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Commonwealth of Massachusetts



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DEPARTMENT OF INFRASTRUCTURE ENGINEERING

INITIAL TRAFFIC EVALUATION

TO: Transportation Advisory Committee

FROM: Jason L. Mammone, P.E., Director of Engineering

DATE: April 6, 2021

SUBJECT: Traffic Calming Request #2021-001 – Colburn Street (Curve St to Maverick St)

Purpose

The Transportation Advisory Committee (TAC), at their 03/09/21 meeting, reviewed the traffic calming request form (#2021-001) submitted by Jean Connally of 299 Colburn Street. Based upon the information provided in the form Mr. Connally's concerns are the speed at which vehicles travel, high traffic volume and parking issues at all times of the day. Mr. Connally's request also makes mention of vehicles using Colburn Street as a cut-through to avoid the signalized intersection in East Dedham Square. The TAC determined that this request warranted an initial evaluation on Colburn Street and requested that the Engineering Department investigate this matter. This report summarizes the findings of the Engineering Department.

Study Area

Colburn Street (Curve St to Maverick St.):

Colburn Street is a north/south residential/local roadway within a thickly settled residential area. The pavement width along this section of Colburn Street is consistently around 23 feet. This section of Colburn Street is approximately 1,280 feet (0.24 miles) in length. There is one continuous sidewalk on the easterly side of the street that extends for the entire length and a non-continuous sidewalk along the westerly side that is located sporadically along its length.

There is an existing "No Parking Anytime" parking restriction along the easterly side of Colburn Street from Curve Street to Maverick Street.

There are 17 properties that abut Colburn Street along the westerly side of the roadway. Of those 17 properties, 6 of them do not have driveways associated with them. Those properties

are primarily located on the southerly half of Colburn Street. Therefore, the residents at these properties must utilize Colburn Street for on-street parking. It is not uncommon for the residents of the other properties with driveways to also park along the westerly side of Colburn Street. Most properties, when originally constructed, were constructed with a driveway for 2 cars because that was as many as a family would have decades ago. Today it is not uncommon for a property to have 3 or 4 cars per household. As a result, more vehicles are utilizing on-street parking. This is a common issue across the eastern half of the Commonwealth. Too many vehicles and not enough space to park them on private property.

With vehicles having to use Colburn Street for on-street parking, it reduces the width of the roadway since there is not enough Right-Of-Way to accommodate for a shoulder wide enough to park vehicles completely off the roadway. All vehicles parking along Colburn Street must have a portion of their vehicles within the roadway. This results in a reduction of the roadway width ranging from 3 to 4 feet providing an overall roadway width ranging from 19 to 20 feet for travel.

The statutory speed limit on this section of Colburn Street is 25 mph. A statutory speed limit is a default speed limit that applies when no other specific speed limit is posted. According to Massachusetts General Laws (MGL), Chapter 90, Section 17 & Section 17c; unless posted otherwise, your speed would not be reasonable and proper if a motor vehicle is operated in excess of:

- 20 mph in a school zone
- 25 mph in a thickly settled or business district
- 40 mph outside a thickly settled or business district
- 50 mph on a highway outside a thickly settled or business district

Observations (Speed, Volume & Classification)

The Town of Dedham utilized a Jamar radar recorder to log the speed and volume of vehicles during the period beginning March 8, 2021 and ending March 11, 2021. The radar was installed on a utility pole across from #285 Colburn Street at approximate Station 34+00 (See Attached Locus Map).

The combined average speed for both directions was found to be 26.2 mph. The combined 85th percentile speed for both directions was found to be 31.9 mph. The 85th percentile speed is the speed at or below which 85 percent of vehicles travel and is the national standard utilized to determine if the speed on a given roadway is in excess, at or below the speed limit. Based upon the data, the 85th percentile speed is about 7 mph over the speed limit with approximately 77% of the vehicles driving at speeds greater than 25 mph and approximately 21% driving at speeds greater than 30 mph.

The volume of traffic expressed as average daily traffic (ADT) and the speed data collected for Colburn Street is shown below in the following table:

Table 1 – Traffic Data Station 34+00

<i>Direction of Traffic</i>	<i>ADT</i>	<i>Peak Hour Volume</i>	<i>Peak Volume Time</i>	<i>Speed Limit</i>	<i>85th Percentile Speed</i>	<i>Average Speed</i>
Northbound	630 (45%)	78	5 - 6 pm	25 mph	31 mph	26 mph
Southbound	770 (55%)	70	3 - 4 pm	25 mph	32 mph	26 mph
Combined	1,441	130	3 - 4 pm	25 mph	32 mph	26 mph

Colburn Street does experience a higher-than-normal volume of vehicles for a residential/local roadway as compared to others with similar characteristics. Colburn Street is being utilized as a cut through for those seeking to avoid the signalized intersection in East Dedham Square.

