Appendix

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Appendix D
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Appendix A
Traffic Volume Count Data

Prepared by National Data & Surveying Services

SPEED

Haverhill St/SR 133 W/O 140 Haverhill St/Boston Vitality South Dwy

Day: Tuesday
Date: 2/4/2025

City: Andover
Project #: MA25_430012_001

HOURLY BREAKDOWN

Time	EASTBOUND														WESTBOUND													
	5	15	20	25	30	35	40	45	50	55	60	65	70	Total	5	15	20	25	30	35	40	45	50	55	60	65	70	Total
	15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99	
0:00	0	0	0	1	4	5	1	2	0	0	0	0	0	**13**	0	0	0	1	3	4	1	1	0	0	0	0	0	**10**
1:00	0	0	0	3	2	3	2	0	0	0	0	0	0	**10**	0	0	1	2	1	4	1	0	0	0	0	0	0	**9**
2:00	0	0	0	1	2	5	1	0	0	0	0	0	0	**9**	0	0	0	1	1	2	1	0	0	0	0	0	0	**5**
3:00	0	0	0	0	4	3	2	3	0	0	0	0	0	**12**	0	0	1	1	3	2	1	1	0	0	0	0	0	**9**
4:00	0	0	0	3	11	11	7	7	0	0	0	0	0	**39**	0	0	0	2	8	14	0	0	0	0	0	0	0	**24**
5:00	1	0	1	6	47	71	26	2	0	0	0	0	0	**154**	0	0	0	11	29	24	11	1	0	0	0	0	0	**76**
6:00	1	0	0	17	127	123	25	1	1	0	0	0	0	**295**	1	2	2	15	86	82	15	1	0	0	0	0	0	**204**
7:00	3	2	8	49	215	183	24	3	0	0	0	0	0	**487**	0	0	8	100	236	115	20	1	0	0	0	0	0	**480**
8:00	1	0	2	68	245	177	35	7	0	0	0	0	0	**535**	0	0	12	86	239	158	30	4	0	0	0	0	0	**529**
9:00	2	1	6	33	196	180	20	4	1	0	0	0	0	**443**	3	2	10	58	150	120	25	3	0	0	0	0	0	**371**
10:00	1	0	0	41	167	121	14	0	0	0	0	0	0	**344**	1	0	1	42	165	79	20	0	0	0	0	0	0	**308**
11:00	1	0	5	36	157	134	25	3	0	0	0	0	0	**361**	0	0	9	27	134	103	21	4	1	0	0	0	0	**299**
12:00	1	3	2	35	155	150	38	6	0	0	0	0	0	**390**	1	1	2	41	170	127	37	3	0	0	0	0	0	**382**
13:00	0	0	0	37	143	154	38	10	0	0	0	0	0	**382**	2	2	4	50	182	107	34	6	0	0	0	0	0	**387**
14:00	1	1	4	38	172	142	45	8	2	0	0	0	0	**413**	1	1	19	43	163	127	51	10	1	0	0	0	0	**416**
15:00	6	4	14	51	213	173	54	6	3	0	0	0	0	**524**	4	7	20	77	260	147	34	2	0	0	0	0	0	**551**
16:00	5	5	15	88	299	166	25	0	0	0	0	0	0	**603**	7	5	7	103	276	125	13	2	0	0	0	0	0	**538**
17:00	2	8	21	132	316	148	10	1	0	0	0	0	0	**638**	3	5	34	147	239	103	13	0	0	0	0	0	0	**544**
18:00	2	6	11	99	198	85	6	0	0	0	0	0	0	**407**	5	2	11	98	189	80	15	1	0	0	0	0	0	**401**
19:00	1	0	0	27	100	86	15	1	0	0	0	0	0	**230**	2	0	3	44	111	75	15	2	0	0	0	0	0	**252**
20:00	0	0	1	25	112	51	15	2	1	0	0	0	0	**207**	2	1	7	37	99	45	10	0	0	0	0	0	0	**201**
21:00	0	0	2	7	46	46	12	1	0	0	0	0	0	**114**	0	0	3	24	48	41	12	0	0	0	0	0	0	**128**
22:00	0	0	0	4	27	22	10	0	0	0	0	0	0	**63**	0	0	0	11	26	17	10	3	0	0	0	0	0	**67**
23:00	0	0	0	0	12	17	6	5	0	0	0	0	0	**40**	0	0	0	5	12	10	3	1	0	0	0	0	0	**31**
Totals	**28**	**30**	**92**	**801**	**2,970**	**2,256**	**456**	**72**	**8**	**0**	**0**	**0**	**0**	**6,713**	**32**	**28**	**154**	**1,026**	**2,830**	**1,711**	**393**	**46**	**2**	**0**	**0**	**0**	**0**	**6,222**
% of Totals	0%	0%	1%	12%	44%	34%	7%	1%	0%					100%	1%	0%	2%	16%	45%	27%	6%	1%	0%					100%

STATISTICS

00:00 - 12:00	10	3	22	258	1177	1016	182	32	2	0	0	0	0	2702	5	4	44	346	1055	707	146	16	1	0	0	0	0	2324
%	0%	0%	0%	4%	18%	15%	3%	0%	0%	0%	0%	0%	0%	40%	0%	0%	1%	5%	16%	11%	2%	0%	0%	0%	0%	0%	0%	35%
Peak Hour	7:30	11:45	7:15	7:30	7:30	7:15	7:45	8:30	5:45	0:00	0:00	0:00	0:00	7:30	8:30	6:00	7:45	7:30	7:30	8:15	8:15	8:00	11:00	0:00	0:00	0:00	0:00	7:30
Peak Volume	4	3	9	87	245	202	38	9	1	0	0	0	0	570	3	2	15	127	269	159	32	4	1	0	0	0	0	572
12:00 - 24:00	18	27	70	543	1793	1240	274	40	6	0	0	0	0	4011	27	24	110	680	1775	1004	247	30	1	0	0	0	0	3898
%	0%	0%	1%	8%	27%	18%	4%	1%	0%	0%	0%	0%	0%	60%	0%	0%	2%	10%	26%	15%	4%	0%	0%	0%	0%	0%	0%	58%
Peak Hour	15:15	15:45	15:15	16:45	16:45	16:15	15:15	13:15	14:30	12:00	12:00	12:00	12:00	16:45	15:30	16:45	17:00	17:15	15:15	14:45	14:00	13:45	13:15	12:00	12:00	12:00	12:00	15:15
Peak Volume	10	9	24	139	329	186	55	14	3	0	0	0	0	669	11	9	34	162	284	175	51	11	1	0	0	0	0	590
07:00 - 09:00	4	2	10	117	460	360	59	10	0	0	0	0	0	1022	0	0	20	186	475	273	50	5	0	0	0	0	0	1009
%	0%	0%	0%	2%	7%	5%	1%	0%	0%	0%	0%	0%	0%	15%	0%	0%	0%	3%	7%	4%	1%	0%	0%	0%	0%	0%	0%	15%
Peak Hour	7:30	7:00	7:15	7:30	7:30	7:15	7:45	8:00	7:00	7:00	7:00	7:00	7:00	7:30	7:00	7:00	7:45	7:30	7:30	8:00	7:45	8:00	7:00	7:00	7:00	7:00	7:00	7:30
Peak Volume	4	2	9	87	245	202	38	7	0	0	0	0	0	570	0	0	15	127	269	158	30	4	0	0	0	0	0	572
16:00 - 18:00	7	13	36	220	615	314	35	1	0	0	0	0	0	1241	10	10	41	250	515	228	26	2	0	0	0	0	0	1082
%	0%	0%	1%	3%	9%	5%	1%	0%	0%	0%	0%	0%	0%	18%	0%	0%	1%	4%	8%	3%	0%	0%	0%	0%	0%	0%	0%	16%
Peak Hour	16:00	16:30	16:45	16:45	16:45	16:15	16:00	16:30	16:00	16:00	16:00	16:00	16:00	16:45	16:00	16:45	17:00	17:00	16:30	16:15	16:15	16:00	16:00	16:00	16:00	16:00	16:00	17:00
Peak Volume	5	9	23	139	329	186	25	1	0	0	0	0	0	669	7	9	34	147	278	130	14	2	0	0	0	0	0	544

Direction	Percentiles					
	15th	50th	Average	85th	95th	ADT
EASTBOUND	30	34	34	39	42	6713
WESTBOUND	29	33	33	39	42	6222
TOTALS	29	34	34	39	42	12935

TOTALS													
5 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 99	Total
0	0	0	2	7	9	2	3	0	0	0	0	0	**23**
0	0	1	5	3	7	3	0	0	0	0	0	0	**19**
0	0	0	2	3	7	2	0	0	0	0	0	0	**14**
0	0	1	1	7	5	3	4	0	0	0	0	0	**21**
0	0	0	5	19	25	7	7	0	0	0	0	0	**63**
1	0	1	17	76	95	37	3	0	0	0	0	0	**230**
2	2	2	32	213	205	40	2	1	0	0	0	0	**499**
3	2	16	149	451	298	44	4	0	0	0	0	0	**967**
1	0	14	154	484	335	65	11	0	0	0	0	0	**1064**
5	3	16	91	346	300	45	7	1	0	0	0	0	**814**
2	0	1	83	332	200	34	0	0	0	0	0	0	**652**
1	0	14	63	291	237	46	7	1	0	0	0	0	**660**
2	4	4	76	325	277	75	9	0	0	0	0	0	**772**
2	2	4	87	325	261	72	16	0	0	0	0	0	**769**
2	2	23	81	335	269	96	18	3	0	0	0	0	**829**
10	11	34	128	473	320	88	8	3	0	0	0	0	**1075**
12	10	22	191	575	291	38	2	0	0	0	0	0	**1141**
5	13	55	279	555	251	23	1	0	0	0	0	0	**1182**
7	8	22	197	387	165	21	1	0	0	0	0	0	**808**
3	0	3	71	211	161	30	3	0	0	0	0	0	**482**
2	1	8	62	211	96	25	2	1	0	0	0	0	**408**
0	0	5	31	94	87	24	1	0	0	0	0	0	**242**
0	0	0	15	53	39	20	3	0	0	0	0	0	**130**
0	0	0	5	24	27	9	6	0	0	0	0	0	**71**
60	**58**	**246**	**1,827**	**5,800**	**3,967**	**849**	**118**	**10**	**0**	**0**	**0**	**0**	**12,935**
0%	**0%**	**2%**	**14%**	**45%**	**31%**	**7%**	**1%**	**0%**					**100%**

15	7	66	604	2232	1723	328	48	3	0	0	0	0	5026
0%	0%	1%	9%	33%	26%	5%	1%	0%	0%	0%	0%	0%	75%
8:45	11:45	8:30	7:30	7:30	7:45	7:45	8:30	5:45	0:00	0:00	0:00	0:00	7:30
5	4	19	214	514	343	68	12	1	0	0	0	0	1142
45	51	180	1223	3568	2244	521	70	7	0	0	0	0	7909
1%	1%	3%	18%	53%	33%	8%	1%	0%	0%	0%	0%	0%	118%
15:30	15:45	17:00	17:15	16:30	14:45	14:00	13:15	13:45	12:00	12:00	12:00	12:00	16:45
20	17	55	290	590	349	96	21	3	0	0	0	0	1210
4	2	30	303	935	633	109	15	0	0	0	0	0	2031
0%	0%	0%	5%	14%	9%	2%	0%	0%	0%	0%	0%	0%	30%
7:30	7:00	7:45	7:30	7:30	7:45	7:45	8:00	7:00	7:00	7:00	7:00	7:00	7:30
4	2	18	214	514	343	68	11	0	0	0	0	0	1142
17	23	77	470	1130	542	61	3	0	0	0	0	0	2323
0%	0%	1%	7%	17%	8%	1%	0%	0%	0%	0%	0%	0%	35%
16:00	16:45	17:00	17:00	16:30	16:15	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:45
12	17	55	279	590	316	38	2	0	0	0	0	0	1210

Prepared by National Data & Surveying Services

VOLUME

Haverhill St/SR 133 W/O 140 Haverhill St/Boston Vitality South Dwy

Day: Tuesday
Date: 2/4/2025

City: Andover
Project #: MA25_430012_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,713	6,222	12,935

DAILY TOTALS

15-Minutes Interval

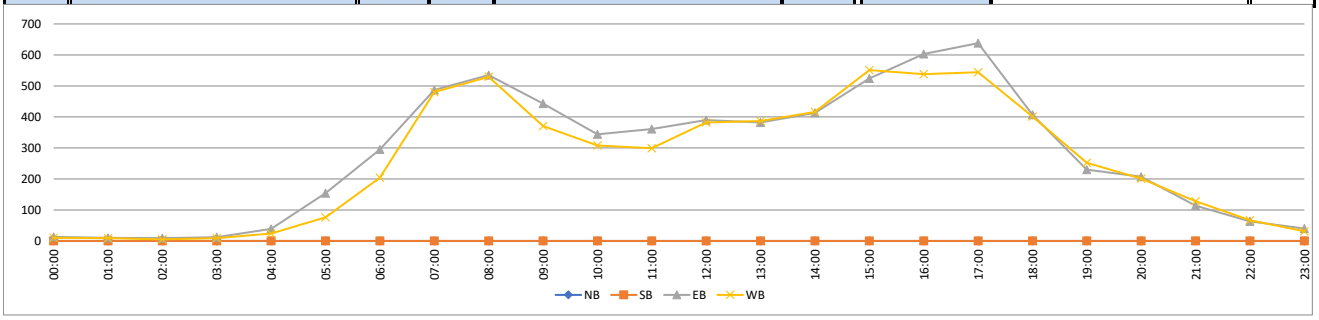
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00			3	2	5	12:00			110	81	191
0:15			5	2	7	12:15			106	106	212
0:30			2	6	8	12:30			83	97	180
0:45			3	0	3	12:45			91	98	189
1:00			1	4	5	13:00			91	90	181
1:15			4	2	6	13:15			103	88	191
1:30			4	2	6	13:30			94	98	192
1:45			1	1	2	13:45			94	111	205
2:00			4	2	6	14:00			102	87	189
2:15			3	2	5	14:15			92	110	202
2:30			2	1	3	14:30			101	102	203
2:45			0	0	0	14:45			118	117	235
3:00			2	0	2	15:00			120	115	235
3:15			1	2	3	15:15			121	150	271
3:30			3	2	5	15:30			160	135	295
3:45			6	5	11	15:45			123	151	274
4:00			5	2	7	16:00			136	154	290
4:15			4	5	9	16:15			167	108	275
4:30			9	7	16	16:30			143	146	289
4:45			21	10	31	16:45			157	130	287
5:00			28	13	41	17:00			161	140	301
5:15			33	18	51	17:15			177	127	304
5:30			49	17	66	17:30			174	144	318
5:45			44	28	72	17:45			126	133	259
6:00			46	34	80	18:00			115	117	232
6:15			63	33	96	18:15			126	107	233
6:30			83	48	131	18:30			67	92	159
6:45			103	89	192	18:45			99	85	184
7:00			102	102	204	19:00			55	69	124
7:15			117	97	214	19:15			56	59	115
7:30			140	134	274	19:30			65	65	130
7:45			128	147	275	19:45			54	59	113
8:00			166	142	308	20:00			56	69	125
8:15			136	149	285	20:15			46	47	93
8:30			123	120	243	20:30			52	43	95
8:45			110	118	228	20:45			53	42	95
9:00			120	104	224	21:00			48	44	92
9:15			118	92	210	21:15			20	46	66
9:30			104	96	200	21:30			27	18	45
9:45			101	79	180	21:45			19	20	39
10:00			96	102	198	22:00			21	26	47
10:15			83	62	145	22:15			13	15	28
10:30			82	81	163	22:30			16	12	28
10:45			83	63	146	22:45			13	14	27
11:00			84	74	158	23:00			16	6	22
11:15			88	66	154	23:15			12	8	20
11:30			93	75	168	23:30			10	7	17
11:45			96	84	180	23:45			2	10	12
TOTALS	0	0	2702	2324	5026	TOTALS	0	0	4011	3898	7909
SPLIT %	0%	0%	54%	46%	39%	SPLIT %	0%	0%	51%	49%	61%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00			13	10	23
01:00	02:00			10	9	19
02:00	03:00			9	5	14
03:00	04:00			12	9	21
04:00	05:00			39	24	63
05:00	06:00			154	76	230
06:00	07:00			295	204	499
07:00	08:00			487	480	967
08:00	09:00			535	529	1064
09:00	10:00			443	371	814
10:00	11:00			344	308	652
11:00	12:00			361	299	660
12:00	13:00			390	382	772
13:00	14:00			382	387	769
14:00	15:00			413	416	829
15:00	16:00			524	551	1075
16:00	17:00			603	538	1141
17:00	18:00			638	544	1182
18:00	19:00			407	401	808
19:00	20:00			230	252	482
20:00	21:00			207	201	408
21:00	22:00			114	128	242
22:00	23:00			63	67	130
23:00	00:00			40	31	71

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume			2702	2324	5026
Peak Hour			7:30	7:30	7:30
Peak Volume			570	572	1142
Peak Hour Factor			0.858	0.960	0.927
Peak Period	12:00	to	00:00		
Volume			4011	3898	7909
Peak Hour			16:45	15:15	16:45
Peak Volume			669	590	1210
Peak Hour Factor			0.945	0.958	0.951
Peak Period	07:00	to	09:00		
Volume			1022	1009	2031
Peak Hour			7:30	7:30	7:30
Peak Volume			570	572	1142
Peak Hour Factor			0.858	0.960	0.927
Peak Period	16:00	to	18:00		
Volume			1241	1082	2323
Peak Hour			16:45	17:00	16:45
Peak Volume			669	544	1210
Peak Hour Factor			0.945	0.944	0.951



Prepared by National Data & Surveying Services

SPEED

Haverhill St/SR 133 W/O 140 Haverhill St/Boston Vitality South Dwy

Day: Wednesday

Date: 2/5/2025

City: Andover

Project #: MA25_430012_001

HOURLY BREAKDOWN

Time	EASTBOUND														WESTBOUND												
	5 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 99	Total	5 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 99	Total
0:00	0	0	0	1	7	5	2	1	0	0	0	0	0	16	0	0	0	2	3	1	2	0	0	0	0	0	0	8
1:00	1	0	0	3	4	4	1	0	0	0	0	0	0	13	0	0	0	1	3	5	1	0	0	0	0	0	0	10
2:00	0	0	0	0	3	5	1	0	0	0	0	0	0	9	0	0	0	0	2	3	0	0	0	0	0	0	0	5
3:00	0	0	0	1	2	3	7	2	1	0	0	0	0	16	0	0	1	1	1	2	2	1	0	0	0	0	0	8
4:00	0	0	0	2	4	14	16	4	1	0	0	0	0	41	0	0	0	3	7	14	4	1	0	0	0	0	0	29
5:00	1	0	0	5	37	64	32	3	0	0	0	0	0	142	0	0	0	2	26	43	10	1	0	0	0	0	0	82
6:00	0	0	1	6	111	126	34	4	0	0	0	0	0	282	1	0	1	11	76	74	10	1	0	0	0	0	0	174
7:00	1	0	5	35	206	202	35	5	1	0	0	0	0	490	0	0	7	39	221	163	32	2	0	0	0	0	0	464
8:00	5	3	4	67	250	158	32	4	0	0	0	0	0	523	2	0	4	62	220	201	28	4	0	0	0	0	0	521
9:00	2	2	4	40	165	162	37	4	0	0	0	0	0	416	3	0	1	35	146	126	24	3	0	0	0	0	0	338
10:00	4	2	2	42	168	138	25	2	1	0	0	0	0	384	2	1	2	34	125	103	22	3	0	0	0	0	0	292
11:00	1	0	3	62	176	129	25	2	0	0	0	0	0	398	1	1	1	52	156	129	28	4	0	0	0	0	0	372
12:00	1	0	11	76	176	174	41	4	0	0	0	0	0	483	1	1	8	46	185	136	33	3	1	0	0	0	0	414
13:00	0	1	1	30	167	170	35	5	0	0	0	0	0	409	1	1	4	42	180	136	39	1	0	0	0	0	0	404
14:00	1	0	15	54	167	162	37	4	1	0	0	0	0	441	0	10	16	60	213	168	28	2	0	0	0	0	0	497
15:00	9	9	14	84	229	163	32	1	0	0	0	0	0	541	0	5	25	141	245	142	26	2	0	0	0	0	0	586
16:00	1	1	14	107	307	187	17	1	0	0	0	0	0	635	9	13	17	96	294	115	15	2	1	0	0	0	0	562
17:00	1	2	24	110	292	147	15	1	0	0	0	0	0	592	2	10	37	146	246	99	12	1	0	0	0	0	0	553
18:00	1	0	11	99	226	95	16	2	0	0	0	0	0	450	7	2	33	98	185	71	8	1	0	0	0	0	0	405
19:00	2	0	7	60	112	61	12	1	0	0	0	0	0	255	3	3	8	81	137	77	13	1	0	0	0	0	0	323
20:00	1	0	2	24	97	65	9	1	0	0	0	0	0	199	1	1	2	48	95	58	12	1	0	0	0	0	0	218
21:00	0	0	0	14	74	51	16	3	0	0	0	0	0	158	0	0	5	26	64	37	6	2	0	0	0	0	0	140
22:00	0	1	0	2	28	35	13	1	0	0	0	0	0	80	0	0	1	6	24	24	12	1	0	0	0	0	0	68
23:00	0	0	1	3	17	13	7	0	0	0	0	0	0	41	0	0	1	2	9	16	4	1	1	0	0	0	0	34
Totals	**32**	**21**	**119**	**927**	**3,025**	**2,333**	**497**	**55**	**5**	**0**	**0**	**0**	**0**	**7,014**	**33**	**48**	**174**	**1,034**	**2,863**	**1,943**	**371**	**38**	**3**	**0**	**0**	**0**	**0**	**6,507**
% of Totals	0%	0%	2%	13%	43%	33%	7%	1%	0%					100%	1%	1%	3%	16%	44%	30%	6%	1%	0%					100%

STATISTICS

00:00 - 12:00	15	7	19	264	1133	1010	247	31	4	0	0	0	0	2730	9	2	17	242	986	864	163	20	0	0	0	0	0	2303
%	0%	0%	0%	4%	16%	14%	4%	0%	0%	0%	0%	0%	0%	39%	0%	0%	0%	3%	14%	12%	2%	0%	0%	0%	0%	0%	0%	33%
Peak Hour	8:15	8:15	11:45	11:45	8:00	7:15	7:30	4:15	3:00	0:00	0:00	0:00	0:00	7:15	8:15	10:15	7:30	7:45	7:45	7:45	11:45	8:15	11:15	0:00	0:00	0:00	0:00	7:45
Peak Volume	6	5	11	83	250	208	43	5	1	0	0	0	0	553	4	2	9	69	274	207	33	6	1	0	0	0	0	588
12:00 - 24:00	17	14	100	663	1892	1323	250	24	1	0	0	0	0	4284	24	46	157	792	1877	1079	208	18	3	0	0	0	0	4204
%	0%	0%	1%	9%	27%	19%	4%	0%	0%	0%	0%	0%	0%	61%	0%	1%	2%	11%	27%	15%	3%	0%	0%	0%	0%	0%	0%	60%
Peak Hour	15:00	15:00	17:00	15:30	16:45	16:15	13:30	12:45	14:00	12:00	12:00	12:00	12:00	16:00	15:30	15:30	17:30	17:15	16:15	14:00	13:00	15:45	12:00	12:00	12:00	12:00	12:00	15:15
Peak Volume	9	9	24	122	312	193	44	5	1	0	0	0	0	635	9	16	50	163	308	168	39	4	1	0	0	0	0	610
07:00 - 09:00	6	3	9	102	456	360	67	9	1	0	0	0	0	1013	2	0	11	101	441	364	60	6	0	0	0	0	0	985
%	0%	0%	0%	1%	7%	5%	1%	0%	0%	0%	0%	0%	0%	14%	0%	0%	0%	1%	6%	5%	1%	0%	0%	0%	0%	0%	0%	14%
Peak Hour	7:45	8:00	7:00	8:00	8:00	7:15	7:30	7:00	7:00	7:00	7:00	7:00	7:00	7:15	8:00	7:00	7:30	7:45	7:45	7:45	7:00	8:00	7:00	7:00	7:00	7:00	7:00	7:45
Peak Volume	5	3	5	67	250	208	43	5	1	0	0	0	0	553	2	0	9	69	274	207	32	4	0	0	0	0	0	588
16:00 - 18:00	2	3	38	217	599	334	32	2	0	0	0	0	0	1227	11	23	54	242	540	214	27	3	1	0	0	0	0	1115
%	0%	0%	1%	3%	9%	5%	0%	0%	0%	0%	0%	0%	0%	17%	0%	0%	1%	3%	8%	3%	0%	0%	0%	0%	0%	0%	0%	16%
Peak Hour	16:30	16:45	17:00	16:45	16:45	16:15	16:30	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	17:00	17:00	16:15	16:15	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:45
Peak Volume	2	2	24	112	312	193	20	1	0	0	0	0	0	635	9	13	37	146	308	126	15	2	1	0	0	0	0	573

Direction	Percentiles					
	15th	50th	Average	85th	95th	ADT
EASTBOUND	30	34	34	39	42	7014
WESTBOUND	28	33	33	39	41	6507
TOTALS	29	34	34	39	42	13521

TOTALS													Total
5 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 99	
0	0	0	3	10	6	4	1	0	0	0	0	0	**24**
1	0	0	4	7	9	2	0	0	0	0	0	0	**23**
0	0	0	0	5	8	1	0	0	0	0	0	0	**14**
0	0	1	2	3	5	9	3	1	0	0	0	0	**24**
0	0	0	5	11	28	20	5	1	0	0	0	0	**70**
1	0	0	7	63	107	42	4	0	0	0	0	0	**224**
1	0	2	17	187	200	44	5	0	0	0	0	0	**456**
1	0	12	74	427	365	67	7	1	0	0	0	0	**954**
7	3	8	129	470	359	60	8	0	0	0	0	0	**1044**
5	2	5	75	311	288	61	7	0	0	0	0	0	**754**
6	3	4	76	293	241	47	5	1	0	0	0	0	**676**
2	1	4	114	332	258	53	6	0	0	0	0	0	**770**
2	1	19	122	361	310	74	7	1	0	0	0	0	**897**
1	2	5	72	347	306	74	6	0	0	0	0	0	**813**
1	10	31	114	380	330	65	6	1	0	0	0	0	**938**
9	14	39	225	474	305	58	3	0	0	0	0	0	**1127**
10	14	31	203	601	302	32	3	1	0	0	0	0	**1197**
3	12	61	256	538	246	27	2	0	0	0	0	0	**1145**
8	2	44	197	411	166	24	3	0	0	0	0	0	**855**
5	3	15	141	249	138	25	2	0	0	0	0	0	**578**
2	1	4	72	192	123	21	2	0	0	0	0	0	**417**
0	0	5	40	138	88	22	5	0	0	0	0	0	**298**
0	1	1	8	52	59	25	2	0	0	0	0	0	**148**
0	0	2	5	26	29	11	1	1	0	0	0	0	**75**
65	**69**	**293**	**1,961**	**5,888**	**4,276**	**868**	**93**	**8**	**0**	**0**	**0**	**0**	**13,521**
0%	**1%**	**2%**	**15%**	**44%**	**32%**	**6%**	**1%**	**0%**					**100%**

24	9	36	506	2119	1874	410	51	4	0	0	0	0	5033
0%	0%	1%	7%	30%	27%	6%	1%	0%	0%	0%	0%	0%	72%
8:15	8:15	11:45	11:45	7:45	7:45	7:30	8:45	3:00	0:00	0:00	0:00	0:00	7:45
10	5	18	137	513	394	73	11	1	0	0	0	0	1128
41	60	257	1455	3769	2402	458	42	4	0	0	0	0	8488
1%	1%	4%	21%	54%	34%	7%	1%	0%	0%	0%	0%	0%	121%
15:30	15:30	17:15	17:15	16:00	14:00	12:15	12:00	12:00	12:00	12:00	12:00	12:00	15:30
15	25	67	277	601	330	79	7	1	0	0	0	0	1203
8	3	20	203	897	724	127	15	1	0	0	0	0	1998
0%	0%	0%	3%	13%	10%	2%	0%	0%	0%	0%	0%	0%	28%
8:00	8:00	7:00	7:45	7:45	7:45	7:30	7:30	7:00	7:00	7:00	7:00	7:00	7:45
7	3	12	132	513	394	73	8	1	0	0	0	0	1128
13	26	92	459	1139	548	59	5	1	0	0	0	0	2342
0%	0%	1%	7%	16%	8%	1%	0%	0%	0%	0%	0%	0%	33%
16:00	16:00	17:00	17:00	16:00	16:15	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00
10	14	61	256	601	319	32	3	1	0	0	0	0	1197

Prepared by National Data & Surveying Services

VOLUME

Haverhill St/SR 133 W/O 140 Haverhill St/Boston Vitality South Dwy

Day: Wednesday
Date: 2/5/2025

City: 0
Project #: 0

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,014	6,507	13,521

DAILY TOTALS

15-Minutes Interval

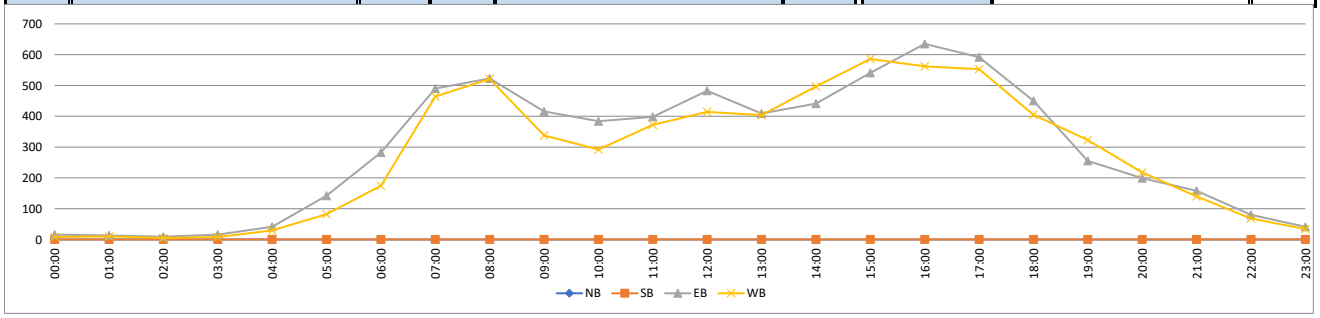
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00			7	1	8	12:00			145	96	241
0:15			7	2	9	12:15			129	121	250
0:30			1	2	3	12:30			112	109	221
0:45			1	3	4	12:45			97	88	185
1:00			2	4	6	13:00			105	97	202
1:15			4	2	6	13:15			114	90	204
1:30			4	3	7	13:30			90	113	203
1:45			3	1	4	13:45			100	104	204
2:00			2	2	4	14:00			99	108	207
2:15			4	2	6	14:15			115	121	236
2:30			3	1	4	14:30			102	115	217
2:45			0	0	0	14:45			125	153	278
3:00			4	2	6	15:00			124	103	227
3:15			0	2	2	15:15			120	168	288
3:30			6	3	9	15:30			149	164	313
3:45			6	1	7	15:45			148	151	299
4:00			7	2	9	16:00			165	127	292
4:15			5	5	10	16:15			164	135	299
4:30			11	9	20	16:30			150	134	284
4:45			18	13	31	16:45			156	166	322
5:00			24	21	45	17:00			151	136	287
5:15			34	13	47	17:15			165	128	293
5:30			40	19	59	17:30			146	143	289
5:45			44	29	73	17:45			130	146	276
6:00			48	34	82	18:00			149	134	283
6:15			57	35	92	18:15			110	97	207
6:30			76	42	118	18:30			103	87	190
6:45			101	63	164	18:45			88	87	175
7:00			86	71	157	19:00			65	79	144
7:15			132	109	241	19:15			66	97	163
7:30			126	114	240	19:30			57	71	128
7:45			146	170	316	19:45			67	76	143
8:00			149	145	294	20:00			71	71	142
8:15			124	128	252	20:15			52	49	101
8:30			121	145	266	20:30			40	53	93
8:45			129	103	232	20:45			36	45	81
9:00			144	102	246	21:00			39	39	78
9:15			91	74	165	21:15			49	38	87
9:30			80	71	151	21:30			41	38	79
9:45			101	91	192	21:45			29	25	54
10:00			97	80	177	22:00			22	19	41
10:15			95	74	169	22:15			27	17	44
10:30			87	62	149	22:30			20	20	40
10:45			105	76	181	22:45			11	12	23
11:00			84	83	167	23:00			17	7	24
11:15			99	85	184	23:15			16	10	26
11:30			98	101	199	23:30			5	7	12
11:45			117	103	220	23:45			3	10	13
TOTALS	0	0	2730	2303	5033	TOTALS	0	0	4284	4204	8488
SPLIT %	0%	0%	54%	46%	37%	SPLIT %	0%	0%	50%	50%	63%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00			16	8	24
01:00	02:00			13	10	23
02:00	03:00			9	5	14
03:00	04:00			16	8	24
04:00	05:00			41	29	70
05:00	06:00			142	82	224
06:00	07:00			282	174	456
07:00	08:00			490	464	954
08:00	09:00			523	521	1044
09:00	10:00			416	338	754
10:00	11:00			384	292	676
11:00	12:00			398	372	770
12:00	13:00			483	414	897
13:00	14:00			409	404	813
14:00	15:00			441	497	938
15:00	16:00			541	586	1127
16:00	17:00			635	562	1197
17:00	18:00			592	553	1145
18:00	19:00			450	405	855
19:00	20:00			255	323	578
20:00	21:00			199	218	417
21:00	22:00			158	140	298
22:00	23:00			80	68	148
23:00	00:00			41	34	75

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume			2730	2303	5033
Peak Hour			7:15	7:45	7:45
Peak Volume			553	588	1128
Peak Hour Factor			0.928	0.865	0.892
Peak Period	12:00	to	00:00		
Volume			4284	4204	8488
Peak Hour			16:00	15:15	15:30
Peak Volume			635	610	1203
Peak Hour Factor			0.962	0.908	0.961
Peak Period	07:00	to	09:00		
Volume			1013	985	1998
Peak Hour			7:15	7:45	7:45
Peak Volume			553	588	1128
Peak Hour Factor			0.928	0.865	0.892
Peak Period	16:00	to	18:00		
Volume			1227	1115	2342
Peak Hour			16:00	16:45	16:00
Peak Volume			635	573	1197
Peak Hour Factor			0.962	0.863	0.929



Prepared by National Data & Surveying Services

High St/Waverly Rd & Haverhill St/SR 133

Peak Hour Turning Movement Count

ID: 25-430011-003
City: Andover

Day: Tuesday
Date: 2/4/2025

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	3:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	1571	0	1821
PHF	0.96		0.97

SOUTHBOUND — High St/Waverly Rd

AM	94	132	58	0	135	AM
NOON	0	0	0	0	0	NOON
PM	87	124	44	0	365	PM
	0	1	0	0		

EASTBOUND — Haverhill St/SR 133

AM	NOON	PM	
572	0	537	
0	0	0	0
43	0	129	0
516	0	507	1
9	0	25	0
AM	NOON	PM	

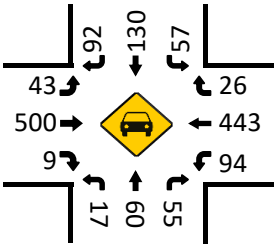
WESTBOUND — Haverhill St/SR 133

PM	NOON	AM	
46	0	27	0
426	0	461	1
109	0	94	0
0	0	0	0
661	0	629	
PM	NOON	AM	

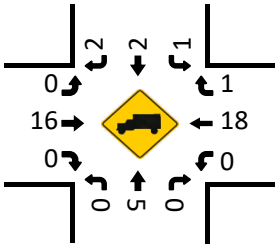
NORTHBOUND — High St/Waverly Rd

PM	258	0	24	190	110	PM
NOON	0	0	0	0	0	NOON
AM	235	0	17	65	55	AM
		0	0	1	0	

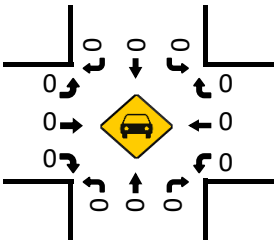
Cars (AM)



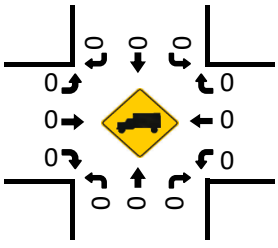
Total Trucks (AM)



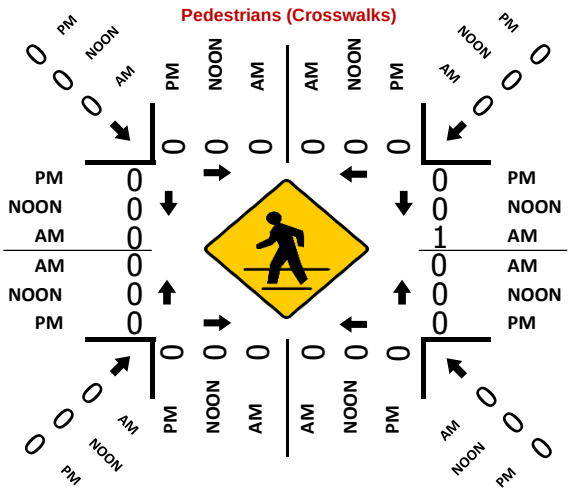
Cars (NOON)



