

## Appendix

### *Appendix A*

Traffic Volume Count Data

### *Appendix B*

Seasonal Adjustment Worksheets

### *Appendix C*

Crash Data

### *Appendix D*

Trip Generation Worksheets

### *Appendix E*

Intersection Capacity Analysis Worksheets

### *Appendix F*

Sight Distance Worksheets

### *Appendix G*

Parking Data



*Appendix A*  
Traffic Volume Count Data



### 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

Time	EASTBOUND														Total	WESTBOUND														Total
	5	15	20	25	30	35	40	45	50	55	60	65	70	5		15	20	25	30	35	40	45	50	55	60	65	70			
	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	EASTBOUND														Total	WESTBOUND														Total
	00:00 - 12:00	15	20	25	30	35	40	45	50	55	60	65	70	00:00 - 12:00		15	20	25	30	35	40	45	50	55	60	65	70			
	%	Peak Hour	Peak Volume	%	Peak Hour	Peak Volume	%	Peak Hour	Peak Volume	%	Peak Hour	Peak Volume	%	Peak Hour		Peak Volume	%	Peak Hour	Peak Volume	%	Peak Hour	Peak Volume	%	Peak Hour	Peak Volume	%	Peak Hour	Peak Volume		
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	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%	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	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	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	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%	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	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	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	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%	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	7:30			
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	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	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%	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	16:00	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	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														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	2	7	9	2	3	0	0	0	0	0	0	23
0	0	1	5	3	7	3	0	0	0	0	0	0	0	19
0	0	0	2	3	7	2	0	0	0	0	0	0	0	14
0	0	1	1	7	5	3	4	0	0	0	0	0	0	21
0	0	0	5	19	25	7	7	0	0	0	0	0	0	63
1	0	1	17	76	95	37	3	0	0	0	0	0	0	230
2	2	2	32	213	205	40	2	1	0	0	0	0	0	499
3	2	16	149	451	298	44	4	0	0	0	0	0	0	967
1	0	14	154	484	335	65	11	0	0	0	0	0	0	1064
5	3	16	91	346	300	45	7	1	0	0	0	0	0	814
2	0	1	83	332	200	34	0	0	0	0	0	0	0	652
1	0	14	63	291	237	46	7	1	0	0	0	0	0	660
2	4	4	76	325	277	75	9	0	0	0	0	0	0	772
2	2	4	87	325	261	72	16	0	0	0	0	0	0	769
2	2	23	81	335	269	96	18	3	0	0	0	0	0	829
10	11	34	128	473	320	88	8	3	0	0	0	0	0	1075
12	10	22	191	575	291	38	2	0	0	0	0	0	0	1141
5	13	55	279	555	251	23	1	0	0	0	0	0	0	1182
7	8	22	197	387	165	21	1	0	0	0	0	0	0	808
3	0	3	71	211	161	30	3	0	0	0	0	0	0	482
2	1	8	62	211	96	25	2	1	0	0	0	0	0	408
0	0	5	31	94	87	24	1	0	0	0	0	0	0	242
0	0	0	15	53	39	20	3	0	0	0	0	0	0	130
0	0	0	5	24	27	9	6	0	0	0	0	0	0	71
<b>60</b>	<b>58</b>	<b>246</b>	<b>1,827</b>	<b>5,800</b>	<b>3,967</b>	<b>849</b>	<b>118</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,935</b>
0%	0%	2%	14%	45%	31%	7%	1%	0%						100%

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

### VOLUME

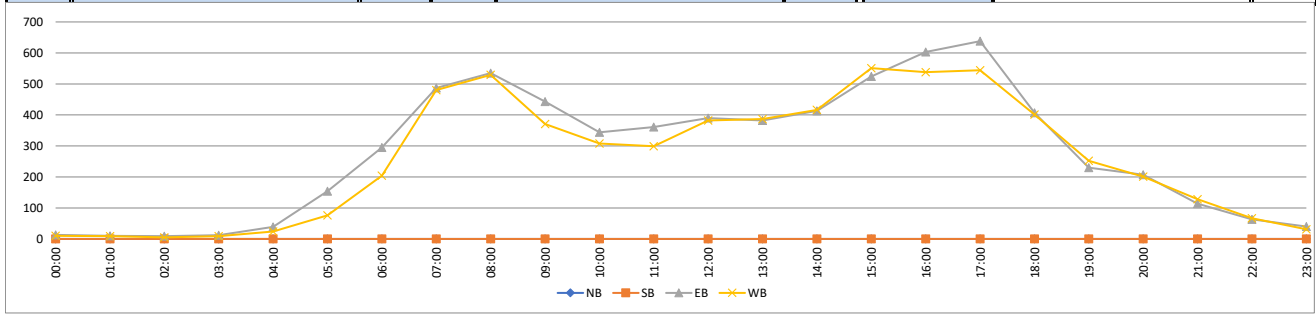
### Haverhill St/SR 133 W/O 140 Haverhill St/Boston Vitality South Dwy

Day: Tuesday  
Date: 2/4/2025

City: Andover  
Project #: MA25\_430012\_001

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

15-Minutes Interval						Hourly Intervals											
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00			3	2	5	12:00			110	81	191	00:00 01:00			13	10	23
0:15			5	2	7	12:15			106	106	212	01:00 02:00			10	9	19
0:30			2	6	8	12:30			83	97	180	02:00 03:00			9	5	14
0:45			3	0	3	12:45			91	98	189	03:00 04:00			12	9	21
1:00			1	4	5	13:00			91	90	181	04:00 05:00			39	24	63
1:15			4	2	6	13:15			103	88	191	05:00 06:00			154	76	230
1:30			4	2	6	13:30			94	98	192	06:00 07:00			295	204	499
1:45			1	1	2	13:45			94	111	205	07:00 08:00			487	480	967
2:00			4	2	6	14:00			102	87	189	08:00 09:00			535	529	1064
2:15			3	2	5	14:15			92	110	202	09:00 10:00			443	371	814
2:30			2	1	3	14:30			101	102	203	10:00 11:00			344	308	652
2:45			0	0	0	14:45			118	117	235	11:00 12:00			361	299	660
3:00			2	0	2	15:00			120	115	235	12:00 13:00			390	382	772
3:15			1	2	3	15:15			121	150	271	13:00 14:00			382	387	769
3:30			3	2	5	15:30			160	135	295	14:00 15:00			413	416	829
3:45			6	5	11	15:45			123	151	274	15:00 16:00			524	551	1075
4:00			5	2	7	16:00			136	154	290	16:00 17:00			603	538	1141
4:15			4	5	9	16:15			167	108	275	17:00 18:00			638	544	1182
4:30			9	7	16	16:30			143	146	289	18:00 19:00			407	401	808
4:45			21	10	31	16:45			157	130	287	19:00 20:00			230	252	482
5:00			28	13	41	17:00			161	140	301	20:00 21:00			207	201	408
5:15			33	18	51	17:15			177	127	304	21:00 22:00			114	128	242
5:30			49	17	66	17:30			174	144	318	22:00 23:00			63	67	130
5:45			44	28	72	17:45			126	133	259	23:00 00:00			40	31	71
6:00			46	34	80	18:00			115	117	232	STATISTICS					
6:15			63	33	96	18:15			126	107	233		NB	SB	EB	WB	TOTAL
6:30			83	48	131	18:30			67	92	159	Peak Period	00:00	to	12:00		
6:45			103	89	192	18:45			99	85	184	Volume			2702	2324	5026
7:00			102	102	204	19:00			55	69	124	Peak Hour			7:30	7:30	7:30
7:15			117	97	214	19:15			56	59	115	Peak Volume			570	572	1142
7:30			140	134	274	19:30			65	65	130	Peak Hour Factor			0.858	0.960	0.927
7:45			128	147	275	19:45			54	59	113	Peak Period	12:00	to	00:00		
8:00			166	142	308	20:00			56	69	125	Volume			4011	3898	7909
8:15			136	149	285	20:15			46	47	93	Peak Hour			16:45	15:15	16:45
8:30			123	120	243	20:30			52	43	95	Peak Volume			669	590	1210
8:45			110	118	228	20:45			53	42	95	Peak Hour Factor			0.945	0.958	0.951
9:00			120	104	224	21:00			48	44	92	Peak Period	07:00	to	09:00		
9:15			118	92	210	21:15			20	46	66	Volume			1022	1009	2031
9:30			104	96	200	21:30			27	18	45	Peak Hour			7:30	7:30	7:30
9:45			101	79	180	21:45			19	20	39	Peak Volume			570	572	1142
10:00			96	102	198	22:00			21	26	47	Peak Hour Factor			0.858	0.960	0.927
10:15			83	62	145	22:15			13	15	28	Peak Period	16:00	to	18:00		
10:30			82	81	163	22:30			16	12	28	Volume			1241	1082	2323
10:45			83	63	146	22:45			13	14	27	Peak Hour			16:45	17:00	16:45
11:00			84	74	158	23:00			16	6	22	Peak Volume			669	544	1210
11:15			88	66	154	23:15			12	8	20	Peak Hour Factor			0.945	0.944	0.951
11:30			93	75	168	23:30			10	7	17						
11:45			96	84	180	23:45			2	10	12						
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>2702</b>	<b>2324</b>	<b>5026</b>	<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>4011</b>	<b>3898</b>	<b>7909</b>						
<b>SPLIT %</b>	<b>0%</b>	<b>0%</b>	<b>54%</b>	<b>46%</b>	<b>39%</b>	<b>SPLIT %</b>	<b>0%</b>	<b>0%</b>	<b>51%</b>	<b>49%</b>	<b>61%</b>						



### 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

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

Time	EASTBOUND														Total	WESTBOUND														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	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			
00:00 - 12:00	15	7	19	264	1133	1010	247	31	4	0	0	0	2730	9	2	17	242	986	864	163	20	0	0	0	0	2303				
%	0%	0%	0%	4%	16%	14%	4%	0%	0%	0%	0%	0%	39%	0%	0%	0%	3%	14%	12%	2%	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	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	7:45				
Peak Volume	6	5	11	83	250	208	43	5	1	0	0	0	553	4	2	9	69	274	207	33	6	1	0	0	0	588				
12:00 - 24:00	17	14	100	663	1892	1323	250	24	1	0	0	0	4284	24	46	157	792	1877	1079	208	18	3	0	0	0	4204				
%	0%	0%	1%	9%	27%	19%	4%	0%	0%	0%	0%	0%	61%	0%	1%	2%	11%	27%	15%	3%	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	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	15:15				
Peak Volume	9	9	24	122	312	193	44	5	1	0	0	0	635	9	16	50	163	308	168	39	4	1	0	0	0	610				
07:00 - 09:00	6	3	9	102	456	360	67	9	1	0	0	0	1013	2	0	11	101	441	364	60	6	0	0	0	0	985				
%	0%	0%	0%	1%	7%	5%	1%	0%	0%	0%	0%	0%	14%	0%	0%	0%	1%	6%	5%	1%	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	7:15	8:00	7:00	7:30	7:45	7:45	7:45	7:00	8:00	7:00	7:00	7:00	7:00	7:45				
Peak Volume	5	3	5	67	250	208	43	5	1	0	0	0	553	2	0	9	69	274	207	32	4	0	0	0	0	588				
16:00 - 18:00	2	3	38	217	599	334	32	2	0	0	0	0	1227	11	23	54	242	540	214	27	3	1	0	0	0	1115				
%	0%	0%	1%	3%	9%	5%	0%	0%	0%	0%	0%	0%	17%	0%	0%	1%	3%	8%	3%	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	17:00	17:00	16:15	16:15	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	635	9	13	37	146	308	126	15	2	1	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	0	24
1	0	0	4	7	9	2	0	0	0	0	0	0	0	23
0	0	0	0	5	8	1	0	0	0	0	0	0	0	14
0	0	1	2	3	5	9	3	1	0	0	0	0	0	24
0	0	0	5	11	28	20	5	1	0	0	0	0	0	70
1	0	0	7	63	107	42	4	0	0	0	0	0	0	224
1	0	2	17	187	200	44	5	0	0	0	0	0	0	456
1	0	12	74	427	365	67	7	1	0	0	0	0	0	954
7	3	8	129	470	359	60	8	0	0	0	0	0	0	1044
5	2	5	75	311	288	61	7	0	0	0	0	0	0	754
6	3	4	76	293	241	47	5	1	0	0	0	0	0	676
2	1	4	114	332	258	53	6	0	0	0	0	0	0	770
2	1	19	122	361	310	74	7	1	0	0	0	0	0	897
1	2	5	72	347	306	74	6	0	0	0	0	0	0	813
1	10	31	114	380	330	65	6	1	0	0	0	0	0	938
9	14	39	225	474	305	58	3	0	0	0	0	0	0	1127
10	14	31	203	601	302	32	3	1	0	0	0	0	0	1197
3	12	61	256	538	246	27	2	0	0	0	0	0	0	1145
8	2	44	197	411	166	24	3	0	0	0	0	0	0	855
5	3	15	141	249	138	25	2	0	0	0	0	0	0	578
2	1	4	72	192	123	21	2	0	0	0	0	0	0	417
0	0	5	40	138	88	22	5	0	0	0	0	0	0	298
0	1	1	8	52	59	25	2	0	0	0	0	0	0	148
0	0	2	5	26	29	11	1	1	0	0	0	0	0	75
<b>65</b>	<b>69</b>	<b>293</b>	<b>1,961</b>	<b>5,888</b>	<b>4,276</b>	<b>868</b>	<b>93</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13,521</b>
0%	1%	2%	15%	44%	32%	6%	1%	0%						100%

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

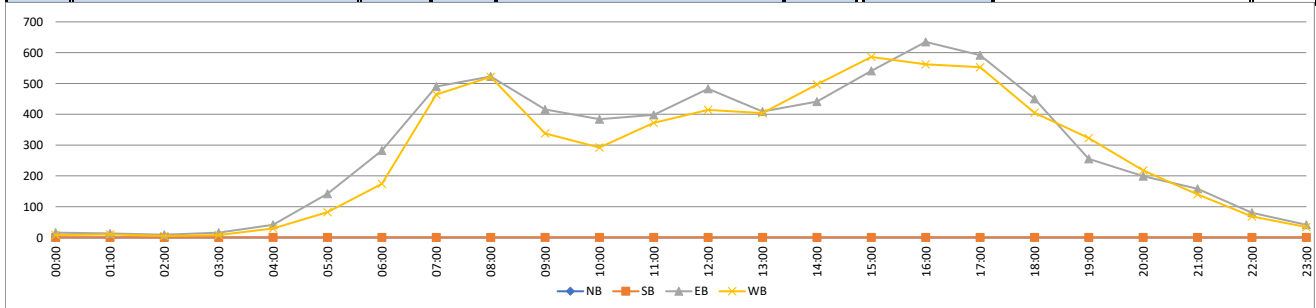
### VOLUME

#### 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	DAILY TOTALS																																																																																																																																										
						0	0	7,014	6,507	13,521																																																																																																																																											
15-Minutes Interval											Hourly Intervals																																																																																																																																										
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL																																																																																																																																				
0:00			7	1	8	12:00			145	96	241	00:00 01:00			16	8	24																																																																																																																																				
0:15			7	2	9	12:15			129	121	250	01:00 02:00			13	10	23																																																																																																																																				
0:30			1	2	3	12:30			112	109	221	02:00 03:00			9	5	14																																																																																																																																				
0:45			1	3	4	12:45			97	88	185	03:00 04:00			16	8	24																																																																																																																																				
1:00			2	4	6	13:00			105	97	202	04:00 05:00			41	29	70																																																																																																																																				
1:15			4	2	6	13:15			114	90	204	05:00 06:00			142	82	224																																																																																																																																				
1:30			4	3	7	13:30			90	113	203	06:00 07:00			282	174	456																																																																																																																																				
1:45			3	1	4	13:45			100	104	204	07:00 08:00			490	464	954																																																																																																																																				
2:00			2	2	4	14:00			99	108	207	08:00 09:00			523	521	1044																																																																																																																																				
2:15			4	2	6	14:15			115	121	236	09:00 10:00			416	338	754																																																																																																																																				
2:30			3	1	4	14:30			102	115	217	10:00 11:00			384	292	676																																																																																																																																				
2:45			0	0	0	14:45			125	153	278	11:00 12:00			398	372	770																																																																																																																																				
3:00			4	2	6	15:00			124	103	227	12:00 13:00			483	414	897																																																																																																																																				
3:15			0	2	2	15:15			120	168	288	13:00 14:00			409	404	813																																																																																																																																				
3:30			6	3	9	15:30			149	164	313	14:00 15:00			441	497	938																																																																																																																																				
3:45			6	1	7	15:45			148	151	299	15:00 16:00			541	586	1127																																																																																																																																				
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4:15			5	5	10	16:15			164	135	299	17:00 18:00			592	553	1145																																																																																																																																				
4:30			11	9	20	16:30			150	134	284	18:00 19:00			450	405	855																																																																																																																																				
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5:00			24	21	45	17:00			151	136	287	20:00 21:00			199	218	417																																																																																																																																				
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5:45			44	29	73	17:45			130	146	276	23:00 00:00			41	34	75																																																																																																																																				
6:00			48	34	82	18:00			149	134	283	<table border="1"> <thead> <tr> <th colspan="6">STATISTICS</th> </tr> <tr> <th></th> <th>NB</th> <th>SB</th> <th>EB</th> <th>WB</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>Peak Period</td> <td>00:00</td> <td>to</td> <td>12:00</td> <td></td> <td></td> </tr> <tr> <td>Volume</td> <td></td> <td></td> <td>2730</td> <td>2303</td> <td>5033</td> </tr> <tr> <td>Peak Hour</td> <td></td> <td></td> <td>7:15</td> <td>7:45</td> <td>7:45</td> </tr> <tr> <td>Peak Volume</td> <td></td> <td></td> <td>553</td> <td>588</td> <td>1128</td> </tr> <tr> <td>Peak Hour Factor</td> <td></td> <td></td> <td>0.928</td> <td>0.865</td> <td>0.892</td> </tr> <tr> <td>Peak Period</td> <td>12:00</td> <td>to</td> <td>00:00</td> <td></td> <td></td> </tr> <tr> <td>Volume</td> <td></td> <td></td> <td>4284</td> <td>4204</td> <td>8488</td> </tr> <tr> <td>Peak Hour</td> <td></td> <td></td> <td>16:00</td> <td>15:15</td> <td>15:30</td> </tr> <tr> <td>Peak Volume</td> <td></td> <td></td> <td>635</td> <td>610</td> <td>1203</td> </tr> <tr> <td>Peak Hour Factor</td> <td></td> <td></td> <td>0.962</td> <td>0.908</td> <td>0.961</td> </tr> <tr> <td>Peak Period</td> <td>07:00</td> <td>to</td> <td>09:00</td> <td></td> <td></td> </tr> <tr> <td>Volume</td> <td></td> <td></td> <td>1013</td> <td>985</td> <td>1998</td> </tr> <tr> <td>Peak Hour</td> <td></td> <td></td> <td>7:15</td> <td>7:45</td> <td>7:45</td> </tr> <tr> <td>Peak Volume</td> <td></td> <td></td> <td>553</td> <td>588</td> <td>1128</td> </tr> <tr> <td>Peak Hour Factor</td> <td></td> <td></td> <td>0.928</td> <td>0.865</td> <td>0.892</td> </tr> <tr> <td>Peak Period</td> <td>16:00</td> <td>to</td> <td>18:00</td> <td></td> <td></td> </tr> <tr> <td>Volume</td> <td></td> <td></td> <td>1227</td> <td>1115</td> <td>2342</td> </tr> <tr> <td>Peak Hour</td> <td></td> <td></td> <td>16:00</td> <td>16:45</td> <td>16:00</td> </tr> <tr> <td>Peak Volume</td> <td></td> <td></td> <td>635</td> <td>573</td> <td>1197</td> </tr> <tr> <td>Peak Hour Factor</td> <td></td> <td></td> <td>0.962</td> <td>0.863</td> <td>0.929</td> </tr> </tbody> </table>						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
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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																																																																																																																																										
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>2730</b>	<b>2303</b>	<b>5033</b>	<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>4284</b>	<b>4204</b>	<b>8488</b>																																																																																																																																										
<b>SPLIT %</b>	<b>0%</b>	<b>0%</b>	<b>54%</b>	<b>46%</b>	<b>37%</b>	<b>SPLIT %</b>	<b>0%</b>	<b>0%</b>	<b>50%</b>	<b>50%</b>	<b>63%</b>																																																																																																																																										



### SPEED

### High St/Waverly Rd N/O 140 Haverhill St/Boston Vitality East Dwy

Day: Tuesday

Date: 2/4/2025

City: Andover

Project #: MA25\_430012\_002

Time	NORTHBOUND														Total	SOUTHBOUND														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	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			
0:00	0	0	0	3	5	1	0	0	0	0	0	0	0	9	0	0	0	2	3	1	0	0	0	0	0	0	6			
1:00	0	0	0	1	3	0	0	0	0	0	0	0	0	4	0	0	0	1	2	0	0	0	0	0	0	0	3			
2:00	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	1	1	1	0	0	0	0	0	0	0	3			
3:00	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	2	1	1	2	0	1	0	0	0	0	8			
4:00	0	1	0	3	1	1	0	0	0	0	0	0	0	6	0	0	1	9	2	2	1	0	0	0	0	0	15			
5:00	0	0	0	6	9	7	0	0	0	0	0	0	0	22	0	2	7	19	22	12	2	0	0	0	0	0	64			
6:00	0	0	0	12	20	7	0	1	0	0	0	0	0	40	0	0	10	41	40	15	1	0	0	0	0	0	107			
7:00	3	0	9	31	42	9	0	0	0	0	0	0	0	94	2	8	51	94	84	16	1	1	0	0	0	0	257			
8:00	1	2	2	50	77	24	0	0	0	0	0	0	0	156	1	10	41	124	75	12	3	0	0	0	0	0	266			
9:00	1	0	5	59	85	14	2	0	0	0	0	0	0	166	2	15	33	69	77	12	3	1	0	0	0	0	212			
10:00	0	0	10	59	89	19	4	0	0	0	0	0	0	181	0	1	27	58	69	13	2	0	0	0	0	0	170			
11:00	1	1	11	48	84	21	4	0	0	0	0	0	0	170	2	10	28	53	70	14	0	0	0	0	0	0	177			
12:00	0	2	13	76	103	31	4	0	0	0	0	0	0	229	1	7	25	85	75	12	1	0	0	0	0	0	206			
13:00	0	1	14	60	105	23	2	0	0	0	0	0	0	205	0	3	24	63	68	6	3	0	0	0	0	0	167			
14:00	1	3	11	66	78	26	3	0	0	0	0	0	0	188	1	5	40	78	85	18	3	0	0	0	0	0	230			
15:00	11	3	17	93	127	28	4	0	0	0	0	0	0	283	3	4	27	107	88	11	1	0	0	0	0	0	241			
16:00	1	5	17	125	172	46	7	0	0	0	0	0	0	373	0	3	20	85	86	14	2	0	0	0	0	0	210			
17:00	3	8	26	120	141	36	3	0	0	0	0	0	0	337	12	12	49	91	65	13	1	0	0	0	0	0	243			
18:00	4	0	13	105	88	19	3	0	0	0	0	0	0	232	3	4	21	77	67	11	1	0	0	0	0	0	184			
19:00	1	0	10	56	62	19	4	0	0	0	0	0	0	152	0	1	20	42	52	15	1	0	0	0	0	0	131			
20:00	1	0	8	33	48	13	3	0	0	0	0	0	0	106	0	2	6	28	25	7	0	1	0	0	0	0	69			
21:00	1	0	2	15	33	11	5	0	0	0	0	0	0	67	0	0	5	15	29	10	1	1	0	0	0	0	61			
22:00	0	0	2	5	13	3	0	0	0	0	0	0	0	23	0	0	0	9	6	9	1	0	0	0	0	0	25			
23:00	0	1	1	8	8	5	3	0	0	0	0	0	0	26	0	0	1	1	5	5	0	0	0	0	0	0	12			
Totals	29	27	171	1,035	1,396	363	51	1	0	0	0	0	0	3,073	27	87	439	1,153	1,097	229	30	4	1	0	0	0	3,067			
% of Totals	1%	1%	6%	34%	45%	12%	2%	0%						100%	1%	3%	14%	38%	36%	7%	1%	0%	0%				100%			

Time	NORTHBOUND														Total	SOUTHBOUND														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	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			
00:00 - 12:00	6	4	37	273	418	103	10	1	0	0	0	0	0	852	7	46	201	472	446	98	15	2	1	0	0	0	1288			
%	0%	0%	1%	9%	14%	3%	0%	0%	0%	0%	0%	0%	0%	28%	0%	1%	7%	15%	15%	3%	0%	0%	0%	0%	0%	0%	42%			
Peak Hour	7:30	7:30	11:15	11:45	11:45	11:30	11:15	6:00	0:00	0:00	0:00	0:00	0:00	11:45	8:15	8:15	7:15	8:00	9:30	7:15	9:15	7:00	2:45	0:00	0:00	0:00	7:30			
Peak Volume	4	2	13	74	100	31	7	1	0	0	0	0	0	222	3	21	53	124	92	20	4	1	1	0	0	0	284			
12:00 - 24:00	23	23	134	762	978	260	41	0	0	0	0	0	0	2221	20	41	238	681	651	131	15	2	0	0	0	0	1779			
%	1%	1%	4%	25%	32%	8%	1%	0%	0%	0%	0%	0%	0%	72%	1%	1%	8%	22%	21%	4%	0%	0%	0%	0%	0%	0%	58%			
Peak Hour	15:00	16:30	17:00	16:15	16:15	16:15	15:15	12:00	12:00	12:00	12:00	12:00	12:00	16:15	16:45	17:00	17:00	15:00	14:30	13:45	14:15	19:15	12:00	12:00	12:00	12:00	16:30			
Peak Volume	11	11	26	136	178	49	9	0	0	0	0	0	0	391	12	12	49	107	94	18	4	1	0	0	0	0	254			
07:00 - 09:00	4	2	11	81	119	33	0	0	0	0	0	0	0	250	3	18	92	218	159	28	4	1	0	0	0	0	523			
%	0%	0%	0%	3%	4%	1%	0%	0%	0%	0%	0%	0%	0%	8%	0%	1%	3%	7%	5%	1%	0%	0%	0%	0%	0%	0%	17%			
Peak Hour	7:30	7:30	7:00	8:00	8:00	8:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	8:00	7:00	7:30	7:15	8:00	7:00	7:15	7:15	7:00	7:00	7:00	7:00	7:00	7:30			
Peak Volume	4	2	9	50	77	24	0	0	0	0	0	0	0	156	2	13	53	124	84	20	3	1	0	0	0	0	284			
16:00 - 18:00	4	13	43	245	313	82	10	0	0	0	0	0	0	710	12	15	69	176	151	27	3	0	0	0	0	0	453			
%	0%	0%	1%	8%	10%	3%	0%	0%	0%	0%	0%	0%	0%	23%	0%	0%	2%	6%	5%	1%	0%	0%	0%	0%	0%	0%	15%			
Peak Hour	16:30	16:30	17:00	16:15	16:15	16:15	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:15	16:45	17:00	17:00	16:30	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:30			
Peak Volume	3	11	26	136	178	49	7	0	0	0	0	0	0	391	12	12	49	103	86	14	2	0	0	0	0	0	254			

Direction	Percentiles					
	15th	50th	Average	85th	95th	ADT
NORTHBOUND	26	31	31	35	39	3073
SOUTHBOUND	24	29	29	34	37	3067
TOTALS	25	30	30	35	38	6140



### VOLUME

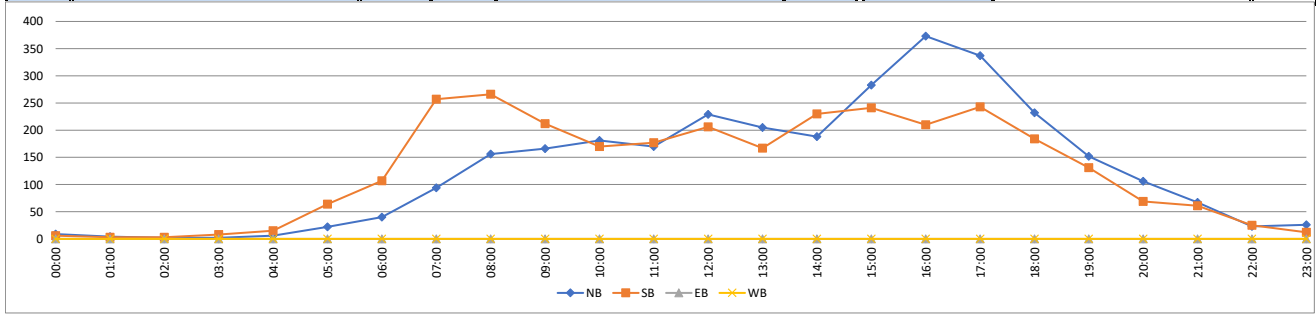
### High St/Waverly Rd N/O 140 Haverhill St/Boston Vitality East Dwy

Day: Tuesday  
Date: 2/4/2025

City: Andover  
Project #: MA25\_430012\_002

DAILY TOTALS					NB	SB	EB	WB	Total	DAILY TOTALS				
					3,073	3,067	0	0	6,140					

15-Minutes Interval						Hourly Intervals											
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	5	2			7	12:00	66	48			114	00:00	9	6			15
0:15	2	0			2	12:15	64	62			126	01:00	4	3			7
0:30	1	3			4	12:30	47	47			94	02:00	2	3			5
0:45	1	1			2	12:45	52	49			101	03:00	2	8			10
1:00	1	1			2	13:00	50	51			101	04:00	6	15			21
1:15	0	1			1	13:15	49	43			92	05:00	22	64			86
1:30	1	1			2	13:30	54	30			84	06:00	40	107			147
1:45	2	0			2	13:45	52	43			95	07:00	94	257			351
2:00	0	0			0	14:00	36	61			97	08:00	156	266			422
2:15	1	1			2	14:15	44	65			109	09:00	166	212			378
2:30	1	1			2	14:30	46	52			98	10:00	181	170			351
2:45	0	1			1	14:45	62	52			114	11:00	170	177			347
3:00	1	0			1	15:00	73	54			127	12:00	229	206			435
3:15	0	2			2	15:15	66	61			127	13:00	205	167			372
3:30	0	3			3	15:30	77	62			139	14:00	188	230			418
3:45	1	3			4	15:45	67	64			131	15:00	283	241			524
4:00	1	1			2	16:00	76	47			123	16:00	373	210			583
4:15	0	3			3	16:15	99	41			140	17:00	337	243			580
4:30	2	3			5	16:30	87	65			152	18:00	232	184			416
4:45	3	8			11	16:45	111	57			168	19:00	152	131			283
5:00	6	8			14	17:00	94	66			160	20:00	106	69			175
5:15	7	16			23	17:15	87	66			153	21:00	67	61			128
5:30	4	15			19	17:30	85	57			142	22:00	23	25			48
5:45	5	25			30	17:45	71	54			125	23:00	26	12			38
6:00	4	16			20	18:00	66	47			113	STATISTICS					
6:15	9	29			38	18:15	75	45			120		NB	SB	EB	WB	TOTAL
6:30	12	26			38	18:30	43	57			100	Peak Period	00:00	to	12:00		
6:45	15	36			51	18:45	48	35			83	Volume	852	1288			2140
7:00	20	49			69	19:00	35	36			71	Peak Hour	10:00	7:30			8:15
7:15	21	59			80	19:15	47	35			82	Peak Volume	181	284			434
7:30	22	71			93	19:30	44	31			75	Peak Hour Factor	0.887	0.910			0.927
7:45	31	78			109	19:45	26	29			55	Peak Period	12:00	to	00:00		
8:00	31	69			100	20:00	27	25			52	Volume	2221	1779			4000
8:15	47	66			113	20:15	22	17			39	Peak Hour	16:15	16:30			16:30
8:30	31	61			92	20:30	25	20			45	Peak Volume	391	254			633
8:45	47	70			117	20:45	32	7			39	Peak Hour Factor	0.881	0.962			0.942
9:00	40	72			112	21:00	21	17			38	Peak Period	07:00	to	09:00		
9:15	49	37			86	21:15	17	19			36	Volume	250	523			773
9:30	40	39			79	21:30	16	13			29	Peak Hour	8:00	7:30			8:00
9:45	37	64			101	21:45	13	12			25	Peak Volume	156	284			422
10:00	51	35			86	22:00	9	6			15	Peak Hour Factor	0.830	0.910			0.902
10:15	39	45			84	22:15	8	5			13	Peak Period	16:00	to	18:00		
10:30	44	47			91	22:30	3	6			9	Volume	710	453			1163
10:45	47	43			90	22:45	3	8			11	Peak Hour	16:15	16:30			16:30
11:00	46	48			94	23:00	7	5			12	Peak Volume	391	254			633
11:15	44	38			82	23:15	10	2			12	Peak Hour Factor	0.881	0.962			0.942
11:30	35	46			81	23:30	6	2			8						
11:45	45	45			90	23:45	3	3			6						
<b>TOTALS</b>	<b>852</b>	<b>1288</b>	<b>0</b>	<b>0</b>	<b>2140</b>	<b>TOTALS</b>	<b>2221</b>	<b>1779</b>	<b>0</b>	<b>0</b>	<b>4000</b>						
<b>SPLIT %</b>	<b>40%</b>	<b>60%</b>	<b>0%</b>	<b>0%</b>	<b>35%</b>	<b>SPLIT %</b>	<b>56%</b>	<b>44%</b>	<b>0%</b>	<b>0%</b>	<b>65%</b>						



# SPEED

## High St/Waverly Rd N/O 140 Haverhill St/Boston Vitality East Dwy

Day: Wednesday

Date: 2/5/2025

City: Andover

Project #: MA25\_430012\_002

Time	NORTHBOUND														Total	SOUTHBOUND														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	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			
0:00	0	0	1	5	2	1	0	0	0	0	0	0	0	9	0	0	0	0	3	0	1	0	0	0	0	0	4			
1:00	0	1	0	1	2	0	0	0	0	0	0	0	0	4	0	0	0	0	3	1	0	0	0	0	0	4				
2:00	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1	0	0	0	0	0	3				
3:00	1	0	1	0	2	0	0	0	1	0	0	0	0	5	0	2	0	0	2	2	0	1	0	0	0	7				
4:00	0	0	1	0	6	1	0	0	0	0	0	0	0	8	0	0	0	1	9	2	0	1	0	0	0	13				
5:00	0	0	2	5	3	4	0	0	0	0	0	0	0	14	0	1	2	14	17	18	3	1	1	0	0	57				
6:00	0	0	0	8	25	7	3	1	0	0	0	0	0	44	0	0	6	26	52	18	3	0	0	0	0	105				
7:00	2	1	4	20	36	25	2	0	0	0	0	0	0	90	3	11	46	92	94	19	3	1	0	0	0	269				
8:00	3	4	7	17	87	26	3	0	0	0	0	0	0	147	1	18	63	92	83	20	4	1	0	0	0	282				
9:00	2	6	6	46	76	20	2	1	0	0	0	0	0	159	3	5	23	63	65	18	1	0	0	0	0	178				
10:00	1	0	13	50	83	29	4	0	0	0	0	0	0	180	0	2	24	71	57	14	4	0	0	0	0	172				
11:00	0	3	9	56	93	33	5	0	0	0	0	0	0	199	1	3	28	67	68	13	1	0	0	0	0	181				
12:00	5	3	4	79	102	35	4	1	0	0	0	0	0	233	2	1	25	71	91	11	4	0	0	0	0	205				
13:00	2	1	11	49	87	33	4	2	0	0	0	0	0	189	2	5	23	97	74	15	1	1	0	0	0	218				
14:00	1	3	16	64	112	30	2	1	0	0	0	0	0	229	1	8	28	66	96	21	3	0	0	0	0	223				
15:00	1	1	9	71	144	35	5	1	0	0	0	0	0	267	0	5	36	87	82	21	4	1	0	0	0	236				
16:00	0	1	18	113	189	48	2	0	0	0	0	0	0	371	3	4	24	121	94	14	2	0	0	0	0	262				
17:00	3	4	21	117	165	37	8	0	0	0	0	0	0	355	5	7	41	121	62	13	2	0	0	0	0	251				
18:00	0	0	20	92	94	26	2	1	0	0	0	0	0	235	0	1	25	96	57	12	2	0	0	0	0	193				
19:00	1	0	7	52	77	18	0	0	0	0	0	0	0	155	0	4	16	49	65	13	3	1	0	0	0	151				
20:00	0	0	9	18	47	8	5	0	0	0	0	0	0	87	0	0	8	42	38	11	1	1	0	0	0	101				
21:00	0	0	2	24	32	12	2	1	0	0	0	0	0	73	1	0	5	12	21	7	1	0	0	0	0	47				
22:00	1	0	3	15	12	8	0	0	0	0	0	0	0	39	0	0	2	10	13	7	2	1	1	0	0	36				
23:00	0	0	0	7	11	5	1	1	0	0	0	0	0	25	0	0	1	3	7	6	1	0	0	0	0	18				
Totals	23	28	164	910	1,488	441	54	11	0	0	0	0	0	3,119	22	77	426	1,201	1,155	277	46	10	2	0	0	3,216				
% of Totals	1%	1%	5%	29%	48%	14%	2%	0%						100%	1%	2%	13%	37%	36%	9%	1%	0%	0%			100%				

