524					405					132					19	1080

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

1:45 PM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
1:45 PM	0	13	36	0	49	43	0	0	0	43	1	10	0	0	11	2	1	2	0	5	108
2:00 PM	0	19	31	0	50	54	0	2	0	56	1	17	0	0	18	4	1	2	0	7	131
2:15 PM	0	18	32	0	50	64	0	0	0	64	1	13	0	0	14	5	2	0	0	7	135
2:30 PM	0	18	52	1	71	48	0	0	0	48	0	13	0	0	13	4	2	3	0	9	141
Total Volume	0	68	151	1	220	209	0	2	0	211	3	53	0	0	56	15	6	7	0	28	515
% Approach Total	0.0	30.9	68.6	0.5		99.1	0.0	0.9	0.0		5.4	94.6	0.0	0.0		53.6	21.4	25.0	0.0		
PHF	0.000	0.895	0.726	0.250	0.775	0.816	0.000	0.250	0.000	0.824	0.750	0.779	0.000	0.000	0.778	0.750	0.750	0.583	0.000	0.778	0.913
Entering Leg	0	68	151	1	220	209	0	2	0	211	3	53	0	0	56	15	6	7	0	28	515
Exiting Leg					270					160					85					0	515
Total					490					371					141					28	1030

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

5:00 PM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
5:00 PM	0	39	47	0	86	66	0	1	0	67	2	12	0	0	14	3	3	4	0	10	177
5:15 PM	0	44	43	1	88	60	0	0	0	60	1	15	0	0	16	3	3	1	0	7	171
5:30 PM	0	20	67	0	87	64	0	1	0	65	1	30	0	0	31	4	3	1	0	8	191
5:45 PM	0	36	62	0	98	65	0	3	0	68	1	10	0	0	11	3	1	5	0	9	186
Total Volume	0	139	219	1	359	255	0	5	0	260	5	67	0	0	72	13	10	11	0	34	725
% Approach Total	0.0	38.7	61.0	0.3		98.1	0.0	1.9	0.0		6.9	93.1	0.0	0.0		38.2	29.4	32.4	0.0		
PHF	0.000	0.790	0.817	0.250	0.916	0.966	0.000	0.417	0.000	0.956	0.625	0.558	0.000	0.000	0.581	0.813	0.833	0.550	0.000	0.850	0.949
Entering Leg	0	139	219	1	359	255	0	5	0	260	5	67	0	0	72	13	10	11	0	34	725
Exiting Leg					334					234					157					0	725
Total					693					494					229					34	1450

PDI File #: **186210 A (west)**
 Location: **NW: High Street**
 Location: **E: Canton Avenue W: Canton Avenue SW: Randolph Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
Total Volume	0	0	8	0	8	5	0	1	0	6	0	0	0	0	0	1	0	1	0	2	16
% Approach Total	0.0	0.0	100.0	0.0		83.3	0.0	16.7	0.0		0.0	0.0	0.0	0.0		50.0	0.0	50.0	0.0		
PHF	0.000	0.000	0.667	0.000	0.667	0.625	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.667
Buses	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Buses %	0.0	0.0	12.5	0.0	12.5	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	6.3
Single-Unit Trucks	0	0	7	0	7	5	0	1	0	6	0	0	0	0	0	1	0	1	0	2	15
Single-Unit %	0.0	0.0	87.5	0.0	87.5	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	93.8
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	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
Buses	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Single-Unit Trucks	0	0	7	0	7	5	0	1	0	6	0	0	0	0	0	1	0	1	0	2	15
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	8	0	8	5	0	1	0	6	0	0	0	0	0	1	0	1	0	2	16
Buses					0					1					0					0	1
Single-Unit Trucks					6					7					2					0	15
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					6					8					2					0	16

PDI File #: **186210 A (west)**
 Location: **NW: High Street**
 Location: **E: Canton Avenue W: Canton Avenue SW: Randolph Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Cars

	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
10:00 AM	0	17	30	0	47	63	0	0	0	63	0	10	0	0	10	0	1	1	0	2	122
10:15 AM	0	12	21	0	33	72	0	0	0	72	1	12	0	0	13	3	1	3	0	7	125
10:30 AM	0	11	32	0	43	55	0	0	0	55	0	15	0	0	15	3	1	1	0	5	118
Total Volume	0	55	116	1	172	237	0	0	0	237	1	50	0	0	51	7	6	5	0	18	478
% Approach Total	0.0	32.0	67.4	0.6		100.0	0.0	0.0	0.0		2.0	98.0	0.0	0.0		38.9	33.3	27.8	0.0		
PHF	0.000	0.809	0.879	0.250	0.878	0.823	0.000	0.000	0.000	0.823	0.250	0.833	0.000	0.000	0.850	0.583	0.500	0.417	0.000	0.643	0.956
Entering Leg	0	55	116	1	172	237	0	0	0	237	1	50	0	0	51	7	6	5	0	18	478
Exiting Leg					293					123					62					0	478
Total					465					360					113					18	956

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

1:45 PM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
1:45 PM	0	12	34	0	46	40	0	0	0	40	1	9	0	0	10	2	1	2	0	5	101
2:00 PM	0	17	25	0	42	50	0	2	0	52	1	17	0	0	18	4	1	2	0	7	119
2:15 PM	0	17	31	0	48	57	0	0	0	57	1	12	0	0	13	5	2	0	0	7	125
2:30 PM	0	17	44	1	62	46	0	0	0	46	0	13	0	0	13	4	2	3	0	9	130
Total Volume	0	63	134	1	198	193	0	2	0	195	3	51	0	0	54	15	6	7	0	28	475
% Approach Total	0.0	31.8	67.7	0.5		99.0	0.0	1.0	0.0		5.6	94.4	0.0	0.0		53.6	21.4	25.0	0.0		
PHF	0.000	0.926	0.761	0.250	0.798	0.846	0.000	0.250	0.000	0.855	0.750	0.750	0.000	0.000	0.750	0.750	0.750	0.583	0.000	0.778	0.913
Entering Leg	0	63	134	1	198	193	0	2	0	195	3	51	0	0	54	15	6	7	0	28	475
Exiting Leg					252					143					80					0	475
Total					450					338					134					28	950

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

5:00 PM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
5:00 PM	0	37	43	0	80	58	0	1	0	59	2	12	0	0	14	3	3	4	0	10	163
5:15 PM	0	40	39	1	80	54	0	0	0	54	1	13	0	0	14	3	3	1	0	7	155
5:30 PM	0	19	64	0	83	62	0	1	0	63	1	24	0	0	25	4	3	1	0	8	179
5:45 PM	0	33	56	0	89	61	0	3	0	64	1	10	0	0	11	3	1	4	0	8	172
Total Volume	0	129	202	1	332	235	0	5	0	240	5	59	0	0	64	13	10	10	0	33	669
% Approach Total	0.0	38.9	60.8	0.3		97.9	0.0	2.1	0.0		7.8	92.2	0.0	0.0		39.4	30.3	30.3	0.0		
PHF	0.000	0.806	0.789	0.250	0.933	0.948	0.000	0.417	0.000	0.938	0.625	0.615	0.000	0.000	0.640	0.813	0.833	0.625	0.000	0.825	0.934
Entering Leg	0	129	202	1	332	235	0	5	0	240	5	59	0	0	64	13	10	10	0	33	669
Exiting Leg					305					217					147					0	669
Total					637					457					211					33	1338

PDI File #: **186210 A (west)**
 Location: **NW: High Street**
 Location: **E: Canton Avenue W: Canton Avenue SW: Randolph Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Light Goods Vehicle

	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
9:45 AM	0	2	1	0	3	7	0	1	0	8	0	3	0	0	3	0	0	0	0	0	14
10:00 AM	0	3	4	0	7	12	0	0	0	12	0	3	0	0	3	0	0	0	0	0	22
10:15 AM	0	2	4	0	6	7	0	1	0	8	0	2	0	0	2	0	0	0	0	0	16
Total Volume	0	9	12	0	21	30	0	2	0	32	0	12	0	0	12	1	0	1	0	2	67
% Approach Total	0.0	42.9	57.1	0.0		93.8	0.0	6.3	0.0		0.0	100.0	0.0	0.0		50.0	0.0	50.0	0.0		
PHF	0.000	0.750	0.750	0.000	0.750	0.625	0.000	0.500	0.000	0.667	0.000	0.750	0.000	0.000	0.750	0.250	0.000	0.250	0.000	0.250	0.761
Entering Leg	0	9	12	0	21	30	0	2	0	32	0	12	0	0	12	1	0	1	0	2	67
Exiting Leg					43					12					12					0	67
Total					64					44					24					2	134

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

10:00 AM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
10:00 AM	0	3	4	0	7	12	0	0	0	12	0	3	0	0	3	0	0	0	0	0	22
10:15 AM	0	2	4	0	6	7	0	1	0	8	0	2	0	0	2	0	0	0	0	0	16
10:30 AM	0	0	2	0	2	5	0	0	0	5	0	2	0	0	2	0	1	0	0	1	10
10:45 AM	0	3	0	0	3	6	0	0	0	6	0	2	0	0	2	0	0	0	0	0	11
Total Volume	0	8	10	0	18	30	0	1	0	31	0	9	0	0	9	0	1	0	0	1	59
% Approach Total	0.0	44.4	55.6	0.0		96.8	0.0	3.2	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.667	0.625	0.000	0.643	0.625	0.000	0.250	0.000	0.646	0.000	0.750	0.000	0.000	0.750	0.000	0.250	0.000	0.000	0.250	0.670
Entering Leg	0	8	10	0	18	30	0	1	0	31	0	9	0	0	9	0	1	0	0	1	59
Exiting Leg					39					11					9					0	59
Total					57					42					18					1	118

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

2:45 PM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
2:45 PM	0	1	7	0	8	2	0	0	0	2	0	2	0	0	2	0	1	0	0	1	13
3:00 PM	0	2	10	0	12	8	0	0	0	8	0	0	0	0	0	1	0	1	0	2	22
3:15 PM	0	1	8	0	9	3	0	0	0	3	0	3	0	0	3	0	0	0	0	0	15
3:30 PM	0	3	6	0	9	6	0	0	0	6	0	0	0	0	0	0	0	1	0	1	16
Total Volume	0	7	31	0	38	19	0	0	0	19	0	5	0	0	5	1	1	2	0	4	66
% Approach Total	0.0	18.4	81.6	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		25.0	25.0	50.0	0.0		
PHF	0.000	0.583	0.775	0.000	0.792	0.594	0.000	0.000	0.000	0.594	0.000	0.417	0.000	0.000	0.417	0.250	0.250	0.500	0.000	0.500	0.750
Entering Leg	0	7	31	0	38	19	0	0	0	19	0	5	0	0	5	1	1	2	0	4	66
Exiting Leg					26					32					8					0	66
Total					64					51					13					4	132

PDI File #: **186210 A (west)**
 Location: **NW: High Street**
 Location: **E: Canton Avenue W: Canton Avenue SW: Randolph Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**



Class:

Buses

	Canton Avenue					Randolph Avenue					Canton Avenue					High Street						
	from East					from Southwest					from West					from Northwest						
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total		Total
8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	1	0	1	1	3
Total Volume	0	0	1	0	1	2	0	0	0	2	0	1	0	0	1	0	0	1	0	1	1	5
% Approach Total	0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0			
PHF	0.000	0.000	0.250	0.000	0.250	0.500	0.000	0.000	0.000	0.500	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.250		0.417
Entering Leg	0	0	1	0	1	2	0	0	0	2	0	1	0	0	1	0	0	1	0	1	5	
Exiting Leg					4					1					0					0	5	
Total					5					3					1					1	10	

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

11:30 AM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
Exiting Leg					2					0					0					0	2
Total					2					1					1					0	4

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

4:45 PM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
4:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	1	0	0	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Total Volume	0	1	1	0	2	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	5
% Approach Total	0.0	50.0	50.0	0.0		50.0	0.0	50.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.250	0.000	0.500	0.250	0.000	0.250	0.000	0.500	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.625
Entering Leg	0	1	1	0	2	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	5
Exiting Leg					2					1					2					0	5
Total					4					3					3					0	10

PDI File #: **186210 A (west)**
 Location: **NW: High Street**
 Location: **E: Canton Avenue W: Canton Avenue SW: Randolph Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Canton Avenue					Randolph Avenue					Canton Avenue					High Street						
	from East					from Southwest					from West					from Northwest						
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total		Total
9:30 AM	0	0	1	0	1	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	5
9:45 AM	0	1	1	0	2	1	0	0	0	1	1	1	0	0	2	0	0	0	0	0	0	5
10:00 AM	0	0	0	0	0	2	0	0	0	2	0	2	0	0	2	1	1	0	0	2	6	
10:15 AM	0	1	1	0	2	3	0	0	0	3	1	0	0	0	1	0	0	1	0	1	7	
Total Volume	0	2	3	0	5	10	0	0	0	10	2	3	0	0	5	1	1	1	0	3	23	
% Approach Total	0.0	40.0	60.0	0.0		100.0	0.0	0.0	0.0		40.0	60.0	0.0	0.0		33.3	33.3	33.3	0.0			
PHF	0.000	0.500	0.750	0.000	0.625	0.625	0.000	0.000	0.000	0.625	0.500	0.375	0.000	0.000	0.625	0.250	0.250	0.250	0.000	0.375	0.821	
Entering Leg	0	2	3	0	5	10	0	0	0	10	2	3	0	0	5	1	1	1	0	3	23	
Exiting Leg					14					6					3					0	23	
Total					19					16					8					3	46	

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

10:00 AM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total	
	from East					from Southwest					from West					from Northwest						
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total		
10:00 AM	0	0	0	0	0	2	2	0	0	0	2	0	2	0	0	2	1	1	0	0	2	6
10:15 AM	0	1	1	0	2	3	3	0	0	0	3	1	0	0	0	1	0	0	1	0	1	7
10:30 AM	0	0	0	0	0	3	3	0	0	0	3	0	0	0	0	0	1	0	0	0	1	4
10:45 AM	0	0	2	0	2	2	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	5
Total Volume	0	1	3	0	4	10	10	0	0	0	10	1	2	0	0	3	3	1	1	0	5	22
% Approach Total	0.0	25.0	75.0	0.0		100.0	0.0	0.0	0.0			33.3	66.7	0.0	0.0		60.0	20.0	20.0	0.0		
PHF	0.000	0.250	0.375	0.000	0.500	0.833	0.000	0.000	0.000	0.833	0.250	0.250	0.000	0.000	0.375	0.750	0.250	0.250	0.000	0.625	0.786	
Entering Leg	0	1	3	0	4	10	0	0	0	10	1	2	0	0	3	3	1	1	0	5	22	
Exiting Leg					13					5					4					0	22	
Total					17					15					7					5	44	

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

2:30 PM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
2:30 PM	0	0	2	0	2	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	5
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
3:00 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
3:15 PM	0	0	3	0	3	2	0	0	0	2	0	0	0	0	0	0	0	1	0	1	6
Total Volume	0	0	7	0	7	5	0	1	0	6	0	0	0	0	0	1	0	1	0	2	15
% Approach Total	0.0	0.0	100.0	0.0		83.3	0.0	16.7	0.0		0.0	0.0	0.0	0.0		50.0	0.0	50.0	0.0		
PHF	0.000	0.000	0.583	0.000	0.583	0.625	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.625
Entering Leg	0	0	7	0	7	5	0	1	0	6	0	0	0	0	0	1	0	1	0	2	15
Exiting Leg					6					7					2					0	15
Total					13					13					2					2	30

PDI File #: **186210 A (west)**
 Location: **NW: High Street**
 Location: **E: Canton Avenue W: Canton Avenue SW: Randolph Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	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		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

10:45 AM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0	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	
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg					1					0					0					0	1
Total					1					1					0					0	2

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

3:45 PM	Canton Avenue					Randolph Avenue					Canton Avenue					High Street					Total
	from East					from Southwest					from West					from Northwest					
	Bear Right	Thru	Bear Left	U-Turn	Total	Bear Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Hard Left	U-Turn	Total	Hard Right	Right	Bear Left	U-Turn	Total	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg					1					1					0					0	2
Total					2					2					0					0	4

PDI File #: **186210 A (west)**
 Location: **NW: High Street**
 Location: **E: Canton Avenue W: Canton Avenue SW: Randolph Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Canton Avenue							Randolph Avenue							Canton Avenue							High Street							Total
	from East							from Southwest							from West							from Northwest							
	Bear Right	Thru	Bear Left	U-Turn	CW-SB	CW-NB	Total	Bear Right	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Thru	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Right	Bear Left	U-Turn	CW-NEB	CW-SWB	Total	
7:15 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	0	0	0	0	0
7:30 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	0	0	0	0	0
7:45 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	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	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
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							1							0														0	1
Total							1							1														0	2

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

12:30 PM	Canton Avenue							Randolph Avenue							Canton Avenue							High Street							Total
	from East							from Southwest							from West							from Northwest							
	Bear Right	Thru	Bear Left	U-Turn	CW-SB	CW-NB	Total	Bear Right	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Thru	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Right	Bear Left	U-Turn	CW-NEB	CW-SWB	Total	
12:30 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	
12:45 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	
1:00 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	
1:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total Volume	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	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	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	
Entering Leg	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Exiting Leg							1							0													0	1	
Total							1							1													0	2	

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

3:00 PM	Canton Avenue							Randolph Avenue							Canton Avenue							High Street							Total
	from East							from Southwest							from West							from Northwest							
	Bear Right	Thru	Bear Left	U-Turn	CW-SB	CW-NB	Total	Bear Right	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Thru	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Right	Bear Left	U-Turn	CW-NEB	CW-SWB	Total	
3:00 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
3:15 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	1	0	1	1
3:30 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
3:45 PM	0	2	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	2
Total Volume	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
% Approach Total	0.0	100.0	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	0.0	100.0	0.0	0.0	0.0	0.0
PHF	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.375
Entering Leg	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Exiting Leg							0							0														1	3
Total							2							0														2	6

PDI File #: **186210 A (west)**
 Location: **NW: High Street**
 Location: **E: Canton Avenue W: Canton Avenue SW: Randolph Avenue**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **6:00 PM**
 Class:



Pedestrians

	Canton Avenue							Randolph Avenue							Canton Avenue							High Street							Total
	from East							from Southwest							from West							from Northwest							
	Bear Right	Thru	Bear Left	U-Turn	CW-SB	CW-NB	Total	Bear Right	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Thru	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Right	Bear Left	U-Turn	CW-NEB	CW-SWB	Total	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	0	1	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0	23	0	0	0	0	1	1	2	25
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	1	0	1	4
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	3	33	0	0	0	0	3	1	4	37
% Approach Total	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	90.9	9.1		0.0	0.0	0.0	0.0	75.0	25.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.326	0.750	0.359	0.000	0.000	0.000	0.000	0.750	0.250	0.500	0.370
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	3	33	0	0	0	0	3	1	4	37
Exiting Leg							0							0						33							4	37	
Total							0							0						66							8	74	

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

11:15 AM	Canton Avenue							Randolph Avenue							Canton Avenue							High Street							Total	
	from East							from Southwest							from West							from Northwest								
	Bear Right	Thru	Bear Left	U-Turn	CW-SB	CW-NB	Total	Bear Right	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Thru	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Right	Bear Left	U-Turn	CW-NEB	CW-SWB	Total		
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	2	3	4
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	1	3	4	8	
12:00 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	1	2	3	3	
Total Volume	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	3	7	10	16	
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	60.0	40.0		0.0	0.0	0.0	0.0	30.0	70.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.500	0.417	0.000	0.000	0.000	0.000	0.750	0.583	0.625	0.500	
Entering Leg	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	3	7	10	16	
Exiting Leg							1							0						5							10	16		
Total							2							0						10							20	32		

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

4:00 PM	Canton Avenue							Randolph Avenue							Canton Avenue							High Street							Total	
	from East							from Southwest							from West							from Northwest								
	Bear Right	Thru	Bear Left	U-Turn	CW-SB	CW-NB	Total	Bear Right	Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Thru	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Right	Bear Left	U-Turn	CW-NEB	CW-SWB	Total		
4:00 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	30	31	0	0	0	0	0	1	1	33
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3	3
4:30 PM	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	6
4:45 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	2	2	2	2
Total Volume	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	4	33	37	0	0	0	0	0	3	3	3	44
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	10.8	89.2		0.0	0.0	0.0	0.0	0.0	100.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.333	0.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.333	0.275	0.298	0.000	0.000	0.000	0.000	0.000	0.375	0.375		0.333
Entering Leg	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	4	33	37	0	0	0	0	0	3	3	3	44
Exiting Leg							4							0						37							3	3	4	44
Total							8							0						74							6		88	

PDI File #: **186210 B**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	91	4	0	95	0	0	2	0	2	6	198	0	0	204	1	0	0	0	1	302
7:15 AM	0	97	7	0	104	6	0	2	0	8	4	229	0	0	233	0	0	0	0	0	345
7:30 AM	0	120	4	0	124	2	0	3	0	5	5	200	0	0	205	1	0	0	0	1	335
7:45 AM	0	116	7	0	123	2	0	1	0	3	2	203	0	0	205	0	0	0	0	0	331
Total	0	424	22	0	446	10	0	8	0	18	17	830	0	0	847	2	0	0	0	2	1313
8:00 AM	0	100	3	0	103	1	0	6	0	7	7	181	0	0	188	1	0	2	0	3	301
8:15 AM	0	121	2	0	123	3	0	4	0	7	4	230	0	0	234	1	0	1	0	2	366
8:30 AM	0	93	8	0	101	6	0	4	0	10	1	204	0	0	205	0	0	0	0	0	316
8:45 AM	0	102	4	0	106	3	0	2	0	5	4	184	0	0	188	2	0	3	0	5	304
Total	0	416	17	0	433	13	0	16	0	29	16	799	0	0	815	4	0	6	0	10	1287
Grand Total	0	840	39	0	879	23	0	24	0	47	33	1629	0	0	1662	6	0	6	0	12	2600
Approach %	0.0	95.6	4.4	0.0		48.9	0.0	51.1	0.0		2.0	98.0	0.0	0.0		50.0	0.0	50.0	0.0		
Total %	0.0	32.3	1.5	0.0	33.8	0.9	0.0	0.9	0.0	1.8	1.3	62.7	0.0	0.0	63.9	0.2	0.0	0.2	0.0	0.5	
Exiting Leg Total	1658					72					870					0					2600
Cars	0	818	36	0	854	22	0	21	0	43	32	1579	0	0	1611	6	0	6	0	12	2520
% Cars	0.0	97.4	92.3	0.0	97.2	95.7	0.0	87.5	0.0	91.5	97.0	96.9	0.0	0.0	96.9	100.0	0.0	100.0	0.0	100.0	96.9
Exiting Leg Total	1607					68					845					0					2520
Heavy Vehicles	0	22	3	0	25	1	0	3	0	4	1	50	0	0	51	0	0	0	0	0	80
% Heavy Vehicles	0.0	2.6	7.7	0.0	2.8	4.3	0.0	12.5	0.0	8.5	3.0	3.1	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	3.1
Exiting Leg Total	51					4					25					0					80

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:30 AM	0	120	4	0	124	2	0	3	0	5	5	200	0	0	205	1	0	0	0	1	335
7:45 AM	0	116	7	0	123	2	0	1	0	3	2	203	0	0	205	0	0	0	0	0	331
8:00 AM	0	100	3	0	103	1	0	6	0	7	7	181	0	0	188	1	0	2	0	3	301
8:15 AM	0	121	2	0	123	3	0	4	0	7	4	230	0	0	234	1	0	1	0	2	366
Total Volume	0	457	16	0	473	8	0	14	0	22	18	814	0	0	832	3	0	3	0	6	1333
% Approach Total	0.0	96.6	3.4	0.0		36.4	0.0	63.6	0.0		2.2	97.8	0.0	0.0		50.0	0.0	50.0	0.0		
PHF	0.000	0.944	0.571	0.000	0.954	0.667	0.000	0.583	0.000	0.786	0.643	0.885	0.000	0.000	0.889	0.750	0.000	0.375	0.000	0.500	0.911
Cars	0	448	13	0	461	7	0	11	0	18	17	790	0	0	807	3	0	3	0	6	1292
Cars %	0.0	98.0	81.3	0.0	97.5	87.5	0.0	78.6	0.0	81.8	94.4	97.1	0.0	0.0	97.0	100.0	0.0	100.0	0.0	100.0	96.9
Heavy Vehicles	0	9	3	0	12	1	0	3	0	4	1	24	0	0	25	0	0	0	0	0	41
Heavy Vehicles %	0.0	2.0	18.8	0.0	2.5	12.5	0.0	21.4	0.0	18.2	5.6	2.9	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.1
Cars Enter Leg	0	448	13	0	461	7	0	11	0	18	17	790	0	0	807	3	0	3	0	6	1292
Heavy Enter Leg	0	9	3	0	12	1	0	3	0	4	1	24	0	0	25	0	0	0	0	0	41
Total Entering Leg	0	457	16	0	473	8	0	14	0	22	18	814	0	0	832	3	0	3	0	6	1333
Cars Exiting Leg	800					30					462					0					1292
Heavy Exiting Leg	25					4					12					0					41
Total Exiting Leg	825					34					474					0					1333

PDI File #: **186210 B**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars-Combined (Motorcycles, Cars, Light Goods)

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	89	4	0	93	0	0	2	0	2	6	191	0	0	197	1	0	0	0	1	293
7:15 AM	0	95	7	0	102	6	0	2	0	8	4	225	0	0	229	0	0	0	0	0	339
7:30 AM	0	118	4	0	122	2	0	3	0	5	4	193	0	0	197	1	0	0	0	1	325
7:45 AM	0	115	5	0	120	1	0	1	0	2	2	198	0	0	200	0	0	0	0	0	322
Total	0	417	20	0	437	9	0	8	0	17	16	807	0	0	823	2	0	0	0	2	1279
8:00 AM	0	100	2	0	102	1	0	4	0	5	7	175	0	0	182	1	0	2	0	3	292
8:15 AM	0	115	2	0	117	3	0	3	0	6	4	224	0	0	228	1	0	1	0	2	353
8:30 AM	0	90	8	0	98	6	0	4	0	10	1	196	0	0	197	0	0	0	0	0	305
8:45 AM	0	96	4	0	100	3	0	2	0	5	4	177	0	0	181	2	0	3	0	5	291
Total	0	401	16	0	417	13	0	13	0	26	16	772	0	0	788	4	0	6	0	10	1241
Grand Total	0	818	36	0	854	22	0	21	0	43	32	1579	0	0	1611	6	0	6	0	12	2520
Approach %	0.0	95.8	4.2	0.0		51.2	0.0	48.8	0.0		2.0	98.0	0.0	0.0		50.0	0.0	50.0	0.0		
Total %	0.0	32.5	1.4	0.0	33.9	0.9	0.0	0.8	0.0	1.7	1.3	62.7	0.0	0.0	63.9	0.2	0.0	0.2	0.0	0.5	
Exiting Leg Total	1607					68					845					0					2520

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:30 AM	0	118	4	0	122	2	0	3	0	5	4	193	0	0	197	1	0	0	0	1	325
7:45 AM	0	115	5	0	120	1	0	1	0	2	2	198	0	0	200	0	0	0	0	0	322
8:00 AM	0	100	2	0	102	1	0	4	0	5	7	175	0	0	182	1	0	2	0	3	292
8:15 AM	0	115	2	0	117	3	0	3	0	6	4	224	0	0	228	1	0	1	0	2	353
Total Volume	0	448	13	0	461	7	0	11	0	18	17	790	0	0	807	3	0	3	0	6	1292
% Approach Total	0.0	97.2	2.8	0.0		38.9	0.0	61.1	0.0		2.1	97.9	0.0	0.0		50.0	0.0	50.0	0.0		
PHF	0.000	0.949	0.650	0.000	0.945	0.583	0.000	0.688	0.000	0.750	0.607	0.882	0.000	0.000	0.885	0.750	0.000	0.375	0.000	0.500	0.915
Entering Leg	0	448	13	0	461	7	0	11	0	18	17	790	0	0	807	3	0	3	0	6	1292
Exiting Leg					800					30					462					0	1292
Total					1261					48					1269					6	2584

PDI File #: **186210 B**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	79	4	0	83	0	0	2	0	2	6	165	0	0	171	1	0	0	0	1	257
7:15 AM	0	90	7	0	97	6	0	2	0	8	3	197	0	0	200	0	0	0	0	0	305
7:30 AM	0	107	4	0	111	2	0	3	0	5	4	179	0	0	183	1	0	0	0	1	300
7:45 AM	0	109	5	0	114	1	0	1	0	2	2	183	0	0	185	0	0	0	0	0	301
Total	0	385	20	0	405	9	0	8	0	17	15	724	0	0	739	2	0	0	0	2	1163
8:00 AM	0	96	2	0	98	1	0	4	0	5	7	150	0	0	157	1	0	1	0	2	262
8:15 AM	0	103	1	0	104	2	0	3	0	5	4	201	0	0	205	1	0	1	0	2	316
8:30 AM	0	81	8	0	89	6	0	4	0	10	1	176	0	0	177	0	0	0	0	0	276
8:45 AM	0	84	4	0	88	3	0	2	0	5	4	158	0	0	162	2	0	2	0	4	259
Total	0	364	15	0	379	12	0	13	0	25	16	685	0	0	701	4	0	4	0	8	1113
Grand Total	0	749	35	0	784	21	0	21	0	42	31	1409	0	0	1440	6	0	4	0	10	2276
Approach %	0.0	95.5	4.5	0.0		50.0	0.0	50.0	0.0		2.2	97.8	0.0	0.0		60.0	0.0	40.0	0.0		
Total %	0.0	32.9	1.5	0.0	34.4	0.9	0.0	0.9	0.0	1.8	1.4	61.9	0.0	0.0	63.3	0.3	0.0	0.2	0.0	0.4	
Exiting Leg Total	1434					66					776					0					2276

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:30 AM	0	107	4	0	111	2	0	3	0	5	4	179	0	0	183	1	0	0	0	1	300
7:45 AM	0	109	5	0	114	1	0	1	0	2	2	183	0	0	185	0	0	0	0	0	301
8:00 AM	0	96	2	0	98	1	0	4	0	5	7	150	0	0	157	1	0	1	0	2	262
8:15 AM	0	103	1	0	104	2	0	3	0	5	4	201	0	0	205	1	0	1	0	2	316
Total Volume	0	415	12	0	427	6	0	11	0	17	17	713	0	0	730	3	0	2	0	5	1179
% Approach Total	0.0	97.2	2.8	0.0		35.3	0.0	64.7	0.0		2.3	97.7	0.0	0.0		60.0	0.0	40.0	0.0		
PHF	0.000	0.952	0.600	0.000	0.936	0.750	0.000	0.688	0.000	0.850	0.607	0.887	0.000	0.000	0.890	0.750	0.000	0.500	0.000	0.625	0.933
Entering Leg	0	415	12	0	427	6	0	11	0	17	17	713	0	0	730	3	0	2	0	5	1179
Exiting Leg					721					29					429					0	1179
Total					1148					46					1159					5	2358

PDI File #: **186210 B**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Light Goods Vehicle

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	10	0	0	10	0	0	0	0	0	0	26	0	0	26	0	0	0	0	0	36
7:15 AM	0	5	0	0	5	0	0	0	0	0	1	28	0	0	29	0	0	0	0	0	34
7:30 AM	0	11	0	0	11	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	25
7:45 AM	0	6	0	0	6	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	21
Total	0	32	0	0	32	0	0	0	0	0	1	83	0	0	84	0	0	0	0	0	116
8:00 AM	0	4	0	0	4	0	0	0	0	0	0	25	0	0	25	0	0	1	0	1	30
8:15 AM	0	12	1	0	13	1	0	0	0	1	0	23	0	0	23	0	0	0	0	0	37
8:30 AM	0	9	0	0	9	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	29
8:45 AM	0	12	0	0	12	0	0	0	0	0	0	19	0	0	19	0	0	1	0	1	32
Total	0	37	1	0	38	1	0	0	0	1	0	87	0	0	87	0	0	2	0	2	128
Grand Total	0	69	1	0	70	1	0	0	0	1	1	170	0	0	171	0	0	2	0	2	244
Approach %	0.0	98.6	1.4	0.0		100.0	0.0	0.0	0.0		0.6	99.4	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	28.3	0.4	0.0	28.7	0.4	0.0	0.0	0.0	0.4	0.4	69.7	0.0	0.0	70.1	0.0	0.0	0.8	0.0	0.8	
Exiting Leg Total	173					2					69					0					244

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
8:00 AM	0	4	0	0	4	0	0	0	0	0	0	25	0	0	25	0	0	1	0	1	30
8:15 AM	0	12	1	0	13	1	0	0	0	1	0	23	0	0	23	0	0	0	0	0	37
8:30 AM	0	9	0	0	9	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	29
8:45 AM	0	12	0	0	12	0	0	0	0	0	0	19	0	0	19	0	0	1	0	1	32
Total Volume	0	37	1	0	38	1	0	0	0	1	0	87	0	0	87	0	0	2	0	2	128
% Approach Total	0.0	97.4	2.6	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.771	0.250	0.000	0.731	0.250	0.000	0.000	0.000	0.250	0.000	0.870	0.000	0.000	0.870	0.000	0.000	0.500	0.000	0.500	0.865
Entering Leg	0	37	1	0	38	1	0	0	0	1	0	87	0	0	87	0	0	2	0	2	128
Exiting Leg	90					1					37					0					128
Total	128					2					124					2					256

PDI File #: **186210 B**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
8:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	8
Grand Total	0	9	0	0	9	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	17
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	52.9	0.0	0.0	52.9	0.0	0.0	0.0	0.0	0.0	0.0	47.1	0.0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	8					0					9					0					17

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Adams Street					Wharf Street					Adams Street					Bank Driveway					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total Volume	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	9
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	9
Exiting Leg	6					0					3					0					9
Total	9					0					9					0					18

PDI File #: **186210 B**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
7:15 AM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	7
7:45 AM	0	1	2	0	3	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	7
Total	0	4	2	0	6	1	0	0	0	1	1	17	0	0	18	0	0	0	0	0	25
8:00 AM	0	0	1	0	1	0	0	2	0	2	0	6	0	0	6	0	0	0	0	0	9
8:15 AM	0	2	0	0	2	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	9
8:30 AM	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	9
8:45 AM	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	10
Total	0	9	1	0	10	0	0	3	0	3	0	24	0	0	24	0	0	0	0	0	37
Grand Total	0	13	3	0	16	1	0	3	0	4	1	41	0	0	42	0	0	0	0	0	62
Approach %	0.0	81.3	18.8	0.0		25.0	0.0	75.0	0.0		2.4	97.6	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	21.0	4.8	0.0	25.8	1.6	0.0	4.8	0.0	6.5	1.6	66.1	0.0	0.0	67.7	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	42					4					16					0					62

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
8:00 AM	0	0	1	0	1	0	0	2	0	2	0	6	0	0	6	0	0	0	0	0	9
8:15 AM	0	2	0	0	2	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	9
8:30 AM	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	9
8:45 AM	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	10
Total Volume	0	9	1	0	10	0	0	3	0	3	0	24	0	0	24	0	0	0	0	0	37
% Approach Total	0.0	90.0	10.0	0.0		0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.563	0.250	0.000	0.625	0.000	0.000	0.375	0.000	0.375	0.000	1.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.925
Entering Leg	0	9	1	0	10	0	0	3	0	3	0	24	0	0	24	0	0	0	0	0	37
Exiting Leg	24					1					12					0					37
Total	34					4					36					0					74

PDI File #: **186210 B**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Adams Street					Wharf Street					Adams Street					Bank Driveway						
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	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	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0		
Exiting Leg Total	1					0					0					0						

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Adams Street					Wharf Street					Adams Street					Bank Driveway					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Exiting Leg	1					0					0					0					1
Total	1					0					1					0					

PDI File #: **186210 B**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Adams Street							Wharf Street							Adams Street							Bank Driveway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 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	0	0	0	0	0
7:15 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	0	0	0	0	0
7:30 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	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 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	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	4	0	0	0	0	0	0	0	4
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		25.0	75.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	3							1							0							0							4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Adams Street							Wharf Street							Adams Street							Bank Driveway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:30 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	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	0	0	0	0	0	0	3	
% Approach Total	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	33.3	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.750	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	0	0	0	0	0	0	3	
Exiting Leg	2							1							0							0							3
Total	2							1							3							0							6

PDI File #: **186210 B**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Adams Street							Wharf Street							Adams Street							Bank Driveway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5
Total	0	0	0	0	0	0	0	0	0	0	0	1	8	9	0	0	0	0	0	0	0	0	0	0	0	0	3	3	12
8:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:30 AM	0	0	0	0	1	1	2	0	0	0	0	0	23	23	0	0	0	0	1	0	1	0	0	0	0	0	0	0	26
8:45 AM	0	0	0	0	2	2	4	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2	8
Total	0	0	0	0	3	4	7	0	0	0	0	1	30	31	0	0	0	0	1	0	1	0	0	0	0	2	0	2	41
Grand Total	0	0	0	0	3	4	7	0	0	0	0	2	38	40	0	0	0	0	1	0	1	0	0	0	0	2	3	5	53
Approach %	0	0	0	0	42.9	57.1		0	0	0	0	5	95		0	0	0	0	100	0		0	0	0	0	40	60		
Total %	0	0	0	0	5.66	7.55	13.2	0	0	0	0	3.77	71.7	75.5	0	0	0	0	1.89	0	1.89	0	0	0	0	3.77	5.66	9.43	
Exiting Leg Total	7							40							1							5							53

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Adams Street							Wharf Street							Adams Street							Bank Driveway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
8:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:30 AM	0	0	0	0	1	1	2	0	0	0	0	0	23	23	0	0	0	0	1	0	1	0	0	0	0	0	0	0	26
8:45 AM	0	0	0	0	2	2	4	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	0	2	8	
Total Volume	0	0	0	0	3	4	7	0	0	0	0	1	30	31	0	0	0	0	1	0	1	0	0	0	0	2	0	2	41
% Approach Total	0.0	0.0	0.0	0.0	42.9	57.1		0.0	0.0	0.0	0.0	3.2	96.8		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.375	0.500	0.438	0.000	0.000	0.000	0.000	0.250	0.326	0.337	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.394
Entering Leg	0	0	0	0	3	4	7	0	0	0	0	1	30	31	0	0	0	0	1	0	1	0	0	0	0	2	0	2	41
Exiting Leg	7							31							1							2							41
Total	14							62							2							4							82

PDI File #: **186210 BB**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	156	1	1	158	4	0	2	0	6	11	152	0	0	163	3	0	2	0	5	332
4:15 PM	0	158	3	0	161	4	0	2	0	6	1	161	0	0	162	2	0	1	0	3	332
4:30 PM	0	141	8	1	150	5	0	8	0	13	2	138	0	0	140	2	0	3	0	5	308
4:45 PM	0	183	8	1	192	8	0	8	0	16	9	146	0	0	155	0	0	5	0	5	368
Total	0	638	20	3	661	21	0	20	0	41	23	597	0	0	620	7	0	11	0	18	1340
5:00 PM	0	133	2	0	135	9	0	11	0	20	7	159	0	1	167	3	0	2	0	5	327
5:15 PM	0	154	2	0	156	5	0	8	0	13	2	159	0	0	161	2	0	1	0	3	333
5:30 PM	0	178	2	0	180	6	0	4	0	10	8	158	0	0	166	1	0	2	0	3	359
5:45 PM	0	178	2	1	181	3	0	6	0	9	5	171	0	0	176	1	0	2	0	3	369
Total	0	643	8	1	652	23	0	29	0	52	22	647	0	1	670	7	0	7	0	14	1388
Grand Total	0	1281	28	4	1313	44	0	49	0	93	45	1244	0	1	1290	14	0	18	0	32	2728
Approach %	0.0	97.6	2.1	0.3		47.3	0.0	52.7	0.0		3.5	96.4	0.0	0.1		43.8	0.0	56.3	0.0		
Total %	0.0	47.0	1.0	0.1	48.1	1.6	0.0	1.8	0.0	3.4	1.6	45.6	0.0	0.0	47.3	0.5	0.0	0.7	0.0	1.2	
Exiting Leg Total	1310					73					1345					0					2728
Cars	0	1265	27	4	1296	42	0	48	0	90	43	1229	0	1	1273	14	0	18	0	32	2691
% Cars	0.0	98.8	96.4	100.0	98.7	95.5	0.0	98.0	0.0	96.8	95.6	98.8	0.0	100.0	98.7	100.0	0.0	100.0	0.0	100.0	98.6
Exiting Leg Total	1293					70					1328					0					2691
Heavy Vehicles	0	16	1	0	17	2	0	1	0	3	2	15	0	0	17	0	0	0	0	0	37
% Heavy Vehicles	0.0	1.2	3.6	0.0	1.3	4.5	0.0	2.0	0.0	3.2	4.4	1.2	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	1.4
Exiting Leg Total	17					3					17					0					37

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
5:00 PM	0	133	2	0	135	9	0	11	0	20	7	159	0	1	167	3	0	2	0	5	327
5:15 PM	0	154	2	0	156	5	0	8	0	13	2	159	0	0	161	2	0	1	0	3	333
5:30 PM	0	178	2	0	180	6	0	4	0	10	8	158	0	0	166	1	0	2	0	3	359
5:45 PM	0	178	2	1	181	3	0	6	0	9	5	171	0	0	176	1	0	2	0	3	369
Total Volume	0	643	8	1	652	23	0	29	0	52	22	647	0	1	670	7	0	7	0	14	1388
% Approach Total	0.0	98.6	1.2	0.2		44.2	0.0	55.8	0.0		3.3	96.6	0.0	0.1		50.0	0.0	50.0	0.0		
PHF	0.000	0.903	1.000	0.250	0.901	0.639	0.000	0.659	0.000	0.650	0.688	0.946	0.000	0.250	0.952	0.583	0.000	0.875	0.000	0.700	0.940
Cars	0	640	8	1	649	23	0	28	0	51	21	640	0	1	662	7	0	7	0	14	1376
Cars %	0.0	99.5	100.0	100.0	99.5	100.0	0.0	96.6	0.0	98.1	95.5	98.9	0.0	100.0	98.8	100.0	0.0	100.0	0.0	100.0	99.1
Heavy Vehicles	0	3	0	0	3	0	0	1	0	1	1	7	0	0	8	0	0	0	0	0	12
Heavy Vehicles %	0.0	0.5	0.0	0.0	0.5	0.0	0.0	3.4	0.0	1.9	4.5	1.1	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.9
Cars Enter Leg	0	640	8	1	649	23	0	28	0	51	21	640	0	1	662	7	0	7	0	14	1376
Heavy Enter Leg	0	3	0	0	3	0	0	1	0	1	1	7	0	0	8	0	0	0	0	0	12
Total Entering Leg	0	643	8	1	652	23	0	29	0	52	22	647	0	1	670	7	0	7	0	14	1388
Cars Exiting Leg	671					29					676					0					1376
Heavy Exiting Leg	7					1					4					0					12
Total Exiting Leg	678					30					680					0					1388

PDI File #: **186210 BB**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Cars-Combined (Motorcycles, Cars, Light Goods)

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	153	1	1	155	3	0	2	0	5	10	149	0	0	159	3	0	2	0	5	324
4:15 PM	0	153	2	0	155	3	0	2	0	5	1	159	0	0	160	2	0	1	0	3	323
4:30 PM	0	139	8	1	148	5	0	8	0	13	2	136	0	0	138	2	0	3	0	5	304
4:45 PM	0	180	8	1	189	8	0	8	0	16	9	145	0	0	154	0	0	5	0	5	364
Total	0	625	19	3	647	19	0	20	0	39	22	589	0	0	611	7	0	11	0	18	1315
5:00 PM	0	132	2	0	134	9	0	11	0	20	7	157	0	1	165	3	0	2	0	5	324
5:15 PM	0	152	2	0	154	5	0	8	0	13	2	156	0	0	158	2	0	1	0	3	328
5:30 PM	0	178	2	0	180	6	0	3	0	9	7	156	0	0	163	1	0	2	0	3	355
5:45 PM	0	178	2	1	181	3	0	6	0	9	5	171	0	0	176	1	0	2	0	3	369
Total	0	640	8	1	649	23	0	28	0	51	21	640	0	1	662	7	0	7	0	14	1376
Grand Total	0	1265	27	4	1296	42	0	48	0	90	43	1229	0	1	1273	14	0	18	0	32	2691
Approach %	0.0	97.6	2.1	0.3		46.7	0.0	53.3	0.0		3.4	96.5	0.0	0.1		43.8	0.0	56.3	0.0		
Total %	0.0	47.0	1.0	0.1	48.2	1.6	0.0	1.8	0.0	3.3	1.6	45.7	0.0	0.0	47.3	0.5	0.0	0.7	0.0	1.2	
Exiting Leg Total					1293					70					1328					0	2691

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
5:00 PM	0	132	2	0	134	9	0	11	0	20	7	157	0	1	165	3	0	2	0	5	324
5:15 PM	0	152	2	0	154	5	0	8	0	13	2	156	0	0	158	2	0	1	0	3	328
5:30 PM	0	178	2	0	180	6	0	3	0	9	7	156	0	0	163	1	0	2	0	3	355
5:45 PM	0	178	2	1	181	3	0	6	0	9	5	171	0	0	176	1	0	2	0	3	369
Total Volume	0	640	8	1	649	23	0	28	0	51	21	640	0	1	662	7	0	7	0	14	1376
% Approach Total	0.0	98.6	1.2	0.2		45.1	0.0	54.9	0.0		3.2	96.7	0.0	0.2		50.0	0.0	50.0	0.0		
PHF	0.000	0.899	1.000	0.250	0.896	0.639	0.000	0.636	0.000	0.638	0.750	0.936	0.000	0.250	0.940	0.583	0.000	0.875	0.000	0.700	0.932
Entering Leg	0	640	8	1	649	23	0	28	0	51	21	640	0	1	662	7	0	7	0	14	1376
Exiting Leg					671					29					676					0	1376
Total					1320					80					1338					14	2752

PDI File #: **186210 BB**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	143	1	1	145	3	0	2	0	5	10	130	0	0	140	3	0	2	0	5	295
4:15 PM	0	142	2	0	144	3	0	2	0	5	1	150	0	0	151	2	0	1	0	3	303
4:30 PM	0	131	7	0	138	5	0	7	0	12	2	123	0	0	125	2	0	3	0	5	280
4:45 PM	0	166	7	0	173	8	0	8	0	16	8	132	0	0	140	0	0	5	0	5	334
Total	0	582	17	1	600	19	0	19	0	38	21	535	0	0	556	7	0	11	0	18	1212
5:00 PM	0	124	2	0	126	9	0	10	0	19	7	143	0	1	151	2	0	2	0	4	300
5:15 PM	0	137	2	0	139	5	0	7	0	12	2	140	0	0	142	2	0	1	0	3	296
5:30 PM	0	168	2	0	170	5	0	3	0	8	4	144	0	0	148	1	0	2	0	3	329
5:45 PM	0	165	1	1	167	3	0	6	0	9	5	159	0	0	164	1	0	2	0	3	343
Total	0	594	7	1	602	22	0	26	0	48	18	586	0	1	605	6	0	7	0	13	1268
Grand Total	0	1176	24	2	1202	41	0	45	0	86	39	1121	0	1	1161	13	0	18	0	31	2480
Approach %	0.0	97.8	2.0	0.2		47.7	0.0	52.3	0.0		3.4	96.6	0.0	0.1		41.9	0.0	58.1	0.0		
Total %	0.0	47.4	1.0	0.1	48.5	1.7	0.0	1.8	0.0	3.5	1.6	45.2	0.0	0.0	46.8	0.5	0.0	0.7	0.0	1.3	
Exiting Leg Total	1182					63					1235					0					2480

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
5:00 PM	0	124	2	0	126	9	0	10	0	19	7	143	0	1	151	2	0	2	0	4	300
5:15 PM	0	137	2	0	139	5	0	7	0	12	2	140	0	0	142	2	0	1	0	3	296
5:30 PM	0	168	2	0	170	5	0	3	0	8	4	144	0	0	148	1	0	2	0	3	329
5:45 PM	0	165	1	1	167	3	0	6	0	9	5	159	0	0	164	1	0	2	0	3	343
Total Volume	0	594	7	1	602	22	0	26	0	48	18	586	0	1	605	6	0	7	0	13	1268
% Approach Total	0.0	98.7	1.2	0.2		45.8	0.0	54.2	0.0		3.0	96.9	0.0	0.2		46.2	0.0	53.8	0.0		
PHF	0.000	0.884	0.875	0.250	0.885	0.611	0.000	0.650	0.000	0.632	0.643	0.921	0.000	0.250	0.922	0.750	0.000	0.875	0.000	0.813	0.924
Entering Leg	0	594	7	1	602	22	0	26	0	48	18	586	0	1	605	6	0	7	0	13	1268
Exiting Leg					616					25				627						0	1268
Total					1218					73				1232						13	2536

PDI File #: **186210 BB**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Light Goods Vehicle