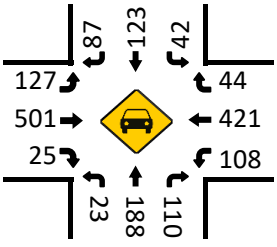
Total Trucks (NOON)



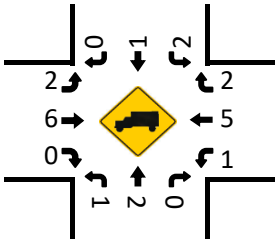
Pedestrians (Crosswalks)



Cars (PM)



Total Trucks (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & Haverhill St/SR 133
City: Andover
Control: Signalized

Project ID: 25-430011-003
Date: 2/4/2025

Data - Total

NS/EW Streets:	High St/Waverly Rd				High St/Waverly Rd				Haverhill St/SR 133				Haverhill St/SR 133				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	5	7	0	5	21	19	0	6	98	0	0	11	80	8	0	262
7:15 AM	3	7	6	0	9	33	17	0	10	104	2	0	18	79	4	0	292
7:30 AM	6	13	8	0	16	33	20	0	5	129	3	0	30	107	3	0	373
7:45 AM	4	17	9	0	13	38	24	0	13	113	1	0	28	120	3	0	383
8:00 AM	3	10	19	0	14	29	25	0	12	148	2	0	17	116	9	0	404
8:15 AM	4	25	19	0	15	32	25	0	13	126	3	0	19	118	12	0	411
8:30 AM	5	17	16	0	10	26	18	0	11	108	6	0	17	103	6	0	343
8:45 AM	7	23	20	0	16	31	25	0	15	88	2	0	30	82	12	0	351
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	34	117	104	0	98	243	173	0	85	914	19	0	170	805	57	0	2819
APPROACH %'s :	13.33%	45.88%	40.78%	0.00%	19.07%	47.28%	33.66%	0.00%	8.35%	89.78%	1.87%	0.00%	16.47%	78.00%	5.52%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	17	65	55	0	58	132	94	0	43	516	9	0	94	461	27	0	1571
PEAK HR FACTOR :	0.708	0.650	0.724	0.000	0.906	0.868	0.940	0.000	0.827	0.872	0.750	0.000	0.783	0.960	0.563	0.000	0.956
	0.714				0.947				0.877				0.964				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	4	39	25	0	8	28	14	0	21	93	5	0	14	103	12	0	366
3:15 PM	5	34	22	0	3	40	19	0	19	90	4	0	16	126	11	0	389
3:30 PM	3	34	19	0	15	24	28	0	30	136	1	0	25	105	16	0	436
3:45 PM	6	34	23	0	12	30	24	0	14	100	5	0	24	122	18	0	412
4:00 PM	4	33	27	0	4	27	13	0	28	108	1	0	16	132	15	0	408
4:15 PM	3	58	19	0	6	31	8	0	38	130	1	0	26	91	6	0	417
4:30 PM	8	37	17	0	13	26	25	0	27	108	5	0	16	121	16	0	419
4:45 PM	5	55	40	0	13	33	13	0	37	109	9	0	35	104	16	0	469
5:00 PM	3	36	26	0	11	23	33	0	33	126	5	0	34	101	18	0	449
5:15 PM	9	52	21	0	15	36	19	0	26	138	7	0	26	103	6	0	458
5:30 PM	7	47	23	0	5	32	22	0	33	134	4	0	14	118	6	0	445
5:45 PM	8	36	24	0	14	25	17	0	18	107	2	0	22	100	14	0	387
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	65	495	286	0	119	355	235	0	324	1379	49	0	268	1326	154	0	5055
APPROACH %'s :	7.68%	58.51%	33.81%	0.00%	16.78%	50.07%	33.15%	0.00%	18.49%	78.71%	2.80%	0.00%	15.33%	75.86%	8.81%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	24	190	110	0	44	124	87	0	129	507	25	0	109	426	46	0	1821
PEAK HR FACTOR :	0.667	0.864	0.688	0.000	0.733	0.861	0.659	0.000	0.872	0.918	0.694	0.000	0.779	0.903	0.639	0.000	0.971
	0.810				0.911				0.966				0.937				

National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & Haverhill St/SR 133
City: Andover
Control: Signalized

Project ID: 25-430011-003
Date: 2/4/2025

Data - Cars

NS/EW Streets:	High St/Waverly Rd				High St/Waverly Rd				Haverhill St/SR 133				Haverhill St/SR 133				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	5	6	0	5	21	18	0	6	94	0	0	11	80	7	0	255
7:15 AM	3	7	6	0	9	33	17	0	9	101	2	0	18	77	4	0	286
7:30 AM	6	12	8	0	15	32	19	0	5	124	3	0	30	102	3	0	359
7:45 AM	4	15	9	0	13	37	24	0	13	110	1	0	28	117	3	0	374
8:00 AM	3	9	19	0	14	29	24	0	12	143	2	0	17	111	8	0	391
8:15 AM	4	24	19	0	15	32	25	0	13	123	3	0	19	113	12	0	402
8:30 AM	5	17	16	0	9	25	18	0	11	106	6	0	17	100	6	0	336
8:45 AM	7	23	20	0	16	31	24	0	15	88	2	0	30	81	11	0	348
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	34	112	103	0	96	240	169	0	84	889	19	0	170	781	54	0	2751
APPROACH %'s :	13.65%	44.98%	41.37%	0.00%	19.01%	47.52%	33.47%	0.00%	8.47%	89.62%	1.92%	0.00%	16.92%	77.71%	5.37%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	17	60	55	0	57	130	92	0	43	500	9	0	94	443	26	0	1526
PEAK HR FACTOR :	0.708	0.625	0.724	0.000	0.950	0.878	0.920	0.000	0.827	0.874	0.750	0.000	0.783	0.947	0.542	0.000	0.949
	0.702				0.943				0.879				0.951				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	3	38	25	0	7	28	14	0	21	93	4	0	14	102	11	0	360
3:15 PM	5	33	22	0	3	39	18	0	19	87	4	0	15	122	11	0	378
3:30 PM	3	34	19	0	14	24	28	0	29	130	1	0	25	104	15	0	426
3:45 PM	6	33	23	0	12	30	24	0	14	99	5	0	24	120	17	0	407
4:00 PM	4	33	26	0	2	27	13	0	28	106	1	0	15	129	15	0	399
4:15 PM	3	58	18	0	6	31	8	0	38	125	1	0	26	89	5	0	408
4:30 PM	8	37	17	0	12	26	25	0	27	108	5	0	16	119	15	0	415
4:45 PM	5	53	40	0	13	33	13	0	36	108	9	0	35	102	15	0	462
5:00 PM	3	36	26	0	10	23	33	0	33	125	5	0	33	101	17	0	445
5:15 PM	8	52	21	0	15	35	19	0	26	135	7	0	26	103	6	0	453
5:30 PM	7	47	23	0	4	32	22	0	32	133	4	0	14	115	6	0	439
5:45 PM	8	36	24	0	14	25	16	0	18	107	2	0	22	100	14	0	386
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	63	490	284	0	112	353	233	0	321	1356	48	0	265	1306	147	0	4978
APPROACH %'s :	7.53%	58.54%	33.93%	0.00%	16.05%	50.57%	33.38%	0.00%	18.61%	78.61%	2.78%	0.00%	15.42%	76.02%	8.56%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	23	188	110	0	42	123	87	0	127	501	25	0	108	421	44	0	1799
PEAK HR FACTOR :	0.719	0.887	0.688	0.000	0.700	0.879	0.659	0.000	0.882	0.928	0.694	0.000	0.771	0.915	0.647	0.000	0.973
	0.819				0.913				0.966				0.942				

National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & Haverhill St/SR 133
City: Andover
Control: Signalized

Project ID: 25-430011-003
Date: 2/4/2025

Data - Buses

NS/EW Streets:	High St/Waverly Rd				High St/Waverly Rd				Haverhill St/SR 133				Haverhill St/SR 133				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	4
7:45 AM	0	1	0	0	0	0	0	0	0	0	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	1
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	3	0	0	2	0	0	0	0	3	0	0	0	2	3	0	13
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	40.00%	60.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	3	0	0	1	0	0	0	0	1	0	0	0	1	1	0	7
PEAK HR FACTOR :	0.000	0.750	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.438
	0.750				0.250				0.250				0.500				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	1	1	0	0	1	0	0	0	0	0	1	0	0	1	1	0	6
3:15 PM	0	1	0	0	0	1	1	0	0	2	0	0	1	2	0	0	8
3:30 PM	0	0	0	0	1	0	0	0	0	3	0	0	0	0	1	0	5
3:45 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	4
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	1	0	0	4
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	3
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	4	2	0	6	1	1	0	1	7	1	0	2	8	6	0	40
APPROACH %'s :	14.29%	57.14%	28.57%	0.00%	75.00%	12.50%	12.50%	0.00%	11.11%	77.78%	11.11%	0.00%	12.50%	50.00%	37.50%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	1	0	0	2	0	0	0	1	1	0	0	0	2	1	0	8
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.500
	0.250				0.500				0.500				0.375				

National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & Haverhill St/SR 133
City: Andover
Control: Signalized

Project ID: 25-430011-003
Date: 2/4/2025

Data - HT

NS/EW Streets:	High St/Waverly Rd				High St/Waverly Rd				Haverhill St/SR 133				Haverhill St/SR 133				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	1	0	0	0	1	0	0	2	0	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	0	0	1	3	0	0	0	2	0	0	6
7:30 AM	0	0	0	0	0	1	1	0	0	4	0	0	0	4	0	0	10
7:45 AM	0	1	0	0	0	1	0	0	0	3	0	0	0	3	0	0	8
8:00 AM	0	1	0	0	0	0	1	0	0	5	0	0	0	5	0	0	12
8:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0	0	8
8:30 AM	0	0	0	0	0	1	0	0	0	2	0	0	0	2	0	0	5
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2	1	0	0	3	4	0	1	22	0	0	0	22	0	0	55
APPROACH %'s :	0.00%	66.67%	33.33%	0.00%	0.00%	42.86%	57.14%	0.00%	4.35%	95.65%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	2	0	0	0	2	2	0	0	15	0	0	0	17	0	0	38
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.500	0.500	0.000	0.000	0.750	0.000	0.000	0.000	0.850	0.000	0.000	0.792
	0.500				0.500				0.750				0.850				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	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	1	0	0	0	2	0	0	3
3:30 PM	0	0	0	0	0	0	0	0	1	3	0	0	0	1	0	0	5
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	2	0	0	5
4:15 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
4:45 PM	0	1	0	0	0	0	0	0	1	1	0	0	0	2	1	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
5:15 PM	1	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	1	0	0	1	1	1	0	2	16	0	0	1	12	1	0	37
APPROACH %'s :	50.00%	50.00%	0.00%	0.00%	33.33%	33.33%	33.33%	0.00%	11.11%	88.89%	0.00%	0.00%	7.14%	85.71%	7.14%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	1	1	0	0	0	1	0	0	1	5	0	0	1	3	1	0	14
PEAK HR FACTOR :	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.625	0.000	0.000	0.250	0.375	0.250	0.000	0.583
	0.500				0.250				0.750				0.417				

National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & Haverhill St/SR 133
City: Andover
Control: Signalized

Project ID: 25-430011-003
Date: 2/4/2025

Data - Bikes

NS/EW Streets:	High St/Waverly Rd				High St/Waverly Rd				Haverhill St/SR 133				Haverhill St/SR 133				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	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
7:30 AM	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
8:00 AM	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
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	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	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	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
3:30 PM	0	0	0	0	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	0	0	0	0
4:00 PM	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	0	0
4:30 PM	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	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	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	

National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & Haverhill St/SR 133 **Project ID:** 25-430011-003
City: Andover **Date:** 2/4/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	High St/Waverly Rd		High St/Waverly Rd		Haverhill St/SR 133		Haverhill St/SR 133		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	1	0	0	1
APPROACH %'s :					0.00%	100.00%			
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :						0.250			0.250
						0.250			

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
3:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Project ID: 25-430011-003
Location: High St/Waverly Rd & Haverhill St/SR 133
City: Andover

Day: Tuesday
Date: 2/4/2025

Groups Printed - Cars, PU, Vans - Heavy Trucks

	High St/Waverly Rd Northbound						High St/Waverly Rd Southbound						Haverhill St/SR 133 Eastbound						Haverhill St/SR 133 Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	2	5	7	0	0	14	5	21	19	0	0	45	6	98	0	0	0	104	11	80	8	0	0	99	262
7:15 AM	3	7	6	0	0	16	9	33	17	0	0	59	10	104	2	0	0	116	18	79	4	0	0	101	292
7:30 AM	6	13	8	0	0	27	16	33	20	0	0	69	5	129	3	0	0	137	30	107	3	0	0	140	373
7:45 AM	4	17	9	0	0	30	13	38	24	0	0	75	13	113	1	0	0	127	28	120	3	0	1	151	383
Total	15	42	30	0	0	87	43	125	80	0	0	248	34	444	6	0	0	484	87	386	18	0	1	491	1310
8:00 AM	3	10	19	0	0	32	14	29	25	0	0	68	12	148	2	0	0	162	17	116	9	0	0	142	404
8:15 AM	4	25	19	0	0	48	15	32	25	0	0	72	13	126	3	0	0	142	19	118	12	0	0	149	411
8:30 AM	5	17	16	0	0	38	10	26	18	0	0	54	11	108	6	0	0	125	17	103	6	0	0	126	343
8:45 AM	7	23	20	0	0	50	16	31	25	0	0	72	15	88	2	0	0	105	30	82	12	0	0	124	351
Total	19	75	74	0	0	168	55	118	93	0	0	266	51	470	13	0	0	534	83	419	39	0	0	541	1509
BREAK																									
3:00 PM	4	39	25	0	0	68	8	28	14	0	0	50	21	93	5	0	0	119	14	103	12	0	0	129	366
3:15 PM	5	34	22	0	0	61	3	40	19	0	0	62	19	90	4	0	0	113	16	126	11	0	0	153	389
3:30 PM	3	34	19	0	0	56	15	24	28	0	0	67	30	136	1	0	0	167	25	105	16	0	0	146	436
3:45 PM	6	34	23	0	0	63	12	30	24	0	0	66	14	100	5	0	0	119	24	122	18	0	0	164	412
Total	18	141	89	0	0	248	38	122	85	0	0	245	84	419	15	0	0	518	79	456	57	0	0	592	1603
4:00 PM	4	33	27	0	0	64	4	27	13	0	0	44	28	108	1	0	0	137	16	132	15	0	0	163	408
4:15 PM	3	58	19	0	0	80	6	31	8	0	0	45	38	130	1	0	0	169	26	91	6	0	0	123	417
4:30 PM	8	37	17	0	0	62	13	26	25	0	0	64	27	108	5	0	0	140	16	121	16	0	0	153	419
4:45 PM	5	55	40	0	0	100	13	33	13	0	0	59	37	109	9	0	0	155	35	104	16	0	0	155	469
Total	20	183	103	0	0	306	36	117	59	0	0	212	130	455	16	0	0	601	93	448	53	0	0	594	1713
5:00 PM	3	36	26	0	0	65	11	23	33	0	0	67	33	126	5	0	0	164	34	101	18	0	0	153	449
5:15 PM	9	52	21	0	0	82	15	36	19	0	0	70	26	138	7	0	0	171	26	103	6	0	0	135	458
5:30 PM	7	47	23	0	0	77	5	32	22	0	0	59	33	134	4	0	0	171	14	118	6	0	0	138	445
5:45 PM	8	36	24	0	0	68	14	25	17	0	0	56	18	107	2	0	0	127	22	100	14	0	0	136	387
Total	27	171	94	0	0	292	45	116	91	0	0	252	110	505	18	0	0	633	96	422	44	0	0	562	1739
Grand Total	99	612	390	0	0	1101	217	598	408	0	0	1223	409	2293	68	0	0	2770	438	2131	211	0	1	2780	7874
Apprch %	9.0	55.6	35.4	0.0	0.0		17.7	48.9	33.4	0.0	0.0		14.8	82.8	2.5	0.0	0.0		15.8	76.7	7.6	0.0	0.0		
Total %	1.3	7.8	5.0	0.0	0.0	14.0	2.8	7.6	5.2	0.0	0.0	15.5	5.2	29.1	0.9	0.0	0.0	35.2	5.6	27.1	2.7	0.0	0.0	35.3	
Cars, PU, Vans	97	602	387	0		1086	208	593	402	0		1203	405	2245	67	0		2717	435	2087	201	0		2723	7729
% Cars, PU, Vans	98.0	98.4	99.2	0.0		98.6	95.9	99.2	98.5	0.0		98.4	99.0	97.9	98.5	0.0		98.1	99.3	97.9	95.3	0.0		97.9	98.2
Buses	1	7	2	0		10	8	1	1	0		10	1	10	1	0		12	2	10	9	0		21	53
%Buses	1.0	1.1	0.5	0.0		0.9	3.7	0.2	0.2	0.0		0.8	0.2	0.4	1.5	0.0		0.4	0.5	0.5	4.3	0.0		0.8	0.7
HT	1	3	1	0		5	1	4	5	0		10	3	38	0	0		41	1	34	1	0		36	92
%HT	1.0	0.5	0.3	0.0		0.5	0.5	0.7	1.2	0.0		0.8	0.7	1.7	0.0	0.0		1.5	0.2	1.6	0.5	0.0		1.3	1.2

Project ID: 25-430011-003
Location: High St/Waverly Rd & Haverhill St/SR 133
City: Andover

PEAK HOURS

Day: Tuesday
Date: 2/4/2025

AM

	High St/Waverly Rd Northbound					High St/Waverly Rd Southbound					Haverhill St/SR 133 Eastbound					Haverhill St/SR 133 Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	6	13	8	0	27	16	33	20	0	69	5	129	3	0	137	30	107	3	0	140	373
7:45 AM	4	17	9	0	30	13	38	24	0	75	13	113	1	0	127	28	120	3	0	151	383
8:00 AM	3	10	19	0	32	14	29	25	0	68	12	148	2	0	162	17	116	9	0	142	404
8:15 AM	4	25	19	0	48	15	32	25	0	72	13	126	3	0	142	19	118	12	0	149	411
Total Volume	17	65	55	0	137	58	132	94	0	284	43	516	9	0	568	94	461	27	0	582	1571
% App. Total	12.4	47.4	40.1	0.0	100	20.4	46.5	33.1	0.0	100	7.6	90.8	1.6	0.0	100	16.2	79.2	4.6	0.0	100	
PHF					0.714					0.947					0.877					0.964	0.956
Cars, PU, Vans	17	60	55	0	132	57	130	92	0	279	43	500	9	0	552	94	443	26	0	563	1526
% Cars, PU, Vans	100.0	92.3	100.0	0.0	96.4	98.3	98.5	97.9	0.0	98.2	100.0	96.9	100.0	0.0	97.2	100.0	96.1	96.3	0.0	96.7	97.1
Buses	0	3	0	0	3	1	0	0	0	1	0	1	0	0	1	0	1	1	0	2	7
%Buses	0.0	4.6	0.0	0.0	2.2	1.7	0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.2	0.0	0.2	3.7	0.0	0.3	0.4
HT	0	2	0	0	2	0	2	2	0	4	0	15	0	0	15	0	17	0	0	17	38
%HT	0.0	3.1	0.0	0.0	1.5	0.0	1.5	2.1	0.0	1.4	0.0	2.9	0.0	0.0	2.6	0.0	3.7	0.0	0.0	2.9	2.4

PM

	High St/Waverly Rd Northbound					High St/Waverly Rd Southbound					Haverhill St/SR 133 Eastbound					Haverhill St/SR 133 Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 03:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
4:45 PM	5	55	40	0	100	13	33	13	0	59	37	109	9	0	155	35	104	16	0	155	469
5:00 PM	3	36	26	0	65	11	23	33	0	67	33	126	5	0	164	34	101	18	0	153	449
5:15 PM	9	52	21	0	82	15	36	19	0	70	26	138	7	0	171	26	103	6	0	135	458
5:30 PM	7	47	23	0	77	5	32	22	0	59	33	134	4	0	171	14	118	6	0	138	445
Total Volume	24	190	110	0	324	44	124	87	0	255	129	507	25	0	661	109	426	46	0	581	1821
% App. Total	7.4	58.6	34.0	0.0	100	17.3	48.6	34.1	0.0	100	19.5	76.7	3.8	0.0	100	18.8	73.3	7.9	0.0	100	
PHF					0.810					0.911					0.966					0.937	0.971
Cars, PU, Vans	23	188	110	0	321	42	123	87	0	252	127	501	25	0	653	108	421	44	0	573	1799
% Cars, PU, Vans	95.8	98.9	100.0	0.0	99.1	95.5	99.2	100.0	0.0	98.8	98.4	98.8	100.0	0.0	98.8	99.1	98.8	95.7	0.0	98.6	98.8
Buses	0	1	0	0	1	2	0	0	0	2	1	1	0	0	2	0	2	1	0	3	8
%Buses	0.0	0.5	0.0	0.0	0.3	4.5	0.0	0.0	0.0	0.8	0.8	0.2	0.0	0.0	0.3	0.0	0.5	2.2	0.0	0.5	0.4
HT	1	1	0	0	2	0	1	0	0	1	1	5	0	0	6	1	3	1	0	5	14
%HT	4.2	0.5	0.0	0.0	0.6	0.0	0.8	0.0	0.0	0.4	0.8	1.0	0.0	0.0	0.9	0.9	0.7	2.2	0.0	0.9	0.8

Prepared by National Data & Surveying Services

140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy & Haverhill St/SR 133

Peak Hour Turning Movement Count

ID: 25-430011-002
City: Andover

Day: Tuesday
Date: 2/4/2025

PEAK HOURS		COUNT PERIODS	
AM	07:30 AM - 08:30 AM	AM	7:00 AM - 09:00 AM
NOON	NONE	NOON	NONE
PM	04:45 PM - 05:45 PM	PM	3:00 PM - 06:00 PM

SOUTHBOUND — 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy

	Right	Thru	Left	U-Turn	Exiting
AM	6	0	0	0	8
NOON	0	0	0	0	0
PM	8	0	2	0	12
(red)	0	1	0	0	

EASTBOUND — Haverhill St/SR 133

	AM	NOON	PM	(red)
Exiting	577	0	542	
U-Turn	0	0	0	0
Left	7	0	9	0
Thru	564	0	661	1
Right	0	0	0	0

WESTBOUND — Haverhill St/SR 133

	PM	NOON	AM	(red)
Left	3	0	1	0
Thru	534	0	571	1
Right	0	0	0	0
U-Turn	0	0	0	0
Exiting	663	0	564	

NORTHBOUND — 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy

	Exiting	U-Turn	Left	Thru	Right
(red)		0	0	0	0
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

CONTROL

No Control

	AM	NOON	PM
TEV	1149	0	1217
PHF	0.91		0.94

Cars and Total Trucks

Movement	Cars (AM)	Cars (NOON)	Cars (PM)	Total Trucks (AM)	Total Trucks (NOON)	Total Trucks (PM)
SB Right	4	0	7	2	0	1
SB Thru	0	0	0	0	0	0
SB Left	0	0	2	0	0	0
EB Left	7	0	9	0	0	0
EB Thru	549	0	653	15	0	8
EB Right	0	0	0	0	0	0
WB Left	0	0	3	1	0	0
WB Thru	552	0	529	19	0	5
WB Right	0	0	0	0	0	0
NB Left	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0
NB Right	0	0	0	0	0	0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North (west half)	0	0	0
North (east half)	0	0	0
West (north half)	0	0	0
West (south half)	0	0	0
East (north half)	0	0	0
East (south half)	0	0	0
South (west half)	0	0	0
South (east half)	0	0	1
NW corner (diagonal)	0	0	0
NE corner (diagonal)	0	0	0
SW corner (diagonal)	0	0	0
SE corner (diagonal)	0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy & Haverhill St/SR 133
City: Andover
Control: No Control

Project ID: 25-430011-002
Date: 2/4/2025

Data - Total

NS/EW Streets:	140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy					140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy					Haverhill St/SR 133					Haverhill St/SR 133										
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2					
	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
7:00 AM	0	0	0	0	0	1	0	1	0	0	3	98	0	0	0	0	102	0	0	0	0	0	0	0	0	205
7:15 AM	0	0	0	0	0	0	0	1	0	0	3	119	0	0	0	0	99	0	0	0	0	0	0	0	0	222
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	138	0	0	1	0	131	0	0	0	0	0	0	0	0	271
7:45 AM	0	0	0	0	0	0	0	2	0	0	3	123	0	0	0	0	145	0	0	0	0	0	0	0	0	273
8:00 AM	0	0	0	0	0	0	0	1	0	0	2	163	0	0	0	0	149	0	0	0	0	0	0	1	0	316
8:15 AM	0	0	0	0	0	0	0	3	0	0	1	140	0	0	0	0	146	1	0	0	0	0	0	0	0	291
8:30 AM	0	0	0	0	0	1	0	1	0	0	1	125	0	0	0	0	119	2	0	0	0	0	1	0	0	250
8:45 AM	0	0	0	0	0	0	0	2	0	0	4	105	0	0	0	0	114	1	0	0	0	0	0	0	0	226
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	2	0	11	0	0	18	1011	0	0	1	0	1005	4	0	0	0	1	0	1	0	2054
APPROACH %'s :						15.38%	0.00%	84.62%	0.00%	0.00%	1.75%	98.16%	0.00%	0.00%	0.10%	0.00%	99.60%	0.40%	0.00%	0.00%	0.00%	50.00%	0.00%	50.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																									TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	6	0	0	7	564	0	0	1	0	571	1	0	0	0	0	0	1	0	1151
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.583	0.865	0.000	0.000	0.250	0.000	0.958	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.911
								0.500					0.867					0.960								

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND										
	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	118	0	0	0	0	121	0	0	0	0	0	0	0	0	239
3:15 PM	0	0	0	0	0	0	0	2	0	0	2	119	0	0	0	0	149	1	0	0	0	0	0	0	0	273
3:30 PM	0	0	0	0	0	1	0	0	0	0	1	160	0	0	0	0	135	0	0	0	0	0	0	0	0	297
3:45 PM	0	0	0	0	0	0	0	1	0	0	1	122	0	0	0	0	153	0	0	0	0	0	0	0	0	277
4:00 PM	0	0	0	0	0	0	0	3	0	0	2	134	0	0	0	0	149	0	0	0	0	0	0	0	0	288
4:15 PM	0	0	0	0	0	0	0	3	0	0	1	170	0	0	0	0	101	1	0	0	0	0	0	1	0	277
4:30 PM	0	0	0	0	0	0	0	2	0	0	4	138	0	0	0	0	152	1	0	0	0	0	0	0	0	297
4:45 PM	0	0	0	0	0	1	0	3	0	0	2	158	0	0	0	0	123	0	0	0	0	0	0	0	0	287
5:00 PM	0	0	0	0	0	1	0	2	0	0	1	159	0	0	0	0	136	0	0	0	0	0	0	0	0	299
5:15 PM	0	0	0	0	0	0	0	0	0	0	3	172	0	0	0	0	129	2	0	1	0	0	0	1	0	308
5:30 PM	0	0	0	0	0	0	0	3	0	0	3	172	0	0	0	0	146	1	0	0	0	0	0	0	0	325
5:45 PM	0	0	0	0	0	0	0	2	0	0	1	125	0	0	0	0	125	0	0	0	0	0	0	0	0	253
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	3	0	21	0	0	21	1747	0	0	0	0	1619	6	0	1	0	0	1	1	0	3420
APPROACH %'s :						12.50%	0.00%	87.50%	0.00%	0.00%	1.19%	98.81%	0.00%	0.00%	0.00%	0.00%	99.57%	0.37%	0.00%	0.06%	0.00%	0.00%	50.00%	50.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																									TOTAL
PEAK HR VOL :	0	0	0	0	0	2	0	8	0	0	9	661	0	0	0	0	534	3	0	1	0	0	1	0	0	1219
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.667	0.000	0.000	0.750	0.961	0.000	0.000	0.000	0.000	0.914	0.375	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.938
								0.625					0.957					0.915								

National Data & Surveying Services

Intersection Turning Movement Count

Location: 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy & Haverhill St/SR 133
City: Andover
Control: No Control

Project ID: 25-430011-002
Date: 2/4/2025

Data - Cars

NS/EW Streets:	140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy					140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy					Haverhill St/SR 133					Haverhill St/SR 133										
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2					
	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
7:00 AM	0	0	0	0	0	1	0	1	0	0	3	94	0	0	0	0	101	0	0	0	0	0	0	0	0	200
7:15 AM	0	0	0	0	0	0	0	1	0	0	3	114	0	0	0	0	97	0	0	0	0	0	0	0	0	215
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	134	0	0	1	0	125	0	0	0	0	0	0	0	0	261
7:45 AM	0	0	0	0	0	0	0	2	0	0	3	120	0	0	0	0	142	0	0	0	0	0	0	0	0	267
8:00 AM	0	0	0	0	0	0	0	1	0	0	2	158	0	0	0	0	143	0	0	0	0	0	0	1	0	305
8:15 AM	0	0	0	0	0	0	0	1	0	0	1	137	0	0	0	0	142	0	0	0	0	0	0	0	0	281
8:30 AM	0	0	0	0	0	1	0	1	0	0	1	123	0	0	0	0	116	2	0	0	0	0	1	0	0	245
8:45 AM	0	0	0	0	0	0	0	2	0	0	4	104	0	0	0	0	112	1	0	0	0	0	0	0	0	223
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	2	0	9	0	0	18	984	0	0	1	0	978	3	0	0	0	1	0	1	0	1997
APPROACH %'s :						18.18%	0.00%	81.82%	0.00%	0.00%	1.79%	98.11%	0.00%	0.00%	0.10%	0.00%	99.69%	0.31%	0.00%	0.00%	0.00%	50.00%	0.00%	50.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																									TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	4	0	0	7	549	0	0	1	0	552	0	0	0	0	0	0	1	0	1114
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.583	0.869	0.000	0.000	0.250	0.000	0.965	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.913
								0.500					0.870					0.965								

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND										
	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	117	0	0	0	0	119	0	0	0	0	0	0	0	0	236
3:15 PM	0	0	0	0	0	0	0	2	0	0	2	116	0	0	0	0	144	1	0	0	0	0	0	0	0	265
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	154	0	0	0	0	134	0	0	0	0	0	0	0	0	288
3:45 PM	0	0	0	0	0	0	0	0	0	0	1	121	0	0	0	0	151	0	0	0	0	0	0	0	0	273
4:00 PM	0	0	0	0	0	0	0	3	0	0	2	132	0	0	0	0	146	0	0	0	0	0	0	0	0	283
4:15 PM	0	0	0	0	0	0	0	3	0	0	1	165	0	0	0	0	99	1	0	0	0	0	0	1	0	270
4:30 PM	0	0	0	0	0	0	0	2	0	0	4	138	0	0	0	0	150	1	0	0	0	0	0	0	0	295
4:45 PM	0	0	0	0	0	1	0	3	0	0	2	156	0	0	0	0	121	0	0	0	0	0	0	0	0	283
5:00 PM	0	0	0	0	0	1	0	1	0	0	1	158	0	0	0	0	136	0	0	0	0	0	0	0	0	297
5:15 PM	0	0	0	0	0	0	0	0	0	0	3	169	0	0	0	0	129	2	0	0	0	0	0	0	0	303
5:30 PM	0	0	0	0	0	0	0	3	0	0	3	170	0	0	0	0	143	1	0	0	0	0	0	0	0	320
5:45 PM	0	0	0	0	0	0	0	2	0	0	1	125	0	0	0	0	124	0	0	0	0	0	0	0	0	252
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	2	0	19	0	0	20	1721	0	0	0	0	1596	6	0	0	0	0	0	1	0	3365
APPROACH %'s :						9.52%	0.00%	90.48%	0.00%	0.00%	1.15%	98.85%	0.00%	0.00%	0.00%	0.00%	99.63%	0.37%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																									TOTAL
PEAK HR VOL :	0	0	0	0	0	2	0	7	0	0	9	653	0	0	0	0	529	3	0	0	0	0	0	0	0	1203
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.583	0.000	0.000	0.750	0.960	0.000	0.000	0.000	0.000	0.925	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.940
								0.563					0.957					0.924								

National Data & Surveying Services

Intersection Turning Movement Count

Location: 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy & Haverhill St/SR 133
City: Andover
Control: No Control

Project ID: 25-430011-002
Date: 2/4/2025

Data - Buses

NS/EW Streets:	140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy					140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy					Haverhill St/SR 133					Haverhill St/SR 133										
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2					
	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
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
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
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
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	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	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	1
8:45 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
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	2	0	0	0	0	0	0	0	0	6
APPROACH %'s :						0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%						
PEAK HR :	07:30 AM - 08:30 AM																									TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	3
PEAK HR FACTOR :	0.000	0.000	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	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375
								0.250					0.250					0.250								

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND										
	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	3
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	5
3:30 PM	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4
3:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	3
4:00 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	1
4:15 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	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
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
5:00 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
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	3
5:45 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
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	1	0	1	0	0	1	8	0	0	0	0	10	0	0	0	0	0	0	0	0	21
APPROACH %'s :						50.00%	0.00%	50.00%	0.00%	0.00%	11.11%	88.89%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%						
PEAK HR :	04:45 PM - 05:45 PM																									TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	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	0.333
													0.500					0.250								

National Data & Surveying Services

Intersection Turning Movement Count

Location: 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy & Haverhill St/SR 133
City: Andover
Control: No Control

Project ID: 25-430011-002
Date: 2/4/2025

Data - HT

NS/EW Streets: 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy | 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy | Haverhill St/SR 133 | Haverhill St/SR 133

AM

	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2					
	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	2	0	0	0	0	0	0	0	0	7
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	5	0	0	0	0	0	0	0	0	8
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	6
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	6	0	0	0	0	0	0	0	0	11
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	4	1	0	0	0	0	0	0	0	9
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	3
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	1	0	0	0	24	0	0	0	0	25	1	0	0	0	0	0	0	0	51
APPROACH %'s :						0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	96.15%	3.85%	0.00%	0.00%						
PEAK HR :	07:30 AM - 08:30 AM																									TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	0	0	0	14	0	0	0	0	18	1	0	0	0	0	0	0	0	34
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.700	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.773
								0.250					0.700					0.792								

PM

	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND										
	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	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
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	3
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	0	0	5
3:45 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	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	1	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
5:45 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	1
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	1	0	0	0	18	0	0	0	0	13	0	0	1	0	0	1	0	0	34
APPROACH %'s :						0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	92.86%	0.00%	0.00%	7.14%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																									TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	0	0	0	6	0	0	0	0	3	0	0	1	0	0	1	0	0	12
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.750
								0.250					0.750					0.500								

National Data & Surveying Services

Intersection Turning Movement Count

Location: 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy & Haverhill St/SR 133
City: Andover
Control: No Control

Project ID: 25-430011-002
Date: 2/4/2025

Data - Bikes

NS/EW Streets:	140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy					140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy					Haverhill St/SR 133					Haverhill St/SR 133										
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2					
	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	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
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
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
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
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	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	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	0	0	0	0
8:45 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
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																										
PEAK HR :	07:30 AM - 08:30 AM																									TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	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	0.000	0.000	0.000	0.000	

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND										
	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	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
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	0
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
3:45 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
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
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
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
5:00 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
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 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
5:45 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
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																										
PEAK HR :	04:45 PM - 05:45 PM																									TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	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	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy & Haverhill St/SR 133 **Project ID:** 25-430011-002
City: Andover **Date:** 2/4/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	140 Haverhill St/147 Haverhill St/Boston Vitality		140 Haverhill St/147 Haverhill St/Boston Vitality		Haverhill St/SR 133		Haverhill St/SR 133				
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SOUTH LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
7:00 AM	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
7:30 AM	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
8:00 AM	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
8:30 AM	0	0	0	0	0	0	0	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	1	1
APPROACH %'s :									0.00%	100.00%	
PEAK HR :	07:30 AM - 08:30 AM										TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :											

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SOUTH LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
3:00 PM	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
3:30 PM	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
4:00 PM	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
4:30 PM	0	0	1	0	0	0	0	0	1	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	1	2
5:30 PM	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
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
TOTAL VOLUMES :	0	0	1	1	0	0	0	0	1	1	4
APPROACH %'s :			50.00%	50.00%					50.00%	50.00%	
PEAK HR :	04:45 PM - 05:45 PM										TOTAL
PEAK HR VOL :	0	0	0	1	0	0	0	0	0	1	2
PEAK HR FACTOR :				0.250						0.250	0.250
			0.250						0.250		