Time	NORTHBOUND														Total	SOUTHBOUND														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	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			
00:00 - 12:00	9	15	44	209	416	146	19	3	0	0	0	0	0	861	8	42	192	426	455	126	20	5	1	0	0	0	1275			
%	0%	0%	1%	7%	13%	5%	1%	0%	0%	0%	0%	0%	0%	28%	0%	1%	6%	14%	15%	4%	1%	0%	0%	0%	0%	0%	41%			
Peak Hour	7:30	8:15	10:15	11:45	11:45	11:30	10:15	3:00	0:00	0:00	0:00	0:00	0:00	11:45	7:15	7:30	7:15	7:30	7:45	6:45	5:15	3:45	4:15	0:00	0:00	0:00	7:30			
Peak Volume	5	6	14	76	110	41	5	1	0	0	0	0	0	239	4	21	63	113	97	25	4	2	1	0	0	314				
12:00 - 24:00	14	13	120	701	1072	295	35	8	0	0	0	0	0	2258	14	35	234	775	700	151	5	1	0	0	0	1941				
%	0%	0%	4%	22%	34%	9%	1%	0%	0%	0%	0%	0%	0%	72%	0%	1%	8%	25%	22%	5%	1%	0%	0%	0%	0%	62%				
Peak Hour	12:30	14:45	16:45	17:15	16:30	16:15	17:00	13:30	12:00	12:00	12:00	12:00	12:00	16:30	17:00	14:15	17:00	16:15	14:45	14:30	14:45	13:00	22:00	12:00	12:00	12:00	16:15			
Peak Volume	6	4	25	123	200	56	8	3	0	0	0	0	0	398	5	10	41	127	101	24	5	1	1	0	0	0	263			
07:00 - 09:00	5	5	11	37	123	51	5	0	0	0	0	0	0	237	4	29	109	184	177	39	7	2	0	0	0	0	551			
%	0%	0%	0%	1%	4%	2%	0%	0%	0%	0%	0%	0%	0%	8%	0%	1%	3%	6%	6%	1%	0%	0%	0%	0%	0%	0%	18%			
Peak Hour	7:30	7:30	8:00	7:15	8:00	7:30	7:30	7:00	7:00	7:00	7:00	7:00	7:00	8:00	7:15	7:30	7:15	7:30	7:45	7:15	8:00	7:00	7:00	7:00	7:00	7:30				
Peak Volume	5	5	7	21	87	31	4	0	0	0	0	0	0	147	4	21	63	113	97	20	4	1	0	0	0	0	314			
16:00 - 18:00	3	5	39	230	354	85	10	0	0	0	0	0	0	726	8	11	65	242	156	27	4	0	0	0	0	0	513			
%	0%	0%	1%	7%	11%	3%	0%	0%	0%	0%	0%	0%	0%	23%	0%	0%	2%	8%	5%	1%	0%	0%	0%	0%	0%	0%	16%			
Peak Hour	16:45	16:30	16:45	17:00	16:30	16:15	17:00	16:00	16:00	16:00	16:00	16:00	16:00	16:30	17:00	16:45	17:00	16:15	16:00	16:00	16:30	16:00	16:00	16:00	16:00	16:15				
Peak Volume	3	4	25	117	200	56	8	0	0	0	0	0	0	398	5	7	41	127	94	14	3	0	0	0	0	0	263			

Direction	Percentiles					
	15th	50th	Average	85th	95th	ADT
NORTHBOUND	26	31	31	35	39	3119
SOUTHBOUND	25	30	29	34	38	3216
TOTALS	25	31	30	35	39	6335



### VOLUME

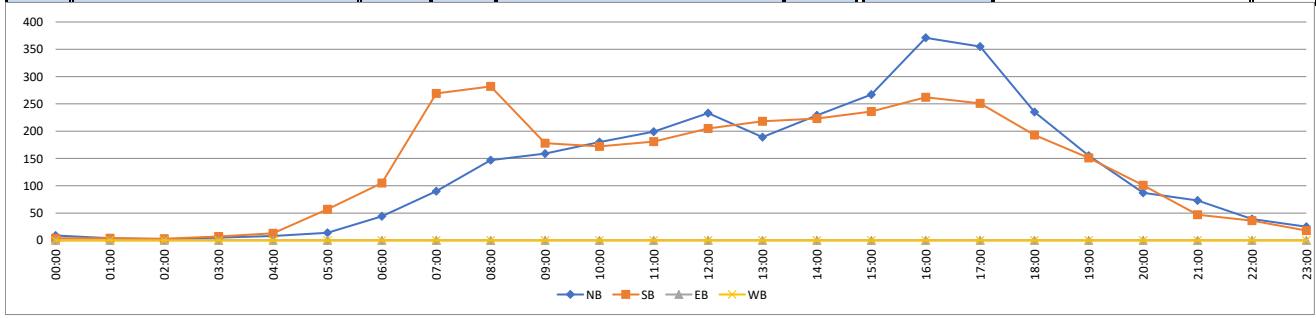
## High St/Waverly Rd N/O 140 Haverhill St/Boston Vitality East Dwy

Day: Wednesday  
Date: 2/5/2025

City: Andover  
Project #: MA25\_430012\_002

DAILY TOTALS					NB	SB	EB	WB	Total	DAILY TOTALS				
					3,119	3,216	0	0	6,335					

15-Minutes Interval						Hourly Intervals																																																																																																																																																																			
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL																																																																																																																																																								
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3:00	1	2			3	15:00	65	64			129	12:00	13:00	233	205		438																																																																																																																																																								
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3:45	1	1			2	15:45	69	49			118	15:00	16:00	267	236		503																																																																																																																																																								
4:00	1	0			1	16:00	88	65			153	16:00	17:00	371	262		633																																																																																																																																																								
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6:00	5	18			23	18:00	76	57			133	<table border="1"> <thead> <tr> <th colspan="6">STATISTICS</th> </tr> <tr> <th></th> <th>NB</th> <th>SB</th> <th>EB</th> <th>WB</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>Peak Period</td> <td colspan="2">00:00 to 12:00</td> <td colspan="3"></td> <td></td> </tr> <tr> <td>Volume</td> <td>861</td> <td>1275</td> <td colspan="3"></td> <td>2136</td> </tr> <tr> <td>Peak Hour</td> <td colspan="2">11:00 7:30</td> <td colspan="3"></td> <td>7:45</td> </tr> <tr> <td>Peak Volume</td> <td>199</td> <td>314</td> <td colspan="3"></td> <td>444</td> </tr> <tr> <td>Peak Hour Factor</td> <td>0.816</td> <td>0.835</td> <td colspan="3"></td> <td>0.910</td> </tr> <tr> <td>Peak Period</td> <td colspan="2">12:00 to 00:00</td> <td colspan="3"></td> <td></td> </tr> <tr> <td>Volume</td> <td>2258</td> <td>1941</td> <td colspan="3"></td> <td>4199</td> </tr> <tr> <td>Peak Hour</td> <td>16:30</td> <td>16:15</td> <td colspan="3"></td> <td>16:15</td> </tr> <tr> <td>Peak Volume</td> <td>398</td> <td>263</td> <td colspan="3"></td> <td>653</td> </tr> <tr> <td>Peak Hour Factor</td> <td>0.881</td> <td>0.967</td> <td colspan="3"></td> <td>0.944</td> </tr> <tr> <td>Peak Period</td> <td colspan="2">07:00 to 09:00</td> <td colspan="3"></td> <td></td> </tr> <tr> <td>Volume</td> <td>237</td> <td>551</td> <td colspan="3"></td> <td>788</td> </tr> <tr> <td>Peak Hour</td> <td>8:00</td> <td>7:30</td> <td colspan="3"></td> <td>7:45</td> </tr> <tr> <td>Peak Volume</td> <td>147</td> <td>314</td> <td colspan="3"></td> <td>444</td> </tr> <tr> <td>Peak Hour Factor</td> <td>0.835</td> <td>0.835</td> <td colspan="3"></td> <td>0.910</td> </tr> <tr> <td>Peak Period</td> <td colspan="2">16:00 to 18:00</td> <td colspan="3"></td> <td></td> </tr> <tr> <td>Volume</td> <td>726</td> <td>513</td> <td colspan="3"></td> <td>1239</td> </tr> <tr> <td>Peak Hour</td> <td>16:30</td> <td>16:15</td> <td colspan="3"></td> <td>16:15</td> </tr> <tr> <td>Peak Volume</td> <td>398</td> <td>263</td> <td colspan="3"></td> <td>653</td> </tr> <tr> <td>Peak Hour Factor</td> <td>0.881</td> <td>0.967</td> <td colspan="3"></td> <td>0.944</td> </tr> </tbody> </table>						STATISTICS							NB	SB	EB	WB	TOTAL	Peak Period	00:00 to 12:00						Volume	861	1275				2136	Peak Hour	11:00 7:30					7:45	Peak Volume	199	314				444	Peak Hour Factor	0.816	0.835				0.910	Peak Period	12:00 to 00:00						Volume	2258	1941				4199	Peak Hour	16:30	16:15				16:15	Peak Volume	398	263				653	Peak Hour Factor	0.881	0.967				0.944	Peak Period	07:00 to 09:00						Volume	237	551				788	Peak Hour	8:00	7:30				7:45	Peak Volume	147	314				444	Peak Hour Factor	0.835	0.835				0.910	Peak Period	16:00 to 18:00						Volume	726	513				1239	Peak Hour	16:30	16:15				16:15	Peak Volume	398	263				653	Peak Hour Factor	0.881	0.967				0.944
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<b>TOTALS</b>	<b>861</b>	<b>1275</b>	<b>0</b>	<b>0</b>	<b>2136</b>	<b>TOTALS</b>	<b>2258</b>	<b>1941</b>	<b>0</b>	<b>0</b>	<b>4199</b>																																																																																																																																																														
<b>SPLIT %</b>	<b>40%</b>	<b>60%</b>	<b>0%</b>	<b>0%</b>	<b>34%</b>	<b>SPLIT %</b>	<b>54%</b>	<b>46%</b>	<b>0%</b>	<b>0%</b>	<b>66%</b>																																																																																																																																																														

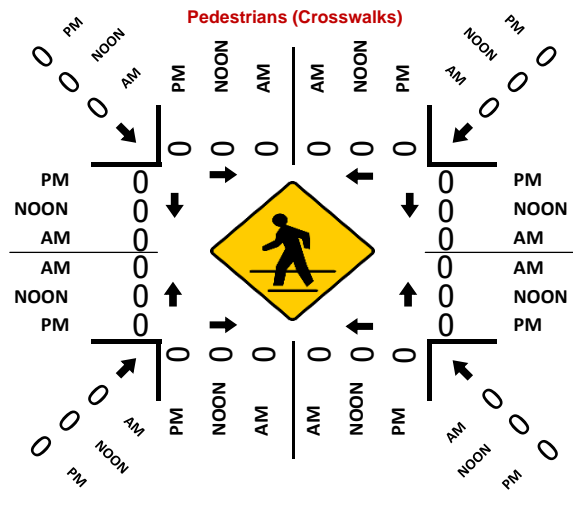
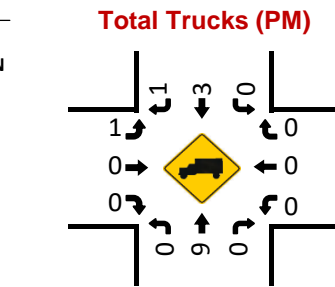
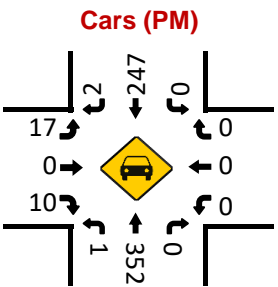
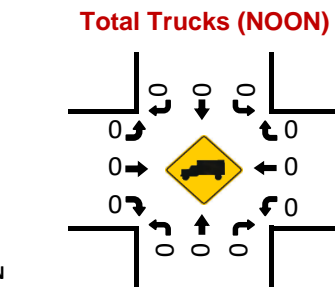
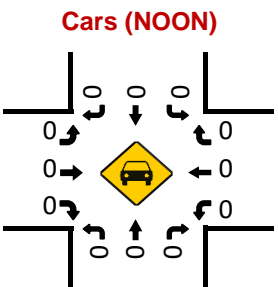
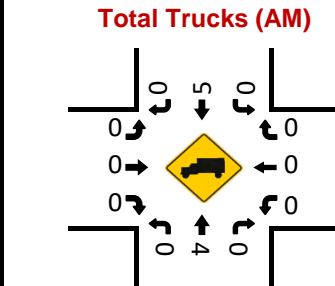
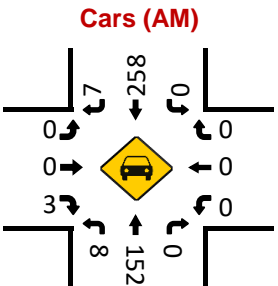
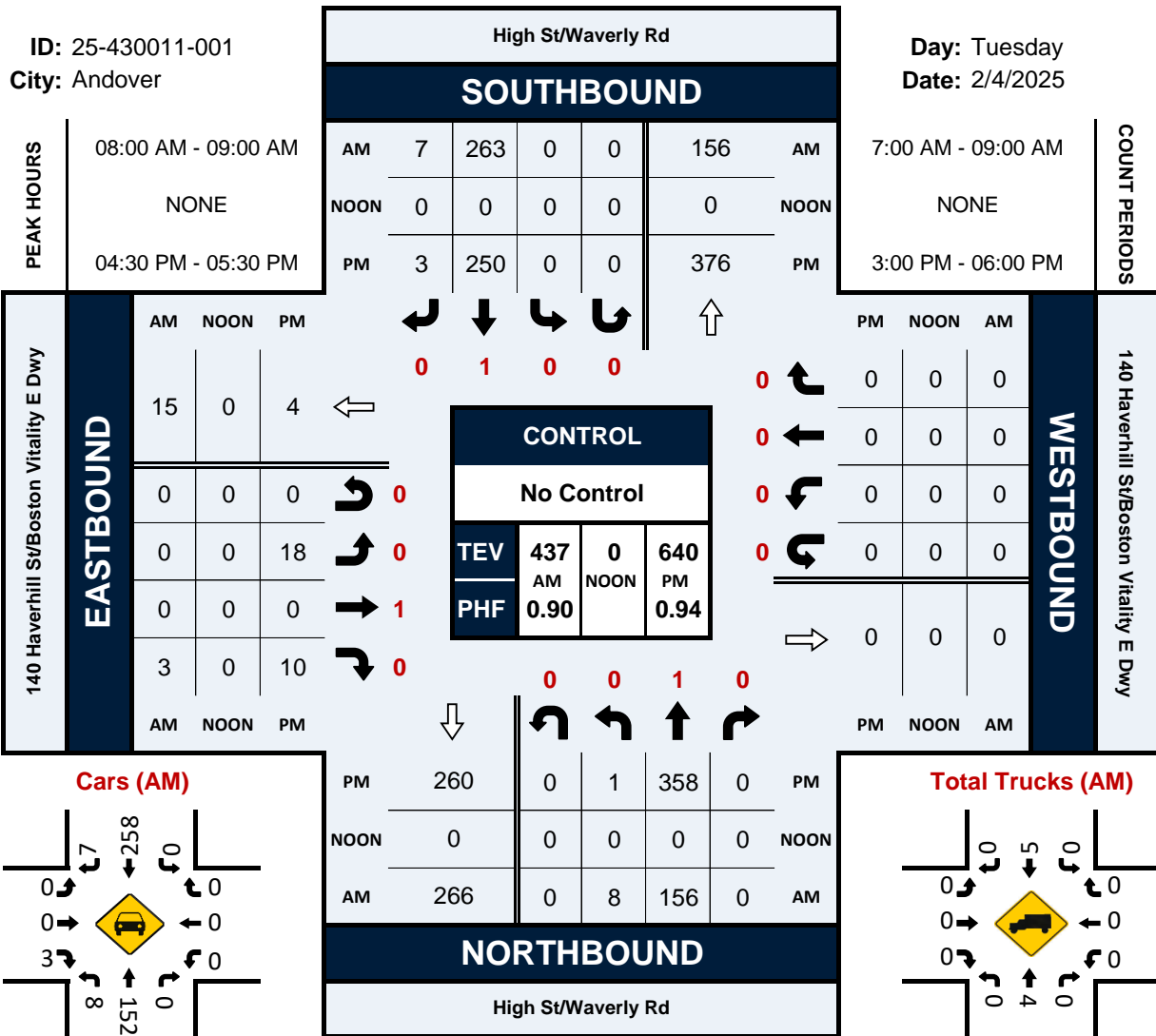


# High St/Waverly Rd & 140 Haverhill St/Boston Vitality E Dwy

## Peak Hour Turning Movement Count

ID: 25-430011-001  
City: Andover

Day: Tuesday  
Date: 2/4/2025



# 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				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	4.28%	95.72%	0.00%	0.00%	0.00%	96.78%	3.22%	0.00%	57.14%	0.00%	42.86%	0.00%	0	0	0	0	792
<b>PEAK HR :</b>	08:00 AM - 09:00 AM																TOTAL
<b>PEAK HR VOL :</b>	8	156	0	0	0	263	7	0	0	0	3	0	0	0	0	0	437
<b>PEAK HR FACTOR :</b>	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								
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	1.03%	98.97%	0.00%	0.00%	0.00%	98.99%	1.01%	0.00%	58.00%	0.00%	42.00%	0.00%	0	0	0	0	1717
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																TOTAL
<b>PEAK HR VOL :</b>	1	358	0	0	0	250	3	0	18	0	10	0	0	0	0	0	640
<b>PEAK HR FACTOR :</b>	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				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	1	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	4.03%	95.97%	0.00%	0.00%	0.00%	96.72%	3.28%	0.00%	57.14%	0.00%	42.86%	0.00%	0	0	0	0	773
<b>PEAK HR :</b>	08:00 AM - 09:00 AM																TOTAL
<b>PEAK HR VOL :</b>	8	152	0	0	0	258	7	0	0	0	3	0	0	0	0	0	428
<b>PEAK HR FACTOR :</b>	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				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	1.04%	98.96%	0.00%	0.00%	0.00%	99.27%	0.73%	0.00%	57.14%	0.00%	42.86%	0.00%	0	0	0	0	1688
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																TOTAL
<b>PEAK HR VOL :</b>	1	352	0	0	0	247	2	0	17	0	10	0	0	0	0	0	629
<b>PEAK HR FACTOR :</b>	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				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	16.67%	83.33%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0	8
<b>PEAK HR :</b>	08:00 AM - 09:00 AM																TOTAL
<b>PEAK HR VOL :</b>	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
<b>PEAK HR FACTOR :</b>	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												
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0.00%	100.00%	0.00%	0.00%	0.00%	88.89%	11.11%	0.00%	0	0	0	0	0	0	0	0	20
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																TOTAL
<b>PEAK HR VOL :</b>	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
<b>PEAK HR FACTOR :</b>	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				
	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	1	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0	11
<b>PEAK HR :</b>	08:00 AM - 09:00 AM																TOTAL
<b>PEAK HR VOL :</b>	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	5
<b>PEAK HR FACTOR :</b>	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
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0.00%	100.00%	0.00%	0.00%	0.00%	75.00%	25.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0	0	0	0	9
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																TOTAL
<b>PEAK HR VOL :</b>	0	3	0	0	0	1	1	0	1	0	0	0	0	0	0	0	6
<b>PEAK HR FACTOR :</b>	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

# 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				
	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	1	0	0	0	1	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	1
<b>PEAK HR :</b>	08:00 AM - 09:00 AM																TOTAL
<b>PEAK HR VOL :</b>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<b>PEAK HR FACTOR :</b>	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
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	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





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

Start Time	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					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. 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

Start Time	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					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. 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

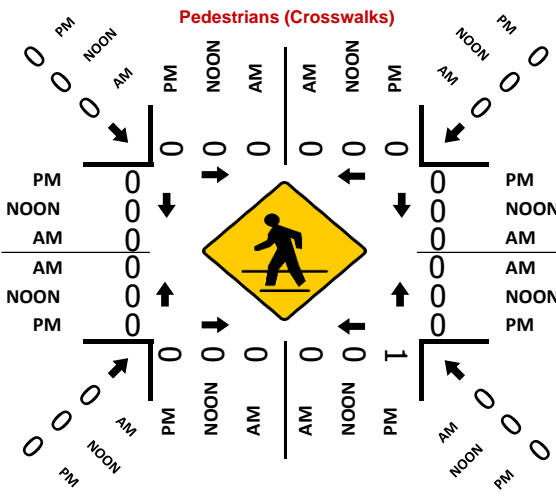
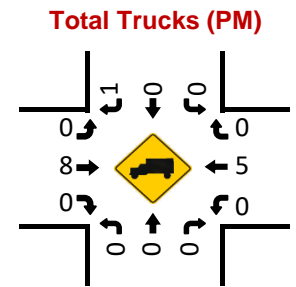
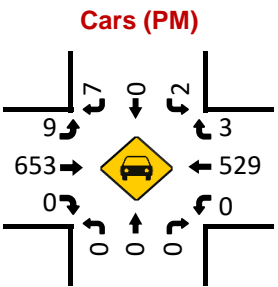
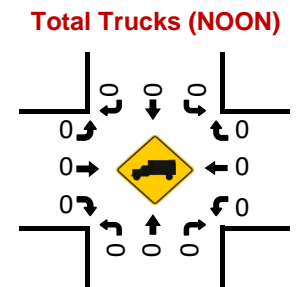
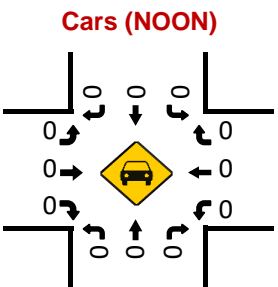
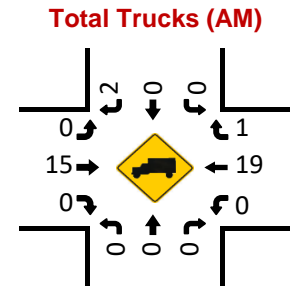
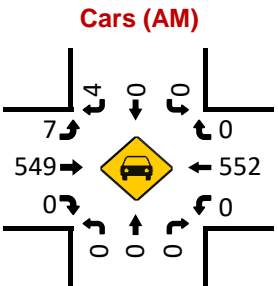
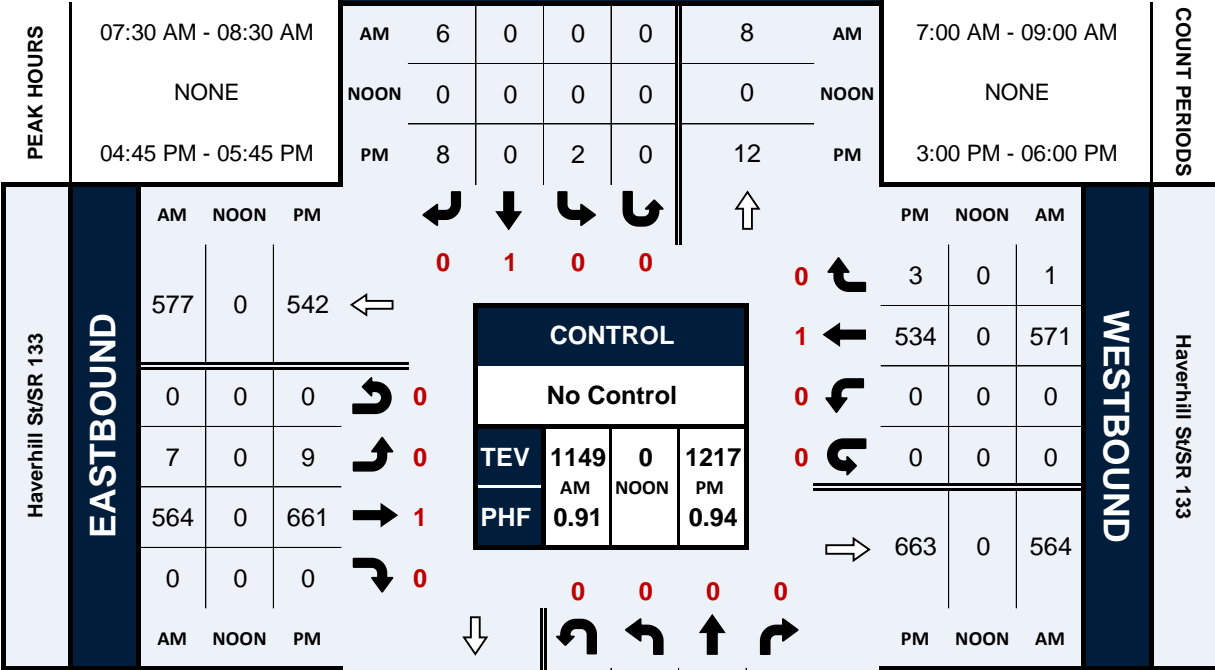
140 Haverhill St/147 Haverhill St/Boston Vitality S Dwy & Haverhill St/SR 133

Peak Hour Turning Movement Count

ID: 25-430011-002  
City: Andover

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

Day: Tuesday  
Date: 2/4/2025



# National Data & Surveying Services

## Intersection Turning Movement Count

Location: 140 Haverhill St/147 Haverhill St/Boston Vitality 5 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 5 Dwy					140 Haverhill St/147 Haverhill St/Boston Vitality 5 Dwy					Haverhill St/SR 133					Haverhill St/SR 133					TOTAL					
	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND										
AM	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	
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	1	0	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
<b>TOTAL VOLUMES :</b>	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
<b>APPROACH %s :</b>	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
<b>PEAK HR VOL :</b>	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
<b>PEAK HR FACTOR :</b>	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
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																									
<b>PEAK HR VOL :</b>	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
<b>PEAK HR FACTOR :</b>	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
						04:45 PM - 05:45 PM																				
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	2	0	0	4	138	0	0	0	0	153	0	0	0	0	0	0	0	0	277
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	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
						04:45 PM - 05:45 PM																				
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	2	0	0	4	138	0	0	0	0	153	0	0	0	0	0	0	0	0	277
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	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

# National Data & Surveying Services

## Intersection Turning Movement Count

Location: 140 Haverhill St/147 Haverhill St/Boston Vitality 5 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 5 Dwy					140 Haverhill St/147 Haverhill St/Boston Vitality 5 Dwy					Haverhill St/SR 133					Haverhill St/SR 133					TOTAL										
	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND															
AM	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						
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	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	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	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	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	0	1	0	0	0	0	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	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	1	0	0	0	0	0	0	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	0	0	0	0	0	223
<b>TOTAL VOLUMES:</b>	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					
<b>APPROACH %:</b>	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	1114					
	0.00%	0.00%	0.00%	0.00%	0.00%	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%	0.913					
<b>PEAK HR:</b>	07:30 AM - 08:30 AM																														
<b>PEAK HR VOL:</b>	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					
<b>PEAK HR FACTOR:</b>	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					

NS/EW Streets	140 Haverhill St/147 Haverhill St/Boston Vitality 5 Dwy					140 Haverhill St/147 Haverhill St/Boston Vitality 5 Dwy					Haverhill St/SR 133					Haverhill St/SR 133					TOTAL										
	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND															
PM	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						
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	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	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	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	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	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	0	1	0	0	0	0	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	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	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	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	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	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	0	0	0	0	0	252
<b>TOTAL VOLUMES:</b>	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					
<b>APPROACH %:</b>	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					
	0.00%	0.00%	0.00%	0.00%	0.00%	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%	0.940					
<b>PEAK HR:</b>	04:45 PM - 05:45 PM																														
<b>PEAK HR VOL:</b>	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					
<b>PEAK HR FACTOR:</b>	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					

# National Data & Surveying Services Intersection Turning Movement Count

Location: 140 Haverhill St/147 Haverhill St/Boston Vitality 5 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 5 Dwy					140 Haverhill St/147 Haverhill St/Boston Vitality 5 Dwy					Haverhill St/SR 133					Haverhill St/SR 133											
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					TOTAL						
	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	
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	
<b>TOTAL VOLUMES:</b>	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	
<b>APPROACH %:</b>	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	0	6
<b>PEAK HR:</b>	07:30 AM - 08:30 AM																				TOTAL						
<b>PEAK HR VOL:</b>	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	0	3
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	

NS/EW Streets:	140 Haverhill St/147 Haverhill St/Boston Vitality 5 Dwy					140 Haverhill St/147 Haverhill St/Boston Vitality 5 Dwy					Haverhill St/SR 133					Haverhill St/SR 133											
PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					TOTAL						
	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	
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	0	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	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	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	
<b>TOTAL VOLUMES:</b>	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	
<b>APPROACH %:</b>	0	0	0	0	0	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%	0	0	0	0	0	21	
<b>PEAK HR:</b>	04:45 PM - 05:45 PM																				TOTAL						
<b>PEAK HR VOL:</b>	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	0	4
<b>PEAK HR FACTOR:</b>	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	

# National Data & Surveying Services

## Intersection Turning Movement Count

Location: 140 Haverhill St/147 Haverhill St/Boston Vitality 5 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 5 Dwy					140 Haverhill St/147 Haverhill St/Boston Vitality 5 Dwy					Haverhill St/SR 133					Haverhill St/SR 133					TOTAL									
	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND														
AM	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					
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	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	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	0	8			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	2	0	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	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	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	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	0	3			
<b>TOTAL VOLUMES:</b>	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				
<b>APPROACH %:</b>	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	0	0	0	0	51
<b>PEAK HR VOL:</b>	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	0	0	0	0	34
<b>PEAK HR FACTOR:</b>	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	0.000	0.000	0.000	0.773	
<b>PEAK HR:</b>	07:30 AM - 08:30 AM																													
<b>PM</b>	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				
<b>TOTAL VOLUMES:</b>	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				
<b>APPROACH %:</b>	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	0	0	0	0	34
<b>PEAK HR VOL:</b>	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	0	0	0	0	12
<b>PEAK HR FACTOR:</b>	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	0.000	0.000	0.000	0.750	
<b>PEAK HR:</b>	04:45 PM - 05:45 PM																													



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

**Project ID:** 25-430011-002  
**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				TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SOUTH LEG 2		
AM	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	
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
<b>TOTAL VOLUMES :</b>	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	0	0.00%	100.00%	1
<b>PEAK HR :</b>	<b>07:30 AM - 08:30 AM</b>										TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>											

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				TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SOUTH LEG 2		
PM	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	
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
<b>TOTAL VOLUMES :</b>	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
<b>APPROACH %'s :</b>	0	0	1	1	0	0	0	0	50.00%	50.00%	4
<b>PEAK HR :</b>	<b>04:45 PM - 05:45 PM</b>										TOTAL
<b>PEAK HR VOL :</b>	0	0	0	1	0	0	0	0	0	1	2
<b>PEAK HR FACTOR :</b>			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

Start Time	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						Int. Total
	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. 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	0.0	13.5	0.0	86.5	0.0	0.0	1.4	98.6	0.0	0.0	0.0	0.0	0.0	99.6	0.4	0.0	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	0	4	0	28	0	0	32	38	2705	0	0	0	2743	0	2574	9	0	0	2583	5358
% Cars, PU, Vans	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	87.5	0.0	0.0	86.5	97.4	98.1	0.0	0.0	0.0	98.1	0.0	98.1	90.0	0.0	0.0	98.1	98.0
Buses	0	0	0	0	0	0	1	0	2	0	0	3	1	11	0	0	12	0	12	0	0	0	12	27	
%Buses	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	6.3	0.0	0.0	8.1	2.6	0.4	0.0	0.0	0.4	0.0	0.5	0.0	0.0	0.0	0.5	0.5	
HT	0	0	0	0	0	0	0	0	2	0	0	2	0	42	0	0	42	0	38	1	0	0	39	83	
%HT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	5.4	0.0	1.5	0.0	0.0	1.5	0.0	1.4	10.0	0.0	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

Start Time	Haverhill St/147 Haverhill St/Boston Vitality Northbound					Haverhill St/147 Haverhill St/Boston Vitality Southbound					Haverhill St/SR 133 Eastbound					Haverhill St/SR 133 Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. 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	0.0	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

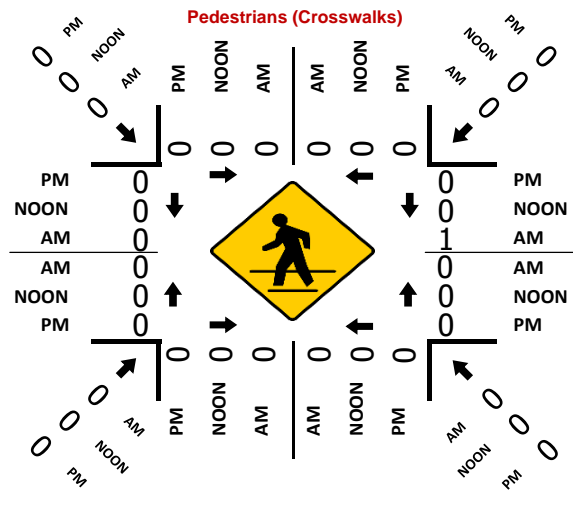
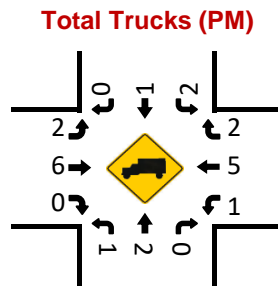
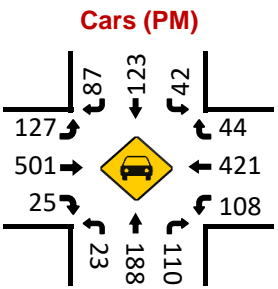
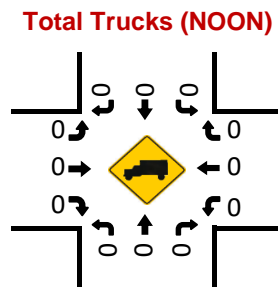
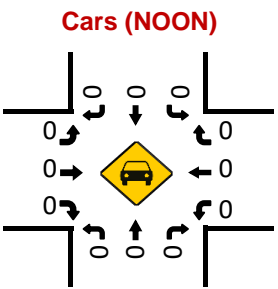
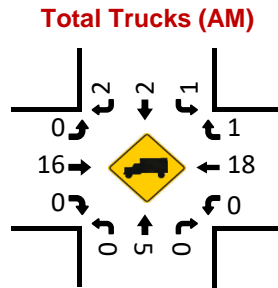
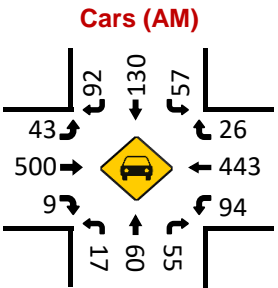
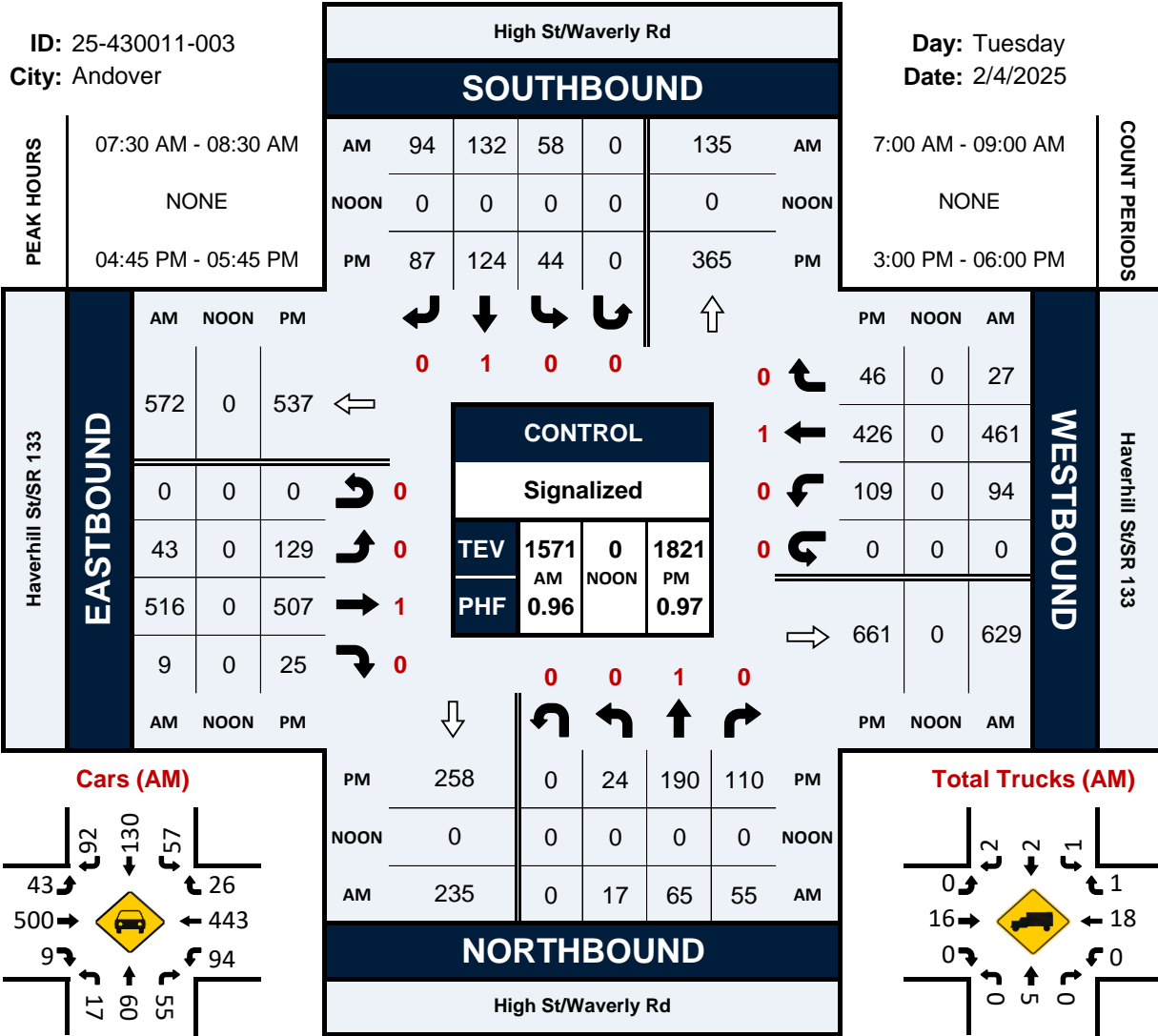
Start Time	Haverhill St/147 Haverhill St/Boston Vitality Northbound					Haverhill St/147 Haverhill St/Boston Vitality Southbound					Haverhill St/SR 133 Eastbound					Haverhill St/SR 133 Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. 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	0.0	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

# 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



# 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				
<b>AM</b>	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	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%	2819
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																TOTAL
<b>PEAK HR VOL :</b>	17	65	55	0	58	132	94	0	43	516	9	0	94	461	27	0	1571
<b>PEAK HR FACTOR :</b>	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				
<b>PM</b>	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	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%	5055
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																TOTAL
<b>PEAK HR VOL :</b>	24	190	110	0	44	124	87	0	129	507	25	0	109	426	46	0	1821
<b>PEAK HR FACTOR :</b>	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				
<b>AM</b>	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	34	112	103	0	96	240	169	0	84	889	19	0	170	781	54	0	2751
<b>APPROACH %'s :</b>	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%	
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																TOTAL
<b>PEAK HR VOL :</b>	17	60	55	0	57	130	92	0	43	500	9	0	94	443	26	0	1526
<b>PEAK HR FACTOR :</b>	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		
<b>PM</b>	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	63	490	284	0	112	353	233	0	321	1356	48	0	265	1306	147	0	4978
<b>APPROACH %'s :</b>	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%	
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																TOTAL
<b>PEAK HR VOL :</b>	23	188	110	0	42	123	87	0	127	501	25	0	108	421	44	0	1799
<b>PEAK HR FACTOR :</b>	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				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s:</b>	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%	13
<b>PEAK HR:</b>	07:30 AM - 08:30 AM																TOTAL
<b>PEAK HR VOL:</b>	0	3	0	0	1	0	0	0	0	1	0	0	0	1	1	0	7
<b>PEAK HR FACTOR:</b>	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				
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s:</b>	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%	40
<b>PEAK HR:</b>	04:45 PM - 05:45 PM																TOTAL
<b>PEAK HR VOL:</b>	0	1	0	0	2	0	0	0	1	1	0	0	0	2	1	0	8
<b>PEAK HR FACTOR:</b>	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				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	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%	55
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																TOTAL
<b>PEAK HR VOL :</b>	0	2	0	0	0	2	2	0	0	15	0	0	0	17	0	0	38
<b>PEAK HR FACTOR :</b>	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				
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	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%	37
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																TOTAL
<b>PEAK HR VOL :</b>	1	1	0	0	0	1	0	0	1	5	0	0	1	3	1	0	14
<b>PEAK HR FACTOR :</b>	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				
	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	1	0	0	0	1	0	0	0	1	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	1
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	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				
	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
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	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



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

Start Time	High St/Waverly Rd Northbound						High St/Waverly Rd Southbound						Haverhill St/SR 133 Eastbound						Haverhill St/SR 133 Westbound						Int. Total	
	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. 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	0	1086	208	593	402	0	0	1203	405	2245	67	0	0	2717	435	2087	201	0	0	2723	7729	
% Cars, PU, Vans	98.0	98.4	99.2	0.0	0.0	98.6	95.9	99.2	98.5	0.0	0.0	98.4	99.0	97.9	98.5	0.0	98.1	99.3	97.9	95.3	0.0	0.0	97.9	98.2		
Buses	1	7	2	0	0	10	8	1	1	0	0	10	1	10	1	0	12	2	10	9	0	0	21	53		
%Buses	1.0	1.1	0.5	0.0	0.0	0.9	3.7	0.2	0.2	0.0	0.0	0.8	0.2	0.4	1.5	0.0	0.4	0.5	0.5	4.3	0.0	0.0	0.8	0.7		
HT	1	3	1	0	0	5	1	4	5	0	0	10	3	38	0	0	41	1	34	1	0	0	36	92		
%HT	1.0	0.5	0.3	0.0	0.0	0.5	0.5	0.7	1.2	0.0	0.0	0.8	0.7	1.7	0.0	0.0	1.5	0.2	1.6	0.5	0.0	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**

Start Time	High St/Waverly Rd Northbound					High St/Waverly Rd Southbound					Haverhill St/SR 133 Eastbound					Haverhill St/SR 133 Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. 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**

Start Time	High St/Waverly Rd Northbound					High St/Waverly Rd Southbound					Haverhill St/SR 133 Eastbound					Haverhill St/SR 133 Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. 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



*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
<b>R1</b>	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
<b>R3</b>	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
<b>R4-R7</b>	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
<b>U1-Boston</b>	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
<b>U1-Essex</b>	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
<b>U1-Southeast</b>	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
<b>U1-West</b>	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
<b>U1-Worcester</b>	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
<b>U3</b>	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
<b>U4-U7</b>	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
<b>UR2</b>	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
<b>Rec - East</b>	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
<b>Rec - West</b>	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.