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	10	0	0	10	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	29
4:15 PM	0	11	0	0	11	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	20
4:30 PM	0	8	1	1	10	0	0	1	0	1	0	13	0	0	13	0	0	0	0	0	24
4:45 PM	0	13	1	1	15	0	0	0	0	0	1	13	0	0	14	0	0	0	0	0	29
Total	0	42	2	2	46	0	0	1	0	1	1	54	0	0	55	0	0	0	0	0	102
5:00 PM	0	8	0	0	8	0	0	1	0	1	0	13	0	0	13	1	0	0	0	1	23
5:15 PM	0	15	0	0	15	0	0	1	0	1	0	16	0	0	16	0	0	0	0	0	32
5:30 PM	0	10	0	0	10	1	0	0	0	1	3	11	0	0	14	0	0	0	0	0	25
5:45 PM	0	12	1	0	13	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	24
Total	0	45	1	0	46	1	0	2	0	3	3	51	0	0	54	1	0	0	0	1	104
Grand Total	0	87	3	2	92	1	0	3	0	4	4	105	0	0	109	1	0	0	0	1	206
Approach %	0.0	94.6	3.3	2.2		25.0	0.0	75.0	0.0		3.7	96.3	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	42.2	1.5	1.0	44.7	0.5	0.0	1.5	0.0	1.9	1.9	51.0	0.0	0.0	52.9	0.5	0.0	0.0	0.0	0.5	
Exiting Leg Total	108					7					91					0					206

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:45 PM	0	13	1	1	15	0	0	0	0	0	1	13	0	0	14	0	0	0	0	0	29
5:00 PM	0	8	0	0	8	0	0	1	0	1	0	13	0	0	13	1	0	0	0	1	23
5:15 PM	0	15	0	0	15	0	0	1	0	1	0	16	0	0	16	0	0	0	0	0	32
5:30 PM	0	10	0	0	10	1	0	0	0	1	3	11	0	0	14	0	0	0	0	0	25
Total Volume	0	46	1	1	48	1	0	2	0	3	4	53	0	0	57	1	0	0	0	1	109
% Approach Total	0.0	95.8	2.1	2.1		33.3	0.0	66.7	0.0		7.0	93.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.767	0.250	0.250	0.800	0.250	0.000	0.500	0.000	0.750	0.333	0.828	0.000	0.000	0.891	0.250	0.000	0.000	0.000	0.250	0.852
Entering Leg	0	46	1	1	48	1	0	2	0	3	4	53	0	0	57	1	0	0	0	1	109
Exiting Leg	55					5					49					0					109
Total	103					8					106					1					218

PDI File #: **186210 BB**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
4:15 PM	0	0	1	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	3	1	0	4	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	8
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	7
Grand Total	0	4	1	0	5	1	0	1	0	2	1	7	0	0	8	0	0	0	0	0	15
Approach %	0.0	80.0	20.0	0.0		50.0	0.0	50.0	0.0		12.5	87.5	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	26.7	6.7	0.0	33.3	6.7	0.0	6.7	0.0	13.3	6.7	46.7	0.0	0.0	53.3	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	8					2					5					0					15

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
4:15 PM	0	0	1	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	3	1	0	4	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	8
% Approach Total	0.0	75.0	25.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.375	0.250	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.667
Entering Leg	0	3	1	0	4	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	8
Exiting Leg	4					1					3					0					8
Total	8					2					6					0					16

PDI File #: **186210 BB**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	1	0	0	1	1	0	0	0	1	1	1	0	0	2	0	0	0	0	0	4
4:15 PM	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	5
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
4:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	8	0	0	8	1	0	0	0	1	1	3	0	0	4	0	0	0	0	0	13
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Grand Total	0	8	0	0	8	1	0	0	0	1	1	6	0	0	7	0	0	0	0	0	16
Approach %	0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		14.3	85.7	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	50.0	0.0	0.0	50.0	6.3	0.0	0.0	0.0	6.3	6.3	37.5	0.0	0.0	43.8	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	7					1					8					0					16

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street					Wharf Street					Adams Street					Bank Driveway					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	1	0	0	1	1	0	0	0	1	1	1	0	0	2	0	0	0	0	0	4
4:15 PM	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	5
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
4:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	8	0	0	8	1	0	0	0	1	1	3	0	0	4	0	0	0	0	0	13
% Approach Total	0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		25.0	75.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.250	0.750	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.650
Entering Leg	0	8	0	0	8	1	0	0	0	1	1	3	0	0	4	0	0	0	0	0	13
Exiting Leg					4					1					8						13
Total	12					2					12					0					26

PDI File #: **186210 BB**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	66.7	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	2					0					4					0					6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street					Wharf Street					Adams Street					Bank Driveway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	1.000
Entering Leg	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
Exiting Leg					2							2									4
Total	4					0					4					0					4

PDI File #: **186210 BB**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Bicycles (on Roadway and Crosswalks)

	Adams Street							Wharf Street							Adams Street							Bank Driveway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 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
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1
4:30 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
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1
5:15 PM	0	1	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	1
5:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	0	0	2	0	0	0	0	1	0	1	0	2	0	0	0	0	0	2	0	0	0	0	0	0	5
Grand Total	0	2	0	0	0	0	2	0	1	0	0	1	0	2	0	3	0	0	0	0	0	3	0	0	0	0	0	0	7
Approach %	0.0	100.0	0.0	0.0	0.0	0.0		0.0	50.0	0.0	0.0	50.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	28.6	0.0	0.0	0.0	0.0	28.6	0.0	14.3	0.0	0.0	14.3	0.0	28.6	0.0	42.9	0.0	0.0	0.0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	3							1							2							1							7

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Adams Street							Wharf Street							Adams Street							Bank Driveway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	1	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	1
5:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	2	0	0	0	0	2	0	1	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	5
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.625
Entering Leg	0	2	0	0	0	0	2	0	1	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	5
Exiting Leg	2							0							2							1							5
Total	4							1							4							1							10

PDI File #: **186210 BB**
 Location: **N: Adams Street S: Adams Street**
 Location: **E: Wharf Street W: Bank Driveway**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Pedestrians

	Adams Street							Wharf Street							Adams Street							Bank Driveway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	2	4	6	0	0	0	0	23	4	27	0	0	0	0	28	0	28	0	0	0	0	1	0	1	62
4:15 PM	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	8	11
4:30 PM	0	0	0	0	6	3	9	0	0	0	0	2	3	5	0	0	0	0	1	0	1	0	0	0	0	2	1	3	18
4:45 PM	0	0	0	0	2	2	4	0	0	0	0	2	3	5	0	0	0	0	0	0	1	1	0	0	0	1	1	2	12
Total	0	0	0	0	11	11	22	0	0	0	0	27	10	37	0	0	0	0	29	1	30	0	0	0	0	8	6	14	103
5:00 PM	0	0	0	0	0	1	1	0	0	0	0	7	2	9	0	0	0	0	1	0	1	0	0	0	0	0	1	1	12
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	0	1	0	0	0	0	0	2	2	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	1	1	2	6
Total	0	0	0	0	0	1	1	0	0	0	0	12	5	17	0	0	0	0	2	0	2	0	0	0	0	2	4	6	26
Grand Total	0	0	0	0	11	12	23	0	0	0	0	39	15	54	0	0	0	0	31	1	32	0	0	0	0	10	10	20	129
Approach %	0	0	0	0	47.8	52.2		0	0	0	0	72.2	27.8		0	0	0	0	96.9	3.13		0	0	0	0	50	50		
Total %	0	0	0	0	8.53	9.3	17.8	0	0	0	0	30.2	11.6	41.9	0	0	0	0	24	0.78	24.8	0	0	0	0	7.75	7.75	15.5	
Exiting Leg Total	23							54							32							20							129

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street							Wharf Street							Adams Street							Bank Driveway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	2	4	6	0	0	0	0	23	4	27	0	0	0	0	28	0	28	0	0	0	0	1	0	1	62
4:15 PM	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	8	11
4:30 PM	0	0	0	0	6	3	9	0	0	0	0	2	3	5	0	0	0	0	1	0	1	0	0	0	0	2	1	3	18
4:45 PM	0	0	0	0	2	2	4	0	0	0	0	2	3	5	0	0	0	0	0	1	1	0	0	0	0	1	1	2	12
Total Volume	0	0	0	0	11	11	22	0	0	0	0	27	10	37	0	0	0	0	29	1	30	0	0	0	0	8	6	14	103
% Approach Total	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	73.0	27.0		0.0	0.0	0.0	0.0	96.7	3.3		0.0	0.0	0.0	0.0	57.1	42.9		
PHF	0.000	0.000	0.000	0.000	0.458	0.688	0.611	0.000	0.000	0.000	0.000	0.293	0.625	0.343	0.000	0.000	0.000	0.000	0.259	0.250	0.268	0.000	0.000	0.000	0.000	0.500	0.375	0.438	0.415
Entering Leg	0	0	0	0	11	11	22	0	0	0	0	27	10	37	0	0	0	0	29	1	30	0	0	0	0	8	6	14	103
Exiting Leg	22							37							30							14							103
Total	44							74							60							28							206

PDI File #: **186210 C**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	19	65	0	84	170	18	0	188	28	77	0	105	377
7:15 AM	24	70	0	94	205	28	0	233	35	79	0	114	441
7:30 AM	26	80	0	106	167	22	0	189	44	75	0	119	414
7:45 AM	25	83	0	108	176	24	0	200	41	87	0	128	436
Total	94	298	0	392	718	92	0	810	148	318	0	466	1668
8:00 AM	25	68	0	93	166	22	0	188	37	74	0	111	392
8:15 AM	13	96	0	109	200	32	0	232	31	65	0	96	437
8:30 AM	18	82	0	100	189	23	0	212	21	84	0	105	417
8:45 AM	22	82	0	104	178	12	0	190	30	89	0	119	413
Total	78	328	0	406	733	89	0	822	119	312	0	431	1659
Grand Total	172	626	0	798	1451	181	0	1632	267	630	0	897	3327
Approach %	21.6	78.4	0.0		88.9	11.1	0.0		29.8	70.2	0.0		
Total %	5.2	18.8	0.0	24.0	43.6	5.4	0.0	49.1	8.0	18.9	0.0	27.0	
Exiting Leg Total	2081				893				353				3327
Cars	169	607	0	776	1409	174	0	1583	260	625	0	885	3244
% Cars	98.3	97.0	0.0	97.2	97.1	96.1	0.0	97.0	97.4	99.2	0.0	98.7	97.5
Exiting Leg Total	2034				867				343				3244
Heavy Vehicles	3	19	0	22	42	7	0	49	7	5	0	12	83
% Heavy Vehicles	1.7	3.0	0.0	2.8	2.9	3.9	0.0	3.0	2.6	0.8	0.0	1.3	2.5
Exiting Leg Total	47				26				10				83

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:15 AM	24	70	0	94	205	28	0	233	35	79	0	114	441
7:30 AM	26	80	0	106	167	22	0	189	44	75	0	119	414
7:45 AM	25	83	0	108	176	24	0	200	41	87	0	128	436
8:00 AM	25	68	0	93	166	22	0	188	37	74	0	111	392
Total Volume	100	301	0	401	714	96	0	810	157	315	0	472	1683
% Approach Total	24.9	75.1	0.0		88.1	11.9	0.0		33.3	66.7	0.0		
PHF	0.962	0.907	0.000	0.928	0.871	0.857	0.000	0.869	0.892	0.905	0.000	0.922	0.954
Cars	99	297	0	396	694	94	0	788	152	314	0	466	1650
Cars %	99.0	98.7	0.0	98.8	97.2	97.9	0.0	97.3	96.8	99.7	0.0	98.7	98.0
Heavy Vehicles	1	4	0	5	20	2	0	22	5	1	0	6	33
Heavy Vehicles %	1.0	1.3	0.0	1.2	2.8	2.1	0.0	2.7	3.2	0.3	0.0	1.3	2.0
Cars Enter Leg	99	297	0	396	694	94	0	788	152	314	0	466	1650
Heavy Enter Leg	1	4	0	5	20	2	0	22	5	1	0	6	33
Total Entering Leg	100	301	0	401	714	96	0	810	157	315	0	472	1683
Cars Exiting Leg				1008				449				193	1650
Heavy Exiting Leg				21				9				3	33
Total Exiting Leg				1029				458				196	1683

PDI File #: **186210 C**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn	Total		Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total			
7:00 AM	19	64	0	83		167	15	0	182	27	77	0	104		369	
7:15 AM	23	68	0	91		201	28	0	229	34	79	0	113		433	
7:30 AM	26	79	0	105		161	21	0	182	43	75	0	118		405	
7:45 AM	25	82	0	107		172	23	0	195	39	86	0	125		427	
Total	93	293	0	386		701	87	0	788	143	317	0	460		1634	
8:00 AM	25	68	0	93		160	22	0	182	36	74	0	110		385	
8:15 AM	12	90	0	102		196	30	0	226	31	63	0	94		422	
8:30 AM	17	79	0	96		181	23	0	204	21	82	0	103		403	
8:45 AM	22	77	0	99		171	12	0	183	29	89	0	118		400	
Total	76	314	0	390		708	87	0	795	117	308	0	425		1610	
Grand Total	169	607	0	776		1409	174	0	1583	260	625	0	885		3244	
Approach %	21.8	78.2	0.0			89.0	11.0	0.0		29.4	70.6	0.0				
Total %	5.2	18.7	0.0	23.9		43.4	5.4	0.0	48.8	8.0	19.3	0.0	27.3			
Exiting Leg Total	2034					867					343					3244

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:15 AM	23	68	0	91	201	28	0	229	34	79	0	113	433
7:30 AM	26	79	0	105	161	21	0	182	43	75	0	118	405
7:45 AM	25	82	0	107	172	23	0	195	39	86	0	125	427
8:00 AM	25	68	0	93	160	22	0	182	36	74	0	110	385
Total Volume	99	297	0	396	694	94	0	788	152	314	0	466	1650
% Approach Total	25.0	75.0	0.0		88.1	11.9	0.0		32.6	67.4	0.0		
PHF	0.952	0.905	0.000	0.925	0.863	0.839	0.000	0.860	0.884	0.913	0.000	0.932	0.953
Entering Leg	99	297	0	396	694	94	0	788	152	314	0	466	1650
Exiting Leg				1008				449				193	1650
Total				1404				1237				659	3300

PDI File #: **186210 C**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	0	1	0	1	3	3	0	6	1	0	0	1	8
7:15 AM	1	2	0	3	4	0	0	4	1	0	0	1	8
7:30 AM	0	1	0	1	6	1	0	7	1	0	0	1	9
7:45 AM	0	1	0	1	4	1	0	5	2	1	0	3	9
Total	1	5	0	6	17	5	0	22	5	1	0	6	34
8:00 AM	0	0	0	0	6	0	0	6	1	0	0	1	7
8:15 AM	1	6	0	7	4	2	0	6	0	2	0	2	15
8:30 AM	1	3	0	4	8	0	0	8	0	2	0	2	14
8:45 AM	0	5	0	5	7	0	0	7	1	0	0	1	13
Total	2	14	0	16	25	2	0	27	2	4	0	6	49
Grand Total	3	19	0	22	42	7	0	49	7	5	0	12	83
Approach %	13.6	86.4	0.0		85.7	14.3	0.0		58.3	41.7	0.0		
Total %	3.6	22.9	0.0	26.5	50.6	8.4	0.0	59.0	8.4	6.0	0.0	14.5	
Exiting Leg Total				47				26				10	83
Buses	2	8	0	10	7	2	0	9	2	1	0	3	22
% Buses	66.7	42.1	0.0	45.5	16.7	28.6	0.0	18.4	28.6	20.0	0.0	25.0	26.5
Exiting Leg Total				8				10				4	22
Single-Unit Trucks	1	11	0	12	35	5	0	40	5	4	0	9	61
% Single-Unit	33.3	57.9	0.0	54.5	83.3	71.4	0.0	81.6	71.4	80.0	0.0	75.0	73.5
Exiting Leg Total				39				16				6	61
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	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
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
8:00 AM	0	0	0	0	6	0	0	6	1	0	0	1	7
8:15 AM	1	6	0	7	4	2	0	6	0	2	0	2	15
8:30 AM	1	3	0	4	8	0	0	8	0	2	0	2	14
8:45 AM	0	5	0	5	7	0	0	7	1	0	0	1	13
Total Volume	2	14	0	16	25	2	0	27	2	4	0	6	49
% Approach Total	12.5	87.5	0.0		92.6	7.4	0.0		33.3	66.7	0.0		
PHF	0.500	0.583	0.000	0.571	0.781	0.250	0.000	0.844	0.500	0.500	0.000	0.750	0.817
Buses	1	6	0	7	2	0	0	2	0	1	0	1	10
Buses %	50.0	42.9	0.0	43.8	8.0	0.0	0.0	7.4	0.0	25.0	0.0	16.7	20.4
Single-Unit Trucks	1	8	0	9	23	2	0	25	2	3	0	5	39
Single-Unit %	50.0	57.1	0.0	56.3	92.0	100.0	0.0	92.6	100.0	75.0	0.0	83.3	79.6
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	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
Buses	1	6	0	7	2	0	0	2	0	1	0	1	10
Single-Unit Trucks	1	8	0	9	23	2	0	25	2	3	0	5	39
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	2	14	0	16	25	2	0	27	2	4	0	6	49
Buses				3				6				1	10
Single-Unit Trucks				26				10				3	39
Articulated Trucks				0				0				0	0
Total Exiting Leg				29				16				4	49

PDI File #: **186210 C**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn	Total		Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total			
7:00 AM	16	54	0	70		142	14	0	156	26	69	0	95	321		
7:15 AM	21	61	0	82		176	25	0	201	34	74	0	108	391		
7:30 AM	26	73	0	99		149	19	0	168	41	67	0	108	375		
7:45 AM	23	75	0	98		155	21	0	176	37	83	0	120	394		
Total	86	263	0	349		622	79	0	701	138	293	0	431	1481		
8:00 AM	23	62	0	85		138	20	0	158	35	70	0	105	348		
8:15 AM	12	78	0	90		172	30	0	202	30	61	0	91	383		
8:30 AM	16	71	0	87		162	22	0	184	17	75	0	92	363		
8:45 AM	21	65	0	86		153	10	0	163	26	87	0	113	362		
Total	72	276	0	348		625	82	0	707	108	293	0	401	1456		
Grand Total	158	539	0	697		1247	161	0	1408	246	586	0	832	2937		
Approach %	22.7	77.3	0.0			88.6	11.4	0.0		29.6	70.4	0.0				
Total %	5.4	18.4	0.0	23.7		42.5	5.5	0.0	47.9	8.4	20.0	0.0	28.3			
Exiting Leg Total				1833					785				319	2937		

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:15 AM	21	61	0	82	176	25	0	201	34	74	0	108	391
7:30 AM	26	73	0	99	149	19	0	168	41	67	0	108	375
7:45 AM	23	75	0	98	155	21	0	176	37	83	0	120	394
8:00 AM	23	62	0	85	138	20	0	158	35	70	0	105	348
Total Volume	93	271	0	364	618	85	0	703	147	294	0	441	1508
% Approach Total	25.5	74.5	0.0		87.9	12.1	0.0		33.3	66.7	0.0		
PHF	0.894	0.903	0.000	0.919	0.878	0.850	0.000	0.874	0.896	0.886	0.000	0.919	0.957
Entering Leg	93	271	0	364	618	85	0	703	147	294	0	441	1508
Exiting Leg				912				418				178	1508
Total				1276				1121				619	3016

PDI File #: **186210 C**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Light Goods Vehicle

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn	Total		Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total			
7:00 AM	3	10	0	13	25	1	0	26	1	8	0	9	48			
7:15 AM	2	7	0	9	25	3	0	28	0	5	0	5	42			
7:30 AM	0	6	0	6	12	2	0	14	2	8	0	10	30			
7:45 AM	2	7	0	9	17	2	0	19	2	3	0	5	33			
Total	7	30	0	37	79	8	0	87	5	24	0	29	153			
8:00 AM	2	6	0	8	22	2	0	24	1	4	0	5	37			
8:15 AM	0	12	0	12	24	0	0	24	1	2	0	3	39			
8:30 AM	1	8	0	9	19	1	0	20	4	7	0	11	40			
8:45 AM	1	12	0	13	18	2	0	20	3	2	0	5	38			
Total	4	38	0	42	83	5	0	88	9	15	0	24	154			
Grand Total	11	68	0	79	162	13	0	175	14	39	0	53	307			
Approach %	13.9	86.1	0.0		92.6	7.4	0.0		26.4	73.6	0.0					
Total %	3.6	22.1	0.0	25.7	52.8	4.2	0.0	57.0	4.6	12.7	0.0	17.3				
Exiting Leg Total	201				82				24				307			

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
8:00 AM	2	6	0	8	22	2	0	24	1	4	0	5	37
8:15 AM	0	12	0	12	24	0	0	24	1	2	0	3	39
8:30 AM	1	8	0	9	19	1	0	20	4	7	0	11	40
8:45 AM	1	12	0	13	18	2	0	20	3	2	0	5	38
Total Volume	4	38	0	42	83	5	0	88	9	15	0	24	154
% Approach Total	9.5	90.5	0.0		94.3	5.7	0.0		37.5	62.5	0.0		
PHF	0.500	0.792	0.000	0.808	0.865	0.625	0.000	0.917	0.563	0.536	0.000	0.545	0.963
Entering Leg	4	38	0	42	83	5	0	88	9	15	0	24	154
Exiting Leg				98				47				9	154
Total				140				135				33	308

PDI File #: **186210 C**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn		Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total			
7:00 AM	0	1	0		1	0	2	0	2	0	0	0	0	3		
7:15 AM	1	0	0		1	2	0	0	2	1	0	0	1	4		
7:30 AM	0	1	0		1	1	0	0	1	1	0	0	1	3		
7:45 AM	0	0	0		0	2	0	0	2	0	0	0	0	2		
Total	1	2	0		3	5	2	0	7	2	0	0	2	12		
8:00 AM	0	0	0		0	0	0	0	0	0	0	0	0	0		
8:15 AM	0	4	0		4	0	0	0	0	0	0	0	0	4		
8:30 AM	1	0	0		1	2	0	0	2	0	1	0	1	4		
8:45 AM	0	2	0		2	0	0	0	0	0	0	0	0	2		
Total	1	6	0		7	2	0	0	2	0	1	0	1	10		
Grand Total	2	8	0		10	7	2	0	9	2	1	0	3	22		
Approach %	20.0	80.0	0.0			77.8	22.2	0.0		66.7	33.3	0.0				
Total %	9.1	36.4	0.0		45.5	31.8	9.1	0.0	40.9	9.1	4.5	0.0	13.6			
Exiting Leg Total	8					10					4					22

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	0	1	0	1	0	2	0	2	0	0	0	0	3
7:15 AM	1	0	0	1	2	0	0	2	1	0	0	1	4
7:30 AM	0	1	0	1	1	0	0	1	1	0	0	1	3
7:45 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
Total Volume	1	2	0	3	5	2	0	7	2	0	0	2	12
% Approach Total	33.3	66.7	0.0		71.4	28.6	0.0		100.0	0.0	0.0		
PHF	0.250	0.500	0.000	0.750	0.625	0.250	0.000	0.875	0.500	0.000	0.000	0.500	0.750
Entering Leg	1	2	0	3	5	2	0	7	2	0	0	2	12
Exiting Leg				5				4				3	12
Total				8				11				5	24

PDI File #: **186210 C**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn	Total		Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		
7:00 AM	0	0	0	0		3	1	0	4		1	0	0	1		5
7:15 AM	0	2	0	2		2	0	0	2		0	0	0	0		4
7:30 AM	0	0	0	0		5	1	0	6		0	0	0	0		6
7:45 AM	0	1	0	1		2	1	0	3		2	1	0	3		7
Total	0	3	0	3		12	3	0	15		3	1	0	4		22
8:00 AM	0	0	0	0		6	0	0	6		1	0	0	1		7
8:15 AM	1	2	0	3		4	2	0	6		0	2	0	2		11
8:30 AM	0	3	0	3		6	0	0	6		0	1	0	1		10
8:45 AM	0	3	0	3		7	0	0	7		1	0	0	1		11
Total	1	8	0	9		23	2	0	25		2	3	0	5		39
Grand Total	1	11	0	12		35	5	0	40		5	4	0	9		61
Approach %	8.3	91.7	0.0			87.5	12.5	0.0			55.6	44.4	0.0			
Total %	1.6	18.0	0.0	19.7		57.4	8.2	0.0	65.6		8.2	6.6	0.0	14.8		
Exiting Leg Total	39					16					6					61

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
8:00 AM	0	0	0	0	6	0	0	6	1	0	0	1	7
8:15 AM	1	2	0	3	4	2	0	6	0	2	0	2	11
8:30 AM	0	3	0	3	6	0	0	6	0	1	0	1	10
8:45 AM	0	3	0	3	7	0	0	7	1	0	0	1	11
Total Volume	1	8	0	9	23	2	0	25	2	3	0	5	39
% Approach Total	11.1	88.9	0.0		92.0	8.0	0.0		40.0	60.0	0.0		
PHF	0.250	0.667	0.000	0.750	0.821	0.250	0.000	0.893	0.500	0.375	0.000	0.625	0.886
Entering Leg	1	8	0	9	23	2	0	25	2	3	0	5	39
Exiting Leg				26				10				3	39
Total				35				35				8	78

PDI File #: **186210 C**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	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	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	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	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0				0				0				0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0				0	0
Total				0				0				0	0

PDI File #: **186210 C**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Bicycles (on Roadway and Crosswalks)

	Adams Street						Adams Street						Eliot Street						Total
	from North						from South						from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
Total	0	1	0	0	0	1	3	0	0	0	0	0	3	0	0	0	0	0	0
Grand Total	0	1	0	0	0	1	4	0	0	0	0	0	4	0	0	0	0	0	0
Approach %	0.0	100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total %	0.0	20.0	0.0	0.0	0.0	20.0	80.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	4						1						0						5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Adams Street						Adams Street						Eliot Street						Total
	from North						from South						from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
Total Volume	0	1	0	0	0	1	3	0	0	0	0	3	0	0	0	0	0	0	4
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.750	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	1	0	0	0	1	3	0	0	0	0	3	0	0	0	0	0	0	4
Exiting Leg	3						1						0						4
Total	4						4						0						8

PDI File #: **186210 C**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Adams Street						Adams Street						Eliot Street						Total
	from North						from South						from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	2	0	2	0	0	0	1	3	4	0	0	0	0	0	0	6
7:15 AM	0	0	0	1	0	1	0	0	0	0	2	2	0	0	0	0	2	2	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	1	6	7	0	0	0	1	2	3	10
Total	0	0	0	3	0	3	0	0	0	2	14	16	0	0	0	1	4	5	24
8:00 AM	0	0	0	1	1	2	0	0	0	0	2	2	0	0	0	0	0	0	4
8:15 AM	0	0	0	1	1	2	0	0	0	0	3	3	0	0	0	0	0	0	5
8:30 AM	0	0	0	2	0	2	0	0	0	1	5	6	0	0	0	0	0	0	8
8:45 AM	0	0	0	0	0	0	0	0	0	0	6	6	0	0	0	1	2	3	9
Total	0	0	0	4	2	6	0	0	0	1	16	17	0	0	0	1	2	3	26
Grand Total	0	0	0	7	2	9	0	0	0	3	30	33	0	0	0	2	6	8	50
Approach %	0	0	0	77.778	22.222		0	0	0	9.0909	90.909		0	0	0	25	75		
Total %	0	0	0	14	4	18	0	0	0	6	60	66	0	0	0	4	12	16	
Exiting Leg Total	9						33						8						50

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Adams Street						Adams Street						Eliot Street						Total		
	from North						from South						from West								
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total			
7:45 AM	0	0	0	0	0	0	0	0	0	1	6	7	0	0	0	1	2	3	10		
8:00 AM	0	0	0	1	1	2	0	0	0	0	2	2	0	0	0	0	0	0	4		
8:15 AM	0	0	0	1	1	2	0	0	0	0	3	3	0	0	0	0	0	0	5		
8:30 AM	0	0	0	2	0	2	0	0	0	1	5	6	0	0	0	0	0	0	8		
Total Volume	0	0	0	4	2	6	0	0	0	2	16	18	0	0	0	1	2	3	27		
% Approach Total	0.0	0.0	0.0	66.7	33.3		0.0	0.0	0.0	11.1	88.9		0.0	0.0	0.0	33.3	66.7				
PHF	0.000	0.000	0.000	0.500	0.500	0.750	0.000	0.000	0.000	0.500	0.667	0.643	0.000	0.000	0.000	0.250	0.250	0.250	0.675		
Entering Leg	0	0	0	4	2	6	0	0	0	2	16	18	0	0	0	1	2	3	27		
Exiting Leg							6													3	27
Total	12						36						6						54		

PDI File #: **186210 CC**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
4:00 PM	19	124	0	143	133	35	0	168	39	36	0	75	386
4:15 PM	26	131	0	157	127	42	0	169	37	37	0	74	400
4:30 PM	39	117	0	156	110	31	0	141	38	38	0	76	373
4:45 PM	41	145	0	186	108	57	0	165	50	38	0	88	439
Total	125	517	0	642	478	165	0	643	164	149	0	313	1598
5:00 PM	64	107	0	171	128	44	1	173	29	37	0	66	410
5:15 PM	51	119	0	170	108	55	0	163	38	44	0	82	415
5:30 PM	50	143	0	193	132	37	0	169	38	47	0	85	447
5:45 PM	55	149	0	204	122	47	0	169	35	35	0	70	443
Total	220	518	0	738	490	183	1	674	140	163	0	303	1715
Grand Total	345	1035	0	1380	968	348	1	1317	304	312	0	616	3313
Approach %	25.0	75.0	0.0		73.5	26.4	0.1		49.4	50.6	0.0		
Total %	10.4	31.2	0.0	41.7	29.2	10.5	0.0	39.8	9.2	9.4	0.0	18.6	
Exiting Leg Total				1280				1340				693	3313
Cars	341	1020	0	1361	959	345	1	1305	302	308	0	610	3276
% Cars	98.8	98.6	0.0	98.6	99.1	99.1	100.0	99.1	99.3	98.7	0.0	99.0	98.9
Exiting Leg Total				1267				1323				686	3276
Heavy Vehicles	4	15	0	19	9	3	0	12	2	4	0	6	37
% Heavy Vehicles	1.2	1.4	0.0	1.4	0.9	0.9	0.0	0.9	0.7	1.3	0.0	1.0	1.1
Exiting Leg Total				13				17				7	37

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
5:00 PM	64	107	0	171	128	44	1	173	29	37	0	66	410
5:15 PM	51	119	0	170	108	55	0	163	38	44	0	82	415
5:30 PM	50	143	0	193	132	37	0	169	38	47	0	85	447
5:45 PM	55	149	0	204	122	47	0	169	35	35	0	70	443
Total Volume	220	518	0	738	490	183	1	674	140	163	0	303	1715
% Approach Total	29.8	70.2	0.0		72.7	27.2	0.1		46.2	53.8	0.0		
PHF	0.859	0.869	0.000	0.904	0.928	0.832	0.250	0.974	0.921	0.867	0.000	0.891	0.959
Cars	218	515	0	733	486	181	1	668	140	161	0	301	1702
Cars %	99.1	99.4	0.0	99.3	99.2	98.9	100.0	99.1	100.0	98.8	0.0	99.3	99.2
Heavy Vehicles	2	3	0	5	4	2	0	6	0	2	0	2	13
Heavy Vehicles %	0.9	0.6	0.0	0.7	0.8	1.1	0.0	0.9	0.0	1.2	0.0	0.7	0.8
Cars Enter Leg	218	515	0	733	486	181	1	668	140	161	0	301	1702
Heavy Enter Leg	2	3	0	5	4	2	0	6	0	2	0	2	13
Total Entering Leg	220	518	0	738	490	183	1	674	140	163	0	303	1715
Cars Exiting Leg				647				656				399	1702
Heavy Exiting Leg				6				3				4	13
Total Exiting Leg				653				659				403	1715

PDI File #: **186210 CC**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn	Total		Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total			
4:00 PM	19	122	0	141		130	35	0	165		38	36	0	74		380
4:15 PM	26	126	0	152		127	42	0	169		36	37	0	73		394
4:30 PM	37	115	0	152		108	31	0	139		38	37	0	75		366
4:45 PM	41	142	0	183		108	56	0	164		50	37	0	87		434
Total	123	505	0	628		473	164	0	637		162	147	0	309		1574
5:00 PM	64	106	0	170		127	44	1	172		29	36	0	65		407
5:15 PM	51	117	0	168		107	54	0	161		38	44	0	82		411
5:30 PM	48	143	0	191		130	36	0	166		38	46	0	84		441
5:45 PM	55	149	0	204		122	47	0	169		35	35	0	70		443
Total	218	515	0	733		486	181	1	668		140	161	0	301		1702
Grand Total	341	1020	0	1361		959	345	1	1305		302	308	0	610		3276
Approach %	25.1	74.9	0.0			73.5	26.4	0.1			49.5	50.5	0.0			
Total %	10.4	31.1	0.0	41.5		29.3	10.5	0.0	39.8		9.2	9.4	0.0	18.6		
Exiting Leg Total	1267					1323					686					3276

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
5:00 PM	64	106	0	170	127	44	1	172	29	36	0	65	407
5:15 PM	51	117	0	168	107	54	0	161	38	44	0	82	411
5:30 PM	48	143	0	191	130	36	0	166	38	46	0	84	441
5:45 PM	55	149	0	204	122	47	0	169	35	35	0	70	443
Total Volume	218	515	0	733	486	181	1	668	140	161	0	301	1702
% Approach Total	29.7	70.3	0.0		72.8	27.1	0.1		46.5	53.5	0.0		
PHF	0.852	0.864	0.000	0.898	0.935	0.838	0.250	0.971	0.921	0.875	0.000	0.896	0.960
Entering Leg	218	515	0	733	486	181	1	668	140	161	0	301	1702
Exiting Leg				647				656				399	1702
Total				1380				1324				700	3404

PDI File #: **186210 CC**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
4:00 PM	0	2	0	2	3	0	0	3	1	0	0	1	6
4:15 PM	0	5	0	5	0	0	0	0	1	0	0	1	6
4:30 PM	2	2	0	4	2	0	0	2	0	1	0	1	7
4:45 PM	0	3	0	3	0	1	0	1	0	1	0	1	5
Total	2	12	0	14	5	1	0	6	2	2	0	4	24
5:00 PM	0	1	0	1	1	0	0	1	0	1	0	1	3
5:15 PM	0	2	0	2	1	1	0	2	0	0	0	0	4
5:30 PM	2	0	0	2	2	1	0	3	0	1	0	1	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	3	0	5	4	2	0	6	0	2	0	2	13
Grand Total	4	15	0	19	9	3	0	12	2	4	0	6	37
Approach %	21.1	78.9	0.0		75.0	25.0	0.0		33.3	66.7	0.0		
Total %	10.8	40.5	0.0	51.4	24.3	8.1	0.0	32.4	5.4	10.8	0.0	16.2	
Exiting Leg Total	13				17				7				37
Buses	2	4	0	6	5	2	0	7	2	3	0	5	18
% Buses	50.0	26.7	0.0	31.6	55.6	66.7	0.0	58.3	100.0	75.0	0.0	83.3	48.6
Exiting Leg Total	8				6				4				18
Single-Unit Trucks	1	7	0	8	3	1	0	4	0	1	0	1	13
% Single-Unit	25.0	46.7	0.0	42.1	33.3	33.3	0.0	33.3	0.0	25.0	0.0	16.7	35.1
Exiting Leg Total	4				7				2				13
Articulated Trucks	1	4	0	5	1	0	0	1	0	0	0	0	6
% Articulated	25.0	26.7	0.0	26.3	11.1	0.0	0.0	8.3	0.0	0.0	0.0	0.0	16.2
Exiting Leg Total	1				4				1				6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
4:00 PM	0	2	0	2	3	0	0	3	1	0	0	1	6
4:15 PM	0	5	0	5	0	0	0	0	1	0	0	1	6
4:30 PM	2	2	0	4	2	0	0	2	0	1	0	1	7
4:45 PM	0	3	0	3	0	1	0	1	0	1	0	1	5
Total Volume	2	12	0	14	5	1	0	6	2	2	0	4	24
% Approach Total	14.3	85.7	0.0		83.3	16.7	0.0		50.0	50.0	0.0		
PHF	0.250	0.600	0.000	0.700	0.417	0.250	0.000	0.500	0.500	0.500	0.000	1.000	0.857
Buses	2	3	0	5	2	1	0	3	2	1	0	3	11
Buses %	100.0	25.0	0.0	35.7	40.0	100.0	0.0	50.0	100.0	50.0	0.0	75.0	45.8
Single-Unit Trucks	0	7	0	7	2	0	0	2	0	1	0	1	10
Single-Unit %	0.0	58.3	0.0	50.0	40.0	0.0	0.0	33.3	0.0	50.0	0.0	25.0	41.7
Articulated Trucks	0	2	0	2	1	0	0	1	0	0	0	0	3
Articulated %	0.0	16.7	0.0	14.3	20.0	0.0	0.0	16.7	0.0	0.0	0.0	0.0	12.5
Buses	2	3	0	5	2	1	0	3	2	1	0	3	11
Single-Unit Trucks	0	7	0	7	2	0	0	2	0	1	0	1	10
Articulated Trucks	0	2	0	2	1	0	0	1	0	0	0	0	3
Total Entering Leg	2	12	0	14	5	1	0	6	2	2	0	4	24
Buses				3				5				3	11
Single-Unit Trucks				3				7				0	10
Articulated Trucks				1				2				0	3
Total Exiting Leg				7				14				3	24

PDI File #: **186210 CC**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn	Total		Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total			
4:00 PM	17	108	0	125	118	30	0	148	35	32	0	67	340			
4:15 PM	21	113	0	134	117	38	0	155	34	35	0	69	358			
4:30 PM	29	107	0	136	100	29	0	129	31	37	0	68	333			
4:45 PM	30	127	0	157	100	52	0	152	42	34	0	76	385			
Total	97	455	0	552	435	149	0	584	142	138	0	280	1416			
5:00 PM	61	97	0	158	116	42	0	158	27	33	0	60	376			
5:15 PM	51	104	0	155	98	48	0	146	35	41	0	76	377			
5:30 PM	47	137	0	184	120	31	0	151	33	41	0	74	409			
5:45 PM	51	134	0	185	112	45	0	157	32	34	0	66	408			
Total	210	472	0	682	446	166	0	612	127	149	0	276	1570			
Grand Total	307	927	0	1234	881	315	0	1196	269	287	0	556	2986			
Approach %	24.9	75.1	0.0		73.7	26.3	0.0		48.4	51.6	0.0					
Total %	10.3	31.0	0.0	41.3	29.5	10.5	0.0	40.1	9.0	9.6	0.0	18.6				
Exiting Leg Total	1168				1196				622				2986			

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
5:00 PM	61	97	0	158	116	42	0	158	27	33	0	60	376
5:15 PM	51	104	0	155	98	48	0	146	35	41	0	76	377
5:30 PM	47	137	0	184	120	31	0	151	33	41	0	74	409
5:45 PM	51	134	0	185	112	45	0	157	32	34	0	66	408
Total Volume	210	472	0	682	446	166	0	612	127	149	0	276	1570
% Approach Total	30.8	69.2	0.0		72.9	27.1	0.0		46.0	54.0	0.0		
PHF	0.861	0.861	0.000	0.922	0.929	0.865	0.000	0.968	0.907	0.909	0.000	0.908	0.960
Entering Leg	210	472	0	682	446	166	0	612	127	149	0	276	1570
Exiting Leg				595				599				376	1570
Total				1277				1211				652	3140

PDI File #: **186210 CC**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Light Goods Vehicle

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn	Total		Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total			
4:00 PM	2	14	0	16		12	5	0	17	3	4	0	7		40	
4:15 PM	5	13	0	18		10	4	0	14	2	2	0	4		36	
4:30 PM	7	8	0	15		8	2	0	10	7	0	0	7		32	
4:45 PM	11	15	0	26		8	4	0	12	8	3	0	11		49	
Total	25	50	0	75		38	15	0	53	20	9	0	29		157	
5:00 PM	3	9	0	12		10	2	1	13	2	3	0	5		30	
5:15 PM	0	13	0	13		9	6	0	15	3	3	0	6		34	
5:30 PM	1	6	0	7		9	5	0	14	5	4	0	9		30	
5:45 PM	3	15	0	18		9	2	0	11	2	1	0	3		32	
Total	7	43	0	50		37	15	1	53	12	11	0	23		126	
Grand Total	32	93	0	125		75	30	1	106	32	20	0	52		283	
Approach %	25.6	74.4	0.0			70.8	28.3	0.9		61.5	38.5	0.0				
Total %	11.3	32.9	0.0	44.2		26.5	10.6	0.4	37.5	11.3	7.1	0.0	18.4			
Exiting Leg Total				95					126				62		283	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
4:00 PM	2	14	0	16	12	5	0	17	3	4	0	7	40
4:15 PM	5	13	0	18	10	4	0	14	2	2	0	4	36
4:30 PM	7	8	0	15	8	2	0	10	7	0	0	7	32
4:45 PM	11	15	0	26	8	4	0	12	8	3	0	11	49
Total Volume	25	50	0	75	38	15	0	53	20	9	0	29	157
% Approach Total	33.3	66.7	0.0		71.7	28.3	0.0		69.0	31.0	0.0		
PHF	0.568	0.833	0.000	0.721	0.792	0.750	0.000	0.779	0.625	0.563	0.000	0.659	0.801
Entering Leg	25	50	0	75	38	15	0	53	20	9	0	29	157
Exiting Leg				47				70				40	157
Total				122				123				69	314

PDI File #: **186210 CC**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn	Total		Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		
4:00 PM	0	1	0	1		1	0	0	1		1	0	0	1		3
4:15 PM	0	1	0	1		0	0	0	0		1	0	0	1		2
4:30 PM	2	0	0	2		1	0	0	1		0	1	0	1		4
4:45 PM	0	1	0	1		0	1	0	1		0	0	0	0		2
Total	2	3	0	5		2	1	0	3		2	1	0	3		11
5:00 PM	0	1	0	1		1	0	0	1		0	1	0	1		3
5:15 PM	0	0	0	0		0	1	0	1		0	0	0	0		1
5:30 PM	0	0	0	0		2	0	0	2		0	1	0	1		3
5:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0
Total	0	1	0	1		3	1	0	4		0	2	0	2		7
Grand Total	2	4	0	6		5	2	0	7		2	3	0	5		18
Approach %	33.3	66.7	0.0			71.4	28.6	0.0			40.0	60.0	0.0			
Total %	11.1	22.2	0.0	33.3		27.8	11.1	0.0	38.9		11.1	16.7	0.0	27.8		
Exiting Leg Total	8					6					4					18

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
4:00 PM	0	1	0	1	1	0	0	1	1	0	0	1	3
4:15 PM	0	1	0	1	0	0	0	0	1	0	0	1	2
4:30 PM	2	0	0	2	1	0	0	1	0	1	0	1	4
4:45 PM	0	1	0	1	0	1	0	1	0	0	0	0	2
Total Volume	2	3	0	5	2	1	0	3	2	1	0	3	11
% Approach Total	40.0	60.0	0.0		66.7	33.3	0.0		66.7	33.3	0.0		
PHF	0.250	0.750	0.000	0.625	0.500	0.250	0.000	0.750	0.500	0.250	0.000	0.750	0.688
Entering Leg	2	3	0	5	2	1	0	3	2	1	0	3	11
Exiting Leg				3				5				3	11
Total				8				8				6	22

PDI File #: **186210 CC**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class:

Single-Unit Trucks

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn	Total		Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total			
4:00 PM	0	1	0	1		1	0	0	1	0	0	0	0	2		
4:15 PM	0	3	0	3		0	0	0	0	0	0	0	0	3		
4:30 PM	0	1	0	1		1	0	0	1	0	0	0	0	2		
4:45 PM	0	2	0	2		0	0	0	0	0	1	0	1	3		
Total	0	7	0	7		2	0	0	2	0	1	0	1	10		
5:00 PM	0	0	0	0		0	0	0	0	0	0	0	0	0		
5:15 PM	0	0	0	0		1	0	0	1	0	0	0	0	1		
5:30 PM	1	0	0	1		0	1	0	1	0	0	0	0	2		
5:45 PM	0	0	0	0		0	0	0	0	0	0	0	0	0		
Total	1	0	0	1		1	1	0	2	0	0	0	0	3		
Grand Total	1	7	0	8		3	1	0	4	0	1	0	1	13		
Approach %	12.5	87.5	0.0			75.0	25.0	0.0		0.0	100.0	0.0				
Total %	7.7	53.8	0.0	61.5		23.1	7.7	0.0	30.8	0.0	7.7	0.0	7.7			
Exiting Leg Total	4					7					2					13

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
4:00 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
4:15 PM	0	3	0	3	0	0	0	0	0	0	0	0	3
4:30 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
4:45 PM	0	2	0	2	0	0	0	0	0	1	0	1	3
Total Volume	0	7	0	7	2	0	0	2	0	1	0	1	10
% Approach Total	0.0	100.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.583	0.000	0.583	0.500	0.000	0.000	0.500	0.000	0.250	0.000	0.250	0.833
Entering Leg	0	7	0	7	2	0	0	2	0	1	0	1	10
Exiting Leg				3				7				0	10
Total				10				9				1	20

PDI File #: **186210 CC**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Adams Street					Adams Street					Eliot Street					Total
	from North					from South					from West					
	Right	Thru	U-Turn	Total		Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		
4:00 PM	0	0	0	0		1	0	0	1		0	0	0	0		1
4:15 PM	0	1	0	1		0	0	0	0		0	0	0	0		1
4:30 PM	0	1	0	1		0	0	0	0		0	0	0	0		1
4:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0
Total	0	2	0	2		1	0	0	1		0	0	0	0		3
5:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0
5:15 PM	0	2	0	2		0	0	0	0		0	0	0	0		2
5:30 PM	1	0	0	1		0	0	0	0		0	0	0	0		1
5:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0
Total	1	2	0	3		0	0	0	0		0	0	0	0		3
Grand Total	1	4	0	5		1	0	0	1		0	0	0	0		6
Approach %	20.0	80.0	0.0			100.0	0.0	0.0			0.0	0.0	0.0			
Total %	16.7	66.7	0.0	83.3		16.7	0.0	0.0	16.7		0.0	0.0	0.0	0.0		
Exiting Leg Total	1					4					1					6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street				Adams Street				Eliot Street				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
4:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	1	0	0	1	0	0	0	0	3
% Approach Total	0.0	100.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.500	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	2	0	2	1	0	0	1	0	0	0	0	3
Exiting Leg				1				2				0	3
Total				3				3				0	

PDI File #: **186210 CC**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Bicycles (on Roadway and Crosswalks)

	Adams Street						Adams Street						Eliot Street						Total
	from North						from South						from West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	2
Total	0	1	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	3
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
5:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	1	0	2	0	0	0	2	0	1	0	0	0	1	4
Grand Total	0	2	0	0	0	2	1	2	0	0	0	3	1	1	0	0	0	2	7
Approach %	0.0	100.0	0.0	0.0	0.0		33.3	66.7	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0		
Total %	0.0	28.6	0.0	0.0	0.0	28.6	14.3	28.6	0.0	0.0	0.0	42.9	14.3	14.3	0.0	0.0	0.0	28.6	
Exiting Leg Total	2						3						2						7

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Adams Street						Adams Street						Eliot Street						Total	
	from North						from South						from West							
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total		
4:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
5:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	1	2
Total Volume	0	2	0	0	0	2	0	2	0	0	0	2	1	1	0	0	0	0	2	6
% Approach Total	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0			
PHF	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.500	0.250	0.250	0.000	0.000	0.000	0.500		0.750
Entering Leg	0	2	0	0	0	2	0	2	0	0	0	2	1	1	0	0	0	0	2	6
Exiting Leg	1						3						2						6	
Total	3						5						4						12	

PDI File #: **186210 CC**
 Location: **N: Adams Street S: Adams Street**
 Location: **W: Eliot Street**
 City, State: **Milton, MA**
 Client: **BETA/ J. Curewitz**
 Site Code: **5996**
 Count Date: **Thursday, April 26, 2018**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Pedestrians

	Adams Street						Adams Street						Eliot Street						Total		
	from North						from South						from West								
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total			
4:00 PM	0	0	0	0	0	0	0	0	0	0	5	2	7	0	0	0	0	1	1	2	9
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	4	5	0	0	0	0	0	0	0	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	9	3	12	0	0	0	0	5	0	5	17
4:45 PM	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	1	1	7
Total	0	0	0	0	0	0	0	0	0	0	21	9	30	0	0	0	0	6	2	8	38
5:00 PM	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	0	0	1	1	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	3	3	6	0	0	0	0	0	1	1	7
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2	4	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	5	1	6	0	0	0	0	3	0	3	9
Total	0	0	0	0	1	1	0	0	0	0	11	4	15	0	0	0	0	5	4	9	25
Grand Total	0	0	0	0	1	1	0	0	0	0	32	13	45	0	0	0	0	11	6	17	63
Approach %	0	0	0	0	100		0	0	0	0	71.111	28.889		0	0	0	0	64.706	35.294		
Total %	0	0	0	0	1.5873	1.5873	0	0	0	0	50.794	20.635	71.429	0	0	0	0	17.46	9.5238	26.984	
Exiting Leg Total	1						45						17						63		

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Adams Street						Adams Street						Eliot Street						Total	
	from North						from South						from West							
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	5	2	7	0	0	0	1	1	2	9
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	4	5	0	0	0	0	0	0	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	9	3	12	0	0	0	5	0	5	17
4:45 PM	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	1	1	7
Total Volume	0	0	0	0	0	0	0	0	0	0	21	9	30	0	0	0	6	2	8	38
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	70.0	30.0		0.0	0.0	0.0	75.0	25.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.563	0.625	0.000	0.000	0.000	0.300	0.500	0.400	0.559
Entering Leg	0	0	0	0	0	0	0	0	0	0	21	9	30	0	0	0	6	2	8	38
Exiting Leg	0						30						8						38	
Total	0						60						16						76	