Project ID: 25-430011-002
Location: 140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy & Haverhill St/SR 133
City: Andover

Day: Tuesday
Date: 2/4/2025

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Haverhill St/147 Haverhill St/Boston Vitality S Northbound						Haverhill St/147 Haverhill St/Boston Vitality S Southbound						Haverhill St/SR 133 Eastbound						Haverhill St/SR 133 Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	1	0	1	0	0	2	3	98	0	0	0	101	0	102	0	0	0	102	205
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	3	119	0	0	0	122	0	99	0	0	0	99	222
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	138	0	0	0	139	0	131	0	0	0	131	270
7:45 AM	0	0	0	0	0	0	0	0	2	0	0	2	3	123	0	0	0	126	0	145	0	0	0	145	273
Total	0	0	0	0	0	0	1	0	4	0	0	5	10	478	0	0	0	488	0	477	0	0	0	477	970
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	2	163	0	0	0	165	0	149	0	0	0	149	315
8:15 AM	0	0	0	0	0	0	0	0	3	0	0	3	1	140	0	0	0	141	0	146	1	0	0	147	291
8:30 AM	0	0	0	0	0	0	1	0	1	0	0	2	1	125	0	0	0	126	0	119	2	0	0	121	249
8:45 AM	0	0	0	0	0	0	0	0	2	0	0	2	4	105	0	0	0	109	0	114	1	0	0	115	226
Total	0	0	0	0	0	0	1	0	7	0	0	8	8	533	0	0	0	541	0	528	4	0	0	532	1081
BREAK																									
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	118	0	0	0	118	0	121	0	0	0	121	239
3:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2	119	0	0	0	121	0	149	1	0	0	150	273
3:30 PM	0	0	0	0	0	0	1	0	0	0	0	1	1	160	0	0	0	161	0	135	0	0	0	135	297
3:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1	122	0	0	0	123	0	153	0	0	0	153	277
Total	0	0	0	0	0	0	1	0	3	0	0	4	4	519	0	0	0	523	0	558	1	0	0	559	1086
4:00 PM	0	0	0	0	0	0	0	0	3	0	0	3	2	134	0	0	0	136	0	149	0	0	0	149	288
4:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	1	170	0	0	0	171	0	101	1	0	0	102	276
4:30 PM	0	0	0	0	1	0	0	0	2	0	0	2	4	138	0	0	0	142	0	152	1	0	0	153	297
4:45 PM	0	0	0	0	0	0	1	0	3	0	0	4	2	158	0	0	0	160	0	123	0	0	0	123	287
Total	0	0	0	0	1	0	1	0	11	0	0	12	9	600	0	0	0	609	0	525	2	0	0	527	1148
5:00 PM	0	0	0	0	0	0	1	0	2	0	0	3	1	159	0	0	0	160	0	136	0	0	0	136	299
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	3	172	0	0	0	175	0	129	2	0	0	131	306
5:30 PM	0	0	0	0	0	0	0	0	3	0	0	3	3	172	0	0	0	175	0	146	1	0	0	147	325
5:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	1	125	0	0	0	126	0	125	0	0	0	125	253
Total	0	0	0	0	1	0	1	0	7	0	0	8	8	628	0	0	0	636	0	536	3	0	0	539	1183
Grand Total	0	0	0	0	2	0	5	0	32	0	0	37	39	2758	0	0	0	2797	0	2624	10	0	0	2634	5468
Apprch %	0.0	0.0	0.0	0.0	0.0		13.5	0.0	86.5	0.0	0.0		1.4	98.6	0.0	0.0	0.0		0.0	99.6	0.4	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.0	0.7	0.7	50.4	0.0	0.0	0.0	51.2	0.0	48.0	0.2	0.0	0.0	48.2	
Cars, PU, Vans	0	0	0	0		0	4	0	28	0		32	38	2705	0	0		2743	0	2574	9	0		2583	5358
% Cars, PU, Vans	0.0	0.0	0.0	0.0		0.0	80.0	0.0	87.5	0.0		86.5	97.4	98.1	0.0	0.0		98.1	0.0	98.1	90.0	0.0		98.1	98.0
Buses	0	0	0	0		0	1	0	2	0		3	1	11	0	0		12	0	12	0	0		12	27
%Buses	0.0	0.0	0.0	0.0		0.0	20.0	0.0	6.3	0.0		8.1	2.6	0.4	0.0	0.0		0.4	0.0	0.5	0.0	0.0		0.5	0.5
HT	0	0	0	0		0	0	0	2	0		2	0	42	0	0		42	0	38	1	0		39	83
%HT	0.0	0.0	0.0	0.0		0.0	0.0	0.0	6.3	0.0		5.4	0.0	1.5	0.0	0.0		1.5	0.0	1.4	10.0	0.0		1.5	1.5

Project ID: 25-430011-002
Location: 140 Haverhill St/147 Haverhill St/Boston Vitality S D
City: Andover

PEAK HOURS

Day: Tuesday
Date: 2/4/2025

AM

	rhill St/147 Haverhill St/Boston Vitalit Northbound					erhill St/147 Haverhill St/Boston Vitalit Southbound					Haverhill St/SR 133 Eastbound					Haverhill St/SR 133 Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	138	0	0	139	0	131	0	0	131	270
7:45 AM	0	0	0	0	0	0	0	2	0	2	3	123	0	0	126	0	145	0	0	145	273
8:00 AM	0	0	0	0	0	0	0	1	0	1	2	163	0	0	165	0	149	0	0	149	315
8:15 AM	0	0	0	0	0	0	0	3	0	3	1	140	0	0	141	0	146	1	0	147	291
Total Volume	0	0	0	0	0	0	0	6	0	6	7	564	0	0	571	0	571	1	0	572	1149
% App. Total	0.0	0.0	0.0	0.0	0	0.0	0.0	100.0	0.0	100	1.2	98.8	0.0	0.0	100	0.0	99.8	0.2	0.0	100	
PHF										0.500					0.867					0.960	0.911
Cars, PU, Vans	0	0	0	0	0	0	0	4	0	4	7	549	0	0	556	0	552	0	0	552	1112
% Cars, PU, Vans	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	66.7	100.0	97.3	0.0	0.0	97.4	0.0	96.7	0.0	0.0	96.5	96.8
Buses	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
%Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	16.7	0.0	0.2	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.2	0.3
HT	0	0	0	0	0	0	0	1	0	1	0	14	0	0	14	0	18	1	0	19	34
%HT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	16.7	0.0	2.5	0.0	0.0	2.5	0.0	3.2	100.0	0.0	3.3	3.0

PM

	rhill St/147 Haverhill St/Boston Vitalit Northbound					erhill St/147 Haverhill St/Boston Vitalit Southbound					Haverhill St/SR 133 Eastbound					Haverhill St/SR 133 Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 03:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
4:45 PM	0	0	0	0	0	1	0	3	0	4	2	158	0	0	160	0	123	0	0	123	287
5:00 PM	0	0	0	0	0	1	0	2	0	3	1	159	0	0	160	0	136	0	0	136	299
5:15 PM	0	0	0	0	0	0	0	0	0	0	3	172	0	0	175	0	129	2	0	131	306
5:30 PM	0	0	0	0	0	0	0	3	0	3	3	172	0	0	175	0	146	1	0	147	325
Total Volume	0	0	0	0	0	2	0	8	0	10	9	661	0	0	670	0	534	3	0	537	1217
% App. Total	0.0	0.0	0.0	0.0	0	20.0	0.0	80.0	0.0	100	1.3	98.7	0.0	0.0	100	0.0	99.4	0.6	0.0	100	
PHF										0.625					0.957					0.915	0.938
Cars, PU, Vans	0	0	0	0	0	2	0	7	0	9	9	653	0	0	662	0	529	3	0	532	1203
% Cars, PU, Vans	0.0	0.0	0.0	0.0	0.0	100.0	0.0	87.5	0.0	90.0	100.0	98.8	0.0	0.0	98.8	0.0	99.1	100.0	0.0	99.1	98.8
Buses	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
%Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.4	0.0	0.0	0.4	0.3
HT	0	0	0	0	0	0	0	1	0	1	0	6	0	0	6	0	3	0	0	3	10
%HT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	10.0	0.0	0.9	0.0	0.0	0.9	0.0	0.6	0.0	0.0	0.6	0.8

Prepared by National Data & Surveying Services

High St/Waverly Rd & 140 Haverhill St/Boston Vitality E Dwy

Peak Hour Turning Movement Count

ID: 25-430011-001
City: Andover

Day: Tuesday
Date: 2/4/2025

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	7:00 AM - 09:00 AM
NOON	NONE
PM	3:00 PM - 06:00 PM

SOUTHBOUND — High St/Waverly Rd

AM	7	263	0	0	156	AM
NOON	0	0	0	0	0	NOON
PM	3	250	0	0	376	PM
	0	1	0	0		

EASTBOUND — 140 Haverhill St/Boston Vitality E Dwy

AM	NOON	PM	
15	0	4	
0	0	0	0
0	0	18	0
0	0	0	1
3	0	10	0
AM	NOON	PM	

WESTBOUND — 140 Haverhill St/Boston Vitality E Dwy

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	
PM	NOON	AM	

CONTROL

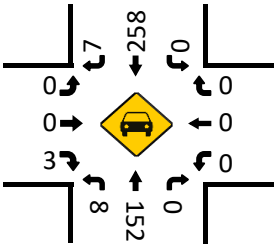
No Control

	AM	NOON	PM
TEV	437	0	640
PHF	0.90		0.94

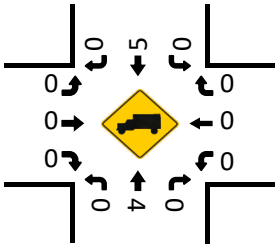
NORTHBOUND — High St/Waverly Rd

PM	260	0	1	358	0	PM
NOON	0	0	0	0	0	NOON
AM	266	0	8	156	0	AM
		0	0	1	0	

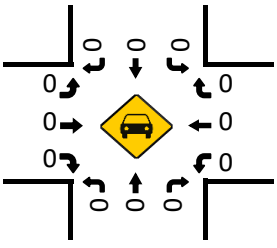
Cars (AM)



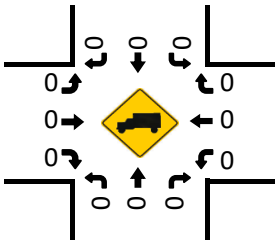
Total Trucks (AM)



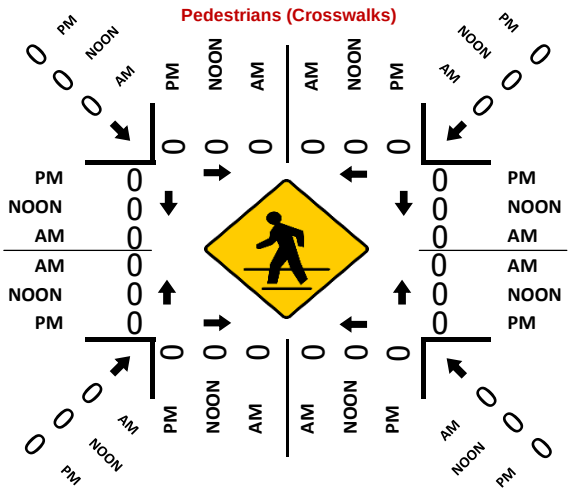
Cars (NOON)



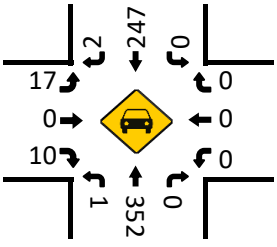
Total Trucks (NOON)



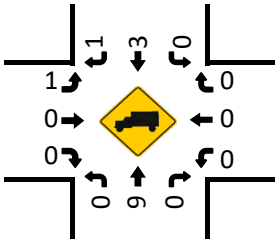
Pedestrians (Crosswalks)



Cars (PM)



Total Trucks (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & 140 Haverhill St/Boston Vitality E Dwy
City: Andover
Control: No Control

Project ID: 25-430011-001
Date: 2/4/2025

Data - Total

NS/EW Streets:	High St/Waverly Rd				High St/Waverly Rd				140 Haverhill St/Boston Vitality E Dwy				140 Haverhill St/Boston Vitality E Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	19	0	0	0	45	3	0	1	0	0	0	0	0	0	0	68
7:15 AM	1	20	0	0	0	59	2	0	1	0	0	0	0	0	0	0	83
7:30 AM	0	21	0	0	0	69	2	0	1	0	0	0	0	0	0	0	93
7:45 AM	2	30	0	0	0	75	3	0	1	0	0	0	0	0	0	0	111
8:00 AM	0	32	0	0	0	69	2	0	0	0	0	0	0	0	0	0	103
8:15 AM	3	46	0	0	0	68	0	0	0	0	2	0	0	0	0	0	119
8:30 AM	1	32	0	0	0	59	1	0	0	0	0	0	0	0	0	0	93
8:45 AM	4	46	0	0	0	67	4	0	0	0	1	0	0	0	0	0	122
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	11	246	0	0	0	511	17	0	4	0	3	0	0	0	0	0	792
APPROACH %'s :	4.28%	95.72%	0.00%	0.00%	0.00%	96.78%	3.22%	0.00%	57.14%	0.00%	42.86%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	8	156	0	0	0	263	7	0	0	0	3	0	0	0	0	0	437
PEAK HR FACTOR :	0.500	0.848	0.000	0.000	0.000	0.953	0.438	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.895
	0.820				0.951				0.375								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	0	74	0	0	0	53	0	0	0	0	0	0	0	0	0	0	127
3:15 PM	0	63	0	0	0	60	1	0	3	0	2	0	0	0	0	0	129
3:30 PM	2	76	0	0	0	62	0	0	0	0	4	0	0	0	0	0	144
3:45 PM	2	66	0	0	0	65	2	0	1	0	1	0	0	0	0	0	137
4:00 PM	2	73	0	0	0	46	1	0	3	0	1	0	0	0	0	0	126
4:15 PM	3	99	0	0	0	41	0	0	2	0	1	0	0	0	0	0	146
4:30 PM	0	81	0	0	0	64	1	0	5	0	1	0	0	0	0	0	152
4:45 PM	0	108	0	0	0	57	0	0	3	0	3	0	0	0	0	0	171
5:00 PM	1	85	0	0	0	63	2	0	6	0	2	0	0	0	0	0	159
5:15 PM	0	84	0	0	0	66	0	0	4	0	4	0	0	0	0	0	158
5:30 PM	0	83	0	0	0	57	0	0	1	0	1	0	0	0	0	0	142
5:45 PM	0	71	0	0	0	53	0	0	1	0	1	0	0	0	0	0	126
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	10	963	0	0	0	687	7	0	29	0	21	0	0	0	0	0	1717
APPROACH %'s :	1.03%	98.97%	0.00%	0.00%	0.00%	98.99%	1.01%	0.00%	58.00%	0.00%	42.00%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	1	358	0	0	0	250	3	0	18	0	10	0	0	0	0	0	640
PEAK HR FACTOR :	0.250	0.829	0.000	0.000	0.000	0.947	0.375	0.000	0.750	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.936
	0.831				0.958				0.875								

National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & 140 Haverhill St/Boston Vitality E Dwy
City: Andover
Control: No Control

Project ID: 25-430011-001
Date: 2/4/2025

Data - Cars

NS/EW Streets:	High St/Waverly Rd				High St/Waverly Rd				140 Haverhill St/Boston Vitality E Dwy				140 Haverhill St/Boston Vitality E Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	18	0	0	0	44	3	0	1	0	0	0	0	0	0	0	66
7:15 AM	1	19	0	0	0	59	2	0	1	0	0	0	0	0	0	0	82
7:30 AM	0	20	0	0	0	66	2	0	1	0	0	0	0	0	0	0	89
7:45 AM	1	29	0	0	0	74	3	0	1	0	0	0	0	0	0	0	108
8:00 AM	0	30	0	0	0	68	2	0	0	0	0	0	0	0	0	0	100
8:15 AM	3	45	0	0	0	67	0	0	0	0	2	0	0	0	0	0	117
8:30 AM	1	32	0	0	0	57	1	0	0	0	0	0	0	0	0	0	91
8:45 AM	4	45	0	0	0	66	4	0	0	0	1	0	0	0	0	0	120
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	10	238	0	0	0	501	17	0	4	0	3	0	0	0	0	0	773
APPROACH %'s :	4.03%	95.97%	0.00%	0.00%	0.00%	96.72%	3.28%	0.00%	57.14%	0.00%	42.86%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	8	152	0	0	0	258	7	0	0	0	3	0	0	0	0	0	428
PEAK HR FACTOR :	0.500	0.844	0.000	0.000	0.000	0.949	0.438	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.892
	0.816				0.946				0.375								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	0	72	0	0	0	51	0	0	0	0	0	0	0	0	0	0	123
3:15 PM	0	62	0	0	0	59	1	0	3	0	2	0	0	0	0	0	127
3:30 PM	2	74	0	0	0	61	0	0	0	0	4	0	0	0	0	0	141
3:45 PM	2	64	0	0	0	65	1	0	1	0	1	0	0	0	0	0	134
4:00 PM	2	73	0	0	0	44	1	0	3	0	1	0	0	0	0	0	124
4:15 PM	3	98	0	0	0	41	0	0	2	0	1	0	0	0	0	0	145
4:30 PM	0	80	0	0	0	63	1	0	5	0	1	0	0	0	0	0	150
4:45 PM	0	104	0	0	0	57	0	0	3	0	3	0	0	0	0	0	167
5:00 PM	1	84	0	0	0	61	1	0	6	0	2	0	0	0	0	0	155
5:15 PM	0	84	0	0	0	66	0	0	3	0	4	0	0	0	0	0	157
5:30 PM	0	82	0	0	0	56	0	0	1	0	1	0	0	0	0	0	140
5:45 PM	0	71	0	0	0	52	0	0	1	0	1	0	0	0	0	0	125
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	10	948	0	0	0	676	5	0	28	0	21	0	0	0	0	0	1688
APPROACH %'s :	1.04%	98.96%	0.00%	0.00%	0.00%	99.27%	0.73%	0.00%	57.14%	0.00%	42.86%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	1	352	0	0	0	247	2	0	17	0	10	0	0	0	0	0	629
PEAK HR FACTOR :	0.250	0.846	0.000	0.000	0.000	0.936	0.500	0.000	0.708	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.942
	0.849				0.943				0.844								

National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & 140 Haverhill St/Boston Vitality E Dwy
City: Andover
Control: No Control

Project ID: 25-430011-001
Date: 2/4/2025

Data - Buses

NS/EW Streets:	High St/Waverly Rd				High St/Waverly Rd				140 Haverhill St/Boston Vitality E Dwy				140 Haverhill St/Boston Vitality E Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	8
APPROACH %'s :	16.67%	83.33%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.000	0.750	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	1.000
	0.750				0.250												

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
3:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
3:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
3:45 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	11	0	0	0	8	1	0	0	0	0	0	0	0	0	0	20
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	88.89%	11.11%	0.00%									
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
PEAK HR FACTOR :	0.000	0.750	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625
	0.750				0.500												

National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & 140 Haverhill St/Boston Vitality E Dwy
City: Andover
Control: No Control

Project ID: 25-430011-001
Date: 2/4/2025

Data - HT

NS/EW Streets:	High St/Waverly Rd				High St/Waverly Rd				140 Haverhill St/Boston Vitality E Dwy				140 Haverhill St/Boston Vitality E Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	3	0	0	0	8	0	0	0	0	0	0	0	0	0	0	11
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	5
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625
	0.250				1.000												

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	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
3:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	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	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
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	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	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	4	0	0	0	3	1	0	1	0	0	0	0	0	0	0	9
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	75.00%	25.00%	0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	3	0	0	0	1	1	0	1	0	0	0	0	0	0	0	6
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
	0.250				0.250				0.250								

National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & 140 Haverhill St/Boston Vitality E Dwy
City: Andover
Control: No Control

Project ID: 25-430011-001
Date: 2/4/2025

Data - Bikes

NS/EW Streets:	High St/Waverly Rd				High St/Waverly Rd				140 Haverhill St/Boston Vitality E Dwy				140 Haverhill St/Boston Vitality E Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	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
7:30 AM	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
8:00 AM	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
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	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
	0.250																

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	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
3:30 PM	0	0	0	0	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	0	0	0	0
4:00 PM	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	0	0
4:30 PM	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	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	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	

National Data & Surveying Services

Intersection Turning Movement Count

Location: High St/Waverly Rd & 140 Haverhill St/Boston Vitality E Dwy **Project ID:** 25-430011-001
City: Andover **Date:** 2/4/2025

Data - Pedestrians (Crosswalks)

NS/EW Streets:	High St/Waverly Rd		High St/Waverly Rd		140 Haverhill St/Boston Vitality E Dwy		140 Haverhill St/Boston Vitality E Dwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	08:00 AM - 09:00 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
3:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Project ID: 25-430011-001
Location: High St/Waverly Rd & 140 Haverhill St/Boston Vitality E Dwy **Day: Tuesday**
City: Andover **Date: 2/4/2025**

Groups Printed - Cars, PU, Vans - Heavy Trucks

	High St/Waverly Rd Northbound						High St/Waverly Rd Southbound						140 Haverhill St/Boston Vitality E Dwy Eastbound						140 Haverhill St/Boston Vitality E Dwy Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	0	19	0	0	0	19	0	45	3	0	0	48	1	0	0	0	0	1	0	0	0	0	0	0	68
7:15 AM	1	20	0	0	0	21	0	59	2	0	0	61	1	0	0	0	0	1	0	0	0	0	0	0	83
7:30 AM	0	21	0	0	0	21	0	69	2	0	0	71	1	0	0	0	0	1	0	0	0	0	0	0	93
7:45 AM	2	30	0	0	0	32	0	75	3	0	0	78	1	0	0	0	0	1	0	0	0	0	0	0	111
Total	3	90	0	0	0	93	0	248	10	0	0	258	4	0	0	0	0	4	0	0	0	0	0	0	355
8:00 AM	0	32	0	0	0	32	0	69	2	0	0	71	0	0	0	0	0	0	0	0	0	0	0	0	103
8:15 AM	3	46	0	0	0	49	0	68	0	0	0	68	0	0	2	0	0	2	0	0	0	0	0	0	119
8:30 AM	1	32	0	0	0	33	0	59	1	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	93
8:45 AM	4	46	0	0	0	50	0	67	4	0	0	71	0	0	1	0	0	1	0	0	0	0	0	0	122
Total	8	156	0	0	0	164	0	263	7	0	0	270	0	0	3	0	0	3	0	0	0	0	0	0	437
BREAK																									
3:00 PM	0	74	0	0	0	74	0	53	0	0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	127
3:15 PM	0	63	0	0	0	63	0	60	1	0	0	61	3	0	2	0	0	5	0	0	0	0	0	0	129
3:30 PM	2	76	0	0	0	78	0	62	0	0	0	62	0	0	4	0	0	4	0	0	0	0	0	0	144
3:45 PM	2	66	0	0	0	68	0	65	2	0	0	67	1	0	1	0	0	2	0	0	0	0	0	0	137
Total	4	279	0	0	0	283	0	240	3	0	0	243	4	0	7	0	0	11	0	0	0	0	0	0	537
4:00 PM	2	73	0	0	0	75	0	46	1	0	0	47	3	0	1	0	0	4	0	0	0	0	0	0	126
4:15 PM	3	99	0	0	0	102	0	41	0	0	0	41	2	0	1	0	0	3	0	0	0	0	0	0	146
4:30 PM	0	81	0	0	0	81	0	64	1	0	0	65	5	0	1	0	0	6	0	0	0	0	0	0	152
4:45 PM	0	108	0	0	0	108	0	57	0	0	0	57	3	0	3	0	0	6	0	0	0	0	0	0	171
Total	5	361	0	0	0	366	0	208	2	0	0	210	13	0	6	0	0	19	0	0	0	0	0	0	595
5:00 PM	1	85	0	0	0	86	0	63	2	0	0	65	6	0	2	0	0	8	0	0	0	0	0	0	159
5:15 PM	0	84	0	0	0	84	0	66	0	0	0	66	4	0	4	0	0	8	0	0	0	0	0	0	158
5:30 PM	0	83	0	0	0	83	0	57	0	0	0	57	1	0	1	0	0	2	0	0	0	0	0	0	142
5:45 PM	0	71	0	0	0	71	0	53	0	0	0	53	1	0	1	0	0	2	0	0	0	0	0	0	126
Total	1	323	0	0	0	324	0	239	2	0	0	241	12	0	8	0	0	20	0	0	0	0	0	0	585
Grand Total	21	1209	0	0	0	1230	0	1198	24	0	0	1222	33	0	24	0	0	57	0	0	0	0	0	0	2509
Apprch %	1.7	98.3	0.0	0.0	0.0		0.0	98.0	2.0	0.0	0.0		57.9	0.0	42.1	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.8	48.2	0.0	0.0	0.0	49.0	0.0	47.7	1.0	0.0	0.0	48.7	1.3	0.0	1.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	20	1186	0	0		1206	0	1177	22	0		1199	32	0	24	0		56	0	0	0	0		0	2461
% Cars, PU, Vans	95.2	98.1	0.0	0.0		98.0	0.0	98.2	91.7	0.0		98.1	97.0	0.0	100.0	0.0		98.2	0.0	0.0	0.0	0.0		0.0	98.1
Buses	1	16	0	0		17	0	10	1	0		11	0	0	0	0		0	0	0	0	0		0	28
%Buses	4.8	1.3	0.0	0.0		1.4	0.0	0.8	4.2	0.0		0.9	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	1.1
HT	0	7	0	0		7	0	11	1	0		12	1	0	0	0		1	0	0	0	0		0	20
%HT	0.0	0.6	0.0	0.0		0.6	0.0	0.9	4.2	0.0		1.0	3.0	0.0	0.0	0.0		1.8	0.0	0.0	0.0	0.0		0.0	0.8

Project ID: 25-430011-001
Location: High St/Waverly Rd & 140 Haverhill St/Boston Vitalit
City: Andover

PEAK HOURS

Day: Tuesday
Date: 2/4/2025

AM

	High St/Waverly Rd Northbound					High St/Waverly Rd Southbound					140 Haverhill St/Boston Vitality E Dwy Eastbound					140 Haverhill St/Boston Vitality E Dwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
8:00 AM	0	32	0	0	32	0	69	2	0	71	0	0	0	0	0	0	0	0	0	0	103
8:15 AM	3	46	0	0	49	0	68	0	0	68	0	0	2	0	2	0	0	0	0	0	119
8:30 AM	1	32	0	0	33	0	59	1	0	60	0	0	0	0	0	0	0	0	0	0	93
8:45 AM	4	46	0	0	50	0	67	4	0	71	0	0	1	0	1	0	0	0	0	0	122
Total Volume	8	156	0	0	164	0	263	7	0	270	0	0	3	0	3	0	0	0	0	0	437
% App. Total	4.9	95.1	0.0	0.0	100	0.0	97.4	2.6	0.0	100	0.0	0.0	100.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.820					0.951					0.375						0.895
Cars, PU, Vans	8	152	0	0	160	0	258	7	0	265	0	0	3	0	3	0	0	0	0	0	428
% Cars, PU, Vans	100.0	97.4	0.0	0.0	97.6	0.0	98.1	100.0	0.0	98.1	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	97.9
Buses	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
%Buses	0.0	1.9	0.0	0.0	1.8	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
HT	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	5
%HT	0.0	0.6	0.0	0.0	0.6	0.0	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1

PM

	High St/Waverly Rd Northbound					High St/Waverly Rd Southbound					140 Haverhill St/Boston Vitality E Dwy Eastbound					140 Haverhill St/Boston Vitality E Dwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 03:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	0	81	0	0	81	0	64	1	0	65	5	0	1	0	6	0	0	0	0	0	152
4:45 PM	0	108	0	0	108	0	57	0	0	57	3	0	3	0	6	0	0	0	0	0	171
5:00 PM	1	85	0	0	86	0	63	2	0	65	6	0	2	0	8	0	0	0	0	0	159
5:15 PM	0	84	0	0	84	0	66	0	0	66	4	0	4	0	8	0	0	0	0	0	158
Total Volume	1	358	0	0	359	0	250	3	0	253	18	0	10	0	28	0	0	0	0	0	640
% App. Total	0.3	99.7	0.0	0.0	100	0.0	98.8	1.2	0.0	100	64.3	0.0	35.7	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.831					0.958					0.875						0.936
Cars, PU, Vans	1	352	0	0	353	0	247	2	0	249	17	0	10	0	27	0	0	0	0	0	629
% Cars, PU, Vans	100.0	98.3	0.0	0.0	98.3	0.0	98.8	66.7	0.0	98.4	94.4	0.0	100.0	0.0	96.4	0.0	0.0	0.0	0.0	0.0	98.3
Buses	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	5
%Buses	0.0	0.8	0.0	0.0	0.8	0.0	0.8	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
HT	0	3	0	0	3	0	1	1	0	2	1	0	0	0	1	0	0	0	0	0	6
%HT	0.0	0.8	0.0	0.0	0.8	0.0	0.4	33.3	0.0	0.8	5.6	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.9

Appendix B
Seasonal Adjustment Worksheets

Massachusetts Highway Department
Statewide Traffic Data Collection
2023 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.23	1.14	1.11	1.06	1.01	0.96	0.93	0.91	1.00	0.97	1.04	1.08	0.77
R3	1.11	1.07	1.02	0.95	0.90	0.89	0.87	0.87	0.92	0.89	0.95	0.99	0.98
R4-R7	1.19	1.16	1.10	1.00	0.92	0.91	0.87	0.88	0.93	0.93	1.01	1.06	0.98
U1-Boston	1.07	1.05	1.00	0.95	0.93	0.92	0.92	0.92	0.94	0.93	0.96	0.99	0.94
U1-Essex	1.14	1.11	1.06	1.00	0.95	0.91	0.87	0.87	0.94	0.95	1.00	1.03	0.96
U1-Southeast	1.12	1.09	1.04	0.96	0.91	0.87	0.84	0.86	0.92	0.94	0.98	1.03	0.96
U1-West	1.05	1.02	0.98	0.96	0.94	0.93	0.94	0.94	0.95	0.92	0.96	0.98	0.81
U1-Worcester	1.06	1.04	0.97	0.93	0.92	0.90	0.92	0.92	0.93	0.92	0.94	0.97	0.88
U3	1.05	1.02	0.96	0.92	0.89	0.89	0.91	0.92	0.91	0.90	0.94	0.96	0.98
U4-U7	1.02	1.00	0.94	0.89	0.86	0.88	0.91	0.92	0.89	0.88	0.91	0.91	0.99
UR2	1.05	1.01	0.97	0.92	0.90	0.90	0.91	0.91	0.91	0.90	0.94	0.97	0.98
Rec - East	1.17	1.16	1.09	1.04	0.92	0.84	0.76	0.80	0.93	1.00	1.03	1.06	0.98
Rec - West	1.46	1.38	1.32	1.06	0.94	0.79	0.59	0.69	0.97	0.99	1.18	1.28	0.98

Round off:
0-999 = 10
>1000 = 100

U = Urban
R = Rural

1 - Interstate
2 - Freeway and Expressway
3 - Other Principal Arterial
4 - Minor Arterial
5 - Major Collector
6 - Minor Collector
7 - Local Road and Street

UR2 Group - Combination of Urban Freeways and Expressways and Rural Freeways and Expressways.

Recreational - East Group - Cape Cod (all towns) including the town of Plymouth south of Route 3A (stations 7014,7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108 and 7178), Martha's Vineyard and Nantucket.

Recreational - West Group - Continuous Stations 2 and 189 including stations 1066,1067,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,1105,1106,1107,1108,1113, 1114,1116,2196,2197 and 2198.