31 301 220 137 81 87 185 379 625 893 1300 1776 2086 2414 2200 2406 2454 2194 1935 1723 1238 950 688 401 272 26945

## Massachusetts Highway Department 502: Monthly Hourly Volume for February 2016

Location ID:	502	Seasonal Factor Group:	U3
County:	Essex	Daily Factor Group:	
Functional Class	3	Axle Factor Group:	U3
Location:	TURNPIKE STREET	Growth Factor Group:	

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL	
1	129	83	66	140	314	1194	2502	3192	3046	2229	2096	2172	2297	2375	2708	3203	3261	3339	2452	1545	1102	853	529	367	41194	
2	146	78	92	155	307	1215	2560	3297	3102	2361	2193	2333	2421	2481	2770	3257	3358	3501	2640	1713	1188	882	577	383	43010	
3	164	123	112	143	322	1193	2491	3109	3066	2303	2053	2145	2227	2302	2722	3158	3221	3363	2624	1738	1237	976	616	395	41803	
4	171	111	109	142	314	1163	2438	3136	3057	2435	2097	2141	2390	2511	2824	3221	3416	3364	2701	1778	1266	1025	704	440	42954	
5	237	173	128	147	337	1156	1970	2270	2069	1506	1332	1294	1644	1595	1838	2090	2144	2102	1718	1301	903	798	576	428	29756	
6	259	173	93	88	159	385	661	1079	1557	1923	2205	2493	2642	2597	2541	2467	2328	2321	2096	1519	1151	1104	844	596	33281	
7	309	211	139	78	103	182	448	671	1001	1369	1752	2053	2267	2352	2208	2283	2022	1839	1319	807	737	650	722	467	25989	
8	178	105	58	140	287	1005	1847	2193	2167	2030	1949	1724	1706	1524	1648	1691	1412	1244	864	639	458	355	314	346	25884	
9	222	115	162	187	319	1078	2150	2967	3064	2363	1972	1986	2142	2291	2609	3045	3232	3314	2518	1554	1252	899	550	349	40340	
10	156	97	96	149	307	1119	2458	3211	3329	2430	2067	2152	2245	2527	2747	3056	3331	3338	2716	1638	1359	908	600	362	42398	
11	189	131	106	144	329	1116	2526	3179	3108	2286	2051	2085	2287	2374	2767	2913	3330	3378	2757	1719	1289	990	663	427	42144	
12	222	187	121	114	277	1114	2316	2932	2932	2424	2210	2362	2551	2644	2860	3277	3349	3317	2681	1783	1296	1064	829	559	43421	
13	334	181	139	125	144	325	601	935	1406	1799	2186	2527	2662	2628	2436	2413	2174	2340	2251	1435	1145	1026	772	596	32580	
14	351	181	96	103	78	197	438	559	797	1219	1369	1682	1944	2037	1961	1960	1802	1775	1550	1203	1087	684	550	326	23949	
15	182	148	83	86	212	593	1203	1693	1822	1796	1934	2204	2372	2431	2562	2581	2537	2367	1657	1216	1020	769	511	371	32350	
16	217	134	125	186	304	1043	2050	2795	2871	2392	2030	2113	2395	2297	2593	2982	2963	3161	2465	1514	1113	854	589	388	39574	
17	167	114	76	143	330	1069	2157	2954	2934	2418	2253	2296	2675	2472	2896	3123	3234	3285	2759	1831	1234	1029	608	374	42431	
18																										
19	188	190	124	132	300	1090	1968	2588	2596	2303	2235	2304	2571	2658	2839	3167	3076	3061	2349	1677	1237	985	735	584	40957	
20	357	195	161	104	156	391	620	1028	1305	1631	1980	2374	2539	2406	2500	2482	2285	2169	2003	1472	1169	1041	797	562	31727	
21	369	250	139	100	93	192	397	635	924	1328	1702	2069	2340	2390	2337	2435	2154	1915	1649	1267	898	652	434	320	26989	
22	144	94	81	141	298	1184	2458	3186	3076	2341	2179	2216	2287	2368	2703	3144	3470	3590	2592	1599	1124	826	479	341	41921	
23	165	107	107	148	323	1171	2527	3302	3211	2366	2198	2232	2442	2385	2760	3287	3361	3427	2457	1579	1205	888	554	364	42566	
24	159	109	112	145	330	1164	2279	3110	3061	2254	2092	2074	2260	2435	2695	3095	3332	3337	2543	1714	1248	902	630	393	41473	
25	168	109	100	169	326	1136	2365	3086	3011	2372	2080	2135	2432	2461	2780	3218	3271	3375	2615	1799	1246	991	655	445	42345	
26	240	173	129	122	290	1157	2234	2966	2874	2392	2172	2349	2532	2538	2903	3350	3552	3336	3121	1970	1462	1036	866	619	44383	

27	336	204	175	119	150	343	641	1021	1447	1952	2176	2446	2562	2501	2511	2387	2212	2287	2223	1676	1168	1025	954	606	33122
28	347	244	128	91	94	188	445	623	950	1286	1746	2102	2306	2322	2260	2338	2124	2043	1643	1298	951	625	438	281	26873
29	145	68	57	168	319	1151	2414	3194	3040	2291	2001	2104	2248	2321	2684	3206	3216	3346	2450	1627	1098	878	517	355	40898

## Massachusetts Highway Department 502: Monthly Hourly Volume for March 2016

<b>Location ID:</b>	<b>502</b>	<b>Seasonal Factor Group:</b>	<b>U3</b>
<b>County:</b>	<b>Essex</b>	<b>Daily Factor Group:</b>	
<b>Functional Class</b>	<b>3</b>	<b>Axle Factor Group:</b>	<b>U3</b>
<b>Location:</b>	<b>TURNPIKE STREET</b>	<b>Growth Factor Group:</b>	

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL	
1	172	97	93	126	307	1183	2452	3214	3180	2386	2152	2283	2350	2443	2743	3202	3319	3458	2720	1673	1197	989	565	354	42658	
2	163	83	94	142	317	1143	2397	3132	3117	2401	1961	2277	2306	2410	2735	3287	3318	3433	2614	1685	1288	941	611	377	42232	
3	161	100	95	125	332	1166	2467	3315	3140	2373	2087	2189	2439	2451	2787	3346	3356	3572	2852	1793	1340	1144	749	420	43799	
4																										
5	302	172	122	79	149	364	690	1137	1547	1833	2313	2532	2707	2737	2548	2537	2462	2206	1897	1565	1196	1078	866	586	33625	
6	356	267	121	76	95	191	445	700	929	1406	1834	2113	2327	2522	2493	2445	2286	2122	1982	1386	1063	764	481	299	28703	
7	148	101	73	141	335	1187	2471	3222	3063	2265	2100	2204	2361	2392	2809	3177	3163	3328	2379	1492	1141	822	527	364	41265	
8	158	114	95	140	336	1198	2482	3218	3117	2402	2136	2212	2396	2402	2738	3196	3363	3476	2686	1732	1345	950	608	339	42839	
9	150	108	95	144	329	1191	2406	3150	3152	2464	2254	2223	2483	2556	2771	3240	3349	3391	2684	1829	1267	937	627	386	43186	
10	244	109	86	127	301	1130	2395	3055	3097	2310	2152	2119	2421	2418	2775	3100	3338	3358	2688	1780	1289	1007	633	415	42347	
11	242	190	91	107	276	1151	2274	2923	2874	2292	2111	2406	2753	2660	2869	3403	3448	3492	2819	1961	1270	1047	964	609	44232	
12	341	176	123	90	151	368	734	1231	1617	2047	2174	2525	2627	2560	2526	2463	2328	2398	2125	1536	1295	1237	925	591	34188	
13	324	255	155	118	211	370	570	821	1196	1726	2024	2287	2420	2416	2296	2209	1868	1688	1453	1051	657	490	326	158	27089	
14	103	58	151	320	1107	2283	2997	3058	2204	1990	2150	2389	2461	2781	3108	3215	3403	2462	1642	1211	878	513	346	183	41013	
15	120	83	150	319	1122	2367	3232	3203	2366	2088	2137	2240	2335	2650	3159	3311	3403	2510	1680	1236	957	566	380	162	41776	
16	104	99	142	327	1104	2348	3238	3224	2313	2117	2318	2442	2492	2903	3200	3443	3454	2655	1804	1299	1027	655	394	152	43254	
17	95	109	134	322	1124	2351	3014	2967	2236	2153	2163	2296	2357	2710	3048	3321	3341	2449	1710	1189	980	643	399	228	41339	
18																										
19	293	184	121	92	134	353	647	1051	1478	1849	2205	2433	2485	2434	2447	2417	2215	2211	1868	1524	1200	1071	808	620	32140	
20	307	209	99	69	95	182	357	611	860	1279	1734	1946	2119	2314	2074	2113	1849	1712	1517	1227	903	598	441	266	24881	
21	146	96	69	162	341	936	1544	2145	2088	1644	1484	1556	1732	1827	2178	2454	2462	2811	2064	1487	1063	821	506	320	31936	
22	145	100	81	113	316	1080	2420	3295	3283	2354	2132	2112	2364	2314	2668	2999	3216	3450	2589	1820	1297	962	533	339	41982	
23	138	114	99	135	318	1079	2375	3156	3145	2207	2117	2094	2263	2445	2725	3072	3293	3363	2634	1767	1260	961	632	403	41795	
24	156	91	100	129	304	1087	2408	3207	3041	2380	2106	2185	2437	2316	2638	3109	3306	3434	2611	1757	1312	1004	685	416	42219	
25	206	123	112	126	252	952	1909	2595	2618	2102	2217	2329	2495	2671	2886	3125	3034	3004	2298	1618	1233	1021	782	501	40209	



23	324	191	163	113	129	379	689	1107	1484	1778	1985	2340	2516	2489	2373	2334	2261	2106	1964	1612	1299	1180	803	627	32246
24	318	235	121	99	79	191	431	667	889	1336	1771	2021	2194	2345	2392	2344	2172	2022	1785	1471	1110	754	486	339	27572
25	134	91	69	130	325	1157	2477	3279	3118	2303	2039	2185	2238	2342	2720	3172	3199	3359	2695	1724	1151	869	517	348	41641
26	170	98	96	130	317	1150	2482	3213	3153	2438	2073	2193	2311	2269	2724	3136	3389	3592	2692	1702	1195	933	610	395	42461
27	171	105	117	131	320	1170	2566	3416	3387	2616	2164	2306	2388	2461	2771	3232	3411	3493	2912	2040	1537	1049	674	458	44895
28	166	102	106	138	324	1198	2548	3401	3302	2692	2261	2346	2439	2480	2813	3249	3453	3707	3003	2004	1437	1079	921	534	45703
29	273	156	141	168	321	1135	2339	2977	3062	2456	2379	2468	2664	2778	2966	3299	3293	3289	2706	1927	1398	1153	865	598	44811
30	327	194	141	117	135	400	755	1274	1634	2042	2436	2536	2760	2654	2575	2626	2336	2243	1981	1617	1331	1195	944	672	34925

## Massachusetts Highway Department 502: Monthly Hourly Volume for May 2016

<b>Location ID:</b>	<b>502</b>	<b>Seasonal Factor Group:</b>	<b>U3</b>
<b>County:</b>	<b>Essex</b>	<b>Daily Factor Group:</b>	
<b>Functional Class</b>	<b>3</b>	<b>Axle Factor Group:</b>	<b>U3</b>
<b>Location:</b>	<b>TURNPIKE STREET</b>	<b>Growth Factor Group:</b>	

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL	
1	323	219	144	112	98	212	469	756	1257	1513	2084	2123	2489	2454	2359	2203	1999	1881	1710	1296	1023	682	469	288	28163	
2	140	84	81	122	317	1190	2476	3267	3179	2332	2155	2165	2326	2300	2627	3028	3243	3322	2690	1640	1127	879	542	391	41623	
3	197	77	95	120	328	1232	2568	3456	3470	2572	2170	2250	2371	2501	2819	3237	3308	3482	2837	1789	1347	961	610	421	44218	
4	193	83	99	109	334	1228	2591	3281	3323	2668	2215	2412	2486	2569	2806	3401	3414	3502	3158	2001	1420	1037	714	434	45478	
5																										
6	234	173	100	158	305	1140	2367	3099	3047	2646	2417	2668	2820	2812	2954	3369	3506	3355	2798	2061	1520	1174	942	688	46353	
7	393	155	155	101	138	353	755	1152	1568	1987	2249	2525	2820	2744	2715	2752	2503	2356	2013	1711	1337	1093	904	626	35105	
8	405	255	120	93	91	178	448	694	953	1475	1841	2219	2437	2410	2364	2195	2139	2104	1912	1748	1323	877	525	386	29192	
9	157	123	89	132	308	1295	2580	3416	3360	2535	2202	2215	2423	2461	2928	3308	3385	3462	2972	2302	1387	1057	655	450	45202	
10	197	108	94	158	337	1258	2690	3641	3478	2646	2306	2370	2533	2539	2952	3375	3494	3717	3002	1931	1449	1097	711	481	46564	
11	193	114	102	133	336	1243	2696	3458	3293	2593	2372	2372	2415	2623	3038	3309	3485	3680	3390	2235	1592	1145	745	465	47027	
12	230	137	123	147	334	1216	2710	3620	3315	2564	2351	2451	2477	2603	2984	3316	3565	3805	3177	2194	1639	1126	781	526	47391	
13	218	121	111	141	324	1197	2417	3103	3074	2354	2308	2546	2703	2774	3057	3371	3526	3533	2801	1863	1287	1096	907	594	45426	
14	309	193	102	103	179	391	836	1246	1783	2155	2460	2664	2709	2700	2466	2579	2338	2252	1988	1551	1396	1160	937	738	35235	
15	355	217	146	100	86	227	461	715	1102	1568	1846	2301	2396	2259	2363	2442	2269	2020	1725	1567	1055	696	489	311	28716	
16	116	89	70	133	322	1281	2673	3406	3273	2500	2194	2231	2448	2377	2903	3180	3317	3384	2723	1794	1309	935	577	378	43613	
17	183	110	90	132	340	1279	2725	3534	3365	2570	2271	2357	2540	2550	3006	3321	3551	3528	3007	1828	1385	1038	648	437	45795	
18	179	100	104	117	341	1224	2681	3266	3066	2709	2406	2245	2502	2539	2901	3307	3519	3546	2958	2010	1546	1137	712	457	45572	
19	206	88	92	114	362	1254	2620	3452	3121	2535	2149	2285	2411	2488	2811	3511	3440	3602	3148	1967	1503	1143	723	453	45478	
20	194	118	114	126	308	1229	2469	3244	2997	2566	2305	2514	2623	2607	3134	3351	3644	3499	2702	1921	1487	1326	1026	768	46272	

21	398	225	138	106	154	404	802	1334	1702	2121	2437	2675	2695	2641	2551	2609	2435	2352	2026	1665	1482	1130	960	633	35675
22	367	200	109	89	83	227	522	920	1612	1871	1961	2207	2421	2790	2708	2469	2207	1945	1672	1805	1333	840	551	319	31228
23	150	106	74	136	355	1281	2678	3511	3386	2432	2253	2294	2389	2383	2855	3233	3462	3598	2800	1717	1310	940	554	377	44274
24	168	108	117	129	332	1330	2655	3514	3378	2763	2279	2308	2441	2488	2862	3349	3505	3732	3034	1863	1503	982	713	459	46012
25	213	110	111	133	343	1296	2667	3601	3373	2578	2261	2397	2399	2555	2864	3291	3475	3615	2986	2026	1566	1152	655	458	46125
26	224	96	139	145	366	1304	2763	3505	3249	2704	2339	2415	2502	2507	2930	3324	3447	3673	2929	2092	1500	1125	688	475	46441
27	265	124	103	108	297	1156	2348	2791	2875	2351	2242	2494	2597	2900	3218	3427	3221	2977	2216	1609	1356	1147	854	601	43277
28	275	175	117	111	140	327	752	1048	1440	1833	2064	2182	2172	2150	1995	1879	1720	1747	1604	1357	1207	1046	785	621	28747
29	307	182	116	104	79	204	411	586	823	1128	1491	1715	1932	2072	1967	1709	1741	1584	1530	1344	1063	859	612	448	24007
30	221	140	78	73	106	221	435	484	622	997	1297	1590	1825	1780	2002	1918	1752	1647	1463	1239	1079	738	482	325	22514
31	159	95	91	129	317	1305	2778	3582	3322	2574	2238	2295	2569	2416	2917	3260	3292	3623	2822	2000	1474	991	659	420	45328

## Massachusetts Highway Department 502: Monthly Hourly Volume for June 2016

<b>Location ID:</b>	<b>502</b>	<b>Seasonal Factor Group:</b>	<b>U3</b>
<b>County:</b>	<b>Essex</b>	<b>Daily Factor Group:</b>	
<b>Functional Class</b>	<b>3</b>	<b>Axle Factor Group:</b>	<b>U3</b>
<b>Location:</b>	<b>TURNPIKE STREET</b>	<b>Growth Factor Group:</b>	

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL	
1	183	108	111	128	338	1339	2670	3546	3430	2710	2360	2320	2508	2607	2990	3229	3373	3664	3002	1987	1600	1147	674	443	46467	
2	187	98	102	144	341	1268	2621	3578	3296	2537	2296	2399	2481	2531	2924	3382	3422	3690	3087	2010	1506	1091	703	480	46174	
3	241	87	112	133	342	1164	2379	3082	3044	2383	2232	2324	2597	2651	2933	3491	3497	3420	2703	1783	1518	1246	989	628	44979	
4	346	177	166	115	169	424	775	1327	1588	1958	2282	2552	2852	2603	2482	2443	2225	2051	1863	1529	1353	1265	856	582	33983	
5	376	199	126	98	115	234	405	688	954	1263	1647	2009	2107	2243	2235	2126	2006	1860	1584	1229	948	589	489	309	25839	
6	152	103	59	134	357	1279	2692	3629	3362	2648	2198	2276	2400	2327	2809	3256	3387	3657	2991	1859	1406	1009	693	421	45104	
7	188	99	88	154	372	1333	2743	3753	3522	2693	2286	2335	2560	2421	2725	3282	3385	3640	2893	1863	1503	1055	657	442	45992	
8	221	110	96	135	379	1295	2809	3584	3380	2750	2307	2276	2521	2582	2914	3448	3515	3628	2906	1916	1527	1113	674	452	46538	
9	176	106	91	147	359	1285	2770	3528	3355	2500	2301	2479	2554	2551	2951	3385	3465	3544	2837	2034	1538	1142	760	510	46368	
10	206	136	105	120	325	1172	2521	3121	3158	2391	2314	2480	2726	2731	3099	3387	3329	3485	2537	1849	1478	1263	961	592	45486	
11	394	212	176	116	166	464	726	1251	1527	1815	2176	2310	2435	2405	2415	2282	2154	1994	1798	1459	1167	1068	864	626	32000	
12	314	198	116	110	113	213	458	667	973	1354	1766	2077	2162	2165	2415	2190	2137	1986	1826	1503	1077	765	584	316	27485	
13																										
14	205	103	101	141	343	1330	2776	3624	3287	2731	2271	2368	2551	2417	2830	3354	3595	3692	3161	1900	1499	1103	723	453	46558	
15	172	100	104	121	341	1314	2680	3514	3261	2651	2334	2382	2445	2567	2911	3460	3465	3716	2902	1938	1742	1148	741	516	46525	
16	232	107	115	134	345	1283	2748	3473	3199	2678	2288	2416	2593	2512	2902	3346	3578	3610	2885	2029	1482	1180	767	535	46437	

17	234	140	123	121	323	1151	2425	3020	2916	2345	2225	2363	2834	2858	2935	3434	3500	3471	2782	1917	1391	1152	912	667	45239
18	332	160	135	119	150	372	775	1170	1521	1983	2245	2448	2509	2367	2565	2467	2258	2266	1902	1657	1257	1139	885	672	33354
19	372	204	124	86	96	198	455	779	1044	1499	1771	2138	2292	2263	2103	1909	1974	1936	2035	1799	1438	831	607	401	28354
20	209	130	88	146	331	1288	2580	3485	3176	2311	2179	2175	2287	2441	2748	3078	3231	3448	2683	1762	1332	1031	651	431	43221
21	178	96	89	121	363	1214	2700	3484	3272	2437	2249	2430	2612	2548	2866	3194	3419	3511	2848	1823	1534	1126	761	479	45354
22	210	95	130	106	332	1246	2686	3387	3209	2555	2358	2411	2668	2647	2948	3125	3293	3507	2873	2104	1494	1132	826	490	45832
23	221	103	108	142	335	1307	2589	3311	3067	2462	2415	2412	2648	2567	2882	3256	3385	3500	2828	1926	1507	1260	865	571	45667
24	267	134	116	118	339	1130	2229	2840	2755	2364	2299	2440	2664	2616	2903	3145	3202	3152	2463	1776	1395	1117	919	638	43021
25	353	209	153	123	168	414	836	1109	1572	1778	2126	2223	2354	2322	2235	2134	2093	2047	1764	1542	1220	1084	937	616	31412
26	343	197	100	84	115	213	445	687	965	1364	1622	2013	2070	2136	1955	1899	2019	2087	2050	1825	1395	916	646	405	27551
27	167	107	79	141	338	1309	2513	3154	3279	2700	2369	2291	2460	2531	2867	3075	3288	3546	2766	1770	1401	978	657	455	44241
28	198	88	106	143	329	1326	2564	3424	3365	2750	2220	2461	2774	2702	2801	3140	3573	3535	3078	1925	1407	1057	726	451	46143
29	177	115	134	141	305	1233	2560	3228	3131	2734	2422	2422	2579	2622	2876	3301	3538	3681	3197	2013	1555	1247	781	493	46485
30	198	114	131	166	350	1309	2466	3311	3245	2601	2343	2629	2858	2690	3167	3284	3293	3474	2838	2071	1678	1321	893	512	46942

## Massachusetts Highway Department 502: Monthly Hourly Volume for July 2016

**Location ID:** 502  
**County:** Essex  
**Functional Class:** 3  
**Location:** TURNPIKE STREET

**Seasonal Factor Group:** U3  
**Daily Factor Group:**  
**Axle Factor Group:** U3  
**Growth Factor Group:**

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL	
1	254	129	121	144	304	1090	1994	2676	2590	2275	2310	2398	2742	2989	3200	3309	2860	2624	2002	1508	1142	1034	777	568	41040	
2	271	180	156	98	150	354	650	878	1240	1572	1849	2020	2183	2040	1889	1755	1642	1443	1489	1247	1143	936	765	552	26502	
3	274	168	81	65	76	196	395	592	783	1093	1343	1644	1648	1718	1606	1498	1401	1330	1415	1280	1222	947	1002	581	22358	
4	236	174	92	78	104	220	427	594	654	999	1241	1429	1553	1554	1435	1362	1331	1297	1234	1184	944	784	612	479	20017	
5	236	118	105	138	292	1053	2141	2692	2569	2111	2022	2148	2211	2296	2544	2942	3146	3273	2554	1746	1342	1078	666	437	39860	
6	189	104	104	132	322	1147	2321	3091	2712	2406	2112	2283	2417	2324	2661	2936	3109	3268	2583	1739	1381	1101	718	483	41643	
7	184	111	100	150	317	1184	2281	3039	2884	2455	2358	2420	2582	2511	2751	3100	3372	3639	2659	1830	1505	1156	754	448	43790	
8																										
9	309	146	147	116	172	346	721	1037	1274	1668	1922	2139	2222	2336	2275	2104	1936	1806	1690	1364	1114	886	682	523	28935	
10	331	180	83	74	79	186	347	585	764	1070	1494	1850	2020	2010	1969	2045	1872	1700	1570	1249	967	719	534	313	24011	
11	157	92	59	145	325	1230	2375	3058	3056	2470	2160	2340	2546	2387	2758	2931	3143	3485	2550	1806	1265	997	633	435	42403	
12	193	85	89	143	349	1214	2608	3463	3363	2708	2357	2425	2667	2559	2807	3124	3328	3592	2898	1868	1473	1212	772	476	45773	
13	206	112	80	159	311	1203	2451	3259	3350	2814	2393	2301	2429	2494	2703	3048	3294	3395	2903	2083	1669	1321	815	490	45283	

14	205	116	102	160	276	1209	2448	3160	3048	2516	2289	2237	2656	2574	2877	3264	3313	3552	2733	1825	1443	1111	693	463	44270
15	227	124	110	146	293	1087	2119	2736	2706	2386	2192	2375	2495	2517	3087	3215	3229	3112	2322	1673	1307	1032	809	623	41922
16	331	190	163	129	155	526	1041	1195	1511	1755	2295	2282	2318	2170	2153	2083	1988	1775	1686	1528	1289	1131	853	602	31149
17	369	224	123	108	134	343	654	655	952	1384	1731	1848	1922	2016	2082	1910	1832	1792	1652	1498	1184	880	607	357	26257
18	183	105	69	135	296	1191	2346	3114	3105	2388	2164	2254	2337	2398	2660	3035	3239	3365	2696	1740	1286	908	603	423	42040
19	179	111	85	146	342	1224	2484	3218	3257	2557	2279	2214	2451	2463	2841	3194	3374	3428	2661	1853	1492	1169	763	502	44287
20	228	115	96	129	371	1229	2370	3203	3094	2517	2198	2211	2395	2514	2737	3064	3326	3448	2604	1955	1534	1172	723	504	43737
21	201	137	122	150	372	1195	2378	3114	3090	2543	2239	2325	2538	2479	2866	3221	3363	3525	2865	1940	1526	1181	764	472	44606
22	261	123	102	139	315	1094	2089	2679	2696	2278	2026	2366	2556	2518	3021	3172	3218	3011	2268	1659	1330	1119	849	566	41455
23	342	196	178	111	151	362	682	1052	1374	1800	2063	2169	2342	2348	2280	1985	1933	1823	1858	1213	1181	1036	873	568	29920
24	317	198	78	94	116	192	439	651	942	1308	1544	1793	1833	1899	1875	1748	1868	1914	1729	1677	1266	983	604	374	25442
25	174	105	90	151	319	1185	2347	2957	2958	2435	2178	2226	2337	2331	2589	2989	3222	3337	2478	1585	1275	933	633	419	41253
26	174	105	80	144	321	1224	2427	3260	3180	2543	2106	2210	2503	2477	2759	3071	3215	3456	2698	1769	1493	1063	730	476	43484
27	211	109	105	140	344	1170	2429	3108	3236	2628	2285	2289	2439	2257	2561	3075	3346	3485	2900	1920	1547	1137	779	480	43980
28	187	102	96	135	332	1185	2428	3223	3218	2549	2269	2270	2495	2501	2780	3090	3419	3469	2729	1942	1466	1144	789	479	44297
29	240	125	123	147	336	1053	2078	2606	2657	2268	2104	2326	2577	2581	2956	3083	3311	3129	2338	1788	1284	1031	869	563	41573
30	302	164	152	102	159	330	678	1020	1316	1666	2055	2211	2555	2568	2235	2001	1926	1793	1543	1449	1217	983	777	572	29774
31	340	181	121	88	87	197	406	506	665	1091	1415	1780	1925	1936	2011	1862	1857	1711	1539	1309	1068	772	536	285	23688

## Massachusetts Highway Department 502: Monthly Hourly Volume for August 2016

<b>Location ID:</b>	<b>502</b>																							<b>Seasonal Factor Group:</b>	<b>U3</b>	
<b>County:</b>	<b>Essex</b>																							<b>Daily Factor Group:</b>		
<b>Functional Class</b>	<b>3</b>																							<b>Axle Factor Group:</b>	<b>U3</b>	
<b>Location:</b>	<b>TURNPIKE STREET</b>																							<b>Growth Factor Group:</b>		
	<b>0:00</b>	<b>1:00</b>	<b>2:00</b>	<b>3:00</b>	<b>4:00</b>	<b>5:00</b>	<b>6:00</b>	<b>7:00</b>	<b>8:00</b>	<b>9:00</b>	<b>10:00</b>	<b>11:00</b>	<b>12:00</b>	<b>13:00</b>	<b>14:00</b>	<b>15:00</b>	<b>16:00</b>	<b>17:00</b>	<b>18:00</b>	<b>19:00</b>	<b>20:00</b>	<b>21:00</b>	<b>22:00</b>	<b>23:00</b>	<b>TOTAL</b>	
<b>1</b>	156	115	91	144	321	1123	2306	3045	3100	2362	2219	2362	2428	2441	2803	3061	3191	3505	2785	1623	1224	922	573	386	42286	
<b>2</b>																										
<b>3</b>	201	111	103	125	346	1155	2393	3181	3109	2565	2199	2316	2537	2520	2859	3172	3308	3586	2680	1884	1474	1100	645	474	44043	
<b>4</b>	199	117	96	150	329	1179	2349	3094	3091	2407	2202	2300	2510	2503	2808	3113	3376	3461	2751	1844	1469	1049	763	455	43615	
<b>5</b>	250	140	107	124	340	1089	2030	2569	2622	2411	2253	2367	2527	2494	2974	3066	3140	3222	2436	1632	1203	979	781	597	41353	
<b>6</b>	345	202	152	110	148	342	715	999	1322	1619	1914	2066	2315	2401	2114	2101	1863	1708	1580	1365	1150	1022	748	513	28814	
<b>7</b>	319	177	140	93	87	214	442	646	832	1173	1593	1719	2019	1965	1884	1846	1850	1818	1740	1496	1207	829	578	357	25024	
<b>8</b>	208	87	82	134	308	1179	2190	3005	3046	2278	2108	2155	2404	2373	2601	2946	3217	3287	2481	1632	1313	908	642	429	41013	
<b>9</b>	176	103	101	143	308	1216	2422	3281	3187	2540	2300	2275	2446	2446	2824	3061	3173	3465	2700	1782	1430	1110	700	501	43690	
<b>10</b>	200	76	103	128	311	1141	2339	3051	2965	2608	2247	2223	2393	2461	2715	3084	3183	3449	2841	1748	1335	979	683	450	42713	

11	227	129	106	178	363	1183	2406	3235	3042	2466	2214	2304	2541	2438	2872	3096	3196	3329	2537	1825	1440	1098	781	503	43509
12	268	149	119	166	302	1076	2049	2734	2791	2403	2291	2357	2502	2787	3080	3006	2995	2934	2171	1579	1334	1078	762	554	41487
13	346	184	169	117	136	362	695	1006	1320	1689	1866	2031	2251	2109	2156	2092	1907	1984	1703	1332	1064	898	797	618	28832
14	336	203	112	84	101	207	404	587	849	1182	1551	1855	1876	2027	1936	1865	1744	1752	1595	1456	1204	774	560	358	24618
15	167	102	90	138	306	1130	2300	3029	2922	2419	2150	2531	2463	2536	2730	3016	3177	3388	2476	1743	1343	1045	659	410	42270
16	173	79	100	164	335	1177	2423	3144	3063	2452	2216	2324	2490	2503	2768	3140	3414	3460	2738	1783	1320	951	720	472	43409
17	219	101	96	125	332	1116	2412	3052	3152	2661	2306	2406	2606	2581	2765	3115	3295	3506	2922	1888	1446	1022	790	443	44357
18	217	111	94	173	338	1150	2395	2987	2968	2479	2150	2253	2565	2542	2827	2982	3427	3647	2659	1885	1477	1123	847	480	43776
19	309	156	101	154	337	1071	2098	2846	2738	2294	2293	2376	2565	2926	3023	3255	3403	3271	2316	1633	1295	1049	785	621	42915
20	306	200	134	107	156	373	692	984	1386	1687	1892	2068	2179	2137	2104	2069	1994	1761	1716	1402	1165	1010	816	543	28881
21	320	238	144	103	110	185	420	580	776	1172	1518	1828	1956	2093	1965	1848	1847	1890	1803	1556	1282	849	511	384	25378
22	183	116	76	158	319	1134	2308	2872	3030	2353	2233	2345	2419	2453	2758	2972	3161	3374	2540	1728	1310	896	597	411	41746
23	167	90	83	132	345	1219	2348	3175	3168	2424	2299	2378	2492	2726	2888	3110	3265	3506	2642	1799	1434	1011	681	480	43862
24	193	91	88	172	343	1158	2332	3001	2895	2425	2269	2346	2449	2507	2779	3090	3491	3481	2769	1832	1391	1100	710	480	43392
25	176	99	90	151	359	1186	2388	3177	3052	2588	2522	2579	2709	2776	2977	3219	3502	3548	2737	1841	1445	1125	735	529	45510
26	198	133	105	160	338	1102	2130	2701	2652	2284	2285	2436	2583	2653	3075	3217	3332	3266	2502	1763	1355	1189	834	636	42929
27	401	199	151	109	168	376	698	1022	1365	1764	2031	2304	2398	2357	2397	2193	2086	1988	1809	1475	1262	1034	782	583	30952
28	356	252	122	69	113	225	446	646	920	1590	2100	2256	2327	2452	2300	2249	2257	2042	1961	1799	1421	928	567	381	29779
29	204	133	80	155	327	1172	2360	3029	2900	2348	2172	2320	2318	2512	2748	3028	3311	3503	2640	1896	1372	958	664	398	42548
30	197	85	87	149	372	1199	2442	3175	3101	2576	2353	2311	2549	2593	2855	3155	3515	3610	2713	1973	1369	1068	645	496	44588
31	234	102	92	157	341	1168	2541	3299	3058	2436	2205	2290	2384	2535	2837	3090	3305	3056	2861	1941	1443	1124	750	494	43743