APPENDIX B – PARKING INVENTORY DATA



**Milton Village Mixed-Use
Development Alternatives
Traffic Study**

Milton, MA

Figure B-1

Parking Survey Map -
Eliot Street



**Milton Village Mixed-Use
Development Alternatives
Traffic Study**

Milton, MA

Figure B-2

Parking Survey Map -
Wharf Street



**Milton Village Mixed-Use
Development Alternatives
Traffic Study**

Milton, MA

Figure B-3
Parking Survey Map -
Adams Street/Eliot Street

Space No.	Space Desc.	Time at the Beginning of Patrol																							
		7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	
A1	1-HR		LZ4				938	✓	511	✓	✓	✓		925	184	MK6	8YB	768	267	180	✓	✓		353	
A2	1-HR						R71	511		768	✓	✓		602	9WK	IHI	6DH			8V6	887				
A3	1-HR	625	6RS				411	KS4		B20	WX9		N24		862	470	HW6	✓	✓	469	376				
A3-S								115																	
A4	1-HR			FC9	✓	JW6	✓	H70	✓	663	✓	✓		D32		HW6	N46			I9Y		307			
A5	1-HR			CK4	N20	363	✓	V20	CA8	M10	✓	YF4	✓	WDS		937					E29	✓	TA4		
A6	1-HR						IIS	363		ZD9	OO4	RE7	721	✓	✓	LM1	✓	✓	✓	✓	✓	663	✓	✓	
A7	1-HR	663	✓	✓						762	ZE3	✓	V32	AA4	✓	✓	✓	✓	551	O39	✓			165	
A8	1-HR				CK4	✓		D85	✓	PX2		148		582	566	ZJ5	G70	WH9	213	5HY		XZ6			
A8-B									183																
A9	1-HR	146	✓	✓	567	WF3	✓	✓	251	✓	✓	✓		ZJ5	✓	79I	✓	B81	✓						
A10	1-HR			549		948			BGM	✓	✓	✓		6JV	✓	PK3	SB6	✓	✓	✓					
A11	1-HR	ZL5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	848	✓	A10		349	✓	✓				331		
A12	1-HR	H57		930	✓		376		4ST	✓				EV6											
A13	1-HR						991	✓	X2C	X26					366	✓	✓	105							
A14	1-HR*													ZL5	✓	✓	✓	✓	✓	✓	✓	✓			
A15	1-HR*		M48				674	✓	528	96L					397	✓	✓	✓	✓	✓	✓	✓	✓	✓	
A16	1-HR*		457		440	✓			M70	7KP	✓	✓	S40	352	✓	689	✓	✓	✓	RH6	✓				
A17	1-HR*		686	✓	LH6		810	✓							621	✓	✓	✓		9V5	445				
A18	1-HR*						8YH			DNS	✓				8VA										
A19	1-HR*								WK6	✓	357	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
A20	1-HR*	S11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			496	✓	✓	
A21-F											Z70	✓			RC3	✓	✓	✓	✓						
A21	1-HR				621				RC3	✓	✓	✓	R51	470	✓	178	✓	4LJ	✓	✓	J40	✓	355	✓	
A22	1-HR						593	✓	✓	✓	✓	✓	859	273	G41	F18	✓	✓	264		217	HG3	✓	P73	
A23	1-HR		4VI			663	✓	✓	OZE	✓	✓	3AC		957		265	553	P85	698	251	✓	✓	J84	✓	
A24	1-HR					JE7	✓	✓	817	✓	667	915	6DP		HP1		C24	M54	D45	A27	274				
A25	1-HR ^{HC}								104	313						253						GF6	✓		
A26	1-HR					PG4	✓	✓	937	B10	GL3	FG5	730		KE5	TMK	✓	✓		B10	✓				
A27	1-HR								637					TV7	✓	528	597	ZB9	395		F10				

* = 7AM - 7PM

^{HC} = Handicap

Space No.	Space Desc.	Time at the Beginning of Patrol																							
		7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	
E1	2-HR					YN2	✓	879	✓	✓	✓	✓	✓	✓	RJ9	259	✓	✓			121		AMC	✓	
E1-R														TAG	✓	✓	✓	✓	✓	✓	✓	✓	✓		
E2	2-HR	258	✓	✓	✓	✓	G60	✓	✓	78Z	247	649	✓	ALE	N30	✓	✓	✓		824	✓	169	734	✓	
E3	2-HR	4ST				TC9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		820	NN1	✓	✓			
E4	2-HR			W17	✓	✓	✓	✓	✓	GN7	250			181	✓		370	E50	✓	AD2		763	✓	575	
E5	2-HR																						✓		
E6	2-HR	TV7	✓		9FV	✓	128	✓	✓	YM8	BA5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0YY	
E7	2-HR				DL6	✓	✓	115	✓		X47	M24	✓	S67	✓			634	✓	130	2JN	102	✓	C28	
E8	2-HR		653			851	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9FV	698	
E8-B							646	✓	✓	✓	✓							9XT			959				
E9	2-HR	737	✓	455	720	✓	✓	✓	✓	✓	✓	✓		531	✓	✓		375		KY9	525				
E9-L																		837	✓			173			
E10	2-HR				731		493	✓	816		604			YR6	✓	✓	✓	✓	✓	R40	✓	✓			
E11	2-HR						C59	✓	538		PBD					854	✓	✓	667	✓	✓	✓	✓		
E12	2-HR						XZG	✓	753	✓			654	✓	R40	✓						856			
E13	2-HR								R40	✓	✓	661			297	575	✓	✓		3VW	HLF	WX9	✓	✓	
E14	2-HR						9A0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
E15	2-HR				PB7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
E16	2-HR				DK9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	W89	✓	✓			
E17	2-HR	605	✓	✓	✓	✓	✓	✓								879	✓	✓	✓	✓	✓	✓	✓		
E18	2-HR							465	✓	✓	✓	✓			XW5	625	✓	✓							
E19	2-HR					VD9	✓	✓	✓	✓	✓	✓	✓	✓											
E20	2-HR																	P41							
E21	2-HR				BK5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
E22	2-HR			P54	✓	✓	✓	SKI										193							
E23	2-HR								735	✓	✓	✓	✓	✓	✓	✓	✓			IHF		JR1	658		
E24	2-HR			EL6	✓	✓		B60	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		A17	✓		
E25	2-HR				522	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		720	✓	✓	✓				
E26	2-HR			452	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				P70	VJ1		
E27	2-HR							423	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		L23			
E28	2-HR		745		0BG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	374	✓	265	735	✓	✓	✓		
E29	2-HR	V61	✓	✓	480	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
E30	2-HR	275	D60	YT7		AY5	✓	✓	W32	E94	OO1	646	✓	✓	✓	✓	✓	✓	✓	✓	180		353		
E31	2-HR					N82	969		8MT		813	921	PFG	KY3	726	W10	YK9	656		484	MF9	838	589		
E32	2-HR	898		X50		426			378	V85	858	118		116	✓			JF8	552	Y53	288	XR9	170		
E32-F											280														

Space No.	Space Desc.	Time at the Beginning of Patrol																							
		7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	
H1	2-HR*					H19		856		47A	TD2	WOI	✓	✓	✓	✓	✓	✓	✓	✓					
H1-B																			297						
H2	2-HR*		469	1DB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
H3	2-HR*			593	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
H4	2-HR*	374	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		644			631	✓				574		
H5	2-HR*			J30		B54	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
H6	2-HR*	L11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							T20	✓		
H6-B						C74	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
H7	2-HR*	587	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		369	✓			
H7-B																7DL	✓								
H8	2-HR*	421	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
H9	2-HR*	C23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
H10	2-HR*	518	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
H11	2-HR*	6XF	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		342	✓	✓	✓	✓						

* = 7AM - 7PM

Space No.	Space Desc.	Time at the Beginning of Patrol																							
		7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	
W1	2-HR**						956			916	✓	✓	✓	✓	✓	✓	✓	563	613			349		G76	
W2	2-HR**										552			128	✓	265			283			916	✓		
W3	2-HR**					WA3	✓	✓		GD7	✓			DDI	5FI	H14	✓	✓		592					
W3-F														832		772									
W4	2-HR**	C80					685	430	✓	✓	TZY	✓	✓	✓	A82	✓	✓	✓	✓	✓	✓	✓	✓		
W4-B											A82	✓	✓	✓	397		W01	1RI							
W5	2-HR**					D89	✓				DZ8	✓		K78	TZY	✓	✓	✓	✓	J36		SD9	OKW	✓	
W6	2-HR**			UQY	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
W7	2-HR**					CP2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				AB4	125	✓	
W8	2-HR**								431	✓	✓	✓	✓	4JW	864			MD8		R29	396				
W9	2-HR**	791	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	791	✓	✓			
W10	2-HR**							O24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
W11	2-HR**													✓		B10	✓								
W12	2-HR**									582				435	G70	✓	✓	✓	✓	✓	✓	✓	✓	✓	
W13	2-HR**	N70	✓	✓								535	✓	✓	755		T41	Y37							
W14	2-HR**										L70	✓	✓	✓	N70	RGW	✓	✓		226					
W15	2-HR**							4KR							E40	✓	✓	430	S34	238					
W16	2-HR**											534	✓	✓	✓	✓	✓			YA5	✓	✓			
W17	2-HR**						373					E60	✓	✓	✓	ES4	625	✓	✓	✓	✓	✓	✓	✓	
W18	2-HR**								688	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
W19	2-HR**			491	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
W20	2-HR**									283	✓	✓		ZV9	✓		7KX	939	✓		K83	✓	✓	✓	
W21	2-HR**			Z30							434	✓	✓	✓	✓	✓	434	✓	✓	✓	✓	XHK			
W22	2-HR**										HN7	✓	K83	✓	✓	✓		551		NXT		2VP			
W23	2-HR**										X50	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LV2	✓	
W23-B													CN2	✓		8YB									
W24	2-HR**			836	✓			8TL	✓	✓					YTY	M10	5ZW	✓	6RP		R29			Y26	
W25	2-HR**									866	✓	✓	✓	✓	✓	✓	LR9				AH6				
W26	2-HR**									362	✓	✓	✓	✓	✓	862	PS7	792	✓						
W27	2-HR**								337	✓				P75	178	✓	✓	✓	✓						
W28	2-HR**										538		MC4	✓	FG4	5LB									
W29	2-HR**										MC4	✓			311	✓			732	126					
W30	2-HR**									538			CV3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
W31	2-HR**													432	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
W32															OVX	VX3				OVX	✓	151	676		

** = Weekdays 7AM - 5PM

Capacity		7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	AVERAGE
Adams St	27	6	10	9	10	11	18	18	21	24	20	19	12	19	23	24	24	22	19	17	16	13	9	9	16.22
		22%	37%	33%	37%	41%	67%	67%	78%	89%	74%	70%	44%	70%	85%	89%	89%	81%	70%	63%	59%	48%	33%	33%	60%
Eliot St	32	8	8	10	16	22	25	27	29	25	29	24	21	26	27	26	23	30	18	23	21	21	15	21.52	
		25%	25%	31%	50%	69%	78%	84%	91%	78%	91%	75%	66%	81%	84%	81%	72%	94%	56%	72%	66%	66%	47%	67%	
High St	11	7	8	10	9	11	11	12	11	12	12	12	12	10	12	11	11	10	11	7	7	7	4	1	9.48
		64%	73%	91%	82%	100%	100%	109%	100%	109%	109%	109%	109%	91%	109%	100%	100%	91%	100%	64%	64%	64%	36%	9%	86%
Wharf St	32	3	2	6	4	6	9	9	10	17	23	22	22	31	32	31	27	26	21	21	18	19	13	12	16.70
		9%	6%	19%	13%	19%	28%	28%	31%	53%	72%	69%	69%	97%	100%	97%	84%	81%	66%	66%	56%	59%	41%	38%	52%
Total Parked Vehicles	102	24	28	35	39	50	63	66	71	78	84	77	67	86	94	92	85	88	69	68	62	60	47	37	63.91
% Occupied		24%	27%	34%	38%	49%	62%	65%	70%	76%	82%	75%	66%	84%	92%	90%	83%	86%	68%	67%	61%	59%	46%	36%	63%

Capacity		7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	AVERAGE
Adams St NB (A1-A13)	13	5	5	7	6	6	10	11	10	13	10	10	5	11	10	11	11	9	8	8	5	5	3	4	7.96
		38%	38%	54%	46%	46%	77%	85%	77%	100%	77%	77%	38%	85%	77%	85%	85%	69%	62%	62%	38%	38%	23%	31%	61%
Adams St SB (A14-A27)	14	1	5	2	4	5	8	7	11	11	10	9	7	8	13	13	13	13	11	9	11	8	6	5	8.26
		7%	36%	14%	29%	36%	57%	50%	79%	79%	71%	64%	50%	57%	93%	93%	93%	93%	79%	64%	79%	57%	43%	36%	59%
Eliot St EB (E20-E32)	13	3	3	6	7	10	8	9	11	10	12	11	10	11	11	10	8	11	7	9	6	6	9	5	8.39
		23%	23%	46%	54%	77%	62%	69%	85%	77%	92%	85%	77%	85%	85%	77%	62%	85%	54%	69%	46%	46%	69%	38%	65%
Eliot St WB (E1-E19)	19	5	5	4	9	12	17	18	18	15	17	13	11	15	16	16	15	19	11	14	15	15	12	10	13.13
		26%	26%	21%	47%	63%	89%	95%	95%	79%	89%	68%	58%	79%	84%	84%	79%	100%	58%	74%	79%	79%	63%	53%	69%
High St	11	7	8	10	9	11	11	12	11	12	12	12	12	10	12	11	11	10	11	7	7	7	4	1	9.48
		64%	73%	91%	82%	100%	100%	109%	100%	109%	109%	109%	109%	91%	109%	100%	100%	91%	100%	64%	64%	64%	36%	9%	86%
Wharf St	32	3	2	6	4	6	9	9	10	17	23	22	22	31	32	31	27	26	21	21	18	19	13	12	16.70
		9%	6%	19%	13%	19%	28%	28%	31%	53%	72%	69%	69%	97%	100%	97%	84%	81%	66%	66%	56%	59%	41%	38%	52%
Total Parked Vehicles	102	20	20	27	28	35	47	50	49	57	62	57	50	67	70	69	64	64	51	50	45	46	32	27	47.26
% Occupied		20%	20%	26%	27%	34%	46%	49%	48%	56%	61%	56%	49%	66%	69%	68%	63%	63%	50%	49%	44%	45%	31%	26%	46%

Capacity		7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	AVERAGE
Adams St NB (A1-A13)	13	5	2	4	3	4	6	7	7	8	3	3	4	9	6	9	7	4	3	6	2	4	1	3	4.78
		38%	7%	15%	11%	15%	22%	26%	26%	30%	11%	11%	15%	33%	22%	33%	26%	15%	11%	22%	7%	15%	4%	11%	19%
Adams St SB (A14-A27)	14	1	4	0	3	3	4	0	9	5	4	3	5	6	7	7	3	4	4	5	5	3	2	1	3.83
		4%	15%	0%	11%	11%	15%	0%	33%	19%	15%	11%	19%	22%	26%	26%	11%	15%	15%	19%	19%	11%	7%	4%	14%
Eliot St EB (E20-E32)	13	3	2	5	4	3	1	3	4	2	4	3	1	2	1	1	2	5	2	4	3	4	6	2	2.91
		9%	6%	16%	13%	9%	3%	9%	13%	6%	13%	9%	3%	6%	3%	3%	6%	16%	6%	13%	9%	13%	19%	6%	9%
Eliot St WB (E1-E19)	19	5	1	2	6	4	7	3	4	3	6	3	1	6	5	5	1	5	1	8	6	6	3	4	4.13
		16%	3%	6%	19%	13%	22%	9%	13%	9%	19%	9%	3%	19%	16%	16%	3%	16%	3%	25%	19%	19%	9%	13%	13%
High St	11	7	1	3	0	2	1	1	0	0	1	1	1	0	0	2	1	0	1	1	0	1	1	0	1.13
		64%	9%	27%	0%	18%	9%	9%	0%	9%	9%	9%	0%	0%	18%	9%	0%	9%	9%	0%	9%	9%	9%	0%	10%
Wharf St	32	3	0	4	0	3	3	4	3	7	11	2	4	9	15	11	7	8	5	10	4	7	4	2	5.48
		9%	0%	13%	0%	9%	9%	13%	9%	22%	34%	6%	13%	28%	47%	34%	22%	25%	16%	31%	13%	22%	13%	6%	17%
Total Parked Vehicles % Occupied	102	20	4	13	9	13	17	15	14	19	21	9	9	24	28	26	15	18	10	24	13	18	9	9	15.52
		20%	4%	13%	9%	13%	17%	15%	14%	19%	21%	9%	9%	24%	27%	25%	15%	18%	10%	24%	13%	18%	9%	9%	15%

Spaces		Duration (min/veh)				Turnover (veh/space)				Occupancy (% occupied)			
		AM	Midday	PM	Daily	AM	Midday	PM	Daily	AM	Midday	PM	Daily
Adams St NB (A1-A13)	13	24.6	26.8	24.2	25.0	1.1	2.5	1.0	8.5	44.2%	75.6%	40.4%	61.2%
Adams St SB (A14-A27)	14	22.5	29.0	34.0	32.4	0.6	2.1	1.1	6.3	21.4%	69.0%	60.7%	59.0%
Eliot St EB (E20-E32)	13	20.4	75.0	26.5	43.2	1.1	1.0	1.3	5.2	36.5%	83.3%	57.7%	64.5%
Eliot St WB (E1-E19)	19	24.6	54.4	36.5	47.7	0.7	1.3	1.2	5.0	30.3%	76.3%	73.7%	69.1%
High St	11	46.4	210.0	125.0	125.8	1.0	0.5	0.3	2.4	77.3%	106.1%	56.8%	86.2%
Wharf St	32	32.1	45.9	42.6	45.7	0.2	1.5	0.8	3.9	11.7%	76.6%	55.5%	52.2%
Total		27.8	47.6	37.0	43.1	0.7	1.5	0.9	5.0	36.9%	81.2%	57.5%	65.4%

APPENDIX C – DRAFT BUILD-OUT ALTERNATIVES DATA

Approx. 64,000 SF Total New
Approx. 64,000 SF New Commercial
Approx. 0 New Residential units
Approx. 0 Off-site parking spaces needed



Approx. 180,000 SF Total New
Approx. 180,000 SF New Commercial
Approx. 0 New Residential units
Approx. 500 Off-site parking spaces needed



Potential Build-out Analysis

DRAFT Full Potential Build-out

Existing Zoning - (Most Likely)

EXISTING PARCELS IN MILTON VILLAGE

POTENTIAL BUILD-OUT ACCORDING TO CURRENT BUSINESS DISTRICT ZONING

ZONING REQ'D

ALLOWED HEIGHT (3-STORY/45 FT)

SIDE SETBACK (6 FT)

REAR SETBACK (12 FT)

PARCEL ID	ADDRESS	ALLOWED USE	HEIGHT (STORIES)	HEIGHT (FEET)	FLOOR AREA	RETAIL AREA	OFFICE AREA	RES AREA	TOTAL AREA	RES UNITS	PARKING - RETAIL 1/250 GSF	PARKING - OFFICE 1/250 GSF	PARKING - RES 1/UNIT
F-12-7	2-6 Adams St	NO CHANGE											
F-12-7	2-6 Adams St	COMMERCIAL	3	45	8,500	0	15,700	0	15,700	0	0	63	0
F-12-7	2-6 Adams St												
F-12-10	0 Adams St	NO CHANGE											
E-2-2	1 Eliot St	NO CHANGE											
F-11-5	0 Adams St	NO CHANGE											
F-11-4	40 Adams St	(NO CHANGE)											
F-11-3	50-64 Adams St	NO CHANGE											
F-11-2	0 Wharf St	NO CHANGE											
F-11-101	88 Wharf St	NO CHANGE											
F-11-1	25 Wharf St	NO CHANGE											
F-10-2	90 Adams St	COMMERCIAL	3	45	2,250	0	4,500	0	4,500	0	0	18	0
F-10-1B	98 Adams St	(NO CHANGE)											
F-10-1A	100-102 Adams St												
F-10-3	114 Adams St	COMMERCIAL	1	EXISTING	14,122	0	14,122	0	14,122	0	NA	NA	0
E-1-1	2 Eliot St	(NO CHANGE)											
E-1-3	59 Adams St	COMMERCIAL	3	45	6,371	2,831	8,287	0	11,118	0	11	33	0
E-1-4	65-71 Adams St												
E-1-5A	73-79 Adams St	COMMERCIAL	3	45	3,771	2,575	4,967	0	7,542	0	10	20	0
E-1-5B	26 High St												
E-1-6A	85 Adams St	NO CHANGE											
E-1-8	99 Adams St	NO CHANGE											
E-1-7	36 High St	NO CHANGE											
E-1-6B	30 High St	NO CHANGE											
E-1-9	5 Canton Ave.	COMMERCIAL	2	15	5,724	5,724	5,724	0	11,448	0	23	23	0
E-3-6	26 Eliot St	NO CHANGE											
E-3-8	7 High St	NO CHANGE											
E-3-9	13 High St	NO CHANGE											
E-3-10	11 High St	NO CHANGE											
E-3-11	15 High St	NO CHANGE											
E-3-12	17 High St	NO CHANGE											
E-3-13	21A High St	NO CHANGE											
E-3-14	21-19 High St	NO CHANGE											
E-3-15	25 High St	(NO CHANGE)											
E-3-16	33 High St	(NO CHANGE)											
E-3-18	17 Canton Ave	NO CHANGE											
TOTAL					40,738	11,130	53,300	0	64,430	0	45	157	0

LEGEND

No Change	Redevelopment	Outcome Questionable?	Renovation
-----------	---------------	-----------------------	------------



Approx. 153,000 SF Total New
Approx. 45,000 SF Retail or restaurant
Approx. 156 New Residential units
Approx. 25 Off-site parking spaces needed



Potential Build-out Analysis

DRAFT Full Potential Build-out Proposed Zoning

Residential units calculated
assuming an 80% gross
to net efficiency for area
conversion and average unit
size of 925 SF

EXISTING PARCELS IN MILTON VILLAGE POTENTIAL BUILD-OUT ACCORDING TO PROPOSED MILTON VILLAGE MIXED-USE PUD
ZONING REQ'D ALLOWED HEIGHT (3-STORY/45 FT)
(1-STORY BONUS ON ADAMS ST) SIDE SETBACK (0 FT) REAR SETBACK (0 FT) MAX 60% 1.65

PARCEL ID	ADDRESS	ALLOWED USE	HEIGHT (STORIES)	HEIGHT (FEET)	FLOOR AREA	RETAIL AREA (70% GSF)	OFFICE AREA	RES AREA	TOTAL AREA	RES UNITS	LOT COVER	FAR	PARKING - RETAIL 2/1000 GSF	PARKING - OFFICE 2/1000 GSF	PARKING - RES 1/UNIT	PARKING PROVIDED - ONSITE
F-12-7	2-6 Adams St	NO CHANGE														
F-12-7	2-6 Adams St	MIXED-USE	4	50	7,564	5,295	0	17,358	24,961	16	50%	1.65	11	0	16	28
F-12-7	2-6 Adams St															
F-12-10	0 Adams St	NO CHANGE														
E-2-2	1 Elliot St	RENOVATION	EXIST	EXIST	7,969	0	0	23,907	EXIST	22	NA	NA	0	0	22	8
F-11-5	0 Adams St	NO CHANGE														
F-11-4	40 Adams St	MIXED-USE	3	49	4,450	3,115	0	7,370	10,485	7	60%	1.42	6	0	7	16
F-11-3	50-64 Adams St	RENOVATION	EXIST	EXIST	8,600	0	0	17,200	EXIST	16	NA	NA	0	0	16	16
F-11-2	0 Wharf St	NO CHANGE														
F-11-101	88 Wharf St	NO CHANGE														
F-11-1	25 Wharf St	NO CHANGE														
F-10-2	90 Adams St	MIXED-USE	4	48	4,191	871	871	11,403	13,145	10	53%	1.65	2	2	10	14
F-10-1B	98 Adams St	MIXED-USE	3.5	44	1,844	1,291	0	4,760	6,604	5	46%	1.65	3	0	5	7
F-10-1A	100-102 Adams St															
F-10-3	114 Adams St	RENOVATION	EXIST	EXIST	14,122	0	0	14,122	EXIST	13	NA	NA	0	0	13	12
E-1-1	2 Elliot St	RENO/ADDITION	4	61	3,954	11,096	0	11,430	11,930	11	42%	1.26	22	0	11	8
E-1-3	59 Adams St	MIXED-USE	4	59	7,000	3,601	0	15,549	19,150	14	60%	1.65	7	0	14	30
E-1-4	65-71 Adams St															
E-1-5A	73-79 Adams St	MIXED-USE	4	61	4,928	2,803	3,233	12,378	18,413	11	47%	1.29	10	6	11	24
E-1-5B	26 High St															
E-1-6A	85 Adams St	NO CHANGE														
E-1-8	99 Adams St	NO CHANGE														
E-1-7	36 High St	NO CHANGE														
E-1-6B	30 High St	NO CHANGE														
E-1-9	5 Canton Ave.	MIXED-USE	3	45	8,012	5,608	0	13,896	21,908	13	60%	1.65	11	0	13	30
E-3-6	26 Elliot St	NO CHANGE														
E-3-8	7 High St	NO CHANGE														
E-3-9	13 High St	NO CHANGE														
E-3-10	11 High St	NO CHANGE														
E-3-11	15 High St	NO CHANGE														
E-3-12	17 High St	NO CHANGE														
E-3-13	21A High St	NO CHANGE														
E-3-14	21-19 High St	NO CHANGE														
E-3-15	25 High St	MIXED-USE	3	45	6,019	4,213	0	10,619	14,832	10	60%	1.47	8	0	10	20
		MIXED-USE	3	45	4,425	3,098	0	8,520	11,618	8	48%	1.26	6	0	8	12
		NO CHANGE														
			TOTAL		83,078	40,990	4,104	168,512	153,046	156			86	8	156	225
SUFFICIENT PARKING			TOTAL		71,155	29,894	4,104	133,175	141,116	123	54%	1.65	64	8	123	209

LEGEND

No Change	Redevelopment	Outcome Questionable?	Renovation
-----------	---------------	-----------------------	------------



DRAFT Full Potential Build-out

Existing Zoning - (Most Likely)

Parcel ID	Address	Allowed Use	Height (Stories)	Height (Feet)	Floor Area (SF)	Retail Area (SF)	Office Area (SF)	Res. Area (SF)	Total Area (SF)	Res. Units	Parking - Retail (1/250 GSF)	Parking - Office (1/250 GSF)	Parking - Res. (1/Unit)
F-12-7	2-6 Adams St	No Change											
F-12-7	2-6 Adams St	Commercial	3	45	8,500	0	15,700	0	15,700	0	0	63	0
F-12-7	2-6 Adams St												
F-12-10	0 Adams St	No Change											
E-2-2	1 Eliot St	No Change											
F-11-5	0 Adams St	No Change											
F-11-4	40 Adams St	(No Change)											
F-11-3	50-64 Adams St	No Change											
F-11-2	0 Wharf St	No Change											
F-11-101	88 Wharf St	No Change											
F-11-1	25 Wharf St	No Change											
F-10-2	90 Adams St	Commercial	3	45	2,250	0	4,500	0	4,500	0	0	18	0
F-10-1B	98 Adams St	(No Change)											
F-10-1A	100-102 Adams St												
F-10-3	114 Adams St	Commercial	1	Existing	14,122	0	14,122	0	14,122	0	0	0	0
E-1-1	2 Eliot St	(No Change)											
E-1-3	59 Adams St	Commercial	3	45	6,371	2,831	8,287	0	11,118	0	11	33	0
E-1-4	65-71 Adams St												
E-1-5A	73-79 Adams St	Commercial	3	45	3,771	2,575	4,967	0	7,542	0	10	20	0
E-1-5B	26 High St												
E-1-6A	85 Adams St	No Change											
E-1-8	99 Adams St	No Change											
E-1-7	36 High St	No Change											
E-1-6B	30 High St	No Change											
E-1-9	5 Canton Ave	Commercial	2	15	5,724	5,724	5,724	0	11,448	0	23	23	0
E-3-6	26 Eliot St	No Change											
E-3-8	7 High St	No Change											
E-3-9	13 High St	No Change											
E-3-10	11 High St	No Change											
E-3-11	15 High St	No Change											
E-3-12	17 High St	No Change											
E-3-13	21A High St	No Change											
E-3-14	21-19 High St	No Change											
E-3-15	25 High St	(No Change)											
E-3-16	33 High St	(No Change)											
E-3-18	17 Canton Ave	No Change											
TOTAL					40,738	11,130	53,300	0	64,430	0	44	157	0

LEGEND

	No Change
	Redevelopment
	Outcome (Quest)
	Renovation

DRAFT Full Potential Build-out

Existing Zoning - (Not Likely - Off-site Parking Required)

Parcel ID	Address	Allowed Use	Height (Stories)	Height (Feet)	Floor Area (SF)	Retail Area (SF)	Office Area (SF)	Res. Area (SF)	Total Area (SF)	Res. Units	Parking - Retail (1/250 GSF)	Parking - Office (1/250 GSF)	Parking - Res. (1/Unit)
F-12-7	2-6 Adams St	No Change											
F-12-7	2-6 Adams St	Commercial	3	45	23,906	0	44,156	0	44,156	0	0	177	0
F-12-7	2-6 Adams St												
F-12-10	0 Adams St	No Change											
E-2-2	1 Eliot St	No Change											
F-11-5	0 Adams St	No Change											
F-11-4	40 Adams St	(No Change)											
F-11-3	50-64 Adams St	No Change											
F-11-2	0 Wharf St	No Change											
F-11-101	88 Wharf St	No Change											
F-11-1	25 Wharf St	No Change											
F-10-2	90 Adams St	Commercial	3	45	6,328	0	12,656	0	12,656	0	0	51	0
F-10-1B	98 Adams St	(No Change)											
F-10-1A	100-102 Adams St												
F-10-3	114 Adams St	Commercial	1	Existing	39,718	0	39,718	0	39,718	0	0	0	0
E-1-1	2 Eliot St	(No Change)											
E-1-3	59 Adams St	Commercial	3	45	17,918	7,962	23,307	0	31,269	0	32	93	0
E-1-4	65-71 Adams St												
E-1-5A	73-79 Adams St	Commercial	3	45	10,606	7,242	13,970	0	21,212	0	29	56	0
E-1-5B	26 High St												
E-1-6A	85 Adams St	No Change											
E-1-8	99 Adams St	No Change											
E-1-7	36 High St	No Change											
E-1-6B	30 High St	No Change											
E-1-9	5 Canton Ave	Commercial	2	15	16,099	16,099	16,099	0	32,198	0	64	64	0
E-3-6	26 Eliot St	No Change											
E-3-8	7 High St	No Change											
E-3-9	13 High St	No Change											
E-3-10	11 High St	No Change											
E-3-11	15 High St	No Change											
E-3-12	17 High St	No Change											
E-3-13	21A High St	No Change											
E-3-14	21-19 High St	No Change											
E-3-15	25 High St	(No Change)											
E-3-16	33 High St	(No Change)											
E-3-18	17 Canton Ave	No Change											
TOTAL					114,575	31,303	149,906	0	181,209	0	125	441	0

LEGEND

	No Change
	Redevelopment
	Outcome (Quest)
	Renovation

DRAFT Full Potential Build-out Proposed Zoning - (Most Likely)

Parcel ID	Address	Allowed Use	Height (Stories)	Height (Feet)	Floor Area (SF)	Retail Area (70% GSF)	Office Area (SF)	Res. Area (SF)	Total Area (SF)	Res. Units	Lot Cover	FAR	Parking - Retail (2/1000 GSF)	Parking - Office (2/1000 GSF)	Parking - Res. (1/Unit)	Parking - Provided On-Site
F-12-7	2-6 Adams St	No Change														
F-12-7	2-6 Adams St	Mixed-Use	4	50	6,475	3,865	0	13,713	17,578	13	50%	1.65	8	0	13	28
F-12-7	2-6 Adams St															
F-12-10	0 Adams St	No Change														
E-2-2	1 Eliot St	Renovation	Existing	Existing	6,821	0	0	18,887	Existing	17	N/A	N/A	0	0	17	8
F-11-5	0 Adams St	No Change														
F-11-4	40 Adams St	Mixed-Use	3	49	3,809	2,274	0	5,822	8,096	6	60%	1.42	5	0	6	16
F-11-3	50-64 Adams St	Renovation	Existing	Existing	7,362	0	0	13,588	Existing	13	N/A	N/A	0	0	13	16
F-11-2	0 Wharf St	No Change														
F-11-101	88 Wharf St	No Change														
F-11-1	25 Wharf St	No Change														
F-10-2	90 Adams St	Mixed-Use	4	48	3,587	636	871	9,008	10,515	8	53%	1.65	1	2	8	14
F-10-1B	98 Adams St	Mixed-Use	4	44	1,578	942	0	3,760	4,702	4	46%	1.65	2	0	4	7
F-10-1A	100-102 Adams St															
F-10-3	114 Adams St	Renovation	Existing	Existing	12,088	0	0	11,156	Existing	10	N/A	N/A	0	0	10	12
E-1-1	2 Eliot St	Reno/Addition	4	61	3,385	8,100	0	9,030	17,130	9	42%	1.26	16	0	9	8
E-1-3	59 Adams St	Mixed-Use	4	59	5,992	2,629	0	12,284	14,913	11	60%	1.65	5	0	11	30
E-1-4	65-71 Adams St															
E-1-5A	73-79 Adams St	Mixed-Use	4	61	4,218	2,046	3,233	9,779	15,058	9	47%	1.29	4	6	9	24
E-1-5B	26 High St															
E-1-6A	85 Adams St	No Change														
E-1-8	99 Adams St	No Change														
E-1-7	36 High St	No Change														
E-1-6B	30 High St	No Change														
E-1-9	5 Canton Ave	Mixed-Use	3	45	6,858	4,094	0	10,978	15,072	10	60%	1.65	8	0	10	30
E-3-6	26 Eliot St	No Change														
E-3-8	7 High St	No Change														
E-3-9	13 High St	No Change														
E-3-10	11 High St	No Change														
E-3-11	15 High St	No Change														
E-3-12	17 High St	No Change														
E-3-13	21A High St	No Change														
E-3-14	21-19 High St	No Change														
E-3-15	25 High St	Mixed-Use	3	45	5,152	3,075	0	8,389	11,464	8	60%	1.47	6	0	8	20
E-3-16	33 High St	Mixed-Use	3	45	3,788	2,262	0	6,731	8,993	6	48%	1.26	5	0	6	12
E-3-18	17 Canton Ave	No Change														
TOTAL					71,113	29,923	4,104	133,125	123,521	124			60	8	124	225

LEGEND

	No Change
	Redevelopment
	Outcome (Quest)
	Renovation

DRAFT Full Potential Build-out

Proposed Zoning - (Less Likely - Off-site Parking Required)

Parcel ID	Address	Allowed Use	Height (Stories)	Height (Feet)	Floor Area (SF)	Retail Area (70% GSF)	Office Area (SF)	Res. Area (SF)	Total Area (SF)	Res. Units	Lot Cover	FAR	Parking - Retail (2/1000 GSF)	Parking - Office (2/1000 GSF)	Parking - Res. (1/Unit)	Parking - Provided On-Site
F-12-7	2-6 Adams St	No Change														
F-12-7	2-6 Adams St	Mixed-Use	4	50	7,564	5,295	0	17,358	22,653	16	50%	1.65	11	0	16	28
F-12-7	2-6 Adams St															
F-12-10	0 Adams St	No Change														
E-2-2	1 Eliot St	Renovation	Existing	Existing	7,969	0	0	23,907	Existing	22	N/A	N/A	0	0	22	8
F-11-5	0 Adams St	No Change														
F-11-4	40 Adams St	Mixed-Use	3	49	4,450	3,115	0	7,370	10,485	7	60%	1.42	6	0	7	16
F-11-3	50-64 Adams St	Renovation	Existing	Existing	8,600	0	0	17,200	Existing	16	N/A	N/A	0	0	16	16
F-11-2	0 Wharf St	No Change														
F-11-101	88 Wharf St	No Change														
F-11-1	25 Wharf St	No Change														
F-10-2	90 Adams St	Mixed-Use	4	48	4,191	871	871	11,403	13,145	10	53%	1.65	2	2	10	14
F-10-1B	98 Adams St	Mixed-Use	4	44	1,844	1,291	0	4,760	6,051	5	46%	1.65	3	0	5	7
F-10-1A	100-102 Adams St															
F-10-3	114 Adams St	Renovation	Existing	Existing	14,122	0	0	14,122	Existing	13	N/A	N/A	0	0	13	12
E-1-1	2 Eliot St	Reno/Addition	4	61	3,954	11,096	0	11,430	22,526	11	42%	1.26	22	0	11	8
E-1-3	59 Adams St	Mixed-Use	4	59	7,000	3,601	0	15,549	19,150	14	60%	1.65	7	0	14	30
E-1-4	65-71 Adams St															
E-1-5A	73-79 Adams St	Mixed-Use	4	61	4,928	2,803	3,233	12,378	18,414	11	47%	1.29	6	6	11	24
E-1-5B	26 High St															
E-1-6A	85 Adams St	No Change														
E-1-8	99 Adams St	No Change														
E-1-7	36 High St	No Change														
E-1-6B	30 High St	No Change														
E-1-9	5 Canton Ave	Mixed-Use	3	45	8,012	5,608	0	13,896	19,504	13	60%	1.65	11	0	13	30
E-3-6	26 Eliot St	No Change														
E-3-8	7 High St	No Change														
E-3-9	13 High St	No Change														
E-3-10	11 High St	No Change														
E-3-11	15 High St	No Change														
E-3-12	17 High St	No Change														
E-3-13	21A High St	No Change														
E-3-14	21-19 High St	No Change														
E-3-15	25 High St	Mixed-Use	3	45	6,019	4,213	0	10,619	14,832	10	60%	1.47	8	0	10	20
E-3-16	33 High St	Mixed-Use	3	45	4,425	3,098	0	8,520	11,618	8	48%	1.26	6	0	8	12
E-3-18	17 Canton Ave	No Change														
TOTAL					83,078	40,991	4,104	168,512	158,378	156			82	8	156	225

LEGEND

	No Change
	Redevelopment
	Outcome (Quest)
	Renovation

APPENDIX D – TRIP GENERATION CALCULATIONS

Zone	Parcel	Type	Trips			
			AM		PM	
			Enter	Exit	Enter	Exit
1	E-3-16	Retail	0	0	0	0
2	E-3-16	Office	0	0	0	0
3	E-3-16	Residential	0	0	0	0
4	E-1-9	Retail	3	2	9	9
5	E-1-9	Office	8	2	3	9
6	E-1-9	Residential	0	0	0	0
7	E-3-15	Retail	0	0	0	0
8	E-3-15	Office	0	0	0	0
9	E-3-15	Residential	0	0	0	0
18	E-1-4,5A,5B	Retail	2	1	4	4
19	E-1-4,5A,5B	Office	7	2	3	7
20	E-1-4,5A,5B	Residential	0	0	0	0
21	E-2-2	Retail	0	0	0	0
22	E-2-2	Office	0	0	0	0
23	E-2-2	Residential	0	0	0	0
24	F-12-7	Retail	0	0	0	0
25	F-12-7	Office	18	4	6	20
26	F-12-7	Residential	0	0	0	0
27	E-1-1	Retail	0	0	0	0
27	E-1-3	Retail	2	1	4	5
28	E-1-1	Office	0	0	0	0
28	E-1-3	Office	9	3	3	10
29	E-1-1	Residential	0	0	0	0
29	E-1-3	Residential	0	0	0	0
30	F-11-3	Retail	0	0	0	0
30	F-11-4	Retail	0	0	0	0
31	F-11-3	Office	0	0	0	0
31	F-11-4	Office	0	0	0	0
32	F-11-3	Residential	0	0	0	0
32	F-11-4	Residential	0	0	0	0
33	F-10-1A,1B	Retail	0	0	0	0
33	F-10-2	Retail	0	0	0	0
33	F-10-3	Retail	0	0	0	0
34	F-10-1A,1B	Office	0	0	0	0
34	F-10-2	Office	6	1	3	6
34	F-10-3	Office	16	4	5	18
35	F-10-1A,1B	Residential	0	0	0	0
35	F-10-2	Residential	0	0	0	0
35	F-10-3	Residential	0	0	0	0

Zone	Parcel	Type	Trips			
			AM		PM	
			Enter	Exit	Enter	Exit
1	E-3-16	Retail	0	0	0	0
2	E-3-16	Office	0	0	0	0
3	E-3-16	Residential	0	0	0	0
4	E-1-9	Retail	3	2	6	6
5	E-1-9	Office	8	2	3	9
6	E-1-9	Residential	0	0	0	0
7	E-3-15	Retail	0	0	0	0
8	E-3-15	Office	0	0	0	0
9	E-3-15	Residential	0	0	0	0
18	E-1-4,5A,5B	Retail	2	1	3	3
19	E-1-4,5A,5B	Office	7	2	3	7
20	E-1-4,5A,5B	Residential	0	0	0	0
21	E-2-2	Retail	0	0	0	0
22	E-2-2	Office	0	0	0	0
23	E-2-2	Residential	0	0	0	0
24	F-12-7	Retail	0	0	0	0
25	F-12-7	Office	18	4	6	20
26	F-12-7	Residential	0	0	0	0
27	E-1-1 E-1-3	Retail	2	1	3	4
28	E-1-1 E-1-3	Office	9	3	3	10
29	E-1-1 E-1-3	Residential	0	0	0	0
30	F-11-3 F-11-4	Retail	0	0	0	0
31	F-11-3 F-11-4	Office	0	0	0	0
32	F-11-3 F-11-4	Residential	0	0	0	0
33	F-10-1A,1B F-10-2 F-10-3	Retail	0	0	0	0
34	F-10-1A,1B F-10-2 F-10-3	Office	22	5	8	24
35	F-10-1A,1B F-10-2 F-10-3	Residential	0	0	0	0
			71	20	35	83

Zone	Parcel	Type	Trips			
			AM		PM	
			Enter	Exit	Enter	Exit
1	E-3-16	Retail	0	0	0	0
2	E-3-16	Office	0	0	0	0
3	E-3-16	Residential	0	0	0	0
4	E-1-9	Retail	8	5	25	27
5	E-1-9	Office	18	4	6	20
6	E-1-9	Residential	0	0	0	0
7	E-3-15	Retail	0	0	0	0
8	E-3-15	Office	0	0	0	0
9	E-3-15	Residential	0	0	0	0
18	E-1-4,5A,5B	Retail	3	3	11	12
19	E-1-4,5A,5B	Office	16	4	5	16
20	E-1-4,5A,5B	Residential	0	0	0	0
21	E-2-2	Retail	0	0	0	0
22	E-2-2	Office	0	0	0	0
23	E-2-2	Residential	0	0	0	0
24	F-12-7	Retail	0	0	0	0
25	F-12-7	Office	51	11	16	54
26	F-12-7	Residential	0	0	0	0
27	E-1-1	Retail	0	0	0	0
27	E-1-3	Retail	4	3	13	14
28	E-1-1	Office	0	0	0	0
28	E-1-3	Office	26	6	9	28
29	E-1-1	Residential	0	0	0	0
29	E-1-3	Residential	0	0	0	0
30	F-11-3	Retail	0	0	0	0
30	F-11-4	Retail	0	0	0	0
31	F-11-3	Office	0	0	0	0
31	F-11-4	Office	0	0	0	0
32	F-11-3	Residential	0	0	0	0
32	F-11-4	Residential	0	0	0	0
33	F-10-1A,1B	Retail	0	0	0	0
33	F-10-2	Retail	0	0	0	0
33	F-10-3	Retail	0	0	0	0
34	F-10-1A,1B	Office	0	0	0	0
34	F-10-2	Office	14	3	5	15
34	F-10-3	Office	46	10	14	48
35	F-10-1A,1B	Residential	0	0	0	0
35	F-10-2	Residential	0	0	0	0
35	F-10-3	Residential	0	0	0	0

Zone	Parcel	Type	Trips			
			AM		PM	
			Enter	Exit	Enter	Exit
1	E-3-16	Retail	0	0	0	0
2	E-3-16	Office	0	0	0	0
3	E-3-16	Residential	0	0	0	0
4	E-1-9	Retail	8	5	17	18
5	E-1-9	Office	18	4	6	20
6	E-1-9	Residential	0	0	0	0
7	E-3-15	Retail	0	0	0	0
8	E-3-15	Office	0	0	0	0
9	E-3-15	Residential	0	0	0	0
18	E-1-4,5A,5B	Retail	3	3	8	8
19	E-1-4,5A,5B	Office	16	4	5	16
20	E-1-4,5A,5B	Residential	0	0	0	0
21	E-2-2	Retail	0	0	0	0
22	E-2-2	Office	0	0	0	0
23	E-2-2	Residential	0	0	0	0
24	F-12-7	Retail	0	0	0	0
25	F-12-7	Office	51	11	16	54
26	F-12-7	Residential	0	0	0	0
27	E-1-1 E-1-3	Retail	4	3	9	10
28	E-1-1 E-1-3	Office	26	6	9	28
29	E-1-1 E-1-3	Residential	0	0	0	0
30	F-11-3 F-11-4	Retail	0	0	0	0
31	F-11-3 F-11-4	Office	0	0	0	0
32	F-11-3 F-11-4	Residential	0	0	0	0
33	F-10-1A,1B F-10-2 F-10-3	Retail	0	0	0	0
34	F-10-1A,1B F-10-2 F-10-3	Office	60	13	19	63
35	F-10-1A,1B F-10-2 F-10-3	Residential	0	0	0	0
			186	49	89	217

Zone	Parcel	Type	Trips			
			AM		PM	
			Enter	Exit	Enter	Exit
1	E-3-16	Retail	1	1	3	3
2	E-3-16	Office	0	0	0	0
3	E-3-16	Residential	0	1	1	2
4	E-1-9	Retail	2	1	6	7
5	E-1-9	Office	0	0	0	0
6	E-1-9	Residential	2	3	3	2
7	E-3-15	Retail	2	1	5	5
8	E-3-15	Office	0	0	0	0
9	E-3-15	Residential	0	2	2	2
18	E-1-4,5A,5B	Retail	1	1	3	3
19	E-1-4,5A,5B	Office	4	1	3	4
20	E-1-4,5A,5B	Residential	1	2	2	2
21	E-2-2	Retail	0	0	0	0
22	E-2-2	Office	0	0	0	0
23	E-2-2	Residential	2	4	4	3
24	F-12-7	Retail	2	1	6	7
25	F-12-7	Office	0	0	0	0
26	F-12-7	Residential	2	3	3	2
27	E-1-1	Retail	4	3	13	14
27	E-1-3	Retail	2	1	4	4
28	E-1-1	Office	0	0	0	0
28	E-1-3	Office	0	0	0	0
29	E-1-1	Residential	1	2	2	2
29	E-1-3	Residential	2	3	3	2
30	F-11-3	Retail	0	0	0	0
30	F-11-4	Retail	1	1	3	4
31	F-11-3	Office	0	0	0	0
31	F-11-4	Office	0	0	0	0
32	F-11-3	Residential	1	3	3	2
32	F-11-4	Residential	0	1	1	2
33	F-10-1A,1B	Retail	1	0	2	2
33	F-10-2	Retail	0	0	1	1
33	F-10-3	Retail	0	0	0	0
34	F-10-1A,1B	Office	0	0	0	0
34	F-10-2	Office	2	0	0	2
34	F-10-3	Office	0	0	0	0
35	F-10-1A,1B	Residential	0	1	1	1
35	F-10-2	Residential	0	2	2	2
35	F-10-3	Residential	1	3	3	2

Zone	Parcel	Type	Trips			
			AM		PM	
			Enter	Exit	Enter	Exit
1	E-3-16	Retail	1	1	2	2
2	E-3-16	Office	0	0	0	0
3	E-3-16	Residential	0	1	1	2
4	E-1-9	Retail	2	1	4	5
5	E-1-9	Office	0	0	0	0
6	E-1-9	Residential	2	3	3	2
7	E-3-15	Retail	2	1	4	4
8	E-3-15	Office	0	0	0	0
9	E-3-15	Residential	0	2	2	2
18	E-1-4,5A,5B	Retail	1	1	2	2
19	E-1-4,5A,5B	Office	4	1	3	4
20	E-1-4,5A,5B	Residential	1	2	2	2
21	E-2-2	Retail	0	0	0	0
22	E-2-2	Office	0	0	0	0
23	E-2-2	Residential	2	4	4	3
24	F-12-7	Retail	2	1	4	5
25	F-12-7	Office	0	0	0	0
26	F-12-7	Residential	2	3	3	2
27	E-1-1 E-1-3	Retail	6	4	12	12
28	E-1-1 E-1-3	Office	0	0	0	0
29	E-1-1 E-1-3	Residential	3	5	5	4
30	F-11-3 F-11-4	Retail	1	1	2	3
31	F-11-3 F-11-4	Office	0	0	0	0
32	F-11-3 F-11-4	Residential	1	4	4	4
33	F-10-1A,1B F-10-2 F-10-3	Retail	1	0	2	2
34	F-10-1A,1B F-10-2 F-10-3	Office	2	0	0	2
35	F-10-1A,1B F-10-2 F-10-3	Residential	1	6	6	5
			34	41	65	67