Appendix C
Crash Data

Andover, Ma Crashes

Crash Number	Crash Date	Crash Severity	Crash Status	Crash Time	Number of Vehicles	Police Agency Type	Driver Contributing Circumstances (All Drivers)	Driver Distracted By (All Vehicles)	First Harmful Event	Is Geocoded	Light Conditions	Manner of Collision	Road Surface Condition	Roadway Junction Type	Traffic Control Device Type	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	First Harmful Event Location	Geocoding Method	Hit and Run	Most Harmful Event (All Vehicles)	Road Contributing Circumstance	Traffic Control Device Function	Vehicle Sequence of Events (All Vehicles)	Latitude	Longitude	Street Number	Roadway	Near Intersection Roadway	Distance and Direction From Intersection
4045917	05/18/2015	Property damage only (none injured)	Closed	10:29 AM	2	Local police	D1: (Failed to yield right of way) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Driveway	No controls	V1: Entering traffic lane / V2: Turning left	V1: S / V2: E	Cloudy	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	140	HAVERHILL ST		278 feet W of
4125741	12/01/2015	Property damage only (none injured)	Closed	5:57 PM	2	Local police	D1: (No improper driving) / D2: (Inattention)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Rear-end	Wet	Four-way intersection	Traffic control signal	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1: W / V2: W	Rain/Rain	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST Rte 133		
4148898	01/20/2016	Non-fatal injury	Closed	5:24 PM	2	Local police	D1: (No improper driving)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Angle	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Turning left	V1: E / V2: W	Severe crosswinds	Roadway	At Address	Yes, hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST		
4271352	10/13/2016	Non-fatal injury	Closed	4:44 PM	2	Local police	D1: (No improper driving) / D2: (Failed to yield right of way)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: W / V2: N	Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, device not functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST Rte 133 W		
4271549	10/28/2016	Property damage only (none injured)	Closed	4:15 PM	2	Local police	D1: (No improper driving) / D2: (Failed to yield right of way)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Wet	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Turning left	V1: W / V2: E	Rain/Cloudy	Roadway	At Intersection	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67436	-71.1352		HIGH ST / HAVERHILL STREET Rte 133		
4295069	11/12/2016	Property damage only (none injured)	Closed	4:16 PM	2	Local police	D1: (No improper driving) / D2: (Operating vehicle in erratic, reckless, careless, negligent or aggressive manner)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	Traffic control signal	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1: W / V2: W	Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST Rte 133		
4297054	11/25/2016	Property damage only (none injured)	Closed	1:22 PM	2	Local police	D1: (No improper driving) / D2: (Disregarded traffic signs, signals, road markings),(Failed to yield right of way)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Wet	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: S / V2: W	Rain/Rain	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	140	HAVERHILL ST		
4338542	03/08/2017	Non-fatal injury	Closed	3:13 PM	2	Local police	D1: (No improper driving),(No improper driving) / D2: (Failed to yield right of way)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Turning left	V1: E / V2: W	Clear/Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST Rte 133		
4474093	02/12/2017	Not Reported	Closed	10:33 PM	1	Local police	D1: (Unknown)		Collision with other	Yes	Dark - lighted roadway	Single vehicle crash	Snow	Four-way intersection	Traffic control signal	V1: Turning right	V1: S	Snow	Outside roadway	At Address	No hit and run	V1:(Collision with fence)	Road surface condition (wet, icy, snow, slush, etc.)	Yes, device functioning	V1:(Collision with fence)	42.67435	-71.13534	149	HAVERHILL ST Rte 133		
4474182	12/02/2016	Property damage only (none injured)	Closed	7:44 AM	2	Local police	D1: (No improper driving),(No improper driving) / D2: (Inattention),(Disregarded traffic signs, signals, road markings)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Turning left	V1: E / V2: N	Clear/Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST Rte 133		
4480860	08/19/2017	Non-fatal injury	Closed	1:01 PM	2	Local police	D1: (No improper driving) / D2: (Inattention)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: N / V2: W	Clear	Roadway	At Intersection	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67436	-71.1352		HIGH ST / HAVERHILL ST Rte 133		
4485291	11/17/2017	Property damage only (none injured)	Closed	5:58 PM	2	Local police	D1: (Failed to yield right of way) / D2: (No improper driving),(No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Sideswipe, same direction	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: W / V2: W	Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST Rte 133		
4486389	12/22/2017	Property damage only (none injured)	Closed	7:56 PM	2	Local police	D1: (Unknown) / D2: (Unknown)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - roadway not lighted	Angle	Snow	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: N / V2: W	Snow/Sleet, hail (freezing rain or drizzle)	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST Rte 133		
4489550	01/18/2018	Property damage only (none injured)	Closed	12:56 PM	2	Local police	D1: (No improper driving) / D2: (Followed too closely)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	Traffic control signal	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1: W / V2: W	Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST Rte 133		
4518119	03/08/2018	Property damage only (none injured)	Closed	8:42 PM	2	Local police	D1: (Unknown) / D2: (Unknown)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - roadway not lighted	Angle	Wet	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Entering traffic lane	V1: E / V2: N	Cloudy	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	Traffic control device inoperative, missing, or obscured	No, device not functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST Rte 133		
4536066	05/02/2018	Non-fatal injury	Closed	2:25 PM	2	Local police	D1: (No improper driving) / D2: (Disregarded traffic signs, signals, road markings)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: E / V2: S	Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13534	149	HAVERHILL ST Rte 133		
4610414	10/10/2018	Property damage only (none injured)	Closed	8:40 AM	2	Local police	D1: (Visibility obstructed),(Inattention) / D2: (No improper driving),(No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Sideswipe, opposite direction	Dry	Four-way intersection	Traffic control signal	V1: Turning left / V2: Travelling straight ahead	V1: W / V2: E	Clear/Cloudy	Roadway	At Intersection	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	Traffic congestion related	Yes, device functioning	V1:(Collision with motor vehicle in traffic),(Collision with other movable object) V2:(Collision with motor vehicle in traffic),(Collision with other movable object)	42.67436	-71.1352		HAVERHILL ST Rte 133 / HAVERHILL STREET / HIGH STREET		
4624061	11/15/2018	Non-fatal injury	Closed	9:11 PM	3	Local police	D1: (Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway, etc) / D2: (No improper driving) / D3: (No improper driving)	D1: Not Distracted / D2: Not Distracted / D3: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Head-on	Snow	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Travelling straight ahead / V3: Travelling straight ahead	V1: W / V2: E / V3: E	Snow/Cloudy	Roadway	At Intersection	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with motor vehicle in traffic)	Road surface condition (wet, icy, snow, slush, etc.)	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic) V3:(Collision with motor vehicle in traffic)	42.67436	-71.1352		HAVERHILL ST / HIGH STREET		
4731886	07/18/2019	Non-fatal injury	Open	1:33 PM	2	Local police	D1: (No improper driving) / D2: (Distracted)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle		Four-way intersection	Flashing traffic control signal	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: E / V2: S	Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)		No, device not functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13532	149	HAVERHILL ST		

Andover, Ma Crashes

Crash Number	Crash Date	Crash Severity	Crash Status	Crash Time	Number of Vehicles	Police Agency Type	Driver Contributing Circumstances (All Drivers)	Driver Distracted By (All Vehicles)	First Harmful Event	Is Geocoded	Light Conditions	Manner of Collision	Road Surface Condition	Roadway Junction Type	Traffic Control Device Type	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	First Harmful Event Location	Geocoding Method	Hit and Run	Most Harmful Event (All Vehicles)	Road Contributing Circumstance	Traffic Control Device Function	Vehicle Sequence of Events (All Vehicles)	Latitude	Longitude	Street Number	Roadway	Near Intersection Roadway	Distance and Direction From Intersection
4764984	10/18/2019	Not Reported	Open	8:06 PM	2	Local police	D1: (Failure to keep in proper lane or running off road) / D2: (Failed to yield right of way)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Angle	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Turning left	V1: E / V2: W	Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13532	149	HAVERHILL STREET		
4769730	10/29/2019	Property damage only (none injured)	Open	6:28 PM	2	Local police	D1: (Inattention),(Made an improper turn) / D2: (Inattention),(Unknown)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Angle	Wet	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Turning right	V1: E / V2: E	Rain/Cloudy	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	Traffic congestion related	Yes, device functioning	V1:(Collision with motor vehicle in traffic),(Collision with other movable object) V2:(Collision with motor vehicle in traffic),(Collision with other movable object)	42.67437	-71.13463	153	HAVERHILL ST		
4786341	12/04/2019	Property damage only (none injured)	Open	7:45 AM	1	Local police	D1: (Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway, etc)	D1: Not Distracted	Collision with utility pole	Yes	Daylight	Single vehicle crash	Ice	Not at junction	No controls	V1: Travelling straight ahead	V1: W	Cloudy/Cloudy	Roadway	At Address	No hit and run	V1:(Collision with utility pole)	None	Yes, device functioning	V1:(Collision with utility pole)	42.67435	-71.13532	140	HAVERHILL ST Rte 133		200 feet W of
4792217	12/17/2019	Property damage only (none injured)	Open	1:16 PM	2	Local police	D1: (Driving too fast for conditions),(Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway, etc) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Snow	Not at junction	Traffic control signal	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1: W / V2: W	Snow/Blowing sand, snow	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	Road surface condition (wet, icy, snow, slush, etc.)	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67434	-71.13549	138	HAVERHILL ST		50 feet W of
4800428	12/30/2019	Property damage only (none injured)	Open	11:58 AM	1	Local police	D1: (Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway, etc)		Collision with utility pole	Yes	Daylight	Single vehicle crash	Ice	Four-way intersection	Traffic control signal	V1: Travelling straight ahead	V1: W	Sleet, hail (freezing rain or drizzle)	Roadside	At Address	No hit and run	V1:(Collision with light pole or other post/support)	Road surface condition (wet, icy, snow, slush, etc.)	Yes, device functioning	V1:(Collision with motor vehicle in traffic)	42.67435	-71.13532	149	HAVERHILL ST		
4828352	03/09/2020	Property damage only (none injured)	Open	8:24 AM	2	Local police	D1: (No improper driving) / D2: (Inattention)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: W / V2: N	Clear/Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13532	149	HAVERHILL ST Rte 133		
4876145	08/28/2020	Non-fatal injury	Open	10:47 AM	2	Local police	D1: (No improper driving) / D2: (Disregarded traffic signs, signals, road markings)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: E / V2: S	Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13532	149	HAVERHILL ST Rte 133		
4893038	10/24/2020	Property damage only (none injured)	Open	8:54 AM	2	Local police	D1: (Inattention),(Distracted) / D2: (No improper driving)	D1: Other activity (searching, eating, personal hygiene, etc.) / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1: N / V2: N	Not Reported	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67406	-71.1353	197	HIGH ST		
4919353	01/09/2021	Property damage only (none injured)	Open	10:52 AM	2	Local police	D1: (Inattention) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	Traffic control signal	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1: E / V2: E	Clear	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13532	149	HAVERHILL ST		
4939696	02/07/2021	Property damage only (none injured)	Open	12:29 PM	2	Local police	D1: (No improper driving),(No improper driving) / D2: (Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway, etc)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Snow	Not at junction	No controls	V1: Travelling straight ahead / V2: Travelling straight ahead	V1: S / V2: S	Snow	Roadway	At Address	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	Road surface condition (wet, icy, snow, slush, etc.)	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.13532	149	HAVERHILL ST		10 feet S of
4939698	02/07/2021	Property damage only (none injured)	Open	12:46 PM	3	Local police	D1: (No improper driving),(No improper driving) / D2: (No improper driving),(No improper driving) / D3: (Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway, etc)	D1: Not Distracted / D2: Not Distracted / D3: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Front to Rear	Ice	Four-way intersection	Traffic control signal	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic / V3: Travelling straight ahead	V1: W / V2: W / V3: W	Snow/Snow	Roadway	At Intersection	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with motor vehicle in traffic)	Road surface condition (wet, icy, snow, slush, etc.)	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic) V3:(Collision with motor vehicle in traffic)	42.67436	-71.1352		HIGH ST / HAVERHILL ST		

Police Use Only			Commonwealth of Massachusetts			RMV Document Number
Date of Crash	Time of Crash	City/Town	**Motor Vehicle Crash Police Report**	Number Vehicles	Number Injured	Speed Limit 40 / Latitude 42.674357 / Longitude -71.135198
02/04/2022	07:08 24HR	Andover		2		State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: | **< LOCATION >** | **NOT AT INTERSECTION:**

1 / 1 — Route# — Direction — Haverhill St — Name of Roadway/Street
At
Route# — Direction — High St — Name of Intersecting Roadway/Street
Also at Intersection with
2 / 5 — Route# — Direction — Name of Intersecting Roadway/Street

Route# — Direction — Address # — Name of Roadway/Street — 10 / 2
___ Feet [N S E W] of — — — • — or Exit Number (Mile Marker)
11 / 3 — ___ Feet [N S E W] of Route# — Intersecting Roadway/Street
___ Feet [N S E W] of Landmark

3 — **Please Select One of the Following:** ☑ **Vehicle 1** 1 # Occupants | ☐ Hit/Run | ☐ Moped | Crash Report ID# **22-001697**

License # ___ St ___ DOB/Age **09-12-1971/53** — Reg # **8TX555** — Reg Type **PAN** — Reg State **MA**
Sex **F** — Lic. Class **D** — Lic. Restrictions — CDL Endorsement — Veh Year **2019** — Veh Make **HOND** — Veh Config. **1** — 12 / 1

4 / 3 — **Operator** Ouellette, Pamela E (Last First Middle) — **Owner** Ouellette, Pamela E (Last First Middle)
Address **21 Brandee Lane** — Address **21 Brandee Lane**
City **Methuen** State **MA** Zip **01844** — City **Methuen** State **MA** Zip **01844**
Insurance Company **Arbella Mutual Insurance Company**
Vehicle Travel Direction: [N S E W] — Responding to Emergency? **No**
5 / 1 — Citation # (If Issued) ___
Viol. 1: Ch/Sec/Sub ___ Viol. 2: Ch/Sec/Sub ___
Viol. 3: Ch/Sec/Sub ___ Viol. 4: Ch/Sec/Sub ___
6 / 4

Vehicle Action Prior to Crash: 2 — Event Sequence: 1 — Most Harmful Event: 1 — Driver Contributing Code: 1 — Driver Distracted by: 0
Damaged Area Code: 7 — Test Status: — Type of Test: — BAC Test Result: — Susp. Alcohol: — Susp. Drug: — Towed from scene? 1 — 13 / 1

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1							

7 / 2 — **Please Select One of the Following:** ☑ **Vehicle 2** 1 # Occupants | ☐ Hit/Run | ☐ Moped | ☐ Vulnerable User — Complete the Vulnerable User section.

License # ___ St ___ DOB/Age **09-02-1997/27** — Reg # **84H780** — Reg Type **PAN** — Reg State **MA**
Sex **M** — Lic. Class **D** — Lic. Restrictions — CDL Endorsement — Veh Year **2009** — Veh Make **ACUR** — Veh Config. **1**

8 / 1 — **Operator** Leonardo, Joedy (Last First Middle) — **Owner** ___
Address **103 River Pointe Way Apt 2101** — Address ___
City **Lawrence** State **MA** Zip **01843** — City ___ State ___ Zip ___ — 14
Insurance Company **Allstate Insurance Company**
Vehicle Travel Direction: [N S E W] — Responding to Emergency? **No**
9 / 2 — Citation # (If Issued) ___
Viol. 1: Ch/Sec/Sub ___ Viol. 2: Ch/Sec/Sub ___
Viol. 3: Ch/Sec/Sub ___ Viol. 4: Ch/Sec/Sub ___

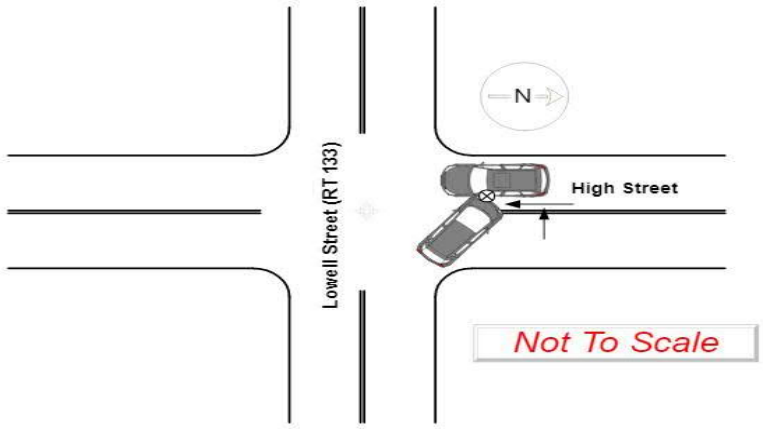
Vehicle Action Prior to Crash: 3 — Event Sequence: 1 — Most Harmful Event: 1 — Driver Contributing Code: 7 — Driver Distracted by: 0
Damaged Area Code: 1 — Test Status: — Type of Test: — BAC Test Result: — Susp. Alcohol: — Susp. Drug: — Towed from scene? 2

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1							

Form No. 10364 CRA-65 08/23

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | = Pedestrian | = Bicycle

Crash Diagram: ie: → 1 → 2 → →



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV1 travelling southbound on High Street, stopped at traffic lights at intersection of High Street and Haverhill Street (RT 133).
MV2 travelling westbound on Haverhill Street (RT 133), turning right onto High Street.
Due to sleet/ice/freezing rain on downhill roadway, MV2 lost control during turn and front of MV2 collided with driver's side of MV1.
MV1 driver door pinned closed, but MV1 driver was able to exit car through

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

McMahon, Matthew R	Ofc. Matthew R. McMahon	MMCM	Andover Police Depar		02/04/2022
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

passenger side.
No apparent injuries to any involved occupants. Elm Auto towed MV1. MV2 driven from scene. All patients signed refusals for care with FD on scene.
Damage to MV1 and MV2 estimated over $1000 each.

Police Use Only			Commonwealth of Massachusetts			RMV Document Number
Date of Crash	Time of Crash	City/Town	**Motor Vehicle Crash Police Report**	Number Vehicles	Number Injured	Speed Limit 30 / Latitude 42.674357 / Longitude -71.135198
03/30/2022	13:09 24HR	Andover		2		State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: | **< LOCATION >** | **NOT AT INTERSECTION:**

1 / 1 — Route# 12 — Direction — Haverhill St (Name of Roadway/Street)

At

Route# 12 — Direction — Name of Intersecting Roadway/Street

Also at Intersection with

2 / 1 — Route# 12 — Direction — High St (Name of Intersecting Roadway/Street)

10 / 2 — Route# — Direction — Address # — Name of Roadway/Street

Feet — N S E W — of — Mile Marker — or — Exit Number

11 / 2 — 20 Feet W of Route# — High St (Intersecting Roadway/Street)

Feet — N S E W — of — Landmark

3 — **Please Select One of the Following:** ☑ Vehicle 1 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | Crash Report ID# 22-004557

Vehicle 1

License # — St — DOB/Age 07-15-1977/47

Sex M — Lic. Class D — Lic. Restrictions — CDL Endorsement

Operator Paniagua, Christian (Last First Middle)

4 / 3 — Address 4 Tech Dr Room 151

City Andover — State MA — Zip 01810

Insurance Company

Vehicle Travel Direction: N S E W — Responding to Emergency? No

5 / 1 — Citation # (If Issued) T2757696

Viol. 1: Ch/Sec/Sub 5555 — Viol. 2: Ch/Sec/Sub

Viol. 3: Ch/Sec/Sub — Viol. 4: Ch/Sec/Sub

6 / 1

Reg # 7TH794 — Reg Type PAN — Reg State MA

12 / 1 — Veh Year 2014 — Veh Make AUDI — Veh Config. 1

Owner Paniagua, Christian (Last First Middle)

Address 4 Tech Dr Room 151

City Andover — State MA — Zip 01810

Vehicle Action Prior to Crash 2

Event Sequence 1

Most Harmful Event 1

Driver Contributing Code 19

Driver Distracted by 0

Damaged Area Code: 1

Test Status: 1

Type of Test:

BAC Test Result: 1

13 / 1 — Susp. Alcohol: 2 — Susp. Drug: 2

Towed from scene? 2

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1							

7 / 1 — **Please Select One of the Following:** ☑ Vehicle 2 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | ☐ Vulnerable User — Complete the Vulnerable User section.

Vehicle 2

License # — St — DOB/Age 02-23-2002/22

Sex F — Lic. Class D — Lic. Restrictions — CDL Endorsement

8 / 1 — Operator Ortega, Cassandra (Last First Middle)

Address 209 Chickering Rd

City North Andover — State MA — Zip 01845

Insurance Company Arbella Mutual Insurance Company

Vehicle Travel Direction: N S E W — Responding to Emergency? No

9 / 2 — Citation # (If Issued)

Viol. 1: Ch/Sec/Sub — Viol. 2: Ch/Sec/Sub

Viol. 3: Ch/Sec/Sub — Viol. 4: Ch/Sec/Sub

Reg # 77T880 — Reg Type PAN — Reg State MA

Veh Year 2009 — Veh Make DODG — Veh Config. 2

Owner Ortega Gonzalez, Hector (Last First Middle)

Address 209 Chickering Rd

City North Andover — State MA — Zip 01845

Vehicle Action Prior to Crash 2

Event Sequence 1

Most Harmful Event

Driver Contributing Code 2

Driver Distracted by 0

Damaged Area Code: 5

Test Status: 1

Type of Test:

BAC Test Result: 1

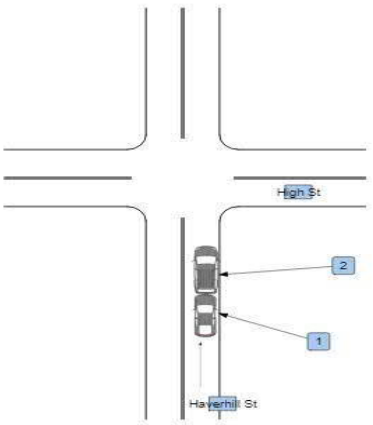
14 — Susp. Alcohol: 2 — Susp. Drug: 2

Towed from scene? 2

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1							

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | ♀ = Pedestrian | 🚲 = Bicycle

Crash Diagram: ie: → 1 → 2 → ♀ → 🚲



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV#1 operated by Paniagua was traveling east on Haverhill St when it struck the rear of MV#2 operated by Ortega who was stopped at a red light near the intersection of Haverhill and High Streets. Damage to both vehicles is estimated to be under $1000. There were no injuries or tows as a result of this crash. Paniagua was cited for a Town of Andover MV Bylaw violation (failure to use care when stopping) on T2757696.

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Kiberd, Kyle R	PILM.	KKib	Andover Police Depar		03/30/2022
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

Police Use Only			Commonwealth of Massachusetts			RMV Document Number
Date of Crash	Time of Crash	City/Town	**Motor Vehicle Crash Police Report**	Number Vehicles	Number Injured	Speed Limit 30 / Latitude 42.674357 / Longitude -71.135198
04/02/2022	11:21 24HR	Andover		2		State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: | **< LOCATION >** | **NOT AT INTERSECTION:**

1 — 1

Route# — Direction — Haverhill St (Name of Roadway/Street)

At

Route# — Direction — High St (Name of Intersecting Roadway/Street)

Also at Intersection with

2 — 1

Route# — Direction — Name of Intersecting Roadway/Street

Route# — Direction — Address # — Name of Roadway/Street — 10: 2

Feet N S E W of — Mile Marker — or — Exit Number

11: 3

Feet N S E W of — Route# — Intersecting Roadway/Street

Feet N S E W of — Landmark

3 — Please Select One of the Following: ☑ Vehicle 1 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | Crash Report ID# 22-004720

License # — St — DOB/Age 12-08-1947/77

Sex M — Lic. Class D — Lic. Restrictions — CDL Endorsement

Operator Hanley, Joseph (Last First Middle)

4 — 3 — Address 24 Stevens Ave

City Lawrence — State MA — Zip 01843

Insurance Company Commerce Insurance Company, The

Vehicle Travel Direction: N S E W — Responding to Emergency? No

5 — Citation # (If Issued) T2757807

Viol. 1: Ch/Sec/Sub 90 9/B — Viol. 2: Ch/Sec/Sub

Viol. 3: Ch/Sec/Sub — Viol. 4: Ch/Sec/Sub

6 — 1

Reg # 69CG33 — Reg Type PAS — Reg State MA

Veh Year 1999 — Veh Make FORD — Veh Config. 2

12: 1

Owner Hanley, Joseph (Last First Middle)

Address 24 Stevens Ave

City Lawrence — State MA — Zip 01843

Vehicle Action Prior to Crash: 1

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 1

Driver Distracted by: 0

Damaged Area Code: 1 2 8

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 — Susp. Drug: 2

Towed from scene? 1

13: 1

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1							

7 — 2 — Please Select One of the Following: ☑ Vehicle 2 — 2 # Occupants | ☐ Hit/Run | ☐ Moped | ☐ Vulnerable User — Complete the Vulnerable User section.

License # — St — DOB/Age 07-17-1961/63

Sex F — Lic. Class D — Lic. Restrictions — CDL Endorsement

Operator Burgado, Yolanda (Last First Middle)

8 — 1 — Address 25 Rollins St

City Lawrence — State MA — Zip 01841

Insurance Company Arbella Mutual Insurance Company

Vehicle Travel Direction: N E W — Responding to Emergency? No

9 — 2 — Citation # (If Issued) T2757806

Viol. 1: Ch/Sec/Sub 89 9 — Viol. 2: Ch/Sec/Sub

Viol. 3: Ch/Sec/Sub — Viol. 4: Ch/Sec/Sub

Reg # 7TV524 — Reg Type PAN — Reg State MA

Veh Year 2005 — Veh Make HOND — Veh Config. 2

Owner Burgado, Francisco (Last First Middle)

Address 25 Rollins St

City Lawrence — State MA — Zip 01841

Vehicle Action Prior to Crash: 1

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 13 3

Driver Distracted by: 0

Damaged Area Code: 3 2

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 — Susp. Drug: 02

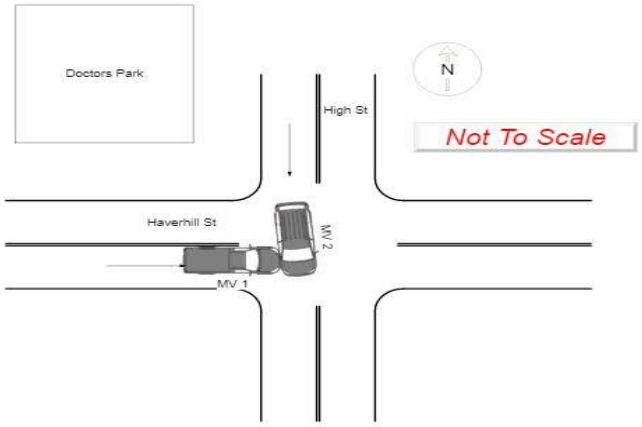
Towed from scene? 1

14

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1							
Burgado, Francisco	25 Rollins St Lawrence MA 01841	03/20/1959	M	3	1	2	0	0	10	1	

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | ♀ = Pedestrian | 🚲 = Bicycle

Crash Diagram: ie: → 1 → 2 → ♀ → 🚲



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV 1 was travelling East on Haverhill St. MV 1 had a green light and proceeded through the High St intersection. MV 2 was travelling South on High St. MV 2 ran the red light and struck MV 1. Operator of MV 2 said the glare from the sun made it difficult to see the traffic signal. Damage is over $1000. No reported injuries. Written warning citation issued to the operator of MV 1 for expired registration and a written warning citation was issued to the operator of MV 2 for failure to stop for a red light. Elm St Auto detailed to tow both vehicles.

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Devine, Daniel J		DDev	Andover Police Depar		04/02/2022
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

Police Use Only

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

RMV Document Number

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured
05/17/2022	17:14 24HR	Andover	2	

Speed Limit 40 | Latitude 42.674357 | Longitude -71.135198

State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

1 — 1

133 | | Haverhill St
Route# | Direction | Name of Roadway/Street

At

		High St
Route#	Direction	Name of Intersecting Roadway/Street

Also at Intersection with

2

Route#	Direction	Name of Intersecting Roadway/Street

Route# | Direction | Address # | Name of Roadway/Street

____ Feet [N S E W] of — — — • — or ____
Mile Marker | Exit Number

____ Feet [N S E W] of Route# ____ Intersecting Roadway/Street

____ Feet [N S E W] of ____
Landmark

10 — 2

11

3

Please Select One of the Following: ☑ Vehicle 1 1 # Occupants ☐ Hit/Run ☐ Moped | Crash Report ID# 22-007291

License # ____ St ____ DOB/Age 09-15-1978/46

Sex M | Lic. Class D | Lic. Restrictions N | CDL Endorsement ____

Reg # 384ct6 | Reg Type PAN | Reg State ____

Veh Year 2016 | Veh Make ACUR | Veh Config. 1

12 — 1

Operator Kwon, Robert O (Last First Middle)

Address 3 FRANKLIN AVE

City ANDOVER | State MA | Zip 01810

4 — 3

Owner Kwon, Robert O (Last First Middle)

Address 3 FRANKLIN AVE

City ANDOVER | State MA | Zip 01810

Insurance Company: Plymouth Rock Assurance Corporation

Vehicle Travel Direction: [N S E W] | Responding to Emergency? No

5

Citation # (If Issued) ____

Viol. 1: Ch/Sec/Sub ____ | Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ | Viol. 4: Ch/Sec/Sub ____

Vehicle Action Prior to Crash: 2

Event Sequence: 1

Most Harmful Event:

Driver Contributing Code: 1

Driver Distracted by: 0

Damaged Area Code: 5

Test Status:

Type of Test:

BAC Test Result:

Susp. Alcohol: | Susp. Drug: 1

Towed from scene? 2

13 — 1

6 — 1

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1							

7 — 2

Please Select One of the Following: ☑ Vehicle 2 1 # Occupants ☐ Hit/Run ☐ Moped ☐ Vulnerable User Complete the Vulnerable User section.

License # ____ St ____ DOB/Age 07-01-2004/20

Sex F | Lic. Class D | Lic. Restrictions | CDL Endorsement ____

Reg # 8LG987 | Reg Type PAN | Reg State MA

Veh Year 2006 | Veh Make HOND | Veh Config. 1

Operator Hall, Audrey E (Last First Middle)

Address 1424 SALEM ST

City North Andover | State MA | Zip 01845

8 — 2

Owner Hall, John M (Last First Middle)

Address 1424 Salem Street

City North Andover | State MA | Zip 01845

Insurance Company: Commerce Insurance Company, The

Vehicle Travel Direction: [N S E W] | Responding to Emergency? No

Citation # (If Issued) T2757500

Viol. 1: Ch/Sec/Sub 720C B | Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ | Viol. 4: Ch/Sec/Sub ____

Vehicle Action Prior to Crash: 1

Event Sequence: 1

Most Harmful Event:

Driver Contributing Code: 20

Driver Distracted by: 5

Damaged Area Code: 1

Test Status:

Type of Test:

BAC Test Result:

Susp. Alcohol: | Susp. Drug:

Towed from scene? 2

14

9 — 2

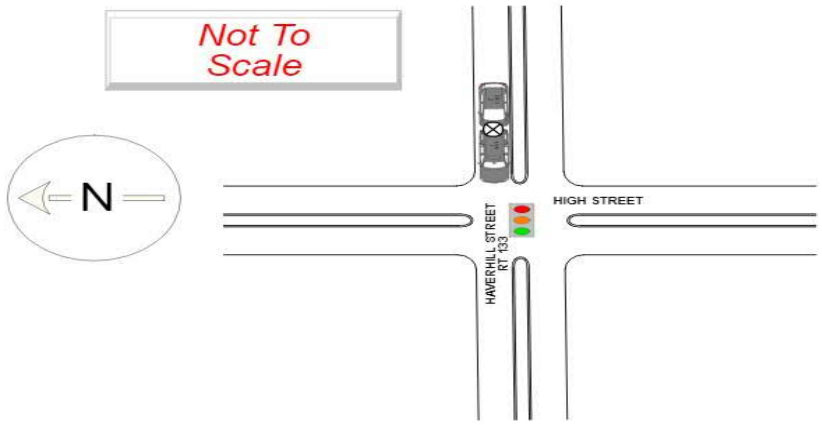
Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1							

Please fill out for operator and all occupants involved

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | = Pedestrian | = Bicycle

ie: → 1 → 2 → →

Crash Diagram:



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV1 and MV2 were both traveling westbound on Haverhill Street (Rt. 133). MV1 stopped at red light at intersection of High Street. MV2 rear ended MV1. No injuries, no tows, damage estimated under $1000.

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Dubois, Barry N	PTLM. Barry N Dubois	BDub	Andover Police Depar	05/18/2022
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Police Use Only

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

RMV Document Number

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured
05/18/2022	08:56 24HR	Andover	2	

Speed Limit 35 | Latitude 42.674357 | Longitude -71.135198

State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

Route# | Direction | Name of Roadway/Street: Haverhill St

At

Route# | Direction | Name of Intersecting Roadway/Street: High St

Also at Intersection with

Route# | Direction | Name of Intersecting Roadway/Street:

Route# | Direction | Address # | Name of Roadway/Street:

Feet N S E W of — — — • — or Mile Marker / Exit Number

Feet N S E W of Route# | Intersecting Roadway/Street

Feet N S E W of Landmark

Please Select One of the Following: ☑ Vehicle 1 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | Crash Report ID# 22-007341

License # — St — DOB/Age 09-13-1987/37

Sex M | Lic. Class D | Lic. Restrictions | CDL Endorsement

Operator (Last First Middle): Cruz Torres, Roberto

Address: 120 Myrtle St, #3

City — State — Zip —

Insurance Company: GEICO General Insurance Company

Vehicle Travel Direction: N S E W | Responding to Emergency? No

Citation # (If Issued): T2872855

Viol. 1: Ch/Sec/Sub 89 8 | Viol. 2: Ch/Sec/Sub

Viol. 3: Ch/Sec/Sub | Viol. 4: Ch/Sec/Sub

Reg # 4JMF19 | Reg Type PAN | Reg State MA

Veh Year 2021 | Veh Make HOND | Veh Config. 1

Owner (Last First Middle): Honda Lease Trust

Address: 600 Kelly Way

City Holyoke | State MA | Zip 01040

Vehicle Action Prior to Crash: 4

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 4

Driver Distracted by: 0

Damaged Area Code: 3 2

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 | Susp. Drug: 2

Towed from scene? 1

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	Seat Pos.	Safety System	Airbag Status	Eject Code	Trap Code	Injury Status	Transp. Code	Medical Facility
Operator	See Above			1							

Please Select One of the Following: ☑ Vehicle 2 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | ☐ Vulnerable User — Complete the Vulnerable User section.

License # — St — DOB/Age 02-19-2004/20

Sex M | Lic. Class D | Lic. Restrictions | CDL Endorsement

Operator (Last First Middle): Holland, Davis A

Address: 88 Wildwood Rd

City Andover | State MA | Zip 01810

Insurance Company: Commerce Insurance Company, The

Vehicle Travel Direction: N S E W | Responding to Emergency? No

Citation # (If Issued) —

Viol. 1: Ch/Sec/Sub — | Viol. 2: Ch/Sec/Sub —

Viol. 3: Ch/Sec/Sub — | Viol. 4: Ch/Sec/Sub —

Reg # 4ER768 | Reg Type PAN | Reg State MA

Veh Year 2008 | Veh Make SAA | Veh Config. 1

Owner (Last First Middle): Holland, Andrew Carter

Address: 88 Wildwood Rd

City Andover | State — | Zip 01810

Vehicle Action Prior to Crash: 1

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 1

Driver Distracted by: 0

Damaged Area Code: 2

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 | Susp. Drug: 2

Towed from scene? 1

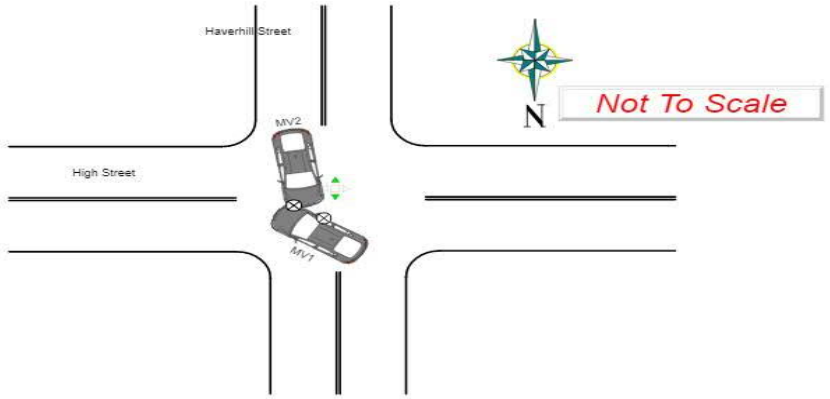
Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	Seat Pos.	Safety System	Airbag Status	Eject Code	Trap Code	Injury Status	Transp. Code	Medical Facility
Operator/Occupants	See Above			1							

→ = Direction [1] = Vehicle 1 [2] = Vehicle 2 = Pedestrian = Bicycle

ie: → [1] → [2] → →

Crash Diagram:



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV2 traveling West on Haverhill street approaching intersection with High Street. MV1 attempting to turn left from Haverhill Street onto High Street in front of MV2. MV1 failed to yield right of way, striking front of MV2. Both vehicles towed, no injuries reported. Damage estimated to be in excess of $1000. OP MV1 given written warning in the form of Massachusetts Uniform Citation T2872855 for the following offense: 89:9 FAIL TO YIELD AT

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Siegel, Elliot A	PTLM	ESie	Andover Police Depar		05/18/2022
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

INTERSECTION. All roads within this report are public ways within the town of Andover.

Police Use Only	Commonwealth of Massachusetts	RMV Document Number

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured	Speed Limit / Location	Agency
10/14/2022	07:56 24HR	Andover	2	1	Speed Limit 30; Latitude 42.674357; Longitude -71.135198	State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

1 1
Route# Direction High St — Name of Roadway/Street
At
Route# Direction Haverhill St — Name of Intersecting Roadway/Street
Also at Intersection with
2 3
Route# Direction Name of Intersecting Roadway/Street

10 2
Route# Direction Address # Name of Roadway/Street
Feet N S E W of — — — • — Mile Marker or Exit Number
11 2
Feet N S E W of Route# Intersecting Roadway/Street
Feet N S E W of Landmark

3 2
Please Select One of the Following: ☑ Vehicle 1 2 # Occupants ☐ Hit/Run ☐ Moped Crash Report ID# 22-016535

Field	Value	Field	Value
License #		Reg #	2NXZ69
St		Reg Type	PAN
DOB/Age	11-16-1968/56	Reg State	MA
Sex	F	Veh Year	2020
Lic. Class (19)	D	Veh Make	HOND
Lic. Restrictions (20)		Veh Config. (21)	1
CDL Endorsement			
Operator (Last First Middle)	Bardetti-Taxiarhos, Deana	Owner (Last First Middle)	Bardetti-Taxiarhos, Deana
Address	8 Dale St	Address	8 Dale St
City	Andover	City	Andover
State	MA	State	MA
Zip	01810	Zip	01810
Insurance Company	GEICO General Insurance Company	Vehicle Action Prior to Crash (22)	2
Vehicle Travel Direction	N S● E W (S)	Damaged Area Code (27)	0
Responding to Emergency?	No	Event Sequence (23)	1
Citation # (If Issued)		Test Status (28)	1
Viol. 1: Ch/Sec/Sub		Type of Test (29)	
Viol. 2: Ch/Sec/Sub		Most Harmful Event (24)	1
Viol. 3: Ch/Sec/Sub		BAC Test Result (30)	1
Viol. 4: Ch/Sec/Sub		Driver Contributing Code (25)	1
		Susp. Alcohol (31)	2
		Susp. Drug (32)	2
		Driver Distracted by (26)	0
		Towed from scene? (33)	3

4 3
5 1
6 2
12 1
13 1

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1							
Taxiahos, Simon I	148 Main St North Andover MA 01845	02/07/2008		3	1	4	0	0	10	2	

7 2
Please Select One of the Following: ☑ Vehicle 2 1 # Occupants ☐ Hit/Run ☐ Moped ☐ Vulnerable User Complete the Vulnerable User section.

Field	Value	Field	Value
License #		Reg #	1TJS31
St		Reg Type	PAN
DOB/Age	10-03-1987/37	Reg State	MA
Sex	M	Veh Year	2016
Lic. Class (19)	D	Veh Make	TOYT
Lic. Restrictions (20)		Veh Config. (21)	1
CDL Endorsement			
Operator (Last First Middle)	Sunday, Eric	Owner (Last First Middle)	Sunday, Eric
Address	8 Crescent Dr,9	Address	8 Crescent Dr,9
City	Andover	City	Andover
State	MA	State	MA
Zip	01810	Zip	01810
Insurance Company	Foremost Insurance Company Grand Rapids Michigar	Vehicle Action Prior to Crash (22)	1
Vehicle Travel Direction	N S● E W (S)	Damaged Area Code (27)	0
Responding to Emergency?	No	Event Sequence (23)	1
Citation # (If Issued)		Test Status (28)	1
Viol. 1: Ch/Sec/Sub		Type of Test (29)	
Viol. 2: Ch/Sec/Sub		Most Harmful Event (24)	1
Viol. 3: Ch/Sec/Sub		BAC Test Result (30)	1
Viol. 4: Ch/Sec/Sub		Driver Contributing Code (25)	5
		Susp. Alcohol (31)	2
		Susp. Drug (32)	2
		Driver Distracted by (26)	0
		Towed from scene? (33)	2

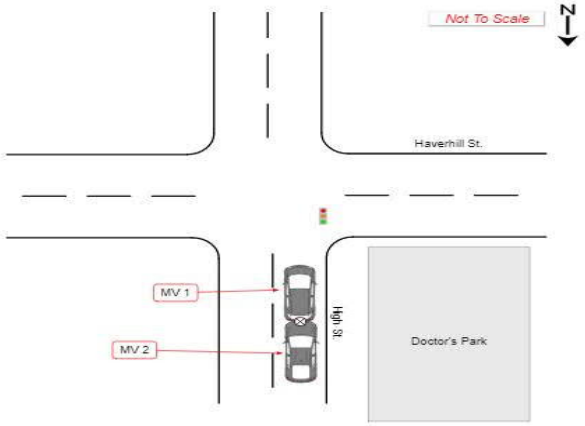
8 1
9 2
14

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1							

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | = Pedestrian | = Bicycle

Crash Diagram: ie: → 1 → 2 → →



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

On 10/15/22 at approximately 0756hrs, MV 2 (MA Reg 1TJS31) was traveling south on High St. when it rear-ended MV 1 (MA Reg 2NXZ69). Operators exchanged information and the operator of MV 2 had to leave to go pick up his son. Operator of MV 1 complained of back pain when I arrived on scene and the Andover Fire Department did an evaluation and the operator of MV 1 was transported to [redacted] There was minimal to no damage to either MV 1 or MV 2. Elm Street Auto was detailed for the tow of MV 1. Damage is not estimated to be greater than $1,000 to either vehicle.