## Massachusetts Highway Department

### 502: Monthly Hourly Volume for September 2016

<b>Location ID:</b>	<b>502</b>	<b>Seasonal Factor Group:</b>	<b>U3</b>
<b>County:</b>	<b>Essex</b>	<b>Daily Factor Group:</b>	
<b>Functional Class</b>	<b>3</b>	<b>Axle Factor Group:</b>	<b>U3</b>
<b>Location:</b>	<b>TURNPIKE STREET</b>	<b>Growth Factor Group:</b>	

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1	218	111	108	144	374	1165	2474	3156	2989	2490	2283	2280	2536	2608	2814	3195	3371	3432	2762	1883	1406	1100	822	529	44250
2	257	151	138	153	354	1073	2011	2659	2547	2147	2188	2319	2332	2929	3355	3360	3223	2913	2252	1845	1208	1082	853	566	41915
3	330	195	157	128	149	309	658	1054	1268	1610	1886	2232	2381	2202	2181	2108	1997	1867	1652	1463	1238	983	842	578	29468
4	316	215	142	115	110	190	415	619	836	1212	1544	1957	2097	2157	2117	1902	1876	1750	1632	1436	1217	870	668	480	25873
5	258	205	132	83	102	229	427	608	772	1029	1404	1767	1971	1985	2063	1945	1832	1757	1604	1319	1004	707	459	304	23966

6	115	53	70	152	366	1208	2554	3310	3270	2812	2587	2422	2516	2596	2978	3247	3391	3505	2700	1775	1274	863	573	395	44732
7	162	84	116	166	357	1250	2668	3287	3191	2884	2132	2169	2186	2479	2894	3247	3363	3504	2857	1971	1430	999	656	446	44498
8	212	104	106	160	373	1322	2811	3432	3284	2477	2145	2304	2486	2525	2906	3280	3553	3571	2961	2073	1514	1089	710	418	45816
9	277	137	125	182	351	1223	2505	3205	3105	2409	2367	2293	2560	2753	3144	3350	3361	3488	2748	2202	1546	1262	901	639	46133
10	387	217	170	134	166	427	739	1295	1647	1969	2220	2583	2660	2657	2635	2460	2350	2290	1913	1679	1251	1173	895	613	34530
11	395	264	145	106	115	219	514	734	1051	1419	1802	2033	2297	2324	2238	2144	2071	2005	1755	1496	1026	703	492	320	27668
12	151	98	80	157	343	1248	2685	3473	3262	2391	2125	2244	2320	2392	2746	3260	3353	3532	2867	1925	1342	925	604	374	43897
13	175	103	88	162	346	1334	2896	3561	3354	2621	2200	2194	2399	2402	2829	3191	3441	3588	2895	2004	1347	1002	639	400	45171
14	199	105	97	166	349	1248	2704	3505	3295	2601	2355	2279	2358	2568	2866	3250	3392	3528	2795	1979	1402	1003	656	466	45166
15																									
16	252	141	103	160	342	1254	2486	3087	2844	2389	2239	2321	2560	2601	2934	3311	3468	3422	2843	1919	1493	1148	833	694	44844
17	352	193	166	117	164	425	735	1214	1674	1994	2408	2567	2738	2744	2578	2595	2551	2461	2171	1759	1244	1151	847	596	35444
18	353	210	145	92	129	212	425	769	1097	1573	1846	2209	2409	2231	1998	1773	1979	1902	1665	1444	959	648	451	287	26806
19	145	112	74	171	374	1265	2660	3284	3199	2447	2123	2037	2352	2285	2614	3148	3318	3448	2576	1750	1226	921	560	377	42466
20	176	87	91	163	405	1355	2861	3387	3157	2485	2094	2226	2295	2406	2854	3328	3467	3580	2753	2006	1353	1039	623	435	44626
21	197	75	76	151	362	1329	2811	3403	3362	2490	2160	2195	2331	2460	2945	3328	3377	3671	2903	2007	1505	1044	674	405	45261
22	170	91	83	175	392	1359	2815	3495	3240	2534	2177	2342	2484	2522	2961	3294	3487	3575	2807	2004	1390	1077	661	482	45617
23	254	176	116	164	343	1246	2454	3220	2887	2342	2247	2367	2591	2729	2998	3417	3436	3346	3077	1988	1369	1176	881	626	45450
24	334	196	120	115	167	395	711	1230	1631	2123	2533	2706	2939	2843	2856	2618	2618	2525	2067	1721	1327	1054	904	672	36405
25	383	239	139	101	104	219	436	750	1055	1424	1875	2268	2403	2469	2401	2435	2308	2274	1893	1576	1067	698	474	316	29307
26	154	127	88	162	336	1306	2765	3457	3123	2344	2092	2162	2349	2322	2802	3327	3389	3486	2572	1804	1217	805	560	405	43154
27	159	84	80	154	393	1305	2753	3394	3217	2701	2151	2137	2265	2421	2737	3191	3393	3531	2698	1896	1356	1073	650	400	44139
28	204	125	93	157	372	1324	2755	3554	3220	2553	2198	2292	2412	2648	2883	3239	3359	3508	2988	1849	1327	1011	642	454	45167
29	188	104	70	163	373	1371	2841	3399	3257	2518	2191	2309	2516	2536	2882	3318	3377	3635	2853	1966	1422	1061	702	522	45574
30	267	134	103	170	357	1215	2413	3056	2832	2280	2197	2395	2570	2563	3009	3265	3374	3376	2662	1796	1294	1132	872	616	43948

## Massachusetts Highway Department 502: Monthly Hourly Volume for October 2016

<b>Location ID:</b>	<b>502</b>	<b>Seasonal Factor Group:</b>	<b>U3</b>
<b>County:</b>	<b>Essex</b>	<b>Daily Factor Group:</b>	
<b>Functional Class</b>	<b>3</b>	<b>Axle Factor Group:</b>	<b>U3</b>
<b>Location:</b>	<b>TURNPIKE STREET</b>	<b>Growth Factor Group:</b>	

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1	417	220	172	99	143	351	675	1054	1516	1792	2074	2404	2575	2410	2534	2360	2303	2372	2090	1511	1162	1149	810	708	32901

2	391	220	127	83	105	216	475	780	1083	1465	1904	2155	2533	2241	2251	1929	2087	1866	1685	1378	1109	823	504	329	27739	
3	134	93	81	179	334	1287	2799	3401	3030	2393	2114	2144	2411	2315	2739	3218	3279	3358	2658	1856	1166	948	705	431	43073	
4	175	108	74	159	378	1397	2886	3483	3294	2508	2154	2242	2354	2286	2912	3267	3379	3677	3004	1947	1356	1045	668	450	45203	
5	177	107	90	174	375	1367	2902	3455	3213	2490	2113	2233	2405	2551	2922	3383	3501	3578	3094	2043	1461	1112	681	464	45891	
6	184	80	75	166	361	1348	2855	3475	3274	2660	2094	2319	2601	2568	3023	3442	3524	3627	2937	1968	1452	1128	732	497	46390	
7	281	140	123	149	381	1291	2407	2963	2873	2431	2419	2402	2674	2916	3292	3423	3458	3314	2844	2025	1450	1193	958	678	46085	
8	329	158	150	128	156	379	728	1179	1547	2042	2436	2661	2884	2794	2754	2662	2501	2445	2113	1671	1327	1115	869	670	35698	
9	388	244	147	87	106	249	424	698	959	1337	1663	2064	2407	2015	1820	1844	1750	1675	1591	1240	935	627	489	351	25110	
10	185	111	87	134	264	785	1566	1981	2025	1906	2154	2349	2581	2680	2848	3073	3096	3040	2580	1872	1243	852	711	426	38549	
11	163	102	69	150	381	1309	2748	3351	3108	2369	2209	2273	2425	2186	3012	3401	3404	3464	2777	1822	1467	1046	618	399	44253	
12	185	92	93	158	389	1336	2755	3322	3205	2590	2177	2335	2510	2706	2917	3379	3521	3605	2832	1943	1410	1084	665	458	45667	
13	205	87	104	157	406	1393	2769	3435	3249	2629	2186	2330	2504	2685	2910	3371	3445	3449	2958	2079	1468	1135	680	489	46123	
14	211	147	91	169	405	1363	2439	2987	2964	2353	2308	2455	2679	2808	3110	3551	3585	3391	3010	2045	1253	1102	907	655	45988	
15	369	197	165	120	167	412	744	1245	1617	2030	2470	2572	3031	2866	2940	2921	2741	2628	2408	1753	1273	1081	893	680	37323	
16	407	202	109	85	100	231	461	812	1187	1652	1974	2334	2542	2342	2203	1993	2221	2102	1981	1462	1045	682	459	298	28884	
17	136	90	81	171	353	1417	2762	3477	3233	2430	2169	2253	2373	2528	2848	3333	3415	3421	2560	1713	1171	886	573	395	43788	
18	181	98	110	153	416	1447	2868	3588	3252	2532	2190	2237	2338	2546	2891	3331	3376	3381	2853	1831	1348	1002	635	448	45052	
19	176	102	109	157	363	1475	2936	3475	3264	2485	2276	2402	2570	2564	3040	3331	3387	3567	2887	1877	1334	979	654	437	45847	
20	197	112	101	157	384	1417	2817	3487	3223	2517	2197	2410	2513	2515	2994	3348	3495	3637	3045	1871	1406	1073	730	495	46141	
21	266	158	123	151	339	1321	2424	2943	2875	2765	2286	2407	2553	2796	3201	3398	3443	3580	2934	2195	1367	1238	1179	701	46643	
22	453	183	135	124	189	403	688	1117	1591	2182	2617	2770	2650	2776	2766	2668	2656	2559	2287	1670	1259	1246	994	755	36738	
23	412	276	154	128	107	226	410	754	1107	1571	2163	2382	2546	2623	2515	2555	2391	1946	1721	1364	1138	700	455	305	29949	
24																										
25	158	76	101	148	379	1465	3024	3495	3250	2498	2099	2235	2333	2583	2886	3318	3462	3448	3067	1814	1336	1128	651	419	45373	
26	191	108	80	157	388	1437	2803	3401	3152	2538	2155	2288	2424	2584	3003	3434	3434	3520	2722	1831	1287	1050	644	424	45055	
27	206	91	106	136	365	1437	2798	3384	3118	2457	2102	2267	2475	2534	2945	3305	3270	3458	2847	1933	1437	1008	764	459	44902	
28	286	112	109	142	364	1333	2384	3003	2884	2274	2210	2376	2537	2651	2980	3309	3397	3450	3154	1972	1343	1199	897	605	44971	
29	340	214	197	125	130	385	705	1216	1504	1869	2227	2540	2721	2636	2727	2580	2498	2260	2104	1470	1211	1038	886	707	34290	
30	387	319	171	117	99	201	396	742	1076	1487	1979	2251	2478	2137	2008	1943	2052	2004	1645	1308	910	687	502	305	27204	
31	179	84	90	146	346	1417	2763	3221	2986	2294	2136	2262	2432	2451	2849	3356	3544	3413	2017	1519	1183	913	584	444	42629	

## Massachusetts Highway Department

### 502: Monthly Hourly Volume for November 2016

Location ID: 502  
County: Essex  
Functional Class: 3

Seasonal Factor Group: U3  
Daily Factor Group:  
Axle Factor Group: U3

Location:	TURNPIKE STREET																								Growth Factor Group:
	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
1	238	113	118	142	394	1499	2826	3382	3250	2571	2107	2248	2387	2477	2917	3294	3433	3599	2832	1829	1345	1046	610	419	45076
2	179	87	79	139	391	1501	2748	3370	3247	2522	2176	2325	2386	2532	2873	3172	3387	3488	2777	1893	1247	1012	616	426	44573
3	188	97	94	157	356	1408	2761	3411	3198	2440	2132	2248	2450	2563	3002	3210	3325	3514	2789	1803	1311	975	693	454	44579
4	233	152	98	177	346	1333	2465	3227	3005	2338	2273	2339	2512	2665	2993	3294	3395	3561	3039	2029	1341	1331	939	652	45737
5	369	209	129	87	175	434	742	1269	1582	1924	2262	2401	2753	2691	2684	2466	2473	2384	1910	1649	1185	999	839	647	34263
6	347	262	123	89	63	95	223	493	706	1225	1649	1995	2195	2386	2434	2303	2200	2158	1935	1569	1197	866	592	413	27518
7	275	132	97	85	158	359	1483	2910	3467	3187	2373	2063	2114	2343	2470	2774	3389	3425	3545	2788	1683	1131	860	613	43724
8																									
9	196	102	69	140	407	1430	2763	3373	3263	2378	2033	2169	2403	2547	2929	3254	3369	3405	2542	1670	1204	926	596	421	43589
10	193	66	87	149	376	1547	2948	3469	3257	2452	2297	2426	2572	2722	3048	3498	3454	3437	3240	2083	1427	1208	730	482	47168
11	281	201	134	179	329	1008	1896	2414	2345	2331	2297	2521	2696	2780	3036	3175	3116	3052	2524	1561	1210	1130	779	623	41618
12	348	177	160	102	165	389	755	1151	1518	1960	2202	2539	2708	2538	2530	2521	2419	2209	1853	1422	1165	1000	815	554	33200
13	315	194	162	93	103	204	456	673	930	1345	1734	2004	2303	2304	2323	2314	2261	1864	1703	1279	980	550	454	332	26880
14	192	87	84	158	356	1366	2685	3276	3045	2372	2129	2126	2377	2428	2851	3265	3512	3435	2470	1467	1120	875	510	354	42540
15	189	100	79	130	379	1401	2794	3430	3189	2371	2202	2200	2383	2426	2847	3186	3304	3454	2783	1776	1318	947	642	427	43957
16	182	118	94	164	368	1435	2804	3344	3289	2556	2176	2319	2541	2473	2910	3262	3405	3562	2910	1783	1275	1026	652	424	45072
17	197	93	76	153	355	1481	2802	3479	3438	2763	2191	2258	2417	2564	2819	3274	3457	3530	2969	1906	1357	1078	710	474	45841
18	296	168	140	166	358	1298	1806	2712	2983	2360	2252	2317	2515	2693	2709	3281	3454	3271	2830	1800	1281	1049	907	646	43292
19	341	222	162	133	165	430	765	1217	1651	2059	2436	2613	2730	2556	2571	2583	2526	2313	2001	1471	1139	1020	878	644	34626
20	392	281	138	88	104	245	464	655	978	1379	1838	2151	2300	2332	2347	2308	1906	1536	1428	1191	1008	583	436	306	26394
21	121	118	74	148	379	1365	2650	3399	3260	2563	2269	2334	2535	2693	2939	3326	3422	3550	2654	1703	1177	848	534	380	44441
22	229	110	93	161	389	1365	2833	3328	3159	2611	2463	2459	2758	2849	3200	3507	3585	3639	2764	1970	1305	977	623	455	46832
23	230	91	112	173	363	1207	2232	2735	2761	2502	2418	2712	2930	3290	3377	3408	2881	2459	1819	1428	1014	852	611	485	42090
24	296	160	100	76	58	149	360	732	839	1165	1416	1665	2236	1869	1303	1079	1123	1431	1493	1399	1218	838	661	515	22181
25	272	191	174	134	231	454	789	1038	1306	1493	1841	2024	2084	2113	2218	2544	2106	1835	1698	1283	1000	798	721	572	28919
26	295	165	136	125	142	302	572	838	1142	1473	1783	2073	2181	2304	2213	2202	1948	1861	1562	1233	1008	828	687	580	27653
27	293	196	106	84	90	189	382	621	953	1241	1729	1905	2220	2381	2364	2123	1974	1585	1416	1242	1053	629	417	268	25461
28	146	82	89	137	390	1340	2676	3240	3089	2380	2088	2141	2388	2410	2812	3156	3321	3349	2581	1717	1138	810	574	340	42394
29	177	93	96	162	389	1465	2681	3320	3087	2288	2066	2143	2307	2271	2734	3211	3277	3378	2782	1664	1175	838	555	413	42572
30	190	103	97	154	402	1332	2547	3141	2897	2394	2088	2150	2281	2407	2745	3182	3223	3356	2704	1801	1308	942	700	455	42599

## Massachusetts Highway Department

### 502: Monthly Hourly Volume for December 2015

Location ID: 502

Seasonal Factor Group: U3

**County:** Essex  
**Functional Class:** 3  
**Location:** TURNPIKE STREET  
**Daily Factor Group:**  
**Axle Factor Group:** U3  
**Growth Factor Group:**

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL	
1																										
2	178	115	89	118	349	1264	2525	3308	3135	2443	2116	2182	2390	2431	2721	3149	3368	3379	2772	1755	1273	1025	628	462	43175	
3	242	144	85	147	337	1252	2675	3371	3206	2559	2182	2277	2492	2525	2771	3317	3474	3634	2826	1793	1439	1080	710	483	45021	
4	251	150	154	123	312	1188	2440	3114	2944	2515	2389	2541	2745	2712	3016	3391	3429	3479	2883	1788	1293	1201	977	614	45649	
5	332	160	136	109	167	432	758	1282	1822	2088	2246	2606	2757	2533	2615	2600	2322	2218	1939	1563	1209	1054	898	703	34549	
6	399	222	105	96	106	221	415	705	1008	1525	1916	2128	2471	2345	2344	2262	2135	1694	1512	1128	1136	743	425	316	27357	
7	112	68	70	132	342	1290	2617	3283	3187	2456	2269	2277	2470	2413	2860	3354	3351	3503	2490	1641	1103	885	547	372	43092	
8	153	116	96	136	320	1257	2647	3432	3224	2522	2178	2355	2511	2359	2690	3279	3599	3535	2690	1798	1235	990	624	414	44160	
9	155	107	85	134	336	1255	2551	3510	3400	2586	2275	2424	2493	2534	2844	3463	3556	3518	2855	1809	1235	1111	688	454	45378	
10	204	120	99	146	344	1210	2603	3436	3275	2616	2251	2279	2595	2626	2883	3293	3505	3496	2726	1833	1322	1010	759	524	45155	
11	247	197	148	106	316	1224	2295	3082	2972	2469	2335	2381	2626	2695	2924	3512	3518	3344	2589	1788	1266	1064	875	706	44679	
12	347	217	160	105	146	404	640	1200	1528	1913	2259	2516	2738	2609	2550	2565	2295	2168	1948	1589	1161	1009	943	745	33755	
13	422	283	121	90	103	190	370	689	954	1323	1796	2261	2386	2432	2276	2303	2060	1868	1623	1289	1142	656	428	351	27416	
14	168	66	88	136	336	1189	2551	3215	3136	2539	2226	2278	2441	2494	2792	3142	3496	3408	2688	1615	1198	918	550	468	43138	
15	157	102	99	119	361	1271	2643	3483	3282	2617	2488	2390	2381	2463	2877	3323	3258	3426	2759	1918	1237	948	653	458	44713	
16	188	114	96	126	330	1280	2488	3264	3211	2564	2362	2524	2564	2722	2937	3276	3623	3657	3052	2149	1405	1057	657	457	46103	
17	214	119	80	143	371	1200	2448	3347	3109	2524	2229	2451	2603	2537	2892	3202	3526	3259	2975	1876	1188	1169	750	540	44752	
18	225	151	90	108	281	1213	2355	2953	2882	2494	2392	2526	2816	2854	3076	3285	3311	3257	2669	1859	1292	1061	898	615	44663	
19	349	193	144	92	138	400	690	1028	1529	1886	2312	2592	2680	2602	2571	2361	2229	2157	1979	1559	1138	1026	928	686	33269	
20	416	251	131	86	95	246	403	688	970	1393	1824	2133	2355	2274	2080	2136	1999	1793	1617	1299	994	682	458	306	26629	
21	136	85	76	137	323	1159	2305	2916	2907	2429	2370	2422	2646	2639	2931	3302	3345	3269	2513	1678	1179	873	627	385	42652	
22	200	101	111	139	324	1136	2235	2894	3007	2566	2366	2495	2559	2615	2894	3277	3288	3360	2665	1803	1280	951	740	463	43469	
23	231	150	79	131	302	1035	2122	2632	2784	2493	2433	2663	2894	2853	3181	3399	3358	3093	2300	1619	1334	1045	783	563	43477	
24	276	150	94	112	203	646	1149	1580	1877	2082	2335	2607	2793	2837	2774	2531	2266	2056	1535	1030	1061	1240	1144	794	35172	
25	369	190	90	60	40	119	218	342	454	746	1078	1392	1730	1692	1484	1349	1328	1340	1313	1238	1121	817	645	436	19591	
26	251	96	90	60	106	212	432	619	882	1343	1594	2042	2231	2149	2237	2202	1872	1831	1455	1213	962	899	725	469	25972	
27	302	202	124	72	84	180	388	508	765	1101	1465	1893	2223	1950	1823	1642	1728	1632	1465	1131	929	640	450	297	22994	
28	131	103	76	114	268	922	1755	2236	2454	2216	2305	2568	2639	2788	3011	3132	3159	3053	2367	1570	1127	908	605	385	39892	
29	208	114	116	155	300	873	1585	1887	1990	1728	1538	1622	1731	1936	2308	2450	2514	2608	1816	1210	837	730	529	392	31177	
30	214	80	93	132	271	860	1643	2163	2410	2176	2175	2384	2498	2600	2920	3058	3000	2919	2178	1541	1067	898	639	449	38368	
31	209	99	112	115	246	747	1405	1885	2020	1925	2128	2337	2482	2912	3026	2806	2433	2039	1668	1250	875	639	587	348	34293	

# Massachusetts Highway Department

## 502: Monthly Hourly Volume for 2016

**Location ID:** 502  
**County:** Essex  
**Functional Class** 3  
**Location:** TURNPIKE STREET

**Seasonal Factor Group:** U3  
**Daily Factor Group:**  
**Axle Factor Group:** U3  
**Growth Factor Group:**

<u>Month</u>	<u>Volume</u>	<u>Seasonal Factor</u>	
January	35954	0.93	
February	37011	0.95	<b>February Multiplier to Average Month 1.047</b>
March	38558	0.99	
April	39040	1.01	
May	40202	1.04	
June	41336	1.07	
July	36825	0.95	
August	39034	1.01	
September	40045	1.03	
October	40449	1.04	
November	38786	1	
December	37990	0.98	
	<b>38769</b>		



*Appendix C*  
Crash Data



Crash Number	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	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	Total Fatalities	Total Non-Fatal Injuries	Traffic Control Device Type	Trafficway Description	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Emergency Use (All Vehicles)	Vehicle Towed From Scene (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Hit and Run	Most Harmful Event (All Vehicles)	School Bus Related	Speed Limit	Traffic Control Device Function	Vehicle Sequence of Events (All Vehicles)	Latitude	Longitude	Street Number	Roadway	Distance and Direction From
																																		Intersection
4045917	05/18/2015	Property d	10:29 AM	No injury	2	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	0	0	No controls	Two-way, divided, unprotected median	V1: Entering traffic lane / V2: Turning left	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: S / V2: E	Cloudy	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353418	140	HAVERHILL ST	278 feet W of
4125741	12/01/2015	Property d	5:57 PM	No injury	2	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	0	0	Traffic control signal	Two-way, divided, unprotected median	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(No) / V2:(Yes, vehicle or trailer disabled)	V1: W / V2: W	Rain/Rain	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353418	149	HAVERHILL ST Rte 133	
4148898	01/20/2016	Non-fatal i	5:24 PM	Non-fatal injury - Non-incapacitating	2	D1: (No improper driving)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Angle	Dry	Four-way intersection	0	2	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Turning left	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(No)	V1: E / V2: W	Severe crosswinds	Yes, hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353418	149	HAVERHILL ST	
4271352	10/13/2016	Non-fatal i	4:44 PM	Non-fatal injury - Possible	2	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	0	1	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: W / V2: N	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	No, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353418	149	HAVERHILL ST Rte 133 W	
4271549	10/28/2016	Property d	4:15 PM	No injury	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Turning left	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: W / V2: E	Rain/Cloudy	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67436	-71.1351953		HIGH ST / HAVERHILL STREET Rte 133	
4295069	11/12/2016	Property d	4:16 PM	No injury	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: W / V2: W	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353418	149	HAVERHILL ST Rte 133	
4297054	11/25/2016	Property d	1:22 PM	No injury	2	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	0	0	Traffic control signal	Two-way, divided, unprotected median	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(No) / V2:(Yes, vehicle or trailer disabled)	V1: S / V2: W	Rain/Rain	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353418	140	HAVERHILL ST	
4338542	03/08/2017	Non-fatal i	3:13 PM	Non-fatal injury - Possible	2	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	0	2	Traffic control signal	Two-way, divided, unprotected median	V1: Travelling straight ahead / V2: Turning left	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: E / V2: W	Clear/Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353418	149	HAVERHILL ST Rte 133	
4474093	02/12/2017	Not Report	10:33 PM	Unknown	1	D1: (Unknown)		Collision with other	Yes	Dark - lighted roadway	Single vehicle crash	Snow	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Turning right	V1:(Light truck(van, mini-van, pickup, sport utility))	V1:(No)	V1:(No)	V1: S	Snow	No hit and run	V1:(Collision with fence)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with fence)	42.67435	-71.1353418	149	HAVERHILL ST Rte 133	
4474182	12/02/2016	Property d	7:44 AM	No injury	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Turning left	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: E / V2: N	Clear/Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353418	149	HAVERHILL ST Rte 133	
4480860	08/19/2017	Non-fatal i	1:01 PM	Non-fatal injury - Possible	2	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	0	1	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(No)	V1: N / V2: W	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67436	-71.1351953		HIGH ST / HAVERHILL ST Rte 133	
4485291	11/17/2017	Property d	5:58 PM	No injury	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(No)	V1: W / V2: W	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353418	149	HAVERHILL ST Rte 133	
4486389	12/22/2017	Property d	7:56 PM	No injury	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: N / V2: W	Snow/Sleet, hail (freezing rain or drizzle)	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	Yes, school bus involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353418	149	HAVERHILL ST Rte 133	
4489550	01/18/2018	Property d	12:56 PM	No injury	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: W / V2: W	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353384	149	HAVERHILL ST Rte 133	

Crash Number	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	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	Total Fatalities	Total Non-Fatal Injuries	Traffic Control Device Type	Trafficway Description	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Emergency Use (All Vehicles)	Vehicle Towed From Scene (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Hit and Run	Most Harmful Event (All Vehicles)	School Bus Related	Speed Limit	Traffic Control Device Function	Vehicle Sequence of Events (All Vehicles)	Latitude	Longitude	Street Number	Roadway	Distance and Direction From
																																		Intersection
4518119	03/08/2018	Property d	8:42 PM	No injury	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Entering traffic lane	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: E / V2: N	Cloudy	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	No, device not functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353384	149	HAVERHILL ST Rte 133	
4536066	05/02/2018	Non-fatal i	2:25 PM	Non-fatal injury - Non-incapacitating	2	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	0	2	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: E / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353384	149	HAVERHILL ST Rte 133	
4604740	09/25/2018	Property d	4:56 PM	No injury	2	D1: (No improper driving) / D2: (Inattention),(Failed to yield right of way)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Dusk	Angle	Wet	Not at junction	0	0	No controls	Two-way, not divided	V1: Travelling straight ahead / V2: Turning left	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: S / V2: E	Rain	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved		Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67456	-71.1351404	300	HIGH ST	75 feet N of
4610414	10/10/2018	Property d	8:40 AM	No injury	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Turning left / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: W / V2: E	Clear/Cloudy	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	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	-71.1351986		HAVERHILL ST Rte 133 / HAVERHILL STREET / HIGH STREET	
4624061	11/15/2018	Non-fatal i	9:11 PM	Non-fatal injury - Non-incapacitating	3	D1: (Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway, etc) / D3: (No improper driving) / D2: (No improper driving) / D3: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Head-on	Snow	Four-way intersection	0	1	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead / V3: Travelling straight ahead	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility)) / V3:(Passenger car)	V1:(No) / V2:(No) / V3:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled) / V3:(Yes, vehicle or trailer disabled)	V1: W / V2: E / V3: E	Snow/Cloudy	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)	No, school bus not involved	35	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	-71.1351986		HAVERHILL ST / HIGH STREET	
4693281	04/23/2019	Property d	9:06 AM	No Apparent Injury (O)	1	D1: (No improper driving)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Sideswipe, opposite direction	Wet	Not at junction	0	0	No controls	Two-way, not divided	V1: Travelling straight ahead	V1:(Passenger car)	V1:(No)	V1:(No)	V1: W	Cloudy/Rain	Yes, hit and run		No, school bus not involved	Yes, device functioning	V1:(Collision with motor vehicle in traffic)	42.67437	-71.1346305	153	HAVERHILL ST	10 feet E of	
4731886	07/18/2019	Non-fatal i	1:33 PM	Suspected Minor Injury (B)	2	D1: (No improper driving) / D2: (Distracted)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle		Four-way intersection	0	0	Flashing traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: E / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved		No, device not functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353177	149	HAVERHILL ST	
4764984	10/18/2019	Not Report	8:06 PM	No Apparent Injury (O)	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Turning left	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(No)	V1: E / V2: W	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353177	149	HAVERHILL STREET	
4769730	10/29/2019	Property d	6:28 PM	No Apparent Injury (O)	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Turning right	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: E / V2: E	Rain/Cloudy	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	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	-71.1346305	153	HAVERHILL ST		
4792217	12/17/2019	Property d	1:16 PM	No Apparent Injury (O)	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: W / V2: W	Snow/Blowing sand, snow	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67434	-71.1354889	138	HAVERHILL ST	50 feet W of
4800428	12/30/2019	Property d	11:58 AM	No Apparent Injury (O)	1	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead	V1:(Passenger car)	V1:(No)	V1:(Yes, vehicle or trailer disabled)	V1: W	Sleet, hail (freezing rain or drizzle)	No hit and run	V1:(Collision with light pole or other post/support)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic)	42.67435	-71.1353177	149	HAVERHILL ST	
4828352	03/09/2020	Property d	8:24 AM	No Apparent Injury (O)	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(No)	V1: W / V2: N	Clear/Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353177	149	HAVERHILL ST Rte 133	

Crash Number	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	Number of Vehicles	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	Total Fatalities	Total Non-Fatal Injuries	Traffic Control Device Type	Trafficway Description	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Emergency Use (All Vehicles)	Vehicle Towed From Scene (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Hit and Run	Most Harmful Event (All Vehicles)	School Bus Related	Speed Limit	Traffic Control Device Function	Vehicle Sequence of Events (All Vehicles)	Latitude	Longitude	Street Number	Roadway	Distance and Direction From Intersection
4876145	08/28/2020	Non-fatal i	10:47 AM	Suspected Minor Injury (B)	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: E / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353177	149	HAVERHILL ST Rte 133	
4893038	10/24/2020	Property d	8:54 AM	No Apparent Injury (O)	2	D1: (Inattention),(Distracted) / D2: (No improper driving)	D1: Other activity (searching, eating, personal hygiene, etc.) /	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: N / V2: N	Not Reported	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67406	-71.1353043	197	HIGH ST	
4919353	01/09/2021	Property d	10:52 AM	No Apparent Injury (O)	2	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	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: E / V2: E	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353177	149	HAVERHILL ST	
4939696	02/07/2021	Property d	12:29 PM	No Apparent Injury (O)	2	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	0	0	No controls	Two-way, divided, unprotected median	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: S / V2: S	Snow	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353177	149	HAVERHILL ST	10 feet S of
4939698	02/07/2021	Property d	12:46 PM	No Apparent Injury (O)	3	D1: (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	0	0	Traffic control signal	Two-way, divided, unprotected median	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic / V3: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car) / V3:(Passenger car)	V1:(No) / V2:(No) / V3:(No)	V1:(No) / V2:(No) / V3:(No)	V1: W / V2: W / V3: W	Snow/Snow	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)	No, school bus not involved	30	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	-71.1351986		HIGH ST / HAVERHILL ST	
4993682	06/02/2021	Non-fatal i	9:26 AM	Possible Injury (C)	1	D1: (History heart/epilepsy/fainting)	D1: Not Distracted	Collision with utility pole	Yes	Daylight	Single vehicle crash	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility))	V1:(No)	V1:(Yes, vehicle or trailer disabled)	V1: S	Clear	No hit and run	V1:(Collision with light pole or other post/support)	No, school bus not involved	35	Yes, device functioning	V1:(Ran off road right),(Collision with light pole or other post/support),(Collision with fence),(Collision with other fixed object(wall, building, tunnel, etc.))	42.67435	-71.1353177	149	HAVERHILL ST	
5025260	10/14/2021	Property d	7:50 AM	No Apparent Injury (O)	2	D1: (Inattention) / D2: (No improper driving)	D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: E / V2: E	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67435	-71.1353177	149	HAVERHILL STREET	
5049353	12/23/2021	Unknown	10:19 AM	Not reported	2	D1: (No improper driving) / D2: (Inattention)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: S / V2: W	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.67436	-71.1351986		HAVERHILL ST / HIGH ST	

Data Level:  
Query Type:  
Criteria:

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

<p><b>Haverhill St</b></p> <p>Route# _____ Direction _____ Name of Roadway/Street _____</p> <p style="text-align: center;">At _____</p> <p><b>High St</b></p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p> <p style="text-align: center;">Also at Intersection with _____</p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p>	<p>Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ or _____</p> <p style="text-align: center;">Mile Marker _____ Exit Number _____</p> <p>_____ Feet <b>N S E W</b> of _____</p> <p style="text-align: center;">Route# _____ Intersecting Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____</p> <p style="text-align: center;">Landmark _____</p>
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**Please Select One of the Following:**  Vehicle 1 1 # Occupants  Hit/Run  Moped  Vulnerable User

Crash Report ID# **22-001697**

<p>License # _____ St _____ DOB/Age <b>09-12-1971/53</b></p> <p>Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____</p> <p>Operator <b>Ouellette, Pamela E</b></p> <p>Address <b>21 Brandee Lane</b></p> <p>City <b>Methuen</b> State <b>MA</b> Zip <b>01844</b></p> <p>Insurance Company <b>Arbella Mutual Insurance Company</b></p> <p>Vehicle Travel Direction: <b>N S E W</b> Responding to Emergency? <b>No</b></p> <p>Citation # (If Issued) _____</p> <p>Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____</p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____</p>	<p>Reg # <b>8TX555</b> Reg Type <b>PAN</b> Reg State <b>MA</b></p> <p>Veh Year <b>2019</b> Veh Make <b>HOND</b> Veh Config. <b>1</b></p> <p>Owner <b>Ouellette, Pamela E</b></p> <p>Address <b>21 Brandee Lane</b></p> <p>City <b>Methuen</b> State <b>MA</b> Zip <b>01844</b></p> <p>Vehicle Action Prior to Crash <b>2 22</b> Damaged Area Code: <b>7 27 27 27</b></p> <p>Event Sequence <b>1 23 23 23 23</b> Test Status: <b>28</b></p> <p>Most Harmful Event <b>1 24</b> Type of Test: <b>29</b></p> <p>Driver Contributing Code <b>1 25 25</b> BAC Test Result: <b>30</b></p> <p>Driver Distracted by <b>0 26 26</b> Susp. Alcohol: <b>31</b> Susp. Drug: <b>32</b></p> <p>Towed from scene? <b>1 33</b></p>
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Please fill out for operator and all occupants involved		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
<b>Operator</b>	See Above										

**Please Select One of the Following:**  Vehicle 2 1 # Occupants  Hit/Run  Moped  Vulnerable User

Complete the Vulnerable User section.