Zone	Parcel	Type	Trips			
			AM		PM	
			Enter	Exit	Enter	Exit
1	E-3-16	Retail	2	1	5	5
2	E-3-16	Office	0	0	0	0
3	E-3-16	Residential	0	2	2	2
4	E-1-9	Retail	3	2	9	9
5	E-1-9	Office	0	0	0	0
6	E-1-9	Residential	2	3	3	2
7	E-3-15	Retail	2	2	7	7
8	E-3-15	Office	0	0	0	0
9	E-3-15	Residential	2	3	3	2
18	E-1-4,5A,5B	Retail	2	1	4	5
19	E-1-4,5A,5B	Office	4	1	3	4
20	E-1-4,5A,5B	Residential	2	3	3	2
21	E-2-2	Retail	0	0	0	0
22	E-2-2	Office	0	0	0	0
23	E-2-2	Residential	2	5	5	3
24	F-12-7	Retail	3	2	9	9
25	F-12-7	Office	0	0	0	0
26	F-12-7	Residential	2	3	3	3
27	E-1-1	Retail	5	3	17	19
27	E-1-3	Retail	2	1	6	6
28	E-1-1	Office	0	0	0	0
28	E-1-3	Office	0	0	0	0
29	E-1-1	Residential	2	3	3	2
29	E-1-3	Residential	2	3	3	3
30	F-11-3	Retail	0	0	0	0
30	F-11-4	Retail	2	1	5	5
31	F-11-3	Office	0	0	0	0
31	F-11-4	Office	0	0	0	0
32	F-11-3	Residential	1	3	3	3
32	F-11-4	Residential	0	2	2	2
33	F-10-1A,1B	Retail	1	0	2	3
33	F-10-2	Retail	1	0	2	2
33	F-10-3	Retail	0	0	0	0
34	F-10-1A,1B	Office	0	0	0	0
34	F-10-2	Office	2	0	0	2
34	F-10-3	Office	0	0	0	0
35	F-10-1A,1B	Residential	0	1	1	2
35	F-10-2	Residential	2	3	3	2
35	F-10-3	Residential	1	3	3	2

Zone	Parcel	Type	Trips			
			AM		PM	
			Enter	Exit	Enter	Exit
1	E-3-16	Retail	2	1	4	4
2	E-3-16	Office	0	0	0	0
3	E-3-16	Residential	0	2	2	2
4	E-1-9	Retail	3	2	6	6
5	E-1-9	Office	0	0	0	0
6	E-1-9	Residential	2	3	3	2
7	E-3-15	Retail	2	2	5	5
8	E-3-15	Office	0	0	0	0
9	E-3-15	Residential	2	3	3	2
18	E-1-4,5A,5B	Retail	2	1	3	4
19	E-1-4,5A,5B	Office	4	1	3	4
20	E-1-4,5A,5B	Residential	2	3	3	2
21	E-2-2	Retail	0	0	0	0
22	E-2-2	Office	0	0	0	0
23	E-2-2	Residential	2	5	5	3
24	F-12-7	Retail	3	2	6	6
25	F-12-7	Office	0	0	0	0
26	F-12-7	Residential	2	3	3	3
27	E-1-1 E-1-3	Retail	7	4	16	17
28	E-1-1 E-1-3	Office	0	0	0	0
29	E-1-1 E-1-3	Residential	4	6	6	5
30	F-11-3 F-11-4	Retail	2	1	4	4
31	F-11-3 F-11-4	Office	0	0	0	0
32	F-11-3 F-11-4	Residential	1	5	5	5
33	F-10-1A,1B F-10-2 F-10-3	Retail	2	0	3	4
34	F-10-1A,1B F-10-2 F-10-3	Office	2	0	0	2
35	F-10-1A,1B F-10-2 F-10-3	Residential	3	7	7	6
			47	51	87	86

APPENDIX E – INTERSECTION CAPACITY ANALYSES

Base Conditions (2018)

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 8 Report
11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	8	815	18	16	455
Future Volume (Veh/h)	14	8	815	18	16	455
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.79	0.79	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	18	10	916	20	17	479
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.80	0.74			0.74	
vC, conflicting volume	1449	936			946	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1074	734			747	
tC, single (s)	6.6	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.4	
p0 queue free %	90	97			97	
cM capacity (veh/h)	172	293			575	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	28	936	17	479		
Volume Left	18	0	17	0		
Volume Right	10	20	0	0		
cSH	202	1700	575	1700		
Volume to Capacity	0.14	0.55	0.03	0.28		
Queue Length 95th (ft)	12	0	2	0		
Control Delay (s)	25.7	0.0	11.4	0.0		
Lane LOS	D		B			
Approach Delay (s)	25.7	0.0	0.4			
Approach LOS	D					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			54.0%		ICU Level of Service	A
Analysis Period (min)			15			

Timings 3: Adams Street & Eliot Street

Synchro 8 Report
11/11/2018

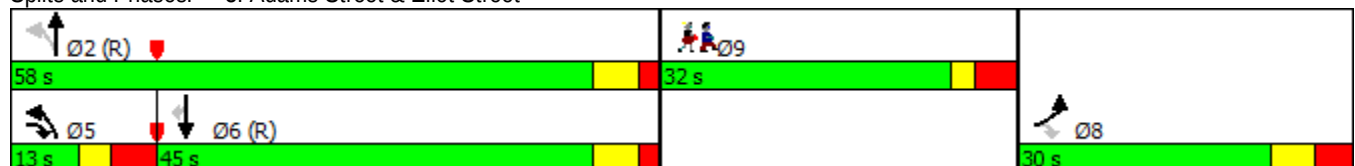


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	300	155	100	710	325	90	
Future Volume (vph)	300	155	100	710	325	90	
Lane Group Flow (vph)	337	174	115	816	342	95	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	30.0	13.0	13.0	58.0	45.0	45.0	32.0
Total Split (%)	25.0%	10.8%	10.8%	48.3%	37.5%	37.5%	27%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.85	0.33	0.26	0.89	0.41	0.12	
Control Delay	65.8	20.7	16.3	37.2	27.7	6.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.8	20.7	16.3	37.2	27.7	6.1	
Queue Length 50th (ft)	240	55	27	527	156	0	
Queue Length 95th (ft)	#446	126	76	#919	317	38	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	397	524	448	922	830	765	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.85	0.33	0.26	0.89	0.41	0.12	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 6 (5%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 8 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	300	155	100	710	325	90
Future Volume (vph)	300	155	100	710	325	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1416	1736	1642	1863	1599
Flt Permitted	0.95	1.00	0.39	1.00	1.00	1.00
Satd. Flow (perm)	1814	1416	703	1642	1863	1599
Peak-hour factor, PHF	0.89	0.89	0.87	0.87	0.95	0.95
Adj. Flow (vph)	337	174	115	816	342	95
RTOR Reduction (vph)	0	48	0	0	0	55
Lane Group Flow (vph)	337	126	115	816	342	40
Heavy Vehicles (%)	1%	3%	4%	3%	2%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	26.3	33.2	63.8	63.8	49.9	49.9
Effective Green, g (s)	26.3	33.2	63.8	63.8	49.9	49.9
Actuated g/C Ratio	0.22	0.28	0.53	0.53	0.42	0.42
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	397	391	433	872	774	664
v/s Ratio Prot	c0.19	0.02	0.02	c0.50	0.18	
v/s Ratio Perm		0.07	0.13			0.02
v/c Ratio	0.85	0.32	0.27	0.94	0.44	0.06
Uniform Delay, d1	44.9	34.5	15.5	26.2	25.1	21.0
Progression Factor	1.00	1.00	0.91	0.99	1.00	1.00
Incremental Delay, d2	15.4	0.5	0.3	16.8	1.8	0.2
Delay (s)	60.4	35.0	14.5	42.7	26.9	21.2
Level of Service	E	C	B	D	C	C
Approach Delay (s)	51.7			39.2	25.7	
Approach LOS	D			D	C	

Intersection Summary

HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 8 Report
11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	15	625	285	210	16				
Future Volume (vph)	15	625	285	210	16				
Lane Group Flow (vph)	16	679	517	228	17				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	52.0	52.0	52.0	51.0	51.0	11.5	20.0	19.5	17.0
Total Split (%)	43.3%	43.3%	43.3%	42.5%	42.5%	10%	17%	16%	14%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.04	0.57	0.48	0.50	0.04				
Control Delay	16.9	20.6	9.7	13.3	0.2				
Queue Delay	0.0	0.6	0.1	0.5	0.2				
Total Delay	16.9	21.2	9.9	13.9	0.4				
Queue Length 50th (ft)	4	244	134	42	0				
Queue Length 95th (ft)	24	#737	208	m47	m0				
Internal Link Dist (ft)		1186	236	69					
Turn Bay Length (ft)	65								
Base Capacity (vph)	430	1182	1070	668	566				
Starvation Cap Reductn	0	0	84	174	336				
Spillback Cap Reductn	0	196	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.04	0.69	0.52	0.46	0.07				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 105

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12 Ø2 (R) 52 s	#11 Ø9 17 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s		#12 Ø7 20 s
		#12 Ø8 19.5 s
		#12 Ø3 11.5 s

Base (2018) AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 8 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	15	625	285	190	210	16
Future Volume (vph)	15	625	285	190	210	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1850	1909	1708		1745	1451
Flt Permitted	0.36	1.00	1.00		0.95	1.00
Satd. Flow (perm)	695	1909	1708		1745	1451
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	679	310	207	228	17
RTOR Reduction (vph)	0	0	15	0	0	12
Lane Group Flow (vph)	16	679	502	0	228	5
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	0%	2%	3%	2%	5%	13%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	65.4	65.4	65.4		35.4	35.4
Effective Green, g (s)	65.4	65.4	65.4		35.4	35.4
Actuated g/C Ratio	0.55	0.55	0.55		0.29	0.29
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	378	1040	930		514	428
v/s Ratio Prot		c0.36	0.29		c0.13	
v/s Ratio Perm	0.02					0.00
v/c Ratio	0.04	0.65	0.54		0.44	0.01
Uniform Delay, d1	12.7	19.3	17.6		34.3	29.9
Progression Factor	1.00	1.00	0.50		0.28	0.00
Incremental Delay, d2	0.2	3.2	2.1		0.5	0.0
Delay (s)	12.9	22.5	11.0		10.2	0.0
Level of Service	B	C	B		B	A
Approach Delay (s)		22.3	11.0		9.5	
Approach LOS		C	B		A	
Intersection Summary						
HCM 2000 Control Delay		16.1		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.63				
Actuated Cycle Length (s)		120.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		53.7%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	65	1	160	150	55				
Future Volume (vph)	65	1	160	150	55				
Lane Group Flow (vph)	84	17	179	163	60				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	20.0			52.0	51.0	52.0	17.0
Total Split (%)	16.3%	9.6%	16.7%			43%	43%	43%	14%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.31	0.07	0.72	0.14	0.06				
Control Delay	2.9	0.6	66.7	3.0	3.2				
Queue Delay	0.0	0.0	0.2	0.7	0.7				
Total Delay	2.9	0.6	66.8	3.7	3.9				
Queue Length 50th (ft)	0	0	133	5	2				
Queue Length 95th (ft)	0	0	#253	19	9				
Internal Link Dist (ft)	271	197	280	69					
Turn Bay Length (ft)									
Base Capacity (vph)	364	242	251	1142	971				
Starvation Cap Reductn	0	0	0	724	735				
Spillback Cap Reductn	0	0	2	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.23	0.07	0.72	0.39	0.25				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 105

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 52 s	#11 Ø9 17 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s	#12 Ø7 20 s	#12 Ø8 19.5 s
		#12 Ø3 11.5 s

Milton Village Mixed-Use Development Alternatives

Base (2018) AM Peak Hour (7:30 - 8:30)

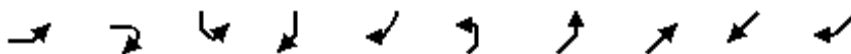
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	65	12	1	1	14	5	0	160	150	55
Future Volume (vph)	65	12	1	1	14	5	0	160	150	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Frt	0.98		0.87					1.00	1.00	0.85
Flt Protected	0.96		1.00					1.00	1.00	1.00
Satd. Flow (prot)	1679		1654					1809	1844	1567
Flt Permitted	0.96		1.00					1.00	1.00	1.00
Satd. Flow (perm)	1679		1654					1809	1844	1567
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	13	1	1	15	5	0	174	163	60
RTOR Reduction (vph)	79	0	17	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	0	0	0	0	0	179	163	60
Confl. Peds. (#/hr)										
Heavy Vehicles (%)	6%	8%	0%	0%	0%	0%	0%	5%	2%	2%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	6.6		2.4					16.4	65.4	65.4
Effective Green, g (s)	6.6		2.4					16.4	65.4	65.4
Actuated g/C Ratio	0.05		0.02					0.14	0.55	0.55
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	92		33					247	1004	854
v/s Ratio Prot	c0.00		c0.00					c0.10	c0.09	0.04
v/s Ratio Perm										
v/c Ratio	0.05		0.01					0.72	0.16	0.07
Uniform Delay, d1	53.7		57.6					49.6	13.6	12.9
Progression Factor	1.00		1.00					1.00	0.20	0.21
Incremental Delay, d2	0.2		0.1					10.1	0.3	0.1
Delay (s)	54.0		57.8					59.7	3.0	2.8
Level of Service	D		E					E	A	A
Approach Delay (s)	54.0		57.8					59.7	3.0	
Approach LOS	D		E					E	A	
Intersection Summary										
HCM 2000 Control Delay			33.5							
HCM 2000 Volume to Capacity ratio			0.25							
Actuated Cycle Length (s)			120.0							
Intersection Capacity Utilization			40.0%							
Analysis Period (min)			15							
c Critical Lane Group										
HCM 2000 Level of Service								C		
Sum of lost time (s)								27.0		
ICU Level of Service								A		

Queuing and Blocking Report
Base (2018) AM Peak Hour (7:30 - 8:30)

11/11/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	94	237	64	167
Average Queue (ft)	24	141	14	17
95th Queue (ft)	84	305	47	91
Link Distance (ft)	134	224		213
Upstream Blk Time (%)	3	5		0
Queuing Penalty (veh)	0	43		0
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			1	2
Queuing Penalty (veh)			3	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	487	75	100	230	192	65	146
Average Queue (ft)	433	56	45	181	134	24	33
95th Queue (ft)	568	100	94	295	215	52	115
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	58			14	16		
Queuing Penalty (veh)	0			117	0		
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	73	2	3	30			
Queuing Penalty (veh)	113	7	20	30			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE
Directions Served	L	T	TR	L
Maximum Queue (ft)	89	563	227	69
Average Queue (ft)	12	266	113	22
95th Queue (ft)	50	500	230	57
Link Distance (ft)		1238	224	69
Upstream Blk Time (%)			3	3
Queuing Penalty (veh)			15	4
Storage Bay Dist (ft)	65			
Storage Blk Time (%)	0	36		
Queuing Penalty (veh)	0	5		

Queuing and Blocking Report
Base (2018) AM Peak Hour (7:30 - 8:30)

11/11/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	175	34	291	72	43
Average Queue (ft)	62	11	130	22	8
95th Queue (ft)	128	35	227	60	31
Link Distance (ft)	308	226	320	69	69
Upstream Blk Time (%)			0	1	0
Queuing Penalty (veh)			0	1	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 359

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 9 Report
11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	23	645	22	8	645
Future Volume (Veh/h)	29	23	645	22	8	645
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.65	0.65	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	45	35	679	23	9	717
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.83	0.87			0.87	
vC, conflicting volume	1442	708			719	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1069	585			598	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	77	92			99	
cM capacity (veh/h)	198	438			842	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	80	702	9	717		
Volume Left	45	0	9	0		
Volume Right	35	23	0	0		
cSH	260	1700	842	1700		
Volume to Capacity	0.31	0.41	0.01	0.42		
Queue Length 95th (ft)	32	0	1	0		
Control Delay (s)	24.9	0.0	9.3	0.0		
Lane LOS	C		A			
Approach Delay (s)	24.9	0.0	0.1			
Approach LOS	C					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			45.3%		ICU Level of Service	A
Analysis Period (min)			15			

Timings 3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018

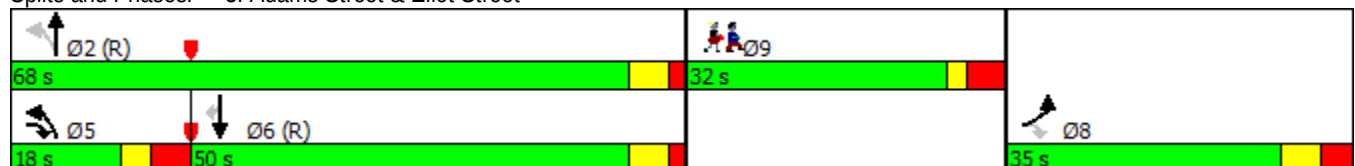


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	165	140	185	460	520	220	
Future Volume (vph)	165	140	185	460	520	220	
Lane Group Flow (vph)	185	157	189	469	578	244	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	35.0	18.0	18.0	68.0	50.0	50.0	32.0
Total Split (%)	25.9%	13.3%	13.3%	50.4%	37.0%	37.0%	24%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.73	0.31	0.44	0.42	0.60	0.27	
Control Delay	71.3	14.1	13.6	11.5	31.9	8.8	
Queue Delay	0.0	0.0	0.0	0.4	0.4	0.0	
Total Delay	71.3	14.1	13.6	11.9	32.3	8.8	
Queue Length 50th (ft)	157	34	21	56	280	21	
Queue Length 95th (ft)	226	85	130	316	#724	106	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	369	505	429	1112	963	908	
Starvation Cap Reductn	0	0	0	259	0	0	
Spillback Cap Reductn	0	5	0	0	97	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.50	0.31	0.44	0.55	0.67	0.27	

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 2 (1%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



Milton Village Mixed-Use Development Alternatives
Base (2018) PM Peak Hour (5:00 - 6:00)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	165	140	185	460	520	220
Future Volume (vph)	165	140	185	460	520	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1459	1787	1674	1881	1599
Flt Permitted	0.95	1.00	0.24	1.00	1.00	1.00
Satd. Flow (perm)	1814	1459	448	1674	1881	1599
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.90	0.90
Adj. Flow (vph)	185	157	189	469	578	244
RTOR Reduction (vph)	0	78	0	0	0	95
Lane Group Flow (vph)	185	79	189	469	578	149
Heavy Vehicles (%)	1%	0%	1%	1%	1%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	19.0	32.6	86.1	86.1	65.5	65.5
Effective Green, g (s)	19.0	32.6	86.1	86.1	65.5	65.5
Actuated g/C Ratio	0.14	0.24	0.64	0.64	0.49	0.49
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	352	420	1067	912	775
v/s Ratio Prot	c0.10	0.02	0.05	c0.28	c0.31	
v/s Ratio Perm		0.03	0.24			0.09
v/c Ratio	0.73	0.22	0.45	0.44	0.63	0.19
Uniform Delay, d1	55.5	41.1	15.4	12.3	25.8	19.7
Progression Factor	1.00	1.00	0.79	0.67	1.00	1.00
Incremental Delay, d2	9.8	0.3	0.7	1.2	3.3	0.6
Delay (s)	65.3	41.4	12.9	9.5	29.2	20.3
Level of Service	E	D	B	A	C	C
Approach Delay (s)	54.3			10.5	26.5	
Approach LOS	D			B	C	
Intersection Summary						
HCM 2000 Control Delay			26.0		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.58			
Actuated Cycle Length (s)			135.0		Sum of lost time (s)	26.5
Intersection Capacity Utilization			63.8%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Timings

11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	80	355	395	310	32				
Future Volume (vph)	80	355	395	310	32				
Lane Group Flow (vph)	87	386	733	337	35				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	65.0	65.0	65.0	53.0	53.0	11.5	22.0	19.5	17.0
Total Split (%)	48.1%	48.1%	48.1%	39.3%	39.3%	9%	16%	14%	13%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.71	0.39	0.81	0.49	0.06				
Control Delay	61.0	22.5	25.4	10.3	0.1				
Queue Delay	0.0	0.0	0.6	2.4	2.4				
Total Delay	61.0	22.5	26.0	12.8	2.5				
Queue Length 50th (ft)	56	196	536	44	0				
Queue Length 95th (ft)	#177	326	#822	401	m0				
Internal Link Dist (ft)		1186	236	67					
Turn Bay Length (ft)	65								
Base Capacity (vph)	122	993	908	695	631				
Starvation Cap Reductn	0	0	31	235	524				
Spillback Cap Reductn	0	0	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.71	0.39	0.84	0.73	0.33				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

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

Natural Cycle: 135

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12 Ø2 (R) 65 s	#11 Ø4 17 s	#11 Ø4 53 s
#11 #12 Ø6 (R) 65 s	#12 Ø7 22 s	#12 Ø8 19.5 s
		#12 Ø3 11.5 s

Base (2018) PM Peak Hour (5:00 - 6:00)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	80	355	395	280	310	32
Future Volume (vph)	80	355	395	280	310	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1796	1928	1731		1814	1591
Flt Permitted	0.13	1.00	1.00		0.95	1.00
Satd. Flow (perm)	238	1928	1731		1814	1591
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	386	429	304	337	35
RTOR Reduction (vph)	0	0	18	0	0	21
Lane Group Flow (vph)	87	386	715	0	337	14
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	3%	1%	1%	1%	1%	3%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	63.7	63.7	63.7		52.1	52.1
Effective Green, g (s)	63.7	63.7	63.7		52.1	52.1
Actuated g/C Ratio	0.47	0.47	0.47		0.39	0.39
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	112	909	816		700	614
v/s Ratio Prot		0.20	c0.41		c0.19	
v/s Ratio Perm	0.37					0.01
v/c Ratio	0.78	0.42	0.88		0.48	0.02
Uniform Delay, d1	29.7	23.5	32.1		31.3	25.7
Progression Factor	1.00	1.00	0.65		0.26	0.00
Incremental Delay, d2	40.0	1.5	11.4		0.4	0.0
Delay (s)	69.7	25.0	32.1		8.4	0.0
Level of Service	E	C	C		A	A
Approach Delay (s)		33.2	32.1		7.6	
Approach LOS		C	C		A	
Intersection Summary						
HCM 2000 Control Delay		26.7		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.75				
Actuated Cycle Length (s)		135.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		77.6%		ICU Level of Service		D
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	70	12	260	220	140				
Future Volume (vph)	70	12	260	220	140				
Lane Group Flow (vph)	81	38	288	239	152				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	22.0			65.0	53.0	65.0	17.0
Total Split (%)	14.4%	8.5%	16.3%			48%	39%	48%	13%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.33	0.18	0.70	0.25	0.19				
Control Delay	3.4	1.8	59.0	3.2	3.2				
Queue Delay	0.0	0.0	0.1	2.4	2.5				
Total Delay	3.4	1.8	59.1	5.5	5.7				
Queue Length 50th (ft)	0	0	230	6	3				
Queue Length 95th (ft)	0	0	#493	m20	m13				
Internal Link Dist (ft)	249	197	277	67					
Turn Bay Length (ft)									
Base Capacity (vph)	335	216	411	969	815				
Starvation Cap Reductn	0	0	0	597	549				
Spillback Cap Reductn	4	4	3	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.24	0.18	0.71	0.64	0.57				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

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

Natural Cycle: 135

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 65 s	#11 Ø4 53 s
#11 #12 Ø6 (R) 65 s	#12 Ø7 22 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

Base (2018) PM Peak Hour (5:00 - 6:00)

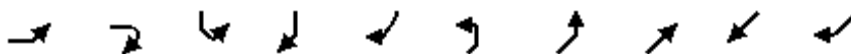
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	70	5	12	10	13	5	0	260	220	140
Future Volume (vph)	70	5	12	10	13	5	0	260	220	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frt	0.99		0.91					1.00	1.00	0.85
Flt Protected	0.96		0.98					1.00	1.00	1.00
Satd. Flow (prot)	1750		1669					1880	1881	1583
Flt Permitted	0.96		0.98					1.00	1.00	1.00
Satd. Flow (perm)	1750		1669					1880	1881	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	5	13	11	14	5	0	283	239	152
RTOR Reduction (vph)	76	0	37	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	1	0	0	0	0	288	239	152
Heavy Vehicles (%)	3%	0%	2%	2%	2%	0%	0%	1%	0%	1%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		4.8					29.5	63.7	63.7
Effective Green, g (s)	7.8		4.8					29.5	63.7	63.7
Actuated g/C Ratio	0.06		0.04					0.22	0.47	0.47
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	101		59					410	887	746
v/s Ratio Prot	c0.00		c0.00					c0.15	c0.13	0.10
v/s Ratio Perm										
v/c Ratio	0.05		0.02					0.70	0.27	0.20
Uniform Delay, d1	60.1		62.8					48.7	21.6	20.8
Progression Factor	1.00		1.00					1.00	0.14	0.15
Incremental Delay, d2	0.2		0.2					5.4	0.4	0.4
Delay (s)	60.3		63.0					54.1	3.5	3.5
Level of Service	E		E					D	A	A
Approach Delay (s)	60.3		63.0					54.1	3.5	
Approach LOS	E		E					D	A	

Intersection Summary

HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queuing and Blocking Report
Base (2018) PM Peak Hour (5:00 - 6:00)

11/11/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	95	231	70	229
Average Queue (ft)	31	59	6	120
95th Queue (ft)	76	199	34	270
Link Distance (ft)	134	226		213
Upstream Blk Time (%)	1	2		3
Queuing Penalty (veh)	0	10		22
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			0	14
Queuing Penalty (veh)			0	1

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	470	75	100	230	188	108	289
Average Queue (ft)	338	58	76	135	157	43	115
95th Queue (ft)	558	102	116	277	209	82	299
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	23			7	29	0	5
Queuing Penalty (veh)	0			45	0	0	0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	74	5	20	13			
Queuing Penalty (veh)	104	9	92	23			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE	NE
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	89	1008	243	59	8
Average Queue (ft)	72	514	195	11	0
95th Queue (ft)	108	1214	292	43	6
Link Distance (ft)		1232	226	55	55
Upstream Blk Time (%)		16	12	2	0
Queuing Penalty (veh)		0	82	4	0
Storage Bay Dist (ft)	65				
Storage Blk Time (%)	48	27			
Queuing Penalty (veh)	171	22			

Queuing and Blocking Report
Base (2018) PM Peak Hour (5:00 - 6:00)

11/11/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	166	80	342	77	68
Average Queue (ft)	70	25	228	34	26
95th Queue (ft)	138	60	345	73	61
Link Distance (ft)	290	221	322	55	55
Upstream Blk Time (%)			7	14	8
Queuing Penalty (veh)			0	26	14
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 628

No-Build Conditions (2028)

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 8 Report
11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	8	856	19	17	478
Future Volume (Veh/h)	15	8	856	19	17	478
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.79	0.79	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	19	10	962	21	18	503
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.78	0.71			0.71	
vC, conflicting volume	1522	982			993	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1118	767			782	
tC, single (s)	6.6	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.4	
p0 queue free %	88	96			97	
cM capacity (veh/h)	156	269			535	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	29	983	18	503		
Volume Left	19	0	18	0		
Volume Right	10	21	0	0		
cSH	182	1700	535	1700		
Volume to Capacity	0.16	0.58	0.03	0.30		
Queue Length 95th (ft)	14	0	3	0		
Control Delay (s)	28.4	0.0	12.0	0.0		
Lane LOS	D		B			
Approach Delay (s)	28.4	0.0	0.4			
Approach LOS	D					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			56.2%		ICU Level of Service	B
Analysis Period (min)			15			

Timings 3: Adams Street & Eliot Street

Synchro 8 Report

11/11/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	315	163	105	746	341	95	
Future Volume (vph)	315	163	105	746	341	95	
Lane Group Flow (vph)	354	183	121	857	359	100	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	30.0	13.0	13.0	58.0	45.0	45.0	32.0
Total Split (%)	25.0%	10.8%	10.8%	48.3%	37.5%	37.5%	27%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.83	0.33	0.29	0.96	0.45	0.14	
Control Delay	61.9	20.9	16.8	47.0	29.2	6.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.9	20.9	16.8	47.0	29.3	6.0	
Queue Length 50th (ft)	249	58	32	584	173	0	
Queue Length 95th (ft)	#477	134	79	#982	334	39	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	427	549	414	895	796	740	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	10	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.83	0.33	0.29	0.96	0.46	0.14	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 6 (5%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

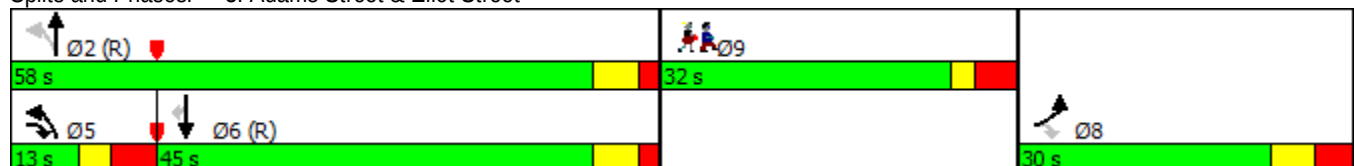
Natural Cycle: 150

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 8 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	315	163	105	746	341	95
Future Volume (vph)	315	163	105	746	341	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1416	1736	1642	1863	1599
Flt Permitted	0.95	1.00	0.36	1.00	1.00	1.00
Satd. Flow (perm)	1814	1416	652	1642	1863	1599
Peak-hour factor, PHF	0.89	0.89	0.87	0.87	0.95	0.95
Adj. Flow (vph)	354	183	121	857	359	100
RTOR Reduction (vph)	0	47	0	0	0	60
Lane Group Flow (vph)	354	136	121	857	359	40
Heavy Vehicles (%)	1%	3%	4%	3%	2%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	28.3	35.4	61.8	61.8	47.7	47.7
Effective Green, g (s)	28.3	35.4	61.8	61.8	47.7	47.7
Actuated g/C Ratio	0.24	0.29	0.51	0.51	0.40	0.40
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	427	417	399	845	740	635
v/s Ratio Prot	c0.20	0.02	0.02	c0.52	0.19	
v/s Ratio Perm		0.08	0.14			0.02
v/c Ratio	0.83	0.33	0.30	1.01	0.49	0.06
Uniform Delay, d1	43.6	33.0	16.9	29.1	27.0	22.3
Progression Factor	1.00	1.00	0.89	0.97	1.00	1.00
Incremental Delay, d2	12.5	0.5	0.4	32.2	2.3	0.2
Delay (s)	56.1	33.5	15.4	60.5	29.3	22.5
Level of Service	E	C	B	E	C	C
Approach Delay (s)	48.4			54.9	27.8	
Approach LOS	D			D	C	

Intersection Summary

HCM 2000 Control Delay	46.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings 11: Randolph Avenue & Adams Street

Synchro 8 Report
11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	16	656	299	221	17				
Future Volume (vph)	16	656	299	221	17				
Lane Group Flow (vph)	17	713	542	240	18				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	52.0	52.0	52.0	51.0	51.0	11.5	20.0	19.5	17.0
Total Split (%)	43.3%	43.3%	43.3%	42.5%	42.5%	10%	17%	16%	14%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.04	0.62	0.52	0.49	0.04				
Control Delay	17.2	22.3	11.3	12.5	0.2				
Queue Delay	0.0	2.0	0.1	0.6	0.2				
Total Delay	17.2	24.4	11.4	13.1	0.4				
Queue Length 50th (ft)	4	272	134	43	0				
Queue Length 95th (ft)	25	#795	#237	m49	m0				
Internal Link Dist (ft)		1186	236	69					
Turn Bay Length (ft)	65								
Base Capacity (vph)	385	1143	1036	668	567				
Starvation Cap Reductn	0	0	53	170	344				
Spillback Cap Reductn	0	276	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.04	0.82	0.55	0.48	0.08				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12 Ø2 (R) 52 s	#11 Ø9 17 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s		#12 Ø7 20 s
		#12 Ø8 19.5 s
		#12 Ø3 11.5 s

NO-Build (2028) AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 8 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	16	656	299	200	221	17
Future Volume (vph)	16	656	299	200	221	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1850	1909	1708		1745	1451
Flt Permitted	0.33	1.00	1.00		0.95	1.00
Satd. Flow (perm)	643	1909	1708		1745	1451
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	713	325	217	240	18
RTOR Reduction (vph)	0	0	15	0	0	12
Lane Group Flow (vph)	17	713	527	0	240	6
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	0%	2%	3%	2%	5%	13%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	63.8	63.8	63.8		37.0	37.0
Effective Green, g (s)	63.8	63.8	63.8		37.0	37.0
Actuated g/C Ratio	0.53	0.53	0.53		0.31	0.31
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	341	1014	908		538	447
v/s Ratio Prot		c0.37	0.31		c0.14	
v/s Ratio Perm	0.03					0.00
v/c Ratio	0.05	0.70	0.58		0.45	0.01
Uniform Delay, d1	13.5	21.0	19.0		33.3	28.8
Progression Factor	1.00	1.00	0.53		0.28	0.00
Incremental Delay, d2	0.3	4.1	2.5		0.5	0.0
Delay (s)	13.8	25.1	12.6		9.8	0.0
Level of Service	B	C	B		A	A
Approach Delay (s)		24.8	12.6		9.1	
Approach LOS		C	B		A	

Intersection Summary

HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	68	1	168	158	58				
Future Volume (vph)	68	1	168	158	58				
Lane Group Flow (vph)	88	18	188	172	63				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	20.0			52.0	51.0	52.0	17.0
Total Split (%)	16.3%	9.6%	16.7%			43%	43%	43%	14%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.32	0.07	0.74	0.16	0.07				
Control Delay	3.1	0.6	67.6	3.4	3.6				
Queue Delay	0.0	0.0	0.3	0.9	1.0				
Total Delay	3.1	0.6	67.8	4.3	4.6				
Queue Length 50th (ft)	0	0	139	6	2				
Queue Length 95th (ft)	0	0	#271	20	m10				
Internal Link Dist (ft)	271	197	280	69					
Turn Bay Length (ft)									
Base Capacity (vph)	364	242	260	1104	938				
Starvation Cap Reductn	0	0	0	702	722				
Spillback Cap Reductn	1	0	3	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.24	0.07	0.73	0.43	0.29				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 52 s	#11 Ø9 17 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s		#12 Ø7 20 s
		#12 Ø8 19.5 s
		#12 Ø3 11.5 s

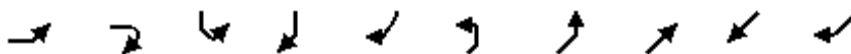
NO-Build (2028) AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	68	13	1	1	15	5	0	168	158	58
Future Volume (vph)	68	13	1	1	15	5	0	168	158	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Frt	0.98		0.87					1.00	1.00	0.85
Flt Protected	0.96		1.00					1.00	1.00	1.00
Satd. Flow (prot)	1678		1653					1809	1844	1567
Flt Permitted	0.96		1.00					1.00	1.00	1.00
Satd. Flow (perm)	1678		1653					1809	1844	1567
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	14	1	1	16	5	0	183	172	63
RTOR Reduction (vph)	82	0	18	0	0	0	0	0	0	0
Lane Group Flow (vph)	6	0	0	0	0	0	0	188	172	63
Confl. Peds. (#/hr)										
Heavy Vehicles (%)	6%	8%	0%	0%	0%	0%	0%	5%	2%	2%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		2.4					16.8	63.8	63.8
Effective Green, g (s)	7.8		2.4					16.8	63.8	63.8
Actuated g/C Ratio	0.06		0.02					0.14	0.53	0.53
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	109		33					253	980	833
v/s Ratio Prot	c0.00		c0.00					c0.10	c0.09	0.04
v/s Ratio Perm										
v/c Ratio	0.05		0.01					0.74	0.18	0.08
Uniform Delay, d1	52.6		57.6					49.5	14.5	13.7
Progression Factor	1.00		1.00					1.00	0.22	0.23
Incremental Delay, d2	0.2		0.1					11.2	0.3	0.2
Delay (s)	52.8		57.8					60.7	3.5	3.3
Level of Service	D		E					E	A	A
Approach Delay (s)	52.8		57.8					60.7	3.4	
Approach LOS	D		E					E	A	
Intersection Summary										
HCM 2000 Control Delay			33.9							
HCM 2000 Volume to Capacity ratio			0.26							
Actuated Cycle Length (s)			120.0							
Intersection Capacity Utilization			40.0%							
Analysis Period (min)			15							
c Critical Lane Group										
HCM 2000 Level of Service								C		
Sum of lost time (s)								27.0		
ICU Level of Service								A		

Queuing and Blocking Report
No-Build (2028) AM Peak Hour (7:30 - 8:30)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	98	235	65	170
Average Queue (ft)	21	119	13	15
95th Queue (ft)	64	286	43	84
Link Distance (ft)	134	224		213
Upstream Blk Time (%)	0	4		0
Queuing Penalty (veh)	0	37		1
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			1	1
Queuing Penalty (veh)			3	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	491	75	100	234	189	62	178
Average Queue (ft)	459	54	51	182	125	24	25
95th Queue (ft)	524	100	104	291	208	54	110
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	75			14	15		0
Queuing Penalty (veh)	0			122	0		0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	77	1	2	27			
Queuing Penalty (veh)	126	5	14	29			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE
Directions Served	L	T	TR	L
Maximum Queue (ft)	81	511	227	73
Average Queue (ft)	16	271	107	23
95th Queue (ft)	57	504	220	59
Link Distance (ft)		1238	224	69
Upstream Blk Time (%)			2	3
Queuing Penalty (veh)			7	4
Storage Bay Dist (ft)	65			
Storage Blk Time (%)	0	35		
Queuing Penalty (veh)	0	6		

Queuing and Blocking Report
No-Build (2028) AM Peak Hour (7:30 - 8:30)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	163	57	257	70	51
Average Queue (ft)	66	13	121	20	8
95th Queue (ft)	129	40	203	58	34
Link Distance (ft)	308	226	320	69	69
Upstream Blk Time (%)				2	0
Queuing Penalty (veh)				2	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 356

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 9 Report

11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	24	677	23	8	677
Future Volume (Veh/h)	30	24	677	23	8	677
Sign Control	Stop		Free		Free	
Grade	5%		3%		-5%	
Peak Hour Factor	0.65	0.65	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	46	37	713	24	9	752
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None		None	
Median storage veh						
Upstream signal (ft)			316		270	
pX, platoon unblocked	0.82	0.86			0.86	
vC, conflicting volume	1512	742			754	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1117	614			628	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	75	91			99	
cM capacity (veh/h)	181	417			811	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	83	737	9	752		
Volume Left	46	0	9	0		
Volume Right	37	24	0	0		
cSH	242	1700	811	1700		
Volume to Capacity	0.34	0.43	0.01	0.44		
Queue Length 95th (ft)	36	0	1	0		
Control Delay (s)	27.5	0.0	9.5	0.0		
Lane LOS	D		A			
Approach Delay (s)	27.5	0.0	0.1			
Approach LOS	D					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			47.1%	ICU Level of Service	A	
Analysis Period (min)			15			

Timings 3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018

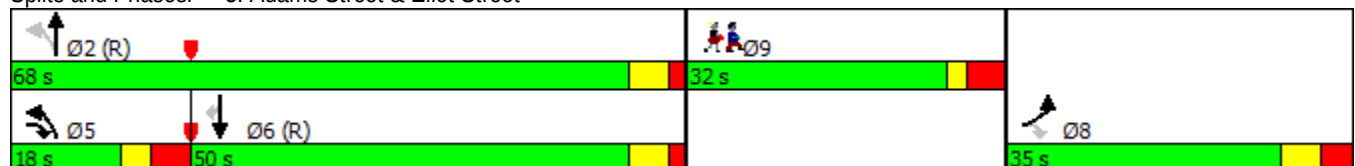


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	173	147	194	483	546	231	
Future Volume (vph)	173	147	194	483	546	231	
Lane Group Flow (vph)	194	165	198	493	607	257	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	35.0	18.0	18.0	68.0	50.0	50.0	32.0
Total Split (%)	25.9%	13.3%	13.3%	50.4%	37.0%	37.0%	24%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.74	0.32	0.49	0.45	0.65	0.29	
Control Delay	71.2	14.8	16.8	12.0	33.6	9.7	
Queue Delay	0.0	0.0	0.0	0.4	1.0	0.0	
Total Delay	71.2	14.8	16.8	12.4	34.6	9.7	
Queue Length 50th (ft)	165	39	21	51	313	27	
Queue Length 95th (ft)	234	93	159	330	#778	119	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	369	521	405	1104	940	891	
Starvation Cap Reductn	0	0	0	238	0	0	
Spillback Cap Reductn	0	7	0	0	139	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.32	0.49	0.57	0.76	0.29	

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 2 (1%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	173	147	194	483	546	231
Future Volume (vph)	173	147	194	483	546	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1459	1787	1674	1881	1599
Flt Permitted	0.95	1.00	0.21	1.00	1.00	1.00
Satd. Flow (perm)	1814	1459	390	1674	1881	1599
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.90	0.90
Adj. Flow (vph)	194	165	198	493	607	257
RTOR Reduction (vph)	0	77	0	0	0	97
Lane Group Flow (vph)	194	88	198	493	607	160
Heavy Vehicles (%)	1%	0%	1%	1%	1%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	19.6	34.1	85.5	85.5	64.0	64.0
Effective Green, g (s)	19.6	34.1	85.5	85.5	64.0	64.0
Actuated g/C Ratio	0.15	0.25	0.63	0.63	0.47	0.47
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	263	368	397	1060	891	758
v/s Ratio Prot	c0.11	0.03	0.05	c0.29	c0.32	
v/s Ratio Perm		0.03	0.26			0.10
v/c Ratio	0.74	0.24	0.50	0.47	0.68	0.21
Uniform Delay, d1	55.2	40.1	16.9	12.9	27.6	20.7
Progression Factor	1.00	1.00	0.93	0.67	1.00	1.00
Incremental Delay, d2	10.3	0.3	0.9	1.3	4.2	0.6
Delay (s)	65.5	40.5	16.7	9.9	31.8	21.4
Level of Service	E	D	B	A	C	C
Approach Delay (s)	54.0			11.8	28.7	
Approach LOS	D			B	C	

Intersection Summary

HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 9 Report

11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	84	373	415	326	34				
Future Volume (vph)	84	373	415	326	34				
Lane Group Flow (vph)	91	405	771	354	37				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	65.0	65.0	65.0	53.0	53.0	11.5	22.0	19.5	17.0
Total Split (%)	48.1%	48.1%	48.1%	39.3%	39.3%	9%	16%	14%	13%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	1.08	0.41	0.86	0.51	0.06				
Control Delay	158.6	23.4	27.6	10.5	0.1				
Queue Delay	0.0	0.0	0.0	2.5	2.7				
Total Delay	158.6	23.4	27.6	13.0	2.9				
Queue Length 50th (ft)	~89	216	575	45	0				
Queue Length 95th (ft)	#216	344	#892	420	m0				
Internal Link Dist (ft)		1186	236	67					
Turn Bay Length (ft)	65								
Base Capacity (vph)	84	982	898	705	641				
Starvation Cap Reductn	0	0	0	230	536				
Spillback Cap Reductn	0	0	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	1.08	0.41	0.86	0.75	0.35				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

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

Natural Cycle: 145

Control Type: Actuated-Coordinated

~ 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.