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Murphy, Liam H		LMUR	Andover Police Depar		10/15/2022
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

Police Use Only			RMV Document Number
Date of Crash: 11/02/2022	Time of Crash: 07:47 24HR	City/Town: Andover	

Number Vehicles	Number Injured	Speed Limit	Latitude	Longitude	Police
2		30	-38.898922	177.43920	State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

At intersection:

1 1
Route# ___ Direction ___ Name of Roadway/Street ___

At

Route# ___ Direction ___ Name of Intersecting Roadway/Street ___

Also at Intersection with

2 1
Route# ___ Direction ___ Name of Intersecting Roadway/Street ___

Not at intersection:

Route# ___ Direction ___ Address # ___ Name of Roadway/Street: Riverina Rd — 10: 2

___ Feet N S E W of — — — • — Mile Marker or ___ Exit Number

1 Feet N S̸ E W of Route# ___ Intersecting Roadway/Street: Haverhill St. — 11: 3

___ Feet N S E W of ___ Landmark

3
Please Select One of the Following: ☑ Vehicle 1 — 1 # Occupants ☐ Hit/Run ☐ Moped — Crash Report ID# 22-017727

License # ___ St ___ DOB/Age 10-08-1993/31	Reg # 2ZKX44 Reg Type PAN Reg State MA — 12: 1
Sex F Lic. Class (19) D (19) ___ Lic. Restrictions (20) ___ CDL Endorsement ___	Veh Year 2016 Veh Make CHEV Veh Config. (21) 1
4: 2 — Operator (Last, First, Middle): Merola, Stephanie J	Owner (Last, First, Middle): Merola, Stephanie J
Address: 3 Rita Ln	Address: 3 Rita Ln
City: Lawrence State: MA Zip: 01843	City: Lawrence State: MA Zip: 01843
Insurance Company: Commerce Insurance Company, The	Vehicle Action Prior to Crash (22): 4 — Damaged Area Code (27): 4
5: 1 — Vehicle Travel Direction: N S ● W — Responding to Emergency? No	Event Sequence (23): 1 — Test Status (28): 1
Citation # (If Issued) ___	Most Harmful Event (24): 1 — Type of Test (29): ___
Viol. 1: Ch/Sec/Sub ___ Viol. 2: Ch/Sec/Sub ___	Driver Contributing Code (25): 12 — BAC Test Result (30): 1
6: 1 — Viol. 3: Ch/Sec/Sub ___ Viol. 4: Ch/Sec/Sub ___	Driver Distracted by (26): 0 — Susp. Alcohol (31): 2 — Susp. Drug (32): 2 — 13: 1 — Towed from scene? (33): 2

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above	X	X	1							

---

7 3
Please Select One of the Following: ☑ Vehicle 2 — 1 # Occupants ☐ Hit/Run ☐ Moped ☐ Vulnerable User — Complete the Vulnerable User section.

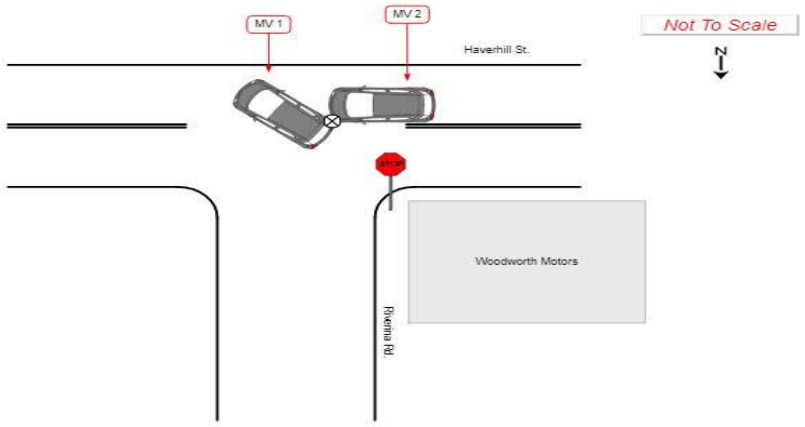
License # ___ St ___ DOB/Age 06-12-1994/30	Reg # 3WRM34 Reg Type PAN Reg State MA
Sex F Lic. Class (19) D (19) ___ Lic. Restrictions (20) ___ CDL Endorsement ___	Veh Year 1999 Veh Make TOYT Veh Config. (21) 1
8: 1 — Operator (Last, First, Middle): Mitchell, Elizabeth E	Owner (Last, First, Middle): Mitchell, Elizabeth E
Address: 74 Morgan Dr	Address: 74 Morgan Dr
City: Haverhill State: MA Zip: 01832	City: Haverhill State: MA Zip: 01832 — 14
Insurance Company: GEICO General Insurance Company	Vehicle Action Prior to Crash (22): 1 — Damaged Area Code (27): 8
Vehicle Travel Direction: N S ● W — Responding to Emergency? No	Event Sequence (23): 1 — Test Status (28): 1
Citation # (If Issued) ___	Most Harmful Event (24): 1 — Type of Test (29): ___
9: 2 — Viol. 1: Ch/Sec/Sub ___ Viol. 2: Ch/Sec/Sub ___	Driver Contributing Code (25): 1 — BAC Test Result (30): 1
Viol. 3: Ch/Sec/Sub ___ Viol. 4: Ch/Sec/Sub ___	Driver Distracted by (26): 0 — Susp. Alcohol (31): 2 — Susp. Drug (32): 2 — Towed from scene? (33): 2

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above	X	X	1							

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | ♀ = Pedestrian | 🚲 = Bicycle

Crash Diagram: ie: → 1 → 2 → ♀ → 🚲



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

On 11/2/22 at approximately 0747hrs, MV 1 (MA Reg 2ZKX44) was taking a left turn onto Haverhill St. from Riverina Rd. when it struck MV 2 (MA Reg 3WRM34) which was traveling east on Haverhill St. Both drivers stated that a third vehicle cut off MV 1 when it was attempting the left turn onto Haverhill St. which cause the operator of MV 1 to swerve and avoid that vehicle causing MV 1 to hit MV 2. There was very minor damage to both vehicles and damage is not estimated to be greater than $1,000 to either vehicle. Both operators

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Murphy, Liam H		LMUR	Andover Police Depar		11/03/2022
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

exchanged information on scene and were given crash reporting instructions. Nothing further.

Police Use Only	Commonwealth of Massachusetts	RMV Document Number

Date of Crash	Time of Crash	City/Town	Motor Vehicle Crash Police Report	Number Vehicles	Number Injured		
11/19/2022	16:22 24HR	Andover		2		Speed Limit 35 Latitude 42.674357 Longitude -71.135198	State Police ❑ Local Police ☑ MBTA Police ❑ Campus Police ❑ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

1 3

Route# Direction Name of Roadway/Street: Haverhill St

At

Route# Direction Name of Intersecting Roadway/Street: High St

Also at Intersection with

Route# Direction Name of Intersecting Roadway/Street

2 1

Route# Direction Address # Name of Roadway/Street — 10 2

Feet N S E W of — — — • — Mile Marker or Exit Number

Feet N S E W of Route# Intersecting Roadway/Street — 11 3

Feet N S E W of Landmark

3 1

Please Select One of the Following: ☑ Vehicle 1 2 # Occupants ❑ Hit/Run ❑ Moped — Crash Report ID# 22-018785

License # St DOB/Age 04-28-1971/53 — Reg # 1181861 Reg Type PC Reg State NH — 12 1

Sex M Lic. Class [19] D [19] Lic. Restrictions [20] CDL Endorsement — Veh Year 2022 Veh Make BMW Veh Config. 2 [21]

Operator Glance, Matthew Adam (Last First Middle) — Owner Glance, Matthew Adam (Last First Middle)

4 3

Address 9 brown ave — Address 9 brown ave

City Stratham State NH Zip 03885 — City Stratham State NH Zip 03885

Insurance Company CINCINNATI CASUALTY CO — Vehicle Action Prior to Crash 1 [22] — Damaged Area Code: 1 [27] 8 [27] [27]

Vehicle Travel Direction: N S ● W — Responding to Emergency? No — Event Sequence 1 [23] [23] [23] [23] — Test Status: 1 [28]

5 1

Type of Test: [29]

Citation # (If Issued) — Most Harmful Event 1 [24] — BAC Test Result: 1 [30]

Viol. 1: Ch/Sec/Sub — Viol. 2: Ch/Sec/Sub — Driver Contributing Code 1 [25] [25] — Susp. Alcohol: 2 [31] Susp. Drug: 2 [32] — 13 1

6 1

Viol. 3: Ch/Sec/Sub — Viol. 4: Ch/Sec/Sub — Driver Distracted by 0 [26] [26] — Towed from scene? 2 [33]

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above	X	X	1	1	4	0	0	10	1	
Glance, Kerry	9 Brown Ave Stratham NH 03885	05/18/1974	F	3	1	4	0	0	10	1	

7 2

Please Select One of the Following: ☑ Vehicle 2 1 # Occupants ❑ Hit/Run ❑ Moped ❑ Vulnerable User — Complete the Vulnerable User section.

License # St DOB/Age 02-02-1948/76 — Reg # 246LA0 Reg Type PC Reg State MA

Sex F Lic. Class [19] D [19] Lic. Restrictions [20] CDL Endorsement — Veh Year 2017 Veh Make TOYT Veh Config. 2 [21]

Operator Neilson, Patricia Akemi (Last First Middle) — Owner Neilson, Patricia Akemi (Last First Middle)

8 2

Address 9 Beacon Hill Blvd — Address 9 Beacon Hill Blvd

City North Andover State MA Zip 01845 — City North Andover State MA Zip 01845 — 14

Insurance Company Standard Fire Insurance Company, The — Vehicle Action Prior to Crash 4 [22] — Damaged Area Code: 1 [27] 8 [27] 2 [27]

Vehicle Travel Direction: N ● E W — Responding to Emergency? No — Event Sequence 1 [23] [23] [23] [23] — Test Status: 1 [28]

Type of Test: [29]

Citation # (If Issued) — Most Harmful Event 1 [24] — BAC Test Result: 1 [30]

9 2

Viol. 1: Ch/Sec/Sub — Viol. 2: Ch/Sec/Sub — Driver Contributing Code 4 [25] [25] — Susp. Alcohol: 2 [31] Susp. Drug: 2 [32]

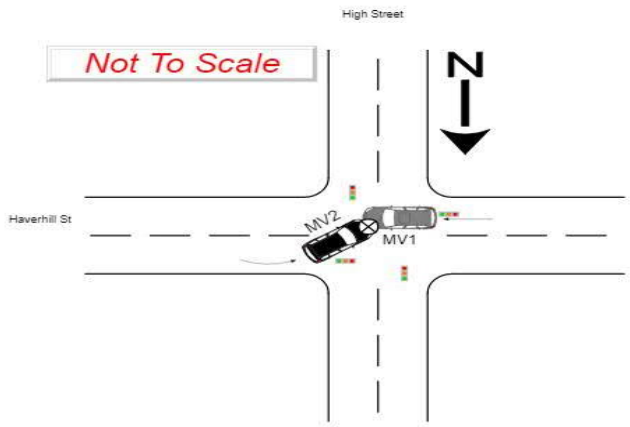
Viol. 3: Ch/Sec/Sub — Viol. 4: Ch/Sec/Sub — Driver Distracted by 0 [26] [26] — Towed from scene? 1 [33]

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above	X	X	1	1	3	0	0	10	1	

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | ♀ = Pedestrian | 🚲 = Bicycle

Crash Diagram: ie: → 1 → 2 → ♀ → 🚲



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV1 (NH 1181861) was travelling East on Haverhill Street
MV2 (MA REG 246LA0) was traveling West on Haverhill Street.
MV2 failed to yield the right of way to MV1 and turned left onto High Street, Striking MV1

Damage over $1,000.
MV2 had front/side airbag deployment

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Allard, Joseph T III	PTLM. Joseph Allard	JAll	Andover Police Depar		11/20/2022
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

Andover Fire Spoke with all operators and passengers, no injuries were reported.

MV2 was towed by Elm Street Auto
Operator of MV2 admitted to not yielding right of way to MV1, MV1 received a verbal warning for MGL Chapter 89 Section 8. failure to yield.

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

Police Use Only			RMV Document Number
Date of Crash: 12/03/2022	Time of Crash: 11:06 24HR	City/Town: Andover	Number Vehicles: 2 / Number Injured: 2

Speed Limit 30 | Latitude 42.673487 | Longitude -71.13582
State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > **NOT AT INTERSECTION:**

At intersection: Route# ___ Direction ___ Name of Roadway/Street ___ At Route# ___ Direction ___ Name of Intersecting Roadway/Street ___ Also at Intersection with Route# ___ Direction ___ Name of Intersecting Roadway/Street ___

Not at intersection: Route# ___ Direction ___ Address # 186 Name of Roadway/Street High St

___ Feet N S E W of Mile Marker ___ or Exit Number ___

500 Feet N S(✓) E W of Route# ___ Intersecting Roadway/Street Haverhill Street

___ Feet N S E W of Landmark ___

Margin boxes: 1: 1; 2: 3; 3: ; 10: 2; 11: 2

Please Select One of the Following: ☑ Vehicle 1 — 1 # Occupants ☐ Hit/Run ☐ Moped | Crash Report ID# 22-019581

License # ___ St ___ DOB/Age 10-28-2002/22 | Reg # 3ZXF94 Reg Type PC Reg State MA

Sex F Lic. Class D (19) (19) Lic. Restrictions (20) CDL Endorsement ___ | Veh Year 2007 Veh Make HOND Veh Config. 1 (21)

Operator Garcia, Hilary A (Last First Middle) | Owner Perez Garcia, Kemil M

Address 380 Lowell Street | Address 380 Lowell Street

City Lawrence State MA Zip 01841 | City Lawrence State MA Zip 01841

Insurance Company Commerce Insurance Company, The | Vehicle Action Prior to Crash 1 (22) | Damaged Area Code: 1 (27) (27) (27)

Vehicle Travel Direction: N S(●) E W | Responding to Emergency? No | Event Sequence 1 (23) (23) (23) (23) | Test Status: 1 (28)

Citation # (If Issued) T2872898 | Most Harmful Event 1 (24) | Type of Test: (29)

Viol. 1: Ch/Sec/Sub 90 34J | Viol. 2: Ch/Sec/Sub 90 9/B | Driver Contributing Code 21 (25) (25) | BAC Test Result: 1 (30)

Viol. 3: Ch/Sec/Sub 5555 | Viol. 4: Ch/Sec/Sub ___ | Driver Distracted by 0 (26) (26) | Susp. Alcohol: 2 (31) Susp. Drug: 2 (32) | Towed from scene? 1 (33)

Margin boxes: 4: 1; 5: ; 6: 2; 12: 1; 13: 1

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1	1	1	0	0	9	2	[redacted]

Please Select One of the Following: ☑ Vehicle 2 — 1 # Occupants ☐ Hit/Run ☐ Moped ☐ Vulnerable User — Complete the Vulnerable User section.

License # ___ St ___ DOB/Age 05-18-1977/47 | Reg # 8XS419 Reg Type PC Reg State MA

Sex F Lic. Class D (19) (19) Lic. Restrictions B (20) CDL Endorsement ___ | Veh Year 2015 Veh Make HOND Veh Config. 1 (21)

Operator Goodridge, Laura (Last First Middle) | Owner Goodridge, John

Address 8 Longwood Dr,303 | Address 8 Longwood Dr,303

City Andover State MA Zip 01810 | City Andover State MA Zip 01810

Insurance Company Liberty Mutual Insurance Company | Vehicle Action Prior to Crash 4 (22) | Damaged Area Code: 5 (27) (27) (27)

Vehicle Travel Direction: N S(●) E W | Responding to Emergency? No | Event Sequence 1 (23) (23) (23) (23) | Test Status: 1 (28)

Citation # (If Issued) ___ | Most Harmful Event 1 (24) | Type of Test: (29)

Viol. 1: Ch/Sec/Sub ___ | Viol. 2: Ch/Sec/Sub ___ | Driver Contributing Code 1 (25) (25) | BAC Test Result: 1 (30)

Viol. 3: Ch/Sec/Sub ___ | Viol. 4: Ch/Sec/Sub ___ | Driver Distracted by 0 (26) (26) | Susp. Alcohol: 2 (31) Susp. Drug: 2 (32) | Towed from scene? 2 (33)

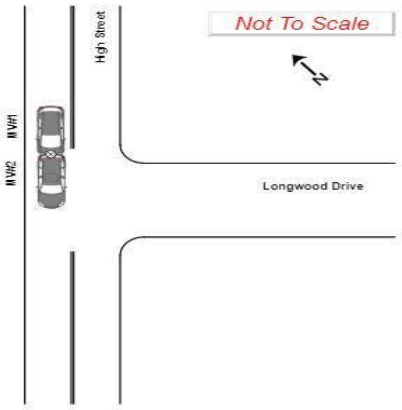
Margin boxes: 7: 1; 8: 1; 9: 2; 14:

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1	1	4	0	0	9	2	[redacted]

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | ♀ = Pedestrian | 🚲 = Bicycle

Crash Diagram: ie: → 1 → 2 → ♀ → 🚲



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV#1, MA Reg. 3ZXF94 was traveling Southwest on High Street when they rear ended MV#2, MA Reg. 8XS419, which was attempting to take a left onto Longwood Drive. Damage is estimated to be over $1,000. Both operators were transported by Andover FD to [redacted] for unknown injuries. MV#1 was towed by Elm Street Automotive.

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Hughes, Christopher J	PTLM. Chris Hughes	CHug	Andover Police Depar		12/03/2022
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

Police Use Only

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

RMV Document Number

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured
12/28/2022	18:25 24HR	Andover	2	

Speed Limit 30 | Latitude 42.674357 | Longitude -71.135198

State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

Route# | Direction | Name of Roadway/Street: High St

At

Route# | Direction | Name of Intersecting Roadway/Street: Haverhill St

Also at Intersection with

Route# | Direction | Name of Intersecting Roadway/Street:

Route# | Direction | Address # | Name of Roadway/Street:

____ Feet [N S E W] of ___ ___ ___ • ___ Mile Marker or ____ Exit Number

____ Feet [N S E W] of Route# ____ Intersecting Roadway/Street

____ Feet [N S E W] of Landmark

Please Select One of the Following: ☑ Vehicle 1 — 2 # Occupants | ☐ Hit/Run | ☐ Moped | Crash Report ID# 22-020991

License # ____ St ____ DOB/Age 09-26-1999/25

Sex M Lic. Class D Lic. Restrictions ____ CDL Endorsement ____

Operator (Last First Middle): Caracoglia, Joseph J IV

Address: 186 Rockingham Rd

City: Windham State: NH Zip: 03087

Insurance Company: ____

Vehicle Travel Direction: [N S E W] Responding to Emergency? No

Citation # (If Issued): Y3047961

Viol. 1: Ch/Sec/Sub 89 8 Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ Viol. 4: Ch/Sec/Sub ____

Reg # 7P362 Reg Type PC Reg State NH

Veh Year 2006 Veh Make JEEP Veh Config. 2

Owner (Last First Middle): Caracoglia, Joseph J IV

Address: 186 Rockingham Rd

City: Windham State: NH Zip: 03087

Vehicle Action Prior to Crash: 4

Event Sequence: 1 | | | |

Most Harmful Event: 1

Driver Contributing Code: 4 | |

Driver Distracted by: 0 | |

Damaged Area Code: 1 | | |

Test Status: 1

Type of Test: |

BAC Test Result: 1

Susp. Alcohol: 2 Susp. Drug: 2

Towed from scene? 1

Name (Last First Middle)	Address	DOB/Age	Sex	Seat Pos.	Safety System	Airbag Status	Eject Code	Trap Code	Injury Status	Transp. Code	Medical Facility
Operator	See Above			1	0	4	0	0	10	1	
Bieniecki, Shayla M	52 Danville Rd Kingston NH 03848	10/29/2002	F	6	1	4	0	0	10	1	

Please Select One of the Following: ☑ Vehicle 2 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | ☐ Vulnerable User — Complete the Vulnerable User section.

License # ____ St ____ DOB/Age 08-19-1993/31

Sex M Lic. Class D Lic. Restrictions ____ CDL Endorsement ____

Operator (Last First Middle): Shattuck, Zachary W

Address: 92 Gilbert St

City: Lawrence State: MA Zip: 01843

Insurance Company: Government Employees Insurance Company

Vehicle Travel Direction: [N S E W] Responding to Emergency? No

Citation # (If Issued): ____

Viol. 1: Ch/Sec/Sub ____ Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ Viol. 4: Ch/Sec/Sub ____

Reg # 4PKJ99 Reg Type PC Reg State MA

Veh Year 2012 Veh Make MAZD Veh Config. 1

Owner (Last First Middle): Paine, Cheryl A

Address: 92 Gilbert St

City: Lawrence State: MA Zip: 01843

Vehicle Action Prior to Crash: 1

Event Sequence: 1 | 20 | 40 | |

Most Harmful Event: 1

Driver Contributing Code: 99 | |

Driver Distracted by: 0 | |

Damaged Area Code: 8 | 10 | |

Test Status: 1

Type of Test: |

BAC Test Result: 1

Susp. Alcohol: 2 Susp. Drug: 2

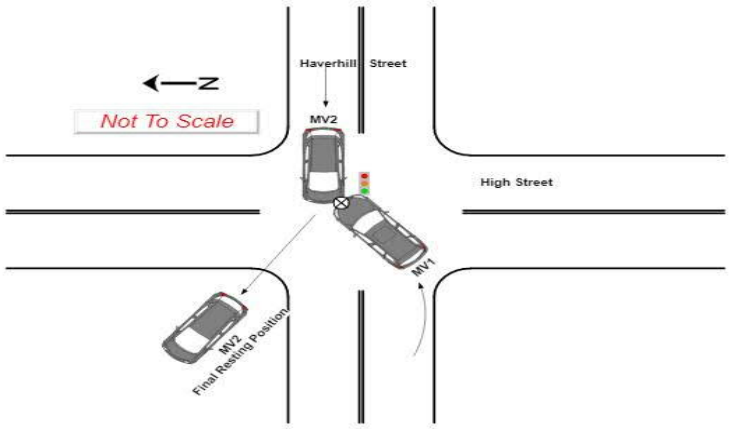
Towed from scene? 1

Name (Last First Middle)	Address	DOB/Age	Sex	Seat Pos.	Safety System	Airbag Status	Eject Code	Trap Code	Injury Status	Transp. Code	Medical Facility
Operator/Occupants	See Above			1	1	4	0	0	10	1	

Form No. 10364 CRA-65 08/23

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | ♀ = Pedestrian | 🚲 = Bicycle

Crash Diagram: ie: → 1 → 2 → ♀ → 🚲



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV1 was NH Reg: 7P362 operated by Joseph Caracoglia IV. MV2 was MA Reg: 4PKJ99 operated by Zachary Shattuck. MV1 was traveling east on Haverhill Street attempting to take a left turn on to High Street. MV2 was traveling west on Haverhill Street going straight through the intersection. Both parties stated the light was green. MV1 turning left failed to yield the right of way to MV2 traveling straight and struck the vehicle. Operator of MV1 stated MV2 was speeding. Operator of MV2 stated he was going 30-35mph. Andover Fire

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Lamagna, Joseph D	Jr. Joseph Lamagna	JLam	Andover Police Depar		12/28/2022
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

Department responded to the scene and evaluated all parties involved in the crash. All parties refused transport to the hospital. Elm Street Automotive towed both vehicles back to their tow yard. Damage over $1,000.00. MV1 was issued a written warning on citation # T3047961 for G.L. Chap. 89/8 - Failure to Yield the Right of Way When Turning Left.

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

Police Use Only

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured
03/02/2023	18:15 24HR	Andover	2	2

RMV Document Number

Speed Limit 35 | Latitude 36.834706 | Longitude -76.327896

State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

Route# | Direction | Name of Roadway/Street: High St

At

Route# | Direction | Name of Intersecting Roadway/Street: Haverhill St

Also at Intersection with

Route# | Direction | Name of Intersecting Roadway/Street:

Route# | Direction | Address # | Name of Roadway/Street:

Feet N S E W of — — — • — Mile Marker or Exit Number

Feet N S E W of Route# Intersecting Roadway/Street

Feet N S E W of Landmark

Please Select One of the Following: ☑ Vehicle 1 — 2 # Occupants ☐ Hit/Run ☐ Moped — Crash Report ID# 23-003512

License # — St — DOB/Age 02-01-1976/48

Sex F — Lic. Class D — Lic. Restrictions — CDL Endorsement

Operator Diep, Mai Le (Last First Middle)

Address 118 Bailey St

City Lawrence — State MA — Zip 01843

Insurance Company Progressive Casualty Insurance Company

Vehicle Travel Direction: N S E W — Responding to Emergency? No

Citation # (If Issued)

Viol. 1: Ch/Sec/Sub — Viol. 2: Ch/Sec/Sub

Viol. 3: Ch/Sec/Sub — Viol. 4: Ch/Sec/Sub

Reg # 3CJ725 — Reg Type PC — Reg State MA

Veh Year 2015 — Veh Make TOYT — Veh Config. 2

Owner Diep, Mai Le (Last First Middle)

Address 118 Bailey St

City Lawrence — State MA — Zip 01843

Vehicle Action Prior to Crash: 2

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 1

Driver Distracted by: 0

Damaged Area Code: 5

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 — Susp. Drug: 2

Towed from scene? 2

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	Seat Pos.	Safety System	Airbag Status	Eject Code	Trap Code	Injury Status	Transp. Code	Medical Facility
Operator	See Above			1	1	4	0	0	8	2	[redacted]
Nguyen, Nya	118 Bailey St Lawrence MA 01843	02/11/1978	F	3	1	4	0	0	8	2	[redacted]

Please Select One of the Following: ☑ Vehicle 2 — 2 # Occupants ☐ Hit/Run ☐ Moped ☐ Vulnerable User — Complete the Vulnerable User section.

License # — St — DOB/Age 11-17-1978/46

Sex F — Lic. Class D — Lic. Restrictions — CDL Endorsement

Operator De La Cruz, Graciela (Last First Middle)

Address 10 Greenfield St,1

City Lawrence — State MA — Zip 01843

Insurance Company LM General Insurance Company

Vehicle Travel Direction: N S E W — Responding to Emergency? No

Citation # (If Issued) T3120973

Viol. 1: Ch/Sec/Sub 700C VV — Viol. 2: Ch/Sec/Sub

Viol. 3: Ch/Sec/Sub — Viol. 4: Ch/Sec/Sub

Reg # 3HK740 — Reg Type PC — Reg State MA

Veh Year 2018 — Veh Make HOND — Veh Config. 2

Owner De La Cruz, Graciela (Last First Middle)

Address 10 Greenfield St,1

City Lawrence — State MA — Zip 01843

Vehicle Action Prior to Crash: 2

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 5

Driver Distracted by: 0

Damaged Area Code: 1

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 — Susp. Drug: 2

Towed from scene? 2

Please fill out for operator and all occupants involved

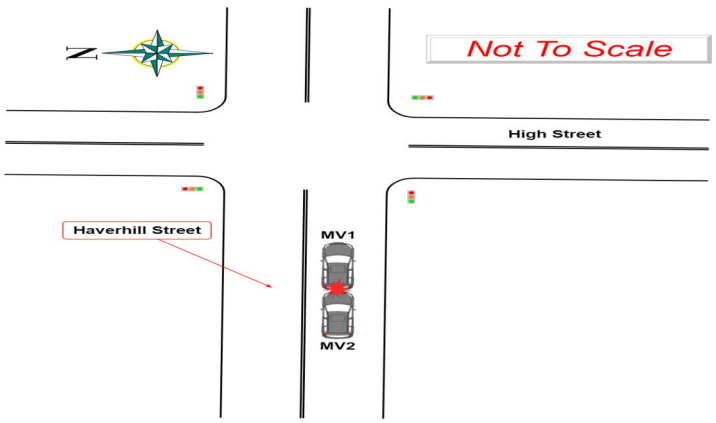
Name (Last First Middle)	Address	DOB/Age	Sex	Seat Pos.	Safety System	Airbag Status	Eject Code	Trap Code	Injury Status	Transp. Code	Medical Facility
Operator/Occupants	See Above			1	1	4	0	0	10	1	
Guerrero, Edenson	10 Greenfield St,1 Lawrence MA 01843	02/28/2004	M	3	1	4	0	0	10	1	

Form No. 10364 CRA-65 08/23

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | = Pedestrian | = Bicycle

ie: → 1 → 2 → →

Crash Diagram:



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV1 (MA REG 3CJ725) traveling eastbound on Haverhill St approaching the intersection with High St. MV2 (MA REG 3HK740) traveling directly behind MV1. MV2 strikes the rear of MV1. Operator MV2 stated that MV1 hit the brakes and she could not stop in time. Damage to both vehicles estimated to be greater than $1000. Operator and passenger of MV1 transported [redacted]. No tows associated with this crash. Operator MV2 issued

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Leary, Christopher G	PTLM.	CLea	Andover Police Depar		03/02/2023
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Written Warning, Citation #T3120973 for 720 CMR 9.06(7) - Following Too Closely

Police Use Only

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

RMV Document Number

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured
06/29/2023	18:47 24HR	Andover	2	1

Speed Limit 30 | Latitude 42.674957 | Longitude -71.135885

State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

Route# | Direction | Name of Roadway/Street

At

Route# | Direction | Name of Intersecting Roadway/Street

Also at Intersection with

Route# | Direction | Name of Intersecting Roadway/Street

Route# | Direction | Address # | Name of Roadway/Street: 140 Haverhill St

Feet N S E W of Mile Marker or Exit Number

100 Feet N S E W of Route# | Intersecting Roadway/Street: High St

Feet N S E W of Landmark

Please Select One of the Following: ☑ Vehicle 1 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | Crash Report ID#: 23-011337

License # — St — DOB/Age: 01-19-1985/40

Sex: M | Lic. Class: D | Lic. Restrictions | CDL Endorsement

Operator: Torres, Miguel Angel (Last First Middle)

Address: 14 Linden St

City: Lawrence | State: MA | Zip: 01841

Insurance Company: Progressive Casualty Insurance Company

Vehicle Travel Direction: N S E W | Responding to Emergency? No

Citation # (If Issued) —

Viol. 1: Ch/Sec/Sub — | Viol. 2: Ch/Sec/Sub —

Viol. 3: Ch/Sec/Sub — | Viol. 4: Ch/Sec/Sub —

Reg #: 2NGF17 | Reg Type: PC | Reg State: MA

Veh Year: 2021 | Veh Make: CHEV | Veh Config: 1

Owner: Torres, Miguel Angel (Last First Middle)

Address: 14 Linden St

City: Lawrence | State: MA | Zip: 01841

Vehicle Action Prior to Crash: 2

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 1

Driver Distracted by: 0

Damaged Area Code: 5

Test Status:

Type of Test:

BAC Test Result:

Susp. Alcohol: 2 | Susp. Drug: 2

Towed from scene? 2

Name (Last First Middle) / Address	DOB/Age	Sex	Seat Pos.	Safety System	Airbag Status	Eject Code	Trap Code	Injury Status	Transp. Code	Medical Facility
Operator — See Above			1	99	4	0	0	9	2	[redacted]

Please Select One of the Following: ☑ Vehicle 2 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | ☐ Vulnerable User — Complete the Vulnerable User section.

License # — St — DOB/Age: 01-29-1988/36

Sex: F | Lic. Class: D | Lic. Restrictions | CDL Endorsement

Operator: Parker, Kennedy B (Last First Middle)

Address: 110 Thoreau Way Apt 8312

City: Lawrence | State: MA | Zip: 01843

Insurance Company: Plymouth Rock Assurance Corporation

Vehicle Travel Direction: N S E W | Responding to Emergency? No

Citation # (If Issued): 054102AC

Viol. 1: Ch/Sec/Sub [redacted] | Viol. 2: Ch/Sec/Sub [redacted]

Viol. 3: Ch/Sec/Sub [redacted] | Viol. 4: Ch/Sec/Sub —

Reg #: 9HHC60 | Reg Type: PC | Reg State: MA

Veh Year: 2021 | Veh Make: CHEV | Veh Config: 2

Owner: Parker, Jane Michele (Last First Middle)

Address: 110 Thoreau Way,8312

City: Lawrence | State: MA | Zip: 01843

Vehicle Action Prior to Crash: 1

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 5

Driver Distracted by: 99

Damaged Area Code: 1 2 8

Test Status: 1

Type of Test:

BAC Test Result: 1

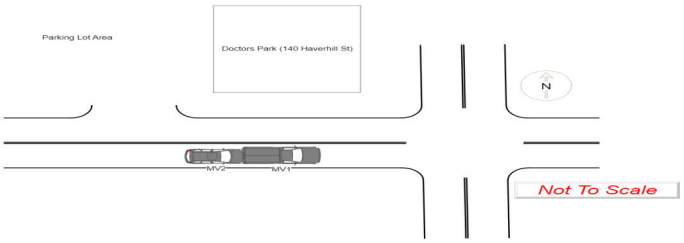
Susp. Alcohol: 2 | Susp. Drug: 2

Towed from scene? 2

Name (Last First Middle) / Address	DOB/Age	Sex	Seat Pos.	Safety System	Airbag Status	Eject Code	Trap Code	Injury Status	Transp. Code	Medical Facility
Operator/Occupants — See Above			1	99	4	0	0	10	1	

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | ♀ = Pedestrian | 🚲 = Bicycle

Crash Diagram: ie: → 1 → 2 → ♀ → 🚲



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV 1 was stopped in traffic which was stopped for a red light. MV 2 struck MV 1. Damage over $1000. Operator of MV 1 was transported for injuries. No vehicles towed. Operator of MV 2 was cited for [redacted], and By-Law violation, Following too closely.

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Devine, Daniel J		DDev	Andover Police Depar	06/29/2023
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

Police Use Only

RMV Document Number

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured
12/07/2023	22:49 24HR	Andover	2	

Speed Limit 30 | Latitude 42.706166 | Longitude -71.17644(| State Police ☐ | Local Police ☑ | MBTA Police ☐ | Campus Police ☐ | Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

Route# | Direction | Name of Roadway/Street: Haverhill St

At

Route# | Direction | Name of Intersecting Roadway/Street: High St

Also at Intersection with

Route# | Direction | Name of Intersecting Roadway/Street

Route# | Direction | Address # | Name of Roadway/Street

___ Feet [N S E W] of — — — • — Mile Marker or Exit Number

___ Feet [N S E W] of Route# | Intersecting Roadway/Street

___ Feet [N S E W] of Landmark

Box 10: 2 | Box 11: 3

Please Select One of the Following: ☑ Vehicle 1 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | Crash Report ID# 23-022303

Box 12: 1

License # ___ St ___ DOB/Age 12-07-1930/94 | Sex F | Lic. Class D | Lic. Restrictions | CDL Endorsement

Reg # P8400 | Reg Type PC | Reg State MA | Veh Year 2017 | Veh Make MERZ | Veh Config. 2

Operator Blumsack, Marilyn A (Last First Middle)

Address 170 Haverhill St,135

City Andover | State MA | Zip 01810

Insurance Company Arbella Mutual Insurance Company

Vehicle Travel Direction: [N S • W] | Responding to Emergency? No

Box 5: 1 | Citation # (If Issued) 326348AC

Viol. 1: Ch/Sec/Sub 89 9 | Viol. 2: Ch/Sec/Sub ___

Viol. 3: Ch/Sec/Sub ___ | Viol. 4: Ch/Sec/Sub ___

Box 6: 1

Owner Blumsack, Marilyn A (Last First Middle)

Address 170 Haverhill St,135

City Andover | State MA | Zip 01810

Vehicle Action Prior to Crash: 1

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 19

Driver Distracted by: 0

Damaged Area Code: 2

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 | Susp. Drug: 2

Towed from scene? 2

Box 13: 1

Name (Last First Middle) / Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator — See Above			1	1	4	0	0	10	1	

Please fill out for operator and all occupants involved

Please Select One of the Following: ☑ Vehicle 2 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | ☐ Vulnerable User — Complete the Vulnerable User section.