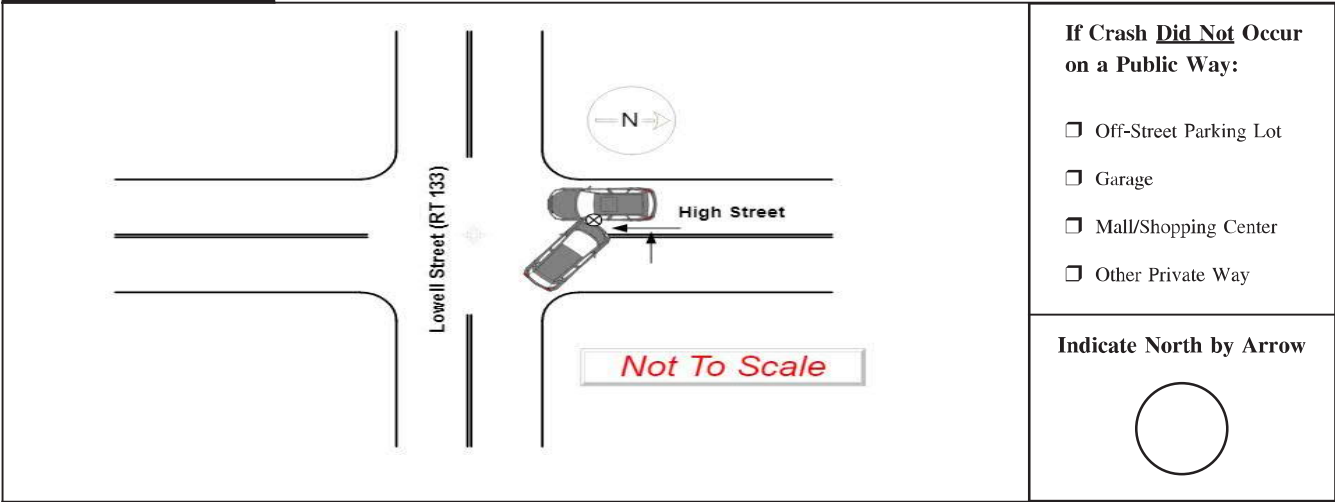
<p>License # _____ St _____ DOB/Age <b>09-02-1997/27</b></p> <p>Sex <b>M</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____</p> <p>Operator <b>Leonardo, Joedy</b></p> <p>Address <b>103 River Pointe Way Apt 2101</b></p> <p>City <b>Lawrence</b> State <b>MA</b> Zip <b>01843</b></p> <p>Insurance Company <b>Allstate Insurance Company</b></p> <p>Vehicle Travel Direction: <b>N S E W</b> Responding to Emergency? <b>No</b></p> <p>Citation # (If Issued) _____</p> <p>Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____</p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____</p>	<p>Reg # <b>84H780</b> Reg Type <b>PAN</b> Reg State <b>MA</b></p> <p>Veh Year <b>2009</b> Veh Make <b>ACUR</b> Veh Config. <b>1</b></p> <p>Owner _____</p> <p>Address _____</p> <p>City _____ State _____ Zip _____</p> <p>Vehicle Action Prior to Crash <b>3 22</b> Damaged Area Code: <b>1 27 27 27</b></p> <p>Event Sequence <b>1 23 23 23 23</b> Test Status: <b>28</b></p> <p>Most Harmful Event <b>1 24</b> Type of Test: <b>29</b></p> <p>Driver Contributing Code <b>7 25 25</b> BAC Test Result: <b>30</b></p> <p>Driver Distracted by <b>0 26 26</b> Susp. Alcohol: <b>31</b> Susp. Drug: <b>32</b></p> <p>Towed from scene? <b>2 33</b></p>
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Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>	See Above										

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

**Crash Diagram:**

ie: →  1    →  2    →    →



**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    *Cpl. Matthew R. McMahon*    MMCM    Andover Police Depart    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.

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

1 1	Route# <u>12</u> Direction _____ Name of Roadway/Street <u>Haverhill St</u>	Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____	
	At _____		_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ or _____
	Route# <u>12</u> Direction _____ Name of Intersecting Roadway/Street _____		_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____
2 1	Also at Intersection with _____	_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____	
	Route# <u>12</u> Direction _____ Name of Intersecting Roadway/Street <u>High St</u>	Route# _____ Intersecting Roadway/Street <u>High St</u>	
		Landmark _____	

Please Select One of the Following:  Vehicle 1 1 # Occupants  Hit/Run  Moped  Vulnerable User

Crash Report ID# 22-004557

License # \_\_\_\_\_ St \_\_\_\_\_ DOB/Age 07-15-1977/47 Reg # 7TH794 Reg Type PAN Reg State MA

Sex M Lic. Class D Lic. Restrictions 20 CDL \_\_\_\_\_ Veh Year 2014 Veh Make AUDI Veh Config. 1

Operator Paniagua, Christian Owner Paniagua, Christian

Address 4 Tech Dr Room 151 Address 4 Tech Dr Room 151

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

Insurance Company \_\_\_\_\_ Vehicle Action Prior to Crash 2 Damaged Area Code: 1

Vehicle Travel Direction:     Responding to Emergency? No Event Sequence 1 Test Status: 1

Citation # (If Issued) T2757696 Most Harmful Event 1 Type of Test: 29

Viol. 1: Ch/Sec/Sub 5555 Viol. 2: Ch/Sec/Sub \_\_\_\_\_ Driver Contributing Code 19 BAC Test Result: 1

Viol. 3: Ch/Sec/Sub \_\_\_\_\_ Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by 0 Susp. Alcohol: 2 Susp. Drug: 2

Please fill out for operator and all occupants involved		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
<b>Operator</b>		See Above		<u>1</u>							

Please Select One of the Following:  Vehicle 2 1 # Occupants  Hit/Run  Moped  Vulnerable User

Complete the Vulnerable User section.

License # \_\_\_\_\_ St \_\_\_\_\_ DOB/Age 02-23-2002/22 Reg # 77T880 Reg Type PAN Reg State MA

Sex F Lic. Class D Lic. Restrictions 20 CDL \_\_\_\_\_ Veh Year 2009 Veh Make DODG Veh Config. 2

Operator Ortega, Cassandra Owner Ortega Gonzalez, Hector

Address 209 Chickering Rd Address 209 Chickering Rd

City North Andover State MA Zip 01845 City North Andover State MA Zip 01845

Insurance Company Arbella Mutual Insurance Company Vehicle Action Prior to Crash 2 Damaged Area Code: 5

Vehicle Travel Direction:     Responding to Emergency? No Event Sequence 1 Test Status: 1

Citation # (If Issued) \_\_\_\_\_ Most Harmful Event 24 Type of Test: 29

Viol. 1: Ch/Sec/Sub \_\_\_\_\_ Viol. 2: Ch/Sec/Sub \_\_\_\_\_ Driver Contributing Code 2 BAC Test Result: 1

Viol. 3: Ch/Sec/Sub \_\_\_\_\_ Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by 0 Susp. Alcohol: 2 Susp. Drug: 2

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above		<u>1</u>							

→ = 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:** ed 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  
Police Officer Name (Please Print)
P.I.M. *[Signature]*  
Signature
KKib  
ID/Badge #
Andover Police Depar  
Department
Precinct/Barracks
03/30/2022  
Date

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

<p><b>Haverhill St</b></p> <p>Route# _____ Direction _____ Name of Roadway/Street _____</p> <p>At _____</p> <p><b>High St</b></p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p> <p>Also at Intersection with _____</p>	<p>Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ or _____</p> <p>_____ Feet <b>N S E W</b> of _____ Mile Marker _____ Exit Number _____</p> <p>_____ Feet <b>N S E W</b> of _____ Route# _____ Intersecting Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ Landmark _____</p>
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Please Select One of the Following:  Vehicle 1 **1** # Occupants  Hit/Run  Moped  Vulnerable User

Crash Report ID# **22-004720**

<p>License # _____ St _____ DOB/Age <b>12-08-1947/77</b></p> <p>Sex <b>M</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____</p> <p>Operator <b>Hanley, Joseph</b></p> <p>Address <b>24 Stevens Ave</b></p> <p>City <b>Lawrence</b> State <b>MA</b> Zip <b>01843</b></p> <p>Insurance Company <b>Commerc Insurance Company, The</b></p> <p>Vehicle Travel Direction: <b>N S E W</b> Responding to Emergency? <b>No</b></p> <p>Citation # (If Issued) <b>T2757807</b></p> <p>Viol. 1: Ch/Sec/Sub <b>90 9/B</b> Viol. 2: Ch/Sec/Sub _____</p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____</p>	<p>Reg # <b>69CG33</b> Reg Type <b>PAS</b> Reg State <b>MA</b></p> <p>Veh Year <b>1999</b> Veh Make <b>FORD</b> Veh Config. <b>2</b></p> <p>Owner <b>Hanley, Joseph</b></p> <p>Address <b>24 Stevens Ave</b></p> <p>City <b>Lawrence</b> State <b>MA</b> Zip <b>01843</b></p> <p>Vehicle Action Prior to Crash <b>1 22</b> Damaged Area Code: <b>1 27 2 27 8 27</b></p> <p>Event Sequence <b>1 23 23 23 23</b> Test Status: <b>1 28</b></p> <p>Most Harmful Event <b>1 24</b> Type of Test: <b>29</b></p> <p>Driver Contributing Code <b>1 25 25</b> BAC Test Result: <b>1 30</b></p> <p>Driver Distracted by <b>0 26 26</b> Susp. Alcohol: <b>2 31</b> Susp. Drug: <b>2 32</b></p> <p>Towed from scene? <b>1 33</b></p>
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Please fill out for operator and all occupants involved		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
<b>Operator</b>		See Above		<b>1</b>							

Please Select One of the Following:  Vehicle 2 **2** # Occupants  Hit/Run  Moped  Vulnerable User

Complete the Vulnerable User section.

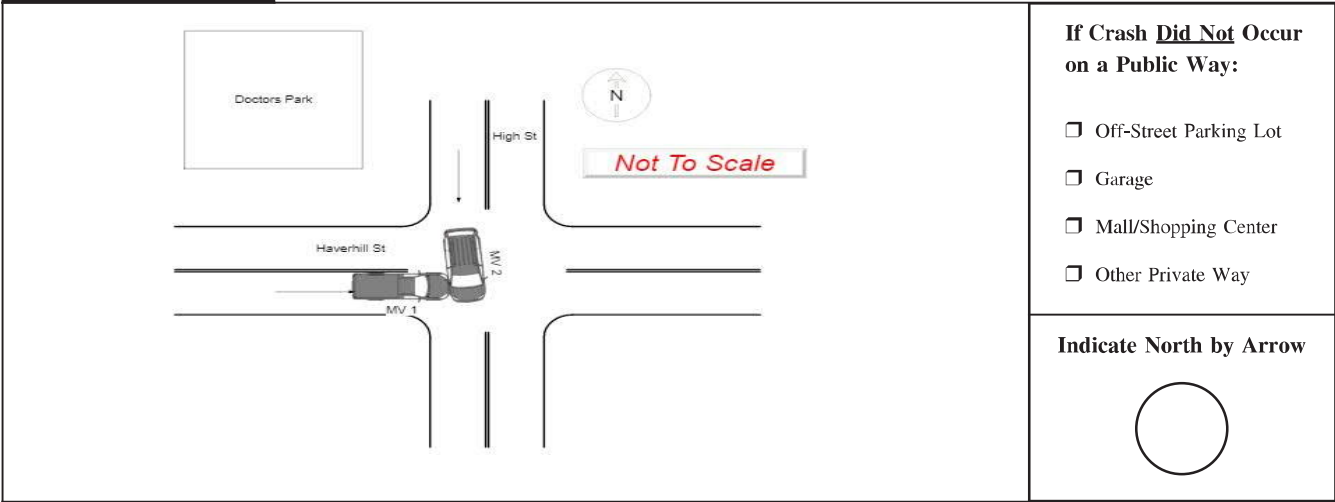
<p>License # _____ St _____ DOB/Age <b>07-17-1961/63</b></p> <p>Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____</p> <p>Operator <b>Burgado, Yolanda</b></p> <p>Address <b>25 Rollins St</b></p> <p>City <b>Lawrence</b> State <b>MA</b> Zip <b>01841</b></p> <p>Insurance Company <b>Arbella Mutual Insurance Company</b></p> <p>Vehicle Travel Direction: <b>N E W</b> Responding to Emergency? <b>No</b></p> <p>Citation # (If Issued) <b>T2757806</b></p> <p>Viol. 1: Ch/Sec/Sub <b>89 9</b> Viol. 2: Ch/Sec/Sub _____</p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____</p>	<p>Reg # <b>7TV524</b> Reg Type <b>PAN</b> Reg State <b>MA</b></p> <p>Veh Year <b>2005</b> Veh Make <b>HOND</b> Veh Config. <b>2</b></p> <p>Owner <b>Burgado, Francisco</b></p> <p>Address <b>25 Rollins St</b></p> <p>City <b>Lawrence</b> State <b>MA</b> Zip <b>01841</b></p> <p>Vehicle Action Prior to Crash <b>1 22</b> Damaged Area Code: <b>3 27 2 27 27</b></p> <p>Event Sequence <b>1 23 23 23 23</b> Test Status: <b>1 28</b></p> <p>Most Harmful Event <b>1 24</b> Type of Test: <b>29</b></p> <p>Driver Contributing Code <b>13 25 3 25</b> BAC Test Result: <b>1 30</b></p> <p>Driver Distracted by <b>0 26 26</b> Susp. Alcohol: <b>2 31</b> Susp. Drug: <b>02 32</b></p> <p>Towed from scene? <b>1 33</b></p>
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Please fill out for operator and all occupants involved		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	
<b>Operator/Occupants</b>		See Above		<b>1</b>								
<b>Burgado, Francisco</b>		<b>25 Rollins St Lawrence MA 01841</b>		<b>03/20/1959</b>	<b>M</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>

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

**Crash Diagram:**

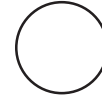
ie: →  1    →  2    →    →



**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:** 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 Depart    04/02/2022  
 Police Officer Name (Please Print)    Signature    ID/Badge #    Department    Precinct/Barracks    Date



→ = Direction    1 = Vehicle 1    2 = Vehicle 2    ○ = Pedestrian    🚲 = Bicycle

**Crash Diagram:**

ie: → 1    → 2    → ○ ○ ○ ○    → 🚲

Not To Scale

**Crash Narrative:** 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

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

<p><b>Haverhill St</b></p> <p>Route# _____ Direction _____ Name of Roadway/Street _____</p> <p>At _____</p> <p><b>High St</b></p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p> <p>Also at Intersection with _____</p>	<p>Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ or _____</p> <p>_____ Feet <b>N S E W</b> of _____ Mile Marker _____ Exit Number _____</p> <p>_____ Feet <b>N S E W</b> of _____ Route# _____ Intersecting Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ Landmark _____</p>
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**Please Select One of the Following:**  **Vehicle 1** 1 # Occupants     **Hit/Run**     **Moped**    Crash Report ID# **22-007341**

<p>License # _____ St _____ DOB/Age <b>09-13-1987/37</b>    Reg # <b>4JMF19</b>    Reg Type <b>PAN</b>    Reg State <b>MA</b></p> <p>Sex <b>M</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____    Veh Year <b>2021</b>    Veh Make <b>HOND</b>    Veh Config. <b>1</b></p> <p><b>Operator: Cruz Torres, Roberto</b>      <b>Owner: Honda Lease Trust</b></p> <p>Last _____ First _____ Middle _____      Last _____ First _____ Middle _____</p> <p>Address <b>120 Myrtle St, #3</b>      Address <b>600 Kelly Way</b></p> <p>City _____ State _____ Zip _____      City <b>Holyoke</b> State <b>MA</b> Zip <b>01040</b></p> <p>Insurance Company <b>GEICO General Insurance Company</b>      Vehicle Action Prior to Crash <b>4</b> <sup>22</sup>    Damaged Area Code: <b>3</b> <sup>27</sup> <b>2</b> <sup>27</sup> <b>2</b> <sup>27</sup></p> <p>Vehicle Travel Direction: <b>N S E W</b>    Responding to Emergency? <b>No</b>    Event Sequence <b>1</b> <sup>23</sup> <b>23</b> <sup>23</sup> <b>23</b> <sup>23</sup>    Test Status: <b>1</b> <sup>28</sup></p> <p>Citation # (If Issued) <b>T2872855</b>    Most Harmful Event <b>1</b> <sup>24</sup>    Type of Test: <b>29</b></p> <p>Viol. 1: Ch/Sec/Sub <b>89</b> <b>8</b>    Viol. 2: Ch/Sec/Sub _____    Driver Contributing Code <b>4</b> <sup>25</sup> <b>25</b>    BAC Test Result: <b>1</b> <sup>30</sup></p> <p>Viol. 3: Ch/Sec/Sub _____    Viol. 4: Ch/Sec/Sub _____    Driver Distracted by <b>0</b> <sup>26</sup> <b>26</b>    Susp. Alcohol: <b>2</b> <sup>31</sup>    Susp. Drug: <b>2</b> <sup>32</sup></p> <p>Towed from scene? <b>1</b> <sup>33</sup></p>	<p><b>Operator</b></p> <p>Name (Last First Middle) _____ Address _____    DOB/Age _____ Sex _____</p> <p><b>Operator</b>      See Above      <b>1</b></p>
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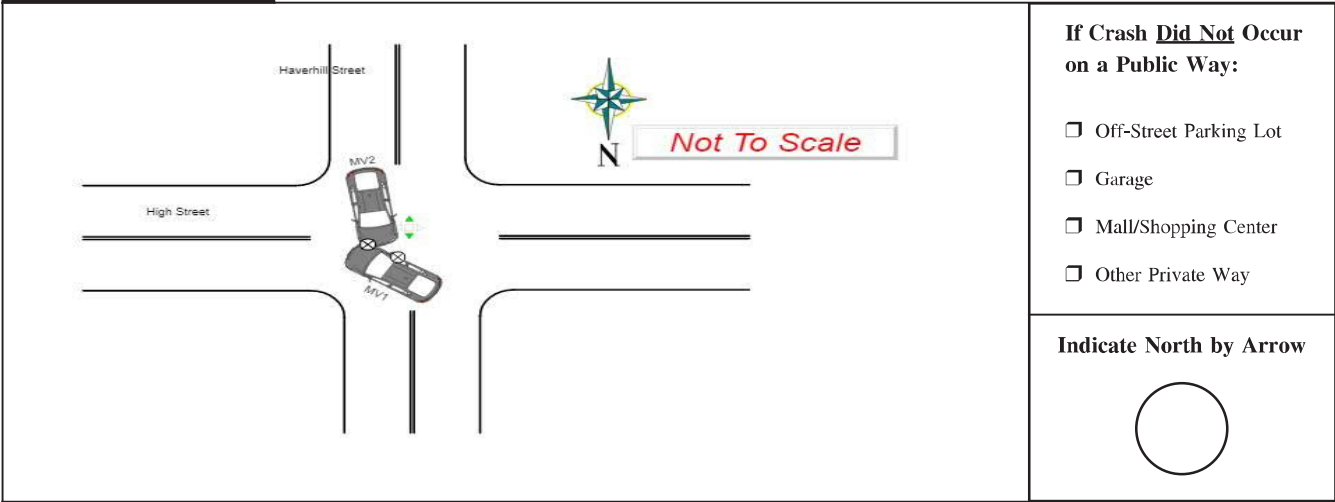
**Please Select One of the Following:**  **Vehicle 2** 1 # Occupants     **Hit/Run**     **Moped**     **Vulnerable User**    Complete the Vulnerable User section.

<p>License # _____ St _____ DOB/Age <b>02-19-2004/20</b>    Reg # <b>4ER768</b>    Reg Type <b>PAN</b>    Reg State <b>MA</b></p> <p>Sex <b>M</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____    Veh Year <b>2008</b>    Veh Make <b>SAA</b>    Veh Config. <b>1</b></p> <p><b>Operator: Holland, Davis A</b>      <b>Owner: Holland, Andrew Carter</b></p> <p>Last _____ First _____ Middle _____      Last _____ First _____ Middle _____</p> <p>Address <b>88 Wildwood Rd</b>      Address <b>88 Wildwood Rd</b></p> <p>City <b>Andover</b> State <b>MA</b> Zip <b>01810</b>      City <b>Andover</b> State _____ Zip <b>01810</b></p> <p>Insurance Company <b>Commerce Insurance Company, The</b>      Vehicle Action Prior to Crash <b>1</b> <sup>22</sup>    Damaged Area Code: <b>2</b> <sup>27</sup> <b>27</b> <sup>27</sup></p> <p>Vehicle Travel Direction: <b>N S E W</b>    Responding to Emergency? <b>No</b>    Event Sequence <b>1</b> <sup>23</sup> <b>23</b> <sup>23</sup> <b>23</b> <sup>23</sup>    Test Status: <b>1</b> <sup>28</sup></p> <p>Citation # (If Issued) _____    Most Harmful Event <b>1</b> <sup>24</sup>    Type of Test: <b>29</b></p> <p>Viol. 1: Ch/Sec/Sub _____    Viol. 2: Ch/Sec/Sub _____    Driver Contributing Code <b>1</b> <sup>25</sup> <b>25</b>    BAC Test Result: <b>1</b> <sup>30</sup></p> <p>Viol. 3: Ch/Sec/Sub _____    Viol. 4: Ch/Sec/Sub _____    Driver Distracted by <b>0</b> <sup>26</sup> <b>26</b>    Susp. Alcohol: <b>2</b> <sup>31</sup>    Susp. Drug: <b>2</b> <sup>32</sup></p> <p>Towed from scene? <b>1</b> <sup>33</sup></p>	<p><b>Operator/Occupants</b></p> <p>Name (Last First Middle) _____ Address _____    DOB/Age _____ Sex _____</p> <p><b>Operator/Occupants</b>      See Above      <b>1</b></p>
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→ = Direction     1 = Vehicle 1     2 = Vehicle 2    = Pedestrian    = Bicycle

**Crash Diagram:**

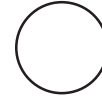
ie: →  1    →  2    →    →



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:**

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 [Signature]*      ESie      Andover Police Depart      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						
Date of Crash <b>10/14/2022</b>	Time of Crash <b>07:56 24HR</b>	City/Town <b>Andover</b>	<b>Motor Vehicle Crash Police Report</b>				Number Vehicles <b>2</b>	Number Injured <b>1</b>	Speed Limit <b>30</b>	Latitude <b>42.674357</b>	Longitude <b>-71.135192</b>	State Police <input type="checkbox"/> Local Police <input checked="" type="checkbox"/> MBTA Police <input type="checkbox"/> Campus Police <input type="checkbox"/> Other: <input type="checkbox"/>	
<b>AT INTERSECTION:</b>			<	<b>LOCATION</b>	>	<b>NOT AT INTERSECTION:</b>							
<b>High St</b> Route# _____ Direction _____ Name of Roadway/Street _____ At _____ <b>Haverhill St</b> Route# _____ Direction _____ Name of Intersecting Roadway/Street _____ Also at Intersection with _____						Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____ _____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ or _____ Mile Marker _____ Exit Number _____ _____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ Route# _____ Intersecting Roadway/Street _____ _____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ Landmark _____							
<b>Please Select One of the Following:</b> <input checked="" type="checkbox"/> Vehicle 1 <b>2</b> # Occupants <input type="checkbox"/> Hit/Run <input type="checkbox"/> Moped						Crash Report ID# <b>22-016535</b>							
License # _____ St _____ DOB/Age <b>11-16-1968/56</b> Reg # <b>2NXZ69</b> Reg Type <b>PAN</b> Reg State <b>MA</b> Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____ Operator <b>Bardetti-Taxiarhos, Deana</b> Owner <b>Bardetti-Taxiarhos, Deana</b> Address <b>8 Dale St</b> Address <b>8 Dale St</b> City <b>Andover</b> State <b>MA</b> Zip <b>01810</b> City <b>Andover</b> State <b>MA</b> Zip <b>01810</b> Insurance Company <b>GEICO General Insurance Company</b>						Veh Year <b>2020</b> Veh Make <b>HOND</b> Veh Config. <b>1</b> Vehicle Action Prior to Crash <b>2</b> Damaged Area Code: <b>0</b> Event Sequence <b>1</b> Test Status: <b>1</b> Most Harmful Event <b>1</b> Type of Test: <b>1</b> Driver Contributing Code <b>1</b> BAC Test Result: <b>1</b> Driver Distracted by <b>0</b> Susp. Alcohol: <b>2</b> Susp. Drug: <b>2</b> Towed from scene? <b>3</b>							
Vehicle Travel Direction: <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> E <input type="checkbox"/> W Responding to Emergency? <b>No</b> Citation # (If Issued) _____ Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____ Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____						Event Sequence <b>1</b> 23 23 23 23 Most Harmful Event <b>1</b> 24 Driver Contributing Code <b>1</b> 25 25 Driver Distracted by <b>0</b> 26 26 Towed from scene? <b>3</b> 33							
<b>Please fill out for operator and all occupants involved</b>													
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
<b>Operator</b>		See Above				<b>1</b>							
<b>Taxiahos, Simon I</b>		<b>148 Main St North Andover MA 01845</b>		<b>02/07/2008</b>		<b>3</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>2</b>	
<b>Please Select One of the Following:</b> <input checked="" type="checkbox"/> Vehicle 2 <b>1</b> # Occupants <input type="checkbox"/> Hit/Run <input type="checkbox"/> Moped <input type="checkbox"/> Vulnerable User Complete the Vulnerable User section.													
License # _____ St _____ DOB/Age <b>10-03-1987/37</b> Reg # <b>1TJS31</b> Reg Type <b>PAN</b> Reg State <b>MA</b> Sex <b>M</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____ Operator <b>Sunday, Eric</b> Owner <b>Sunday, Eric</b> Address <b>8 Crescent Dr,9</b> Address <b>8 Crescent Dr,9</b> City <b>Andover</b> State <b>MA</b> Zip <b>01810</b> City <b>Andover</b> State <b>MA</b> Zip <b>01810</b> Insurance Company <b>Foremost Insurance Company Grand Rapids Michigar</b>						Veh Year <b>2016</b> Veh Make <b>TOYT</b> Veh Config. <b>1</b> Vehicle Action Prior to Crash <b>1</b> Damaged Area Code: <b>0</b> Event Sequence <b>1</b> 23 23 23 23 Test Status: <b>1</b> Most Harmful Event <b>1</b> 24 Type of Test: <b>1</b> Driver Contributing Code <b>5</b> 25 25 BAC Test Result: <b>1</b> Driver Distracted by <b>0</b> 26 26 Susp. Alcohol: <b>2</b> 31 Susp. Drug: <b>2</b> 32 Towed from scene? <b>2</b> 33							
Vehicle Travel Direction: <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> E <input type="checkbox"/> W Responding to Emergency? <b>No</b> Citation # (If Issued) _____ Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____ Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____						Event Sequence <b>1</b> 23 23 23 23 Most Harmful Event <b>1</b> 24 Driver Contributing Code <b>5</b> 25 25 Driver Distracted by <b>0</b> 26 26 Towed from scene? <b>2</b> 33							
<b>Please fill out for operator and all occupants involved</b>													
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
<b>Operator/Occupants</b>		See Above				<b>1</b>							



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

<p>Route# _____ Direction _____ Name of Roadway/Street _____</p> <p style="text-align: center;">At _____</p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p> <p style="text-align: center;">Also at Intersection with _____</p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p>	<p style="text-align: center;"><b>Riverina Rd</b></p> <p>Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____</p> <p>_____ Feet <input type="checkbox"/> N <input type="checkbox"/> S <input type="checkbox"/> E <input type="checkbox"/> W of _____ or _____</p> <p style="text-align: center;">Mile Marker _____ Exit Number _____</p> <p>1 _____ Feet <input type="checkbox"/> N <input checked="" type="checkbox"/> S <input type="checkbox"/> E <input type="checkbox"/> W of _____</p> <p style="text-align: center;">Route# _____ Intersecting Roadway/Street <b>Haverhill St.</b></p> <p>_____ Feet <input type="checkbox"/> N <input type="checkbox"/> S <input type="checkbox"/> E <input type="checkbox"/> W of _____</p> <p style="text-align: center;">Landmark _____</p>
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Please Select One of the Following:  Vehicle 1 1 # Occupants  Hit/Run  Moped  Vulnerable User

Crash Report ID# **22-017727**

<p>License # _____ St _____ DOB/Age <b>10-08-1993/31</b></p> <p>Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____</p> <p>Operator <b>Merola, Stephanie J</b></p> <p>Address <b>3 Rita Ln</b></p> <p>City <b>Lawrence</b> State <b>MA</b> Zip <b>01843</b></p> <p>Insurance Company <b>Commerc Insurance Company, The</b></p> <p>Vehicle Travel Direction: <input checked="" type="checkbox"/> N <input type="checkbox"/> S <input checked="" type="checkbox"/> E <input type="checkbox"/> W Responding to Emergency? <b>No</b></p> <p>Citation # (If Issued) _____</p> <p>Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____</p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____</p>	<p>Reg # <b>2ZKX44</b> Reg Type <b>PAN</b> Reg State <b>MA</b></p> <p>Veh Year <b>2016</b> Veh Make <b>CHEV</b> Veh Config: <b>1</b></p> <p>Owner <b>Merola, Stephanie J</b></p> <p>Address <b>3 Rita Ln</b></p> <p>City <b>Lawrence</b> State <b>MA</b> Zip <b>01843</b></p> <p>Vehicle Action Prior to Crash <b>4</b> Damaged Area Code: <b>4</b></p> <p>Event Sequence <b>1</b> Test Status: <b>1</b></p> <p>Most Harmful Event <b>1</b> Type of Test: <b>1</b></p> <p>Driver Contributing Code <b>12</b> BAC Test Result: <b>1</b></p> <p>Driver Distracted by <b>0</b> Susp. Alcohol: <b>2</b> Susp. Drug: <b>2</b></p>
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Please fill out for operator and all occupants involved		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
<b>Operator</b>	See Above										

Please Select One of the Following:  Vehicle 2 1 # Occupants  Hit/Run  Moped  Vulnerable User

Complete the Vulnerable User section.

<p>License # _____ St _____ DOB/Age <b>06-12-1994/30</b></p> <p>Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____</p> <p>Operator <b>Mitchell, Elizabeth E</b></p> <p>Address <b>74 Morgan Dr</b></p> <p>City <b>Haverhill</b> State <b>MA</b> Zip <b>01832</b></p> <p>Insurance Company <b>GEICO General Insurance Company</b></p> <p>Vehicle Travel Direction: <input checked="" type="checkbox"/> N <input type="checkbox"/> S <input checked="" type="checkbox"/> E <input type="checkbox"/> W Responding to Emergency? <b>No</b></p> <p>Citation # (If Issued) _____</p> <p>Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____</p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____</p>	<p>Reg # <b>3WRM34</b> Reg Type <b>PAN</b> Reg State <b>MA</b></p> <p>Veh Year <b>1999</b> Veh Make <b>TOYT</b> Veh Config: <b>1</b></p> <p>Owner <b>Mitchell, Elizabeth E</b></p> <p>Address <b>74 Morgan Dr</b></p> <p>City <b>Haverhill</b> State <b>MA</b> Zip <b>01832</b></p> <p>Vehicle Action Prior to Crash <b>1</b> Damaged Area Code: <b>8</b></p> <p>Event Sequence <b>1</b> Test Status: <b>1</b></p> <p>Most Harmful Event <b>1</b> Type of Test: <b>1</b></p> <p>Driver Contributing Code <b>1</b> BAC Test Result: <b>1</b></p> <p>Driver Distracted by <b>0</b> Susp. Alcohol: <b>2</b> Susp. Drug: <b>2</b></p>
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Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>	See Above										



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

<b>Police Use Only</b>			<b>Commonwealth of Massachusetts</b>				<b>RMV Document Number</b>					
Date of Crash <b>11/19/2022</b>	Time of Crash <b>16:22</b> 24HR	City/Town <b>Andover</b>	<b>Motor Vehicle Crash Police Report</b>				Number Vehicles <b>2</b>	Number Injured	Speed Limit <b>35</b>	Latitude <b>42.674357</b>	Longitude <b>-71.135192</b>	State Police <input type="checkbox"/>
											Local Police <input checked="" type="checkbox"/>	
											MBTA Police <input type="checkbox"/>	
											Campus Police <input type="checkbox"/>	
											Other: <input type="checkbox"/>	

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

<p style="text-align: center;"><b>Haverhill St</b></p> <p>Route# _____ Direction _____ Name of Roadway/Street _____</p> <p style="text-align: center;">At _____</p> <p style="text-align: center;"><b>High St</b></p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p> <p style="text-align: center;">Also at Intersection with _____</p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p>	<p>Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ or _____</p> <p style="text-align: center;">Mile Marker _____ Exit Number _____</p> <p>_____ Feet <b>N S E W</b> of _____</p> <p>Route# _____ Intersecting Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____</p> <p style="text-align: center;">Landmark _____</p>
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**Please Select One of the Following:**  Vehicle 1 **2** # Occupants  Hit/Run  Moped  Vulnerable User

Crash Report ID# **22-018785**

License # _____ St _____ DOB/Age <b>04-28-1971/53</b> Reg # <b>1181861</b> Reg Type <b>PC</b> Reg State <b>NH</b>	Veh Year <b>2022</b> Veh Make <b>BMW</b> Veh Config. <b>2</b>
Sex <b>M</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL Endorsement _____	Operator <b>Glance, Matthew Adam</b> Owner <b>Glance, Matthew Adam</b>
Address <b>9 brown ave</b> City <b>Stratham</b> State <b>NH</b> Zip <b>03885</b>	Address <b>9 brown ave</b> City <b>Stratham</b> State <b>NH</b> Zip <b>03885</b>
Insurance Company <b>CINCINNATI CASUALTY CO</b>	Vehicle Action Prior to Crash <b>1</b> Damaged Area Code: <b>1</b> <b>8</b> <b>27</b> <b>27</b>
Vehicle Travel Direction: <b>N S E W</b> Responding to Emergency? <b>No</b>	Event Sequence <b>1</b> <b>23</b> <b>23</b> <b>23</b> <b>23</b> Test Status: <b>1</b> <b>28</b>
Citation # (If Issued) _____	Most Harmful Event <b>1</b> <b>24</b> Type of Test: <b>1</b> <b>29</b>
Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____	Driver Contributing Code <b>1</b> <b>25</b> <b>25</b> BAC Test Result: <b>1</b> <b>30</b>
Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____	Driver Distracted by <b>0</b> <b>26</b> <b>26</b> Susp. Alcohol: <b>2</b> <b>31</b> Susp. Drug: <b>2</b> <b>32</b>
	Towed from scene? <b>2</b> <b>33</b>

Please fill out for operator and all occupants involved		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
<b>Operator</b>		See Above		<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	
<b>Glance, Kerry</b>		<b>05/18/1974</b>	<b>F</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

**Please Select One of the Following:**  Vehicle 2 **1** # Occupants  Hit/Run  Moped  Vulnerable User

Complete the Vulnerable User section.

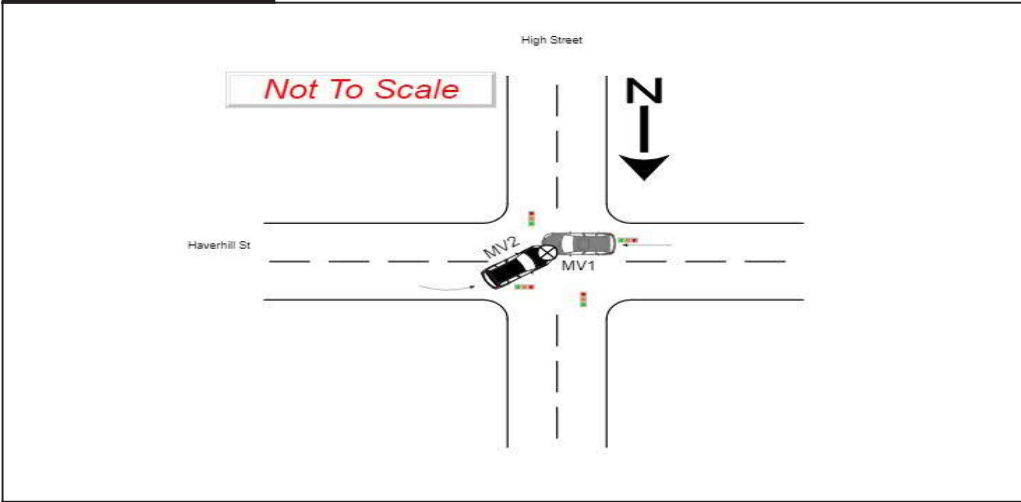
License # _____ St _____ DOB/Age <b>02-02-1948/76</b> Reg # <b>246LA0</b> Reg Type <b>PC</b> Reg State <b>MA</b>	Veh Year <b>2017</b> Veh Make <b>TOYT</b> Veh Config. <b>2</b>
Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL Endorsement _____	Operator <b>Neilson, Patricia Akemi</b> Owner <b>Neilson, Patricia Akemi</b>
Address <b>9 Beacon Hill Blvd</b> City <b>North Andover</b> State <b>MA</b> Zip <b>01845</b>	Address <b>9 Beacon Hill Blvd</b> City <b>North Andover</b> State <b>MA</b> Zip <b>01845</b>
Insurance Company <b>Standard Fire Insurance Company, The</b>	Vehicle Action Prior to Crash <b>4</b> Damaged Area Code: <b>1</b> <b>27</b> <b>8</b> <b>27</b> <b>2</b>
Vehicle Travel Direction: <b>N E W</b> Responding to Emergency? <b>No</b>	Event Sequence <b>1</b> <b>23</b> <b>23</b> <b>23</b> <b>23</b> Test Status: <b>1</b> <b>28</b>
Citation # (If Issued) _____	Most Harmful Event <b>1</b> <b>24</b> Type of Test: <b>1</b> <b>29</b>
Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____	Driver Contributing Code <b>4</b> <b>25</b> <b>25</b> BAC Test Result: <b>1</b> <b>30</b>
Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____	Driver Distracted by <b>0</b> <b>26</b> <b>26</b> Susp. Alcohol: <b>2</b> <b>31</b> Susp. Drug: <b>2</b> <b>32</b>
	Towed from scene? <b>1</b> <b>33</b>

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above		<b>1</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

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

**Crash Diagram:**

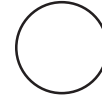
ie: →  1    →  2    →    →



**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*      JAI      Andover Police Depart      11/20/2022  
 Police Officer Name (Please Print)      Signature      ID/Badge #      Department      Precinct/Barracks      Date

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.