Timings 11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12  Ø2 (R)		 Ø9	#11  Ø4		
65 s		17 s	53 s		
#11 #12  Ø6 (R)			#12  Ø7	#12  Ø8	#12  Ø3
65 s			22 s	19.5 s	11.5 s

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	84	373	415	294	326	34
Future Volume (vph)	84	373	415	294	326	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1796	1928	1731		1814	1591
Flt Permitted	0.09	1.00	1.00		0.95	1.00
Satd. Flow (perm)	167	1928	1731		1814	1591
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	405	451	320	354	37
RTOR Reduction (vph)	0	0	18	0	0	23
Lane Group Flow (vph)	91	405	753	0	354	14
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	3%	1%	1%	1%	1%	3%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	62.9	62.9	62.9		52.9	52.9
Effective Green, g (s)	62.9	62.9	62.9		52.9	52.9
Actuated g/C Ratio	0.47	0.47	0.47		0.39	0.39
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	77	898	806		710	623
v/s Ratio Prot		0.21	0.43		c0.20	
v/s Ratio Perm	c0.54					0.01
v/c Ratio	1.18	0.45	0.93		0.50	0.02
Uniform Delay, d1	36.1	24.4	34.1		31.0	25.2
Progression Factor	1.00	1.00	0.60		0.26	0.00
Incremental Delay, d2	159.7	1.6	17.1		0.4	0.0
Delay (s)	195.7	26.0	37.4		8.5	0.0
Level of Service	F	C	D		A	A
Approach Delay (s)		57.1	37.4		7.7	
Approach LOS		E	D		A	
Intersection Summary						
HCM 2000 Control Delay			36.3		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.93			
Actuated Cycle Length (s)			135.0		Sum of lost time (s)	27.0
Intersection Capacity Utilization			80.4%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	74	13	273	231	147				
Future Volume (vph)	74	13	273	231	147				
Lane Group Flow (vph)	85	41	302	251	160				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	22.0			65.0	53.0	65.0	17.0
Total Split (%)	14.4%	8.5%	16.3%			48%	39%	48%	13%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.34	0.19	0.72	0.26	0.20				
Control Delay	3.7	1.9	59.0	3.3	3.4				
Queue Delay	0.0	0.0	0.1	3.4	3.2				
Total Delay	3.7	2.0	59.1	6.7	6.6				
Queue Length 50th (ft)	0	0	239	10	7				
Queue Length 95th (ft)	0	0	#522	m19	m12				
Internal Link Dist (ft)	249	197	277	67					
Turn Bay Length (ft)									
Base Capacity (vph)	335	216	422	958	806				
Starvation Cap Reductn	0	0	0	604	549				
Spillback Cap Reductn	5	5	4	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.26	0.19	0.72	0.71	0.62				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

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

Natural Cycle: 145

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 65 s	#11 Ø4 53 s
#11 #12 Ø6 (R) 65 s	#12 Ø7 22 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

NO-Build (2028) PM Peak Hour (5:00 - 6:00)

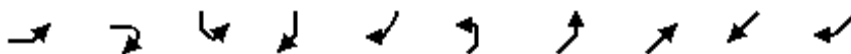
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	74	5	13	11	14	5	0	273	231	147
Future Volume (vph)	74	5	13	11	14	5	0	273	231	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frt	0.99		0.91					1.00	1.00	0.85
Flt Protected	0.96		0.98					1.00	1.00	1.00
Satd. Flow (prot)	1751		1669					1880	1881	1583
Flt Permitted	0.96		0.98					1.00	1.00	1.00
Satd. Flow (perm)	1751		1669					1880	1881	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	5	14	12	15	5	0	297	251	160
RTOR Reduction (vph)	80	0	40	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	1	0	0	0	0	302	251	160
Heavy Vehicles (%)	3%	0%	2%	2%	2%	0%	0%	1%	0%	1%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		4.8					30.3	62.9	62.9
Effective Green, g (s)	7.8		4.8					30.3	62.9	62.9
Actuated g/C Ratio	0.06		0.04					0.22	0.47	0.47
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	101		59					421	876	737
v/s Ratio Prot	c0.00		c0.00					c0.16	c0.13	0.10
v/s Ratio Perm										
v/c Ratio	0.05		0.02					0.72	0.29	0.22
Uniform Delay, d1	60.1		62.8					48.4	22.2	21.4
Progression Factor	1.00		1.00					1.00	0.15	0.16
Incremental Delay, d2	0.2		0.2					5.8	0.3	0.3
Delay (s)	60.3		63.0					54.1	3.7	3.7
Level of Service	E		E					D	A	A
Approach Delay (s)	60.3		63.0					54.1	3.7	
Approach LOS	E		E					D	A	

Intersection Summary

HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queuing and Blocking Report
No-Build (2028) PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	123	234	52	230
Average Queue (ft)	43	67	3	129
95th Queue (ft)	108	224	26	283
Link Distance (ft)	134	226		213
Upstream Blk Time (%)	3	4		4
Queuing Penalty (veh)	0	25		29
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			0	16
Queuing Penalty (veh)			0	1

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	471	75	100	230	199	104	287
Average Queue (ft)	366	56	73	127	167	40	173
95th Queue (ft)	573	102	120	280	213	78	366
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	36			9	39	0	13
Queuing Penalty (veh)	0			63	0	0	0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	75	6	21	11			
Queuing Penalty (veh)	110	10	102	22			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE
Directions Served	L	T	TR	L
Maximum Queue (ft)	89	1267	242	74
Average Queue (ft)	79	911	206	19
95th Queue (ft)	105	1616	281	61
Link Distance (ft)		1232	226	55
Upstream Blk Time (%)		46	16	7
Queuing Penalty (veh)		0	111	13
Storage Bay Dist (ft)	65			
Storage Blk Time (%)	73	25		
Queuing Penalty (veh)	272	21		

Queuing and Blocking Report
No-Build (2028) PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	161	101	352	76	73
Average Queue (ft)	77	32	253	37	29
95th Queue (ft)	144	73	376	76	68
Link Distance (ft)	290	221	322	55	55
Upstream Blk Time (%)			17	17	12
Queuing Penalty (veh)			0	32	23
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 835

Build Conditions (2028)

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 8 Report
11/11/2018

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	8	893	19	17	488
Future Volume (Veh/h)	15	8	893	19	17	488
Sign Control	Stop		Free		Free	Free
Grade	5%		3%			-5%
Peak Hour Factor	0.79	0.79	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	19	10	1003	21	18	514
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.75	0.68			0.68	
vC, conflicting volume	1574	1024			1034	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1159	795			811	
tC, single (s)	6.6	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.4	
p0 queue free %	87	96			96	
cM capacity (veh/h)	142	248			499	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	29	1024	18	514		
Volume Left	19	0	18	0		
Volume Right	10	21	0	0		
cSH	166	1700	499	1700		
Volume to Capacity	0.17	0.60	0.04	0.30		
Queue Length 95th (ft)	15	0	3	0		
Control Delay (s)	31.2	0.0	12.5	0.0		
Lane LOS	D		B			
Approach Delay (s)	31.2	0.0	0.4			
Approach LOS	D					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			58.2%	ICU Level of Service	B	
Analysis Period (min)			15			

Timings

3: Adams Street & Eliot Street

Synchro 8 Report

11/11/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	319	169	117	765	348	99	
Future Volume (vph)	319	169	117	765	348	99	
Lane Group Flow (vph)	358	190	134	879	366	104	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	30.0	13.0	13.0	58.0	45.0	45.0	32.0
Total Split (%)	25.0%	10.8%	10.8%	48.3%	37.5%	37.5%	27%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.82	0.34	0.33	0.99	0.47	0.14	
Control Delay	61.1	20.9	16.7	50.4	29.8	5.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.1	20.9	16.7	50.4	29.9	5.9	
Queue Length 50th (ft)	252	60	38	261	180	0	
Queue Length 95th (ft)	#484	139	m84	#1019	341	39	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	434	557	404	888	785	734	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	12	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.82	0.34	0.33	0.99	0.47	0.14	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 6 (5%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 150

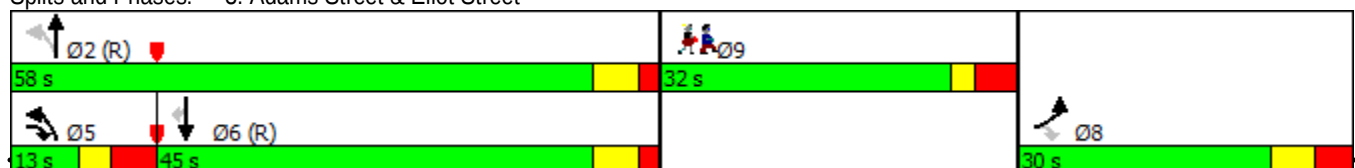
Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: Adams Street & Eliot Street



Milton Village Mixed-Use Development Alternatives
Build (2028) Alternative 1A AM Peak Hour (7:30 - 8:30)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 8 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	319	169	117	765	348	99
Future Volume (vph)	319	169	117	765	348	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1416	1736	1642	1863	1599
Flt Permitted	0.95	1.00	0.35	1.00	1.00	1.00
Satd. Flow (perm)	1814	1416	632	1642	1863	1599
Peak-hour factor, PHF	0.89	0.89	0.87	0.87	0.95	0.95
Adj. Flow (vph)	358	190	134	879	366	104
RTOR Reduction (vph)	0	48	0	0	0	63
Lane Group Flow (vph)	358	142	134	879	366	41
Heavy Vehicles (%)	1%	3%	4%	3%	2%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	28.7	36.1	61.4	61.4	47.0	47.0
Effective Green, g (s)	28.7	36.1	61.4	61.4	47.0	47.0
Actuated g/C Ratio	0.24	0.30	0.51	0.51	0.39	0.39
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	433	425	391	840	729	626
v/s Ratio Prot	c0.20	0.02	0.02	c0.54	0.20	
v/s Ratio Perm		0.08	0.15			0.03
v/c Ratio	0.83	0.34	0.34	1.05	0.50	0.07
Uniform Delay, d1	43.3	32.6	17.4	29.3	27.6	22.8
Progression Factor	1.00	1.00	0.86	0.84	1.00	1.00
Incremental Delay, d2	12.2	0.5	0.4	41.0	2.5	0.2
Delay (s)	55.5	33.1	15.3	65.5	30.1	23.0
Level of Service	E	C	B	E	C	C
Approach Delay (s)	47.7			58.9	28.5	
Approach LOS	D			E	C	

Intersection Summary

HCM 2000 Control Delay	48.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings 11: Randolph Avenue & Adams Street

Synchro 8 Report
11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	16	682	302	242	20				
Future Volume (vph)	16	682	302	242	20				
Lane Group Flow (vph)	17	741	546	263	22				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	52.0	52.0	52.0	51.0	51.0	11.5	20.0	19.5	17.0
Total Split (%)	43.3%	43.3%	43.3%	42.5%	42.5%	10%	17%	16%	14%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.05	0.68	0.55	0.49	0.05				
Control Delay	18.3	25.4	12.6	13.1	0.1				
Queue Delay	0.0	0.8	0.1	1.6	0.8				
Total Delay	18.3	26.2	12.6	14.7	0.9				
Queue Length 50th (ft)	6	395	143	45	0				
Queue Length 95th (ft)	25	#840	#246	m59	m0				
Internal Link Dist (ft)		1186	236	69					
Turn Bay Length (ft)	65								
Base Capacity (vph)	352	1094	992	668	569				
Starvation Cap Reductn	0	0	30	247	439				
Spillback Cap Reductn	0	127	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.05	0.77	0.57	0.62	0.17				

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green, Master Intersection
Natural Cycle: 115
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12 Ø2 (R) 52 s	#11 Ø9 17 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s	#12 Ø7 20 s	#12 Ø8 19.5 s
		#12 Ø3 11.5 s

Build (2028) Alternative 1A AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 8 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	16	682	302	201	242	20
Future Volume (vph)	16	682	302	201	242	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1850	1909	1708		1745	1451
Flt Permitted	0.32	1.00	1.00		0.95	1.00
Satd. Flow (perm)	616	1909	1708		1745	1451
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	741	328	218	263	22
RTOR Reduction (vph)	0	0	16	0	0	15
Lane Group Flow (vph)	17	741	530	0	263	7
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	0%	2%	3%	2%	5%	13%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	61.8	61.8	61.8		39.0	39.0
Effective Green, g (s)	61.8	61.8	61.8		39.0	39.0
Actuated g/C Ratio	0.51	0.51	0.51		0.32	0.32
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	317	983	879		567	471
v/s Ratio Prot		c0.39	0.31		c0.15	
v/s Ratio Perm	0.03					0.00
v/c Ratio	0.05	0.75	0.60		0.46	0.02
Uniform Delay, d1	14.5	23.1	20.5		32.2	27.5
Progression Factor	1.00	1.00	0.53		0.32	0.00
Incremental Delay, d2	0.3	5.3	2.9		0.5	0.0
Delay (s)	14.8	28.4	13.8		10.8	0.0
Level of Service	B	C	B		B	A
Approach Delay (s)		28.1	13.8		10.0	
Approach LOS		C	B		A	

Intersection Summary

HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	75	8	178	159	58				
Future Volume (vph)	75	8	178	159	58				
Lane Group Flow (vph)	96	26	198	173	63				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	20.0			52.0	51.0	52.0	17.0
Total Split (%)	16.3%	9.6%	16.7%			43%	43%	43%	14%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.35	0.11	0.75	0.16	0.07				
Control Delay	3.5	0.9	66.7	3.6	3.7				
Queue Delay	0.0	0.0	0.3	0.6	0.5				
Total Delay	3.5	0.9	67.0	4.2	4.3				
Queue Length 50th (ft)	0	0	145	6	2				
Queue Length 95th (ft)	0	0	#290	21	m9				
Internal Link Dist (ft)	271	197	280	69					
Turn Bay Length (ft)									
Base Capacity (vph)	364	244	269	1056	898				
Starvation Cap Reductn	0	0	0	597	622				
Spillback Cap Reductn	4	4	3	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.27	0.11	0.74	0.38	0.23				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 52 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s	#12 Ø7 20 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

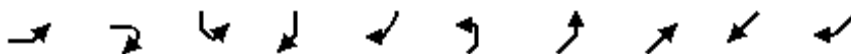
Build (2028) Alternative 1A AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	75	13	8	1	15	5	0	178	159	58
Future Volume (vph)	75	13	8	1	15	5	0	178	159	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Frt	0.98		0.91					1.00	1.00	0.85
Flt Protected	0.96		0.98					1.00	1.00	1.00
Satd. Flow (prot)	1681		1703					1809	1844	1567
Flt Permitted	0.96		0.98					1.00	1.00	1.00
Satd. Flow (perm)	1681		1703					1809	1844	1567
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	14	9	1	16	5	0	193	173	63
RTOR Reduction (vph)	90	0	25	0	0	0	0	0	0	0
Lane Group Flow (vph)	6	0	1	0	0	0	0	198	173	63
Confl. Peds. (#/hr)										
Heavy Vehicles (%)	6%	8%	0%	0%	0%	0%	0%	5%	2%	2%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		3.6					17.6	61.8	61.8
Effective Green, g (s)	7.8		3.6					17.6	61.8	61.8
Actuated g/C Ratio	0.06		0.03					0.15	0.51	0.51
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	109		51					265	949	807
v/s Ratio Prot	c0.00		c0.00					c0.11	c0.09	0.04
v/s Ratio Perm										
v/c Ratio	0.06		0.02					0.75	0.18	0.08
Uniform Delay, d1	52.6		56.5					49.1	15.6	14.7
Progression Factor	1.00		1.00					1.00	0.21	0.22
Incremental Delay, d2	0.2		0.1					10.9	0.4	0.2
Delay (s)	52.9		56.6					60.0	3.6	3.4
Level of Service	D		E					E	A	A
Approach Delay (s)	52.9		56.6					60.0	3.6	
Approach LOS	D		E					E	A	
Intersection Summary										
HCM 2000 Control Delay			34.7							
HCM 2000 Volume to Capacity ratio			0.27							
Actuated Cycle Length (s)			120.0							
Intersection Capacity Utilization			40.0%							
Analysis Period (min)			15							
c Critical Lane Group										
HCM 2000 Level of Service								C		
Sum of lost time (s)								27.0		
ICU Level of Service								A		

Queuing and Blocking Report

Build (2028) Alternative 1A AM Peak Hour (7:30 - 8:30)

11/11/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	69	236	70	157
Average Queue (ft)	16	174	15	23
95th Queue (ft)	50	308	49	105
Link Distance (ft)	134	224		213
Upstream Blk Time (%)		7		0
Queuing Penalty (veh)		64		1
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			2	2
Queuing Penalty (veh)			8	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	493	75	100	231	188	63	200
Average Queue (ft)	455	55	52	208	137	27	34
95th Queue (ft)	535	101	107	278	210	57	124
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	69			20	17		0
Queuing Penalty (veh)	0			182	0		0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	75	2	3	35			
Queuing Penalty (veh)	127	8	21	40			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE
Directions Served	L	T	TR	L
Maximum Queue (ft)	84	721	230	91
Average Queue (ft)	14	358	119	31
95th Queue (ft)	56	638	241	82
Link Distance (ft)		1238	224	69
Upstream Blk Time (%)			2	8
Queuing Penalty (veh)			10	11
Storage Bay Dist (ft)	65			
Storage Blk Time (%)	0	43		
Queuing Penalty (veh)	0	7		

Queuing and Blocking Report

Build (2028) Alternative 1A AM Peak Hour (7:30 - 8:30)

11/11/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	194	80	306	74	58
Average Queue (ft)	74	22	156	23	9
95th Queue (ft)	145	57	266	62	37
Link Distance (ft)	308	226	320	69	69
Upstream Blk Time (%)			2	2	1
Queuing Penalty (veh)			0	2	1
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 481

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 9 Report
11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	24	710	23	8	702
Future Volume (Veh/h)	30	24	710	23	8	702
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.65	0.65	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	46	37	747	24	9	780
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.79	0.85			0.85	
vC, conflicting volume	1574	776			788	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1166	647			662	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	72	91			99	
cM capacity (veh/h)	164	396			782	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	83	771	9	780		
Volume Left	46	0	9	0		
Volume Right	37	24	0	0		
cSH	222	1700	782	1700		
Volume to Capacity	0.37	0.45	0.01	0.46		
Queue Length 95th (ft)	41	0	1	0		
Control Delay (s)	30.6	0.0	9.7	0.0		
Lane LOS	D		A			
Approach Delay (s)	30.6	0.0	0.1			
Approach LOS	D					
Intersection Summary						
Average Delay		1.6				
Intersection Capacity Utilization		48.8%		ICU Level of Service		A
Analysis Period (min)		15				

Timings 3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018

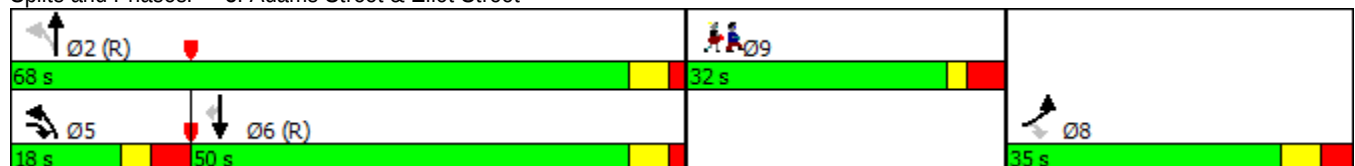


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	174	148	214	500	566	243	
Future Volume (vph)	174	148	214	500	566	243	
Lane Group Flow (vph)	196	166	218	510	629	270	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	35.0	18.0	18.0	68.0	50.0	50.0	32.0
Total Split (%)	25.9%	13.3%	13.3%	50.4%	37.0%	37.0%	24%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.74	0.30	0.55	0.46	0.70	0.31	
Control Delay	71.1	14.4	21.7	12.1	36.3	10.4	
Queue Delay	0.0	0.0	0.0	0.4	3.6	0.0	
Total Delay	71.1	14.4	21.7	12.5	39.9	10.4	
Queue Length 50th (ft)	167	38	23	52	349	32	
Queue Length 95th (ft)	236	93	#196	344	#822	130	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	369	551	397	1102	899	862	
Starvation Cap Reductn	0	0	0	227	0	0	
Spillback Cap Reductn	0	10	0	0	183	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.31	0.55	0.58	0.88	0.31	

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 2 (1%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	174	148	214	500	566	243
Future Volume (vph)	174	148	214	500	566	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1459	1787	1674	1881	1599
Flt Permitted	0.95	1.00	0.17	1.00	1.00	1.00
Satd. Flow (perm)	1814	1459	321	1674	1881	1599
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.90	0.90
Adj. Flow (vph)	196	166	218	510	629	270
RTOR Reduction (vph)	0	75	0	0	0	103
Lane Group Flow (vph)	196	91	218	510	629	167
Heavy Vehicles (%)	1%	0%	1%	1%	1%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	19.8	37.1	85.3	85.3	61.0	61.0
Effective Green, g (s)	19.8	37.1	85.3	85.3	61.0	61.0
Actuated g/C Ratio	0.15	0.27	0.63	0.63	0.45	0.45
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	266	400	390	1057	849	722
v/s Ratio Prot	c0.11	0.03	0.07	c0.30	c0.33	
v/s Ratio Perm		0.03	0.28			0.10
v/c Ratio	0.74	0.23	0.56	0.48	0.74	0.23
Uniform Delay, d1	55.1	37.9	18.9	13.2	30.5	22.7
Progression Factor	1.00	1.00	1.12	0.66	1.00	1.00
Incremental Delay, d2	10.2	0.3	1.6	1.4	5.8	0.8
Delay (s)	65.3	38.2	22.7	10.1	36.3	23.4
Level of Service	E	D	C	B	D	C
Approach Delay (s)	52.8			13.8	32.4	
Approach LOS	D			B	C	

Intersection Summary

HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings 11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	84	384	434	341	42				
Future Volume (vph)	84	384	434	341	42				
Lane Group Flow (vph)	91	417	809	371	46				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	65.0	65.0	65.0	53.0	53.0	11.5	22.0	19.5	17.0
Total Split (%)	48.1%	48.1%	48.1%	39.3%	39.3%	9%	16%	14%	13%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	1.49	0.43	0.90	0.53	0.07				
Control Delay	321.2	23.8	30.3	12.4	0.2				
Queue Delay	0.0	0.0	0.0	2.7	3.0				
Total Delay	321.2	23.8	30.3	15.1	3.2				
Queue Length 50th (ft)	~110	225	633	56	0				
Queue Length 95th (ft)	#191	356	#970	434	m0				
Internal Link Dist (ft)		1186	236	67					
Turn Bay Length (ft)	65								
Base Capacity (vph)	61	980	896	707	648				
Starvation Cap Reductn	0	0	0	222	533				
Spillback Cap Reductn	0	0	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	1.49	0.43	0.90	0.76	0.40				

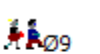
Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green, Master Intersection
Natural Cycle: 145
Control Type: Actuated-Coordinated
~ 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.

Timings 11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12  Ø2 (R)	 Ø9	#11  Ø4
65 s	17 s	53 s
#11 #12  Ø6 (R)		#12  Ø7
65 s		#12  Ø8
		#12  Ø3
		22 s
		19.5 s
		11.5 s

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	84	384	434	310	341	42
Future Volume (vph)	84	384	434	310	341	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1796	1928	1731		1814	1591
Flt Permitted	0.06	1.00	1.00		0.95	1.00
Satd. Flow (perm)	121	1928	1731		1814	1591
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	417	472	337	371	46
RTOR Reduction (vph)	0	0	18	0	0	28
Lane Group Flow (vph)	91	417	791	0	371	18
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	3%	1%	1%	1%	1%	3%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	62.7	62.7	62.7		53.1	53.1
Effective Green, g (s)	62.7	62.7	62.7		53.1	53.1
Actuated g/C Ratio	0.46	0.46	0.46		0.39	0.39
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	56	895	803		713	625
v/s Ratio Prot		0.22	0.46		c0.20	
v/s Ratio Perm	c0.75					0.01
v/c Ratio	1.62	0.47	0.98		0.52	0.03
Uniform Delay, d1	36.1	24.7	35.7		31.2	25.1
Progression Factor	1.00	1.00	0.55		0.31	0.00
Incremental Delay, d2	348.7	1.7	25.3		0.6	0.0
Delay (s)	384.8	26.4	45.0		10.2	0.0
Level of Service	F	C	D		B	A
Approach Delay (s)		90.6	45.0		9.1	
Approach LOS		F	D		A	
Intersection Summary						
HCM 2000 Control Delay		49.7		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio		1.20				
Actuated Cycle Length (s)		135.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		83.2%		ICU Level of Service		E
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	74	33	276	241	153				
Future Volume (vph)	74	33	276	241	153				
Lane Group Flow (vph)	85	69	305	262	166				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	22.0			65.0	53.0	65.0	17.0
Total Split (%)	14.4%	8.5%	16.3%			48%	39%	48%	13%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.34	0.32	0.72	0.27	0.21				
Control Delay	3.7	3.8	59.0	3.3	3.4				
Queue Delay	0.1	0.2	0.1	4.6	4.0				
Total Delay	3.7	4.0	59.1	7.9	7.4				
Queue Length 50th (ft)	0	0	240	11	6				
Queue Length 95th (ft)	0	0	#527	m18	m12				
Internal Link Dist (ft)	249	197	277	67					
Turn Bay Length (ft)									
Base Capacity (vph)	335	217	424	956	804				
Starvation Cap Reductn	0	0	0	612	555				
Spillback Cap Reductn	13	11	4	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.26	0.33	0.73	0.76	0.67				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

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

Natural Cycle: 145

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 65 s	#11 Ø4 53 s
#11 #12 Ø6 (R) 65 s	#12 Ø7 22 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

Build (2028) Alternative 1A PM Peak Hour (5:00 - 6:00)

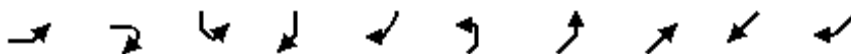
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	74	5	33	14	17	5	0	276	241	153
Future Volume (vph)	74	5	33	14	17	5	0	276	241	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frt	0.99		0.94					1.00	1.00	0.85
Flt Protected	0.96		0.97					1.00	1.00	1.00
Satd. Flow (prot)	1751		1698					1880	1881	1583
Flt Permitted	0.96		0.97					1.00	1.00	1.00
Satd. Flow (perm)	1751		1698					1880	1881	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	5	36	15	18	5	0	300	262	166
RTOR Reduction (vph)	80	0	67	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	2	0	0	0	0	305	262	166
Heavy Vehicles (%)	3%	0%	2%	2%	2%	0%	0%	1%	0%	1%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		4.8					30.5	62.7	62.7
Effective Green, g (s)	7.8		4.8					30.5	62.7	62.7
Actuated g/C Ratio	0.06		0.04					0.23	0.46	0.46
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	101		60					424	873	735
v/s Ratio Prot	c0.00		c0.00					c0.16	c0.14	0.10
v/s Ratio Perm										
v/c Ratio	0.05		0.04					0.72	0.30	0.23
Uniform Delay, d1	60.1		62.9					48.3	22.5	21.6
Progression Factor	1.00		1.00					1.00	0.16	0.17
Incremental Delay, d2	0.2		0.3					5.8	0.1	0.1
Delay (s)	60.3		63.2					54.1	3.7	3.7
Level of Service	E		E					D	A	A
Approach Delay (s)	60.3		63.2					54.1	3.7	
Approach LOS	E		E					D	A	

Intersection Summary

HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queuing and Blocking Report

Build (2028) Alternative 1A PM Peak Hour (5:00 - 6:00)

11/11/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	140	207	52	230
Average Queue (ft)	49	42	3	154
95th Queue (ft)	119	168	24	301
Link Distance (ft)	134	226		213
Upstream Blk Time (%)	2	2		9
Queuing Penalty (veh)	0	12		61
Storage Bay Dist (ft)			60	
Storage Blk Time (%)				20
Queuing Penalty (veh)				2

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	475	75	100	229	192	136	313
Average Queue (ft)	358	60	70	113	176	47	234
95th Queue (ft)	556	100	115	259	209	96	390
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	28			5	51	0	35
Queuing Penalty (veh)	0			39	0	0	0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	74	9	19	9			
Queuing Penalty (veh)	110	16	95	20			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE
Directions Served	L	T	TR	L
Maximum Queue (ft)	89	1272	241	64
Average Queue (ft)	83	1219	216	17
95th Queue (ft)	95	1400	270	52
Link Distance (ft)		1232	226	55
Upstream Blk Time (%)		90	21	5
Queuing Penalty (veh)		0	153	10
Storage Bay Dist (ft)	65			
Storage Blk Time (%)	90	17		
Queuing Penalty (veh)	345	14		

Queuing and Blocking Report

Build (2028) Alternative 1A PM Peak Hour (5:00 - 6:00)

11/11/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	180	129	345	78	76
Average Queue (ft)	75	52	248	39	30
95th Queue (ft)	143	105	374	73	70
Link Distance (ft)	290	221	322	55	55
Upstream Blk Time (%)			13	17	13
Queuing Penalty (veh)			0	34	26
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 936

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 8 Report
11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	8	951	19	17	511
Future Volume (Veh/h)	15	8	951	19	17	511
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.79	0.79	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	19	10	1069	21	18	538
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.70	0.63			0.63	
vC, conflicting volume	1664	1090			1100	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1256	847			864	
tC, single (s)	6.6	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.4	
p0 queue free %	83	95			96	
cM capacity (veh/h)	115	215			443	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	29	1090	18	538		
Volume Left	19	0	18	0		
Volume Right	10	21	0	0		
cSH	137	1700	443	1700		
Volume to Capacity	0.21	0.64	0.04	0.32		
Queue Length 95th (ft)	19	0	3	0		
Control Delay (s)	38.2	0.0	13.5	0.0		
Lane LOS	E		B			
Approach Delay (s)	38.2	0.0	0.4			
Approach LOS	E					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			61.2%		ICU Level of Service	B
Analysis Period (min)			15			

Timings 3: Adams Street & Eliot Street

Synchro 8 Report
11/11/2018

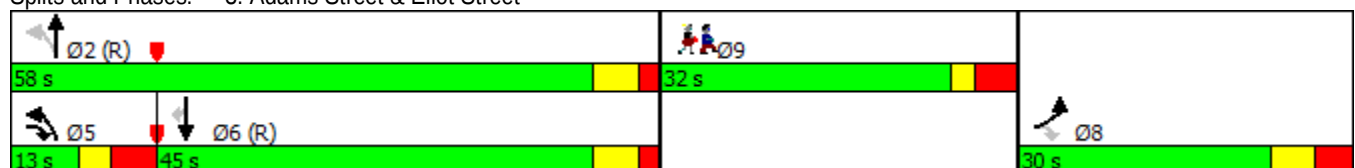


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	325	181	136	797	346	106	
Future Volume (vph)	325	181	136	797	346	106	
Lane Group Flow (vph)	365	203	156	916	364	112	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	30.0	13.0	13.0	58.0	45.0	45.0	32.0
Total Split (%)	25.0%	10.8%	10.8%	48.3%	37.5%	37.5%	27%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.82	0.35	0.39	1.04	0.47	0.15	
Control Delay	59.8	20.9	17.1	63.4	30.5	5.7	
Queue Delay	0.0	0.0	0.0	3.5	0.0	0.0	
Total Delay	59.8	20.9	17.1	66.9	30.5	5.7	
Queue Length 50th (ft)	255	63	46	281	183	0	
Queue Length 95th (ft)	#496	149	m92	#1079	339	40	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	446	573	399	877	767	724	
Starvation Cap Reductn	0	0	0	8	0	0	
Spillback Cap Reductn	0	0	0	0	11	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.82	0.35	0.39	1.05	0.48	0.15	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 6 (5%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Adams Street & Eliot Street



Milton Village Mixed-Use Development Alternatives
 Build (2028) Alternative 1B AM Peak Hour (7:30 - 8:30)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 8 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	325	181	136	797	346	106
Future Volume (vph)	325	181	136	797	346	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1416	1736	1642	1863	1599
Flt Permitted	0.95	1.00	0.34	1.00	1.00	1.00
Satd. Flow (perm)	1814	1416	622	1642	1863	1599
Peak-hour factor, PHF	0.89	0.89	0.87	0.87	0.95	0.95
Adj. Flow (vph)	365	203	156	916	364	112
RTOR Reduction (vph)	0	50	0	0	0	69
Lane Group Flow (vph)	365	153	156	916	364	43
Heavy Vehicles (%)	1%	3%	4%	3%	2%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	29.5	37.2	60.6	60.6	45.9	45.9
Effective Green, g (s)	29.5	37.2	60.6	60.6	45.9	45.9
Actuated g/C Ratio	0.25	0.31	0.51	0.51	0.38	0.38
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	445	438	385	829	712	611
v/s Ratio Prot	c0.20	0.02	0.03	c0.56	0.20	
v/s Ratio Perm		0.09	0.18			0.03
v/c Ratio	0.82	0.35	0.41	1.10	0.51	0.07
Uniform Delay, d1	42.7	32.0	18.1	29.7	28.4	23.5
Progression Factor	1.00	1.00	0.82	0.80	1.00	1.00
Incremental Delay, d2	11.5	0.5	0.5	60.6	2.6	0.2
Delay (s)	54.2	32.5	15.4	84.3	31.1	23.7
Level of Service	D	C	B	F	C	C
Approach Delay (s)	46.5			74.3	29.3	
Approach LOS	D			E	C	

Intersection Summary

HCM 2000 Control Delay	56.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 8 Report

11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	16	721	299	279	21				
Future Volume (vph)	16	721	299	279	21				
Lane Group Flow (vph)	17	784	542	303	23				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	52.0	52.0	52.0	51.0	51.0	11.5	20.0	19.5	17.0
Total Split (%)	43.3%	43.3%	43.3%	42.5%	42.5%	10%	17%	16%	14%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.05	0.74	0.57	0.53	0.05				
Control Delay	18.9	28.7	13.1	14.3	0.1				
Queue Delay	0.0	1.6	0.1	2.1	1.2				
Total Delay	18.9	30.3	13.1	16.3	1.3				
Queue Length 50th (ft)	6	457	148	54	0				
Queue Length 95th (ft)	25	#912	#243	318	m0				
Internal Link Dist (ft)		1186	236	69					
Turn Bay Length (ft)	65								
Base Capacity (vph)	329	1056	959	668	570				
Starvation Cap Reductn	0	0	25	231	457				
Spillback Cap Reductn	0	130	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.05	0.85	0.58	0.69	0.20				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12 Ø2 (R) 52 s	#11 Ø9 17 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s		#12 Ø7 20 s
		#12 Ø8 19.5 s
		#12 Ø3 11.5 s

Build (2028) Alternative 1B AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 8 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	16	721	299	200	279	21
Future Volume (vph)	16	721	299	200	279	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1850	1909	1708		1745	1451
Flt Permitted	0.31	1.00	1.00		0.95	1.00
Satd. Flow (perm)	595	1909	1708		1745	1451
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	784	325	217	303	23
RTOR Reduction (vph)	0	0	16	0	0	15
Lane Group Flow (vph)	17	784	526	0	303	8
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	0%	2%	3%	2%	5%	13%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	59.4	59.4	59.4		41.4	41.4
Effective Green, g (s)	59.4	59.4	59.4		41.4	41.4
Actuated g/C Ratio	0.49	0.49	0.49		0.34	0.34
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	294	944	845		602	500
v/s Ratio Prot		c0.41	0.31		c0.17	
v/s Ratio Perm	0.03					0.01
v/c Ratio	0.06	0.83	0.62		0.50	0.02
Uniform Delay, d1	15.8	26.0	22.1		31.2	25.9
Progression Factor	1.00	1.00	0.53		0.35	0.00
Incremental Delay, d2	0.4	8.4	3.2		0.5	0.0
Delay (s)	16.1	34.4	14.8		11.6	0.0
Level of Service	B	C	B		B	A
Approach Delay (s)		34.0	14.8		10.8	
Approach LOS		C	B		B	
Intersection Summary						
HCM 2000 Control Delay			23.2		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	27.0
Intersection Capacity Utilization			62.6%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	87	15	197	161	60				
Future Volume (vph)	87	15	197	161	60				
Lane Group Flow (vph)	109	34	219	175	65				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	20.0			52.0	51.0	52.0	17.0
Total Split (%)	16.3%	9.6%	16.7%			43%	43%	43%	14%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.40	0.14	0.73	0.17	0.07				
Control Delay	4.7	1.2	62.5	3.9	4.0				
Queue Delay	0.1	0.0	0.4	0.7	0.6				
Total Delay	4.7	1.2	62.8	4.6	4.6				
Queue Length 50th (ft)	0	0	159	8	3				
Queue Length 95th (ft)	4	0	#329	23	m10				
Internal Link Dist (ft)	271	197	280	69					
Turn Bay Length (ft)									
Base Capacity (vph)	365	245	301	1020	867				
Starvation Cap Reductn	0	0	0	578	601				
Spillback Cap Reductn	11	11	5	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.31	0.15	0.74	0.40	0.24				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 52 s	#11 Ø9 17 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s		#12 Ø7 20 s
		#12 Ø8 19.5 s
		#12 Ø3 11.5 s

Build (2028) Alternative 1B AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018

										
Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	87	13	15	2	15	5	0	197	161	60
Future Volume (vph)	87	13	15	2	15	5	0	197	161	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Frt	0.98		0.93					1.00	1.00	0.85
Flt Protected	0.96		0.98					1.00	1.00	1.00
Satd. Flow (prot)	1684		1724					1809	1844	1567
Flt Permitted	0.96		0.98					1.00	1.00	1.00
Satd. Flow (perm)	1684		1724					1809	1844	1567
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	95	14	16	2	16	5	0	214	175	65
RTOR Reduction (vph)	102	0	33	0	0	0	0	0	0	0
Lane Group Flow (vph)	7	0	1	0	0	0	0	219	175	65
Confl. Peds. (#/hr)										
Heavy Vehicles (%)	6%	8%	0%	0%	0%	0%	0%	5%	2%	2%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		3.6					20.0	59.4	59.4
Effective Green, g (s)	7.8		3.6					20.0	59.4	59.4
Actuated g/C Ratio	0.06		0.03					0.17	0.49	0.49
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	109		51					301	912	775
v/s Ratio Prot	c0.00		c0.00					c0.12	c0.09	0.04
v/s Ratio Perm										
v/c Ratio	0.06		0.02					0.73	0.19	0.08
Uniform Delay, d1	52.7		56.5					47.4	16.9	16.0
Progression Factor	1.00		1.00					1.00	0.22	0.23
Incremental Delay, d2	0.3		0.2					8.5	0.4	0.2
Delay (s)	52.9		56.6					55.9	4.0	3.9
Level of Service	D		E					E	A	A
Approach Delay (s)	52.9		56.6					55.9	4.0	
Approach LOS	D		E					E	A	
Intersection Summary										
HCM 2000 Control Delay			34.7							
HCM 2000 Volume to Capacity ratio			0.28							
Actuated Cycle Length (s)			120.0							
Intersection Capacity Utilization			40.6%							
Analysis Period (min)			15							
c Critical Lane Group										

Queuing and Blocking Report

Build (2028) Alternative 1B AM Peak Hour (7:30 - 8:30)

11/11/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	99	240	66	208
Average Queue (ft)	31	206	15	32
95th Queue (ft)	90	286	48	132
Link Distance (ft)	134	224		213
Upstream Blk Time (%)	3	11		0
Queuing Penalty (veh)	0	114		2
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			2	2
Queuing Penalty (veh)			8	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	495	76	100	230	195	58	169
Average Queue (ft)	456	54	56	221	135	27	34
95th Queue (ft)	547	101	108	246	214	53	135
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	73			27	17		0
Queuing Penalty (veh)	0			255	0		0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	74	3	4	38			
Queuing Penalty (veh)	135	11	34	52			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE
Directions Served	L	T	TR	L
Maximum Queue (ft)	87	1284	230	83
Average Queue (ft)	18	1009	147	45
95th Queue (ft)	62	1594	264	94
Link Distance (ft)		1238	224	69
Upstream Blk Time (%)		43	4	19
Queuing Penalty (veh)		0	18	28
Storage Bay Dist (ft)	65			
Storage Blk Time (%)	0	59		
Queuing Penalty (veh)	1	9		

Queuing and Blocking Report

Build (2028) Alternative 1B AM Peak Hour (7:30 - 8:30)

11/11/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	220	93	341	73	48
Average Queue (ft)	90	30	167	27	13
95th Queue (ft)	178	75	290	66	39
Link Distance (ft)	308	226	320	69	69
Upstream Blk Time (%)			1	3	0
Queuing Penalty (veh)			0	3	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 672

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 9 Report
11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	24	757	23	8	743
Future Volume (Veh/h)	30	24	757	23	8	743
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.65	0.65	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	46	37	797	24	9	826
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.76	0.84			0.84	
vC, conflicting volume	1670	826			838	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1248	698			712	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	67	90			99	
cM capacity (veh/h)	139	367			741	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	83	821	9	826		
Volume Left	46	0	9	0		
Volume Right	37	24	0	0		
cSH	192	1700	741	1700		
Volume to Capacity	0.43	0.48	0.01	0.49		
Queue Length 95th (ft)	50	0	1	0		
Control Delay (s)	37.2	0.0	9.9	0.0		
Lane LOS	E		A			
Approach Delay (s)	37.2	0.0	0.1			
Approach LOS	E					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			51.3%		ICU Level of Service	A
Analysis Period (min)			15			

Timings 3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018

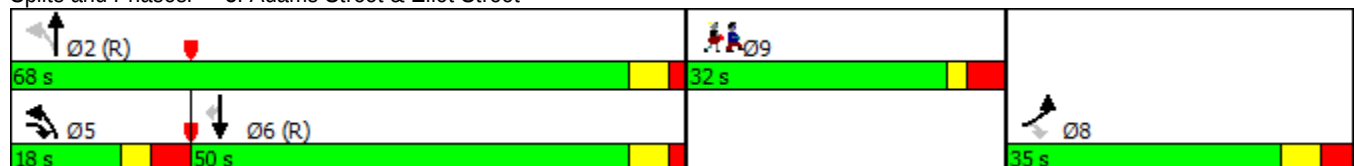


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	175	151	243	524	598	261	
Future Volume (vph)	175	151	243	524	598	261	
Lane Group Flow (vph)	197	170	248	535	664	290	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	35.0	18.0	18.0	68.0	50.0	50.0	32.0
Total Split (%)	25.9%	13.3%	13.3%	50.4%	37.0%	37.0%	24%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.74	0.29	0.64	0.49	0.79	0.35	
Control Delay	71.0	13.9	34.1	12.3	42.1	11.6	
Queue Delay	0.0	0.0	0.0	0.5	27.6	0.0	
Total Delay	71.0	13.9	34.1	12.8	69.7	11.6	
Queue Length 50th (ft)	168	37	64	54	410	43	
Queue Length 95th (ft)	236	96	#339	363	#889	148	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	369	595	386	1101	839	819	
Starvation Cap Reductn	0	0	0	218	0	0	
Spillback Cap Reductn	0	11	0	0	199	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.29	0.64	0.61	1.04	0.35	

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 2 (1%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	175	151	243	524	598	261
Future Volume (vph)	175	151	243	524	598	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1459	1787	1674	1881	1599
Flt Permitted	0.95	1.00	0.11	1.00	1.00	1.00
Satd. Flow (perm)	1814	1459	205	1674	1881	1599
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.90	0.90
Adj. Flow (vph)	197	170	248	535	664	290
RTOR Reduction (vph)	0	73	0	0	0	110
Lane Group Flow (vph)	197	97	248	535	664	180
Heavy Vehicles (%)	1%	0%	1%	1%	1%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	19.9	41.5	85.2	85.2	56.6	56.6
Effective Green, g (s)	19.9	41.5	85.2	85.2	56.6	56.6
Actuated g/C Ratio	0.15	0.31	0.63	0.63	0.42	0.42
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	267	448	382	1056	788	670
v/s Ratio Prot	c0.11	0.03	c0.10	0.32	c0.35	
v/s Ratio Perm		0.03	0.31			0.11
v/c Ratio	0.74	0.22	0.65	0.51	0.84	0.27
Uniform Delay, d1	55.1	34.7	27.2	13.5	35.2	25.6
Progression Factor	1.00	1.00	1.28	0.65	1.00	1.00
Incremental Delay, d2	10.2	0.2	3.4	1.6	10.6	1.0
Delay (s)	65.2	34.9	38.3	10.3	45.8	26.6
Level of Service	E	C	D	B	D	C
Approach Delay (s)	51.2			19.1	40.0	
Approach LOS	D			B	D	

Intersection Summary

HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings 11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	84	395	468	366	54				
Future Volume (vph)	84	395	468	366	54				
Lane Group Flow (vph)	91	429	870	398	59				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	65.0	65.0	65.0	53.0	53.0	11.5	22.0	19.5	17.0
Total Split (%)	48.1%	48.1%	48.1%	39.3%	39.3%	9%	16%	14%	13%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	1.54	0.45	1.01	0.55	0.09				
Control Delay	336.2	25.1	47.4	13.6	0.2				
Queue Delay	0.0	0.0	0.0	2.4	2.1				
Total Delay	336.2	25.1	47.4	16.0	2.3				
Queue Length 50th (ft)	~109	234	723	70	0				
Queue Length 95th (ft)	#189	370	#1079	449	m0				
Internal Link Dist (ft)		1186	236	67					
Turn Bay Length (ft)	65								
Base Capacity (vph)	59	945	865	730	676				
Starvation Cap Reductn	0	0	0	209	523				
Spillback Cap Reductn	0	0	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	1.54	0.45	1.01	0.76	0.39				

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green, Master Intersection
Natural Cycle: 145
Control Type: Actuated-Coordinated
~ 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.

Timings 11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12  Ø2 (R)	 Ø9	#11  Ø4
65 s	17 s	53 s
#11 #12  Ø6 (R)		#12  Ø7
65 s		#12  Ø8
		#12  Ø3
		22 s
		19.5 s
		11.5 s

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	84	395	468	332	366	54
Future Volume (vph)	84	395	468	332	366	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1796	1928	1731		1814	1591
Flt Permitted	0.07	1.00	1.00		0.95	1.00
Satd. Flow (perm)	123	1928	1731		1814	1591
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	429	509	361	398	59
RTOR Reduction (vph)	0	0	19	0	0	35
Lane Group Flow (vph)	91	429	851	0	398	24
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	3%	1%	1%	1%	1%	3%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	61.4	61.4	61.4		54.4	54.4
Effective Green, g (s)	61.4	61.4	61.4		54.4	54.4
Actuated g/C Ratio	0.45	0.45	0.45		0.40	0.40
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	55	876	787		730	641
v/s Ratio Prot		0.22	0.49		c0.22	
v/s Ratio Perm	c0.74					0.01
v/c Ratio	1.65	0.49	1.08		0.55	0.04
Uniform Delay, d1	36.8	25.8	36.8		30.8	24.4
Progression Factor	1.00	1.00	0.52		0.35	0.00
Incremental Delay, d2	361.9	2.0	52.8		0.7	0.0
Delay (s)	398.7	27.8	71.9		11.6	0.0
Level of Service	F	C	E		B	A
Approach Delay (s)		92.7	71.9		10.1	
Approach LOS		F	E		B	
Intersection Summary						
HCM 2000 Control Delay		62.5		HCM 2000 Level of Service		E
HCM 2000 Volume to Capacity ratio		1.20				
Actuated Cycle Length (s)		135.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		87.7%		ICU Level of Service		E
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	77	59	284	254	162				
Future Volume (vph)	77	59	284	254	162				
Lane Group Flow (vph)	89	109	314	276	176				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	22.0			65.0	53.0	65.0	17.0
Total Split (%)	14.4%	8.5%	16.3%			48%	39%	48%	13%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.36	0.50	0.74	0.30	0.23				
Control Delay	4.0	11.3	59.8	3.5	3.5				
Queue Delay	0.1	0.7	0.2	11.5	8.3				
Total Delay	4.0	12.0	60.0	15.0	11.8				
Queue Length 50th (ft)	0	0	249	12	7				
Queue Length 95th (ft)	0	25	#547	m17	m11				
Internal Link Dist (ft)	249	197	277	67					
Turn Bay Length (ft)									
Base Capacity (vph)	334	218	426	922	776				
Starvation Cap Reductn	0	0	0	613	554				
Spillback Cap Reductn	18	17	4	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.28	0.54	0.74	0.89	0.79				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

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

Natural Cycle: 145

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 65 s	#11 Ø4 53 s
#11 #12 Ø6 (R) 65 s	#12 Ø7 22 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

Build (2028) Alternative 1B PM Peak Hour (5:00 - 6:00)

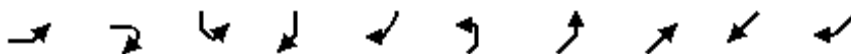
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	77	5	59	20	21	5	0	284	254	162
Future Volume (vph)	77	5	59	20	21	5	0	284	254	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frt	0.99		0.94					1.00	1.00	0.85
Flt Protected	0.95		0.97					1.00	1.00	1.00
Satd. Flow (prot)	1751		1709					1880	1881	1583
Flt Permitted	0.95		0.97					1.00	1.00	1.00
Satd. Flow (perm)	1751		1709					1880	1881	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	5	64	22	23	5	0	309	276	176
RTOR Reduction (vph)	84	0	104	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	5	0	0	0	0	314	276	176
Heavy Vehicles (%)	3%	0%	2%	2%	2%	0%	0%	1%	0%	1%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		6.0					30.6	61.4	61.4
Effective Green, g (s)	7.8		6.0					30.6	61.4	61.4
Actuated g/C Ratio	0.06		0.04					0.23	0.45	0.45
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	101		75					426	855	719
v/s Ratio Prot	c0.00		c0.00					c0.17	c0.15	0.11
v/s Ratio Perm										
v/c Ratio	0.05		0.06					0.74	0.32	0.24
Uniform Delay, d1	60.1		61.8					48.5	23.5	22.6
Progression Factor	1.00		1.00					1.00	0.16	0.17
Incremental Delay, d2	0.2		0.4					6.5	0.1	0.1
Delay (s)	60.3		62.2					55.0	3.8	3.8
Level of Service	E		E					D	A	A
Approach Delay (s)	60.3		62.2					55.0	3.8	
Approach LOS	E		E					D	A	

Intersection Summary

HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queuing and Blocking Report
 Build (2028) Alternative 1B PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	152	212	62	234
Average Queue (ft)	68	34	3	197
95th Queue (ft)	154	147	25	291
Link Distance (ft)	134	226		213
Upstream Blk Time (%)	22	1		14
Queuing Penalty (veh)	0	9		105
Storage Bay Dist (ft)			60	
Storage Blk Time (%)				31
Queuing Penalty (veh)				2

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	482	75	100	230	207	136	310
Average Queue (ft)	366	62	67	96	182	50	279
95th Queue (ft)	570	101	117	249	200	104	343
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	30			4	64	1	61
Queuing Penalty (veh)	0			33	0	0	0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	72	13	15	7			
Queuing Penalty (veh)	109	22	77	17			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE	NE
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	89	1265	242	73	15
Average Queue (ft)	82	1235	227	20	1
95th Queue (ft)	93	1312	238	58	9
Link Distance (ft)		1232	226	55	55
Upstream Blk Time (%)		93	35	7	0
Queuing Penalty (veh)		0	273	15	0
Storage Bay Dist (ft)	65				
Storage Blk Time (%)	96	18			
Queuing Penalty (veh)	378	15			

Queuing and Blocking Report

Build (2028) Alternative 1B PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	204	186	360	78	76
Average Queue (ft)	79	106	281	42	31
95th Queue (ft)	159	208	406	80	69
Link Distance (ft)	290	221	322	55	55
Upstream Blk Time (%)	0	6	33	22	13
Queuing Penalty (veh)	0	0	0	46	27
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 1126

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 8 Report
11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	16	11	882	20	17	484
Future Volume (Veh/h)	16	11	882	20	17	484
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.79	0.79	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	20	14	991	22	18	509
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.76	0.69			0.69	
vC, conflicting volume	1557	1012			1023	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1151	792			808	
tC, single (s)	6.6	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.4	
p0 queue free %	86	94			96	
cM capacity (veh/h)	146	254			510	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	34	1013	18	509		
Volume Left	20	0	18	0		
Volume Right	14	22	0	0		
cSH	177	1700	510	1700		
Volume to Capacity	0.19	0.60	0.04	0.30		
Queue Length 95th (ft)	17	0	3	0		
Control Delay (s)	30.2	0.0	12.3	0.0		
Lane LOS	D		B			
Approach Delay (s)	30.2	0.0	0.4			
Approach LOS	D					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			57.7%		ICU Level of Service	B
Analysis Period (min)			15			

Timings 3: Adams Street & Eliot Street

Synchro 8 Report
11/11/2018

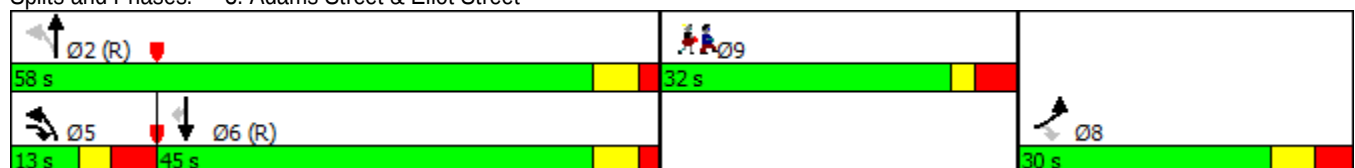


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	315	164	112	769	344	96	
Future Volume (vph)	315	164	112	769	344	96	
Lane Group Flow (vph)	354	184	129	884	362	101	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	30.0	13.0	13.0	58.0	45.0	45.0	32.0
Total Split (%)	25.0%	10.8%	10.8%	48.3%	37.5%	37.5%	27%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.83	0.33	0.31	0.99	0.46	0.14	
Control Delay	61.9	20.7	16.7	51.1	29.4	6.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.9	20.7	16.7	51.1	29.4	6.0	
Queue Length 50th (ft)	249	58	37	263	175	0	
Queue Length 95th (ft)	#477	134	m83	#1030	337	39	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	427	550	411	895	794	739	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	15	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.83	0.33	0.31	0.99	0.46	0.14	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 6 (5%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Adams Street & Eliot Street



Milton Village Mixed-Use Development Alternatives
Build (2028) Alternative 2A AM Peak Hour (7:30 - 8:30)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 8 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	315	164	112	769	344	96
Future Volume (vph)	315	164	112	769	344	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1416	1736	1642	1863	1599
Flt Permitted	0.95	1.00	0.35	1.00	1.00	1.00
Satd. Flow (perm)	1814	1416	645	1642	1863	1599
Peak-hour factor, PHF	0.89	0.89	0.87	0.87	0.95	0.95
Adj. Flow (vph)	354	184	129	884	362	101
RTOR Reduction (vph)	0	47	0	0	0	61
Lane Group Flow (vph)	354	137	129	884	362	40
Heavy Vehicles (%)	1%	3%	4%	3%	2%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	28.3	35.5	61.8	61.8	47.6	47.6
Effective Green, g (s)	28.3	35.5	61.8	61.8	47.6	47.6
Actuated g/C Ratio	0.24	0.30	0.51	0.51	0.40	0.40
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	427	418	397	845	738	634
v/s Ratio Prot	c0.20	0.02	0.02	c0.54	0.19	
v/s Ratio Perm		0.08	0.15			0.03
v/c Ratio	0.83	0.33	0.32	1.05	0.49	0.06
Uniform Delay, d1	43.6	32.9	17.0	29.1	27.1	22.4
Progression Factor	1.00	1.00	0.87	0.88	1.00	1.00
Incremental Delay, d2	12.5	0.5	0.4	41.2	2.3	0.2
Delay (s)	56.1	33.4	15.2	66.8	29.4	22.6
Level of Service	E	C	B	E	C	C
Approach Delay (s)	48.3			60.2	27.9	
Approach LOS	D			E	C	

Intersection Summary

HCM 2000 Control Delay	49.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 8 Report