Box 7: 2

License # ___ St ___ DOB/Age 03-29-2002/22 | Sex F | Lic. Class D | Lic. Restrictions | CDL Endorsement

Reg # 2HYP13 | Reg Type PC | Reg State MA | Veh Year 2005 | Veh Make NISS | Veh Config. 1

Operator Rondeau, Olivia Marie (Last First Middle)

Box 8: 1 | Address 439 Waverly Rd

City North Andover | State MA | Zip 01845

Insurance Company Commerce Insurance Company, The

Vehicle Travel Direction: [• S E W] | Responding to Emergency? No

Box 9: 2 | Citation # (If Issued) ___

Viol. 1: Ch/Sec/Sub ___ | Viol. 2: Ch/Sec/Sub ___

Viol. 3: Ch/Sec/Sub ___ | Viol. 4: Ch/Sec/Sub ___

Owner Bellemare, Judi Jennifer (Last First Middle)

Address 439 Waverly Rd

City North Andover | State MA | Zip 01845

Vehicle Action Prior to Crash: 1

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 1

Driver Distracted by: 0

Damaged Area Code: 8

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 | Susp. Drug: 2

Towed from scene? 2

Box 14

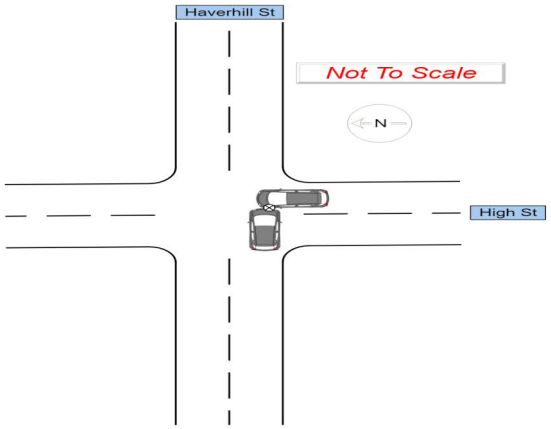
Name (Last First Middle) / Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants — See Above			1	1	4	0	0	10	1	

Please fill out for operator and all occupants involved

Form No. 10364 CRA-65 08/23

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | = Pedestrian | = Bicycle

Crash Diagram: ie: → 1 → 2 → →



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV1 = MA REG (P8400)
MV2 = MA REG (2HYP13)

Operator of MV1 was travelling east on Haverhill St and Operator of MV2 was travelling North on High St.
Operator of MV1 said she saw that the light for her was green as she had been driving up the roadway on Haverhill St.

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Driscoll, Daniel P	PTLM Driscoll	ddri	Andover Police Depar		12/08/2023
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

Operator of MV2 said that the light signal for the High St portion of the intersection had changed to green, so she began to drive into the intersection.
Operator of MV1 claimed she was unsure if the light on Haverhill St had changed to Red as she got close to the intersection, as she remembers it being green from a distance and not leading up to when she entered the intersection.
MV1 entered the intersection after passing a red light and crashed into MV2.

NO injuries, NO tows

Operator of MV1 was issued written warning on MA Uniform Citation 326348AC for 89/9-Red Light Violation

Police Use Only

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

RMV Document Number

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured
12/14/2023	20:47 24HR	Andover	2	1

Speed Limit 30 | Latitude 42.706166 | Longitude -71.17644(| State Police ☐ | Local Police ☑ | MBTA Police ☐ | Campus Police ☐ | Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

Route# | Direction | Name of Roadway/Street: Haverhill St

At

Route# | Direction | Name of Intersecting Roadway/Street: High St

Also at Intersection with

Route# | Direction | Name of Intersecting Roadway/Street

Route# | Direction | Address # | Name of Roadway/Street

____ Feet [N S E W] of — — — • — or Mile Marker | Exit Number

____ Feet [N S E W] of Route# | Intersecting Roadway/Street

____ Feet [N S E W] of Landmark

Please Select One of the Following: ☑ Vehicle 1 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | Crash Report ID# 23-022765

License # ____ St ____ DOB/Age 01-03-1983/42

Sex M | Lic. Class D | Lic. Restrictions | CDL Endorsement

Operator Niu, Sidi (Last First Middle)

Address 24 Rock O Dundee Rd

City Andover | State MA | Zip 01810

Insurance Company Liberty Mutual Insurance Company

Vehicle Travel Direction: [N S E W] | Responding to Emergency? No

Citation # (If Issued) ____

Viol. 1: Ch/Sec/Sub ____ Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ Viol. 4: Ch/Sec/Sub ____

Reg # 765WL2 | Reg Type PC | Reg State MA

Veh Year 2014 | Veh Make SUBA | Veh Config. 2

Owner Lu, Jing (Last First Middle)

Address 24 Rock O Dundee Rd

City Andover | State MA | Zip 01810

Vehicle Action Prior to Crash: 4

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 4

Driver Distracted by: 0

Damaged Area Code: 1

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 | Susp. Drug: 2

Towed from scene? 1

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1	1	4	0	0	10	1	

Please Select One of the Following: ☑ Vehicle 2 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | ☐ Vulnerable User — Complete the Vulnerable User section.

License # ____ St ____ DOB/Age 12-13-1980/44

Sex M | Lic. Class D | Lic. Restrictions | CDL Endorsement

Operator Castillo, Erik F (Last First Middle)

Address 37 Royal Crest Dr,11

City North Andover | State MA | Zip 01845

Insurance Company Allstate Insurance Company

Vehicle Travel Direction: [N S E W] | Responding to Emergency? No

Citation # (If Issued) ____

Viol. 1: Ch/Sec/Sub ____ Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ Viol. 4: Ch/Sec/Sub ____

Reg # 1BF769 | Reg Type PC | Reg State MA

Veh Year 2015 | Veh Make MERZ | Veh Config. 1

Owner Castillo, Erik F (Last First Middle)

Address 37 Royal Crest Dr,11

City North Andover | State MA | Zip 01845

Vehicle Action Prior to Crash: 9

Event Sequence: 1, 23, 41, 23

Most Harmful Event: 1

Driver Contributing Code: 2

Driver Distracted by: 0

Damaged Area Code: 1

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 | Susp. Drug: 2

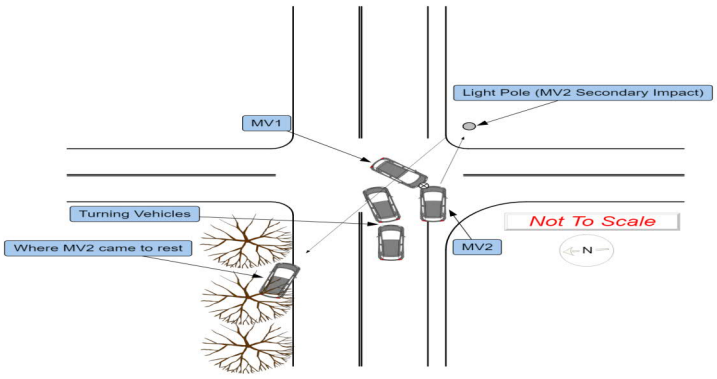
Towed from scene? 1

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1	1	1	0	0	9	2	[redacted]

Form No. 10364 CRA-65 08/23

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | ♀ = Pedestrian | 🚲 = Bicycle

Crash Diagram: ie: → 1 → 2 → ♀ → 🚲



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV1 = MA REG (765WL2)
MV2 = MA REG (1BF769)

MV1 had driven westbound on Haverhill St to the intersection of High St to make a left turn.
MV2 had driven eastbound on Haverhill St to the intersection of High St and passed 2 cars on the right-hand side which were waiting to turn left onto High

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement
Lot, Anita	[redacted]	[redacted]	Yes
Zatet, Tarek Ryan	[redacted]	[redacted]	Yes

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property
Town of Andover	36 Bartlet St	Work (978) 623-82	4	Minor damage to base of light signal pole

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Driscoll, Daniel P	PTLM Driscoll	ddri	Andover Police Depar		12/14/2023
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

St.
MV2 continued into the intersection intending to continue straight ahead as MV1 was turning left.
Both vehicles crashed on the southern side of the intersection in the eastbound lane of traffic.
MV2 then also crashed into light pole base prior to rolling backwards through intersection into westbound lane and into woodline.

Eyewitnesses 1 and 2 both said that MV2 had passed the vehicles at a greater than reasonable speed and that MV2 had driven over the shoulder to continue straight.

Both vehicles were towed from scene by Elm St Auto. Operator of MV2 was transported by AFD to [redacted]

Witness(s) Statement(s) :

Name ID & Name : O-000302871 Lot, Anita

Was at intersection facing eastbound waiting to turn left onto High St when MV2 passed on the right shoulder at a faster than reasonable speed. MV1 had been driving westbound and attempted to make a left turn onto High St. The two cars crashed in the south portion of intersection in the eastbound lane. MV2 then also crashed into light pole at intersection before rolling backwards and into the westbound side of Haverhill St and into Woodline.

Name ID & Name : A-000316106 Zatet, Tarek Ryan

Was at southern side of intersection on High St stopped at red light. Said MV2 drove through intersection at a fast speed as light was changing and crashed into MV1 who was making a Left turn onto High St. Witness Said that in his opinion there was no way for MV1 to avert collision due to how far into the turn the vehicle was and the fact it had passed other vehicles on right side.

Police Use Only

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

RMV Document Number

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured
12/18/2023	17:40 24HR	Andover	2	

Speed Limit ____ Latitude 42.706166 Longitude -71.17644(Other:

State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

Route# | Direction | Name of Roadway/Street: Haverhill St

At

Route# | Direction | Name of Intersecting Roadway/Street: High St

Also at Intersection with

Route# | Direction | Name of Intersecting Roadway/Street:

Route# | Direction | Address # | Name of Roadway/Street:

____ Feet [N S E W] of — — — • — Mile Marker or ____ Exit Number

____ Feet [N S E W] of Route# ____ Intersecting Roadway/Street

____ Feet [N S E W] of Landmark

Please Select One of the Following: ☑ Vehicle 1 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | Crash Report ID# 23-023001

License # ____ St ____ DOB/Age ____ / Sex F Lic. Class D Lic. Restrictions ____ CDL Endorsement ____

Operator (Last First Middle): Samaro, Jennifer

Address: 60 Center St

City: Andover State ____ Zip: 01810

Insurance Company: GEICO General Insurance Company

Vehicle Travel Direction: [N S E W] Responding to Emergency? No

Citation # (If Issued) ____

Viol. 1: Ch/Sec/Sub ____ Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ Viol. 4: Ch/Sec/Sub ____

Reg # 8GW898 Reg Type PC Reg State MA

Veh Year 2012 Veh Make HOND Veh Config. 1

Owner (Last First Middle): Samaro, Jennifer

Address: 60 Center St

City: Andover State ____ Zip: 01810

Vehicle Action Prior to Crash: 2

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 1

Driver Distracted by: 0

Damaged Area Code: 5

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 Susp. Drug: 2

Towed from scene? 2

Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1	1	4	0	0	10	1	

Please Select One of the Following: ☑ Vehicle 2 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | ☐ Vulnerable User Complete the Vulnerable User section.

License # ____ St ____ DOB/Age 03-08-1978/46 Sex M Lic. Class D Lic. Restrictions ____ CDL Endorsement ____

Operator (Last First Middle): Tineo Chalas, Valentin

Address: 18 Montgomery Street , Apt 2

City: LAWRENCE State MA Zip: 01841

Insurance Company: Hanover Insurance Company, The

Vehicle Travel Direction: [N S E W] Responding to Emergency? No

Citation # (If Issued) 344956AC

Viol. 1: Ch/Sec/Sub 85 10/B Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ Viol. 4: Ch/Sec/Sub ____

Reg # 3JMB95 Reg Type PC Reg State MA

Veh Year 2005 Veh Make HOND Veh Config. 1

Owner (Last First Middle): Tineo Chalas, Valentin

Address: 18 Montgomery Street , Apt 2

City: LAWRENCE State MA Zip: 01841

Vehicle Action Prior to Crash: 1

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 1

Driver Distracted by: 0

Damaged Area Code: 1

Test Status: 1

Type of Test:

BAC Test Result: 1

Susp. Alcohol: 2 Susp. Drug: 2

Towed from scene? 2

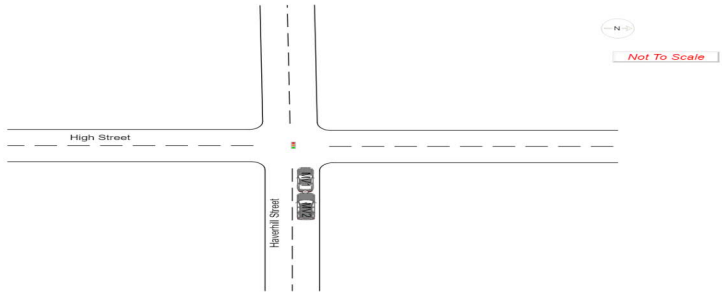
Please fill out for operator and all occupants involved

Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1	1	4	0	0	10	1	

Form No. 10364 CRA-65 08/23

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | = Pedestrian | = Bicycle

Crash Diagram: ie: → 1 → 2 → →



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

Motor vehicle 1 was traveling West on Haverhill Street towards High Street. Motor Vehicle 2 was traveling behind Motor Vehicle 1. Motor Vehicle 1 was stopped at the red light on Haverhill and High Street. Motor vehicle 2 failed to stop and struck Motor Vehicle 1 in the center rear. AFD and Tow were not required. Estimated damage was less than $1000. Operator from Motor Vehicle 2 was given a written warning in the way of a Massachusetts Uniform Citation #344956AC for the following offense:

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Perez, Ulises	PLM UL/A	UPer	Andover Police Depar		12/18/2023
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

M. L.G 85/10/B Motor Vehicle By-Law Violation

Haverhill Street and High Street are a public way in the Town of Andover with all the necessary signs, utilities, and street markings and is maintained by the Town of Andover.

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

Police Use Only

RMV Document Number

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured
06/05/2024	09:42 24HR	Andover	2	

Speed Limit 35 | Latitude 42.662655 | Longitude -71.135511

State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

1 / 1 — Route# | Direction | Name of Roadway/Street: Haverhill St

At

Route# | Direction | Name of Intersecting Roadway/Street: High St

Also at Intersection with

2 / 1 — Route# | Direction | Name of Intersecting Roadway/Street:

10 / 2 — Route# | Direction | Address # | Name of Roadway/Street:

_____ Feet [N S E W] of — — — • — Mile Marker or Exit Number

11 / 3 — _____ Feet [N S E W] of Route# | Intersecting Roadway/Street

_____ Feet [N S E W] of Landmark

3 — **Please Select One of the Following:** ☑ **Vehicle 1** 1 # Occupants | ☐ **Hit/Run** | ☐ **Moped** | Crash Report ID# **24-010222**

License # _____ St _____ DOB/Age **09-10-1999/25**

Sex **F** Lic. Class **D** Lic. Restrictions _____ CDL Endorsement _____

Operator Last: **Silvera Henriquez** First: **Mayeline** Middle:

4 / 3 — Address: **36 Glen Ave**

City: **Methuen** State: **MA** Zip: **01844**

Insurance Company: **Progressive Casualty Insurance Company**

5 / 1 — Vehicle Travel Direction: [N S E W] Responding to Emergency? **No**

Citation # (If Issued) **689250AC**

Viol. 1: Ch/Sec/Sub **89 9** Viol. 2: Ch/Sec/Sub _____

6 / 1 — Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____

Reg # **2FAB6** Reg Type **PAN** Reg State **MA**

12 / 1 — Veh Year **2021** Veh Make **TOYT** Veh Config. **1**

Owner Last: **Henriquez** First: **Mary** Middle:

Address: **36 Glen Avenue**

City: **Methuen** State: **MA** Zip: **01844**

Vehicle Action Prior to Crash: **4**

Event Sequence: **1**

Most Harmful Event: **1**

Driver Contributing Code: **4**

Driver Distracted by: **0**

Damaged Area Code: **3**

Test Status: **1**

Type of Test: **0**

BAC Test Result: **1**

13 / 1 — Susp. Alcohol: **2** Susp. Drug: **2**

Towed from scene? **2**

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1	1	4	0	0	10	1	

7 / 2 — **Please Select One of the Following:** ☑ **Vehicle 2** 1 # Occupants | ☐ **Hit/Run** | ☐ **Moped** | ☐ Vulnerable User — Complete the Vulnerable User section.

License # _____ St _____ DOB/Age **12-27-1984/40**

Sex **M** Lic. Class **D** Lic. Restrictions **B** CDL Endorsement _____

Operator Last: **Beauchesne** First: **Michael** Middle:

8 / 1 — Address: **26 Hawley Street**

City: **Lawrence** State: **MA** Zip: **01843**

Insurance Company: **Allstate Insurance Company**

9 / 2 — Vehicle Travel Direction: [N S E W] Responding to Emergency? **No**

Citation # (If Issued) _____

Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____

Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____

Reg # **4KFV33** Reg Type **PAN** Reg State **MA**

Veh Year **2024** Veh Make **SUBA** Veh Config. **1**

Owner Last: **Beauchesne** First: **Michael** Middle:

Address: **26 Hawley Street**

City: **Lawrence** State: **MA** Zip: **01843**

Vehicle Action Prior to Crash: **1**

Event Sequence: **1**

Most Harmful Event: **1**

Driver Contributing Code: **1**

Driver Distracted by: **0**

Damaged Area Code: **2**

Test Status: **1**

Type of Test: **0**

BAC Test Result: **1**

14 — Susp. Alcohol: **2** Susp. Drug: **2**

Towed from scene? **2**

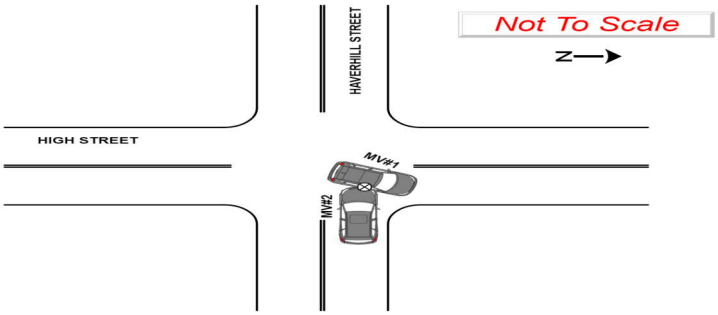
Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1	1	4	0	0	10	1	

Form No. 10364 CRA-65 08/23

→ = Direction [1] = Vehicle 1 [2] = Vehicle 2 = Pedestrian = Bicycle

ie: → [1] → [2] → →

Crash Diagram:



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV#1, MA Reg. 2FAB16, was traveling eastbound on Haverhill Street attempting to take a left onto High Street when they failed to yield to Haverhill Street westbound traffic and struck MV#2, MA Reg. 4KFV33. Both operators stated that there were uninvolved vehicle's traveling westbound on Haverhill Street attempting to take a left onto High Street at which time MV#2 went by them in order to continue traveling westbound. No injuries and no tows required. Damage is estimated to be over $1,000.

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Hughes, Christopher J	PTLM. Chris Hughes	CHug	Andover Police Depar		06/05/2024
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

I issued a written warning, citation #689250AC, to the operator of MV#1 for the following:

MGL 89/9- FAIL TO YIELD RIGHT OF WAY

Police Use Only	Commonwealth of Massachusetts	RMV Document Number

Motor Vehicle Crash Police Report

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured	
06/09/2024	01:31 24HR	Andover	1	1	Speed Limit ____ Latitude 42.674367 Longitude -71.13413(

State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

Route# ____ Direction ____ Name of Roadway/Street: **Haverhill St**

At

Route# ____ Direction ____ Name of Intersecting Roadway/Street: **Crescent Dr**

Also at Intersection with

Route# ____ Direction ____ Name of Intersecting Roadway/Street: ____

Route# ____ Direction ____ Address # ____ Name of Roadway/Street: ____

____ Feet [N S E W] of ____ Mile Marker or ____ Exit Number

____ Feet [N S E W] of Route# ____ Intersecting Roadway/Street: ____

____ Feet [N S E W] of Landmark: ____

Please Select One of the Following: ☑ **Vehicle 1** 1 # Occupants ☐ **Hit/Run** ☐ **Moped** Crash Report ID# **24-010466**

License # ____ St ____ DOB/Age **12-05-1999/25**

Sex **F** Lic. Class **D** Lic. Restrictions ____ CDL Endorsement ____

Operator (Last First Middle): **URENA, YULEYKA**

Address: **64 Riverdale St**

City: **Methuen** State **MA** Zip **01844**

Insurance Company: **Arbella Mutual Insurance Company**

Vehicle Travel Direction: [N S E W] Responding to Emergency? **No**

Citation # (If Issued) **697591AC**

Viol. 1: Ch/Sec/Sub **89 4A** Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ Viol. 4: Ch/Sec/Sub ____

Reg # **5HJW99** Reg Type **PAN** Reg State **MA**

Veh Year **2011** Veh Make **HOND** Veh Config. **2**

Owner (Last First Middle): **URENA, YULEYKA**

Address: **64 Riverdale St**

City: **Methuen** State **MA** Zip **01844**

Vehicle Action Prior to Crash: 1

Event Sequence: 22

Most Harmful Event: 22

Driver Contributing Code: 1

Driver Distracted by: 7

Damaged Area Code: 11

Test Status: 1

Type of Test: 0

BAC Test Result: 1

Susp. Alcohol: 2 Susp. Drug: 2

Towed from scene? 1

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1	1	3	0	0	9	1	

Please Select One of the Following: ☐ **Vehicle** ___ # Occupants ☐ **Hit/Run** ☐ **Moped** ☐ Vulnerable User Complete the Vulnerable User section.

License # ____ St ____ DOB/Age ____

Sex ____ Lic. Class ____ Lic. Restrictions ____ CDL Endorsement ____

Operator (Last First Middle): ____

Address: ____

City: ____ State ____ Zip ____

Insurance Company: ____

Vehicle Travel Direction: [N S E W] Responding to Emergency? ____

Citation # (If Issued) ____

Viol. 1: Ch/Sec/Sub ____ Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ Viol. 4: Ch/Sec/Sub ____

Reg # ____ Reg Type ____ Reg State ____

Veh Year ____ Veh Make ____ Veh Config. ____

Owner (Last First Middle): ____

Address: ____

City: ____ State ____ Zip ____

Vehicle Action Prior to Crash: ____

Event Sequence: ____

Most Harmful Event: ____

Driver Contributing Code: ____

Driver Distracted by: ____

Damaged Area Code: ____

Test Status: ____

Type of Test: ____

BAC Test Result: ____

Susp. Alcohol: ____ Susp. Drug: ____

Towed from scene? ____

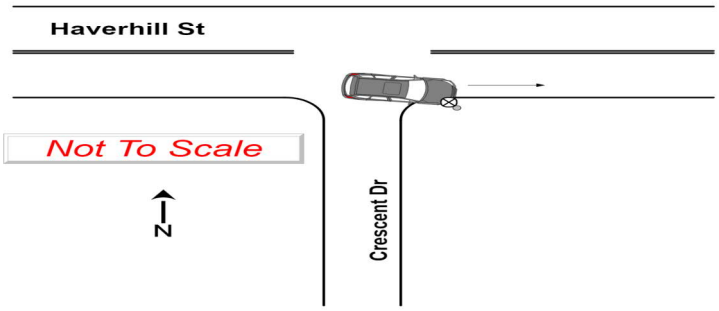
Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1							

Form No. 10364 CRA-65 08/23

→ = Direction [1] = Vehicle 1 [2] = Vehicle 2 = Pedestrian = Bicycle

ie: → [1] → [2] → →

Crash Diagram:



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV (MA Reg 5HJW99) was traveling East on Haverhill St. Driver stated a deer crossed the road. Driver stated she swerved left to avoid the deer. Driver stated she hit utility pole at the corner of Cresent Dr with Haverhill St (Pole number 42). MV was rolled onto the roof. Driver was able to exit the car. Driver was treated by EMTs minor injuries to her hand. MV was towed from the scene. Damage to MV is over $1,000.

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property
National Grid	1101 Turnpike St		4	Utility Pole (Pole Number 42)

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Nunez-Roman, Joseph	PTLM Joseph NUNEZ-ROMAN	JNun	Andover Police Depar		06/09/2024
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

Form No. 10364 CRA-65 08/23

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

Police Use Only

RMV Document Number

Date of Crash	Time of Crash (24HR)	City/Town	Number Vehicles	Number Injured
09/15/2024	18:58	Andover	2	2

Speed Limit 30 | Latitude 42.706166 | Longitude -71.176451

State Police ☐ Local Police ☑ MBTA Police ☐ Campus Police ☐ Other:

AT INTERSECTION: < LOCATION > NOT AT INTERSECTION:

Route# | Direction | Name of Roadway/Street: Haverhill St

At

Route# | Direction | Name of Intersecting Roadway/Street: High St

Also at Intersection with

Route# | Direction | Name of Intersecting Roadway/Street

Route# | Direction | Address # | Name of Roadway/Street

____ Feet [N S E W] of ___ ___ ___ • ___ Mile Marker or ____ Exit Number

____ Feet [N S E W] of Route# ____ Intersecting Roadway/Street

____ Feet [N S E W] of ____ Landmark

Please Select One of the Following: ☑ Vehicle 1 — 2 # Occupants | ☐ Hit/Run | ☐ Moped | Crash Report ID# 24-017139

License # ____ St ____ DOB/Age 05-13-2000/24

Sex F | Lic. Class D | Lic. Restrictions B | CDL Endorsement ____

Operator: Abdoo, Elizabeth Anne (Last First Middle)

Address: 54 Stevens Ave

City: Lawrence | State: MA | Zip: 01843

Insurance Company: United Services Automobile Association

Vehicle Travel Direction: [N S E ●W] | Responding to Emergency? No

Citation # (If Issued) ____

Viol. 1: Ch/Sec/Sub ____ | Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ | Viol. 4: Ch/Sec/Sub ____

Reg # 1NWF91 | Reg Type PAN | Reg State MA

Veh Year 2020 | Veh Make HOND | Veh Config. 1

Owner: Abdoo, David C (Last First Middle)

Address: 54 Stevens Ave

City: Lawrence | State: MA | Zip: 01843

Vehicle Action Prior to Crash: 1

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 1

Driver Distracted by: 0

Damaged Area Code: 1 | Test Status: 1 | Type of Test: 0 | BAC Test Result: 1

Susp. Alcohol: 2 | Susp. Drug: 2 | Towed from scene? 1

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator	See Above			1	1	1	0	0	8	1	
Abdoo, MICHAEL CHARLES	54 STEVENS AVE LAWRENCE MA 01843	04/30/2002	M	3	1	1	0	0	9	1	

Please Select One of the Following: ☑ Vehicle 2 — 1 # Occupants | ☐ Hit/Run | ☐ Moped | ☐ Vulnerable User — Complete the Vulnerable User section.

License # ____ St ____ DOB/Age 10-05-1996/28

Sex M | Lic. Class A | Lic. Restrictions E | CDL Endorsement ____

Operator: Saini, Twinkle (Last First Middle)

Address: 2 Sylvan Ter

City: Lynnfield | State: MA | Zip: 01940

Insurance Company: Government Employees Insurance Company

Vehicle Travel Direction: [● S E W] | Responding to Emergency? No

Citation # (If Issued) ____

Viol. 1: Ch/Sec/Sub ____ | Viol. 2: Ch/Sec/Sub ____

Viol. 3: Ch/Sec/Sub ____ | Viol. 4: Ch/Sec/Sub ____

Reg # 5HGZ38 | Reg Type PAN | Reg State MA

Veh Year 2017 | Veh Make BMW | Veh Config. 1

Owner: Saini, Twinkle (Last First Middle)

Address: 2 Sylvan Ter

City: Lynnfield | State: MA | Zip: 01940

Vehicle Action Prior to Crash: 1

Event Sequence: 1

Most Harmful Event: 1

Driver Contributing Code: 1

Driver Distracted by: 0

Damaged Area Code: 3 | Test Status: 1 | Type of Test: 0 | BAC Test Result: 1

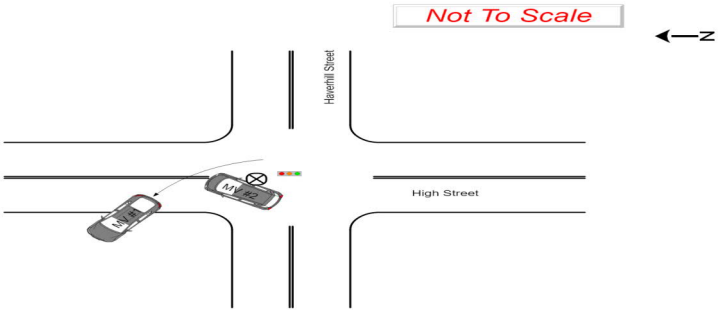
Susp. Alcohol: 2 | Susp. Drug: 2 | Towed from scene? 1

Please fill out for operator and all occupants involved — Name (Last First Middle)	Address	DOB/Age	Sex	34 Seat Pos.	35 Safety System	36 Airbag Status	37 Eject Code	38 Trap Code	39 Injury Status	40 Transp. Code	Medical Facility
Operator/Occupants	See Above			1	1	2	0	0	10	1	

Form No. 10364 CRA-65 08/23

→ = Direction | 1 = Vehicle 1 | 2 = Vehicle 2 | = Pedestrian | = Bicycle

Crash Diagram: ie: → 1 → 2 → →



If Crash Did Not Occur on a Public Way:

- ❒ Off-Street Parking Lot
- ❒ Garage
- ❒ Mall/Shopping Center
- ❒ Other Private Way

Indicate North by Arrow

Crash Narrative:

MV #1, MA REG, 1NWF91, was traveling westbound on Haverhill Street when it was approaching the intersection of Haverhill Street at High Street. As MV #1 was going through the intersection, the operator claimed to see that the traffic signal was yellow as she went through it. Before MV #1 could clear the intersection, it struck MV #2, MA REG. 5HGZ38, which was traveling northbound on High Street. The operator of MV #2 claimed that the traffic signal was green for his lane of travel. A witness later identified as Edward King

Witnesses:

Name (Last, First, Middle)	Address	Phone #	Statement
King, Edward W	[redacted]	[redacted]	Yes

Property Damage:

Owner (Last, First, Middle)	Address	Phone #	41-Type	Description of Damaged Property

Truck and Bus Information:

Registration # _____ (From Vehicle Section)

Carrier Name _____ Bus Use [42]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ MC/MX/ICC #: _____

Interstate [43] Cargo Body Type Code [44] GVWR/GCWR [45]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [46]

Hazmat Information:

Placard [47] Material 1 digit # [48] Material Name _____ Material 4 digit # _____ Release code [49]

Rodriguez, David	PTLM. David Rodriguez	DRod	Andover Police Depar		09/15/2024
Police Officer Name (Please Print)	Signature	ID/Badge #	Department	Precinct/Barracks	Date

(D.O.B. 10/03/1967), stated that he saw a yellow light but could not accurately articulate which vehicle had the yellow light or which vehicle had the right of way at the intersection. Both occupants of MV #1 sustained minor injuries but were not transported to the hospital. Both vehicles were towed by Elm Street, and the damage to both vehicles is estimated to be over $1,000.00. Due to both operators having contradictory accounts of what occurred, no citations were issued.

Witness(s) Statement(s) :

Name ID & Name : A-000049828 King, Edward W

Mr. King stated that he saw that one of the cars had a yellow light but could not articulate who had the yellow light of had the right of way.

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Andover COUNT DATE : Feb-25

DISTRICT : 4 UNSIGNALIZED : SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Haverhill Street

MINOR STREET(S) : High Street

INTERSECTION DIAGRAM (Label Approaches)

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	707	622	347	278		**1,954**

" K " FACTOR : **0.093** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **21,011**

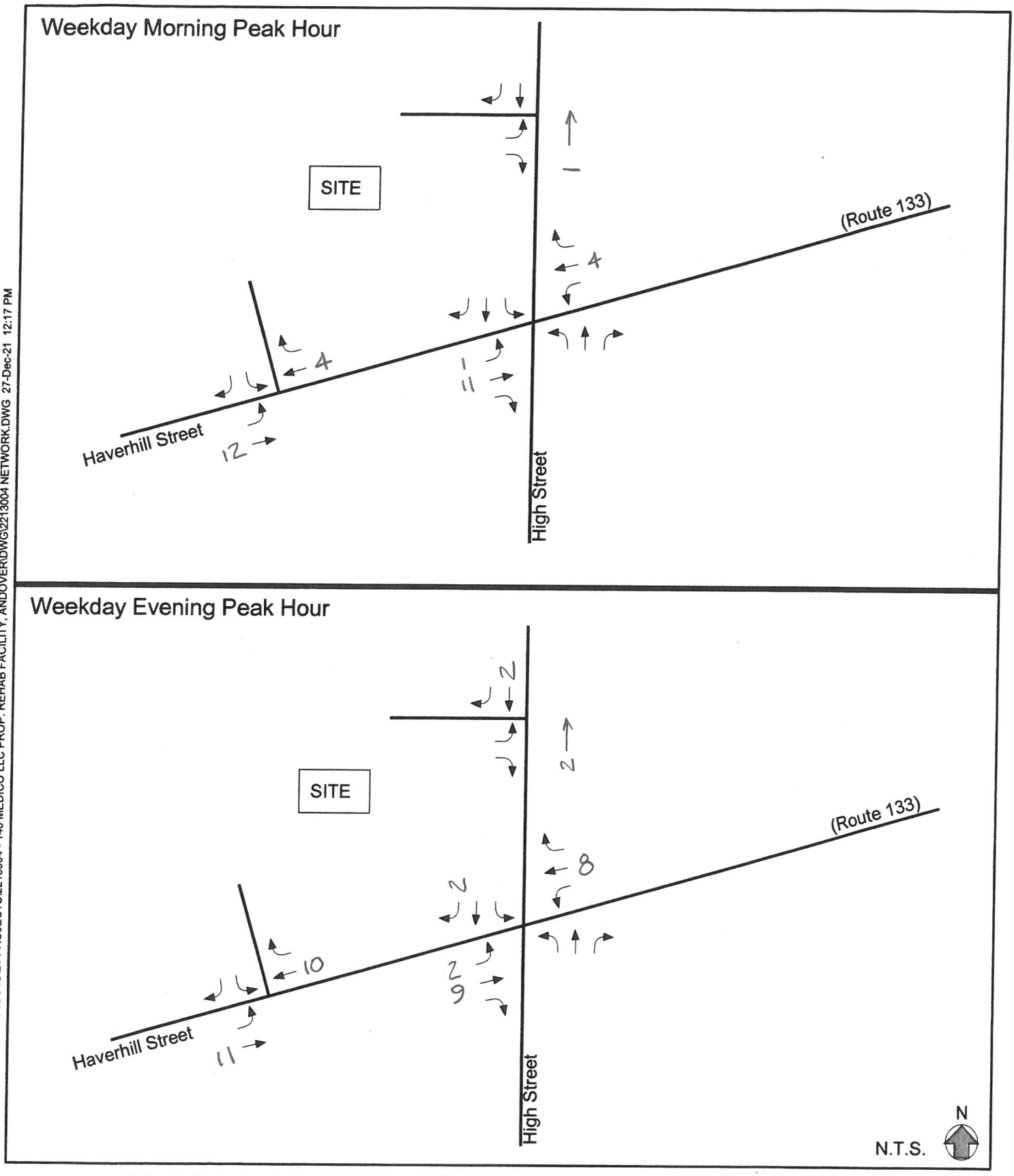
TOTAL # OF CRASHES : 18 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **6.00**

CRASH RATE CALCULATION : **0.78** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : _____

Project Title & Date: _____

Appendix D
Background Development Worksheets



Q:\PROJECTS\21 PROJECTS\2213004 - 140 MEDICO LLC PROP. REHAB FACILITY, ANDOVER\DWG\2213004 NETWORK.DWG 27-Dec-21 12:17 PM

BAYSIDE ENGINEERING
600 Unicorn Park Drive ▲ Woburn, MA 01801
Phone: 781.932.3201 ▲ Fax: 781.932.3413
www.baysideengineering.com

Commonwealth Detox
Andover, MA

Background –
7 Tantalon Road

Appendix E
Trip Generation/Distribution Worksheets

Project: 140 Haverhill Street, Andover, MA

Project Component	ITE LUC 565 Day Care Center	ITE LUC 720 Medical-Dental Office Building	Total	
Project Size (KSF):		19.200	19.200	KSF
Project Size (Students):	195		195	Students
Weekday Daily:	798	718	1,516	
Weekday Morning Peak Hour of Adjacent Street Traffic				
In	73	43	116	
Out	64	12	76	
Total	137	55	192	
Weekday Evening Peak Hour of Adjacent Street Traffic				
In	62	23	85	
Out	69	52	121	
Total	131	75	206	
Saturday Daily	76	264	340	
Saturday Midday Peak Hour				
In	13	33	46	
Out	8	25	33	
Total	21	58	79	

140 Haverhill Street, Andover, MA

Land Use Code (LUC) 565 - Day Care Center
Source: Institute of Transportation Engineers (ITE) - 11th Edition

Average Vehicle Trips Ends vs: Students
Independent Variable (X): 195 Students

DAILY

T = 3.56 * (X) + 47.23 — 14 Studies, Average Size = 89 Students
T = 3.56 * (195) + 47.23 — R^2 = 0.72, Average Rate = 4.09 trips/student
T = 741.43 — Use AR as R^2<0.75 and Studies<20
T = 798 vehicle trips
with 50% (399 vpd) entering and 50% (399 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.66 * (X) + 8.42 — 75 Studies, Average Size = 71 Students
T = 0.66 * (195.000) + 8.42 — R^2 = 0.69, Average Rate = 0.78 trips/student
T = 137.12
T = 137 vehicle trips
with 53% (73 vph) entering and 47% (64 vph) exiting.