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

1	Route# _____ Direction _____ Name of Roadway/Street _____	Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____	10
1	At _____	_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ or _____	2
2	Route# _____ Direction _____ Name of Intersecting Roadway/Street _____	_____ Feet <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____	11
3	Also at Intersection with _____	_____ Mile Marker _____ Exit Number _____	2
3	Route# _____ Direction _____ Name of Intersecting Roadway/Street _____	_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____	
		_____ Route# _____ Intersecting Roadway/Street _____	
		_____ Landmark _____	

Please Select One of the Following:  Vehicle 1 1 # Occupants  Hit/Run  Moped  Vulnerable User

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** Lic. Restrictions **20** CDL \_\_\_\_\_ Veh Year **2007** Veh Make **HOND** Veh Config: **1**

Operator: **Garcia, Hilary A** Owner: **Perez Garcia, Kemil M**

Address: **380 Lowell Street** City: **Lawrence** State: **MA** Zip: **01841**

Insurance Company: **Commerc Insurance Company, The** Vehicle Action Prior to Crash: **1** Damaged Area Code: **1**

Vehicle Travel Direction:     Responding to Emergency? **No** Event Sequence: **1** Test Status: **1**

Citation # (If Issued): **T2872898** Most Harmful Event: **1** Type of Test: **1**

Viol. 1: Ch/Sec/Sub **90 34J** Viol. 2: Ch/Sec/Sub **90 9/B** Driver Contributing Code: **21** BAC Test Result: **1**

Viol. 3: Ch/Sec/Sub **5555** Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by: **0** Susp. Alcohol: **2** Susp. Drug: **2**

Please fill out for operator and all occupants involved		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
<b>Operator</b>		See Above	<input checked="" type="checkbox"/>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>2</b>	

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** Lic. Restrictions **B** CDL \_\_\_\_\_ Veh Year **2015** Veh Make **HOND** Veh Config: **1**

Operator: **Goodridge, Laura** Owner: **Goodridge, John**

Address: **8 Longwood Dr,303** City: **Andover** State: **MA** Zip: **01810**

Insurance Company: **Liberty Mutual Insurance Company** Vehicle Action Prior to Crash: **4** Damaged Area Code: **5**

Vehicle Travel Direction:     Responding to Emergency? **No** Event Sequence: **1** Test Status: **1**

Citation # (If Issued) \_\_\_\_\_ Most Harmful Event: **1** Type of Test: **1**

Viol. 1: Ch/Sec/Sub \_\_\_\_\_ Viol. 2: Ch/Sec/Sub \_\_\_\_\_ Driver Contributing Code: **1** BAC Test Result: **1**

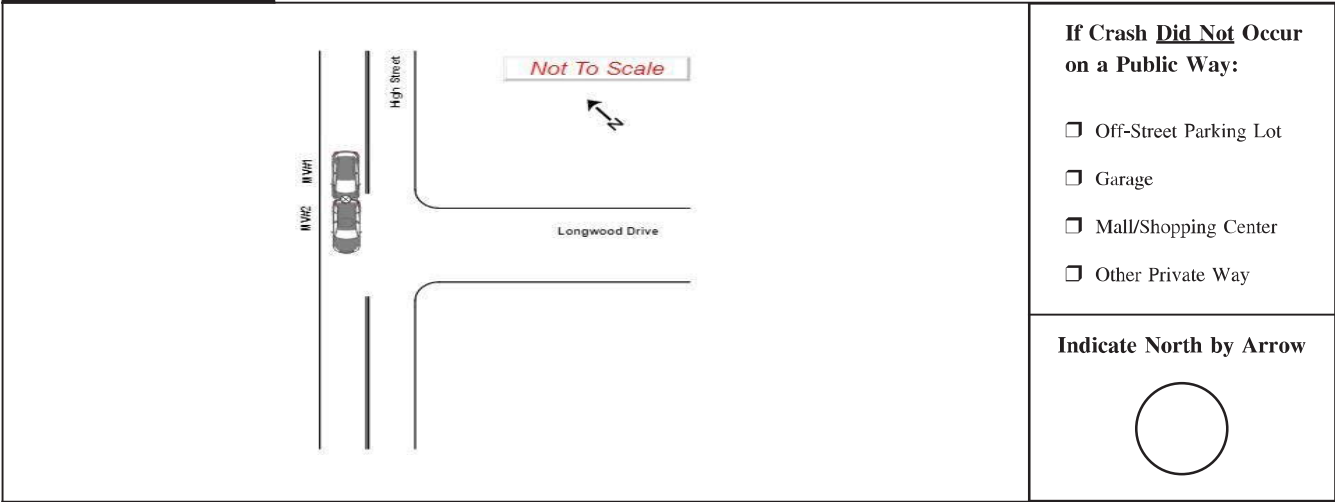
Viol. 3: Ch/Sec/Sub \_\_\_\_\_ Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by: **0** Susp. Alcohol: **2** Susp. Drug: **2**

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above	<input checked="" type="checkbox"/>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>2</b>	

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

**Crash Diagram:**

ie: →  1    →  2    →    →



**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    *PT.M. Chris Hughes*    CHug    Andover Police Depart    12/03/2022  
 Police Officer Name (Please Print)    Signature    ID/Badge #    Department    Precinct/Barracks    Date

Police Use Only: Date of Crash **12/28/2022**, Time of Crash **18:25 24HR**, City/Town **Andover**

Number Vehicles **2**, Number Injured \_\_\_\_\_, Speed Limit **30**, Latitude **42.674357**, Longitude **-71.135192**

State Police , Local Police , MBTA Police , Campus Police , Other: \_\_\_\_\_

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

**High St**  
Route# \_\_\_\_\_ Direction \_\_\_\_\_ Name of Roadway/Street \_\_\_\_\_  
At \_\_\_\_\_  
**Haverhill St**  
Route# \_\_\_\_\_ Direction \_\_\_\_\_ Name of Intersecting Roadway/Street \_\_\_\_\_  
Also at Intersection with \_\_\_\_\_

Route# \_\_\_\_\_ Direction \_\_\_\_\_ Name of Intersecting Roadway/Street \_\_\_\_\_

Please Select One of the Following:  Vehicle 1 **2** # Occupants  Hit/Run  Moped  Vulnerable User

Crash Report ID# **22-020991**

License # \_\_\_\_\_ St \_\_\_\_\_ DOB/Age **09-26-1999/25** Reg # **7P362** Reg Type **PC** Reg State **NH**  
Sex **M** Lic. Class **D** Lic. Restrictions \_\_\_\_\_ CDL \_\_\_\_\_ Endorsement \_\_\_\_\_  
Veh Year **2006** Veh Make **JEEP** Veh Config. **2**

Operator: **Caracoglia, Joseph J IV** Owner: **Caracoglia, Joseph J IV**  
Address: **186 Rockingham Rd** Address: **186 Rockingham Rd**  
City: **Windham** State **NH** Zip **03087** City: **Windham** State **NH** Zip **03087**

Insurance Company \_\_\_\_\_ Vehicle Action Prior to Crash **4** Damaged Area Code: **1**  
Vehicle Travel Direction:  S  E  W Responding to Emergency? **No** Event Sequence **1** Test Status: **1**  
Citation # (If Issued) **Y3047961** Most Harmful Event **1** Type of Test: **1**  
Viol. 1: Ch/Sec/Sub **89 8** Viol. 2: Ch/Sec/Sub \_\_\_\_\_ Driver Contributing Code **4** BAC Test Result: **1**  
Viol. 3: Ch/Sec/Sub \_\_\_\_\_ Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by **0** Susp. Alcohol: **2** Susp. Drug: **2**  
Towed from scene? **1**

Please fill out for operator and all occupants involved		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
<b>Operator</b>		See Above		<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	
<b>Bieniecki, Shayla M</b>		<b>52 Danville Rd Kingston NH 03848</b>	<b>F</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

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** Reg # **4PKJ99** Reg Type **PC** Reg State **MA**  
Sex **M** Lic. Class **D** Lic. Restrictions \_\_\_\_\_ CDL \_\_\_\_\_ Endorsement \_\_\_\_\_  
Veh Year **2012** Veh Make **MAZD** Veh Config. **1**

Operator: **Shattuck, Zachary W** Owner: **Paine, Cheryl A**  
Address: **92 Gilbert St** Address: **92 Gilbert St**  
City: **Lawrence** State **MA** Zip **01843** City: **Lawrence** State **MA** Zip **01843**

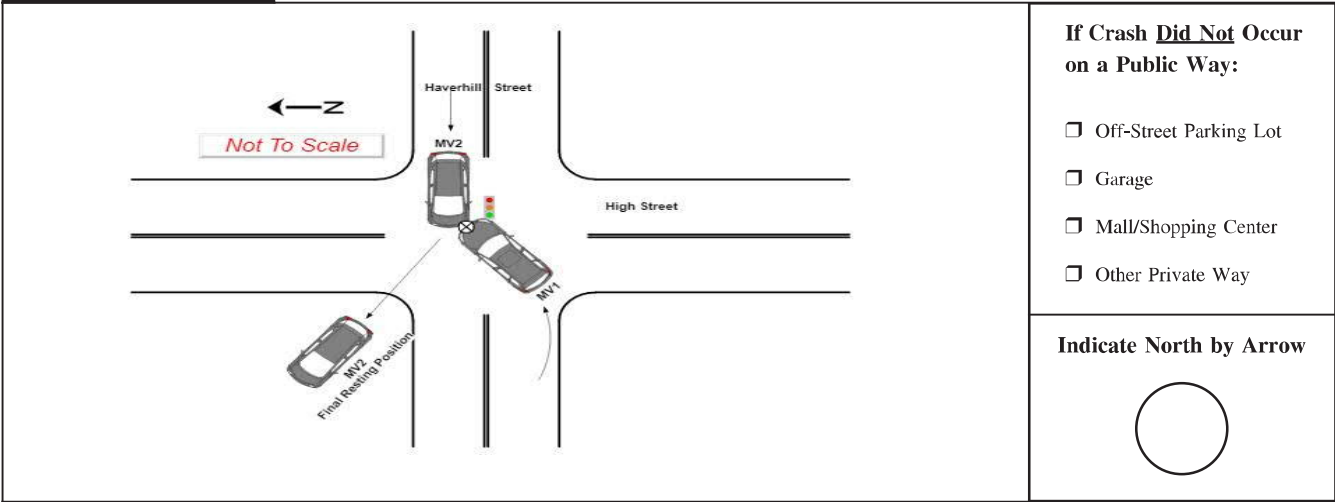
Insurance Company **Government Employees Insurance Company** Vehicle Action Prior to Crash **1** Damaged Area Code: **8**  
Vehicle Travel Direction:  N  S  E  W Responding to Emergency? **No** Event Sequence **1** Test Status: **1**  
Citation # (If Issued) \_\_\_\_\_ Most Harmful Event **1** Type of Test: **1**  
Viol. 1: Ch/Sec/Sub \_\_\_\_\_ Viol. 2: Ch/Sec/Sub \_\_\_\_\_ Driver Contributing Code **99** BAC Test Result: **1**  
Viol. 3: Ch/Sec/Sub \_\_\_\_\_ Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by **0** Susp. Alcohol: **2** Susp. Drug: **2**  
Towed from scene? **1**

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above		<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

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

**Crash Diagram:**

ie: →  1    →  2    →    →



**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    *Off. Joseph Lamagna*    JLam    Andover Police Depart    12/28/2022  
 Police Officer Name (Please Print)    Signature    ID/Badge #    Department    Precinct/Barracks    Date

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.

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

1 4	Route# _____ Direction _____ Name of Roadway/Street <b>High St</b>	Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____
	At _____	_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ or _____
2 1	Route# _____ Direction _____ Name of Intersecting Roadway/Street <b>Haverhill St</b>	_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ Mile Marker _____ Exit Number _____
	Also at Intersection with _____	Route# _____ Intersecting Roadway/Street _____
3	Route# _____ Direction _____ Name of Intersecting Roadway/Street _____	_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ Landmark _____

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

Crash Report ID# **23-003512**

License # \_\_\_\_\_ St \_\_\_\_\_ DOB/Age **02-01-1976/48** Reg # **3CJ725** Reg Type **PC** Reg State **MA**

Sex **F** Lic. Class **D** Lic. Restrictions \_\_\_\_\_ CDL \_\_\_\_\_ Endorsement \_\_\_\_\_

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

Operator **Diep, Mai Le** Owner **Diep, Mai Le**

Address **118 Bailey St** Address **118 Bailey St**

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

Insurance Company **Progressive Casualty Insurance Company** Vehicle Action Prior to Crash **2** Damaged Area Code: **5**

Vehicle Travel Direction:  N  S  W Responding to Emergency? **No** Event Sequence **1** Test Status: **1**

Citation # (If Issued) \_\_\_\_\_ Most Harmful Event **1** Type of Test: **1**

Viol. 1: Ch/Sec/Sub \_\_\_\_\_ Viol. 2: Ch/Sec/Sub \_\_\_\_\_ Driver Contributing Code **1** BAC Test Result: **1**

Viol. 3: Ch/Sec/Sub \_\_\_\_\_ Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by **0** Susp. Alcohol: **2** Susp. Drug: **2**

Please fill out for operator and all occupants involved		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	
<b>Operator</b>		See Above	<input checked="" type="checkbox"/>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>2</b>	██████████	
<b>Nguyen, Nya</b>		<b>118 Bailey St Lawrence MA 01843</b>	<b>02/11/1978</b>	<b>F</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>2</b>	██████████

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

Sex **F** Lic. Class **D** Lic. Restrictions \_\_\_\_\_ CDL \_\_\_\_\_ Endorsement \_\_\_\_\_

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

Operator **De La Cruz, Graciela** Owner **De La Cruz, Graciela**

Address **10 Greenfield St,1** Address **10 Greenfield St,1**

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

Insurance Company **LM General Insurance Company** Vehicle Action Prior to Crash **2** Damaged Area Code: **1**

Vehicle Travel Direction:  N  S  W Responding to Emergency? **No** Event Sequence **1** Test Status: **1**

Citation # (If Issued) **T3120973** Most Harmful Event **1** Type of Test: **1**

Viol. 1: Ch/Sec/Sub **700C VV** Viol. 2: Ch/Sec/Sub \_\_\_\_\_ Driver Contributing Code **5** BAC Test Result: **1**

Viol. 3: Ch/Sec/Sub \_\_\_\_\_ Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by **0** Susp. Alcohol: **2** Susp. Drug: **2**

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above	<input checked="" type="checkbox"/>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	
<b>Guerrero, Edenson</b>		<b>10 Greenfield St,1 Lawrence MA 01843</b>	<b>02/28/2004</b>	<b>M</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>

→ = 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 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 [REDACTED].

**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

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

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

Route# **1** Direction **At** Name of Roadway/Street **Haverhill St** Route# **140** Direction **Address #** Name of Roadway/Street **Haverhill St**

Route# **1** Direction **At** Name of Intersecting Roadway/Street **High St** Route# **100** Direction **Address #** Name of Roadway/Street **High St**

Route# **2** Direction **At** Name of Intersecting Roadway/Street **High St** Route# **100** Direction **Address #** Name of Roadway/Street **High St**

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

Crash Report ID# **23-011337**

License # \_\_\_\_\_ St \_\_\_\_\_ DOB/Age **01-19-1985/40** Reg # **2NGF17** Reg Type **PC** Reg State **MA**

Sex **M** Lic. Class **D** Lic. Restrictions **20** CDL \_\_\_\_\_ Veh Year **2021** Veh Make **CHEV** Veh Config: **1 21**

Operator **Torres, Miguel Angel** Owner **Torres, Miguel Angel**

Address **14 Linden St** Address **14 Linden St**

City **Lawrence** State **MA** Zip **01841** City **Lawrence** State **MA** Zip **01841**

Insurance Company **Progressive Casualty Insurance Company** Vehicle Action Prior to Crash **2 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 29 30**

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**

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		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
<b>Operator</b>		See Above		<b>1</b>	<b>99</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>2</b>	

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** Reg # **9HHC60** Reg Type **PC** Reg State **MA**

Sex **F** Lic. Class **D** Lic. Restrictions **20** CDL \_\_\_\_\_ Veh Year **2021** Veh Make **CHEV** Veh Config: **2 21**

Operator **Parker, Kennedy B** Owner **Parker, Jane Michele**

Address **110 Thoreau Way Apt 8312** Address **110 Thoreau Way,8312**

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

Insurance Company **Plymouth Rock Assurance Corporation** Vehicle Action Prior to Crash **1 22** Damaged Area Code: **1 27 2 27 8 27**

Vehicle Travel Direction: **N S E W** Responding to Emergency? **No** Event Sequence **1 23 23 23 23** Test Status: **1 28 29 30**

Citation # (If Issued) **054102AC** Most Harmful Event **1 24** BAC Test Result: **1 30**

Viol. 1: Ch/Sec/Sub \_\_\_\_\_ Viol. 2: Ch/Sec/Sub \_\_\_\_\_ Driver Contributing Code **5 25 25** Susp. Alcohol: **2 31** Susp. Drug: **2 32**

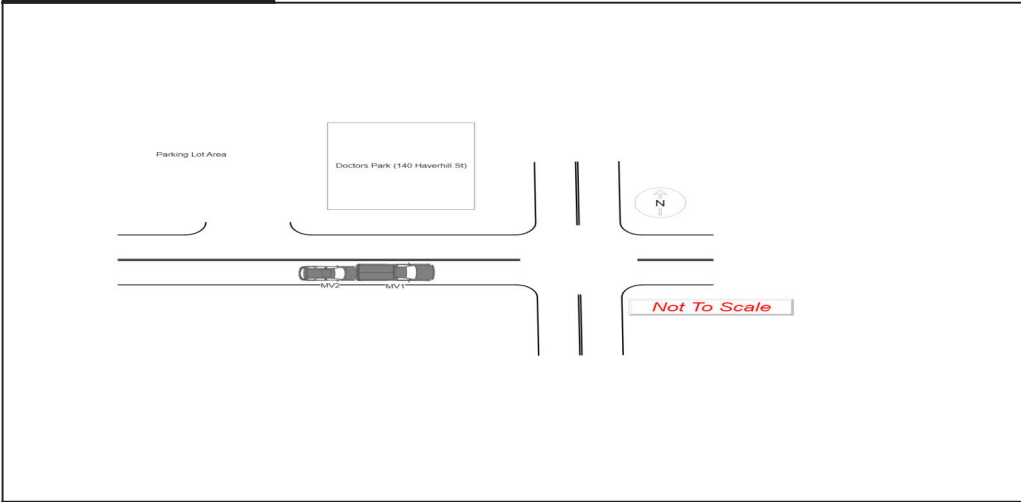
Viol. 3: Ch/Sec/Sub \_\_\_\_\_ Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by **99 26 26** Towed from scene? **2 33**

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above		<b>1</b>	<b>99</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

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

**Crash Diagram:**

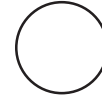
ie: →  1    →  2    →    →



**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 Depart    06/29/2023  
 Police Officer Name (Please Print)    Signature    ID/Badge #    Department    Precinct/Barracks    Date

<b>Police Use Only</b>			
Date of Crash <b>12/07/2023</b>	Time of Crash <b>22:49</b> 24HR	City/Town <b>Andover</b>	Number Vehicles <b>2</b>
Speed Limit <b>30</b>			Number Injured
Latitude <b>42.706166</b>			State Police <input type="checkbox"/>
Longitude <b>-71.176444</b>			Local Police <input checked="" type="checkbox"/>
			MBTA Police <input type="checkbox"/>
			Campus Police <input type="checkbox"/>
			Other: <input type="checkbox"/>

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

<p style="text-align: center;"><b>Haverhill St</b></p> <p>Route# _____ Direction _____ Name of Roadway/Street _____</p> <p style="text-align: center;">At _____</p> <p style="text-align: center;"><b>High St</b></p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p> <p style="text-align: center;">Also at Intersection with _____</p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p>	<p>Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ Mile Marker _____ or _____ Exit Number _____</p> <p>_____ Feet <b>N S E W</b> of _____ Route# _____ Intersecting Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ Landmark _____</p>
<p><b>Please Select One of the Following:</b> <input checked="" type="checkbox"/> Vehicle 1 <b>1</b> # Occupants <input type="checkbox"/> Hit/Run <input type="checkbox"/> Moped</p> <p>Crash Report ID# <b>23-022303</b></p>	
<p>License # _____ St _____ DOB/Age <b>12-07-1930/94</b> Reg # <b>P8400</b> Reg Type <b>PC</b> Reg State <b>MA</b></p> <p>Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____ Veh Year <b>2017</b> Veh Make <b>MERZ</b> Veh Config. <b>2</b></p> <p>Operator <b>Blumsack, Marilyn A</b> Owner <b>Blumsack, Marilyn A</b></p> <p>Address <b>170 Haverhill St,135</b> Address <b>170 Haverhill St,135</b></p> <p>City <b>Andover</b> State <b>MA</b> Zip <b>01810</b> City <b>Andover</b> State <b>MA</b> Zip <b>01810</b></p> <p>Insurance Company <b>Arbella Mutual Insurance Company</b> Vehicle Action Prior to Crash <b>1</b> Damaged Area Code: <b>2</b></p> <p>Vehicle Travel Direction: <b>N S E W</b> Responding to Emergency? <b>No</b> Event Sequence <b>1</b> Test Status: <b>1</b></p> <p>Citation # (If Issued) <b>326348AC</b> Most Harmful Event <b>1</b> Type of Test: <b>1</b></p> <p>Viol. 1: Ch/Sec/Sub <b>89 9</b> Viol. 2: Ch/Sec/Sub _____ Driver Contributing Code <b>19</b> BAC Test Result: <b>1</b></p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____ Driver Distracted by <b>0</b> Susp. Alcohol: <b>2</b> Susp. Drug: <b>2</b></p> <p>Towed from scene? <b>2</b></p>	

Please fill out for operator and all occupants involved		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
<b>Operator</b>		See Above		<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

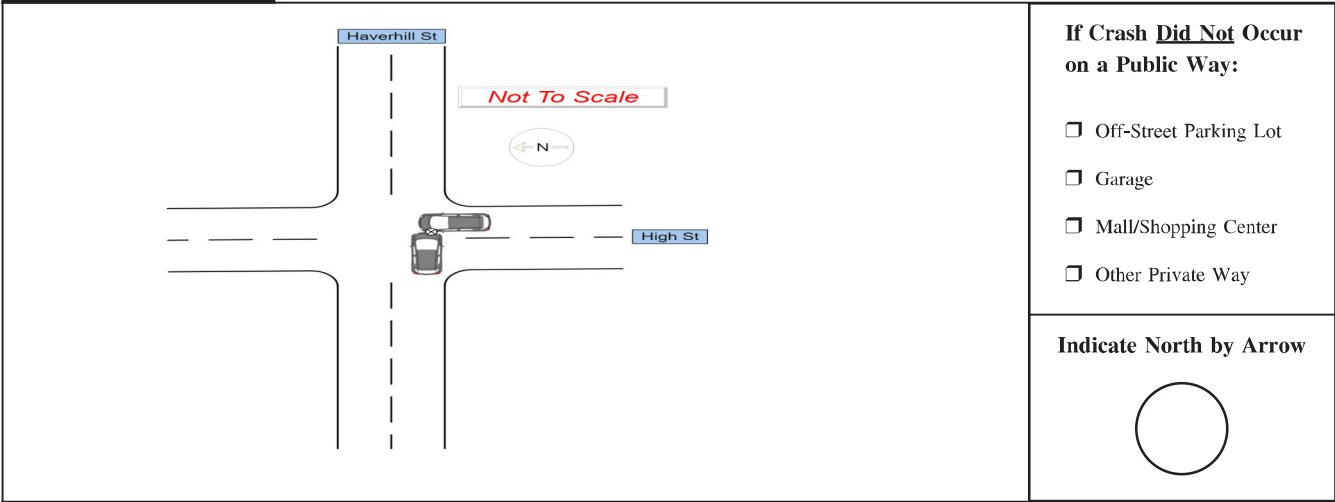
<p><b>Please Select One of the Following:</b> <input checked="" type="checkbox"/> Vehicle 2 <b>1</b> # Occupants <input type="checkbox"/> Hit/Run <input type="checkbox"/> Moped <input type="checkbox"/> Vulnerable User Complete the Vulnerable User section.</p>	
<p>License # _____ St _____ DOB/Age <b>03-29-2002/22</b> Reg # <b>2HYP13</b> Reg Type <b>PC</b> Reg State <b>MA</b></p> <p>Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____ Veh Year <b>2005</b> Veh Make <b>NISS</b> Veh Config. <b>1</b></p> <p>Operator <b>Rondeau, Olivia Marie</b> Owner <b>Bellemare, Judi Jennifer</b></p> <p>Address <b>439 Waverly Rd</b> Address <b>439 Waverly Rd</b></p> <p>City <b>North Andover</b> State <b>MA</b> Zip <b>01845</b> City <b>North Andover</b> State <b>MA</b> Zip <b>01845</b></p> <p>Insurance Company <b>Commerce Insurance Company, The</b> Vehicle Action Prior to Crash <b>1</b> Damaged Area Code: <b>8</b></p> <p>Vehicle Travel Direction: <b>S E W</b> Responding to Emergency? <b>No</b> Event Sequence <b>1</b> Test Status: <b>1</b></p> <p>Citation # (If Issued) _____ Most Harmful Event <b>1</b> Type of Test: <b>1</b></p> <p>Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____ Driver Contributing Code <b>1</b> BAC Test Result: <b>1</b></p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____ Driver Distracted by <b>0</b> Susp. Alcohol: <b>2</b> Susp. Drug: <b>2</b></p> <p>Towed from scene? <b>2</b></p>	

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above		<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

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

**Crash Diagram:**

ie: →  1    →  2    →    →



**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 Depart    12/08/2023  
 Police Officer Name (Please Print)    Signature    ID/Badge #    Department    Precinct/Barracks    Date

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

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

1 4	<b>Haverhill St</b> Route# _____ Direction _____ Name of Roadway/Street _____ At _____			Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____ _____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ Mile Marker _____ or _____ Exit Number _____		
	<b>High St</b> Route# _____ Direction _____ Name of Intersecting Roadway/Street _____ Also at Intersection with _____			_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ Route# _____ Intersecting Roadway/Street _____ _____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ Landmark _____		

3 Please Select One of the Following:  Vehicle 1 1 # Occupants  Hit/Run  Moped Crash Report ID# **23-022765**

4 3	License # _____ St _____ DOB/Age <b>01-03-1983/42</b> Reg # <b>76SWL2</b> Reg Type <b>PC</b> Reg State <b>MA</b>	12 1
	Sex <b>M</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL Endorsement _____ Veh Year <b>2014</b> Veh Make <b>SUBA</b> Veh Config. <b>2</b>	
Operator <b>Niu, Sidi</b> Owner <b>Lu, Jing</b>		13 1
Address <b>24 Rock O Dundee Rd</b> Address <b>24 Rock O Dundee Rd</b>		
City <b>Andover</b> State <b>MA</b> Zip <b>01810</b> City <b>Andover</b> State <b>MA</b> Zip <b>01810</b>		13 1
Insurance Company <b>Liberty Mutual Insurance Company</b> Vehicle Action Prior to Crash <b>4</b> 22 Damaged Area Code: <b>1</b> 27 27 27		
Vehicle Travel Direction: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Responding to Emergency? <b>No</b> Event Sequence <b>1</b> 23 23 23 23 Test Status: <b>1</b> 28		13 1
Citation # (If Issued) _____ Most Harmful Event <b>1</b> 24 Type of Test: _____ BAC Test Result: <b>1</b> 30		
Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____ Driver Contributing Code <b>4</b> 25 25 Susp. Alcohol: <b>2</b> 31 Susp. Drug: <b>2</b> 32		13 1
Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____ Driver Distracted by <b>0</b> 26 26 Towed from scene? <b>1</b> 33		

Please fill out for operator and all occupants involved		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
<b>Operator</b>		See Above	<input checked="" type="checkbox"/>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

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

8 1	License # _____ St _____ DOB/Age <b>12-13-1980/44</b> Reg # <b>1BF769</b> Reg Type <b>PC</b> Reg State <b>MA</b>	14
	Sex <b>M</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL Endorsement _____ Veh Year <b>2015</b> Veh Make <b>MERZ</b> Veh Config. <b>1</b>	
Operator <b>Castillo, Erik F</b> Owner <b>Castillo, Erik F</b>		14
Address <b>37 Royal Crest Dr,11</b> Address <b>37 Royal Crest Dr,11</b>		
City <b>North Andover</b> State <b>MA</b> Zip <b>01845</b> City <b>North Andover</b> State <b>MA</b> Zip <b>01845</b>		14
Insurance Company <b>Allstate Insurance Company</b> Vehicle Action Prior to Crash <b>9</b> 22 Damaged Area Code: <b>1</b> 27 27 27		
Vehicle Travel Direction: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Responding to Emergency? <b>No</b> Event Sequence <b>1</b> 23 23 41 23 23 Test Status: <b>1</b> 28		14
Citation # (If Issued) _____ Most Harmful Event <b>1</b> 24 Type of Test: _____ BAC Test Result: <b>1</b> 30		
Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____ Driver Contributing Code <b>2</b> 25 25 Susp. Alcohol: <b>2</b> 31 Susp. Drug: <b>2</b> 32		14
Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____ Driver Distracted by <b>0</b> 26 26 Towed from scene? <b>1</b> 33		

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above	<input checked="" type="checkbox"/>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>2</b>	

→ = 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 Depart    12/14/2023

Police Officer Name (Please Print)    Signature    ID/Badge #    Department    Precinct/Barracks    Date

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.

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

<p><b>Haverhill St</b></p> <p>Route# _____ Direction _____ Name of Roadway/Street _____</p> <p>At _____</p> <p><b>High St</b></p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p> <p>Also at Intersection with _____</p>	<p>Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ or _____</p> <p>_____ Feet <b>N S E W</b> of _____ Mile Marker _____ Exit Number _____</p> <p>_____ Feet <b>N S E W</b> of _____ Route# _____ Intersecting Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ Landmark _____</p>
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Please Select One of the Following:  Vehicle 1 1 # Occupants  Hit/Run  Moped  Vulnerable User

Crash Report ID# **23-023001**

<p>License # _____ St _____ DOB/Age _____ / _____</p> <p>Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions <b>20</b> CDL _____</p> <p>Operator <b>Samaro, Jennifer</b></p> <p>Address <b>60 Center St</b></p> <p>City <b>Andover</b> State _____ Zip <b>01810</b></p> <p>Insurance Company <b>GEICO General Insurance Company</b></p> <p>Vehicle Travel Direction: <b>N S E W</b> Responding to Emergency? <b>No</b></p> <p>Citation # (If Issued) _____</p> <p>Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____</p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____</p>	<p>Reg # <b>8GW898</b> Reg Type <b>PC</b> Reg State <b>MA</b></p> <p>Veh Year <b>2012</b> Veh Make <b>HOND</b> Veh Config: <b>1</b></p> <p>Owner <b>Samaro, Jennifer</b></p> <p>Address <b>60 Center St</b></p> <p>City <b>Andover</b> State _____ Zip <b>01810</b></p> <p>Vehicle Action Prior to Crash <b>2</b> Damaged Area Code: <b>5</b></p> <p>Event Sequence <b>1</b> Test Status: <b>1</b></p> <p>Most Harmful Event <b>1</b> Type of Test: <b>1</b></p> <p>Driver Contributing Code <b>1</b> BAC Test Result: <b>1</b></p> <p>Driver Distracted by <b>0</b> Susp. Alcohol: <b>2</b> Susp. Drug: <b>2</b></p>
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Please fill out for operator and all occupants involved		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
<b>Operator</b>		See Above	X	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

Please Select One of the Following:  Vehicle 2 1 # Occupants  Hit/Run  Moped  Vulnerable User

Complete the Vulnerable User section.

<p>License # _____ St _____ DOB/Age <b>03-08-1978/46</b></p> <p>Sex <b>M</b> Lic. Class <b>D</b> Lic. Restrictions <b>20</b> CDL _____</p> <p>Operator <b>Tineo Chalas, Valentin</b></p> <p>Address <b>18 Montgomery Street, Apt 2</b></p> <p>City <b>LAWRENCE</b> State <b>MA</b> Zip <b>01841</b></p> <p>Insurance Company <b>Hanover Insurance Company, The</b></p> <p>Vehicle Travel Direction: <b>N S E W</b> Responding to Emergency? <b>No</b></p> <p>Citation # (If Issued) <b>344956AC</b></p> <p>Viol. 1: Ch/Sec/Sub <b>85 10/B</b> Viol. 2: Ch/Sec/Sub _____</p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____</p>	<p>Reg # <b>3JMB95</b> Reg Type <b>PC</b> Reg State <b>MA</b></p> <p>Veh Year <b>2005</b> Veh Make <b>HOND</b> Veh Config: <b>1</b></p> <p>Owner <b>Tineo Chalas, Valentin</b></p> <p>Address <b>18 Montgomery Street, Apt 2</b></p> <p>City <b>LAWRENCE</b> State <b>MA</b> Zip <b>01841</b></p> <p>Vehicle Action Prior to Crash <b>1</b> Damaged Area Code: <b>1</b></p> <p>Event Sequence <b>1</b> Test Status: <b>1</b></p> <p>Most Harmful Event <b>1</b> Type of Test: <b>1</b></p> <p>Driver Contributing Code <b>1</b> BAC Test Result: <b>1</b></p> <p>Driver Distracted by <b>0</b> Susp. Alcohol: <b>2</b> Susp. Drug: <b>2</b></p>
--	---

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above	X	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	



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.

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

<p style="text-align: center;"><b>Haverhill St</b></p> <p>Route# _____ Direction _____ Name of Roadway/Street _____</p> <p style="text-align: center;">At _____</p> <p style="text-align: center;"><b>High St</b></p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p> <p style="text-align: center;">Also at Intersection with _____</p>	<p>Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ or _____</p> <p style="text-align: center;">Mile Marker _____ Exit Number _____</p> <p>_____ Feet <b>N S E W</b> of _____</p> <p>_____ Feet <b>N S E W</b> of _____</p> <p style="text-align: center;">Route# _____ Intersecting Roadway/Street _____</p> <p style="text-align: center;">Landmark _____</p>
--	--

Please Select One of the Following:  Vehicle 1 **1** # Occupants  Hit/Run  Moped  Vulnerable User

Crash Report ID# **24-010222**

License # _____ St _____ DOB/Age <b>09-10-1999/25</b> Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions <b>20</b> CDL _____ Operator <b>Silvera Henriquez, Maveline</b> Address <b>36 Glen Ave</b> City <b>Methuen</b> State <b>MA</b> Zip <b>01844</b> Insurance Company <b>Progressive Casualty Insurance Company</b> Vehicle Travel Direction: <input checked="" type="checkbox"/> S <input type="checkbox"/> E <input type="checkbox"/> W Responding to Emergency? <b>No</b> Citation # (If Issued) <b>689250AC</b> Viol. 1: Ch/Sec/Sub <b>89 9</b> Viol. 2: Ch/Sec/Sub _____ Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____	Reg # <b>2FAB6</b> Reg Type <b>PAN</b> Reg State <b>MA</b> Veh Year <b>2021</b> Veh Make <b>TOYT</b> Veh Config: <b>1</b> Owner <b>Henriquez, Mary</b> Address <b>36 Glen Avenue</b> City <b>Methuen</b> State <b>MA</b> Zip <b>01844</b> Vehicle Action Prior to Crash <b>4 22</b> Damaged Area Code: <b>3 27 27 27</b> Event Sequence <b>1 23 23 23 23</b> Test Status: <b>1 28</b> Most Harmful Event <b>1 24</b> Type of Test: <b>0 29</b> Driver Contributing Code <b>4 25 25</b> BAC Test Result: <b>1 30</b> Driver Distracted by <b>0 26 26</b> Susp. Alcohol: <b>2 31</b> Susp. Drug: <b>2 32</b> Towed from scene? <b>2 33</b>
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Please fill out for operator and all occupants involved		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
<b>Operator</b>	See Above			<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

Please Select One of the Following:  Vehicle 2 **1** # Occupants  Hit/Run  Moped  Vulnerable User

Complete the Vulnerable User section.