11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	16	669	306	234	19				
Future Volume (vph)	16	669	306	234	19				
Lane Group Flow (vph)	17	727	553	254	21				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	52.0	52.0	52.0	51.0	51.0	11.5	20.0	19.5	17.0
Total Split (%)	43.3%	43.3%	43.3%	42.5%	42.5%	10%	17%	16%	14%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.05	0.66	0.55	0.48	0.05				
Control Delay	18.1	24.6	12.7	13.2	0.2				
Queue Delay	0.0	0.8	0.1	1.5	0.7				
Total Delay	18.1	25.3	12.8	14.7	0.8				
Queue Length 50th (ft)	6	376	145	44	0				
Queue Length 95th (ft)	25	#817	#256	m58	m0				
Internal Link Dist (ft)		1186	236	69					
Turn Bay Length (ft)	65								
Base Capacity (vph)	354	1104	1001	668	569				
Starvation Cap Reductn	0	0	32	251	433				
Spillback Cap Reductn	0	140	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.05	0.75	0.57	0.61	0.15				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12 Ø2 (R) 52 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s	#12 Ø7 20 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

Build (2028) Alternative ZA AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 8 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	16	669	306	202	234	19
Future Volume (vph)	16	669	306	202	234	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1850	1909	1709		1745	1451
Flt Permitted	0.31	1.00	1.00		0.95	1.00
Satd. Flow (perm)	612	1909	1709		1745	1451
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	727	333	220	254	21
RTOR Reduction (vph)	0	0	15	0	0	14
Lane Group Flow (vph)	17	727	538	0	254	7
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	0%	2%	3%	2%	5%	13%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	62.4	62.4	62.4		38.4	38.4
Effective Green, g (s)	62.4	62.4	62.4		38.4	38.4
Actuated g/C Ratio	0.52	0.52	0.52		0.32	0.32
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	318	992	888		558	464
v/s Ratio Prot		c0.38	0.31		c0.15	
v/s Ratio Perm	0.03					0.00
v/c Ratio	0.05	0.73	0.61		0.46	0.01
Uniform Delay, d1	14.2	22.3	20.2		32.5	27.9
Progression Factor	1.00	1.00	0.54		0.32	0.00
Incremental Delay, d2	0.3	4.8	2.9		0.5	0.0
Delay (s)	14.5	27.1	13.8		11.0	0.0
Level of Service	B	C	B		B	A
Approach Delay (s)		26.8	13.8		10.1	
Approach LOS		C	B		B	
Intersection Summary						
HCM 2000 Control Delay		19.3		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.68				
Actuated Cycle Length (s)		120.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		57.3%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	69	13	170	160	58				
Future Volume (vph)	69	13	170	160	58				
Lane Group Flow (vph)	89	31	190	174	63				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	20.0			52.0	51.0	52.0	17.0
Total Split (%)	16.3%	9.6%	16.7%			43%	43%	43%	14%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.32	0.13	0.75	0.16	0.07				
Control Delay	3.1	1.1	67.4	3.6	3.7				
Queue Delay	0.0	0.0	0.3	0.6	0.5				
Total Delay	3.1	1.1	67.7	4.2	4.3				
Queue Length 50th (ft)	0	0	140	6	2				
Queue Length 95th (ft)	0	0	#274	21	m9				
Internal Link Dist (ft)	271	197	280	69					
Turn Bay Length (ft)									
Base Capacity (vph)	364	245	262	1067	906				
Starvation Cap Reductn	0	0	0	605	630				
Spillback Cap Reductn	4	4	3	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.25	0.13	0.73	0.38	0.23				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 52 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s	#12 Ø7 20 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

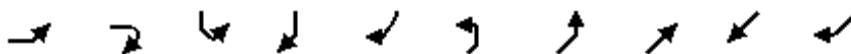
Build (2028) Alternative ZA AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	69	13	13	1	15	5	0	170	160	58
Future Volume (vph)	69	13	13	1	15	5	0	170	160	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Frt	0.98		0.93					1.00	1.00	0.85
Flt Protected	0.96		0.98					1.00	1.00	1.00
Satd. Flow (prot)	1678		1720					1809	1844	1567
Flt Permitted	0.96		0.98					1.00	1.00	1.00
Satd. Flow (perm)	1678		1720					1809	1844	1567
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	14	14	1	16	5	0	185	174	63
RTOR Reduction (vph)	83	0	30	0	0	0	0	0	0	0
Lane Group Flow (vph)	6	0	1	0	0	0	0	190	174	63
Confl. Peds. (#/hr)										
Heavy Vehicles (%)	6%	8%	0%	0%	0%	0%	0%	5%	2%	2%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		3.6					17.0	62.4	62.4
Effective Green, g (s)	7.8		3.6					17.0	62.4	62.4
Actuated g/C Ratio	0.06		0.03					0.14	0.52	0.52
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	109		51					256	958	814
v/s Ratio Prot	c0.00		c0.00					c0.11	c0.09	0.04
v/s Ratio Perm										
v/c Ratio	0.05		0.02					0.74	0.18	0.08
Uniform Delay, d1	52.6		56.5					49.4	15.3	14.4
Progression Factor	1.00		1.00					1.00	0.21	0.22
Incremental Delay, d2	0.2		0.1					11.0	0.4	0.2
Delay (s)	52.8		56.6					60.4	3.6	3.4
Level of Service	D		E					E	A	A
Approach Delay (s)	52.8		56.6					60.4	3.5	
Approach LOS	D		E					E	A	
Intersection Summary										
HCM 2000 Control Delay			34.3							
HCM 2000 Volume to Capacity ratio			0.26							
Actuated Cycle Length (s)			120.0							
Intersection Capacity Utilization			40.0%							
Analysis Period (min)			15							
c Critical Lane Group										
HCM 2000 Level of Service								C		
Sum of lost time (s)								27.0		
ICU Level of Service								A		

Queuing and Blocking Report

Build (2028) Alternative 2A AM Peak Hour (7:30 - 8:30)

11/11/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	122	241	69	154
Average Queue (ft)	37	164	13	21
95th Queue (ft)	99	321	45	100
Link Distance (ft)	134	224		213
Upstream Blk Time (%)	1	11		
Queuing Penalty (veh)	0	95		
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			1	1
Queuing Penalty (veh)			7	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	504	76	100	231	193	64	179
Average Queue (ft)	466	55	54	198	144	25	40
95th Queue (ft)	512	103	108	292	215	54	132
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	80			23	19		
Queuing Penalty (veh)	0			206	0		
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	75	2	2	35			
Queuing Penalty (veh)	123	6	19	39			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE
Directions Served	L	T	TR	L
Maximum Queue (ft)	81	849	232	84
Average Queue (ft)	17	405	129	32
95th Queue (ft)	60	751	239	78
Link Distance (ft)		1238	224	69
Upstream Blk Time (%)		0	2	9
Queuing Penalty (veh)		0	9	11
Storage Bay Dist (ft)	65			
Storage Blk Time (%)	0	48		
Queuing Penalty (veh)	1	8		

Queuing and Blocking Report

Build (2028) Alternative 2A AM Peak Hour (7:30 - 8:30)

11/11/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	164	78	290	75	51
Average Queue (ft)	72	23	137	23	11
95th Queue (ft)	132	58	237	65	41
Link Distance (ft)	308	226	320	69	69
Upstream Blk Time (%)			0	2	0
Queuing Penalty (veh)			0	2	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 527

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 9 Report
11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	33	28	704	25	11	698
Future Volume (Veh/h)	33	28	704	25	11	698
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.65	0.65	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	51	43	741	26	12	776
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.80	0.84			0.84	
vC, conflicting volume	1571	771			784	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1150	637			652	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	89			98	
cM capacity (veh/h)	168	399			784	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	94	767	12	776		
Volume Left	51	0	12	0		
Volume Right	43	26	0	0		
cSH	228	1700	784	1700		
Volume to Capacity	0.41	0.45	0.02	0.46		
Queue Length 95th (ft)	47	0	1	0		
Control Delay (s)	31.4	0.0	9.7	0.0		
Lane LOS	D		A			
Approach Delay (s)	31.4	0.0	0.1			
Approach LOS	D					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			48.8%		ICU Level of Service	A
Analysis Period (min)			15			

Timings 3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018

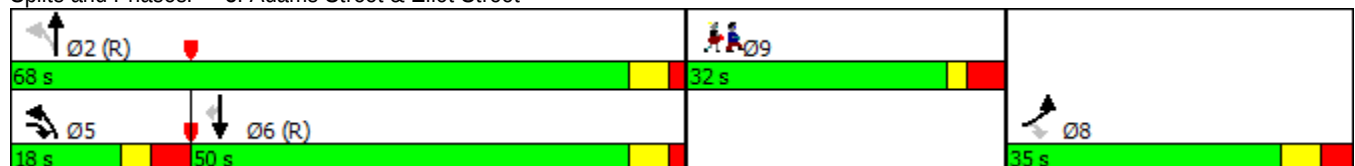


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	173	150	212	495	568	245	
Future Volume (vph)	173	150	212	495	568	245	
Lane Group Flow (vph)	194	169	216	505	631	272	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	35.0	18.0	18.0	68.0	50.0	50.0	32.0
Total Split (%)	25.9%	13.3%	13.3%	50.4%	37.0%	37.0%	24%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.74	0.31	0.55	0.46	0.70	0.31	
Control Delay	71.2	14.3	21.7	11.9	36.1	10.4	
Queue Delay	0.0	0.0	0.0	0.4	5.2	0.0	
Total Delay	71.2	14.3	21.7	12.4	41.4	10.4	
Queue Length 50th (ft)	165	38	23	53	348	33	
Queue Length 95th (ft)	234	93	#238	334	#825	130	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	369	549	396	1104	905	866	
Starvation Cap Reductn	0	0	0	229	0	0	
Spillback Cap Reductn	0	11	0	0	210	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.31	0.55	0.58	0.91	0.31	

Intersection Summary

Cycle Length: 135
 Actuated Cycle Length: 135
 Offset: 2 (1%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	173	150	212	495	568	245
Future Volume (vph)	173	150	212	495	568	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1459	1787	1674	1881	1599
Flt Permitted	0.95	1.00	0.17	1.00	1.00	1.00
Satd. Flow (perm)	1814	1459	324	1674	1881	1599
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.90	0.90
Adj. Flow (vph)	194	169	216	505	631	272
RTOR Reduction (vph)	0	77	0	0	0	102
Lane Group Flow (vph)	194	92	216	505	631	170
Heavy Vehicles (%)	1%	0%	1%	1%	1%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	19.6	36.7	85.5	85.5	61.4	61.4
Effective Green, g (s)	19.6	36.7	85.5	85.5	61.4	61.4
Actuated g/C Ratio	0.15	0.27	0.63	0.63	0.45	0.45
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	263	396	390	1060	855	727
v/s Ratio Prot	c0.11	0.03	0.07	c0.30	c0.34	
v/s Ratio Perm		0.03	0.28			0.11
v/c Ratio	0.74	0.23	0.55	0.48	0.74	0.23
Uniform Delay, d1	55.2	38.2	18.7	13.0	30.2	22.4
Progression Factor	1.00	1.00	1.14	0.66	1.00	1.00
Incremental Delay, d2	10.3	0.3	1.6	1.4	5.7	0.8
Delay (s)	65.5	38.5	22.8	9.9	35.9	23.2
Level of Service	E	D	C	A	D	C
Approach Delay (s)	52.9			13.8	32.0	
Approach LOS	D			B	C	

Intersection Summary

HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings 11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	84	394	432	336	48				
Future Volume (vph)	84	394	432	336	48				
Lane Group Flow (vph)	91	428	799	365	52				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	65.0	65.0	65.0	53.0	53.0	11.5	22.0	19.5	17.0
Total Split (%)	48.1%	48.1%	48.1%	39.3%	39.3%	9%	16%	14%	13%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	1.49	0.44	0.89	0.52	0.08				
Control Delay	321.2	24.0	29.1	12.2	0.2				
Queue Delay	0.0	0.0	0.0	2.7	3.0				
Total Delay	321.2	24.0	29.1	14.9	3.2				
Queue Length 50th (ft)	~110	233	618	55	0				
Queue Length 95th (ft)	#191	369	#949	427	m0				
Internal Link Dist (ft)		1186	236	67					
Turn Bay Length (ft)	65								
Base Capacity (vph)	61	980	896	707	652				
Starvation Cap Reductn	0	0	0	228	528				
Spillback Cap Reductn	0	0	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	1.49	0.44	0.89	0.76	0.42				

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green, Master Intersection
Natural Cycle: 145
Control Type: Actuated-Coordinated
~ 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.

Timings 11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12  Ø2 (R)	 Ø9	#11  Ø4
65 s	17 s	53 s
#11 #12  Ø6 (R)		#12  Ø7
65 s		#12  Ø8
		#12  Ø3
		22 s
		19.5 s
		11.5 s

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	84	394	432	303	336	48
Future Volume (vph)	84	394	432	303	336	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1796	1928	1732		1814	1591
Flt Permitted	0.06	1.00	1.00		0.95	1.00
Satd. Flow (perm)	121	1928	1732		1814	1591
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	428	470	329	365	52
RTOR Reduction (vph)	0	0	18	0	0	32
Lane Group Flow (vph)	91	428	781	0	365	20
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	3%	1%	1%	1%	1%	3%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	62.7	62.7	62.7		53.1	53.1
Effective Green, g (s)	62.7	62.7	62.7		53.1	53.1
Actuated g/C Ratio	0.46	0.46	0.46		0.39	0.39
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	56	895	804		713	625
v/s Ratio Prot		0.22	0.45		c0.20	
v/s Ratio Perm	c0.75					0.01
v/c Ratio	1.62	0.48	0.97		0.51	0.03
Uniform Delay, d1	36.1	24.9	35.3		31.1	25.2
Progression Factor	1.00	1.00	0.55		0.31	0.00
Incremental Delay, d2	348.7	1.8	22.7		0.5	0.0
Delay (s)	384.8	26.7	42.0		10.0	0.0
Level of Service	F	C	D		B	A
Approach Delay (s)		89.5	42.0		8.8	
Approach LOS		F	D		A	
Intersection Summary						
HCM 2000 Control Delay		48.2		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio		1.19				
Actuated Cycle Length (s)		135.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		82.3%		ICU Level of Service		E
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	75	33	276	237	150				
Future Volume (vph)	75	33	276	237	150				
Lane Group Flow (vph)	87	68	305	258	163				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	22.0			65.0	53.0	65.0	17.0
Total Split (%)	14.4%	8.5%	16.3%			48%	39%	48%	13%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.35	0.31	0.72	0.27	0.20				
Control Delay	3.8	3.7	59.0	3.4	3.4				
Queue Delay	0.1	0.2	0.1	4.4	4.0				
Total Delay	3.9	3.9	59.1	7.8	7.4				
Queue Length 50th (ft)	0	0	240	11	6				
Queue Length 95th (ft)	0	0	#527	m18	m12				
Internal Link Dist (ft)	249	197	277	67					
Turn Bay Length (ft)									
Base Capacity (vph)	334	217	424	956	804				
Starvation Cap Reductn	0	0	0	614	557				
Spillback Cap Reductn	12	11	4	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.27	0.33	0.73	0.75	0.66				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

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

Natural Cycle: 145

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 65 s	#11 Ø4 53 s
#11 #12 Ø6 (R) 65 s	#12 Ø7 22 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

Build (2028) Alternative ZA PM Peak Hour (5:00 - 6:00)

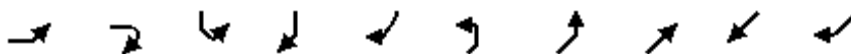
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	75	5	33	14	16	5	0	276	237	150
Future Volume (vph)	75	5	33	14	16	5	0	276	237	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frt	0.99		0.94					1.00	1.00	0.85
Flt Protected	0.95		0.97					1.00	1.00	1.00
Satd. Flow (prot)	1751		1699					1880	1881	1583
Flt Permitted	0.95		0.97					1.00	1.00	1.00
Satd. Flow (perm)	1751		1699					1880	1881	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	5	36	15	17	5	0	300	258	163
RTOR Reduction (vph)	82	0	66	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	2	0	0	0	0	305	258	163
Heavy Vehicles (%)	3%	0%	2%	2%	2%	0%	0%	1%	0%	1%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		4.8					30.5	62.7	62.7
Effective Green, g (s)	7.8		4.8					30.5	62.7	62.7
Actuated g/C Ratio	0.06		0.04					0.23	0.46	0.46
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	101		60					424	873	735
v/s Ratio Prot	c0.00		c0.00					c0.16	c0.14	0.10
v/s Ratio Perm										
v/c Ratio	0.05		0.04					0.72	0.30	0.22
Uniform Delay, d1	60.1		62.9					48.3	22.4	21.6
Progression Factor	1.00		1.00					1.00	0.16	0.17
Incremental Delay, d2	0.2		0.3					5.8	0.1	0.1
Delay (s)	60.3		63.2					54.1	3.7	3.7
Level of Service	E		E					D	A	A
Approach Delay (s)	60.3		63.2					54.1	3.7	
Approach LOS	E		E					D	A	

Intersection Summary

HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queuing and Blocking Report

Build (2028) Alternative 2A PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	143	221	70	231
Average Queue (ft)	62	52	7	159
95th Queue (ft)	142	195	34	297
Link Distance (ft)	134	226		213
Upstream Blk Time (%)	5	3		8
Queuing Penalty (veh)	0	19		56
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			0	21
Queuing Penalty (veh)			0	2

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	480	75	100	229	190	116	295
Average Queue (ft)	377	59	70	104	174	45	215
95th Queue (ft)	559	102	119	259	210	92	392
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	32			7	45	0	27
Queuing Penalty (veh)	0			51	0	0	0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	78	7	18	9			
Queuing Penalty (veh)	116	12	89	18			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE
Directions Served	L	T	TR	L
Maximum Queue (ft)	89	1274	242	66
Average Queue (ft)	79	1059	216	15
95th Queue (ft)	99	1638	270	52
Link Distance (ft)		1232	226	55
Upstream Blk Time (%)		66	21	5
Queuing Penalty (veh)		0	154	9
Storage Bay Dist (ft)	65			
Storage Blk Time (%)	80	20		
Queuing Penalty (veh)	315	17		

Queuing and Blocking Report

Build (2028) Alternative 2A PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	147	128	344	75	75
Average Queue (ft)	71	49	252	37	27
95th Queue (ft)	129	98	375	76	65
Link Distance (ft)	290	221	322	55	55
Upstream Blk Time (%)			16	19	9
Queuing Penalty (veh)			0	37	18
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 914

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 8 Report
11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	16	12	890	21	17	488
Future Volume (Veh/h)	16	12	890	21	17	488
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.79	0.79	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	20	15	1000	24	18	514
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.76	0.69			0.69	
vC, conflicting volume	1572	1022			1034	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1162	802			820	
tC, single (s)	6.6	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.4	
p0 queue free %	86	94			96	
cM capacity (veh/h)	143	249			502	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	35	1024	18	514		
Volume Left	20	0	18	0		
Volume Right	15	24	0	0		
cSH	175	1700	502	1700		
Volume to Capacity	0.20	0.60	0.04	0.30		
Queue Length 95th (ft)	18	0	3	0		
Control Delay (s)	30.7	0.0	12.4	0.0		
Lane LOS	D		B			
Approach Delay (s)	30.7	0.0	0.4			
Approach LOS	D					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			58.1%		ICU Level of Service	B
Analysis Period (min)			15			

Timings 3: Adams Street & Eliot Street

Synchro 8 Report
11/11/2018

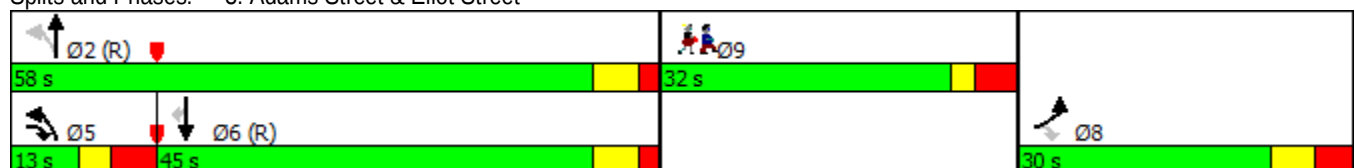


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	316	166	116	775	348	98	
Future Volume (vph)	316	166	116	775	348	98	
Lane Group Flow (vph)	355	187	133	891	366	103	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	30.0	13.0	13.0	58.0	45.0	45.0	32.0
Total Split (%)	25.0%	10.8%	10.8%	48.3%	37.5%	37.5%	27%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.83	0.34	0.33	1.00	0.46	0.14	
Control Delay	61.6	20.8	16.8	53.3	29.6	5.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.6	20.8	16.8	53.3	29.6	5.9	
Queue Length 50th (ft)	250	58	38	266	178	0	
Queue Length 95th (ft)	#479	137	m84	#1036	341	39	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	429	553	408	893	792	739	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	17	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.83	0.34	0.33	1.00	0.47	0.14	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 6 (5%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Adams Street & Eliot Street



Milton Village Mixed-Use Development Alternatives
 Build (2028) Alternative 2B AM Peak Hour (7:30 - 8:30)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 8 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	316	166	116	775	348	98
Future Volume (vph)	316	166	116	775	348	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1416	1736	1642	1863	1599
Flt Permitted	0.95	1.00	0.35	1.00	1.00	1.00
Satd. Flow (perm)	1814	1416	636	1642	1863	1599
Peak-hour factor, PHF	0.89	0.89	0.87	0.87	0.95	0.95
Adj. Flow (vph)	355	187	133	891	366	103
RTOR Reduction (vph)	0	48	0	0	0	62
Lane Group Flow (vph)	355	139	133	891	366	41
Heavy Vehicles (%)	1%	3%	4%	3%	2%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	28.4	35.7	61.7	61.7	47.4	47.4
Effective Green, g (s)	28.4	35.7	61.7	61.7	47.4	47.4
Actuated g/C Ratio	0.24	0.30	0.51	0.51	0.39	0.39
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	429	421	393	844	735	631
v/s Ratio Prot	c0.20	0.02	0.02	c0.54	0.20	
v/s Ratio Perm		0.08	0.15			0.03
v/c Ratio	0.83	0.33	0.34	1.06	0.50	0.06
Uniform Delay, d1	43.5	32.8	17.2	29.1	27.3	22.5
Progression Factor	1.00	1.00	0.87	0.87	1.00	1.00
Incremental Delay, d2	12.4	0.5	0.4	44.2	2.4	0.2
Delay (s)	55.8	33.3	15.3	69.7	29.7	22.7
Level of Service	E	C	B	E	C	C
Approach Delay (s)	48.1			62.7	28.2	
Approach LOS	D			E	C	

Intersection Summary

HCM 2000 Control Delay	50.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 8 Report

11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	16	674	308	236	22				
Future Volume (vph)	16	674	308	236	22				
Lane Group Flow (vph)	17	733	556	257	24				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	52.0	52.0	52.0	51.0	51.0	11.5	20.0	19.5	17.0
Total Split (%)	43.3%	43.3%	43.3%	42.5%	42.5%	10%	17%	16%	14%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.05	0.66	0.56	0.49	0.05				
Control Delay	18.1	24.7	12.8	13.8	0.2				
Queue Delay	0.0	0.8	0.1	1.5	0.7				
Total Delay	18.1	25.6	12.9	15.4	0.9				
Queue Length 50th (ft)	6	381	146	47	0				
Queue Length 95th (ft)	25	#827	#261	m62	m0				
Internal Link Dist (ft)		1186	236	69					
Turn Bay Length (ft)	65								
Base Capacity (vph)	351	1104	1001	668	571				
Starvation Cap Reductn	0	0	30	250	430				
Spillback Cap Reductn	0	146	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.05	0.77	0.57	0.61	0.17				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12 Ø2 (R) 52 s	#11 Ø9 17 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s	#12 Ø7 20 s	#12 Ø8 19.5 s
		#12 Ø3 11.5 s

Build (2028) Alternative 2B AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 8 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	16	674	308	203	236	22
Future Volume (vph)	16	674	308	203	236	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1850	1909	1709		1745	1451
Flt Permitted	0.31	1.00	1.00		0.95	1.00
Satd. Flow (perm)	607	1909	1709		1745	1451
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	733	335	221	257	24
RTOR Reduction (vph)	0	0	15	0	0	16
Lane Group Flow (vph)	17	733	541	0	257	8
Confl. Peds. (#/hr)					22	
Heavy Vehicles (%)	0%	2%	3%	2%	5%	13%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	62.4	62.4	62.4		38.4	38.4
Effective Green, g (s)	62.4	62.4	62.4		38.4	38.4
Actuated g/C Ratio	0.52	0.52	0.52		0.32	0.32
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	315	992	888		558	464
v/s Ratio Prot		c0.38	0.32		c0.15	
v/s Ratio Perm	0.03					0.01
v/c Ratio	0.05	0.74	0.61		0.46	0.02
Uniform Delay, d1	14.2	22.5	20.2		32.5	27.9
Progression Factor	1.00	1.00	0.54		0.34	0.00
Incremental Delay, d2	0.3	4.9	2.9		0.5	0.0
Delay (s)	14.5	27.4	13.9		11.5	0.0
Level of Service	B	C	B		B	A
Approach Delay (s)		27.1	13.9		10.5	
Approach LOS		C	B		B	

Intersection Summary

HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	69	18	170	161	58				
Future Volume (vph)	69	18	170	161	58				
Lane Group Flow (vph)	89	37	190	175	63				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	20.0			52.0	51.0	52.0	17.0
Total Split (%)	16.3%	9.6%	16.7%			43%	43%	43%	14%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.32	0.15	0.75	0.16	0.07				
Control Delay	3.1	1.3	67.4	3.6	3.8				
Queue Delay	0.0	0.0	0.5	0.6	0.5				
Total Delay	3.1	1.3	67.9	4.2	4.3				
Queue Length 50th (ft)	0	0	140	6	2				
Queue Length 95th (ft)	0	0	#274	21	m9				
Internal Link Dist (ft)	271	197	280	69					
Turn Bay Length (ft)									
Base Capacity (vph)	364	246	262	1067	906				
Starvation Cap Reductn	0	0	0	605	630				
Spillback Cap Reductn	5	4	5	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.25	0.15	0.74	0.38	0.23				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 52 s	#11 Ø9 17 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 52 s		#12 Ø7 20 s
		#12 Ø8 19.5 s
		#12 Ø3 11.5 s

Build (2028) Alternative 2B AM Peak Hour (7:30 - 8:30)

Queuing and Blocking Report

Build (2028) Alternative 2B AM Peak Hour (7:30 - 8:30)

11/11/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	104	234	76	190
Average Queue (ft)	36	173	14	29
95th Queue (ft)	101	309	49	125
Link Distance (ft)	134	224		213
Upstream Blk Time (%)	3	8		0
Queuing Penalty (veh)	0	73		1
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			1	3
Queuing Penalty (veh)			3	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	496	76	100	230	187	57	188
Average Queue (ft)	459	53	56	210	140	25	38
95th Queue (ft)	519	102	110	281	219	54	132
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	72			25	18		0
Queuing Penalty (veh)	0			221	0		0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	76	2	2	36			
Queuing Penalty (veh)	127	7	18	42			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE	NE
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	82	1092	230	80	7
Average Queue (ft)	17	576	143	31	0
95th Queue (ft)	58	1024	254	79	5
Link Distance (ft)		1238	224	69	69
Upstream Blk Time (%)		1	3	8	
Queuing Penalty (veh)		0	14	10	
Storage Bay Dist (ft)	65				
Storage Blk Time (%)	1	53			
Queuing Penalty (veh)	4	9			

Queuing and Blocking Report

Build (2028) Alternative 2B AM Peak Hour (7:30 - 8:30)

11/11/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	172	99	287	82	40
Average Queue (ft)	70	32	139	30	11
95th Queue (ft)	137	75	239	72	35
Link Distance (ft)	308	226	320	69	69
Upstream Blk Time (%)			0	3	0
Queuing Penalty (veh)			0	4	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 533

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 9 Report
11/11/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	28	718	26	14	705
Future Volume (Veh/h)	35	28	718	26	14	705
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.65	0.65	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	54	43	756	27	16	783
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.79	0.84			0.84	
vC, conflicting volume	1602	786			800	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1178	653			669	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	66	89			98	
cM capacity (veh/h)	159	390			771	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	97	783	16	783		
Volume Left	54	0	16	0		
Volume Right	43	27	0	0		
cSH	216	1700	771	1700		
Volume to Capacity	0.45	0.46	0.02	0.46		
Queue Length 95th (ft)	54	0	2	0		
Control Delay (s)	34.7	0.0	9.8	0.0		
Lane LOS	D		A			
Approach Delay (s)	34.7	0.0	0.2			
Approach LOS	D					
Intersection Summary						
Average Delay		2.1				
Intersection Capacity Utilization		49.7%		ICU Level of Service		A
Analysis Period (min)		15				

Timings 3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018

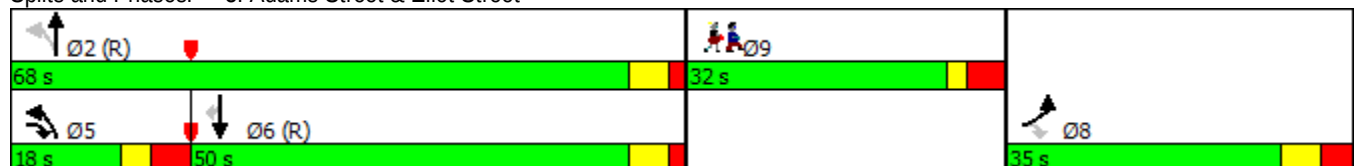


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	174	152	219	501	575	252	
Future Volume (vph)	174	152	219	501	575	252	
Lane Group Flow (vph)	196	171	223	511	639	280	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	15.5	13.0	13.0	16.0	16.0	16.0	32.0
Total Split (s)	35.0	18.0	18.0	68.0	50.0	50.0	32.0
Total Split (%)	25.9%	13.3%	13.3%	50.4%	37.0%	37.0%	24%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.74	0.31	0.57	0.46	0.72	0.33	
Control Delay	71.1	14.4	24.3	12.0	37.3	10.7	
Queue Delay	0.0	0.0	0.0	0.4	7.6	0.0	
Total Delay	71.1	14.4	24.3	12.5	44.8	10.7	
Queue Length 50th (ft)	167	39	28	54	362	35	
Queue Length 95th (ft)	236	96	#222	341	#842	136	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	369	560	392	1102	889	856	
Starvation Cap Reductn	0	0	0	226	0	0	
Spillback Cap Reductn	0	11	0	0	208	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.31	0.57	0.58	0.94	0.33	

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 2 (1%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 9 Report
11/11/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	174	152	219	501	575	252
Future Volume (vph)	174	152	219	501	575	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1459	1787	1674	1881	1599
Flt Permitted	0.95	1.00	0.16	1.00	1.00	1.00
Satd. Flow (perm)	1814	1459	297	1674	1881	1599
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.90	0.90
Adj. Flow (vph)	196	171	223	511	639	280
RTOR Reduction (vph)	0	76	0	0	0	106
Lane Group Flow (vph)	196	95	223	511	639	174
Heavy Vehicles (%)	1%	0%	1%	1%	1%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	19.8	37.8	85.3	85.3	60.3	60.3
Effective Green, g (s)	19.8	37.8	85.3	85.3	60.3	60.3
Actuated g/C Ratio	0.15	0.28	0.63	0.63	0.45	0.45
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	266	408	386	1057	840	714
v/s Ratio Prot	c0.11	0.03	0.08	c0.31	c0.34	
v/s Ratio Perm		0.03	0.29			0.11
v/c Ratio	0.74	0.23	0.58	0.48	0.76	0.24
Uniform Delay, d1	55.1	37.4	19.6	13.2	31.3	23.2
Progression Factor	1.00	1.00	1.26	0.65	1.00	1.00
Incremental Delay, d2	10.2	0.3	1.9	1.4	6.4	0.8
Delay (s)	65.3	37.7	26.7	10.0	37.7	24.0
Level of Service	E	D	C	B	D	C
Approach Delay (s)	52.4			15.1	33.6	
Approach LOS	D			B	C	

Intersection Summary

HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Lane Group	NBL	NBT	SBT	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations									
Traffic Volume (vph)	84	398	433	345	48				
Future Volume (vph)	84	398	433	345	48				
Lane Group Flow (vph)	91	433	808	375	52				
Turn Type	Perm	NA	NA	Prot	Perm				
Protected Phases		2	6	4		3	7	8	9
Permitted Phases	2				4				
Detector Phase	2	2	6	4	4				
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	17.0
Total Split (s)	65.0	65.0	65.0	53.0	53.0	11.5	22.0	19.5	17.0
Total Split (%)	48.1%	48.1%	48.1%	39.3%	39.3%	9%	16%	14%	13%
Yellow Time (s)	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	5.0	5.0				
Lead/Lag							Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	1.49	0.44	0.90	0.54	0.08				
Control Delay	323.3	24.2	29.9	12.6	0.2				
Queue Delay	0.0	0.0	0.0	2.8	2.9				
Total Delay	323.3	24.2	29.9	15.3	3.1				
Queue Length 50th (ft)	~110	237	632	58	0				
Queue Length 95th (ft)	#191	373	#963	436	m0				
Internal Link Dist (ft)		1186	236	67					
Turn Bay Length (ft)	65								
Base Capacity (vph)	61	978	894	709	654				
Starvation Cap Reductn	0	0	0	223	528				
Spillback Cap Reductn	0	0	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	1.49	0.44	0.90	0.77	0.41				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

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

Natural Cycle: 145

Control Type: Actuated-Coordinated

~ 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.

Timings 11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12   Ø2 (R)	 Ø9	#11  Ø4		
65 s	17 s	53 s		
#11 #12   Ø6 (R)		#12  Ø7	#12  Ø8	#12  Ø3
65 s		22 s	19.5 s	11.5 s

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 9 Report
11/11/2018



Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	84	398	433	310	345	48
Future Volume (vph)	84	398	433	310	345	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1796	1928	1731		1814	1591
Flt Permitted	0.06	1.00	1.00		0.95	1.00
Satd. Flow (perm)	121	1928	1731		1814	1591
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	433	471	337	375	52
RTOR Reduction (vph)	0	0	18	0	0	32
Lane Group Flow (vph)	91	433	790	0	375	20
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	3%	1%	1%	1%	1%	3%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	62.6	62.6	62.6		53.2	53.2
Effective Green, g (s)	62.6	62.6	62.6		53.2	53.2
Actuated g/C Ratio	0.46	0.46	0.46		0.39	0.39
Clearance Time (s)	6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	56	894	802		714	626
v/s Ratio Prot		0.22	0.46		c0.21	
v/s Ratio Perm	c0.75					0.01
v/c Ratio	1.62	0.48	0.98		0.53	0.03
Uniform Delay, d1	36.2	25.0	35.7		31.3	25.1
Progression Factor	1.00	1.00	0.54		0.31	0.00
Incremental Delay, d2	348.7	1.9	25.2		0.6	0.0
Delay (s)	384.9	26.9	44.4		10.4	0.0
Level of Service	F	C	D		B	A
Approach Delay (s)		89.1	44.4		9.1	
Approach LOS		F	D		A	
Intersection Summary						
HCM 2000 Control Delay		49.1		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio		1.20				
Actuated Cycle Length (s)		135.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		83.3%		ICU Level of Service		E
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	75	37	281	241	153				
Future Volume (vph)	75	37	281	241	153				
Lane Group Flow (vph)	87	75	310	262	166				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	17.0
Total Split (s)	19.5	11.5	22.0			65.0	53.0	65.0	17.0
Total Split (%)	14.4%	8.5%	16.3%			48%	39%	48%	13%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.35	0.35	0.73	0.27	0.21				
Control Delay	3.8	4.3	59.3	3.4	3.4				
Queue Delay	0.1	0.2	0.1	4.7	4.1				
Total Delay	3.9	4.5	59.4	8.1	7.5				
Queue Length 50th (ft)	0	0	245	11	6				
Queue Length 95th (ft)	0	0	#538	m18	m12				
Internal Link Dist (ft)	249	197	277	67					
Turn Bay Length (ft)									
Base Capacity (vph)	334	217	426	954	803				
Starvation Cap Reductn	0	0	0	612	555				
Spillback Cap Reductn	13	12	4	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.27	0.37	0.73	0.77	0.67				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

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

Natural Cycle: 145

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 65 s	#11 Ø4 53 s
#11 #12 Ø6 (R) 65 s	#12 Ø7 22 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

Build (2028) Alternative 2B PM Peak Hour (5:00 - 6:00)

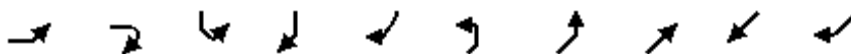
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/11/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	75	5	37	16	17	5	0	281	241	153
Future Volume (vph)	75	5	37	16	17	5	0	281	241	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frt	0.99		0.94					1.00	1.00	0.85
Flt Protected	0.95		0.97					1.00	1.00	1.00
Satd. Flow (prot)	1751		1700					1880	1881	1583
Flt Permitted	0.95		0.97					1.00	1.00	1.00
Satd. Flow (perm)	1751		1700					1880	1881	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	5	40	17	18	5	0	305	262	166
RTOR Reduction (vph)	82	0	72	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	3	0	0	0	0	310	262	166
Heavy Vehicles (%)	3%	0%	2%	2%	2%	0%	0%	1%	0%	1%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		4.8					30.6	62.6	62.6
Effective Green, g (s)	7.8		4.8					30.6	62.6	62.6
Actuated g/C Ratio	0.06		0.04					0.23	0.46	0.46
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	101		60					426	872	734
v/s Ratio Prot	c0.00		c0.00					c0.16	c0.14	0.10
v/s Ratio Perm										
v/c Ratio	0.05		0.04					0.73	0.30	0.23
Uniform Delay, d1	60.1		62.9					48.3	22.6	21.7
Progression Factor	1.00		1.00					1.00	0.16	0.17
Incremental Delay, d2	0.2		0.3					6.1	0.1	0.1
Delay (s)	60.3		63.2					54.5	3.7	3.7
Level of Service	E		E					D	A	A
Approach Delay (s)	60.3		63.2					54.5	3.7	
Approach LOS	E		E					D	A	

Intersection Summary

HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queuing and Blocking Report

Build (2028) Alternative 2B PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	139	234	63	231
Average Queue (ft)	58	56	8	161
95th Queue (ft)	134	202	40	300
Link Distance (ft)	134	226		213
Upstream Blk Time (%)	9	2		8
Queuing Penalty (veh)	0	11		59
Storage Bay Dist (ft)			60	
Storage Blk Time (%)				22
Queuing Penalty (veh)				3

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	483	75	100	229	201	108	294
Average Queue (ft)	415	61	69	110	175	47	221
95th Queue (ft)	575	103	122	269	208	92	389
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	49			7	47	0	30
Queuing Penalty (veh)	0			52	0	0	0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	80	6	21	10			
Queuing Penalty (veh)	122	10	104	21			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	NE
Directions Served	L	T	TR	L
Maximum Queue (ft)	89	1273	241	68
Average Queue (ft)	82	1115	217	14
95th Queue (ft)	97	1588	269	49
Link Distance (ft)		1232	226	55
Upstream Blk Time (%)		76	23	3
Queuing Penalty (veh)		0	173	6
Storage Bay Dist (ft)	65			
Storage Blk Time (%)	87	25		
Queuing Penalty (veh)	345	21		

Queuing and Blocking Report

Build (2028) Alternative 2B PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	148	146	346	77	78
Average Queue (ft)	66	50	253	37	30
95th Queue (ft)	121	101	371	76	72
Link Distance (ft)	290	221	322	55	55
Upstream Blk Time (%)			8	17	12
Queuing Penalty (veh)			0	33	23
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 984

Build Conditions with Mitigation (2028)

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 8 Report
11/13/2018

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	8	893	19	17	488
Future Volume (Veh/h)	15	8	893	19	17	488
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.79	0.79	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	19	10	1003	21	18	514
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.74	0.67			0.67	
vC, conflicting volume	1574	1024			1034	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1164	792			808	
tC, single (s)	6.6	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.4	
p0 queue free %	86	96			96	
cM capacity (veh/h)	140	248			499	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	29	1024	18	514		
Volume Left	19	0	18	0		
Volume Right	10	21	0	0		
cSH	164	1700	499	1700		
Volume to Capacity	0.18	0.60	0.04	0.30		
Queue Length 95th (ft)	15	0	3	0		
Control Delay (s)	31.5	0.0	12.5	0.0		
Lane LOS	D		B			
Approach Delay (s)	31.5	0.0	0.4			
Approach LOS	D					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			58.2%		ICU Level of Service	B
Analysis Period (min)			15			

Timings

3: Adams Street & Eliot Street

Synchro 8 Report
11/13/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	319	169	117	765	348	99	
Future Volume (vph)	319	169	117	765	348	99	
Lane Group Flow (vph)	358	190	134	879	366	104	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	20.5	13.0	13.0	16.0	16.0	16.0	23.0
Total Split (s)	29.0	17.0	17.0	68.0	51.0	51.0	23.0
Total Split (%)	24.2%	14.2%	14.2%	56.7%	42.5%	42.5%	19%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	Ped	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.80	0.32	0.30	0.95	0.46	0.14	
Control Delay	58.7	19.1	11.7	37.6	27.6	5.1	
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0	
Total Delay	58.7	19.1	11.7	37.7	27.6	5.1	
Queue Length 50th (ft)	250	57	36	248	182	0	
Queue Length 95th (ft)	#496	131	m47	#900	313	36	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	446	598	449	927	803	749	
Starvation Cap Reductn	0	0	0	1	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.80	0.32	0.30	0.95	0.46	0.14	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 130

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: Adams Street & Eliot Street



Milton Village Mixed-Use Development Alternatives
Build (2028) Alternative 1A w/ Mitigation AM Peak Hour (7:30 - 8:30)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 8 Report

11/13/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	319	169	117	765	348	99
Future Volume (vph)	319	169	117	765	348	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1416	1736	1642	1863	1599
Flt Permitted	0.95	1.00	0.35	1.00	1.00	1.00
Satd. Flow (perm)	1814	1416	645	1642	1863	1599
Peak-hour factor, PHF	0.89	0.89	0.87	0.87	0.95	0.95
Adj. Flow (vph)	358	190	134	879	366	104
RTOR Reduction (vph)	0	48	0	0	0	62
Lane Group Flow (vph)	358	142	134	879	366	42
Heavy Vehicles (%)	1%	3%	4%	3%	2%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	29.5	38.5	64.2	64.2	48.2	48.2
Effective Green, g (s)	29.5	38.5	64.2	64.2	48.2	48.2
Actuated g/C Ratio	0.25	0.32	0.54	0.54	0.40	0.40
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	445	454	426	878	748	642
v/s Ratio Prot	c0.20	0.02	0.02	c0.54	0.20	
v/s Ratio Perm		0.08	0.14			0.03
v/c Ratio	0.80	0.31	0.31	1.00	0.49	0.07
Uniform Delay, d1	42.5	30.8	15.9	27.9	26.7	22.1
Progression Factor	1.00	1.00	0.74	0.75	1.00	1.00
Incremental Delay, d2	10.1	0.4	0.3	27.6	2.3	0.2
Delay (s)	52.7	31.2	12.0	48.7	29.0	22.3
Level of Service	D	C	B	D	C	C
Approach Delay (s)	45.2			43.8	27.5	
Approach LOS	D			D	C	

Intersection Summary

HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 8 Report

11/13/2018



Lane Group	NBL	NBT	SBT	SBR	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations										
Traffic Volume (vph)	16	682	302	201	242	20				
Future Volume (vph)	16	682	302	201	242	20				
Lane Group Flow (vph)	17	741	328	218	263	22				
Turn Type	Perm	NA	NA	Perm	Prot	Perm				
Protected Phases		2	6		4		3	7	8	9
Permitted Phases	2			6		4				
Detector Phase	2	2	6	6	4	4				
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	20.0
Total Split (s)	49.0	49.0	49.0	49.0	51.0	51.0	11.5	20.0	19.5	20.0
Total Split (%)	40.8%	40.8%	40.8%	40.8%	42.5%	42.5%	10%	17%	16%	17%
Yellow Time (s)	4.5	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0				
Lead/Lag								Lag	Lead	
Lead-Lag Optimize?								Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.03	0.68	0.32	0.24	0.49	0.05				
Control Delay	18.7	26.1	11.1	4.8	12.9	0.1				
Queue Delay	0.0	0.5	0.0	0.0	1.5	0.8				
Total Delay	18.7	26.6	11.1	4.8	14.4	0.9				
Queue Length 50th (ft)	6	395	91	6	45	0				
Queue Length 95th (ft)	26	#878	154	55	m59	m0				
Internal Link Dist (ft)		1186	236		69					
Turn Bay Length (ft)	65			50						
Base Capacity (vph)	550	1084	1022	917	668	569				
Starvation Cap Reductn	0	0	0	0	242	438				
Spillback Cap Reductn	0	90	0	0	0	0				
Storage Cap Reductn	0	0	0	0	0	0				
Reduced v/c Ratio	0.03	0.75	0.32	0.24	0.62	0.17				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12 Ø2 (R) 49 s	#11 #12 Ø6 (R) 49 s	#11 Ø4 51 s	#12 Ø8 19.5 s	#12 Ø7 20 s	#12 Ø3 11.5 s
-------------------------------	-------------------------------	-----------------------	-------------------------	-----------------------	-------------------------

Build (2028) Alternative 1A w/ Mitigation AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 8 Report

11/13/2018

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	16	682	302	201	242	20
Future Volume (vph)	16	682	302	201	242	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1850	1909	1799	1544	1745	1451
Flt Permitted	0.50	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	968	1909	1799	1544	1745	1451
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	741	328	218	263	22
RTOR Reduction (vph)	0	0	0	46	0	15
Lane Group Flow (vph)	17	741	328	172	263	7
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	0%	2%	3%	2%	5%	13%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	61.2	61.2	61.2	61.2	39.0	39.0
Effective Green, g (s)	61.2	61.2	61.2	61.2	39.0	39.0
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.32	0.32
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	493	973	917	787	567	471
v/s Ratio Prot		c0.39	0.18		c0.15	
v/s Ratio Perm	0.02			0.11		0.00
v/c Ratio	0.03	0.76	0.36	0.22	0.46	0.02
Uniform Delay, d1	14.7	23.6	17.6	16.2	32.2	27.5
Progression Factor	1.00	1.00	0.59	0.41	0.31	0.00
Incremental Delay, d2	0.1	5.6	1.0	0.6	0.5	0.0
Delay (s)	14.8	29.2	11.3	7.2	10.6	0.0
Level of Service	B	C	B	A	B	A
Approach Delay (s)		28.8	9.7		9.8	
Approach LOS		C	A		A	
Intersection Summary						
HCM 2000 Control Delay		18.8		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.70				
Actuated Cycle Length (s)		120.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		58.5%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report
11/13/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	75	8	178	159	58				
Future Volume (vph)	75	8	178	159	58				
Lane Group Flow (vph)	96	26	198	173	63				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	20.0
Total Split (s)	19.5	11.5	20.0			49.0	51.0	49.0	20.0
Total Split (%)	16.3%	9.6%	16.7%			41%	43%	41%	17%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lead		Lag						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.35	0.11	0.75	0.17	0.07				
Control Delay	3.5	0.9	66.7	6.5	6.6				
Queue Delay	0.0	0.0	0.0	0.5	0.4				
Total Delay	3.5	0.9	66.7	7.0	7.0				
Queue Length 50th (ft)	0	0	145	25	9				
Queue Length 95th (ft)	0	0	#290	43	20				
Internal Link Dist (ft)	271	197	280	69					
Turn Bay Length (ft)									
Base Capacity (vph)	364	244	269	1047	890				
Starvation Cap Reductn	0	0	0	543	593				
Spillback Cap Reductn	6	4	0	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.27	0.11	0.74	0.34	0.21				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

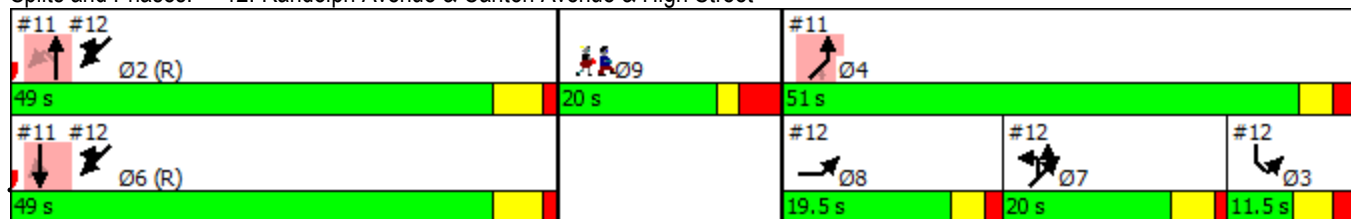
Natural Cycle: 120

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street



Milton Village Mixed-Use Development Alternatives

BETA Group, Inc.