WEEKDAY MORNING PEAK HOUR OF GENERATOR

Ln T = 0.77 Ln (X) + 0.74 — R^2 = 0.63, Avg Size = 71 Students
Ln T = 0.77 Ln (195) + 0.74 — 75 Studies, Average Rate = 0.79 trips/student
Ln T = 4.80
T = 121.54
T = 122 vehicle trips
with 53% (65 vph) entering and 47% (57 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln T = 0.87 Ln (X) + 0.29 — 75 Studies, Average Size = 72 Students
Ln T = 0.87 Ln (195.000) + 0.29 — R^2 = 0.57, Average Rate = 0.79 trips/student
Ln T = 4.88
T = 131.30
T = 131 vehicle trips
with 47% (62 vph) entering and 53% (69 vph) exiting.

140 Haverhill Street, Andover, MA

Land Use Code (LUC) 565 - Day Care Center
Source: Institute of Transportation Engineers (ITE) - 11th Edition

Average Vehicle Trips Ends vs: Students
Independent Variable (X): 195 Students

WEEKDAY EVENING PEAK HOUR OF GENERATOR

Ln T = 0.78 Ln (X) + 0.68 — 75 Studies, Average Size = 72 Students
Ln T = 0.78 Ln (195.000) + 0.68 — R^2 = 0.57, Average Rate = 0.81 trips/student
Ln T = 4.79
T = 120.66
T = 121 vehicle trips
R^2 = 0.57, less than 0.75, UseAverage Rate = 0.81 trips/student
158
with 47% (74 vph) entering and 53% (84 vph) exiting.

SATURDAY DAILY

T = 0.39 * (X) — Formula Not Given, Average Rate = 0.39 trips/student
T = 0.39 * (195) — 5 Studies, Average Size = 75 students
T = 76.05
T = 76 vehicle trips
with 50% (38 vpd) entering and 50% (38 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 0.11 * (X) — Formula Not Given, Average Rate = 0.11 trips/student
T = 0.11 * (195) — 5 Studies, Average Size = 75 students
T = 21.45
T = 21 vehicle trips
with 63% (13 vph) entering and 37% (8 vph) exiting.

140 Haverhill Street, Andover, MA

Land Use Code (LUC) 720 - Medical-Dental Office Building
Source: Institute of Transportation Engineers (ITE) - 11th Edition

Average Vehicle Trips Ends vs: KSF
Independent Variable (X): 19.200 ksf

AVERAGE WEEKDAY DAILY

T = 42.97 * (X) - 108.01 — 18 Studies, Avg size = 15 ksf
T = 42.97 * (19.200) - 108.01 — R^2 = 0.92, AR = 36.00 trips/ksf
T = 717.01
T = 718 vehicle trips 37.40
with 50% (359 vpd) entering and 50% (359 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln T = 0.90 Ln (X) + 1.34 — 24 Studies, Avg size = 25 ksf
Ln T = 0.90 Ln (19.200) + 1.34 — R^2 = 0.80 AR = 3.10 trips/ksf
Ln T = 4.00
T = 54.57
T = 55 vehicle trips
with 79% (43 vph) entering and 21% (12 vph) exiting.

WEEKDAY MORNING PEAK HOUR OF GENERATOR

T = 3.56 * (X) + 2.66 — 21 Studies, Avg size = 15 ksf
T = 3.56 * (19.200) + 2.66 — R^2 = 0.74 AR = 3.74 trips/ksf
T = 71.01
T = 71 vehicle trips
with 59% (42 vpd) entering and 31% (29 vpd) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 4.07 * (X) - 3.17 — 30 Studies, Avg size = 23 ksf
T = 4.07 * (19.200) - 3.17 — R^2 = 0.77 AR = 3.93 trips/ksf
T = 74.97
T = 75 vehicle trips
with 30% (23 vpd) entering and 70% (52 vpd) exiting.

WEEKDAY EVENING PEAK HOUR OF GENERATOR

T = 5.36 * (X) - 10.42 — 22 Studies, Avg size = 18 ksf
T = 5.36 * (19.200) - 10.42 — R^2 = 0.95 AR = 4.79 trips/ksf
T = 92.49
T = 92 vehicle trips
with 40% (37 vpd) entering and 60% (55 vpd) exiting.

140 Haverhill Street, Andover, MA

Land Use Code (LUC) 720 - Medical-Dental Office Building
Source: Institute of Transportation Engineers (ITE) - 11th Edition

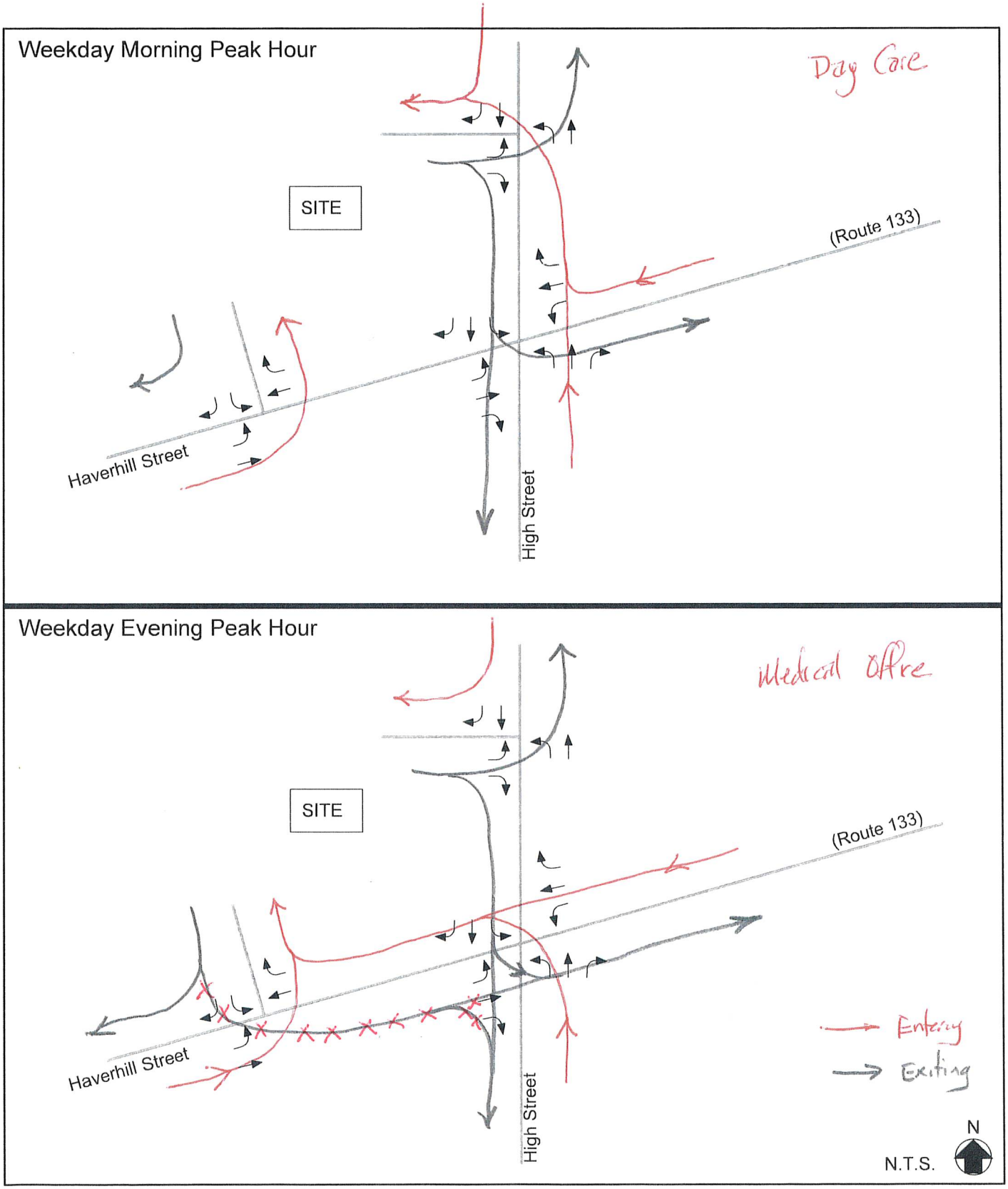
Average Vehicle Trips Ends vs: KSF
Independent Variable (X): 19.200 ksf

SATURDAY DAILY

T = 13.78 * (X) — 3 Studies, Avg size = 31 ksf
T = 13.78 * (19.200) — R^2 = NA AR = 13.78
T = 264.58
T = 264 vehicle trips
with 50% (132 vpd) entering and 50% (132 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 3.02 * (X) — 2 Studies, Avg size = 34 ksf
T = 3.02 * (19.200) — R^2 = NA, AR = 3.02
T = 57.98
T = 58 vehicle trips
with 57% (33 vph) entering and 43% (25 vph) exiting.



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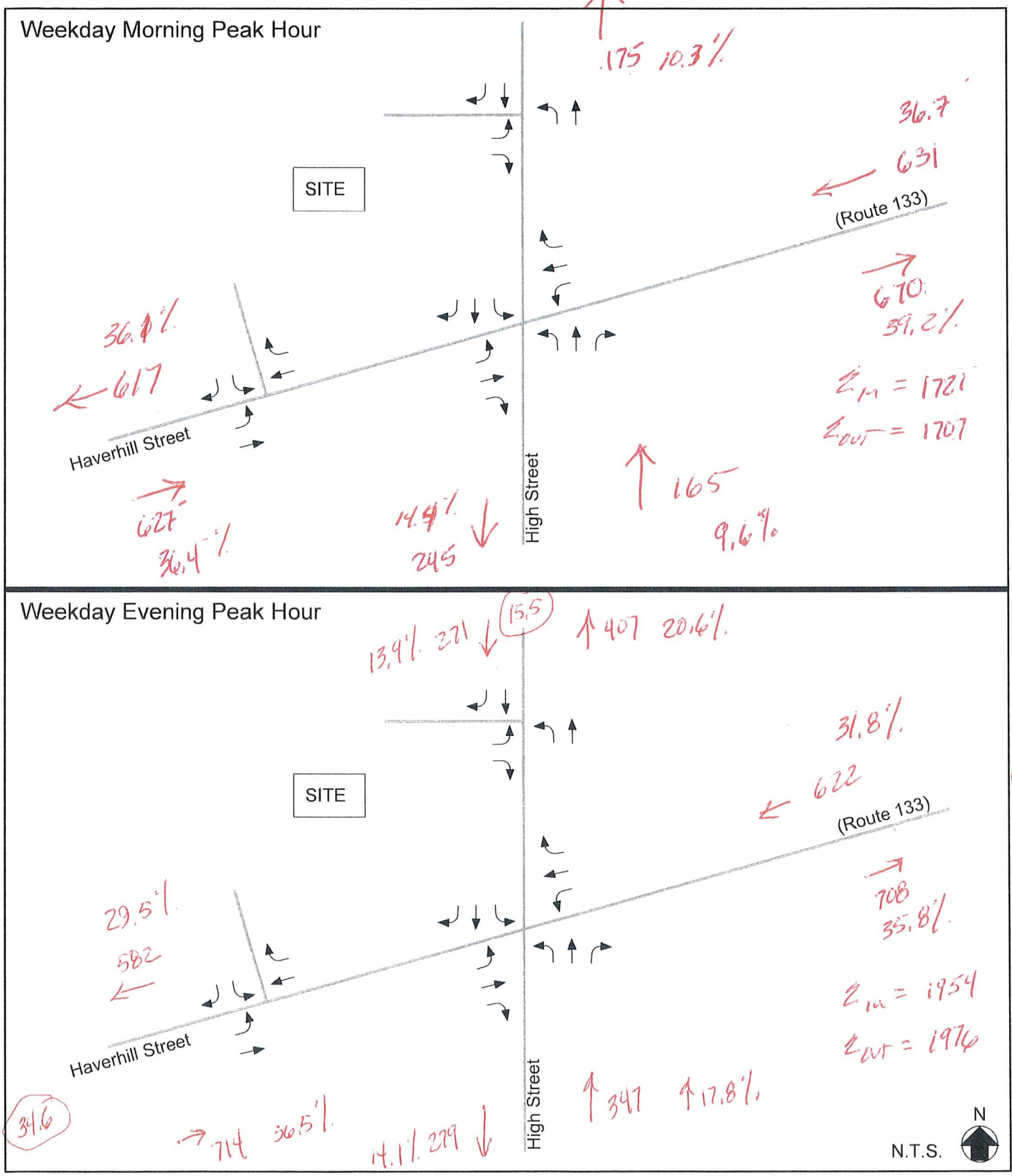
140 Haverhill Street
Andover, MA

Figure

2025 Existing
Peak Hour Traffic Volumes
Trip Dist. Worksheet



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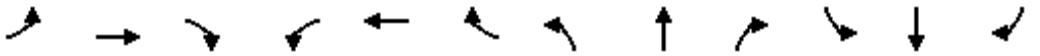
www.fando.com

140 Haverhill Street
Andover, MA

Figure

2025 Existing
Peak Hour Traffic Volumes

Appendix F
Intersection Capacity Analysis Worksheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	526	9	96	472	28	17	65	55	58	132	94
Future Volume (vph)	44	526	9	96	472	28	17	65	55	58	132	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.994			0.946			0.955	
Flt Protected		0.996			0.992			0.994			0.990	
Satd. Flow (prot)	0	1838	0	0	1816	0	0	1761	0	0	1768	0
Flt Permitted		0.921			0.817			0.939			0.898	
Satd. Flow (perm)	0	1700	0	0	1496	0	0	1664	0	0	1604	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			46			34	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		280			1428			808			357	
Travel Time (s)		5.5			27.8			18.4			8.1	
Peak Hour Factor	0.88	0.88	0.88	0.95	0.95	0.95	0.71	0.71	0.71	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%	0%	3%	0%	0%	2%	2%
Adj. Flow (vph)	50	598	10	101	497	29	24	92	77	61	139	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	0	0	627	0	0	193	0	0	299	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		24.0	24.0		24.0	24.0	
Total Split (s)	46.0	46.0		46.0	46.0		26.0	26.0		26.0	26.0	
Total Split (%)	63.9%	63.9%		63.9%	63.9%		36.1%	36.1%		36.1%	36.1%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.0			40.0			20.0			20.0	
Actuated g/C Ratio		0.56			0.56			0.28			0.28	
v/c Ratio		0.70			0.75			0.39			0.64	
Control Delay		16.5			19.5			18.6			27.3	
Queue Delay		0.0			0.0			0.0			0.0	

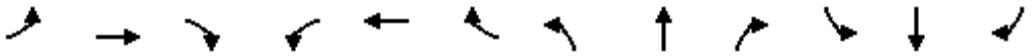
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		16.5			19.5			18.6			27.3	
LOS		B			B			B			C	
Approach Delay		16.5			19.5			18.6			27.3	
Approach LOS		B			B			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72			
Actuated Cycle Length: 72			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 19.6		Intersection LOS: B	
Intersection Capacity Utilization 87.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: High Street & Haverhill Street

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	658	627	193	299
v/c Ratio	0.70	0.75	0.39	0.64
Control Delay	16.5	19.5	18.6	27.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.5	19.5	18.6	27.3
Queue Length 50th (ft)	193	193	52	102
Queue Length 95th (ft)	300	331	75	183
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	945	833	495	470
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.70	0.75	0.39	0.64

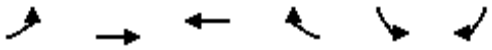
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	526	9	96	472	28	17	65	55	58	132	94
Future Volume (veh/h)	44	526	9	96	472	28	17	65	55	58	132	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1841	1900	1900	1856	1900	1900	1870	1870
Adj Flow Rate, veh/h	50	598	10	101	497	29	24	92	77	61	139	99
Peak Hour Factor	0.88	0.88	0.88	0.95	0.95	0.95	0.71	0.71	0.71	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	0	0	4	0	0	3	0	0	2	2
Cap, veh/h	99	924	15	164	728	40	86	252	187	126	242	152
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	82	1663	27	191	1311	73	106	907	673	238	871	549
Grp Volume(v), veh/h	658	0	0	627	0	0	193	0	0	299	0	0
Grp Sat Flow(s),veh/h/ln	1772	0	0	1575	0	0	1686	0	0	1658	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0
Cycle Q Clear(g_c), s	17.7	0.0	0.0	19.8	0.0	0.0	6.5	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.08		0.02	0.16		0.05	0.12		0.40	0.20		0.33
Lane Grp Cap(c), veh/h	1038	0	0	933	0	0	525	0	0	521	0	0
V/C Ratio(X)	0.63	0.00	0.00	0.67	0.00	0.00	0.37	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	1038	0	0	933	0	0	525	0	0	521	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.0	0.0	0.0	11.2	0.0	0.0	21.1	0.0	0.0	22.7	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.0	3.9	0.0	0.0	2.0	0.0	0.0	4.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	0.0	6.7	0.0	0.0	2.8	0.0	0.0	4.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	0.0	0.0	15.0	0.0	0.0	23.1	0.0	0.0	27.2	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		658			627			193			299	
Approach Delay, s/veh		14.0			15.0			23.1			27.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		46.0		26.0		46.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		20.0		40.0		20.0		40.0				
Max Q Clear Time (g_c+I1), s		8.5		19.7		13.1		21.8				
Green Ext Time (p_c), s		0.8		4.6		1.0		4.4				

Intersection Summary												
HCM 6th Ctrl Delay			17.6									
HCM 6th LOS			B									



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	579	582	1	0	6
Future Volume (vph)	7	579	582	1	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.999				
Satd. Flow (prot)	0	1843	1842	0	1405	0
Flt Permitted		0.999				
Satd. Flow (perm)	0	1843	1842	0	1405	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1407	280		255	
Travel Time (s)		32.0	6.4		5.8	
Peak Hour Factor	0.87	0.87	0.95	0.95	0.50	0.50
Heavy Vehicles (%)	0%	3%	3%	100%	0%	17%
Adj. Flow (vph)	8	666	613	1	0	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	674	614	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.1%		ICU Level of Service A	
Analysis Period (min) 15			

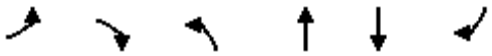
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	579	582	1	0	6
Future Vol, veh/h	7	579	582	1	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	95	95	50	50
Heavy Vehicles, %	0	3	3	100	0	17
Mvmt Flow	8	666	613	1	0	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	614	0	-	0	1296	614
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	682	-
Critical Hdwy	4.1	-	-	-	6.4	6.37
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.453
Pot Cap-1 Maneuver	975	-	-	-	181	465
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	506	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	975	-	-	-	179	465
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	506	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	975	-	-	-	465
HCM Lane V/C Ratio	0.008	-	-	-	0.026
HCM Control Delay (s)	8.7	0	-	-	12.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	2	5	131	282	7
Future Volume (vph)	2	2	5	131	282	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.997	
Flt Protected	0.976			0.998		
Satd. Flow (prot)	1728	0	0	1878	1858	0
Flt Permitted	0.976			0.998		
Satd. Flow (perm)	1728	0	0	1878	1858	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	247			357	755	
Travel Time (s)	5.6			8.1	17.2	
Peak Hour Factor	0.38	0.38	0.82	0.82	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	2%	0%
Adj. Flow (vph)	5	5	6	160	297	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	166	304	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	2	5	131	282	7
Future Vol, veh/h	2	2	5	131	282	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	38	38	82	82	95	95
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	5	5	6	160	297	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	473	301	304	0	-	0
Stage 1	301	-	-	-	-	-
Stage 2	172	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	553	743	1268	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	550	743	1268	-	-	-
Mov Cap-2 Maneuver	550	-	-	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	863	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1268	-	632	-	-
HCM Lane V/C Ratio	0.005	-	0.017	-	-
HCM Control Delay (s)	7.9	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	517	26	111	435	47	24	190	110	44	124	87
Future Volume (vph)	132	517	26	111	435	47	24	190	110	44	124	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.989			0.954			0.954	
Flt Protected		0.990			0.991			0.996			0.992	
Satd. Flow (prot)	0	1854	0	0	1842	0	0	1790	0	0	1789	0
Flt Permitted		0.770			0.769			0.960			0.795	
Satd. Flow (perm)	0	1442	0	0	1430	0	0	1725	0	0	1434	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			10			36			36	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		280			1428			808			357	
Travel Time (s)		5.5			27.8			18.4			8.1	
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.81	0.81	0.81	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	0%	1%	1%	2%	4%	1%	0%	0%	1%	0%
Adj. Flow (vph)	139	544	27	118	463	50	30	235	136	48	136	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	710	0	0	631	0	0	401	0	0	280	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		24.0	24.0		24.0	24.0	
Total Split (s)	46.0	46.0		46.0	46.0		26.0	26.0		26.0	26.0	
Total Split (%)	63.9%	63.9%		63.9%	63.9%		36.1%	36.1%		36.1%	36.1%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.0			40.0			20.0			20.0	
Actuated g/C Ratio		0.56			0.56			0.28			0.28	
v/c Ratio		0.89			0.79			0.79			0.66	
Control Delay		29.8			21.8			35.7			28.7	
Queue Delay		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		29.8			21.8			35.7			28.7	
LOS		C			C			D			C	
Approach Delay		29.8			21.8			35.7			28.7	
Approach LOS		C			C			D			C	

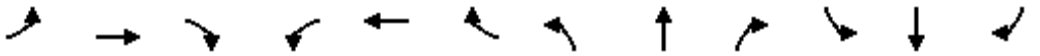
Intersection Summary			
Area Type:	Other		
Cycle Length: 72			
Actuated Cycle Length: 72			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 84.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: High Street & Haverhill Street

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	710	631	401	280
v/c Ratio	0.89	0.79	0.79	0.66
Control Delay	29.8	21.8	35.7	28.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.8	21.8	35.7	28.7
Queue Length 50th (ft)	251	200	150	95
Queue Length 95th (ft)	#491	#407	#222	#179
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	802	798	505	424
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.89	0.79	0.79	0.66

Intersection Summary

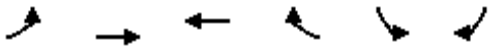
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	517	26	111	435	47	24	190	110	44	124	87
Future Volume (veh/h)	132	517	26	111	435	47	24	190	110	44	124	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1885	1885	1870	1841	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	139	544	27	118	463	50	30	235	136	48	136	96
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.81	0.81	0.81	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	0	1	1	2	4	1	0	0	1	0
Cap, veh/h	184	632	30	167	593	60	74	301	165	108	247	155
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	224	1138	54	194	1067	108	73	1082	593	177	891	557
Grp Volume(v), veh/h	710	0	0	631	0	0	401	0	0	280	0	0
Grp Sat Flow(s),veh/h/ln	1416	0	0	1369	0	0	1748	0	0	1626	0	0
Q Serve(g_s), s	6.1	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	33.4	0.0	0.0	27.3	0.0	0.0	15.3	0.0	0.0	10.3	0.0	0.0
Prop In Lane	0.20		0.04	0.19		0.08	0.07		0.34	0.17		0.34
Lane Grp Cap(c), veh/h	846	0	0	820	0	0	539	0	0	510	0	0
V/C Ratio(X)	0.84	0.00	0.00	0.77	0.00	0.00	0.74	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	846	0	0	820	0	0	539	0	0	510	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.0	0.0	0.0	12.1	0.0	0.0	24.3	0.0	0.0	22.4	0.0	0.0
Incr Delay (d2), s/veh	9.8	0.0	0.0	6.9	0.0	0.0	9.0	0.0	0.0	4.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	0.0	0.0	7.8	0.0	0.0	7.3	0.0	0.0	4.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	0.0	0.0	19.0	0.0	0.0	33.2	0.0	0.0	26.6	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		710			631			401			280	
Approach Delay, s/veh		23.8			19.0			33.2			26.6	
Approach LOS		C			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		46.0		26.0		46.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		20.0		40.0		20.0		40.0				
Max Q Clear Time (g_c+I1), s		17.3		35.4		12.3		29.3				
Green Ext Time (p_c), s		0.7		2.1		1.0		3.4				

Intersection Summary												
HCM 6th Ctrl Delay			24.5									
HCM 6th LOS			C									



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	673	543	3	2	8
Future Volume (vph)	9	673	543	3	2	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.890	
Flt Protected		0.999			0.991	
Satd. Flow (prot)	0	1880	1879	0	1516	0
Flt Permitted		0.999			0.991	
Satd. Flow (perm)	0	1880	1879	0	1516	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1407	280		255	
Travel Time (s)		32.0	6.4		5.8	
Peak Hour Factor	0.95	0.95	0.92	0.92	0.63	0.63
Heavy Vehicles (%)	0%	1%	1%	0%	0%	13%
Adj. Flow (vph)	9	708	590	3	3	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	717	593	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			

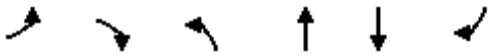
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	673	543	3	2	8
Future Vol, veh/h	9	673	543	3	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	92	92	63	63
Heavy Vehicles, %	0	1	1	0	0	13
Mvmt Flow	9	708	590	3	3	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	593	0	-	0	1318	592
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	726	-
Critical Hdwy	4.1	-	-	-	6.4	6.33
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.417
Pot Cap-1 Maneuver	993	-	-	-	175	486
Stage 1	-	-	-	-	557	-
Stage 2	-	-	-	-	483	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	993	-	-	-	172	486
Mov Cap-2 Maneuver	-	-	-	-	172	-
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	483	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	993	-	-	-	356
HCM Lane V/C Ratio	0.01	-	-	-	0.045
HCM Control Delay (s)	8.7	0	-	-	15.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	10	1	368	245	3
Future Volume (vph)	14	10	1	368	245	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.945				0.998	
Flt Protected	0.971					
Satd. Flow (prot)	1684	0	0	1881	1889	0
Flt Permitted	0.971					
Satd. Flow (perm)	1684	0	0	1881	1889	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	247			357	755	
Travel Time (s)	5.6			8.1	17.2	
Peak Hour Factor	0.88	0.88	0.83	0.83	0.95	0.95
Heavy Vehicles (%)	6%	0%	0%	1%	0%	33%
Adj. Flow (vph)	16	11	1	443	258	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	444	261	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.2%		ICU Level of Service A	
Analysis Period (min) 15			

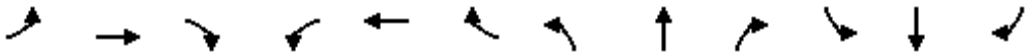
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	10	1	368	245	3
Future Vol, veh/h	14	10	1	368	245	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	83	83	95	95
Heavy Vehicles, %	6	0	0	1	0	33
Mvmt Flow	16	11	1	443	258	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	705	260	261	0	-	0
Stage 1	260	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Critical Hdwy	6.46	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	397	784	1315	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	637	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	397	784	1315	-	-	-
Mov Cap-2 Maneuver	397	-	-	-	-	-
Stage 1	773	-	-	-	-	-
Stage 2	637	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1315	-	500	-	-
HCM Lane V/C Ratio	0.001	-	0.055	-	-
HCM Control Delay (s)	7.7	0	12.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	556	9	99	493	29	18	67	57	60	137	97
Future Volume (vph)	47	556	9	99	493	29	18	67	57	60	137	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.994			0.946			0.956	
Flt Protected		0.996			0.992			0.994			0.990	
Satd. Flow (prot)	0	1839	0	0	1816	0	0	1762	0	0	1770	0
Flt Permitted		0.914			0.811			0.938			0.906	
Satd. Flow (perm)	0	1687	0	0	1485	0	0	1662	0	0	1620	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			6			46			34	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		280			1428			808			357	
Travel Time (s)		5.5			27.8			18.4			8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%	0%	3%	0%	0%	2%	2%
Adj. Flow (vph)	51	604	10	108	536	32	20	73	62	65	149	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	665	0	0	676	0	0	155	0	0	319	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		24.0	24.0		24.0	24.0	
Total Split (s)	46.0	46.0		46.0	46.0		26.0	26.0		26.0	26.0	
Total Split (%)	63.9%	63.9%		63.9%	63.9%		36.1%	36.1%		36.1%	36.1%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.0			40.0			20.0			20.0	
Actuated g/C Ratio		0.56			0.56			0.28			0.28	
v/c Ratio		0.71			0.82			0.31			0.67	
Control Delay		17.0			23.4			16.5			28.8	
Queue Delay		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		17.0			23.4			16.5			28.8	
LOS		B			C			B			C	
Approach Delay		17.0			23.4			16.5			28.8	
Approach LOS		B			C			B			C	

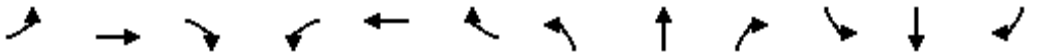
Intersection Summary			
Area Type:	Other		
Cycle Length: 72			
Actuated Cycle Length: 72			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 21.4		Intersection LOS: C	
Intersection Capacity Utilization 92.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: High Street & Haverhill Street

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	665	676	155	319
v/c Ratio	0.71	0.82	0.31	0.67
Control Delay	17.0	23.4	16.5	28.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.0	23.4	16.5	28.8
Queue Length 50th (ft)	198	222	37	112
Queue Length 95th (ft)	323	#441	83	197
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	938	827	494	474
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.82	0.31	0.67

Intersection Summary

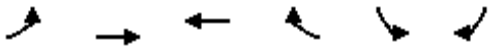
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	556	9	99	493	29	18	67	57	60	137	97
Future Volume (veh/h)	47	556	9	99	493	29	18	67	57	60	137	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1841	1900	1900	1856	1900	1900	1870	1870
Adj Flow Rate, veh/h	51	604	10	108	536	32	20	73	62	65	149	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0	0	4	0	0	3	0	0	2	2
Cap, veh/h	99	913	15	164	717	41	86	253	188	128	241	151
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	82	1644	26	191	1291	74	106	910	677	242	867	544
Grp Volume(v), veh/h	665	0	0	676	0	0	155	0	0	319	0	0
Grp Sat Flow(s),veh/h/ln	1752	0	0	1556	0	0	1693	0	0	1653	0	0
Q Serve(g_s), s	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0
Cycle Q Clear(g_c), s	18.4	0.0	0.0	23.8	0.0	0.0	5.1	0.0	0.0	12.2	0.0	0.0
Prop In Lane	0.08		0.02	0.16		0.05	0.13		0.40	0.20		0.33
Lane Grp Cap(c), veh/h	1027	0	0	922	0	0	527	0	0	519	0	0
V/C Ratio(X)	0.65	0.00	0.00	0.73	0.00	0.00	0.29	0.00	0.00	0.61	0.00	0.00
Avail Cap(c_a), veh/h	1027	0	0	922	0	0	527	0	0	519	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	0.0	12.0	0.0	0.0	20.6	0.0	0.0	23.1	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	5.1	0.0	0.0	1.4	0.0	0.0	5.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	0.0	7.9	0.0	0.0	2.2	0.0	0.0	5.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	0.0	0.0	17.1	0.0	0.0	22.0	0.0	0.0	28.4	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		665			676			155			319	
Approach Delay, s/veh		14.3			17.1			22.0			28.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		46.0		26.0		46.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		20.0		40.0		20.0		40.0				
Max Q Clear Time (g_c+I1), s		7.1		20.4		14.2		25.8				
Green Ext Time (p_c), s		0.6		4.6		0.9		4.3				

Intersection Summary												
HCM 6th Ctrl Delay			18.5									
HCM 6th LOS			B									



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	612	607	1	0	6
Future Volume (vph)	7	612	607	1	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.999				
Satd. Flow (prot)	0	1843	1842	0	1405	0
Flt Permitted		0.999				
Satd. Flow (perm)	0	1843	1842	0	1405	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1407	280		255	
Travel Time (s)		32.0	6.4		5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	3%	100%	0%	17%
Adj. Flow (vph)	8	665	660	1	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	673	661	0	7	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.8%		ICU Level of Service A	
Analysis Period (min) 15			

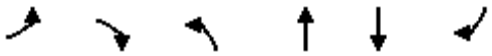
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	612	607	1	0	6
Future Vol, veh/h	7	612	607	1	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	3	3	100	0	17
Mvmt Flow	8	665	660	1	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	661	0	-	0	1342	661
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	681	-
Critical Hdwy	4.1	-	-	-	6.4	6.37
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.453
Pot Cap-1 Maneuver	937	-	-	-	169	437
Stage 1	-	-	-	-	517	-
Stage 2	-	-	-	-	506	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	937	-	-	-	167	437
Mov Cap-2 Maneuver	-	-	-	-	167	-
Stage 1	-	-	-	-	510	-
Stage 2	-	-	-	-	506	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	937	-	-	-	437
HCM Lane V/C Ratio	0.008	-	-	-	0.015
HCM Control Delay (s)	8.9	0	-	-	13.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	2	5	138	292	7
Future Volume (vph)	2	2	5	138	292	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.997	
Flt Protected	0.976			0.998		
Satd. Flow (prot)	1728	0	0	1878	1858	0
Flt Permitted	0.976			0.998		
Satd. Flow (perm)	1728	0	0	1878	1858	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	247			357	755	
Travel Time (s)	5.6			8.1	17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	2%	0%
Adj. Flow (vph)	2	2	5	150	317	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	0	155	325	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.8%		ICU Level of Service A	
Analysis Period (min) 15			

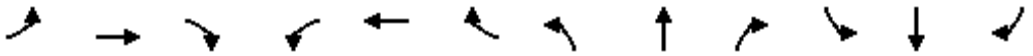
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	2	5	138	292	7
Future Vol, veh/h	2	2	5	138	292	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	2	2	5	150	317	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	481	321	325	0	-	0
Stage 1	321	-	-	-	-	-
Stage 2	160	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	548	724	1246	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	546	724	1246	-	-	-
Mov Cap-2 Maneuver	546	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	874	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1246	-	623	-	-
HCM Lane V/C Ratio	0.004	-	0.007	-	-
HCM Control Delay (s)	7.9	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	544	27	115	458	49	25	197	114	46	128	92
Future Volume (vph)	139	544	27	115	458	49	25	197	114	46	128	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.989			0.954			0.953	
Flt Protected		0.990			0.991			0.996			0.991	
Satd. Flow (prot)	0	1854	0	0	1842	0	0	1790	0	0	1786	0
Flt Permitted		0.747			0.748			0.961			0.817	
Satd. Flow (perm)	0	1399	0	0	1391	0	0	1727	0	0	1472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			10			36			37	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		280			1428			808			357	
Travel Time (s)		5.5			27.8			18.4			8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	0%	1%	1%	2%	4%	1%	0%	0%	1%	0%
Adj. Flow (vph)	151	591	29	125	498	53	27	214	124	50	139	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	771	0	0	676	0	0	365	0	0	289	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		24.0	24.0		24.0	24.0	
Total Split (s)	46.0	46.0		46.0	46.0		26.0	26.0		26.0	26.0	
Total Split (%)	63.9%	63.9%		63.9%	63.9%		36.1%	36.1%		36.1%	36.1%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.0			40.0			20.0			20.0	
Actuated g/C Ratio		0.56			0.56			0.28			0.28	
v/c Ratio		0.99			0.87			0.72			0.66	
Control Delay		48.5			28.4			30.9			28.7	
Queue Delay		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		48.5			28.4			30.9			28.7	
LOS		D			C			C			C	
Approach Delay		48.5			28.4			30.9			28.7	
Approach LOS		D			C			C			C	

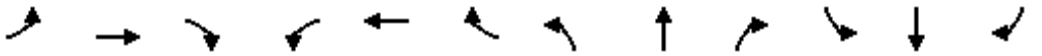
Intersection Summary			
Area Type:	Other		
Cycle Length: 72			
Actuated Cycle Length: 72			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 36.3		Intersection LOS: D	
Intersection Capacity Utilization 88.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: High Street & Haverhill Street

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	771	676	365	289
v/c Ratio	0.99	0.87	0.72	0.66
Control Delay	48.5	28.4	30.9	28.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	48.5	28.4	30.9	28.7
Queue Length 50th (ft)	308	234	131	98
Queue Length 95th (ft)	#568	#465	#248	#182
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	779	777	505	435
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.99	0.87	0.72	0.66