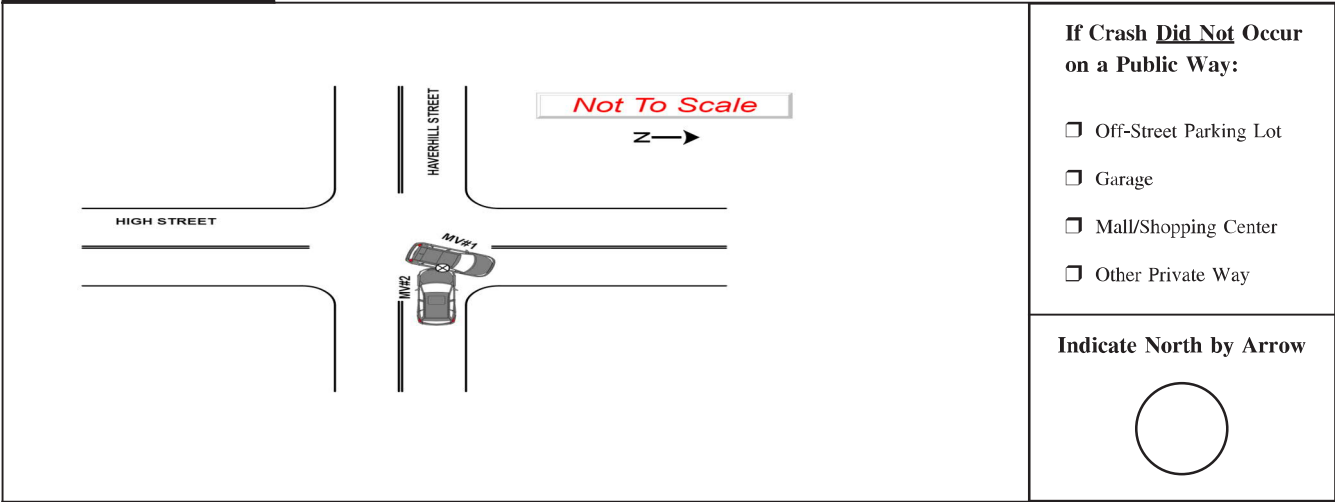
License # _____ St _____ DOB/Age <b>12-27-1984/40</b> Sex <b>M</b> Lic. Class <b>D</b> Lic. Restrictions <b>B</b> CDL _____ Operator <b>Beauchesne, Michael</b> Address <b>26 Hawley Street</b> City <b>Lawrence</b> State <b>MA</b> Zip <b>01843</b> Insurance Company <b>Allstate Insurance Company</b> Vehicle Travel Direction: <input type="checkbox"/> N <input type="checkbox"/> S <input checked="" type="checkbox"/> E <input type="checkbox"/> W Responding to Emergency? <b>No</b> Citation # (If Issued) _____ Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____ Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____	Reg # <b>4KRV33</b> Reg Type <b>PAN</b> Reg State <b>MA</b> Veh Year <b>2024</b> Veh Make <b>SUBA</b> Veh Config: <b>1</b> Owner <b>Beauchesne, Michael</b> Address <b>26 Hawley Street</b> City <b>Lawrence</b> State <b>MA</b> Zip <b>01843</b> Vehicle Action Prior to Crash <b>1 22</b> Damaged Area Code: <b>2 27 27 27</b> Event Sequence <b>1 23 23 23 23</b> Test Status: <b>1 28</b> Most Harmful Event <b>1 24</b> Type of Test: <b>0 29</b> Driver Contributing Code <b>1 25 25</b> BAC Test Result: <b>1 30</b> Driver Distracted by <b>0 26 26</b> Susp. Alcohol: <b>2 31</b> Susp. Drug: <b>2 32</b> Towed from scene? <b>2 33</b>
---	--

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>	See Above			<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

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

**Crash Diagram:**

ie: →  1    →  2    →    →



**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. 4KPV33. 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    *PT.M. Chris Hughes*    CHug    Andover Police Depart    06/05/2024  
 Police Officer Name (Please Print)    Signature    ID/Badge #    Department    Precinct/Barracks    Date

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

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

<p><b>Haverhill St</b></p> <p>Route# _____ Direction _____ Name of Roadway/Street _____</p> <p>At _____</p> <p><b>Crescent Dr</b></p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p> <p>Also at Intersection with _____</p> <p>Route# _____ Direction _____ Name of Intersecting Roadway/Street _____</p>	<p>Route# _____ Direction _____ Address # _____ Name of Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ Mile Marker _____ or _____ Exit Number _____</p> <p>_____ Feet <b>N S E W</b> of _____ Route# _____ Intersecting Roadway/Street _____</p> <p>_____ Feet <b>N S E W</b> of _____ Landmark _____</p>
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Please Select One of the Following:  Vehicle 1 **1** # Occupants  Hit/Run  Moped  Vulnerable User

Crash Report ID# **24-010466**

<p>License # _____ St _____ DOB/Age <b>12-05-1999/25</b> Reg # <b>5HJW99</b> Reg Type <b>PAN</b> Reg State <b>MA</b></p> <p>Sex <b>F</b> Lic. Class <b>D</b> Lic. Restrictions _____ CDL _____ Veh Year <b>2011</b> Veh Make <b>HOND</b> Veh Config. <b>2</b></p> <p>Operator <b>URENA, YULEYKA</b> Owner <b>URENA, YULEYKA</b></p> <p>Address <b>64 Riverdale St</b> Address <b>64 Riverdale St</b></p> <p>City <b>Methuen</b> State <b>MA</b> Zip <b>01844</b> City <b>Methuen</b> State <b>MA</b> Zip <b>01844</b></p> <p>Insurance Company <b>Arbella Mutual Insurance Company</b> Vehicle Action Prior to Crash <b>1</b> Damaged Area Code: <b>11</b></p> <p>Vehicle Travel Direction: <b>N S E W</b> Responding to Emergency? <b>No</b> Event Sequence <b>22</b> Test Status: <b>1</b></p> <p>Citation # (If Issued) <b>697591AC</b> Most Harmful Event <b>22</b> Type of Test: <b>0</b></p> <p>Viol. 1: Ch/Sec/Sub <b>89 4A</b> Viol. 2: Ch/Sec/Sub _____ Driver Contributing Code <b>1</b> BAC Test Result: <b>1</b></p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____ Driver Distracted by <b>7</b> Susp. Alcohol: <b>2</b> Susp. Drug: <b>2</b></p>	<p>Towed from scene? <b>1</b></p>
--	-----------------------------------

Please fill out for operator and all occupants involved		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
<b>Operator</b>		See Above		<b>1</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>1</b>	

Please Select One of the Following:  Vehicle \_\_\_\_\_ # Occupants  Hit/Run  Moped  Vulnerable User Complete the Vulnerable User section.

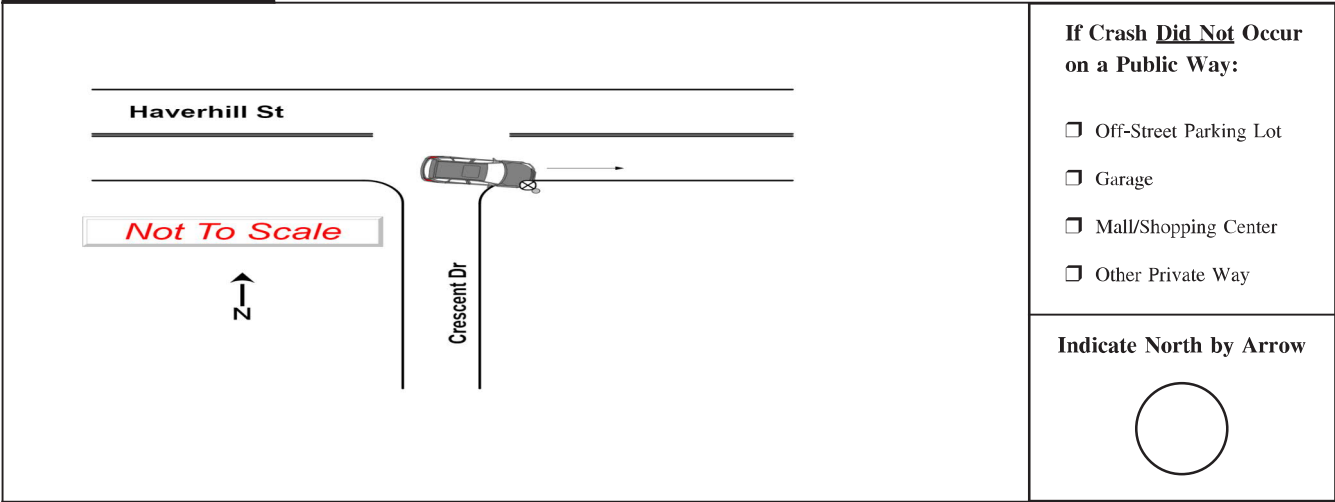
<p>License # _____ St _____ DOB/Age _____ Reg # _____ Reg Type _____ Reg State _____</p> <p>Sex _____ Lic. Class _____ Lic. Restrictions _____ CDL _____ Veh Year _____ Veh Make _____ Veh Config. _____</p> <p>Operator _____ Owner _____</p> <p>Address _____ Address _____</p> <p>City _____ State _____ Zip _____ City _____ State _____ Zip _____</p> <p>Insurance Company _____ Vehicle Action Prior to Crash <b>22</b> Damaged Area Code: <b>27</b></p> <p>Vehicle Travel Direction: <b>N S E W</b> Responding to Emergency? _____ Event Sequence <b>23</b> Test Status: <b>28</b></p> <p>Citation # (If Issued) _____ Most Harmful Event <b>24</b> Type of Test: <b>29</b></p> <p>Viol. 1: Ch/Sec/Sub _____ Viol. 2: Ch/Sec/Sub _____ Driver Contributing Code <b>25</b> BAC Test Result: <b>30</b></p> <p>Viol. 3: Ch/Sec/Sub _____ Viol. 4: Ch/Sec/Sub _____ Driver Distracted by <b>26</b> Susp. Alcohol: <b>31</b> Susp. Drug: <b>32</b></p>	<p>Towed from scene? <b>33</b></p>
--	------------------------------------

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above		<b>1</b>							

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

**Crash Diagram:**

ie: →  1    →  2    →    →



**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 Crescent Dr with Haverhill St (Pole number 42). MV was rolled onto the roof. Driver was able to exit the car. Driver was treated by EMT's 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 Depart    06/09/2024  
 Police Officer Name (Please Print)    Signature    ID/Badge #    Department    Precinct/Barracks    Date

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

1 3	Route# Direction <b>Haverhill St</b>		Route# Direction Address # Name of Roadway/Street	
	At		_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____ or _____	
	Route# Direction <b>High St</b>		Mile Marker Exit Number	
2 1	Name of Intersecting Roadway/Street		Route# Intersecting Roadway/Street	
	Also at Intersection with		_____ Feet <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> of _____	
3 1	Route# Direction Name of Intersecting Roadway/Street		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** Reg # **1NWF91** Reg Type **PAN** Reg State **MA**

Sex **F** Lic. Class **D** Lic. Restrictions **B** CDL \_\_\_\_\_ Veh Year **2020** Veh Make **HOND** Veh Config: **1**

Operator: **Abdoo, Elizabeth Anne** Owner: **Abdoo, David C**

Address: **54 Stevens Ave** City: **Lawrence** State: **MA** Zip: **01843**

Insurance Company: **United Services Automobile Association** Vehicle Action Prior to Crash: **1** Damaged Area Code: **1**

Vehicle Travel Direction:     Responding to Emergency? **No** Event Sequence: **1** Test Status: **1**

Citation # (If Issued) \_\_\_\_\_ Most Harmful Event: **1** Type of Test: **0**

Viol. 1: Ch/Sec/Sub \_\_\_\_\_ Viol. 2: Ch/Sec/Sub \_\_\_\_\_ Driver Contributing Code: **1** BAC Test Result: **1**

Viol. 3: Ch/Sec/Sub \_\_\_\_\_ Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by: **0** Susp. Alcohol: **2** Susp. Drug: **2**

Please fill out for operator and all occupants involved		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
<b>Operator</b>		See Above	<input checked="" type="checkbox"/>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>1</b>	
<b>Abdoo, MICHAEL CHARLES</b>		<b>54 STEVENS AVE LAWRENCE MA 01843</b>	<b>04/30/2002</b>	<b>M</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>1</b>

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** Reg # **5HIGZ38** Reg Type **PAN** Reg State **MA**

Sex **M** Lic. Class **A** Lic. Restrictions **E** CDL \_\_\_\_\_ Veh Year **2017** Veh Make **BMW** Veh Config: **1**

Operator: **Saini, Twinkle** Owner: **Saini, Twinkle**

Address: **2 Sylvan Ter** City: **Lynnfield** State: **MA** Zip: **01940**

Insurance Company: **Government Employees Insurance Company** Vehicle Action Prior to Crash: **1** Damaged Area Code: **3**

Vehicle Travel Direction:     Responding to Emergency? **No** Event Sequence: **1** Test Status: **1**

Citation # (If Issued) \_\_\_\_\_ Most Harmful Event: **1** Type of Test: **0**

Viol. 1: Ch/Sec/Sub \_\_\_\_\_ Viol. 2: Ch/Sec/Sub \_\_\_\_\_ Driver Contributing Code: **1** BAC Test Result: **1**

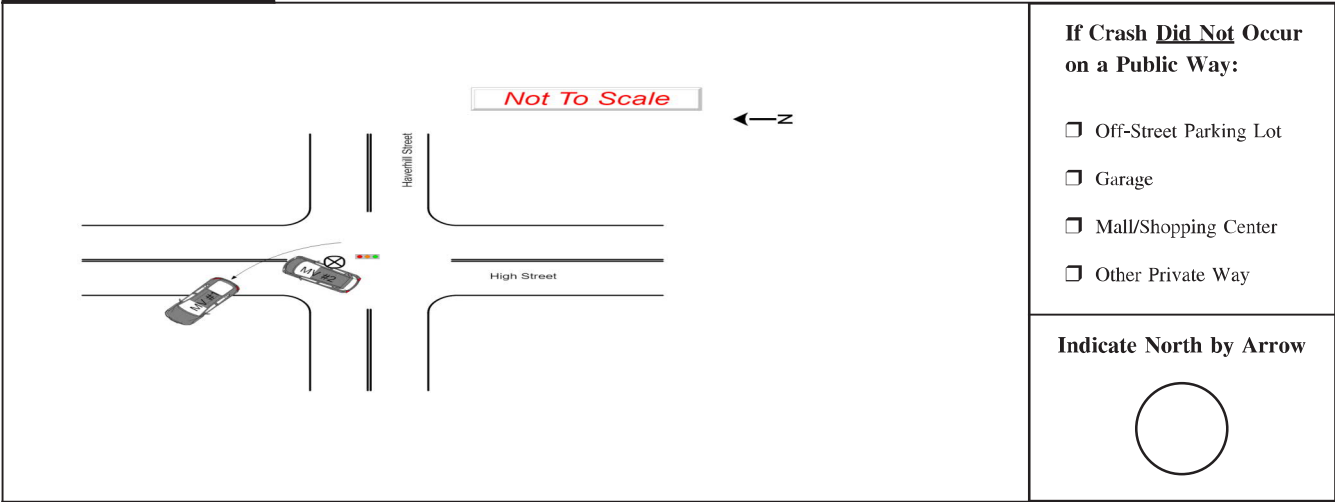
Viol. 3: Ch/Sec/Sub \_\_\_\_\_ Viol. 4: Ch/Sec/Sub \_\_\_\_\_ Driver Distracted by: **0** Susp. Alcohol: **2** Susp. Drug: **2**

Please fill out for operator and all occupants involved		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
<b>Operator/Occupants</b>		See Above	<input checked="" type="checkbox"/>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>	

→ = Direction    1 = Vehicle 1    2 = Vehicle 2    ○ = Pedestrian    🚲 = Bicycle

**Crash Diagram:**

ie: → 1    → 2    → ○    → 🚲



**Crash Narrative:**

MV #1, MA REG, INWF91, 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. 5HG238, 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    *PLM. David Rodriguez*    DRod    Andover Police Depart    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 or had the right of way.





*Appendix D*  
Trip Generation Worksheets



**Project: 140 Haverhill Street, Andover, MA**

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

$$T = 13.78 * (X)$$

$$T = 13.78 * ( 19.200 )$$

$$T = 264.58$$

$$T = 264 \text{ vehicle trips}$$

with 50% ( 132 vpd) entering and 50% ( 132 vpd) exiting.

3 Studies, Avg size = 31 ksf

R<sup>2</sup> = NA AR = 13.78

### SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 3.02 * (X)$$

$$T = 3.02 * ( 19.200 )$$

$$T = 57.98$$

$$T = 58 \text{ vehicle trips}$$

with 57% ( 33 vph) entering and 43% ( 25 vph) exiting.

2 Studies, Avg size = 34 ksf

R<sup>2</sup> = NA, AR = 3.02



*Appendix E*  
Intersection Capacity Analysis Worksheets



3: High Street & Haverhill Street  
Lanes, Volumes, Timings

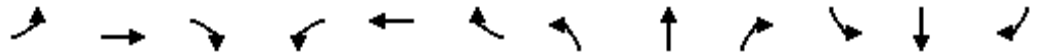
2025 Existing.syn  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	58	552	10	101	493	37	18	88	59	59	134	101
Future Volume (vph)	58	552	10	101	493	37	18	88	59	59	134	101
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
Fr <sub>t</sub>		0.998			0.992			0.952			0.954	
Fl <sub>t</sub> Protected		0.995			0.992			0.995			0.990	
Satd. Flow (prot)	0	1838	0	0	1813	0	0	1771	0	0	1766	0
Fl <sub>t</sub> Permitted		0.894			0.802			0.944			0.877	
Satd. Flow (perm)	0	1651	0	0	1466	0	0	1681	0	0	1565	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			7			39			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	0.88	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)	66	627	11	106	519	39	25	124	83	62	141	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	704	0	0	664	0	0	232	0	0	309	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		0.77			0.81			0.47			0.67	
Control Delay		19.5			23.1			21.5			28.8	
Queue Delay		0.0			0.0			0.0			0.0	

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

2025 Existing.syn  
AM Peak Hour

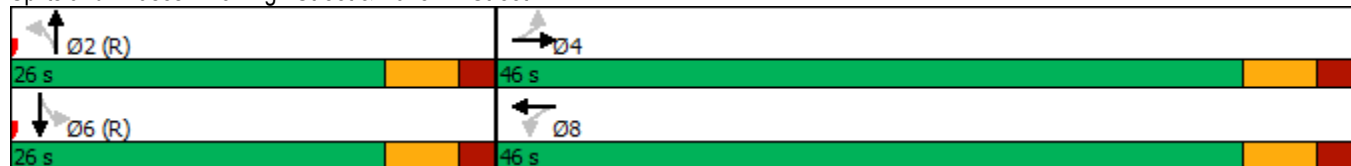


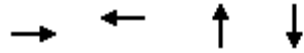
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		19.5			23.1			21.5			28.8	
LOS		B			C			C			C	
Approach Delay		19.5			23.1			21.5			28.8	
Approach LOS		B			C			C			C	

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:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	22.5
Intersection LOS:	C
Intersection Capacity Utilization	91.3%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 3: High Street & Haverhill Street





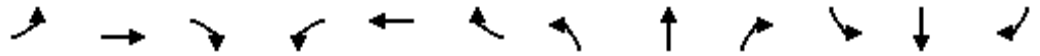
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	704	664	232	309
v/c Ratio	0.77	0.81	0.47	0.67
Control Delay	19.5	23.1	21.5	28.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	19.5	23.1	21.5	28.8
Queue Length 50th (ft)	221	217	70	107
Queue Length 95th (ft)	350	#434	95	#192
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	918	817	495	460
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	0.77	0.81	0.47	0.67

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

3: High Street & Haverhill Street  
 HCM 6th Signalized Intersection Summary

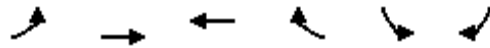
2025 Existing.syn  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	58	552	10	101	493	37	18	88	59	59	134	101
Future Volume (veh/h)	58	552	10	101	493	37	18	88	59	59	134	101
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	66	627	11	106	519	39	25	124	83	62	141	106
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	113	868	15	159	687	49	82	278	170	126	238	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	105	1563	26	182	1237	89	95	1001	610	238	857	572
Grp Volume(v), veh/h	704	0	0	664	0	0	232	0	0	309	0	0
Grp Sat Flow(s),veh/h/ln	1695	0	0	1508	0	0	1706	0	0	1666	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	21.9	0.0	0.0	25.0	0.0	0.0	8.0	0.0	0.0	11.3	0.0	0.0
Prop In Lane	0.09		0.02	0.16		0.06	0.11		0.36	0.20		0.34
Lane Grp Cap(c), veh/h	996	0	0	895	0	0	529	0	0	523	0	0
V/C Ratio(X)	0.71	0.00	0.00	0.74	0.00	0.00	0.44	0.00	0.00	0.59	0.00	0.00
Avail Cap(c_a), veh/h	996	0	0	895	0	0	529	0	0	523	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	11.7	0.0	0.0	12.1	0.0	0.0	21.7	0.0	0.0	22.8	0.0	0.0
Incr Delay (d2), s/veh	4.2	0.0	0.0	5.5	0.0	0.0	2.6	0.0	0.0	4.8	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	7.7	0.0	0.0	7.9	0.0	0.0	3.5	0.0	0.0	5.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	0.0	0.0	17.6	0.0	0.0	24.3	0.0	0.0	27.6	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		704			664			232				309
Approach Delay, s/veh		15.9			17.6			24.3				27.6
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		10.0		23.9		13.3		27.0				
Green Ext Time (p_c), s		0.9		4.6		1.0		4.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				19.4								
HCM 6th LOS				B								

6: Haverhill Street & Site Driveway  
Lanes, Volumes, Timings

2025 Existing.syn  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	7	620	611	1	0	6
Future Volume (vph)	7	620	611	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
Fr <sub>t</sub>					0.865	
Fl <sub>t</sub> Protected		0.999				
Satd. Flow (prot)	0	1843	1842	0	1405	0
Fl <sub>t</sub> 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	713	643	1	0	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	721	644	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	48.2%
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	620	611	1	0	6
Future Vol, veh/h	7	620	611	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	713	643	1	0	12

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	644	0	-	0	1373 644
Stage 1	-	-	-	-	644 -
Stage 2	-	-	-	-	729 -
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	951	-	-	-	162 447
Stage 1	-	-	-	-	527 -
Stage 2	-	-	-	-	481 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	951	-	-	-	160 447
Mov Cap-2 Maneuver	-	-	-	-	160 -
Stage 1	-	-	-	-	520 -
Stage 2	-	-	-	-	481 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	951	-	-	-	447
HCM Lane V/C Ratio	0.008	-	-	-	0.027
HCM Control Delay (s)	8.8	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

8: High Street & Site Driveway  
Lanes, Volumes, Timings

2025 Existing.syn  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	3	8	175	291	7
Future Volume (vph)	0	3	8	175	291	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
Fr <sub>t</sub>	0.865			0.997		
Fl <sub>t</sub> Protected				0.998		
Satd. Flow (prot)	1644	0	0	1878	1858	0
Fl <sub>t</sub> Permitted				0.998		
Satd. Flow (perm)	1644	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)	0	8	10	213	306	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	0	223	313	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	25.7%
	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	T			T		T
Traffic Vol, veh/h	0	3	8	175	291	7
Future Vol, veh/h	0	3	8	175	291	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	0	8	10	213	306	7

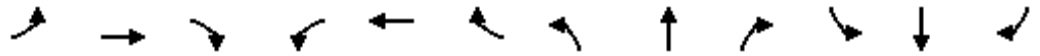
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	543	310	313	0	-	0
Stage 1	310	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	504	735	1259	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	499	735	1259	-	-	-
Mov Cap-2 Maneuver	499	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	810	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1259	-	735	-	-
HCM Lane V/C Ratio	0.008	-	0.011	-	-
HCM Control Delay (s)	7.9	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

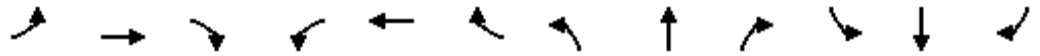
2032 No-Build.syn  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	61	583	10	105	515	38	19	91	61	61	139	105
Future Volume (vph)	61	583	10	105	515	38	19	91	61	61	139	105
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
Fr <sub>t</sub>		0.998			0.992			0.952			0.953	
Fl <sub>t</sub> Protected		0.995			0.992			0.994			0.990	
Satd. Flow (prot)	0	1838	0	0	1813	0	0	1770	0	0	1764	0
Fl <sub>t</sub> Permitted		0.893			0.786			0.937			0.868	
Satd. Flow (perm)	0	1649	0	0	1437	0	0	1668	0	0	1547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			7			38			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	0.88	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)	69	663	11	111	542	40	27	128	86	64	146	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	743	0	0	693	0	0	241	0	0	321	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		0.81			0.87			0.49			0.70	
Control Delay		22.0			27.6			22.2			30.5	
Queue Delay		0.0			0.0			0.0			0.0	

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

2032 No-Build.syn  
AM Peak Hour

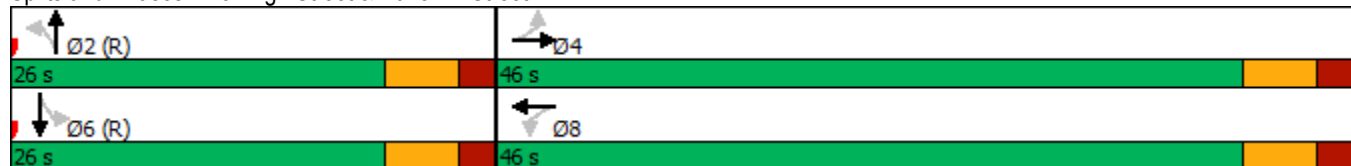


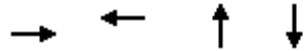
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		22.0			27.6			22.2			30.5	
LOS		C			C			C			C	
Approach Delay		22.0			27.6			22.2			30.5	
Approach LOS		C			C			C			C	

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:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	25.4
Intersection LOS:	C
Intersection Capacity Utilization	94.3%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 3: High Street & Haverhill Street





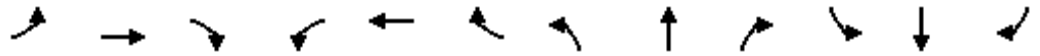
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	743	693	241	321
v/c Ratio	0.81	0.87	0.49	0.70
Control Delay	22.0	27.6	22.2	30.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.0	27.6	22.2	30.5
Queue Length 50th (ft)	244	239	74	113
Queue Length 95th (ft)	#406	#472	100	#221
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	917	801	490	456
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	0.81	0.87	0.49	0.70

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

3: High Street & Haverhill Street  
 HCM 6th Signalized Intersection Summary

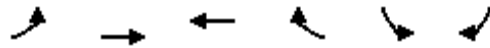
2032 No-Build.syn  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	61	583	10	105	515	38	19	91	61	61	139	105
Future Volume (veh/h)	61	583	10	105	515	38	19	91	61	61	139	105
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	69	662	11	111	542	40	27	128	86	64	146	111
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	110	835	13	153	648	46	84	277	170	127	237	160
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	100	1502	24	171	1166	82	102	998	610	240	853	578
Grp Volume(v), veh/h	742	0	0	693	0	0	241	0	0	321	0	0
Grp Sat Flow(s),veh/h/ln	1626	0	0	1420	0	0	1711	0	0	1670	0	0
Q Serve(g_s), s	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	26.3	0.0	0.0	31.3	0.0	0.0	8.3	0.0	0.0	11.8	0.0	0.0
Prop In Lane	0.09		0.01	0.16		0.06	0.11		0.36	0.20		0.35
Lane Grp Cap(c), veh/h	958	0	0	847	0	0	531	0	0	524	0	0
V/C Ratio(X)	0.77	0.00	0.00	0.82	0.00	0.00	0.45	0.00	0.00	0.61	0.00	0.00
Avail Cap(c_a), veh/h	958	0	0	847	0	0	531	0	0	524	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	12.4	0.0	0.0	13.3	0.0	0.0	21.8	0.0	0.0	23.0	0.0	0.0
Incr Delay (d2), s/veh	6.1	0.0	0.0	8.7	0.0	0.0	2.8	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	9.0	0.0	0.0	9.7	0.0	0.0	3.6	0.0	0.0	5.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.4	0.0	0.0	22.0	0.0	0.0	24.6	0.0	0.0	28.2	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	C	A	A	C	A	A
Approach Vol, veh/h		742			693			241				321
Approach Delay, s/veh		18.4			22.0			24.6				28.2
Approach LOS		B			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		10.3		28.3		13.8		33.3				
Green Ext Time (p_c), s		0.9		4.2		1.0		2.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				22.0								
HCM 6th LOS				C								

6: Haverhill Street & Site Driveway  
Lanes, Volumes, Timings

2032 No-Build.syn  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (vph)	7	654	638	1	0	6
Future Volume (vph)	7	654	638	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
Fr <sub>t</sub>					0.865	
Fl <sub>t</sub> Protected		0.999				
Satd. Flow (prot)	0	1843	1842	0	1405	0
Fl <sub>t</sub> 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	752	672	1	0	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	760	673	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	50.0%
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	654	638	1	0	6
Future Vol, veh/h	7	654	638	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	752	672	1	0	12

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	673	0	-	0	1441 673
Stage 1	-	-	-	-	673 -
Stage 2	-	-	-	-	768 -
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	927	-	-	-	148 430
Stage 1	-	-	-	-	511 -
Stage 2	-	-	-	-	461 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	927	-	-	-	146 430
Mov Cap-2 Maneuver	-	-	-	-	146 -
Stage 1	-	-	-	-	503 -
Stage 2	-	-	-	-	461 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	927	-	-	-	430
HCM Lane V/C Ratio	0.009	-	-	-	0.028
HCM Control Delay (s)	8.9	0	-	-	13.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

8: High Street & Site Driveway  
Lanes, Volumes, Timings

2032 No-Build.syn  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	3	8	182	302	7
Future Volume (vph)	0	3	8	182	302	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
Fr <sub>t</sub>	0.865			0.997		
Fl <sub>t</sub> Protected				0.998		
Satd. Flow (prot)	1644	0	0	1878	1858	0
Fl <sub>t</sub> Permitted				0.998		
Satd. Flow (perm)	1644	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)	0	8	10	222	318	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	0	232	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	26.3% 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	T			T		
Traffic Vol, veh/h	0	3	8	182	302	7
Future Vol, veh/h	0	3	8	182	302	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	0	8	10	222	318	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	564	322	325	0	-	0
Stage 1	322	-	-	-	-	-
Stage 2	242	-	-	-	-	-
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	490	724	1246	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	486	724	1246	-	-	-
Mov Cap-2 Maneuver	486	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	803	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1246	-	724	-	-
HCM Lane V/C Ratio	0.008	-	0.011	-	-
HCM Control Delay (s)	7.9	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

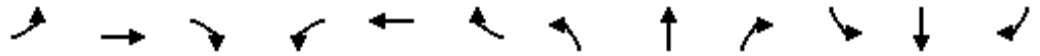
2032 Build.syn  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	61	587	12	105	530	64	25	101	61	84	148	105
Future Volume (vph)	61	587	12	105	530	64	25	101	61	84	148	105
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
Fr <sub>t</sub>		0.997			0.988			0.956			0.958	
Fl <sub>t</sub> Protected		0.995			0.993			0.993			0.988	
Satd. Flow (prot)	0	1836	0	0	1809	0	0	1775	0	0	1772	0
Fl <sub>t</sub> Permitted		0.889			0.793			0.901			0.789	
Satd. Flow (perm)	0	1640	0	0	1445	0	0	1610	0	0	1415	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			11			34			31	
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)	69	667	14	111	558	67	35	142	86	88	156	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	750	0	0	736	0	0	263	0	0	355	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		0.82			0.91			0.56			0.86	
Control Delay		22.9			33.0			24.6			44.6	
Queue Delay		0.0			0.0			0.0			0.0	

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

2032 Build.syn  
AM Peak Hour

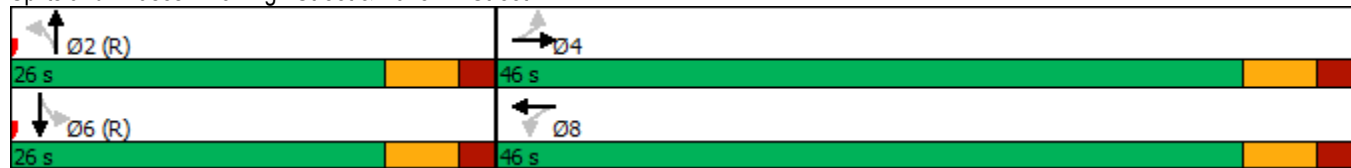


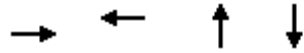
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		22.9			33.0			24.6			44.6	
LOS		C			C			C			D	
Approach Delay		22.9			33.0			24.6			44.6	
Approach LOS		C			C			C			D	

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:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	30.3
Intersection LOS:	C
Intersection Capacity Utilization	100.8%
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)	750	736	263	355
v/c Ratio	0.82	0.91	0.56	0.86
Control Delay	22.9	33.0	24.6	44.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.9	33.0	24.6	44.6
Queue Length 50th (ft)	249	266	86	136
Queue Length 95th (ft)	#459	#515	113	#284
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	912	807	471	415
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	0.82	0.91	0.56	0.86

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

### 3: High Street & Haverhill Street HCM 6th Signalized Intersection Summary

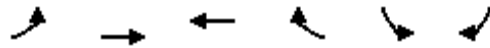
2032 Build.syn  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	61	587	12	105	530	64	25	101	61	84	148	105
Future Volume (veh/h)	61	587	12	105	530	64	25	101	61	84	148	105
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	69	667	14	111	558	67	35	142	86	88	156	111
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	106	801	16	145	617	71	94	282	155	151	222	141
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	93	1441	29	158	1110	127	133	1015	558	319	800	509
Grp Volume(v), veh/h	750	0	0	736	0	0	263	0	0	355	0	0
Grp Sat Flow(s),veh/h/ln	1563	0	0	1395	0	0	1705	0	0	1627	0	0
Q Serve(g_s), s	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0
Cycle Q Clear(g_c), s	28.4	0.0	0.0	36.3	0.0	0.0	9.2	0.0	0.0	14.1	0.0	0.0
Prop In Lane	0.09		0.02	0.15		0.09	0.13		0.33	0.25		0.31
Lane Grp Cap(c), veh/h	923	0	0	832	0	0	530	0	0	514	0	0
V/C Ratio(X)	0.81	0.00	0.00	0.88	0.00	0.00	0.50	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	923	0	0	832	0	0	530	0	0	514	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	12.6	0.0	0.0	14.5	0.0	0.0	22.1	0.0	0.0	23.7	0.0	0.0
Incr Delay (d2), s/veh	7.7	0.0	0.0	13.2	0.0	0.0	3.3	0.0	0.0	7.4	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	9.6	0.0	0.0	12.0	0.0	0.0	4.1	0.0	0.0	6.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	0.0	0.0	27.7	0.0	0.0	25.4	0.0	0.0	31.1	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	C	A	A	C	A	A
Approach Vol, veh/h		750			736			263				355
Approach Delay, s/veh		20.4			27.7			25.4				31.1
Approach LOS		C			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		11.2		30.4		16.1		38.3				
Green Ext Time (p_c), s		1.0		3.7		0.8		0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				25.4								
HCM 6th LOS				C								

6: Haverhill Street & Site Driveway  
Lanes, Volumes, Timings

2032 Build.syn  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	47	654	638	22	6	32
Future Volume (vph)	47	654	638	22	6	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			0.996		0.887	
Flt Protected		0.997			0.992	
Satd. Flow (prot)	0	1843	1836	0	1631	0
Flt Permitted		0.997			0.992	
Satd. Flow (perm)	0	1843	1836	0	1631	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	0.92	0.92
Heavy Vehicles (%)	0%	3%	3%	5%	0%	3%
Adj. Flow (vph)	54	752	672	23	7	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	806	695	0	42	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	83.1%
ICU Level of Service	E
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	47	654	638	22	6	32
Future Vol, veh/h	47	654	638	22	6	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	87	87	95	95	92	92
Heavy Vehicles, %	0	3	3	5	0	3
Mvmt Flow	54	752	672	23	7	35

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	695	0	-	0	1544 684
Stage 1	-	-	-	-	684 -
Stage 2	-	-	-	-	860 -
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	910	-	-	-	128 447
Stage 1	-	-	-	-	505 -
Stage 2	-	-	-	-	418 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	910	-	-	-	115 447
Mov Cap-2 Maneuver	-	-	-	-	115 -
Stage 1	-	-	-	-	453 -
Stage 2	-	-	-	-	418 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	910	-	-	-	307
HCM Lane V/C Ratio	0.059	-	-	-	0.135
HCM Control Delay (s)	9.2	0	-	-	18.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

8: High Street & Site Driveway  
Lanes, Volumes, Timings

2032 Build.syn  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	35	44	182	302	26
Future Volume (vph)	12	35	44	182	302	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
Fr <sub>t</sub>	0.899				0.989	
Fl <sub>t</sub> Protected	0.987			0.990		
Satd. Flow (prot)	1686	0	0	1866	1845	0
Fl <sub>t</sub> Permitted	0.987			0.990		
Satd. Flow (perm)	1686	0	0	1866	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	0.82	0.82	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	2%	0%
Adj. Flow (vph)	13	38	54	222	318	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	0	0	276	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	42.8%
	ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	12	35	44	182	302	26
Future Vol, veh/h	12	35	44	182	302	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	82	82	95	95
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	13	38	54	222	318	27

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	662	332	345	0	-	0
Stage 1	332	-	-	-	-	-
Stage 2	330	-	-	-	-	-
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	430	714	1225	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	733	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	409	714	1225	-	-	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	733	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1225	-	600	-	-
HCM Lane V/C Ratio	0.044	-	0.085	-	-
HCM Control Delay (s)	8.1	0	11.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

### 3: High Street & Haverhill Street Lanes, Volumes, Timings

2032 Build.syn  
AM Peak Hour Re-Timed



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	61	587	12	105	530	64	25	101	61	84	148	105
Future Volume (vph)	61	587	12	105	530	64	25	101	61	84	148	105
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
Fr <sub>t</sub>		0.997			0.988			0.956			0.958	
Fl <sub>t</sub> Protected		0.995			0.993			0.993			0.988	
Satd. Flow (prot)	0	1836	0	0	1809	0	0	1775	0	0	1772	0
Fl <sub>t</sub> Permitted		0.887			0.798			0.892			0.781	
Satd. Flow (perm)	0	1637	0	0	1454	0	0	1594	0	0	1401	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			12			33			31	
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)	69	667	14	111	558	67	35	142	86	88	156	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	750	0	0	736	0	0	263	0	0	355	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)	47.0	47.0		47.0	47.0		25.0	25.0		25.0	25.0	
Total Split (%)	65.3%	65.3%		65.3%	65.3%		34.7%	34.7%		34.7%	34.7%	
Maximum Green (s)	41.0	41.0		41.0	41.0		19.0	19.0		19.0	19.0	
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)		41.0			41.0			19.0			19.0	
Actuated g/C Ratio		0.57			0.57			0.26			0.26	
v/c Ratio		0.80			0.88			0.59			0.91	
Control Delay		21.0			28.4			26.5			53.3	
Queue Delay		0.0			0.0			0.0			0.0	