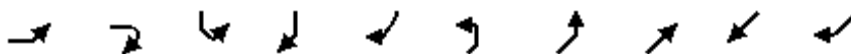
Build (2028) Alternative 1A w/ Mitigation AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/13/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	75	13	8	1	15	5	0	178	159	58
Future Volume (vph)	75	13	8	1	15	5	0	178	159	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Frt	0.98		0.91					1.00	1.00	0.85
Flt Protected	0.96		0.98					1.00	1.00	1.00
Satd. Flow (prot)	1681		1703					1809	1844	1567
Flt Permitted	0.96		0.98					1.00	1.00	1.00
Satd. Flow (perm)	1681		1703					1809	1844	1567
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	14	9	1	16	5	0	193	173	63
RTOR Reduction (vph)	90	0	25	0	0	0	0	0	0	0
Lane Group Flow (vph)	6	0	1	0	0	0	0	198	173	63
Confl. Peds. (#/hr)										
Heavy Vehicles (%)	6%	8%	0%	0%	0%	0%	0%	5%	2%	2%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		3.6					17.6	61.2	61.2
Effective Green, g (s)	7.8		3.6					17.6	61.2	61.2
Actuated g/C Ratio	0.06		0.03					0.15	0.51	0.51
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	109		51					265	940	799
v/s Ratio Prot	c0.00		c0.00					c0.11	c0.09	0.04
v/s Ratio Perm										
v/c Ratio	0.06		0.02					0.75	0.18	0.08
Uniform Delay, d1	52.6		56.5					49.1	15.9	15.0
Progression Factor	1.00		1.00					1.00	0.38	0.37
Incremental Delay, d2	0.2		0.1					10.9	0.4	0.2
Delay (s)	52.9		56.6					60.0	6.4	5.8
Level of Service	D		E					E	A	A
Approach Delay (s)	52.9		56.6					60.0	6.2	
Approach LOS	D		E					E	A	
Intersection Summary										
HCM 2000 Control Delay			35.8	HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.27							
Actuated Cycle Length (s)			120.0	Sum of lost time (s)					27.0	
Intersection Capacity Utilization			40.0%	ICU Level of Service					A	
Analysis Period (min)			15							
c Critical Lane Group										

Queuing and Blocking Report

Build (2028) Alternative 1A w/ Mitigation AM Peak Hour (7:30 - 8:30)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	79	243	66	128
Average Queue (ft)	23	131	15	13
95th Queue (ft)	61	292	50	71
Link Distance (ft)	134	226		213
Upstream Blk Time (%)		3		
Queuing Penalty (veh)		28		
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			1	1
Queuing Penalty (veh)			5	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	488	75	99	230	192	63	162
Average Queue (ft)	468	54	50	186	130	25	26
95th Queue (ft)	479	101	101	288	210	53	106
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	84			12	14		
Queuing Penalty (veh)	0			111	0		
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	75	2	2	29			
Queuing Penalty (veh)	127	7	16	34			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	SB	NE
Directions Served	L	T	T	R	L
Maximum Queue (ft)	84	614	235	75	75
Average Queue (ft)	15	323	96	37	19
95th Queue (ft)	53	602	215	85	58
Link Distance (ft)		1238	226		67
Upstream Blk Time (%)			2		4
Queuing Penalty (veh)			11		5
Storage Bay Dist (ft)	65			50	
Storage Blk Time (%)	0	38	18	2	
Queuing Penalty (veh)	2	6	36	6	

Queuing and Blocking Report

Build (2028) Alternative 1A w/ Mitigation AM Peak Hour (7:30 - 8:30)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	174	72	256	74	56
Average Queue (ft)	79	20	134	27	11
95th Queue (ft)	146	52	228	70	41
Link Distance (ft)	308	226	320	67	67
Upstream Blk Time (%)				3	0
Queuing Penalty (veh)				3	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 396

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 9 Report
11/13/2018

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	24	710	23	8	702
Future Volume (Veh/h)	30	24	710	23	8	702
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.65	0.65	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	46	37	747	24	9	780
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.79	0.84			0.84	
vC, conflicting volume	1574	776			788	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1136	637			652	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	73	91			99	
cM capacity (veh/h)	170	396			780	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	83	771	9	780		
Volume Left	46	0	9	0		
Volume Right	37	24	0	0		
cSH	228	1700	780	1700		
Volume to Capacity	0.36	0.45	0.01	0.46		
Queue Length 95th (ft)	39	0	1	0		
Control Delay (s)	29.5	0.0	9.7	0.0		
Lane LOS	D		A			
Approach Delay (s)	29.5	0.0	0.1			
Approach LOS	D					
Intersection Summary						
Average Delay		1.5				
Intersection Capacity Utilization		48.8%		ICU Level of Service		A
Analysis Period (min)		15				

Timings

3: Adams Street & Eliot Street

Synchro 9 Report
11/13/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	174	148	214	500	566	243	
Future Volume (vph)	174	148	214	500	566	243	
Lane Group Flow (vph)	196	166	218	510	629	270	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	20.5	13.0	13.0	16.0	16.0	16.0	23.0
Total Split (s)	33.0	18.0	18.0	59.0	41.0	41.0	23.0
Total Split (%)	28.7%	15.7%	15.7%	51.3%	35.7%	35.7%	20%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	Ped	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.69	0.29	0.60	0.47	0.71	0.31	
Control Delay	58.4	8.3	24.7	14.9	34.1	8.1	
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	
Total Delay	58.4	8.3	24.7	15.1	34.1	8.1	
Queue Length 50th (ft)	139	18	48	193	306	20	
Queue Length 95th (ft)	203	62	#216	338	#752	101	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	402	577	365	1082	883	863	
Starvation Cap Reductn	0	0	0	153	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.49	0.29	0.60	0.55	0.71	0.31	

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

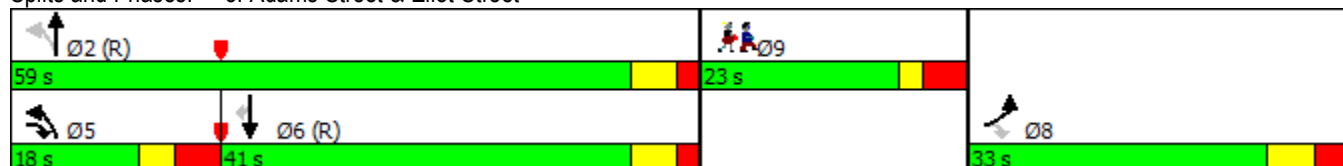
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 9 Report

11/13/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	174	148	214	500	566	243
Future Volume (vph)	174	148	214	500	566	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1459	1787	1674	1881	1599
Flt Permitted	0.95	1.00	0.16	1.00	1.00	1.00
Satd. Flow (perm)	1814	1459	303	1674	1881	1599
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.90	0.90
Adj. Flow (vph)	196	166	218	510	629	270
RTOR Reduction (vph)	0	94	0	0	0	119
Lane Group Flow (vph)	196	72	218	510	629	151
Heavy Vehicles (%)	1%	0%	1%	1%	1%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	18.0	31.3	70.7	70.7	50.4	50.4
Effective Green, g (s)	18.0	31.3	70.7	70.7	50.4	50.4
Actuated g/C Ratio	0.16	0.27	0.61	0.61	0.44	0.44
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	283	397	357	1029	824	700
v/s Ratio Prot	c0.11	0.02	0.07	c0.30	c0.33	
v/s Ratio Perm		0.03	0.30			0.09
v/c Ratio	0.69	0.18	0.61	0.50	0.76	0.22
Uniform Delay, d1	45.9	32.0	17.3	12.3	27.3	20.0
Progression Factor	1.00	1.00	1.47	0.94	1.00	1.00
Incremental Delay, d2	7.1	0.2	2.8	1.6	6.6	0.7
Delay (s)	53.0	32.3	28.3	13.1	33.9	20.7
Level of Service	D	C	C	B	C	C
Approach Delay (s)	43.5			17.6	29.9	
Approach LOS	D			B	C	

Intersection Summary

HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 9 Report
11/13/2018

										
Lane Group	NBL	NBT	SBT	SBR	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations										
Traffic Volume (vph)	84	384	434	310	341	42				
Future Volume (vph)	84	384	434	310	341	42				
Lane Group Flow (vph)	91	417	472	337	371	46				
Turn Type	Perm	NA	NA	Perm	Prot	Perm				
Protected Phases		2	6		4		3	7	8	9
Permitted Phases	2			6		4				
Detector Phase	2	2	6	6	4	4				
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	20.0
Total Split (s)	40.0	40.0	40.0	40.0	55.0	55.0	11.5	24.0	19.5	20.0
Total Split (%)	34.8%	34.8%	34.8%	34.8%	47.8%	47.8%	10%	21%	17%	17%
Yellow Time (s)	4.5	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0				
Lead/Lag								Lead	Lag	
Lead-Lag Optimize?								Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.31	0.44	0.53	0.42	0.54	0.07				
Control Delay	27.6	25.1	21.8	14.6	10.2	0.2				
Queue Delay	0.0	0.0	0.0	0.0	2.0	1.7				
Total Delay	27.6	25.1	21.8	14.6	12.3	1.9				
Queue Length 50th (ft)	40	199	93	15	46	0				
Queue Length 95th (ft)	114	396	#492	136	m365	m0				
Internal Link Dist (ft)		1186	236		67					
Turn Bay Length (ft)	65			50						
Base Capacity (vph)	296	943	897	811	788	717				
Starvation Cap Reductn	0	0	0	0	272	573				
Spillback Cap Reductn	0	0	0	2	0	0				
Storage Cap Reductn	0	0	0	0	0	0				
Reduced v/c Ratio	0.31	0.44	0.53	0.42	0.72	0.32				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12   Ø2 (R)	#11  Ø9	#11  Ø4
40 s	20 s	55 s
#11 #12   Ø6 (R)		#12  Ø7
40 s		24 s
		#12  Ø8
		19.5 s
		#12  Ø3
		11.5 s

Build (2028) Alternative 1A w/ Mitigation PM Peak Hour (5:00 - 6:00)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 9 Report

11/13/2018

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	84	384	434	310	341	42
Future Volume (vph)	84	384	434	310	341	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1796	1928	1834	1559	1814	1591
Flt Permitted	0.32	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	606	1928	1834	1559	1814	1591
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	417	472	337	371	46
RTOR Reduction (vph)	0	0	0	54	0	28
Lane Group Flow (vph)	91	417	472	283	371	18
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	3%	1%	1%	1%	1%	3%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	49.5	49.5	49.5	49.5	45.7	45.7
Effective Green, g (s)	49.5	49.5	49.5	49.5	45.7	45.7
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.40	0.40
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	260	829	789	671	720	632
v/s Ratio Prot		0.22	c0.26		c0.20	
v/s Ratio Perm	0.15			0.18		0.01
v/c Ratio	0.35	0.50	0.60	0.42	0.52	0.03
Uniform Delay, d1	22.0	23.8	25.1	22.8	26.3	21.1
Progression Factor	1.00	1.00	0.78	0.78	0.29	0.00
Incremental Delay, d2	3.7	2.2	2.7	1.6	0.5	0.0
Delay (s)	25.6	26.0	22.4	19.4	8.2	0.0
Level of Service	C	C	C	B	A	A
Approach Delay (s)		25.9	21.1		7.3	
Approach LOS		C	C		A	
Intersection Summary						
HCM 2000 Control Delay		19.2		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.60				
Actuated Cycle Length (s)		115.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		64.2%		ICU Level of Service		C
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report
11/13/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	74	33	276	241	153				
Future Volume (vph)	74	33	276	241	153				
Lane Group Flow (vph)	85	69	305	262	166				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	20.0
Total Split (s)	19.5	11.5	24.0			40.0	55.0	40.0	20.0
Total Split (%)	17.0%	10.0%	20.9%			35%	48%	35%	17%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.29	0.27	0.77	0.28	0.21				
Control Delay	2.5	2.6	56.9	7.3	7.3				
Queue Delay	0.0	0.0	0.3	0.4	0.5				
Total Delay	2.6	2.7	57.1	7.7	7.8				
Queue Length 50th (ft)	0	0	208	27	17				
Queue Length 95th (ft)	0	0	#407	50	35				
Internal Link Dist (ft)	249	197	277	67					
Turn Bay Length (ft)									
Base Capacity (vph)	389	254	397	920	774				
Starvation Cap Reductn	0	0	0	302	332				
Spillback Cap Reductn	4	4	5	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.22	0.28	0.78	0.42	0.38				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 40 s	#11 #12 Ø9 20 s	#11 Ø4 55 s
#11 #12 Ø6 (R) 40 s	#12 Ø7 24 s	#12 Ø8 19.5 s
		#12 Ø3 11.5 s

Milton Village Mixed-Use Development Alternatives

Build (2028) Alternative 1A w/ Mitigation PM Peak Hour (5:00 - 6:00)

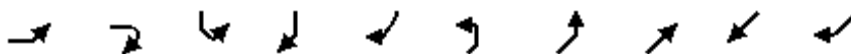
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/13/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	74	5	33	14	17	5	0	276	241	153
Future Volume (vph)	74	5	33	14	17	5	0	276	241	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frt	0.99		0.94					1.00	1.00	0.85
Flt Protected	0.96		0.97					1.00	1.00	1.00
Satd. Flow (prot)	1751		1698					1880	1881	1583
Flt Permitted	0.96		0.97					1.00	1.00	1.00
Satd. Flow (perm)	1751		1698					1880	1881	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	5	36	15	18	5	0	300	262	166
RTOR Reduction (vph)	80	0	66	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	3	0	0	0	0	305	262	166
Heavy Vehicles (%)	3%	0%	2%	2%	2%	0%	0%	1%	0%	1%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	6.6		4.8					24.3	49.5	49.5
Effective Green, g (s)	6.6		4.8					24.3	49.5	49.5
Actuated g/C Ratio	0.06		0.04					0.21	0.43	0.43
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	100		70					397	809	681
v/s Ratio Prot	c0.00		c0.00					c0.16	c0.14	0.10
v/s Ratio Perm										
v/c Ratio	0.05		0.04					0.77	0.32	0.24
Uniform Delay, d1	51.2		52.9					42.7	21.7	20.8
Progression Factor	1.00		1.00					1.00	0.30	0.31
Incremental Delay, d2	0.2		0.2					8.7	1.0	0.8
Delay (s)	51.4		53.1					51.4	7.5	7.3
Level of Service	D		D					D	A	A
Approach Delay (s)	51.4		53.1					51.4	7.4	
Approach LOS	D		D					D	A	

Intersection Summary

HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queuing and Blocking Report

Build (2028) Alternative 1A w/ Mitigation PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	135	249	45	232
Average Queue (ft)	63	71	4	114
95th Queue (ft)	148	219	23	269
Link Distance (ft)	134	232		213
Upstream Blk Time (%)	16	1		4
Queuing Penalty (veh)	0	10		28
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			0	16
Queuing Penalty (veh)			0	1

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	459	75	100	231	196	119	294
Average Queue (ft)	238	59	85	154	169	52	195
95th Queue (ft)	431	97	118	289	213	101	380
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	5			8	41	0	22
Queuing Penalty (veh)	0			57	0	0	0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	62	10	30	13			
Queuing Penalty (veh)	92	18	149	29			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	SB	NE
Directions Served	L	T	T	R	L
Maximum Queue (ft)	89	1171	249	75	60
Average Queue (ft)	80	750	216	60	9
95th Queue (ft)	107	1470	289	99	38
Link Distance (ft)		1232	232		58
Upstream Blk Time (%)		20	20		1
Queuing Penalty (veh)		0	147		1
Storage Bay Dist (ft)	65			50	
Storage Blk Time (%)	60	36	45	9	
Queuing Penalty (veh)	230	31	139	41	

Queuing and Blocking Report

Build (2028) Alternative 1A w/ Mitigation PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	152	122	333	77	84
Average Queue (ft)	62	47	198	58	43
95th Queue (ft)	121	98	306	91	83
Link Distance (ft)	290	221	322	58	58
Upstream Blk Time (%)			1	27	17
Queuing Penalty (veh)			0	54	34
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 1062

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 8 Report
11/13/2018

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	8	951	19	17	511
Future Volume (Veh/h)	15	8	951	19	17	511
Sign Control	Stop		Free		Free	Free
Grade	5%		3%			-5%
Peak Hour Factor	0.79	0.79	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	19	10	1069	21	18	538
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None		None	
Median storage veh						
Upstream signal (ft)			316		270	
pX, platoon unblocked	0.69	0.62			0.62	
vC, conflicting volume	1664	1090			1100	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1273	839			856	
tC, single (s)	6.6	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.4	
p0 queue free %	83	95			96	
cM capacity (veh/h)	111	215			441	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	29	1090	18	538		
Volume Left	19	0	18	0		
Volume Right	10	21	0	0		
cSH	133	1700	441	1700		
Volume to Capacity	0.22	0.64	0.04	0.32		
Queue Length 95th (ft)	20	0	3	0		
Control Delay (s)	39.5	0.0	13.5	0.0		
Lane LOS	E		B			
Approach Delay (s)	39.5	0.0	0.4			
Approach LOS	E					
Intersection Summary						
Average Delay		0.8				
Intersection Capacity Utilization		61.2%		ICU Level of Service		B
Analysis Period (min)		15				

Timings 3: Adams Street & Eliot Street

Synchro 8 Report
11/13/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	325	181	136	797	346	106	
Future Volume (vph)	325	181	136	797	346	106	
Lane Group Flow (vph)	365	203	156	916	364	112	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	20.5	13.0	13.0	16.0	16.0	16.0	23.0
Total Split (s)	33.0	16.0	16.0	59.0	43.0	43.0	23.0
Total Split (%)	28.7%	13.9%	13.9%	51.3%	37.4%	37.4%	20%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	Ped	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.89	0.35	0.34	0.97	0.44	0.15	
Control Delay	67.2	17.0	14.4	42.5	27.8	5.7	
Queue Delay	0.0	0.0	0.0	1.3	0.0	0.0	
Total Delay	67.2	17.0	14.4	43.8	27.8	5.7	
Queue Length 50th (ft)	250	56	42	253	172	0	
Queue Length 95th (ft)	#432	122	m86	#987	329	40	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	422	578	459	945	818	765	
Starvation Cap Reductn	0	0	0	8	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.86	0.35	0.34	0.98	0.44	0.15	

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 150

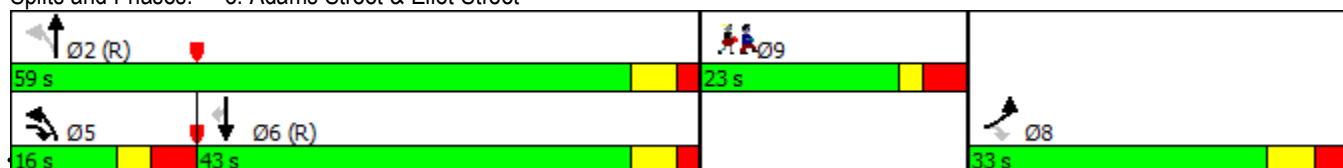
Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: Adams Street & Eliot Street



Milton Village Mixed-Use Development Alternatives
Build (2028) Alternative 1B w/ Mitigation AM Peak Hour (7:30 - 8:30)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

Synchro 8 Report

11/13/2018

3: Adams Street & Eliot Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	325	181	136	797	346	106
Future Volume (vph)	325	181	136	797	346	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1416	1736	1642	1863	1599
Flt Permitted	0.95	1.00	0.36	1.00	1.00	1.00
Satd. Flow (perm)	1814	1416	657	1642	1863	1599
Peak-hour factor, PHF	0.89	0.89	0.87	0.87	0.95	0.95
Adj. Flow (vph)	365	203	156	916	364	112
RTOR Reduction (vph)	0	57	0	0	0	66
Lane Group Flow (vph)	365	146	156	916	364	46
Heavy Vehicles (%)	1%	3%	4%	3%	2%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	26.1	34.8	62.6	62.6	46.9	46.9
Effective Green, g (s)	26.1	34.8	62.6	62.6	46.9	46.9
Actuated g/C Ratio	0.23	0.30	0.54	0.54	0.41	0.41
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	411	428	439	893	759	652
v/s Ratio Prot	c0.20	0.03	0.03	c0.56	0.20	
v/s Ratio Perm		0.08	0.17			0.03
v/c Ratio	0.89	0.34	0.36	1.03	0.48	0.07
Uniform Delay, d1	43.0	31.2	14.8	26.2	25.1	20.8
Progression Factor	1.00	1.00	0.86	0.84	1.00	1.00
Incremental Delay, d2	20.1	0.5	0.4	33.0	2.2	0.2
Delay (s)	63.1	31.7	13.2	54.9	27.2	21.0
Level of Service	E	C	B	D	C	C
Approach Delay (s)	51.9			48.8	25.8	
Approach LOS	D			D	C	

Intersection Summary

HCM 2000 Control Delay	44.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 8 Report
11/13/2018

										
Lane Group	NBL	NBT	SBT	SBR	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations										
Traffic Volume (vph)	16	721	299	200	279	21				
Future Volume (vph)	16	721	299	200	279	21				
Lane Group Flow (vph)	17	784	325	217	303	23				
Turn Type	Perm	NA	NA	Perm	Prot	Perm				
Protected Phases		2	6		4		3	7	8	9
Permitted Phases	2			6		4				
Detector Phase	2	2	6	6	4	4				
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	20.0
Total Split (s)	40.0	40.0	40.0	40.0	55.0	55.0	11.5	24.0	19.5	20.0
Total Split (%)	34.8%	34.8%	34.8%	34.8%	47.8%	47.8%	10%	21%	17%	17%
Yellow Time (s)	4.5	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0				
Lead/Lag								Lead	Lag	
Lead-Lag Optimize?								Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.03	0.75	0.33	0.25	0.54	0.05				
Control Delay	20.9	29.6	15.5	8.8	13.4	0.1				
Queue Delay	0.0	1.1	0.0	0.0	1.0	0.4				
Total Delay	20.9	30.7	15.5	8.8	14.4	0.6				
Queue Length 50th (ft)	6	429	90	6	52	0				
Queue Length 95th (ft)	28	#1011	197	87	64	m0				
Internal Link Dist (ft)		1186	236		69					
Turn Bay Length (ft)	65			50						
Base Capacity (vph)	523	1042	981	883	758	643				
Starvation Cap Reductn	0	0	0	0	245	468				
Spillback Cap Reductn	0	95	0	2	0	0				
Storage Cap Reductn	0	0	0	0	0	0				
Reduced v/c Ratio	0.03	0.83	0.33	0.25	0.59	0.13				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12   Ø2 (R)		#11  Ø9		#11  Ø4	
40 s		20 s		55 s	
#11 #12   Ø6 (R)				#12  Ø7	#12  Ø8
40 s				24 s	19.5 s
					11.5 s

Build (2028) Alternative 1B w/ Mitigation AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 8 Report

11/13/2018

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	16	721	299	200	279	21
Future Volume (vph)	16	721	299	200	279	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1850	1909	1799	1544	1745	1451
Flt Permitted	0.49	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	960	1909	1799	1544	1745	1451
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	784	325	217	303	23
RTOR Reduction (vph)	0	0	0	46	0	15
Lane Group Flow (vph)	17	784	325	171	303	8
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	0%	2%	3%	2%	5%	13%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	55.8	55.8	55.8	55.8	39.4	39.4
Effective Green, g (s)	55.8	55.8	55.8	55.8	39.4	39.4
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.34	0.34
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	465	926	872	749	597	497
v/s Ratio Prot		c0.41	0.18		c0.17	
v/s Ratio Perm	0.02			0.11		0.01
v/c Ratio	0.04	0.85	0.37	0.23	0.51	0.02
Uniform Delay, d1	15.5	25.9	18.6	17.1	30.1	25.0
Progression Factor	1.00	1.00	0.76	0.69	0.34	0.00
Incremental Delay, d2	0.1	9.4	1.1	0.7	0.6	0.0
Delay (s)	15.7	35.3	15.2	12.5	10.8	0.0
Level of Service	B	D	B	B	B	A
Approach Delay (s)		34.9	14.1		10.0	
Approach LOS		C	B		B	
Intersection Summary						
HCM 2000 Control Delay		23.3		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.76				
Actuated Cycle Length (s)		115.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		62.6%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report
11/13/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	87	15	197	161	60				
Future Volume (vph)	87	15	197	161	60				
Lane Group Flow (vph)	109	34	219	175	65				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	20.0
Total Split (s)	19.5	11.5	24.0			40.0	55.0	40.0	20.0
Total Split (%)	17.0%	10.0%	20.9%			35%	48%	35%	17%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.38	0.13	0.77	0.17	0.08				
Control Delay	3.8	1.1	64.8	8.6	9.0				
Queue Delay	0.0	0.0	0.3	0.4	0.4				
Total Delay	3.8	1.1	65.1	9.0	9.4				
Queue Length 50th (ft)	0	0	155	25	9				
Queue Length 95th (ft)	0	0	#263	54	24				
Internal Link Dist (ft)	271	197	280	69					
Turn Bay Length (ft)									
Base Capacity (vph)	380	255	310	1006	855				
Starvation Cap Reductn	0	0	0	493	545				
Spillback Cap Reductn	9	9	5	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.29	0.14	0.72	0.34	0.21				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

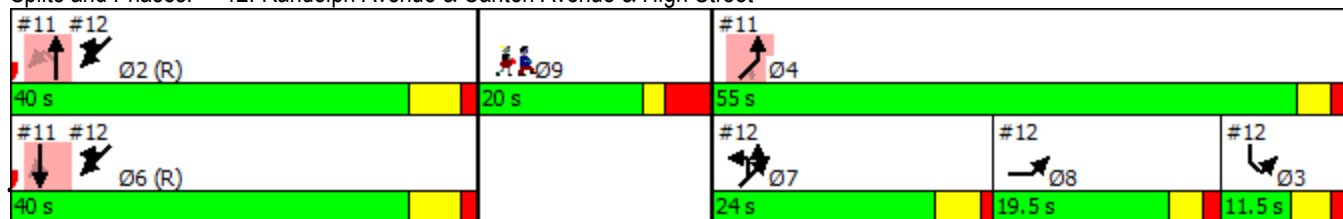
Natural Cycle: 120

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street



Milton Village Mixed-Use Development Alternatives

BETA Group, Inc.

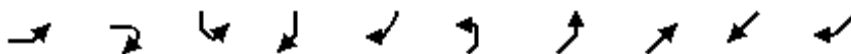
Build (2028) Alternative 1B w/ Mitigation AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/13/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	87	13	15	2	15	5	0	197	161	60
Future Volume (vph)	87	13	15	2	15	5	0	197	161	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Frt	0.98		0.93					1.00	1.00	0.85
Flt Protected	0.96		0.98					1.00	1.00	1.00
Satd. Flow (prot)	1684		1724					1809	1844	1567
Flt Permitted	0.96		0.98					1.00	1.00	1.00
Satd. Flow (perm)	1684		1724					1809	1844	1567
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	95	14	16	2	16	5	0	214	175	65
RTOR Reduction (vph)	102	0	33	0	0	0	0	0	0	0
Lane Group Flow (vph)	7	0	1	0	0	0	0	219	175	65
Confl. Peds. (#/hr)										
Heavy Vehicles (%)	6%	8%	0%	0%	0%	0%	0%	5%	2%	2%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	7.8		3.6					18.0	55.8	55.8
Effective Green, g (s)	7.8		3.6					18.0	55.8	55.8
Actuated g/C Ratio	0.07		0.03					0.16	0.49	0.49
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	114		53					283	894	760
v/s Ratio Prot	c0.00		c0.00					c0.12	c0.09	0.04
v/s Ratio Perm										
v/c Ratio	0.06		0.02					0.77	0.20	0.09
Uniform Delay, d1	50.2		54.0					46.5	16.8	15.9
Progression Factor	1.00		1.00					1.00	0.45	0.47
Incremental Delay, d2	0.2		0.2					12.4	0.5	0.2
Delay (s)	50.4		54.1					58.9	8.1	7.6
Level of Service	D		D					E	A	A
Approach Delay (s)	50.4		54.1					58.9	8.0	
Approach LOS	D		D					E	A	
Intersection Summary										
HCM 2000 Control Delay			36.8	HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.29							
Actuated Cycle Length (s)			115.0	Sum of lost time (s)					27.0	
Intersection Capacity Utilization			40.6%	ICU Level of Service					A	
Analysis Period (min)			15							
c Critical Lane Group										

Queuing and Blocking Report

Build (2028) Alternative 1B w/ Mitigation AM Peak Hour (7:30 - 8:30)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	117	240	54	148
Average Queue (ft)	30	158	12	20
95th Queue (ft)	86	305	41	93
Link Distance (ft)	134	226		213
Upstream Blk Time (%)	1	7		0
Queuing Penalty (veh)	0	66		0
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			1	2
Queuing Penalty (veh)			3	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	503	76	100	231	184	67	154
Average Queue (ft)	470	58	58	210	131	28	17
95th Queue (ft)	485	102	110	272	201	57	78
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	82			20	17		
Queuing Penalty (veh)	0			194	0		
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	76	2	3	35			
Queuing Penalty (veh)	137	8	23	48			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	SB	NE
Directions Served	L	T	T	R	L
Maximum Queue (ft)	89	1204	243	75	78
Average Queue (ft)	14	899	120	46	31
95th Queue (ft)	50	1514	250	92	78
Link Distance (ft)		1238	226		67
Upstream Blk Time (%)		29	3		8
Queuing Penalty (veh)		0	15		12
Storage Bay Dist (ft)	65			50	
Storage Blk Time (%)	0	57	23	3	
Queuing Penalty (veh)	0	9	46	9	

Queuing and Blocking Report

Build (2028) Alternative 1B w/ Mitigation AM Peak Hour (7:30 - 8:30)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	200	73	281	75	65
Average Queue (ft)	90	30	154	36	15
95th Queue (ft)	170	61	252	78	48
Link Distance (ft)	308	226	320	67	67
Upstream Blk Time (%)	0		0	5	1
Queuing Penalty (veh)	0		0	6	1
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 576

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 9 Report
11/13/2018

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	24	757	23	8	743
Future Volume (Veh/h)	30	24	757	23	8	743
Sign Control	Stop		Free			Free
Grade	5%		3%			-5%
Peak Hour Factor	0.65	0.65	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	46	37	797	24	9	826
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.74	0.83			0.83	
vC, conflicting volume	1670	826			838	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1201	684			699	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	68	90			99	
cM capacity (veh/h)	145	367			737	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	83	821	9	826		
Volume Left	46	0	9	0		
Volume Right	37	24	0	0		
cSH	199	1700	737	1700		
Volume to Capacity	0.42	0.48	0.01	0.49		
Queue Length 95th (ft)	47	0	1	0		
Control Delay (s)	35.5	0.0	9.9	0.0		
Lane LOS	E		A			
Approach Delay (s)	35.5	0.0	0.1			
Approach LOS	E					
Intersection Summary						
Average Delay		1.7				
Intersection Capacity Utilization		51.3%		ICU Level of Service		A
Analysis Period (min)		15				

Timings

3: Adams Street & Eliot Street

Synchro 9 Report
11/13/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	175	151	243	524	598	261	
Future Volume (vph)	175	151	243	524	598	261	
Lane Group Flow (vph)	197	170	248	535	664	290	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	20.5	13.0	13.0	16.0	16.0	16.0	23.0
Total Split (s)	31.0	14.0	14.0	61.0	47.0	47.0	23.0
Total Split (%)	27.0%	12.2%	12.2%	53.0%	40.9%	40.9%	20%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	Ped	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.70	0.26	0.65	0.49	0.86	0.37	
Control Delay	58.8	10.1	40.4	15.3	44.7	7.2	
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	
Total Delay	58.8	10.1	40.4	15.6	44.7	7.2	
Queue Length 50th (ft)	140	22	137	205	387	22	
Queue Length 95th (ft)	205	76	#375	313	#734	93	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	370	651	382	1082	771	793	
Starvation Cap Reductn	0	0	0	141	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.26	0.65	0.57	0.86	0.37	

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

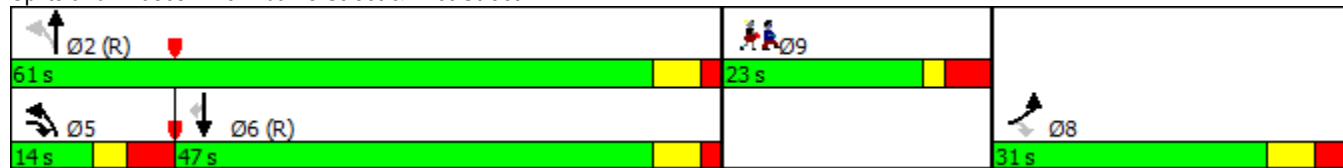
Natural Cycle: 100

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 9 Report

11/13/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	175	151	243	524	598	261
Future Volume (vph)	175	151	243	524	598	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1459	1787	1674	1881	1599
Flt Permitted	0.95	1.00	0.08	1.00	1.00	1.00
Satd. Flow (perm)	1814	1459	149	1674	1881	1599
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.90	0.90
Adj. Flow (vph)	197	170	248	535	664	290
RTOR Reduction (vph)	0	81	0	0	0	145
Lane Group Flow (vph)	197	89	248	535	664	145
Heavy Vehicles (%)	1%	0%	1%	1%	1%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	17.9	38.1	70.8	70.8	43.6	43.6
Effective Green, g (s)	17.9	38.1	70.8	70.8	43.6	43.6
Actuated g/C Ratio	0.16	0.33	0.62	0.62	0.38	0.38
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	282	483	379	1030	713	606
v/s Ratio Prot	c0.11	0.03	c0.11	0.32	c0.35	
v/s Ratio Perm		0.03	0.29			0.09
v/c Ratio	0.70	0.18	0.65	0.52	0.93	0.24
Uniform Delay, d1	46.0	27.4	29.3	12.5	34.3	24.4
Progression Factor	1.00	1.00	1.38	0.95	1.00	1.00
Incremental Delay, d2	7.4	0.2	3.6	1.7	20.6	0.9
Delay (s)	53.3	27.6	43.9	13.5	54.8	25.3
Level of Service	D	C	D	B	D	C
Approach Delay (s)	41.4			23.2	45.8	
Approach LOS	D			C	D	

Intersection Summary

HCM 2000 Control Delay	36.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 9 Report

11/13/2018

										
Lane Group	NBL	NBT	SBT	SBR	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations										
Traffic Volume (vph)	84	395	468	332	366	54				
Future Volume (vph)	84	395	468	332	366	54				
Lane Group Flow (vph)	91	429	509	361	398	59				
Turn Type	Perm	NA	NA	Perm	Prot	Perm				
Protected Phases		2	6		4		3	7	8	9
Permitted Phases	2			6		4				
Detector Phase	2	2	6	6	4	4				
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	20.0
Total Split (s)	40.0	40.0	40.0	40.0	55.0	55.0	11.5	24.0	19.5	20.0
Total Split (%)	34.8%	34.8%	34.8%	34.8%	47.8%	47.8%	10%	21%	17%	17%
Yellow Time (s)	4.5	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0				
Lead/Lag								Lead	Lag	
Lead-Lag Optimize?								Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.40	0.48	0.60	0.47	0.54	0.09				
Control Delay	32.1	26.8	25.8	18.0	10.8	0.2				
Queue Delay	0.0	0.0	0.0	0.0	2.2	1.9				
Total Delay	32.1	26.8	25.8	18.0	13.0	2.1				
Queue Length 50th (ft)	42	209	118	29	57	0				
Queue Length 95th (ft)	#134	409	m#498	m151	386	m0				
Internal Link Dist (ft)		1186	236		67					
Turn Bay Length (ft)	65			50						
Base Capacity (vph)	230	886	842	767	790	727				
Starvation Cap Reductn	0	0	0	0	257	568				
Spillback Cap Reductn	0	0	0	3	0	0				
Storage Cap Reductn	0	0	0	0	0	0				
Reduced v/c Ratio	0.40	0.48	0.60	0.47	0.75	0.37				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 120

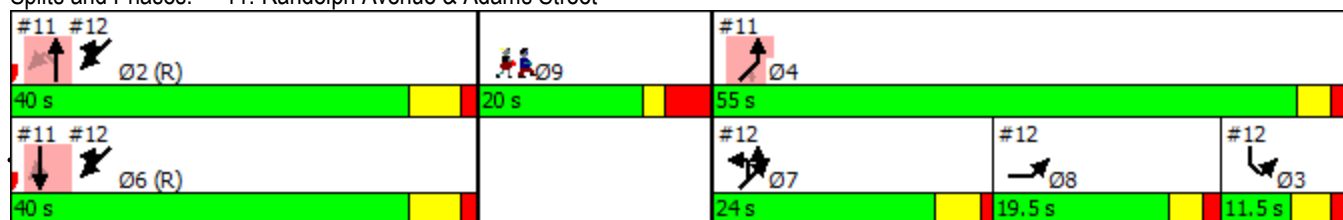
Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street



Build (2028) Alternative 1B w/ Mitigation PM Peak Hour (5:00 - 6:00)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 9 Report

11/13/2018

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	84	395	468	332	366	54
Future Volume (vph)	84	395	468	332	366	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1796	1928	1834	1559	1814	1591
Flt Permitted	0.27	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	503	1928	1834	1559	1814	1591
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	429	509	361	398	59
RTOR Reduction (vph)	0	0	0	56	0	34
Lane Group Flow (vph)	91	429	509	305	398	25
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	3%	1%	1%	1%	1%	3%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	47.1	47.1	47.1	47.1	48.1	48.1
Effective Green, g (s)	47.1	47.1	47.1	47.1	48.1	48.1
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.42	0.42
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	206	789	751	638	758	665
v/s Ratio Prot		0.22	c0.28		c0.22	
v/s Ratio Perm	0.18			0.20		0.02
v/c Ratio	0.44	0.54	0.68	0.48	0.53	0.04
Uniform Delay, d1	24.5	25.8	27.7	24.9	24.9	19.8
Progression Factor	1.00	1.00	0.86	0.90	0.34	0.00
Incremental Delay, d2	6.7	2.7	3.5	1.8	0.5	0.0
Delay (s)	31.2	28.5	27.4	24.3	9.0	0.0
Level of Service	C	C	C	C	A	A
Approach Delay (s)		29.0	26.1		7.8	
Approach LOS		C	C		A	
Intersection Summary						
HCM 2000 Control Delay		22.4		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.65				
Actuated Cycle Length (s)		115.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		67.4%		ICU Level of Service		C
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report
11/13/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	77	59	284	254	162				
Future Volume (vph)	77	59	284	254	162				
Lane Group Flow (vph)	89	109	314	276	176				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	20.0
Total Split (s)	19.5	11.5	24.0			40.0	55.0	40.0	20.0
Total Split (%)	17.0%	10.0%	20.9%			35%	48%	35%	17%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.31	0.43	0.75	0.32	0.24				
Control Delay	2.7	6.1	55.0	8.0	7.9				
Queue Delay	0.0	0.2	0.2	0.5	0.7				
Total Delay	2.7	6.3	55.3	8.6	8.6				
Queue Length 50th (ft)	0	0	213	31	20				
Queue Length 95th (ft)	0	7	#422	53	37				
Internal Link Dist (ft)	249	197	277	67					
Turn Bay Length (ft)									
Base Capacity (vph)	389	254	416	864	727				
Starvation Cap Reductn	0	0	0	282	316				
Spillback Cap Reductn	13	13	5	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.24	0.45	0.76	0.47	0.43				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 40 s	#11 #12 Ø9 20 s	#11 Ø4 55 s
#11 #12 Ø6 (R) 40 s	#12 Ø7 24 s	#12 Ø8 19.5 s
		#12 Ø3 11.5 s

Milton Village Mixed-Use Development Alternatives

Build (2028) Alternative 1B w/ Mitigation PM Peak Hour (5:00 - 6:00)

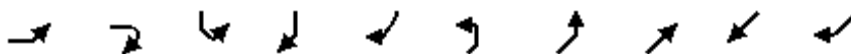
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/13/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	77	5	59	20	21	5	0	284	254	162
Future Volume (vph)	77	5	59	20	21	5	0	284	254	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frt	0.99		0.94					1.00	1.00	0.85
Flt Protected	0.95		0.97					1.00	1.00	1.00
Satd. Flow (prot)	1751		1709					1880	1881	1583
Flt Permitted	0.95		0.97					1.00	1.00	1.00
Satd. Flow (perm)	1751		1709					1880	1881	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	5	64	22	23	5	0	309	276	176
RTOR Reduction (vph)	84	0	103	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	6	0	0	0	0	314	276	176
Heavy Vehicles (%)	3%	0%	2%	2%	2%	0%	0%	1%	0%	1%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	6.6		6.0					25.5	47.1	47.1
Effective Green, g (s)	6.6		6.0					25.5	47.1	47.1
Actuated g/C Ratio	0.06		0.05					0.22	0.41	0.41
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	100		89					416	770	648
v/s Ratio Prot	c0.00		c0.00					c0.17	c0.15	0.11
v/s Ratio Perm										
v/c Ratio	0.05		0.06					0.75	0.36	0.27
Uniform Delay, d1	51.2		51.8					41.8	23.5	22.6
Progression Factor	1.00		1.00					1.00	0.31	0.32
Incremental Delay, d2	0.2		0.3					7.6	1.2	0.9
Delay (s)	51.5		52.1					49.4	8.5	8.1
Level of Service	D		D					D	A	A
Approach Delay (s)	51.5		52.1					49.4	8.3	
Approach LOS	D		D					D	A	

Intersection Summary

HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queuing and Blocking Report

Build (2028) Alternative 1B w/ Mitigation PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	150	245	62	235
Average Queue (ft)	132	63	4	187
95th Queue (ft)	171	209	29	292
Link Distance (ft)	134	232		213
Upstream Blk Time (%)	89	2		13
Queuing Penalty (veh)	0	13		99
Storage Bay Dist (ft)			60	
Storage Blk Time (%)				41
Queuing Penalty (veh)				3

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	401	75	100	229	194	146	308
Average Queue (ft)	232	63	80	148	179	50	270
95th Queue (ft)	405	98	123	282	205	101	372
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	1			8	60	0	58
Queuing Penalty (veh)	0			60	0	0	0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	58	20	26	12			
Queuing Penalty (veh)	87	35	138	28			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	SB	NE
Directions Served	L	T	T	R	L
Maximum Queue (ft)	89	1272	248	75	64
Average Queue (ft)	85	1080	237	63	15
95th Queue (ft)	98	1601	257	99	52
Link Distance (ft)		1232	232		58
Upstream Blk Time (%)		64	43		1
Queuing Penalty (veh)		0	330		2
Storage Bay Dist (ft)	65			50	
Storage Blk Time (%)	81	40	53	17	
Queuing Penalty (veh)	320	34	175	79	

Queuing and Blocking Report

Build (2028) Alternative 1B w/ Mitigation PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	130	181	335	77	78
Average Queue (ft)	64	81	205	62	44
95th Queue (ft)	114	151	329	89	83
Link Distance (ft)	290	221	322	58	58
Upstream Blk Time (%)		0	2	39	18
Queuing Penalty (veh)		0	0	81	38
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 1525

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 8 Report
11/13/2018

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	16	11	882	20	17	484
Future Volume (Veh/h)	16	11	882	20	17	484
Sign Control	Stop		Free		Free	Free
Grade	5%		3%			-5%
Peak Hour Factor	0.79	0.79	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	20	14	991	22	18	509
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.75	0.68			0.68	
vC, conflicting volume	1557	1012			1023	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1155	781			797	
tC, single (s)	6.6	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.4	
p0 queue free %	86	94			96	
cM capacity (veh/h)	142	254			507	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	34	1013	18	509		
Volume Left	20	0	18	0		
Volume Right	14	22	0	0		
cSH	174	1700	507	1700		
Volume to Capacity	0.20	0.60	0.04	0.30		
Queue Length 95th (ft)	18	0	3	0		
Control Delay (s)	30.7	0.0	12.4	0.0		
Lane LOS	D		B			
Approach Delay (s)	30.7	0.0	0.4			
Approach LOS	D					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			57.7%		ICU Level of Service	B
Analysis Period (min)			15			

Timings

3: Adams Street & Eliot Street

Synchro 8 Report
11/13/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	315	164	112	769	344	96	
Future Volume (vph)	315	164	112	769	344	96	
Lane Group Flow (vph)	354	184	129	884	362	101	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	20.5	13.0	13.0	16.0	16.0	16.0	23.0
Total Split (s)	31.0	17.0	17.0	61.0	44.0	44.0	23.0
Total Split (%)	27.0%	14.8%	14.8%	53.0%	38.3%	38.3%	20%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	Ped	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.87	0.33	0.28	0.93	0.44	0.13	
Control Delay	65.9	16.7	13.6	38.2	27.3	5.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.9	16.7	13.6	38.2	27.3	5.8	
Queue Length 50th (ft)	241	51	33	232	168	0	
Queue Length 95th (ft)	#438	113	m73	#915	322	38	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	406	580	471	949	823	763	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.87	0.32	0.27	0.93	0.44	0.13	

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 140

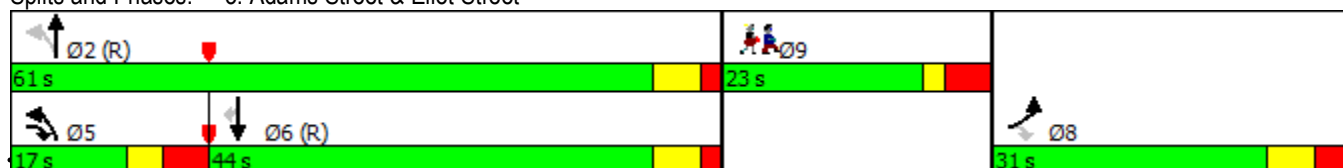
Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: Adams Street & Eliot Street



Milton Village Mixed-Use Development Alternatives
Build (2028) Alternative 2A w/ Mitigation AM Peak Hour (7:30 - 8:30)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 8 Report

11/13/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	315	164	112	769	344	96
Future Volume (vph)	315	164	112	769	344	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1416	1736	1642	1863	1599
Flt Permitted	0.95	1.00	0.36	1.00	1.00	1.00
Satd. Flow (perm)	1814	1416	664	1642	1863	1599
Peak-hour factor, PHF	0.89	0.89	0.87	0.87	0.95	0.95
Adj. Flow (vph)	354	184	129	884	362	101
RTOR Reduction (vph)	0	53	0	0	0	60
Lane Group Flow (vph)	354	131	129	884	362	41
Heavy Vehicles (%)	1%	3%	4%	3%	2%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	25.8	34.5	62.9	62.9	47.2	47.2
Effective Green, g (s)	25.8	34.5	62.9	62.9	47.2	47.2
Actuated g/C Ratio	0.22	0.30	0.55	0.55	0.41	0.41
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	406	424	444	898	764	656
v/s Ratio Prot	c0.20	0.02	0.02	c0.54	0.19	
v/s Ratio Perm		0.07	0.14			0.03
v/c Ratio	0.87	0.31	0.29	0.98	0.47	0.06
Uniform Delay, d1	43.0	31.0	14.4	25.6	24.8	20.5
Progression Factor	1.00	1.00	0.88	0.91	1.00	1.00
Incremental Delay, d2	18.2	0.4	0.3	24.1	2.1	0.2
Delay (s)	61.2	31.5	12.9	47.3	26.9	20.7
Level of Service	E	C	B	D	C	C
Approach Delay (s)	51.0			42.9	25.6	
Approach LOS	D			D	C	

Intersection Summary

HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 8 Report

11/13/2018



Lane Group	NBL	NBT	SBT	SBR	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations										
Traffic Volume (vph)	16	669	306	202	234	19				
Future Volume (vph)	16	669	306	202	234	19				
Lane Group Flow (vph)	17	727	333	220	254	21				
Turn Type	Perm	NA	NA	Perm	Prot	Perm				
Protected Phases		2	6		4		3	7	8	9
Permitted Phases	2			6		4				
Detector Phase	2	2	6	6	4	4				
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	20.0
Total Split (s)	40.0	40.0	40.0	40.0	55.0	55.0	11.5	24.0	19.5	20.0
Total Split (%)	34.8%	34.8%	34.8%	34.8%	47.8%	47.8%	10%	21%	17%	17%
Yellow Time (s)	4.5	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0				
Lead/Lag								Lead	Lag	
Lead-Lag Optimize?								Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.03	0.67	0.32	0.24	0.49	0.05				
Control Delay	20.4	25.7	14.7	8.6	12.6	0.2				
Queue Delay	0.0	0.5	0.0	0.0	0.8	0.3				
Total Delay	20.4	26.2	14.7	8.6	13.4	0.5				
Queue Length 50th (ft)	5	360	90	8	42	0				
Queue Length 95th (ft)	28	#919	200	88	51	m0				
Internal Link Dist (ft)		1186	236		69					
Turn Bay Length (ft)	65			50						
Base Capacity (vph)	549	1092	1029	921	758	642				
Starvation Cap Reductn	0	0	0	0	266	452				
Spillback Cap Reductn	0	106	0	1	0	0				
Storage Cap Reductn	0	0	0	0	0	0				
Reduced v/c Ratio	0.03	0.74	0.32	0.24	0.52	0.11				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12 Ø2 (R) 40 s	#11 Ø4 55 s
#11 #12 Ø6 (R) 40 s	#12 Ø7 24 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

Build (2028) Alternative 2A w/ Mitigation AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 8 Report