Intersection Summary

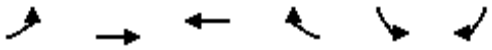
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	544	27	115	458	49	25	197	114	46	128	92
Future Volume (veh/h)	139	544	27	115	458	49	25	197	114	46	128	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1885	1885	1870	1841	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	151	591	29	125	498	53	27	214	124	50	139	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	0	1	1	2	4	1	0	0	1	0
Cap, veh/h	171	566	26	158	552	55	73	301	165	111	249	159
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	201	1018	48	178	994	100	69	1085	594	188	897	574
Grp Volume(v), veh/h	771	0	0	676	0	0	365	0	0	289	0	0
Grp Sat Flow(s),veh/h/ln	1267	0	0	1271	0	0	1747	0	0	1659	0	0
Q Serve(g_s), s	4.6	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	40.0	0.0	0.0	35.4	0.0	0.0	13.5	0.0	0.0	10.5	0.0	0.0
Prop In Lane	0.20		0.04	0.18		0.08	0.07		0.34	0.17		0.35
Lane Grp Cap(c), veh/h	764	0	0	765	0	0	539	0	0	520	0	0
V/C Ratio(X)	1.01	0.00	0.00	0.88	0.00	0.00	0.68	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	764	0	0	765	0	0	539	0	0	520	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.9	0.0	0.0	13.6	0.0	0.0	23.6	0.0	0.0	22.5	0.0	0.0
Incr Delay (d2), s/veh	34.9	0.0	0.0	14.0	0.0	0.0	6.7	0.0	0.0	4.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.0	0.0	0.0	10.6	0.0	0.0	6.3	0.0	0.0	4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	0.0	0.0	27.6	0.0	0.0	30.3	0.0	0.0	26.7	0.0	0.0
LnGrp LOS	F	A	A	C	A	A	C	A	A	C	A	A
Approach Vol, veh/h		771			676			365			289	
Approach Delay, s/veh		51.9			27.6			30.3			26.7	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		46.0		26.0		46.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		20.0		40.0		20.0		40.0				
Max Q Clear Time (g_c+I1), s		15.5		42.0		12.5		37.4				
Green Ext Time (p_c), s		0.9		0.0		1.0		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			36.9									
HCM 6th LOS			D									



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	708	572	3	2	8
Future Volume (vph)	9	708	572	3	2	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.890	
Flt Protected		0.999			0.991	
Satd. Flow (prot)	0	1880	1879	0	1515	0
Flt Permitted		0.999			0.991	
Satd. Flow (perm)	0	1880	1879	0	1515	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1407	280		255	
Travel Time (s)		32.0	6.4		5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	1%	0%	0%	13%
Adj. Flow (vph)	10	770	622	3	2	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	780	625	0	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.4%		ICU Level of Service A	
Analysis Period (min) 15			

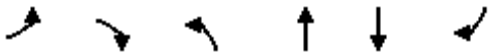
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	708	572	3	2	8
Future Vol, veh/h	9	708	572	3	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	1	0	0	13
Mvmt Flow	10	770	622	3	2	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	625	0	-	0	1414	624
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	790	-
Critical Hdwy	4.1	-	-	-	6.4	6.33
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.417
Pot Cap-1 Maneuver	966	-	-	-	153	466
Stage 1	-	-	-	-	538	-
Stage 2	-	-	-	-	451	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	966	-	-	-	150	466
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	451	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	966	-	-	-	328
HCM Lane V/C Ratio	0.01	-	-	-	0.033
HCM Control Delay (s)	8.8	0	-	-	16.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	10	1	384	256	3
Future Volume (vph)	14	10	1	384	256	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.943				0.999	
Flt Protected	0.972					
Satd. Flow (prot)	1683	0	0	1881	1891	0
Flt Permitted	0.972					
Satd. Flow (perm)	1683	0	0	1881	1891	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	247			357	755	
Travel Time (s)	5.6			8.1	17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	0%	0%	1%	0%	33%
Adj. Flow (vph)	15	11	1	417	278	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	0	418	281	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.0%		ICU Level of Service A	
Analysis Period (min) 15			

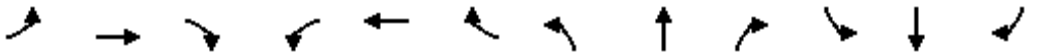
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	10	1	384	256	3
Future Vol, veh/h	14	10	1	384	256	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	0	0	1	0	33
Mvmt Flow	15	11	1	417	278	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	699	280	281	0	-	0
Stage 1	280	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Critical Hdwy	6.46	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	400	764	1293	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	400	764	1293	-	-	-
Mov Cap-2 Maneuver	400	-	-	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	655	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1293	-	499	-	-
HCM Lane V/C Ratio	0.001	-	0.052	-	-
HCM Control Delay (s)	7.8	0	12.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	556	9	99	508	55	24	77	57	87	148	97
Future Volume (vph)	47	556	9	99	508	55	24	77	57	87	148	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.989			0.951			0.961	
Flt Protected		0.996			0.993			0.992			0.987	
Satd. Flow (prot)	0	1839	0	0	1810	0	0	1767	0	0	1776	0
Flt Permitted		0.909			0.820			0.907			0.861	
Satd. Flow (perm)	0	1678	0	0	1495	0	0	1615	0	0	1549	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			10			39			28	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		280			1428			808			357	
Travel Time (s)		5.5			27.8			18.4			8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%	0%	3%	0%	0%	2%	2%
Adj. Flow (vph)	51	604	10	108	552	60	26	84	62	95	161	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	665	0	0	720	0	0	172	0	0	361	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		24.0	24.0		24.0	24.0	
Total Split (s)	46.0	46.0		46.0	46.0		26.0	26.0		26.0	26.0	
Total Split (%)	63.9%	63.9%		63.9%	63.9%		36.1%	36.1%		36.1%	36.1%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.0			40.0			20.0			20.0	
Actuated g/C Ratio		0.56			0.56			0.28			0.28	
v/c Ratio		0.71			0.86			0.36			0.80	
Control Delay		17.1			26.8			18.6			38.2	
Queue Delay		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		17.1			26.8			18.6			38.2	
LOS		B			C			B			D	
Approach Delay		17.1			26.8			18.6			38.2	
Approach LOS		B			C			B			D	

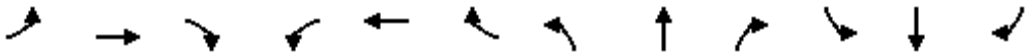
Intersection Summary			
Area Type:	Other		
Cycle Length: 72			
Actuated Cycle Length: 72			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 24.8		Intersection LOS: C	
Intersection Capacity Utilization 99.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: High Street & Haverhill Street

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	665	720	172	361
v/c Ratio	0.71	0.86	0.36	0.80
Control Delay	17.1	26.8	18.6	38.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.1	26.8	18.6	38.2
Queue Length 50th (ft)	198	247	46	137
Queue Length 95th (ft)	325	#484	97	#274
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	933	835	476	450
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.86	0.36	0.80

Intersection Summary

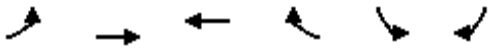
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	556	9	99	508	55	24	77	57	87	148	97
Future Volume (veh/h)	47	556	9	99	508	55	24	77	57	87	148	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1841	1900	1900	1856	1900	1900	1870	1870
Adj Flow Rate, veh/h	51	604	10	108	552	60	26	84	62	95	161	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0	0	4	0	0	3	0	0	2	2
Cap, veh/h	98	901	14	158	694	72	96	264	170	160	226	133
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	80	1622	26	180	1249	130	138	951	614	350	815	478
Grp Volume(v), veh/h	665	0	0	720	0	0	172	0	0	361	0	0
Grp Sat Flow(s),veh/h/ln	1729	0	0	1560	0	0	1703	0	0	1642	0	0
Q Serve(g_s), s	0.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0
Cycle Q Clear(g_c), s	18.7	0.0	0.0	26.8	0.0	0.0	5.7	0.0	0.0	14.4	0.0	0.0
Prop In Lane	0.08		0.02	0.15		0.08	0.15		0.36	0.26		0.29
Lane Grp Cap(c), veh/h	1014	0	0	924	0	0	530	0	0	519	0	0
V/C Ratio(X)	0.66	0.00	0.00	0.78	0.00	0.00	0.32	0.00	0.00	0.70	0.00	0.00
Avail Cap(c_a), veh/h	1014	0	0	924	0	0	530	0	0	519	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	0.0	12.6	0.0	0.0	20.8	0.0	0.0	23.8	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.0	0.0	6.5	0.0	0.0	1.6	0.0	0.0	7.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	0.0	9.1	0.0	0.0	2.4	0.0	0.0	6.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	0.0	0.0	19.1	0.0	0.0	22.5	0.0	0.0	31.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		665			720			172			361	
Approach Delay, s/veh		14.4			19.1			22.5			31.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		46.0		26.0		46.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		20.0		40.0		20.0		40.0				
Max Q Clear Time (g_c+I1), s		7.7		20.7		16.4		28.8				
Green Ext Time (p_c), s		0.7		4.6		0.8		4.1				

Intersection Summary												
HCM 6th Ctrl Delay			20.1									
HCM 6th LOS			C									



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	47	612	607	22	0	32
Future Volume (vph)	47	612	607	22	0	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.995		0.865	
Flt Protected		0.996				
Satd. Flow (prot)	0	1841	1834	0	1596	0
Flt Permitted		0.996				
Satd. Flow (perm)	0	1841	1834	0	1596	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1407	280		255	
Travel Time (s)		32.0	6.4		5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	3%	5%	0%	3%
Adj. Flow (vph)	51	665	660	24	0	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	716	684	0	35	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 80.9%		ICU Level of Service D	
Analysis Period (min) 15			

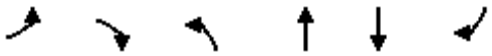
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	47	612	607	22	0	32
Future Vol, veh/h	47	612	607	22	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	3	3	5	0	3
Mvmt Flow	51	665	660	24	0	35

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	684	0	-	0	1439	672
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	767	-
Critical Hdwy	4.1	-	-	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.327
Pot Cap-1 Maneuver	919	-	-	-	148	454
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	462	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	919	-	-	-	135	454
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	462	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	919	-	-	-	454
HCM Lane V/C Ratio	0.056	-	-	-	0.077
HCM Control Delay (s)	9.1	0	-	-	13.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	40	41	138	292	26
Future Volume (vph)	14	40	41	138	292	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.900				0.989	
Flt Protected	0.987			0.989		
Satd. Flow (prot)	1688	0	0	1865	1845	0
Flt Permitted	0.987			0.989		
Satd. Flow (perm)	1688	0	0	1865	1845	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	247			357	755	
Travel Time (s)	5.6			8.1	17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	2%	0%
Adj. Flow (vph)	15	43	45	150	317	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	58	0	0	195	345	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.8%		ICU Level of Service A	
Analysis Period (min) 15			

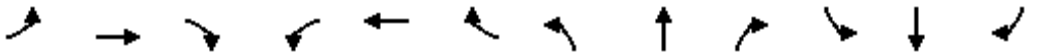
Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	40	41	138	292	26
Future Vol, veh/h	14	40	41	138	292	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	15	43	45	150	317	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	571	331	345	0	-	0
Stage 1	331	-	-	-	-	-
Stage 2	240	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	486	715	1225	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	805	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	467	715	1225	-	-	-
Mov Cap-2 Maneuver	467	-	-	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	805	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1225	-	628	-	-
HCM Lane V/C Ratio	0.036	-	0.093	-	-
HCM Control Delay (s)	8.1	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	543	26	115	466	71	28	206	114	90	146	92
Future Volume (vph)	139	543	26	115	466	71	28	206	114	90	146	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.985			0.956			0.962	
Flt Protected		0.990			0.991			0.996			0.986	
Satd. Flow (prot)	0	1854	0	0	1834	0	0	1793	0	0	1794	0
Flt Permitted		0.735			0.757			0.944			0.644	
Satd. Flow (perm)	0	1376	0	0	1401	0	0	1699	0	0	1172	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			14			34			27	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		280			1428			808			357	
Travel Time (s)		5.5			27.8			18.4			8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	0%	1%	1%	2%	4%	1%	0%	0%	1%	0%
Adj. Flow (vph)	151	590	28	125	507	77	30	224	124	98	159	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	769	0	0	709	0	0	378	0	0	357	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		24.0	24.0		24.0	24.0	
Total Split (s)	46.0	46.0		46.0	46.0		26.0	26.0		26.0	26.0	
Total Split (%)	63.9%	63.9%		63.9%	63.9%		36.1%	36.1%		36.1%	36.1%	
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.0			40.0			20.0			20.0	
Actuated g/C Ratio		0.56			0.56			0.28			0.28	
v/c Ratio		1.00			0.90			0.76			1.03	
Control Delay		52.4			32.3			33.7			85.4	
Queue Delay		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		52.4			32.3			33.7			85.4	
LOS		D			C			C			F	
Approach Delay		52.4			32.3			33.7			85.4	
Approach LOS		D			C			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 72			
Actuated Cycle Length: 72			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 48.1		Intersection LOS: D	
Intersection Capacity Utilization 104.3%		ICU Level of Service G	
Analysis Period (min) 15			

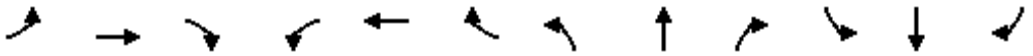
Splits and Phases: 3: High Street & Haverhill Street

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	769	709	378	357
v/c Ratio	1.00	0.90	0.76	1.03
Control Delay	52.4	32.3	33.7	85.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	52.4	32.3	33.7	85.4
Queue Length 50th (ft)	~316	253	140	~165
Queue Length 95th (ft)	#572	#496	#269	#322
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	766	784	496	345
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.00	0.90	0.76	1.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

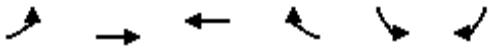
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	543	26	115	466	71	28	206	114	90	146	92
Future Volume (veh/h)	139	543	26	115	466	71	28	206	114	90	146	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1900	1885	1885	1870	1841	1885	1900	1900	1885	1900
Adj Flow Rate, veh/h	151	590	28	125	507	77	30	224	124	98	159	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	0	1	1	2	4	1	0	0	1	0
Cap, veh/h	164	536	24	155	542	78	76	306	160	149	199	111
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	188	965	44	173	975	140	78	1102	576	307	716	398
Grp Volume(v), veh/h	769	0	0	709	0	0	378	0	0	357	0	0
Grp Sat Flow(s),veh/h/ln	1197	0	0	1288	0	0	1756	0	0	1421	0	0
Q Serve(g_s), s	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0
Cycle Q Clear(g_c), s	40.0	0.0	0.0	39.0	0.0	0.0	14.1	0.0	0.0	17.6	0.0	0.0
Prop In Lane	0.20		0.04	0.18		0.11	0.08		0.33	0.27		0.28
Lane Grp Cap(c), veh/h	725	0	0	774	0	0	542	0	0	458	0	0
V/C Ratio(X)	1.06	0.00	0.00	0.92	0.00	0.00	0.70	0.00	0.00	0.78	0.00	0.00
Avail Cap(c_a), veh/h	725	0	0	774	0	0	542	0	0	458	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.5	0.0	0.0	14.4	0.0	0.0	23.9	0.0	0.0	24.8	0.0	0.0
Incr Delay (d2), s/veh	50.8	0.0	0.0	17.3	0.0	0.0	7.3	0.0	0.0	12.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.6	0.0	0.0	12.2	0.0	0.0	6.6	0.0	0.0	7.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.3	0.0	0.0	31.7	0.0	0.0	31.1	0.0	0.0	37.1	0.0	0.0
LnGrp LOS	F	A	A	C	A	A	C	A	A	D	A	A
Approach Vol, veh/h		769			709			378			357	
Approach Delay, s/veh		67.3			31.7			31.1			37.1	
Approach LOS		E			C			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		46.0		26.0		46.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		20.0		40.0		20.0		40.0				
Max Q Clear Time (g_c+I1), s		16.1		42.0		19.6		41.0				
Green Ext Time (p_c), s		0.8		0.0		0.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			44.8									
HCM 6th LOS			D									



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	38	708	572	14	0	49
Future Volume (vph)	38	708	572	14	0	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997		0.865	
Flt Protected		0.997				
Satd. Flow (prot)	0	1876	1876	0	1611	0
Flt Permitted		0.997				
Satd. Flow (perm)	0	1876	1876	0	1611	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1407	280		255	
Travel Time (s)		32.0	6.4		5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	1%	0%	0%	2%
Adj. Flow (vph)	41	770	622	15	0	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	811	637	0	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 78.3%		ICU Level of Service D	
Analysis Period (min) 15			

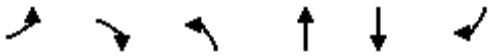
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	708	572	14	0	49
Future Vol, veh/h	38	708	572	14	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	1	0	0	2
Mvmt Flow	41	770	622	15	0	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	637	0	-	0	1482	630
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	852	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	956	-	-	-	139	482
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	956	-	-	-	129	482
Mov Cap-2 Maneuver	-	-	-	-	129	-
Stage 1	-	-	-	-	495	-
Stage 2	-	-	-	-	421	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	956	-	-	-	482
HCM Lane V/C Ratio	0.043	-	-	-	0.11
HCM Control Delay (s)	8.9	0	-	-	13.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	72	32	384	256	17
Future Volume (vph)	34	72	32	384	256	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.908				0.992	
Flt Protected	0.984			0.996		
Satd. Flow (prot)	1681	0	0	1875	1879	0
Flt Permitted	0.984			0.996		
Satd. Flow (perm)	1681	0	0	1875	1879	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	247			357	755	
Travel Time (s)	5.6			8.1	17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	0%	0%	1%	0%	5%
Adj. Flow (vph)	37	78	35	417	278	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	0	0	452	296	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	34	72	32	384	256	17
Future Vol, veh/h	34	72	32	384	256	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	0	0	1	0	5
Mvmt Flow	37	78	35	417	278	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	774	287	296	0	-	0
Stage 1	287	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Critical Hdwy	6.43	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	365	757	1277	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	352	757	1277	-	-	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	616	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1277	-	553	-	-
HCM Lane V/C Ratio	0.027	-	0.208	-	-
HCM Control Delay (s)	7.9	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Appendix G
Sight Distance Worksheets

Sight Distance Calculations

Proposed ATS/CSS and Outpatient Facilities, Andover, MA

Inputs

Posted Speed Limit = 35 mph EB and 35 mph WB

Direction 1 =	Haverhill Street EB	85% Speed =	40	mph	Grade =	0	t=	2.5	s	a=	11.2 ft/s^2
Direction 2 =	Haverhill Street WB	85% Speed =	40	mph	Grade =	0	t=	2.5	s	a=	11.2 ft/s^2
						Left:	t_g =	7.5	s		
						Right:	t_g =	6.5	s		

SSD = Reaction Distance + Braking Distance

Reaction Distance = $1.47 \times V \times t$

Braking Distance = $V^2/(30 \times ((a/32.2) + G))$

$ISD = 1.47 \times V \times t_g$

Where t = reaction time (sec)

t_g = time gap for minor road vehicle to enter the major road

V= travel speed (mph)

G= roadway grade

a= deceleration rate (ft/s^2)

Calculations

	Reaction Distance (ft)	Brake Distance (ft)	SSD (ft)
Haverhill Street EB	147.0	153.3	300
Haverhill Street WB	147.0	153.3	300

For 40 mph:

Left Turn ISD = 441 ft

Right Turn ISD = 382 ft

For 40 mph:

Left Turn ISD = 441 ft

Right Turn ISD = 382 ft

Source: AASHTO Geometric Design of Highways and Streets; FHWA; Washington, D.C.; 2011

Sight Distance Calculations

Proposed ATS/CSS and Outpatient Facilities, Andover, MA

Inputs

Posted Speed Limit = 30 mph NB and 30 mph SB

Direction 1 =	High Street NB	85% Speed =	35	mph	Grade =	0	t=	2.5 s	a=	11.2	ft/s^2
Direction 2 =	High Street SB	85% Speed =	35	mph	Grade =	0	t=	2.5 s	a=	11.2	ft/s^2
						Left:	t_g =	7.5 s			
						Right:	t_g =	6.5 s			

SSD = Reaction Distance + Braking Distance

Reaction Distance = 1.47 x V x t

Braking Distance = $V^2/(30 \times ((a/32.2) + G))$

ISD = 1.47 x V x t_g

Where t = reaction time (sec)

t_g = time gap for minor road vehicle to enter the major road

V= travel speed (mph)

G= roadway grade

a= deceleration rate (ft/s^2)

Calculations

	Reaction Distance (ft)	Brake Distance (ft)	SSD (ft)
High Street NB	128.6	117.4	246
High Street SB	128.6	117.4	246

For 35 mph:

Left Turn ISD = 386 ft

Right Turn ISD = 334 ft

For 35 mph:

Left Turn ISD = 386 ft

Right Turn ISD = 334 ft

Source: AASHTO Geometric Design of Highways and Streets; FHWA; Washington, D.C.; 2011

Appendix H
Parking Data

Kimley»Horn

MEMORANDUM

To: Jay Joiner – The Gardner School / Viking Development

From: Rory Fancler, AICP, PTP – Kimley-Horn
Tim Sjogren, P.E., PTOE – Kimley-Horn

Date: October 24, 2019

RE: Parking Review for The Gardner School
Vernon Hills, Illinois

On behalf of The Gardner School, Kimley-Horn and Associates, Inc. (Kimley-Horn) evaluated the projected parking demand for the daycare facility proposed for the northeast quadrant of the intersection of Deerpath Drive/Phillip Road in Vernon Hills, Illinois. The subject development would include an approximately 16,055 square-foot facility with 45 parking spaces. Parking for the development is proposed at a ratio of approximately 2.8 spaces per 1,000 square feet. A copy of the proposed site plan is provided as **Attachment 1**.

The proposed parking supply was evaluated relative to the Village of Vernon Hills requirements, parking industry recommendations for similar land uses, and observed parking characteristics at an existing The Gardner School. This memorandum presents a review of the proposed parking supply and summarizes key findings and conclusions.

Executive Summary

The proposed parking supply reflects the unique operational characteristics of The Gardner School and is expected to support peak parking demand. Based on a review of The Gardner School Northbrook, parking demand is generally staggered, with morning student drop-off and afternoon student pick-up occurring over 2.5-hour periods. According to empirical data collected by Kimley-Horn, peak parking demand occurs at a ratio of 1.87 spaces per 1,000 square feet of gross floor area. The Gardner School Northbrook is considered representative of the proposed development in terms of size and enrollment; and therefore, parking demand observed at this location is expected to be generally similar to projected parking demand at the Vernon Hills location. Accordingly, the proposed development includes a total of 45 spaces or 2.8 spaces per 1,000 square feet of gross floor area which is expected to support peak demand.

Village of Vernon Hills Requirements

Off-street parking requirements for various land uses in the Village are outlined in Section 19.7 of the Code of Ordinances. Based on a review of the Code, specific parking requirements are not provided for a daycare facility. Parking requirements for similar land uses such as a preschool are also undefined. Where a land use is otherwise undefined, the Code requires 1 parking space per 200 square feet of gross floor area (i.e., 4 spaces per 1,000 square feet of gross floor area) for all other permitted or special uses. This is universally applied to all undefined uses without consideration for unique parking demand and operational characteristics. As the proposed parking supply is lower than the Code requirements, approval of a variance from Section 19.7 of the Code of Ordinance would be required.

Parking Research

A primary acknowledged source for national-level parking demand data is the Institute of Transportation Engineers (ITE) publication Parking Generation, Fifth Edition. The ITE Parking Generation manual provides average peak parking demand rates for a variety of land use categories. The land use category most similar to the proposed development is Land Use Code 565, Day Care Center. According to the ITE data provided for 45 study locations, the average peak parking demand for daycare centers is 2.45 spaces per 1,000 square feet. The 85th percentile parking demand is 3.47 spaces per 1,000 square feet. The 85th percentile parking demand reflects operational characteristics for a range of daycare facilities, including those which may have higher enrollment or staffing levels and concentrated student drop-off and pick-up periods. The parking supply proposed for The Gardner School Vernon Hills (i.e., 2.8 spaces per 1,000 square feet of gross floor area) reflects the unique operational characteristics of The Gardner School.

Empirical Parking Demand

In order to evaluate the unique parking demand characteristics of The Gardner School, a parking occupancy study was conducted for the existing Northbrook, Illinois location[1]. This location was selected as it is an established daycare facility similar in size and enrollment as compared to the proposed Vernon Hills development. It should be noted that the Northbrook location is an established facility; current enrollment levels reflect growth over an approximately four-year period. It is anticipated initial enrollment at the Vernon Hills location would be lower, with projected future enrollment generally similar to Northbrook. A summary of the operational characteristics for the Northbrook location are outlined below.

- Building size is 16,068 sq. ft. of gross floor area
- Total parking supply is 48 spaces
- Enrollment is currently 163 students
- Approximately 30 staff are typically onsite Monday through Friday
- Morning drop-off activity is staggered between 7:00AM and 9:30AM
- Afternoon pick-up activity occurs between 3:30PM and 6:00PM

Parking occupancy counts were conducted at the Northbrook location on a typical weekday when enrollment levels are highest (i.e., Wednesday). The counts were conducted on October 2, 2019 from 7:00AM to 10:00AM and 3:30AM to 6:00PM. The count periods were selected in order to capture the peak student drop-off and pick-up periods. A summary of the observed parking occupancy is outlined in **Table 1**.

[1]The Gardner School Oakbrook Terrace was selected to evaluate trip generation characteristics as it has one of the highest enrollments in The Gardner School system; however, this facility has a shared parking arrangement with the neighboring use; and therefore, parking demand for the daycare facility could not be isolated. For purposes of the parking study, the Northbrook location was selected for empirical data collection as it is similar in size and enrollment as the proposed Vernon Hills location.

Table 1. Observed Parking Occupancy – The Gardner School Northbrook

Time of Day	Occupied Spaces	Parking Demand Rate (per 1,000 sq. ft. gross floor area)	Percent Occupied
7:00AM	12	0.75	25%
7:15AM	12	0.75	25%
7:30AM	19	1.18	40%
7:45AM	24	1.49	50%
8:00AM	22	1.37	46%
8:15AM	21	1.31	44%
8:30AM	24	1.49	50%
8:45AM	24	1.49	50%
9:00AM	26	1.62	54%
9:15AM	30	1.87	63%
9:30AM	30	1.87	63%
9:45AM	29	1.80	60%
3:30PM	28	1.74	58%
3:45PM	25	1.56	52%
4:00PM	25	1.56	52%
4:15PM	27	1.68	56%
4:30PM	26	1.62	54%
4:45PM	23	1.43	48%
5:00PM	22	1.37	46%
5:15PM	21	1.31	44%
5:30PM	20	1.24	42%
5:45PM	20	1.24	42%
Average	23	1.44	48%

As shown in the table above, during the morning drop-off period peak parking demand occurred from 9:15 to 9:45AM with 30 spaces occupied. During the afternoon pick-up period, peak parking demand occurred from 3:30 to 3:45PM with 28 spaced occupied. According to the empirical data collected at the Northbrook location, peak parking demand for The Gardner School is equivalent to 1.87 spaces per 1,000 square feet.

Summary

The Village's Code of Ordinances does not specify parking requirements for a daycare facility. Where parking requirements are not provided for a specific use, the Code requires 1 space per 200 square feet of gross floor area or 4 spaces per 1,000 square feet of gross floor area. Based on a review of ITE data for daycare facilities and the unique operational characteristics of The Gardner School, the general parking requirement outlined in the Code of Ordinances may not be appropriate for the proposed development. Accordingly, approval of a variance from Section 19.7 of the Code of Ordinances would be required.

ITE data indicates an average parking demand ratio of 2.45 spaces per 1,000 square feet, which is lower than the Village's Code requirement. However, based on existing conditions at The Gardner School Northbrook, the anticipated peak parking demand for the Vernon Hills location is expected to be lower

than both the Village requirements and ITE data. A summary of the proposed parking supply as compared to Village requirements, ITE data, and empirical data is provided in **Table 2**.

Table 2. Comparison of Proposed Parking Supply and Available Data

Data Source	Parking Ratio (per 1,000 sq. ft.)
Proposed Parking Supply	2.8 spaces
Village Code of Ordinances	4 spaces
ITE Parking Generation manual	2.45 spaces (average) 3.74 spaces (85th percentile)
Empirical – The Gardner School Northbrook	1.44 spaces (average) 1.87 spaces (peak)

The empirical parking demand reflects the unique operational characteristics of The Gardner School, including the staggered student drop-off and pick-up periods, and the high carpool (i.e., sibling) rate observed at existing facilities[2]. Therefore, the proposed parking supply of 45 spaces or 2.8 spaces per 1,000 square feet of gross floor area is expected to be sufficient to support peak parking demand. Parking spillover to adjacent properties is not anticipated.

Please do not hesitate to contact us with any questions related to the information in this memorandum.

[2]Based on data supplied by The Gardner School, approximately 23 percent of student enrollment at the Oakbrook Terrace location is carpools (i.e., siblings).

BAYSIDE ENGINEERING
600 Unicorn Park Drive ▲ Woburn, MA 01801
Phone: 781.932.3201 ▲ Fax: 781.932.3413
www.baysideengineering.com

JOB Topsail
SHEET NO Parking OF 1 of 1
CALCULATED BY _____ DATE _____
CHECKED BY _____ DATE _____
SCALE _____

# of Employees : 16 = 16 parking Spaces

# of Patients = 35 = 1 parking space for Van

IF 10 Patients Drive = 10 parking spaces

27 parking spaces needed

IF 35 Patients Drive 35 parking spaces
1 Van Space
16 Staff parking Spaces

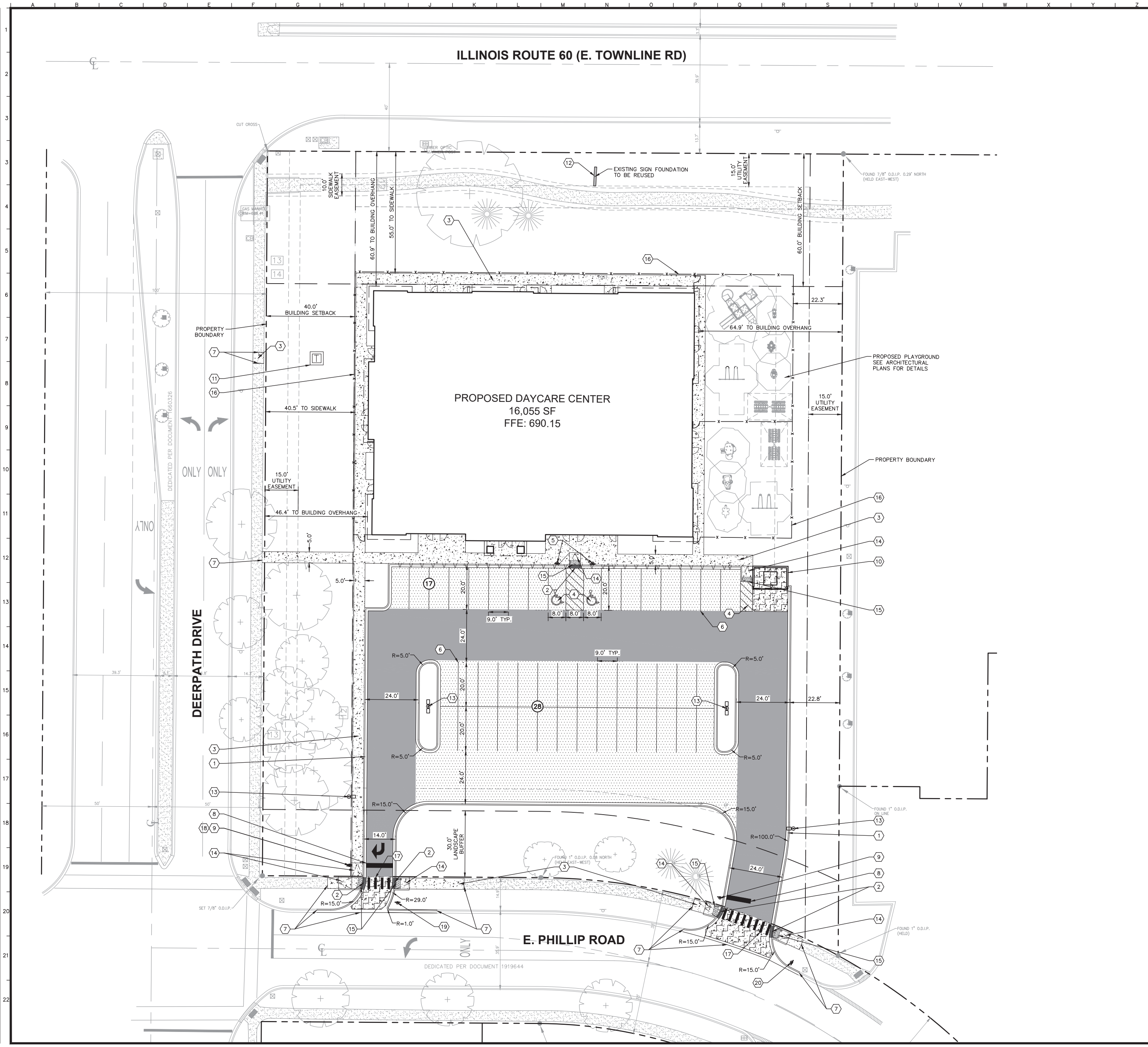
52 parking spaces needed

Evening Program (3 nights/week)

# of Staff = 2 = 2 Parking Spaces

# of clients = 15 to 20 ≈ 20 Parking Spaces

22 parking spaces needed



GENERAL NOTES

1. ALL DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
2. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
4. RADII ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 3-FEET, TYPICAL.
5. REFER TO ARCHITECTURAL PLANS FOR MONUMENT SIGN DETAILS. SEE MEP PLANS FOR SITE ELECTRICAL DRAWINGS.
6. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.

KEY NOTES

1. B6.12 CONCRETE CURB AND GUTTER, TYP. (SEE DETAILS)
2. DEPRESSED CURB AND GUTTER
3. CONCRETE SIDEWALK, TYP. (SEE DETAILS)
4. ACCESSIBLE PAVEMENT MARKINGS, TYP. (SEE DETAILS)
5. ACCESSIBLE PARKING SIGN, TYP. (MUTCD R7-8, SEE DETAILS)
6. 4" WIDE PAINTED SOLID LINE, TYP.
7. CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.
8. 24" WIDE STOP BAR, TYP. (SEE DETAILS)
9. STOP SIGN, TYP. (MUTCD R1-1, SEE DETAILS)
10. TRASH ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS)
11. TRANSFORMER PAD (FOR REFERENCE ONLY)
12. MONUMENT SIGN (SEE ARCHITECTURAL PLANS FOR DETAILS)
13. LIGHT POLES SHOWN FOR COORDINATION ONLY (SEE SITE LIGHTING PLANS)
14. ACCESSIBLE RAMP (SEE DETAILS)
15. 2' WIDE TACTILE WARNING STRIP
16. FENCE (SEE ARCHITECTURAL PLANS FOR DETAILS)
17. CROSSWALK STRIPING (SEE DETAILS)
18. "DO NOT ENTER" SIGN (MUTCD R5-1)
19. "RIGHT TURN ONLY" SIGN (MUTCD R3-5R)
20. "DO NOT BLOCK DRIVEWAY" SIGN (MUTCD R10-7)

PAVING AND CURB LEGEND

STANDARD DUTY ASPHALT PAVEMENT
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION

HEAVY DUTY ASPHALT PAVEMENT
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION

CONCRETE SIDEWALK
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION

HEAVY DUTY CONCRETE PAVEMENT
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION

STANDARD PITCH CONCRETE CURB AND GUTTER

REVERSE PITCH CONCRETE CURB AND GUTTER

CONCRETE DEPRESSED CURB AND GUTTER

PARKING SUMMARY

PARKING SPACES REQUIRED (1SP/200SF)	= 80 SPACES
STANDARD PARKING SPACES PROVIDED	= 43 SPACES
ACCESSIBLE PARKING SPACES REQUIRED	= 2 SPACES
ACCESSIBLE PARKING SPACES PROVIDED	= 2 SPACES
TOTAL PARKING SPACES PROVIDED	= 45 SPACES

NOTE: PARKING VARIANCE REQUIRED

SITE DATA TABLE

TOTAL SITE AREA	= 2.00 AC.
EXISTING LAND USE	= VACANT
PROPOSED LAND USE	= PRE-SCHOOL
EXISTING ZONING	= OR&D
PROPOSED ZONING	= OR&D WITH SPECIAL USE
GROSS FLOOR AREA	= 16,055 SF
FLOOR AREA RATIO	= 0.18
LAND COVERAGE	= 54.5%

No.	REVISIONS	DATE	BY

Kimley»Horn

1001 WARRENVILLE ROAD, SUITE 350,
LISLE, IL 60532
PHONE: 630-487-5550
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED
DESIGNED BY: RJA
DRAWN BY: RJA
CHECKED BY: TRE

SITE PLAN

THE GARDNER SCHOOL
2 E. PHILLIPS RD.
VERNON HILLS, IL 60061

ORIGINAL ISSUE: 09/27/2019
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C3.0

ATTACHMENT 1

Staffing Schedule for 1 Week based on 32 ATS Beds and 32 CSS Beds Using BSAS Staffing Charts

ATS (32 Beds): 2 Nurses per 8 hr shift, RN Required for all Day and Evening Shifts, 3 shifts per day, 7 days per week; CMs M-F 48 hrs/day over 12hr span, WE 32 hrs/day over 12 hr span; BHT 2 per 8 hour shift, 3 shifts per day, 7 days per week

CSS (32 Beds): 1 Nurse 4 hrs per day, 7 days per week; BHT 2 per 8 hr shift, 3 shifts per day, 7 days per week; CMs 16 hrs per day, M-F, 80 hours min per week; Counselors 48 hours per day, 7 days per week, min 12 hr span