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

2032 Build.syn  
AM Peak Hour Re-Timed



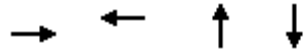
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		21.0			28.4			26.5			53.3	
LOS		C			C			C			D	
Approach Delay		21.0			28.4			26.5			53.3	
Approach LOS		C			C			C			D	

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:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	29.7
Intersection LOS:	C
Intersection Capacity Utilization	100.8%
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)	750	736	263	355
v/c Ratio	0.80	0.88	0.59	0.91
Control Delay	21.0	28.4	26.5	53.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.0	28.4	26.5	53.3
Queue Length 50th (ft)	240	254	88	140
Queue Length 95th (ft)	#393	#502	116	#295
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	933	833	444	392
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	0.80	0.88	0.59	0.91

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

3: High Street & Haverhill Street  
 HCM 6th Signalized Intersection Summary

2032 Build.syn  
 AM Peak Hour Re-Timed



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	61	587	12	105	530	64	25	101	61	84	148	105
Future Volume (veh/h)	61	587	12	105	530	64	25	101	61	84	148	105
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	69	667	14	111	558	67	35	142	86	88	156	111
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	110	844	17	151	652	75	92	266	146	146	209	133
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	97	1482	30	164	1144	131	133	1009	555	318	793	506
Grp Volume(v), veh/h	750	0	0	736	0	0	263	0	0	355	0	0
Grp Sat Flow(s),veh/h/ln	1609	0	0	1440	0	0	1698	0	0	1617	0	0
Q Serve(g_s), s	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0
Cycle Q Clear(g_c), s	26.2	0.0	0.0	33.0	0.0	0.0	9.4	0.0	0.0	14.7	0.0	0.0
Prop In Lane	0.09		0.02	0.15		0.09	0.13		0.33	0.25		0.31
Lane Grp Cap(c), veh/h	971	0	0	877	0	0	505	0	0	489	0	0
V/C Ratio(X)	0.77	0.00	0.00	0.84	0.00	0.00	0.52	0.00	0.00	0.73	0.00	0.00
Avail Cap(c_a), veh/h	971	0	0	877	0	0	505	0	0	489	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	11.7	0.0	0.0	13.1	0.0	0.0	23.0	0.0	0.0	24.7	0.0	0.0
Incr Delay (d2), s/veh	6.0	0.0	0.0	9.4	0.0	0.0	3.8	0.0	0.0	9.1	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	8.7	0.0	0.0	10.4	0.0	0.0	4.2	0.0	0.0	6.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	0.0	0.0	22.6	0.0	0.0	26.8	0.0	0.0	33.8	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	C	A	A	C	A	A
Approach Vol, veh/h		750			736			263				355
Approach Delay, s/veh		17.6			22.6			26.8				33.8
Approach LOS		B			C			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		47.0		25.0		47.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		19.0		41.0		19.0		41.0				
Max Q Clear Time (g_c+I1), s		11.4		28.2		16.7		35.0				
Green Ext Time (p_c), s		0.9		4.5		0.5		2.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				23.2								
HCM 6th LOS				C								

### 3: High Street & Haverhill Street Lanes, Volumes, Timings

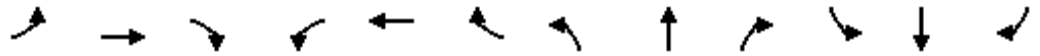
2025 Existing.syn  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	138	542	27	117	456	49	26	203	118	48	135	95
Future Volume (vph)	138	542	27	117	456	49	26	203	118	48	135	95
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
Fr <sub>t</sub>		0.995			0.989			0.954			0.954	
Fl <sub>t</sub> Protected		0.990			0.991			0.996			0.991	
Satd. Flow (prot)	0	1854	0	0	1842	0	0	1790	0	0	1788	0
Fl <sub>t</sub> Permitted		0.757			0.754			0.955			0.757	
Satd. Flow (perm)	0	1417	0	0	1402	0	0	1716	0	0	1366	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)	145	571	28	124	485	52	32	251	146	53	148	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	744	0	0	661	0	0	429	0	0	305	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			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		0.94			0.84			0.85			0.75	
Control Delay		38.4			25.9			41.3			34.9	
Queue Delay		0.0			0.0			0.0			0.0	

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

2025 Existing.syn  
PM Peak Hour



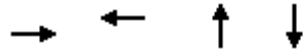
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		38.4			25.9			41.3			34.9	
LOS		D			C			D			C	
Approach Delay		38.4			25.9			41.3			34.9	
Approach LOS		D			C			D			C	

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:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	34.6
Intersection LOS:	C
Intersection Capacity Utilization	89.0%
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)	744	661	429	305
v/c Ratio	0.94	0.84	0.85	0.75
Control Delay	38.4	25.9	41.3	34.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	38.4	25.9	41.3	34.9
Queue Length 50th (ft)	281	222	165	109
Queue Length 95th (ft)	#533	#446	#264	#229
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	789	783	502	405
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	0.94	0.84	0.85	0.75

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

### 3: High Street & Haverhill Street HCM 6th Signalized Intersection Summary

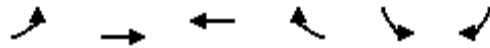
2025 Existing.syn  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	138	542	27	117	456	49	26	203	118	48	135	95
Future Volume (veh/h)	138	542	27	117	456	49	26	203	118	48	135	95
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	145	571	28	124	485	52	32	251	146	53	148	104
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	174	585	27	159	549	55	75	302	167	108	239	149
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	205	1053	49	179	987	100	76	1088	600	178	859	536
Grp Volume(v), veh/h	744	0	0	661	0	0	429	0	0	305	0	0
Grp Sat Flow(s),veh/h/ln	1307	0	0	1266	0	0	1763	0	0	1573	0	0
Q Serve(g_s), s	6.3	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	40.0	0.0	0.0	33.7	0.0	0.0	16.5	0.0	0.0	12.0	0.0	0.0
Prop In Lane	0.19		0.04	0.19		0.08	0.07		0.34	0.17		0.34
Lane Grp Cap(c), veh/h	786	0	0	763	0	0	544	0	0	496	0	0
V/C Ratio(X)	0.95	0.00	0.00	0.87	0.00	0.00	0.79	0.00	0.00	0.62	0.00	0.00
Avail Cap(c_a), veh/h	786	0	0	763	0	0	544	0	0	496	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	16.0	0.0	0.0	13.2	0.0	0.0	24.7	0.0	0.0	22.9	0.0	0.0
Incr Delay (d2), s/veh	21.4	0.0	0.0	12.7	0.0	0.0	11.1	0.0	0.0	5.6	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	14.8	0.0	0.0	9.9	0.0	0.0	8.2	0.0	0.0	5.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	0.0	0.0	25.9	0.0	0.0	35.8	0.0	0.0	28.5	0.0	0.0
LnGrp LOS	D	A	A	C	A	A	D	A	A	C	A	A
Approach Vol, veh/h		744			661			429				305
Approach Delay, s/veh		37.4			25.9			35.8				28.5
Approach LOS		D			C			D				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		18.5		42.0		14.0		35.7				
Green Ext Time (p_c), s		0.4		0.0		0.9		1.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				32.3								
HCM 6th LOS				C								

6: Haverhill Street & Site Driveway  
Lanes, Volumes, Timings

2025 Existing.syn  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↙	↘
Traffic Volume (vph)	9	705	574	3	2	8
Future Volume (vph)	9	705	574	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	742	624	3	3	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	751	627	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	54.3%
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	705	574	3	2	8
Future Vol, veh/h	9	705	574	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	742	624	3	3	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	627	0	0	1386	626
Stage 1	-	-	-	626	-
Stage 2	-	-	-	760	-
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	965	-	-	159	465
Stage 1	-	-	-	537	-
Stage 2	-	-	-	465	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	965	-	-	156	465
Mov Cap-2 Maneuver	-	-	-	156	-
Stage 1	-	-	-	528	-
Stage 2	-	-	-	465	-

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)	965	-	-	-	333
HCM Lane V/C Ratio	0.01	-	-	-	0.048
HCM Control Delay (s)	8.8	0	-	-	16.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

8: High Street & Site Driveway  
Lanes, Volumes, Timings

2025 Existing.syn  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	18	10	1	389	268	3
Future Volume (vph)	18	10	1	389	268	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	0.952			0.999		
Flt Protected	0.969					
Satd. Flow (prot)	1687	0	0	1881	1892	0
Flt Permitted	0.969					
Satd. Flow (perm)	1687	0	0	1881	1892	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)	20	11	1	469	282	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	0	470	285	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	31.3% 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	18	10	1	389	268	3
Future Vol, veh/h	18	10	1	389	268	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	20	11	1	469	282	3

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	755	284	285	0	0
Stage 1	284	-	-	-	-
Stage 2	471	-	-	-	-
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	371	760	1289	-	-
Stage 1	755	-	-	-	-
Stage 2	620	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	371	760	1289	-	-
Mov Cap-2 Maneuver	371	-	-	-	-
Stage 1	754	-	-	-	-
Stage 2	620	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1289	-	454	-	-
HCM Lane V/C Ratio	0.001	-	0.07	-	-
HCM Control Delay (s)	7.8	0	13.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

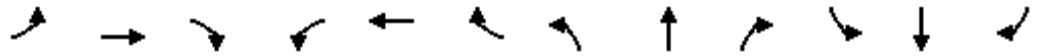
2032 No-Build.syn  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	145	570	28	121	480	51	27	210	122	50	140	100
Future Volume (vph)	145	570	28	121	480	51	27	210	122	50	140	100
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
Fr <sub>t</sub>		0.995			0.989			0.954			0.953	
Fl <sub>t</sub> Protected		0.990			0.991			0.996			0.991	
Satd. Flow (prot)	0	1854	0	0	1842	0	0	1790	0	0	1786	0
Fl <sub>t</sub> Permitted		0.741			0.741			0.951			0.742	
Satd. Flow (perm)	0	1388	0	0	1378	0	0	1709	0	0	1337	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			9			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)	153	600	29	129	511	54	33	259	151	55	154	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	782	0	0	694	0	0	443	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		1.01			0.90			0.89			0.80	
Control Delay		54.7			32.4			45.3			39.3	
Queue Delay		0.0			0.0			0.0			0.0	

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

2032 No-Build.syn  
PM Peak Hour

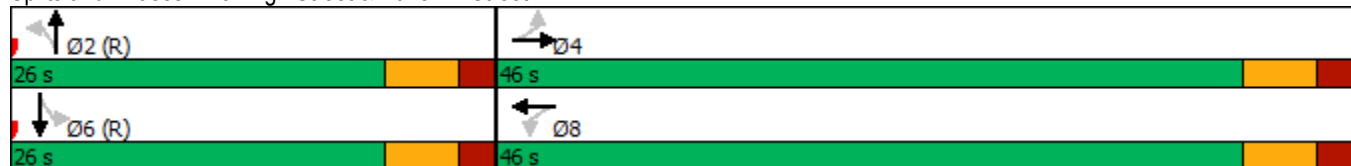


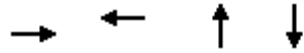
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		54.7			32.4			45.3			39.3	
LOS		D			C			D			D	
Approach Delay		54.7			32.4			45.3			39.3	
Approach LOS		D			C			D			D	

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:	80
Control Type:	Pretimed
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	43.7
Intersection LOS:	D
Intersection Capacity Utilization	93.0%
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)	782	694	443	319
v/c Ratio	1.01	0.90	0.89	0.80
Control Delay	54.7	32.4	45.3	39.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	54.7	32.4	45.3	39.3
Queue Length 50th (ft)	~333	249	174	117
Queue Length 95th (ft)	#581	#489	#278	#249
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	772	769	500	397
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	1.01	0.90	0.89	0.80

**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.

### 3: High Street & Haverhill Street HCM 6th Signalized Intersection Summary

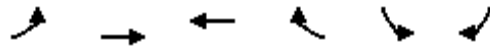
2032 No-Build.syn  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	145	570	28	121	480	51	27	210	122	50	140	100
Future Volume (veh/h)	145	570	28	121	480	51	27	210	122	50	140	100
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	153	600	29	129	511	54	33	259	151	55	154	110
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	166	544	25	159	547	55	75	302	167	107	233	148
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	192	979	45	180	985	98	76	1087	602	174	838	533
Grp Volume(v), veh/h	782	0	0	694	0	0	443	0	0	319	0	0
Grp Sat Flow(s),veh/h/ln	1216	0	0	1263	0	0	1765	0	0	1545	0	0
Q Serve(g_s), s	1.2	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	40.0	0.0	0.0	38.8	0.0	0.0	17.3	0.0	0.0	13.1	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	735	0	0	761	0	0	544	0	0	488	0	0
V/C Ratio(X)	1.06	0.00	0.00	0.91	0.00	0.00	0.81	0.00	0.00	0.65	0.00	0.00
Avail Cap(c_a), veh/h	735	0	0	761	0	0	544	0	0	488	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	14.3	0.0	0.0	25.0	0.0	0.0	23.2	0.0	0.0
Incr Delay (d2), s/veh	51.5	0.0	0.0	17.1	0.0	0.0	12.6	0.0	0.0	6.7	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	21.0	0.0	0.0	11.8	0.0	0.0	8.7	0.0	0.0	5.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.0	0.0	0.0	31.4	0.0	0.0	37.6	0.0	0.0	29.9	0.0	0.0
LnGrp LOS	F	A	A	C	A	A	D	A	A	C	A	A
Approach Vol, veh/h		782			694			443				319
Approach Delay, s/veh		68.0			31.4			37.6				29.9
Approach LOS		E			C			D				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		19.3		42.0		15.1		40.8				
Green Ext Time (p_c), s		0.2		0.0		0.9		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				45.2								
HCM 6th LOS				D								

6: Haverhill Street & Site Driveway  
Lanes, Volumes, Timings

2032 No-Build.syn  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↙	↘
Traffic Volume (vph)	9	741	604	3	2	8
Future Volume (vph)	9	741	604	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	780	657	3	3	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	789	660	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	56.2%
ICU Level of Service	B
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	741	604	3	2	8
Future Vol, veh/h	9	741	604	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	780	657	3	3	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	660	0	-	0	1457 659
Stage 1	-	-	-	-	659 -
Stage 2	-	-	-	-	798 -
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	938	-	-	-	144 445
Stage 1	-	-	-	-	518 -
Stage 2	-	-	-	-	447 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	938	-	-	-	142 445
Mov Cap-2 Maneuver	-	-	-	-	142 -
Stage 1	-	-	-	-	509 -
Stage 2	-	-	-	-	447 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	938	-	-	-	312
HCM Lane V/C Ratio	0.01	-	-	-	0.051
HCM Control Delay (s)	8.9	0	-	-	17.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

8: High Street & Site Driveway  
Lanes, Volumes, Timings

2032 No-Build.syn  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	18	10	1	405	280	3
Future Volume (vph)	18	10	1	405	280	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	0.952			0.999		
Flt Protected	0.969					
Satd. Flow (prot)	1687	0	0	1881	1892	0
Flt Permitted	0.969					
Satd. Flow (perm)	1687	0	0	1881	1892	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)	20	11	1	488	295	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	0	489	298	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	32.1% 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	18	10	1	405	280	3
Future Vol, veh/h	18	10	1	405	280	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	20	11	1	488	295	3

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	787	297	298	0	0
Stage 1	297	-	-	-	-
Stage 2	490	-	-	-	-
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	355	747	1275	-	-
Stage 1	745	-	-	-	-
Stage 2	608	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	355	747	1275	-	-
Mov Cap-2 Maneuver	355	-	-	-	-
Stage 1	744	-	-	-	-
Stage 2	608	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1275	-	437	-	-
HCM Lane V/C Ratio	0.001	-	0.073	-	-
HCM Control Delay (s)	7.8	0	13.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

### 3: High Street & Haverhill Street Lanes, Volumes, Timings

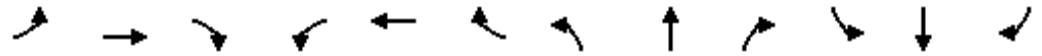
2032 Build.syn  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	145	589	35	121	488	73	30	219	122	75	150	100
Future Volume (vph)	145	589	35	121	488	73	30	219	122	75	150	100
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
Fr <sub>t</sub>		0.994			0.985			0.955			0.958	
Fl <sub>t</sub> Protected		0.991			0.991			0.996			0.989	
Satd. Flow (prot)	0	1854	0	0	1834	0	0	1791	0	0	1792	0
Fl <sub>t</sub> Permitted		0.736			0.741			0.933			0.613	
Satd. Flow (perm)	0	1377	0	0	1372	0	0	1678	0	0	1111	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			14			34			31	
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)	153	620	37	129	519	78	37	270	151	82	165	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	810	0	0	726	0	0	458	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		1.06			0.95			0.93			1.08	
Control Delay		67.6			39.0			53.5			99.1	
Queue Delay		0.0			0.0			0.0			0.0	

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

2032 Build.syn  
PM Peak Hour

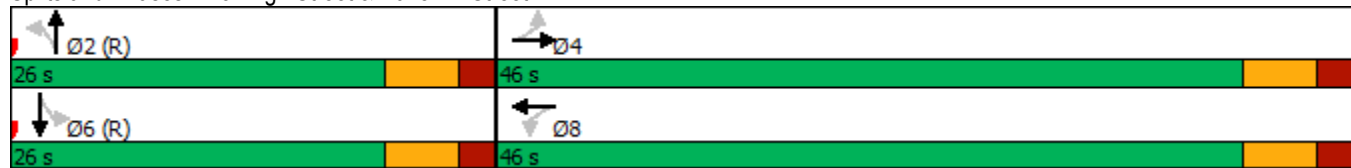


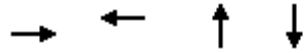
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		67.6			39.0			53.5			99.1	
LOS		E			D			D			F	
Approach Delay		67.6			39.0			53.5			99.1	
Approach LOS		E			D			D			F	

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:	100
Control Type:	Pretimed
Maximum v/c Ratio:	1.08
Intersection Signal Delay:	60.8
Intersection LOS:	E
Intersection Capacity Utilization	103.2%
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)	810	726	458	357
v/c Ratio	1.06	0.95	0.93	1.08
Control Delay	67.6	39.0	53.5	99.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	67.6	39.0	53.5	99.1
Queue Length 50th (ft)	~403	272	184	~171
Queue Length 95th (ft)	#614	#522	#300	#328
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	767	768	490	331
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	1.06	0.95	0.93	1.08

**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.

### 3: High Street & Haverhill Street HCM 6th Signalized Intersection Summary

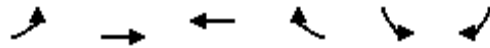
2032 Build.syn  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	145	589	35	121	488	73	30	219	122	75	150	100
Future Volume (veh/h)	145	589	35	121	488	73	30	219	122	75	150	100
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	153	620	37	129	519	78	37	270	151	82	165	110
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	160	533	30	155	533	76	77	298	158	122	194	114
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	181	960	55	173	959	136	83	1072	568	219	699	409
Grp Volume(v), veh/h	810	0	0	726	0	0	458	0	0	357	0	0
Grp Sat Flow(s),veh/h/ln	1196	0	0	1268	0	0	1723	0	0	1327	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Cycle Q Clear(g_c), s	40.0	0.0	0.0	40.0	0.0	0.0	18.8	0.0	0.0	19.2	0.0	0.0
Prop In Lane	0.19		0.05	0.18		0.11	0.08		0.33	0.23		0.31
Lane Grp Cap(c), veh/h	724	0	0	763	0	0	533	0	0	430	0	0
V/C Ratio(X)	1.12	0.00	0.00	0.95	0.00	0.00	0.86	0.00	0.00	0.83	0.00	0.00
Avail Cap(c_a), veh/h	724	0	0	763	0	0	533	0	0	430	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	16.3	0.0	0.0	15.2	0.0	0.0	25.4	0.0	0.0	25.0	0.0	0.0
Incr Delay (d2), s/veh	71.1	0.0	0.0	22.7	0.0	0.0	16.4	0.0	0.0	16.7	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	24.4	0.0	0.0	14.0	0.0	0.0	9.6	0.0	0.0	7.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.4	0.0	0.0	37.9	0.0	0.0	41.9	0.0	0.0	41.8	0.0	0.0
LnGrp LOS	F	A	A	D	A	A	D	A	A	D	A	A
Approach Vol, veh/h		810			726			458				357
Approach Delay, s/veh		87.4			37.9			41.9				41.8
Approach LOS		F			D			D				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		20.8		42.0		21.2		42.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				56.3								
HCM 6th LOS				E								

6: Haverhill Street & Site Driveway  
Lanes, Volumes, Timings

2032 Build.syn  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (vph)	38	741	604	14	28	49
Future Volume (vph)	38	741	604	14	28	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		0.914	
Flt Protected		0.998			0.982	
Satd. Flow (prot)	0	1878	1876	0	1684	0
Flt Permitted		0.998			0.982	
Satd. Flow (perm)	0	1878	1876	0	1684	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	0.92	0.92
Heavy Vehicles (%)	0%	1%	1%	0%	0%	2%
Adj. Flow (vph)	40	780	657	15	30	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	820	672	0	83	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	81.2%
ICU Level of Service	D
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	38	741	604	14	28	49
Future Vol, veh/h	38	741	604	14	28	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	95	95	92	92	92	92
Heavy Vehicles, %	0	1	1	0	0	2
Mvmt Flow	40	780	657	15	30	53

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	672	0	-	0	1525 665
Stage 1	-	-	-	-	665 -
Stage 2	-	-	-	-	860 -
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	928	-	-	-	131 460
Stage 1	-	-	-	-	515 -
Stage 2	-	-	-	-	418 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	928	-	-	-	121 460
Mov Cap-2 Maneuver	-	-	-	-	121 -
Stage 1	-	-	-	-	476 -
Stage 2	-	-	-	-	418 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	29.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	928	-	-	-	228
HCM Lane V/C Ratio	0.043	-	-	-	0.367
HCM Control Delay (s)	9.1	0	-	-	29.7
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6

8: High Street & Site Driveway  
Lanes, Volumes, Timings

2032 Build.syn  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	45	32	405	280	17
Future Volume (vph)	37	45	32	405	280	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
Fr <sub>t</sub>	0.926			0.992		
Fl <sub>t</sub> Protected	0.978			0.996		
Satd. Flow (prot)	1698	0	0	1875	1879	0
Fl <sub>t</sub> Permitted	0.978			0.996		
Satd. Flow (perm)	1698	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	0.83	0.83	0.95	0.95
Heavy Vehicles (%)	3%	0%	0%	1%	0%	5%
Adj. Flow (vph)	40	49	39	488	295	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	0	527	313	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	53.7%
	ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	37	45	32	405	280	17
Future Vol, veh/h	37	45	32	405	280	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	83	83	95	95
Heavy Vehicles, %	3	0	0	1	0	5
Mvmt Flow	40	49	39	488	295	18

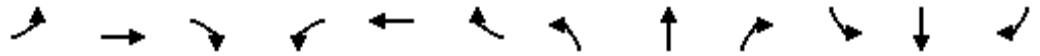
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	870	304	313	0	-	0
Stage 1	304	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Critical Hdwy	6.43	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	321	740	1259	-	-	-
Stage 1	746	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	308	740	1259	-	-	-
Mov Cap-2 Maneuver	308	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1259	-	453	-	-
HCM Lane V/C Ratio	0.031	-	0.197	-	-
HCM Control Delay (s)	8	0	14.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

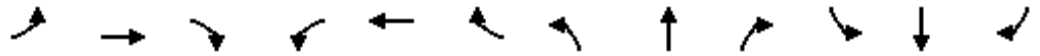
2032 Build.syn  
PM Peak Hour Re-Timed



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	145	589	35	121	488	73	30	219	122	75	150	100
Future Volume (vph)	145	589	35	121	488	73	30	219	122	75	150	100
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
Fr <sub>t</sub>		0.994			0.985			0.955			0.958	
Fl <sub>t</sub> Protected		0.991			0.991			0.996			0.989	
Satd. Flow (prot)	0	1854	0	0	1834	0	0	1791	0	0	1792	0
Fl <sub>t</sub> Permitted		0.742			0.745			0.926			0.586	
Satd. Flow (perm)	0	1388	0	0	1379	0	0	1665	0	0	1062	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			14			33			30	
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)	153	620	37	129	519	78	37	270	151	82	165	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	810	0	0	726	0	0	458	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)	47.0	47.0		47.0	47.0		25.0	25.0		25.0	25.0	
Total Split (%)	65.3%	65.3%		65.3%	65.3%		34.7%	34.7%		34.7%	34.7%	
Maximum Green (s)	41.0	41.0		41.0	41.0		19.0	19.0		19.0	19.0	
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)		41.0			41.0			19.0			19.0	
Actuated g/C Ratio		0.57			0.57			0.26			0.26	
v/c Ratio		1.02			0.92			0.99			1.18	
Control Delay		56.4			33.6			67.0			137.3	
Queue Delay		0.0			0.0			0.0			0.0	

3: High Street & Haverhill Street  
Lanes, Volumes, Timings

2032 Build.syn  
PM Peak Hour Re-Timed

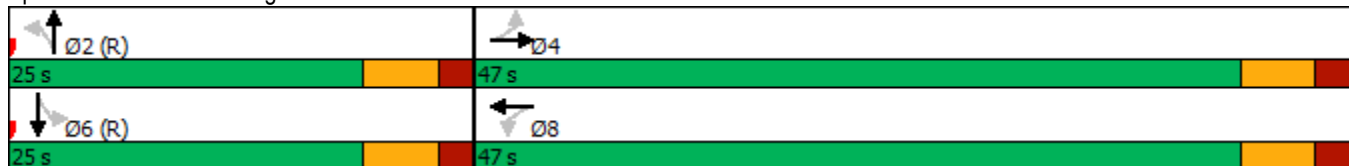


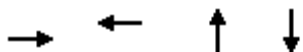
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		56.4			33.6			67.0			137.3	
LOS		E			C			E			F	
Approach Delay		56.4			33.6			67.0			137.3	
Approach LOS		E			C			E			F	

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:	100
Control Type:	Pretimed
Maximum v/c Ratio:	1.18
Intersection Signal Delay:	63.7
Intersection LOS:	E
Intersection Capacity Utilization	103.2%
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)	810	726	458	357
v/c Ratio	1.02	0.92	0.99	1.18
Control Delay	56.4	33.6	67.0	137.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	56.4	33.6	67.0	137.3
Queue Length 50th (ft)	~356	260	190	~185
Queue Length 95th (ft)	#601	#511	#313	#343
Internal Link Dist (ft)	200	1348	728	277
Turn Bay Length (ft)				
Base Capacity (vph)	792	791	463	302
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	1.02	0.92	0.99	1.18

**Intersection Summary**

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

### 3: High Street & Haverhill Street HCM 6th Signalized Intersection Summary

2032 Build.syn  
PM Peak Hour Re-Timed



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	145	589	35	121	488	73	30	219	122	75	150	100
Future Volume (veh/h)	145	589	35	121	488	73	30	219	122	75	150	100
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	153	620	37	129	519	78	37	270	151	82	165	110
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	162	546	31	157	545	77	76	282	150	118	180	105
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	180	958	55	172	957	136	84	1070	567	213	681	398
Grp Volume(v), veh/h	810	0	0	726	0	0	458	0	0	357	0	0
Grp Sat Flow(s),veh/h/ln	1193	0	0	1265	0	0	1720	0	0	1292	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	41.0	0.0	0.0	41.0	0.0	0.0	19.0	0.0	0.0	19.0	0.0	0.0
Prop In Lane	0.19		0.05	0.18		0.11	0.08		0.33	0.23		0.31
Lane Grp Cap(c), veh/h	739	0	0	779	0	0	508	0	0	402	0	0
V/C Ratio(X)	1.10	0.00	0.00	0.93	0.00	0.00	0.90	0.00	0.00	0.89	0.00	0.00
Avail Cap(c_a), veh/h	739	0	0	779	0	0	508	0	0	402	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	15.8	0.0	0.0	14.1	0.0	0.0	26.5	0.0	0.0	26.2	0.0	0.0
Incr Delay (d2), s/veh	62.5	0.0	0.0	19.4	0.0	0.0	21.8	0.0	0.0	23.9	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	23.0	0.0	0.0	12.8	0.0	0.0	10.4	0.0	0.0	8.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.3	0.0	0.0	33.5	0.0	0.0	48.2	0.0	0.0	50.1	0.0	0.0
LnGrp LOS	F	A	A	C	A	A	D	A	A	D	A	A
Approach Vol, veh/h		810			726			458				357
Approach Delay, s/veh		78.3			33.5			48.2				50.1
Approach LOS		E			C			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		47.0		25.0		47.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		19.0		41.0		19.0		41.0				
Max Q Clear Time (g_c+I1), s		21.0		43.0		21.0		43.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				54.3								
HCM 6th LOS				D								

*Appendix F*  
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 <sup>2</sup>
Direction 2 =	Haverhill Street WB	85% Speed =	40	mph	Grade =	0	t =	2.5 s	a =	11.2 ft/s <sup>2</sup>
							Left: t <sub>g</sub> =	7.5 s		
							Right: t <sub>g</sub> =	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<sub>g</sub>

Where

- t = reaction time (sec)
- t<sub>g</sub> = time gap for minor road vehicle to enter the major road
- V = travel speed (mph)
- G = roadway grade
- a = deceleration rate (ft/s<sup>2</sup>)

## 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

# 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 <sup>2</sup>
Direction 2 =	High Street SB	85% Speed =	35	mph	Grade =	0	t =	2.5 s	a =	11.2 ft/s <sup>2</sup>
							Left: t <sub>g</sub> =	7.5 s		
							Right: t <sub>g</sub> =	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<sub>g</sub>

Where

- t = reaction time (sec)
- t<sub>g</sub> = time gap for minor road vehicle to enter the major road
- V = travel speed (mph)
- G = roadway grade
- a = deceleration rate (ft/s<sup>2</sup>)

## 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 30 mph:

Left Turn ISD =	386	ft
Right Turn ISD =	334	ft

*Appendix G*  
Parking Data



## MEMORANDUM

To: Jay Joiner – The Gardner School / Viking Development

From: Rory Fancier, 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 85<sup>th</sup> percentile parking demand is 3.47 spaces per 1,000 square feet. The 85<sup>th</sup> 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<sup>1</sup>. 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**.

---

<sup>1</sup>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**

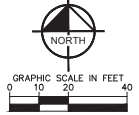
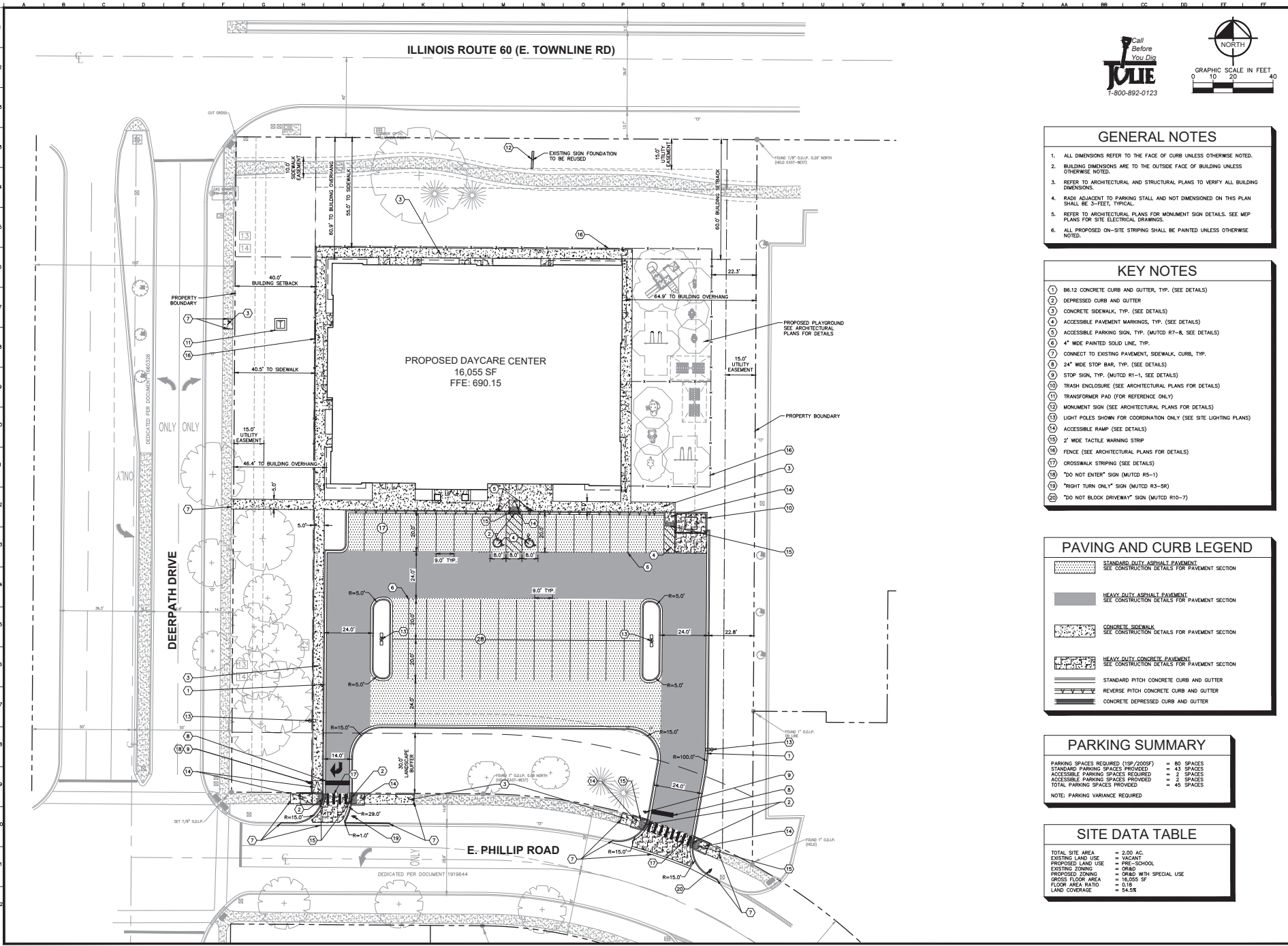
Data Source	Parking Ratio (per 1,000 sq. ft.)
Proposed Parking Supply	2.8 spaces
Village Code of Ordinances	4 spaces
ITE <u>Parking Generation</u> manual	2.45 spaces (average) 3.74 spaces (85 <sup>th</sup> percentile)
Empirical – The Gardner School Northbrook	1.44 spaces (average) 1.87 spaces (peak)

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<sup>2</sup>. 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.

<sup>2</sup>Based on data supplied by The Gardner School, approximately 23 percent of student enrollment at the Oakbrook Terrace location is carpools (i.e., siblings).

Quality name: A:\Users\KIMLEY\OneDrive - Kimley-Horn and Associates, Inc. Desktop\13.2 Draft\CD\PH0001\C3.0 SITE PLAN.dwg, CAD DATE: 04/26/2019, 3:09pm, by: KIMLEY  
 This document, together with the contract and design agreement, is intended only for the specific purpose and client for which it was prepared. Reuse of any information herein without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



- ### 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. RADI 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) 86.12 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) 1" WIDE PAINTED SOLID LINE, TYP.
  - 6) CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.
  - 7) 24" WIDE STOP BAR, TYP. (SEE DETAILS)
  - 8) STOP SIGN, TYP. (MUTCD R1-1, SEE DETAILS)
  - 9) TRASH ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS)
  - 10) TRANSFORMER PAD (FOR REFERENCE ONLY)
  - 11) MONUMENT SIGN (SEE ARCHITECTURAL PLANS FOR DETAILS)
  - 12) LIGHT POLES SHOWN FOR COORDINATION ONLY (SEE SITE LIGHTING PLANS)
  - 13) ACCESSIBLE RAMP (SEE DETAILS)
  - 14) 2" WIDE TACTILE WARNING STRIP
  - 15) FENCE (SEE ARCHITECTURAL PLANS FOR DETAILS)
  - 16) CROSSWALK STRIPING (SEE DETAILS)
  - 17) "DO NOT ENTER" SIGN (MUTCD R5-1)
  - 18) "RIGHT TURN ONLY" SIGN (MUTCD R3-3R)
  - 19) "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 (15P/2005F)	= 80 SPACES
STANDARD PARKING SPACES PROVIDED	= 43 SPACES
ACCESSIBLE PARKING SPACES REQUIRED	= 2 SPACES
ACCESSIBLE PARKING SPACES PROVIDED	= 45 SPACES
TOTAL PARKING SPACES PROVIDED	= 88 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	= ORAD
PROPOSED ZONING	= ORAD WITH SPECIAL USE
GROSS FLOOR AREA	= 16,055 SF
FLOOR AREA RATIO	= 0.15
LAND COVERAGE	= 54.5%

<b>Kimley-Horn</b> <small>1001 MARSHVILLE ROAD, SUITE 300, WINNETKA, IL 60093 PH: 847-953-0000 WWW.KIMLEY-HORN.COM</small>	SCALE: AS NOTED DESIGNED BY: KHA DRAWN BY: KHA CHECKED BY: THE	SHEET NUMBER <b>C3.0</b>	DATE	REVISIONS	
<b>THE GARDNER SCHOOL</b> <small>2 E PHILLIPS RD, VERNON HILLS, IL 60061</small>					
ORIGINAL ISSUE: 09/27/2019 KHA PROJECT NO. 168815001					

ATTACHMENT 1