11/13/2018

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	16	669	306	202	234	19
Future Volume (vph)	16	669	306	202	234	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1850	1909	1799	1544	1745	1451
Flt Permitted	0.49	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	959	1909	1799	1544	1745	1451
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	727	333	220	254	21
RTOR Reduction (vph)	0	0	0	44	0	14
Lane Group Flow (vph)	17	727	333	176	254	7
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	0%	2%	3%	2%	5%	13%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	57.9	57.9	57.9	57.9	37.3	37.3
Effective Green, g (s)	57.9	57.9	57.9	57.9	37.3	37.3
Actuated g/C Ratio	0.50	0.50	0.50	0.50	0.32	0.32
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	482	961	905	777	565	470
v/s Ratio Prot		c0.38	0.19		c0.15	
v/s Ratio Perm	0.02			0.11		0.00
v/c Ratio	0.04	0.76	0.37	0.23	0.45	0.01
Uniform Delay, d1	14.4	22.9	17.4	16.0	30.7	26.4
Progression Factor	1.00	1.00	0.75	0.69	0.31	0.00
Incremental Delay, d2	0.1	5.5	1.1	0.6	0.5	0.0
Delay (s)	14.6	28.4	14.2	11.7	10.1	0.0
Level of Service	B	C	B	B	B	A
Approach Delay (s)		28.1	13.2		9.4	
Approach LOS		C	B		A	
Intersection Summary						
HCM 2000 Control Delay		19.6		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.69				
Actuated Cycle Length (s)		115.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		57.3%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report
11/13/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	69	13	170	160	58				
Future Volume (vph)	69	13	170	160	58				
Lane Group Flow (vph)	89	31	190	174	63				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	20.0
Total Split (s)	19.5	11.5	24.0			40.0	55.0	40.0	20.0
Total Split (%)	17.0%	10.0%	20.9%			35%	48%	35%	17%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.31	0.12	0.71	0.16	0.07				
Control Delay	2.8	1.0	61.3	7.9	8.4				
Queue Delay	0.0	0.0	0.1	0.4	0.3				
Total Delay	2.8	1.0	61.4	8.2	8.7				
Queue Length 50th (ft)	0	0	135	23	8				
Queue Length 95th (ft)	0	0	212	50	23				
Internal Link Dist (ft)	271	197	280	69					
Turn Bay Length (ft)									
Base Capacity (vph)	380	255	301	1055	896				
Starvation Cap Reductn	0	0	0	510	565				
Spillback Cap Reductn	2	2	3	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.24	0.12	0.64	0.32	0.19				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 40 s	#11 #12 Ø9 20 s	#11 Ø4 55 s
#11 #12 Ø6 (R) 40 s		#12 Ø7 24 s
		#12 Ø8 19.5 s
		#12 Ø3 11.5 s

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/13/2018

										
Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	69	13	13	1	15	5	0	170	160	58
Future Volume (vph)	69	13	13	1	15	5	0	170	160	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Frt	0.98		0.93					1.00	1.00	0.85
Flt Protected	0.96		0.98					1.00	1.00	1.00
Satd. Flow (prot)	1678		1720					1809	1844	1567
Flt Permitted	0.96		0.98					1.00	1.00	1.00
Satd. Flow (perm)	1678		1720					1809	1844	1567
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	14	14	1	16	5	0	185	174	63
RTOR Reduction (vph)	84	0	30	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	1	0	0	0	0	190	174	63
Confl. Peds. (#/hr)										
Heavy Vehicles (%)	6%	8%	0%	0%	0%	0%	0%	5%	2%	2%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	6.6		3.6					17.1	57.9	57.9
Effective Green, g (s)	6.6		3.6					17.1	57.9	57.9
Actuated g/C Ratio	0.06		0.03					0.15	0.50	0.50
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	96		53					268	928	788
v/s Ratio Prot	c0.00		c0.00					c0.11	c0.09	0.04
v/s Ratio Perm										
v/c Ratio	0.05		0.02					0.71	0.19	0.08
Uniform Delay, d1	51.2		54.0					46.6	15.7	14.8
Progression Factor	1.00		1.00					1.00	0.44	0.45
Incremental Delay, d2	0.2		0.1					8.3	0.4	0.2
Delay (s)	51.5		54.1					54.9	7.3	6.8
Level of Service	D		D					D	A	A
Approach Delay (s)	51.5		54.1					54.9	7.2	
Approach LOS	D		D					D	A	
Intersection Summary										
HCM 2000 Control Delay			33.6							
HCM 2000 Volume to Capacity ratio			0.27							
Actuated Cycle Length (s)			115.0							
Intersection Capacity Utilization			40.0%							
Analysis Period (min)			15							
c Critical Lane Group										

Queuing and Blocking Report

Build (2028) Alternative 2A w/ Mitigation AM Peak Hour (7:30 - 8:30)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	90	243	63	109
Average Queue (ft)	22	142	13	11
95th Queue (ft)	63	295	44	56
Link Distance (ft)	134	226		213
Upstream Blk Time (%)		5		
Queuing Penalty (veh)		45		
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			1	1
Queuing Penalty (veh)			2	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	499	75	100	230	196	73	184
Average Queue (ft)	442	55	56	201	131	26	21
95th Queue (ft)	559	101	106	285	207	56	94
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	62			16	16		0
Queuing Penalty (veh)	0			145	0		0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	74	2	3	31			
Queuing Penalty (veh)	121	5	25	35			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	SB	NE
Directions Served	L	T	T	R	L
Maximum Queue (ft)	89	848	232	75	74
Average Queue (ft)	17	462	110	45	16
95th Queue (ft)	60	872	239	93	52
Link Distance (ft)		1238	226		67
Upstream Blk Time (%)			1		1
Queuing Penalty (veh)			7		2
Storage Bay Dist (ft)	65			50	
Storage Blk Time (%)	0	48	21	3	
Queuing Penalty (veh)	0	8	42	9	

Queuing and Blocking Report

Build (2028) Alternative 2A w/ Mitigation AM Peak Hour (7:30 - 8:30)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	132	72	239	75	51
Average Queue (ft)	64	24	136	35	12
95th Queue (ft)	120	58	221	77	40
Link Distance (ft)	308	226	320	67	67
Upstream Blk Time (%)				4	0
Queuing Penalty (veh)				4	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 452

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 9 Report
11/13/2018

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	33	28	704	25	11	698
Future Volume (Veh/h)	33	28	704	25	11	698
Sign Control	Stop		Free		Free	Free
Grade	5%		3%			-5%
Peak Hour Factor	0.65	0.65	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	51	43	741	26	12	776
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.79	0.83			0.83	
vC, conflicting volume	1571	771			784	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1120	626			642	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	71	89			98	
cM capacity (veh/h)	174	400			782	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	94	767	12	776		
Volume Left	51	0	12	0		
Volume Right	43	26	0	0		
cSH	235	1700	782	1700		
Volume to Capacity	0.40	0.45	0.02	0.46		
Queue Length 95th (ft)	45	0	1	0		
Control Delay (s)	30.2	0.0	9.7	0.0		
Lane LOS	D		A			
Approach Delay (s)	30.2	0.0	0.1			
Approach LOS	D					
Intersection Summary						
Average Delay		1.8				
Intersection Capacity Utilization		48.8%		ICU Level of Service		A
Analysis Period (min)		15				

Timings

3: Adams Street & Eliot Street

Synchro 9 Report
11/13/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	173	150	212	495	568	245	
Future Volume (vph)	173	150	212	495	568	245	
Lane Group Flow (vph)	194	169	216	505	631	272	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	20.5	13.0	13.0	16.0	16.0	16.0	23.0
Total Split (s)	33.0	18.0	18.0	59.0	41.0	41.0	23.0
Total Split (%)	28.7%	15.7%	15.7%	51.3%	35.7%	35.7%	20%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	Ped	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.69	0.29	0.60	0.47	0.71	0.31	
Control Delay	58.3	8.1	24.7	14.7	34.0	8.1	
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	
Total Delay	58.3	8.1	24.7	14.9	34.0	8.1	
Queue Length 50th (ft)	138	18	47	187	305	20	
Queue Length 95th (ft)	202	61	#207	335	#755	103	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	402	578	364	1083	887	866	
Starvation Cap Reductn	0	0	0	153	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.48	0.29	0.59	0.54	0.71	0.31	

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

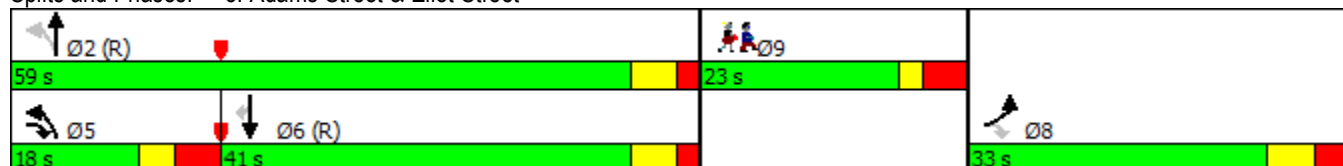
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 9 Report

11/13/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	173	150	212	495	568	245
Future Volume (vph)	173	150	212	495	568	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1459	1787	1674	1881	1599
Flt Permitted	0.95	1.00	0.16	1.00	1.00	1.00
Satd. Flow (perm)	1814	1459	303	1674	1881	1599
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.90	0.90
Adj. Flow (vph)	194	169	216	505	631	272
RTOR Reduction (vph)	0	97	0	0	0	119
Lane Group Flow (vph)	194	72	216	505	631	153
Heavy Vehicles (%)	1%	0%	1%	1%	1%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	17.9	31.1	70.8	70.8	50.6	50.6
Effective Green, g (s)	17.9	31.1	70.8	70.8	50.6	50.6
Actuated g/C Ratio	0.16	0.27	0.62	0.62	0.44	0.44
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	282	394	356	1030	827	703
v/s Ratio Prot	c0.11	0.02	0.07	c0.30	c0.34	
v/s Ratio Perm		0.03	0.30			0.10
v/c Ratio	0.69	0.18	0.61	0.49	0.76	0.22
Uniform Delay, d1	45.9	32.2	17.3	12.2	27.1	19.9
Progression Factor	1.00	1.00	1.48	0.94	1.00	1.00
Incremental Delay, d2	6.8	0.2	2.7	1.5	6.6	0.7
Delay (s)	52.7	32.4	28.3	12.9	33.7	20.6
Level of Service	D	C	C	B	C	C
Approach Delay (s)	43.3			17.5	29.8	
Approach LOS	D			B	C	

Intersection Summary

HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 9 Report

11/13/2018

										
Lane Group	NBL	NBT	SBT	SBR	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations										
Traffic Volume (vph)	84	394	432	303	336	48				
Future Volume (vph)	84	394	432	303	336	48				
Lane Group Flow (vph)	91	428	470	329	365	52				
Turn Type	Perm	NA	NA	Perm	Prot	Perm				
Protected Phases		2	6		4		3	7	8	9
Permitted Phases	2			6		4				
Detector Phase	2	2	6	6	4	4				
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	20.0
Total Split (s)	40.0	40.0	40.0	40.0	55.0	55.0	11.5	24.0	19.5	20.0
Total Split (%)	34.8%	34.8%	34.8%	34.8%	47.8%	47.8%	10%	21%	17%	17%
Yellow Time (s)	4.5	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0				
Lead/Lag								Lead	Lag	
Lead-Lag Optimize?								Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.31	0.45	0.52	0.41	0.53	0.08				
Control Delay	27.5	25.3	21.8	14.5	10.0	0.2				
Queue Delay	0.0	0.0	0.0	0.0	2.0	1.7				
Total Delay	27.5	25.3	21.8	14.5	12.1	1.9				
Queue Length 50th (ft)	40	205	94	15	46	0				
Queue Length 95th (ft)	114	407	#488	134	m358	m0				
Internal Link Dist (ft)		1186	236		67					
Turn Bay Length (ft)	65			50						
Base Capacity (vph)	298	943	897	810	788	721				
Starvation Cap Reductn	0	0	0	0	278	567				
Spillback Cap Reductn	0	0	0	2	0	0				
Storage Cap Reductn	0	0	0	0	0	0				
Reduced v/c Ratio	0.31	0.45	0.52	0.41	0.72	0.34				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 110

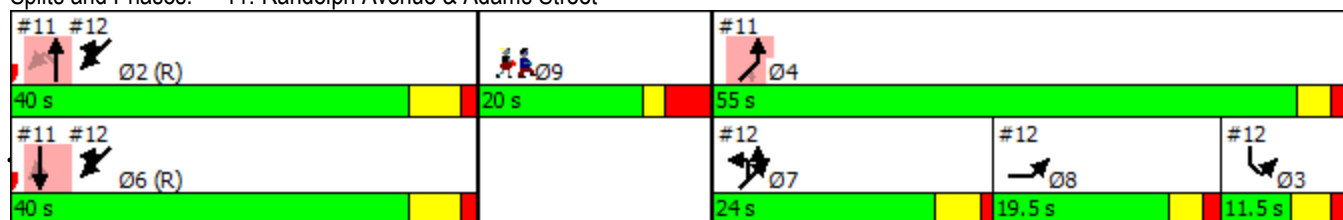
Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street



Build (2028) Alternative 2A w/ Mitigation PM Peak Hour (5:00 - 6:00)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 9 Report

11/13/2018

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	84	394	432	303	336	48
Future Volume (vph)	84	394	432	303	336	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1796	1928	1834	1559	1814	1591
Flt Permitted	0.32	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	610	1928	1834	1559	1814	1591
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	428	470	329	365	52
RTOR Reduction (vph)	0	0	0	53	0	31
Lane Group Flow (vph)	91	428	470	276	365	21
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	3%	1%	1%	1%	1%	3%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	49.5	49.5	49.5	49.5	45.7	45.7
Effective Green, g (s)	49.5	49.5	49.5	49.5	45.7	45.7
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.40	0.40
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	262	829	789	671	720	632
v/s Ratio Prot		0.22	c0.26		c0.20	
v/s Ratio Perm	0.15			0.18		0.01
v/c Ratio	0.35	0.52	0.60	0.41	0.51	0.03
Uniform Delay, d1	21.9	24.0	25.1	22.7	26.1	21.2
Progression Factor	1.00	1.00	0.79	0.79	0.29	0.00
Incremental Delay, d2	3.6	2.3	2.7	1.5	0.4	0.0
Delay (s)	25.5	26.3	22.4	19.4	8.1	0.0
Level of Service	C	C	C	B	A	A
Approach Delay (s)		26.1	21.2		7.1	
Approach LOS		C	C		A	
Intersection Summary						
HCM 2000 Control Delay		19.3		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.60				
Actuated Cycle Length (s)		115.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		63.9%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report
11/13/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	75	33	276	237	150				
Future Volume (vph)	75	33	276	237	150				
Lane Group Flow (vph)	87	68	305	258	163				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	20.0
Total Split (s)	19.5	11.5	24.0			40.0	55.0	40.0	20.0
Total Split (%)	17.0%	10.0%	20.9%			35%	48%	35%	17%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.30	0.27	0.77	0.28	0.21				
Control Delay	2.6	2.6	56.9	7.3	7.3				
Queue Delay	0.0	0.0	0.3	0.4	0.5				
Total Delay	2.6	2.6	57.1	7.7	7.8				
Queue Length 50th (ft)	0	0	208	27	17				
Queue Length 95th (ft)	0	0	#407	50	34				
Internal Link Dist (ft)	249	197	277	67					
Turn Bay Length (ft)									
Base Capacity (vph)	389	254	397	920	774				
Starvation Cap Reductn	0	0	0	306	336				
Spillback Cap Reductn	4	4	5	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.23	0.27	0.78	0.42	0.37				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street

#11 #12 Ø2 (R) 40 s	#11 #12 Ø6 (R) 40 s	#11 Ø4 55 s	#12 Ø7 24 s	#12 Ø8 19.5 s	#12 Ø3 11.5 s
-------------------------------	-------------------------------	-----------------------	-----------------------	-------------------------	-------------------------

Milton Village Mixed-Use Development Alternatives

Build (2028) Alternative 2A w/ Mitigation PM Peak Hour (5:00 - 6:00)

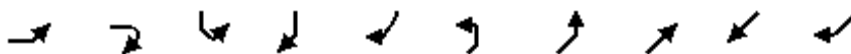
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/13/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	75	5	33	14	16	5	0	276	237	150
Future Volume (vph)	75	5	33	14	16	5	0	276	237	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frt	0.99		0.94					1.00	1.00	0.85
Flt Protected	0.95		0.97					1.00	1.00	1.00
Satd. Flow (prot)	1751		1699					1880	1881	1583
Flt Permitted	0.95		0.97					1.00	1.00	1.00
Satd. Flow (perm)	1751		1699					1880	1881	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	5	36	15	17	5	0	300	258	163
RTOR Reduction (vph)	82	0	65	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	3	0	0	0	0	305	258	163
Heavy Vehicles (%)	3%	0%	2%	2%	2%	0%	0%	1%	0%	1%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	6.6		4.8					24.3	49.5	49.5
Effective Green, g (s)	6.6		4.8					24.3	49.5	49.5
Actuated g/C Ratio	0.06		0.04					0.21	0.43	0.43
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	100		70					397	809	681
v/s Ratio Prot	c0.00		c0.00					c0.16	c0.14	0.10
v/s Ratio Perm										
v/c Ratio	0.05		0.04					0.77	0.32	0.24
Uniform Delay, d1	51.2		52.9					42.7	21.6	20.8
Progression Factor	1.00		1.00					1.00	0.30	0.31
Incremental Delay, d2	0.2		0.2					8.7	1.0	0.8
Delay (s)	51.4		53.1					51.4	7.5	7.2
Level of Service	D		D					D	A	A
Approach Delay (s)	51.4		53.1					51.4	7.4	
Approach LOS	D		D					D	A	

Intersection Summary

HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queuing and Blocking Report

Build (2028) Alternative 2A w/ Mitigation PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	156	248	49	232
Average Queue (ft)	77	84	7	119
95th Queue (ft)	161	242	32	272
Link Distance (ft)	134	232		213
Upstream Blk Time (%)	20	2		4
Queuing Penalty (veh)	0	16		29
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			0	15
Queuing Penalty (veh)			0	2

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	450	75	100	230	200	102	311
Average Queue (ft)	262	60	82	155	174	49	229
95th Queue (ft)	479	97	120	289	211	90	381
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	10			10	47	0	29
Queuing Penalty (veh)	0			73	0	0	0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	63	10	30	15			
Queuing Penalty (veh)	95	17	147	32			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	SB	NE
Directions Served	L	T	T	R	L
Maximum Queue (ft)	89	1263	248	75	61
Average Queue (ft)	79	725	217	64	12
95th Queue (ft)	107	1415	295	95	46
Link Distance (ft)		1232	232		58
Upstream Blk Time (%)		15	21		1
Queuing Penalty (veh)		0	157		3
Storage Bay Dist (ft)	65			50	
Storage Blk Time (%)	57	36	44	14	
Queuing Penalty (veh)	223	30	135	63	

Queuing and Blocking Report

Build (2028) Alternative 2A w/ Mitigation PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	136	132	322	76	76
Average Queue (ft)	63	46	203	58	45
95th Queue (ft)	116	99	314	88	84
Link Distance (ft)	290	221	322	58	58
Upstream Blk Time (%)			2	29	18
Queuing Penalty (veh)			0	56	35
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 1113

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 8 Report
11/13/2018

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	16	12	890	21	17	488
Future Volume (Veh/h)	16	12	890	21	17	488
Sign Control	Stop		Free		Free	Free
Grade	5%		3%			-5%
Peak Hour Factor	0.79	0.79	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	20	15	1000	24	18	514
Pedestrians	10					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.75	0.68			0.68	
vC, conflicting volume	1572	1022			1034	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1171	793			811	
tC, single (s)	6.6	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.4	
p0 queue free %	86	94			96	
cM capacity (veh/h)	139	249			499	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	35	1024	18	514		
Volume Left	20	0	18	0		
Volume Right	15	24	0	0		
cSH	171	1700	499	1700		
Volume to Capacity	0.20	0.60	0.04	0.30		
Queue Length 95th (ft)	18	0	3	0		
Control Delay (s)	31.4	0.0	12.5	0.0		
Lane LOS	D		B			
Approach Delay (s)	31.4	0.0	0.4			
Approach LOS	D					
Intersection Summary						
Average Delay		0.8				
Intersection Capacity Utilization		58.1%		ICU Level of Service		B
Analysis Period (min)		15				

Timings 3: Adams Street & Eliot Street

Synchro 8 Report
11/13/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	316	166	116	775	348	98	
Future Volume (vph)	316	166	116	775	348	98	
Lane Group Flow (vph)	355	187	133	891	366	103	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	20.5	13.0	13.0	16.0	16.0	16.0	23.0
Total Split (s)	33.0	17.0	17.0	59.0	42.0	42.0	23.0
Total Split (%)	28.7%	14.8%	14.8%	51.3%	36.5%	36.5%	20%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	Ped	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.89	0.33	0.29	0.93	0.44	0.13	
Control Delay	67.5	16.2	15.0	37.0	27.8	6.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	67.5	16.2	15.0	37.0	27.8	6.0	
Queue Length 50th (ft)	245	51	36	261	167	0	
Queue Length 95th (ft)	#415	110	m89	#958	335	39	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	415	578	471	954	828	768	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.86	0.32	0.28	0.93	0.44	0.13	

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 140

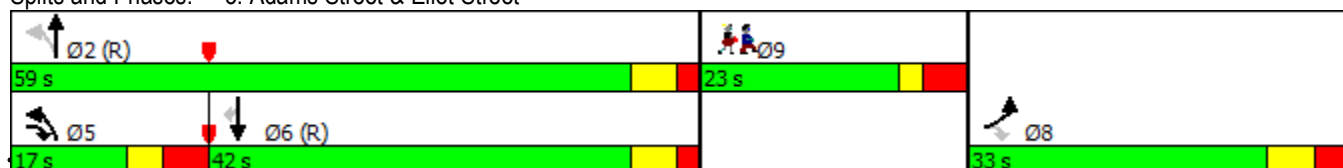
Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: Adams Street & Eliot Street



Milton Village Mixed-Use Development Alternatives
Build (2028) Alternative 2B w/ Mitigation AM Peak Hour (7:30 - 8:30)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 8 Report

11/13/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	316	166	116	775	348	98
Future Volume (vph)	316	166	116	775	348	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1416	1736	1642	1863	1599
Flt Permitted	0.95	1.00	0.36	1.00	1.00	1.00
Satd. Flow (perm)	1814	1416	660	1642	1863	1599
Peak-hour factor, PHF	0.89	0.89	0.87	0.87	0.95	0.95
Adj. Flow (vph)	355	187	133	891	366	103
RTOR Reduction (vph)	0	56	0	0	0	60
Lane Group Flow (vph)	355	131	133	891	366	43
Heavy Vehicles (%)	1%	3%	4%	3%	2%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	25.5	34.2	63.2	63.2	47.5	47.5
Effective Green, g (s)	25.5	34.2	63.2	63.2	47.5	47.5
Actuated g/C Ratio	0.22	0.30	0.55	0.55	0.41	0.41
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	402	421	444	902	769	660
v/s Ratio Prot	c0.20	0.02	0.02	c0.54	0.20	
v/s Ratio Perm		0.07	0.14			0.03
v/c Ratio	0.88	0.31	0.30	0.99	0.48	0.06
Uniform Delay, d1	43.3	31.3	14.3	25.5	24.7	20.4
Progression Factor	1.00	1.00	0.94	0.81	1.00	1.00
Incremental Delay, d2	19.8	0.4	0.3	24.7	2.1	0.2
Delay (s)	63.2	31.7	13.8	45.4	26.8	20.5
Level of Service	E	C	B	D	C	C
Approach Delay (s)	52.3			41.3	25.4	
Approach LOS	D			D	C	

Intersection Summary

HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 8 Report

11/13/2018



Lane Group	NBL	NBT	SBT	SBR	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations										
Traffic Volume (vph)	16	674	308	203	236	22				
Future Volume (vph)	16	674	308	203	236	22				
Lane Group Flow (vph)	17	733	335	221	257	24				
Turn Type	Perm	NA	NA	Perm	Prot	Perm				
Protected Phases		2	6		4		3	7	8	9
Permitted Phases	2			6		4				
Detector Phase	2	2	6	6	4	4				
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	20.0
Total Split (s)	44.0	44.0	44.0	44.0	51.0	51.0	11.5	20.0	19.5	20.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	44.3%	44.3%	10%	17%	17%	17%
Yellow Time (s)	4.5	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0				
Lead/Lag								Lead	Lag	
Lead-Lag Optimize?								Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.03	0.67	0.32	0.24	0.50	0.05				
Control Delay	19.2	25.4	12.2	6.2	13.6	0.2				
Queue Delay	0.0	0.3	0.0	0.0	1.3	0.6				
Total Delay	19.2	25.8	12.2	6.2	15.0	0.8				
Queue Length 50th (ft)	5	374	85	4	44	0				
Queue Length 95th (ft)	26	#877	170	65	m58	m0				
Internal Link Dist (ft)		1186	236		69					
Turn Bay Length (ft)	65			50						
Base Capacity (vph)	550	1096	1033	926	698	594				
Starvation Cap Reductn	0	0	0	0	263	442				
Spillback Cap Reductn	0	74	0	1	13	0				
Storage Cap Reductn	0	0	0	0	0	0				
Reduced v/c Ratio	0.03	0.72	0.32	0.24	0.59	0.16				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12 Ø2 (R) 44 s	#11 Ø4 51 s
#11 #12 Ø6 (R) 44 s	#12 Ø7 20 s
	#12 Ø8 19.5 s
	#12 Ø3 11.5 s

Build (2028) Alternative 2B w/ Mitigation AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 8 Report

11/13/2018

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	16	674	308	203	236	22
Future Volume (vph)	16	674	308	203	236	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1850	1909	1799	1544	1745	1451
Flt Permitted	0.49	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	958	1909	1799	1544	1745	1451
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	733	335	221	257	24
RTOR Reduction (vph)	0	0	0	46	0	16
Lane Group Flow (vph)	17	733	335	175	257	8
Confl. Peds. (#/hr)					22	
Heavy Vehicles (%)	0%	2%	3%	2%	5%	13%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	58.2	58.2	58.2	58.2	37.0	37.0
Effective Green, g (s)	58.2	58.2	58.2	58.2	37.0	37.0
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.32	0.32
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	484	966	910	781	561	466
v/s Ratio Prot		c0.38	0.19		c0.15	
v/s Ratio Perm	0.02			0.11		0.01
v/c Ratio	0.04	0.76	0.37	0.22	0.46	0.02
Uniform Delay, d1	14.3	22.8	17.2	15.8	31.0	26.6
Progression Factor	1.00	1.00	0.64	0.52	0.34	0.00
Incremental Delay, d2	0.1	5.6	1.1	0.6	0.5	0.0
Delay (s)	14.4	28.3	12.1	8.9	11.1	0.0
Level of Service	B	C	B	A	B	A
Approach Delay (s)		28.0	10.8		10.1	
Approach LOS		C	B		B	
Intersection Summary						
HCM 2000 Control Delay		18.8		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.69				
Actuated Cycle Length (s)		115.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		57.7%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report
11/13/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	69	18	170	161	58				
Future Volume (vph)	69	18	170	161	58				
Lane Group Flow (vph)	89	37	190	175	63				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	20.0
Total Split (s)	19.5	11.5	20.0			44.0	51.0	44.0	20.0
Total Split (%)	17.0%	10.0%	17.4%			38%	44%	38%	17%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.31	0.14	0.72	0.17	0.07				
Control Delay	2.8	1.2	62.9	7.5	7.9				
Queue Delay	0.0	0.0	0.3	0.4	0.3				
Total Delay	2.8	1.2	63.2	7.9	8.3				
Queue Length 50th (ft)	0	0	134	24	9				
Queue Length 95th (ft)	0	0	#258	50	22				
Internal Link Dist (ft)	271	197	280	69					
Turn Bay Length (ft)									
Base Capacity (vph)	380	256	265	1059	900				
Starvation Cap Reductn	0	0	0	518	574				
Spillback Cap Reductn	4	4	3	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.24	0.15	0.73	0.32	0.19				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

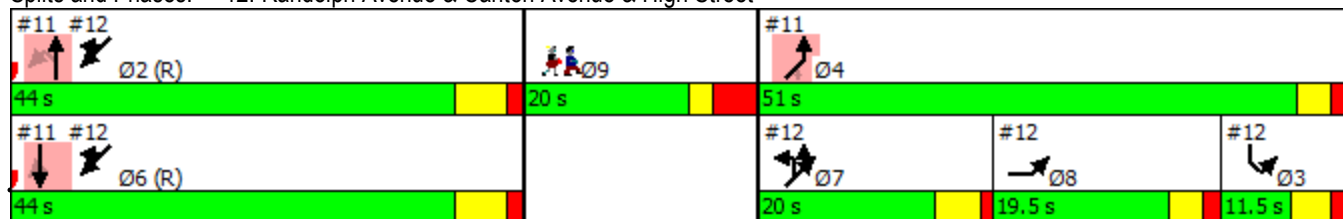
Natural Cycle: 120

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street



Milton Village Mixed-Use Development Alternatives

BETA Group, Inc.

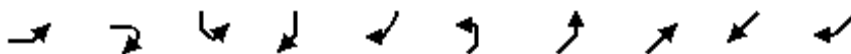
Build (2028) Alternative 2B w/ Mitigation AM Peak Hour (7:30 - 8:30)

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 8 Report

11/13/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	69	13	18	1	15	5	0	170	161	58
Future Volume (vph)	69	13	18	1	15	5	0	170	161	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00					1.00	1.00	1.00
Frt	0.98		0.94					1.00	1.00	0.85
Flt Protected	0.96		0.97					1.00	1.00	1.00
Satd. Flow (prot)	1678		1735					1809	1844	1567
Flt Permitted	0.96		0.97					1.00	1.00	1.00
Satd. Flow (perm)	1678		1735					1809	1844	1567
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	14	20	1	16	5	0	185	175	63
RTOR Reduction (vph)	84	0	36	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	1	0	0	0	0	190	175	63
Confl. Peds. (#/hr)										
Heavy Vehicles (%)	6%	8%	0%	0%	0%	0%	0%	5%	2%	2%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	6.6		3.6					16.8	58.2	58.2
Effective Green, g (s)	6.6		3.6					16.8	58.2	58.2
Actuated g/C Ratio	0.06		0.03					0.15	0.51	0.51
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	96		54					264	933	793
v/s Ratio Prot	c0.00		c0.00					c0.11	c0.09	0.04
v/s Ratio Perm										
v/c Ratio	0.05		0.02					0.72	0.19	0.08
Uniform Delay, d1	51.2		54.0					46.9	15.5	14.6
Progression Factor	1.00		1.00					1.00	0.43	0.45
Incremental Delay, d2	0.2		0.2					9.0	0.4	0.2
Delay (s)	51.5		54.2					55.9	7.1	6.7
Level of Service	D		D					E	A	A
Approach Delay (s)	51.5		54.2					55.9	7.0	
Approach LOS	D		D					E	A	
Intersection Summary										
HCM 2000 Control Delay			34.1	HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.27							
Actuated Cycle Length (s)			115.0	Sum of lost time (s)			27.0			
Intersection Capacity Utilization			40.0%	ICU Level of Service			A			
Analysis Period (min)			15							
c Critical Lane Group										

Queuing and Blocking Report

Build (2028) Alternative 2B w/ Mitigation AM Peak Hour (7:30 - 8:30)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	104	240	67	175
Average Queue (ft)	31	158	16	19
95th Queue (ft)	92	305	49	95
Link Distance (ft)	134	226		213
Upstream Blk Time (%)	3	6		0
Queuing Penalty (veh)	0	51		0
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			1	2
Queuing Penalty (veh)			7	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	503	75	100	231	192	66	148
Average Queue (ft)	468	58	59	205	130	27	22
95th Queue (ft)	500	100	107	283	204	55	90
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	80			21	16		
Queuing Penalty (veh)	0			189	0		
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	74	3	5	33			
Queuing Penalty (veh)	123	8	37	38			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	SB	NE
Directions Served	L	T	T	R	L
Maximum Queue (ft)	89	959	239	75	74
Average Queue (ft)	13	546	116	49	25
95th Queue (ft)	54	978	246	95	71
Link Distance (ft)		1238	226		67
Upstream Blk Time (%)			2		4
Queuing Penalty (veh)			10		5
Storage Bay Dist (ft)	65			50	
Storage Blk Time (%)	0	52	22	3	
Queuing Penalty (veh)	1	8	45	10	

Queuing and Blocking Report

Build (2028) Alternative 2B w/ Mitigation AM Peak Hour (7:30 - 8:30)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	154	69	268	75	64
Average Queue (ft)	71	28	137	35	15
95th Queue (ft)	129	63	235	76	48
Link Distance (ft)	308	226	320	67	67
Upstream Blk Time (%)			1	4	1
Queuing Penalty (veh)			0	4	2
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 540

HCM Unsignalized Intersection Capacity Analysis

2: Adams Street & Wharf Street

Synchro 9 Report

11/13/2018

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	28	718	26	14	705
Future Volume (Veh/h)	35	28	718	26	14	705
Sign Control	Stop		Free		Free	Free
Grade	5%		3%			-5%
Peak Hour Factor	0.65	0.65	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	54	43	756	27	16	783
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)			316			270
pX, platoon unblocked	0.78	0.83			0.83	
vC, conflicting volume	1602	786			800	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1141	640			657	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	67	89			98	
cM capacity (veh/h)	166	391			768	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	97	783	16	783		
Volume Left	54	0	16	0		
Volume Right	43	27	0	0		
cSH	223	1700	768	1700		
Volume to Capacity	0.44	0.46	0.02	0.46		
Queue Length 95th (ft)	51	0	2	0		
Control Delay (s)	33.1	0.0	9.8	0.0		
Lane LOS	D		A			
Approach Delay (s)	33.1	0.0	0.2			
Approach LOS	D					
Intersection Summary						
Average Delay		2.0				
Intersection Capacity Utilization		49.7%		ICU Level of Service		A
Analysis Period (min)		15				

Timings

3: Adams Street & Eliot Street

Synchro 9 Report
11/13/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	174	152	219	501	575	252	
Future Volume (vph)	174	152	219	501	575	252	
Lane Group Flow (vph)	196	171	223	511	639	280	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm	
Protected Phases	8	5	5	2	6		9
Permitted Phases		8	2			6	
Detector Phase	8	5	5	2	6	6	
Switch Phase							
Minimum Initial (s)	8.0	6.0	6.0	10.0	10.0	10.0	4.0
Minimum Split (s)	20.5	13.0	13.0	16.0	16.0	16.0	23.0
Total Split (s)	33.0	17.0	17.0	59.0	42.0	42.0	23.0
Total Split (%)	28.7%	14.8%	14.8%	51.3%	36.5%	36.5%	20%
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0	2.0
All-Red Time (s)	3.5	4.0	4.0	2.0	2.0	2.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.5	7.0	7.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Recall Mode	Ped	None	None	C-Min	C-Min	C-Min	None
v/c Ratio	0.69	0.29	0.61	0.47	0.74	0.33	
Control Delay	58.4	8.5	28.2	14.7	35.6	8.0	
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	
Total Delay	58.4	8.5	28.2	15.0	35.6	8.0	
Queue Length 50th (ft)	139	19	61	189	324	21	
Queue Length 95th (ft)	203	65	#214	332	#757	103	
Internal Link Dist (ft)	414			190	89		
Turn Bay Length (ft)		50	75				
Base Capacity (vph)	402	594	363	1082	860	851	
Starvation Cap Reductn	0	0	0	149	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.49	0.29	0.61	0.55	0.74	0.33	

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

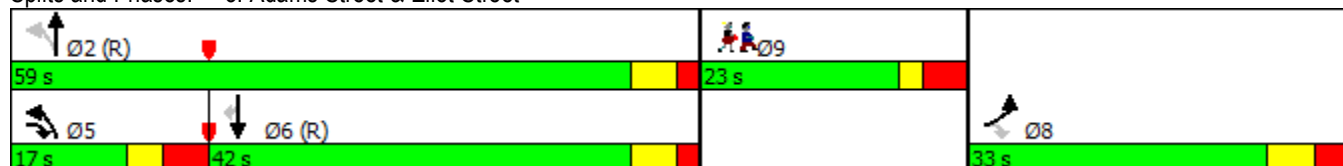
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Adams Street & Eliot Street



HCM Signalized Intersection Capacity Analysis

3: Adams Street & Eliot Street

Synchro 9 Report

11/13/2018



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	174	152	219	501	575	252
Future Volume (vph)	174	152	219	501	575	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-3%			0%	0%	
Total Lost time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1814	1459	1787	1674	1881	1599
Flt Permitted	0.95	1.00	0.14	1.00	1.00	1.00
Satd. Flow (perm)	1814	1459	265	1674	1881	1599
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.90	0.90
Adj. Flow (vph)	196	171	223	511	639	280
RTOR Reduction (vph)	0	94	0	0	0	126
Lane Group Flow (vph)	196	77	223	511	639	154
Heavy Vehicles (%)	1%	0%	1%	1%	1%	1%
Parking (#/hr)		2		2		
Turn Type	Prot	pm+ov	pm+pt	NA	NA	Perm
Protected Phases	8	5	5	2	6	
Permitted Phases		8	2			6
Actuated Green, G (s)	18.0	32.7	70.7	70.7	49.0	49.0
Effective Green, g (s)	18.0	32.7	70.7	70.7	49.0	49.0
Actuated g/C Ratio	0.16	0.28	0.61	0.61	0.43	0.43
Clearance Time (s)	7.5	7.0	7.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	283	414	357	1029	801	681
v/s Ratio Prot	c0.11	0.02	c0.08	0.31	c0.34	
v/s Ratio Perm		0.03	0.30			0.10
v/c Ratio	0.69	0.19	0.62	0.50	0.80	0.23
Uniform Delay, d1	45.9	31.1	18.2	12.3	28.7	21.0
Progression Factor	1.00	1.00	1.62	0.93	1.00	1.00
Incremental Delay, d2	7.1	0.2	3.1	1.6	8.1	0.8
Delay (s)	53.0	31.3	32.5	13.0	36.8	21.7
Level of Service	D	C	C	B	D	C
Approach Delay (s)	42.9			18.9	32.2	
Approach LOS	D			B	C	

Intersection Summary

HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings

11: Randolph Avenue & Adams Street

Synchro 9 Report

11/13/2018

										
Lane Group	NBL	NBT	SBT	SBR	NEL	NER	Ø3	Ø7	Ø8	Ø9
Lane Configurations										
Traffic Volume (vph)	84	398	433	310	345	48				
Future Volume (vph)	84	398	433	310	345	48				
Lane Group Flow (vph)	91	433	471	337	375	52				
Turn Type	Perm	NA	NA	Perm	Prot	Perm				
Protected Phases		2	6		4		3	7	8	9
Permitted Phases	2			6		4				
Detector Phase	2	2	6	6	4	4				
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	8.0	8.0	6.0	8.0	6.0	5.0
Minimum Split (s)	26.0	26.0	26.0	26.0	20.0	20.0	11.5	20.0	19.5	20.0
Total Split (s)	40.0	40.0	40.0	40.0	55.0	55.0	11.5	24.0	19.5	20.0
Total Split (%)	34.8%	34.8%	34.8%	34.8%	47.8%	47.8%	10%	21%	17%	17%
Yellow Time (s)	4.5	4.5	4.5	4.5	3.0	3.0	3.5	4.0	3.0	2.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	1.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0				
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0				
Lead/Lag								Lead	Lag	
Lead-Lag Optimize?								Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.31	0.46	0.53	0.36	0.54	0.08				
Control Delay	28.1	25.8	22.5	5.2	10.2	0.2				
Queue Delay	0.0	0.0	0.0	0.0	2.1	1.8				
Total Delay	28.1	25.8	22.5	5.2	12.3	2.0				
Queue Length 50th (ft)	40	210	98	0	47	0				
Queue Length 95th (ft)	115	414	#491	m87	m369	m0				
Internal Link Dist (ft)		1186	236		67					
Turn Bay Length (ft)	65									
Base Capacity (vph)	290	932	887	928	789	722				
Starvation Cap Reductn	0	0	0	0	273	571				
Spillback Cap Reductn	1	0	0	30	0	0				
Storage Cap Reductn	0	0	0	0	0	0				
Reduced v/c Ratio	0.31	0.46	0.53	0.38	0.73	0.34				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Randolph Avenue & Adams Street

#11 #12  Ø2 (R)	#11  Ø9	#11  Ø4
40 s	20 s	55 s
#11 #12  Ø6 (R)		#12  Ø7
40 s		24 s
		#12  Ø8
		19.5 s
		#12  Ø3
		11.5 s

Build (2028) Alternative 2B w/ Mitigation PM Peak Hour (5:00 - 6:00)

BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

11: Randolph Avenue & Adams Street

Synchro 9 Report

11/13/2018

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	84	398	433	310	345	48
Future Volume (vph)	84	398	433	310	345	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		-3%	
Total Lost time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1796	1928	1834	1559	1814	1591
Flt Permitted	0.32	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	599	1928	1834	1559	1814	1591
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	433	471	337	375	52
RTOR Reduction (vph)	0	0	0	194	0	31
Lane Group Flow (vph)	91	433	471	143	375	21
Confl. Peds. (#/hr)					7	
Heavy Vehicles (%)	3%	1%	1%	1%	1%	3%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	48.8	48.8	48.8	48.8	46.4	46.4
Effective Green, g (s)	48.8	48.8	48.8	48.8	46.4	46.4
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.40	0.40
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	254	818	778	661	731	641
v/s Ratio Prot		0.22	c0.26		c0.21	
v/s Ratio Perm	0.15			0.09		0.01
v/c Ratio	0.36	0.53	0.61	0.22	0.51	0.03
Uniform Delay, d1	22.5	24.6	25.6	21.0	25.8	20.7
Progression Factor	1.00	1.00	0.80	1.40	0.30	0.00
Incremental Delay, d2	3.9	2.4	2.8	0.6	0.5	0.0
Delay (s)	26.4	27.0	23.4	29.9	8.2	0.0
Level of Service	C	C	C	C	A	A
Approach Delay (s)		26.9	26.1		7.2	
Approach LOS		C	C		A	
Intersection Summary						
HCM 2000 Control Delay		21.8		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.61				
Actuated Cycle Length (s)		115.0		Sum of lost time (s)		27.0
Intersection Capacity Utilization		64.4%		ICU Level of Service		C
Analysis Period (min)		15				
c Critical Lane Group						

Timings 12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report
11/13/2018



Lane Group	EBL	SBL	NET	SWT	SWR	Ø2	Ø4	Ø6	Ø9
Lane Configurations									
Traffic Volume (vph)	75	37	281	241	153				
Future Volume (vph)	75	37	281	241	153				
Lane Group Flow (vph)	87	75	310	262	166				
Turn Type	Prot	Prot	NA	NA	Prot				
Protected Phases	8	3	7	2 6	2 6	2	4	6	9
Permitted Phases									
Detector Phase	8	3	7						
Switch Phase									
Minimum Initial (s)	6.0	6.0	8.0			10.0	8.0	10.0	5.0
Minimum Split (s)	19.5	11.5	20.0			26.0	20.0	26.0	20.0
Total Split (s)	19.5	11.5	24.0			40.0	55.0	40.0	20.0
Total Split (%)	17.0%	10.0%	20.9%			35%	48%	35%	17%
Yellow Time (s)	3.0	3.5	4.0			4.5	3.0	4.5	2.0
All-Red Time (s)	1.5	2.0	1.0			1.5	2.0	1.5	4.0
Lost Time Adjust (s)	0.0	0.0	0.0						
Total Lost Time (s)	4.5	5.5	5.0						
Lead/Lag	Lag		Lead						
Lead-Lag Optimize?	Yes		Yes						
Recall Mode	None	None	None			C-Min	None	C-Min	None
v/c Ratio	0.30	0.30	0.76	0.29	0.22				
Control Delay	2.6	2.9	55.9	14.7	14.7				
Queue Delay	0.0	0.0	0.3	0.5	0.7				
Total Delay	2.6	3.0	56.1	15.2	15.4				
Queue Length 50th (ft)	0	0	211	46	29				
Queue Length 95th (ft)	0	0	#416	145	94				
Internal Link Dist (ft)	249	197	277	67					
Turn Bay Length (ft)									
Base Capacity (vph)	389	254	407	910	765				
Starvation Cap Reductn	0	0	0	334	351				
Spillback Cap Reductn	6	5	5	0	0				
Storage Cap Reductn	0	0	0	0	0				
Reduced v/c Ratio	0.23	0.30	0.77	0.45	0.40				

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 115

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

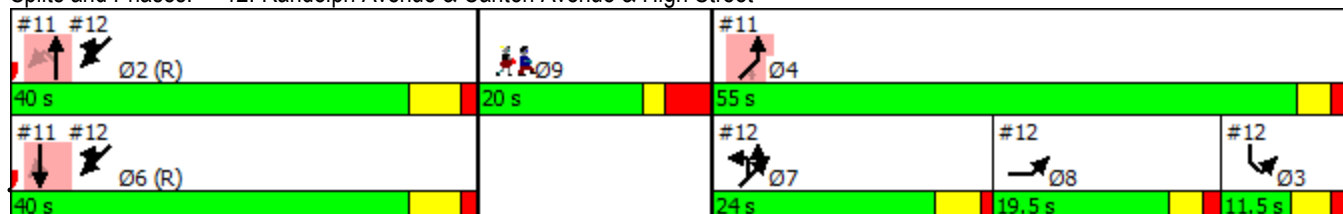
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Randolph Avenue & Canton Avenue & High Street



Milton Village Mixed-Use Development Alternatives

Build (2028) Alternative 2B w/ Mitigation PM Peak Hour (5:00 - 6:00)

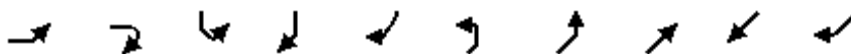
BETA Group, Inc.

HCM Signalized Intersection Capacity Analysis

12: Randolph Avenue & Canton Avenue & High Street

Synchro 9 Report

11/13/2018



Movement	EBL	EBR	SBL	SBR	SBR2	NEL2	NEL	NET	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	75	5	37	16	17	5	0	281	241	153
Future Volume (vph)	75	5	37	16	17	5	0	281	241	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%					0%	2%	
Total Lost time (s)	4.5		5.5					5.0	6.0	6.0
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00
Frt	0.99		0.94					1.00	1.00	0.85
Flt Protected	0.95		0.97					1.00	1.00	1.00
Satd. Flow (prot)	1751		1700					1880	1881	1583
Flt Permitted	0.95		0.97					1.00	1.00	1.00
Satd. Flow (perm)	1751		1700					1880	1881	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	5	40	17	18	5	0	305	262	166
RTOR Reduction (vph)	82	0	72	0	0	0	0	0	0	0
Lane Group Flow (vph)	5	0	3	0	0	0	0	310	262	166
Heavy Vehicles (%)	3%	0%	2%	2%	2%	0%	0%	1%	0%	1%
Turn Type	Prot		Prot			Split		NA	NA	Prot
Protected Phases	8		3			7	7	7	2 6	2 6
Permitted Phases										
Actuated Green, G (s)	6.6		4.8					25.0	48.8	48.8
Effective Green, g (s)	6.6		4.8					25.0	48.8	48.8
Actuated g/C Ratio	0.06		0.04					0.22	0.42	0.42
Clearance Time (s)	4.5		5.5					5.0		
Vehicle Extension (s)	3.0		3.0					3.0		
Lane Grp Cap (vph)	100		70					408	798	671
v/s Ratio Prot	c0.00		c0.00					c0.16	c0.14	0.10
v/s Ratio Perm										
v/c Ratio	0.05		0.04					0.76	0.33	0.25
Uniform Delay, d1	51.2		52.9					42.2	22.1	21.3
Progression Factor	1.00		1.00					1.00	0.63	0.65
Incremental Delay, d2	0.2		0.3					7.9	1.0	0.8
Delay (s)	51.4		53.2					50.1	15.0	14.6
Level of Service	D		D					D	B	B
Approach Delay (s)	51.4		53.2					50.1	14.9	
Approach LOS	D		D					D	B	

Intersection Summary

HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queuing and Blocking Report

Build (2028) Alternative 2B w/ Mitigation PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 2: Adams Street & Wharf Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	135	242	48	192
Average Queue (ft)	43	87	9	22
95th Queue (ft)	102	249	34	109
Link Distance (ft)	134	232		213
Upstream Blk Time (%)	1	3		0
Queuing Penalty (veh)	0	19		3
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			0	2
Queuing Penalty (veh)			0	0

Intersection: 3: Adams Street & Eliot Street

Movement	EB	EB	NB	NB	SB	SB	B9
Directions Served	L	R	L	T	T	R	T
Maximum Queue (ft)	438	75	100	230	184	130	300
Average Queue (ft)	260	60	88	170	166	50	169
95th Queue (ft)	472	100	117	289	215	94	360
Link Distance (ft)	451			213	113	113	270
Upstream Blk Time (%)	10			10	34	1	15
Queuing Penalty (veh)	0			72	0	0	0
Storage Bay Dist (ft)		50	75				
Storage Blk Time (%)	61	7	32	16			
Queuing Penalty (veh)	92	11	160	36			

Intersection: 11: Randolph Avenue & Adams Street

Movement	NB	NB	SB	SB	NE
Directions Served	L	T	T	R	L
Maximum Queue (ft)	89	860	245	204	66
Average Queue (ft)	74	424	161	92	18
95th Queue (ft)	112	931	263	177	57
Link Distance (ft)		1232	232	232	58
Upstream Blk Time (%)		3	3	0	2
Queuing Penalty (veh)		0	11	0	4
Storage Bay Dist (ft)	65				
Storage Blk Time (%)	34	42			
Queuing Penalty (veh)	134	35			

Queuing and Blocking Report

Build (2028) Alternative 2B w/ Mitigation PM Peak Hour (5:00 - 6:00)

11/13/2018

Intersection: 12: Randolph Avenue & Canton Avenue & High Street

Movement	EB	SB	NE	SW	SW
Directions Served	LR	LR>	<LT	T	R
Maximum Queue (ft)	147	124	345	76	77
Average Queue (ft)	68	56	215	63	45
95th Queue (ft)	125	113	339	94	84
Link Distance (ft)	290	221	322	58	58
Upstream Blk Time (%)			4	34	17
Queuing Penalty (veh)			0	67	33
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 679