A previous study was conducted in June of 2013 for similar concerns from the residents of the neighborhood at that time. It should be noted that in 2013 that the statutory speed limit was 30 mph and not the current 25 mph. The table below shows the summary of the data collected.

Table 2 – 2013 Traffic Data Station 34+00

<i>Direction of Traffic</i>	<i>ADT</i>	<i>Peak Hour Volume</i>	<i>Peak Volume Time</i>	<i>Speed Limit</i>	<i>85th Percentile Speed</i>	<i>Average Speed</i>
Northbound	662 (46%)	66	4 - 5 pm	30 mph	32 mph	26 mph
Southbound	776 (54%)	74	5 - 6 pm	30 mph	33 mph	26 mph
Combined	1,433	130	5 - 6 pm	30 mph	33 mph	28 mph

Based upon the comparison, it appears as though the traffic conditions have been consistent over the past 8 years.

Crash Data (Traffic Collisions)

The Engineering Department analyzed crash data utilizing the most recent 2018-2021 data available from the Dedham Police Department to determine if the subject area was experiencing a higher than normal rate of accidents.

Table 3 – Crash Data

<i>Road</i>	<i>Total # of Crashes</i>	<i>Crashes Per Year</i>
Colburn Street	3	1

None of the crashes involved a pedestrian and/or bicyclist. The crashes above involved hitting parked cars which lends itself to being a possible issue with the width of the roadway with on-street parking and/or speeds at which vehicles travel.

GIS Data (Pedestrian Generators & Residential Density)

The Engineering Department utilized our latest Geographic Information System (GIS) data to collect the types of pedestrian generators and determine the residential density located within a 1,000 foot buffer of the study area.

Pedestrian generators are those facilities that are considered points of interest that pedestrians travel to, such as parks, community centers, Town/neighborhood centers, libraries, public transit stations, churches and public schools. Based upon the available data, The Avery Elementary School, Condon Park and East Dedham Square are pedestrian generators within the 1,000-foot buffer area.

Based upon the available data, the 1,000-foot buffer area has approximately 14 - 4 Apartment Buildings, 3 Condo Units, 7 Three-Family Dwelling, 75 Two-Family Dwellings and 60 Single-Family Dwellings.

Scoring

According to the latest version of the Town's Traffic Calming Policy, for a local/residential roadway to qualify for traditional traffic calming measures, the petitioned roadway must score more than 50 points utilizing the scores calculated from the 6 criteria including; Speed, Volume, Pedestrian Route, Traffic Collisions, Pedestrian Generators and Residential Density. The table below summarizes the scoring for each criterion.

Table 4 - Scoring

Criteria	Score (Colburn Street)
Speed – Based upon how many mph the combined 85 th percentile speed is over the speed limit. 2 points awarded for each mph over the speed limit from 1 to 5 mph over the speed limit and 4 points awarded for each mph over the speed limit starting at 6 mph and greater over the speed limit	18
Volume – 1 point awarded for every 100 vehicles of average daily traffic (ADT)	14
Pedestrian Route – 10 points awarded if no continuous sidewalk exist on both sides of the roadway or 5 points awarded if there is only a continuous sidewalk on one side of the roadway	5
Traffic Collisions – 2 points awarded for each preventable collision in a 3 year period that occurred along the subject roadway. 8 points awarded if a collision involved a pedestrian or bicyclist.	6
Pedestrian Generators – 3 points awarded for every park, community center, library, public transit station or church located within 1,000 feet of the subject roadway. 10 points awarded for each public school within 1,000 feet of the subject roadway	16
Residential Density – 1 point awarded for every 50 dwelling units within 1,000 feet of the subject roadway	5
TOTAL SCORE	64

Conclusion

Based upon the information presented in this evaluation, along with achieving a score over 50, Colburn Street is eligible for a Traffic Calming Needs Assessment. The needs assessment will take a closer look at Colburn Street to determine what types of traffic calming measures could be implemented to mitigate the major issues of speeding and crashes while providing/maintaining safe access for pedestrians/bicyclists. It will also look at the neighboring

roadways that may become affected by the installation of traffic calming measures on Colburn Street and develop a plan to should mitigation be necessary along those roadways.

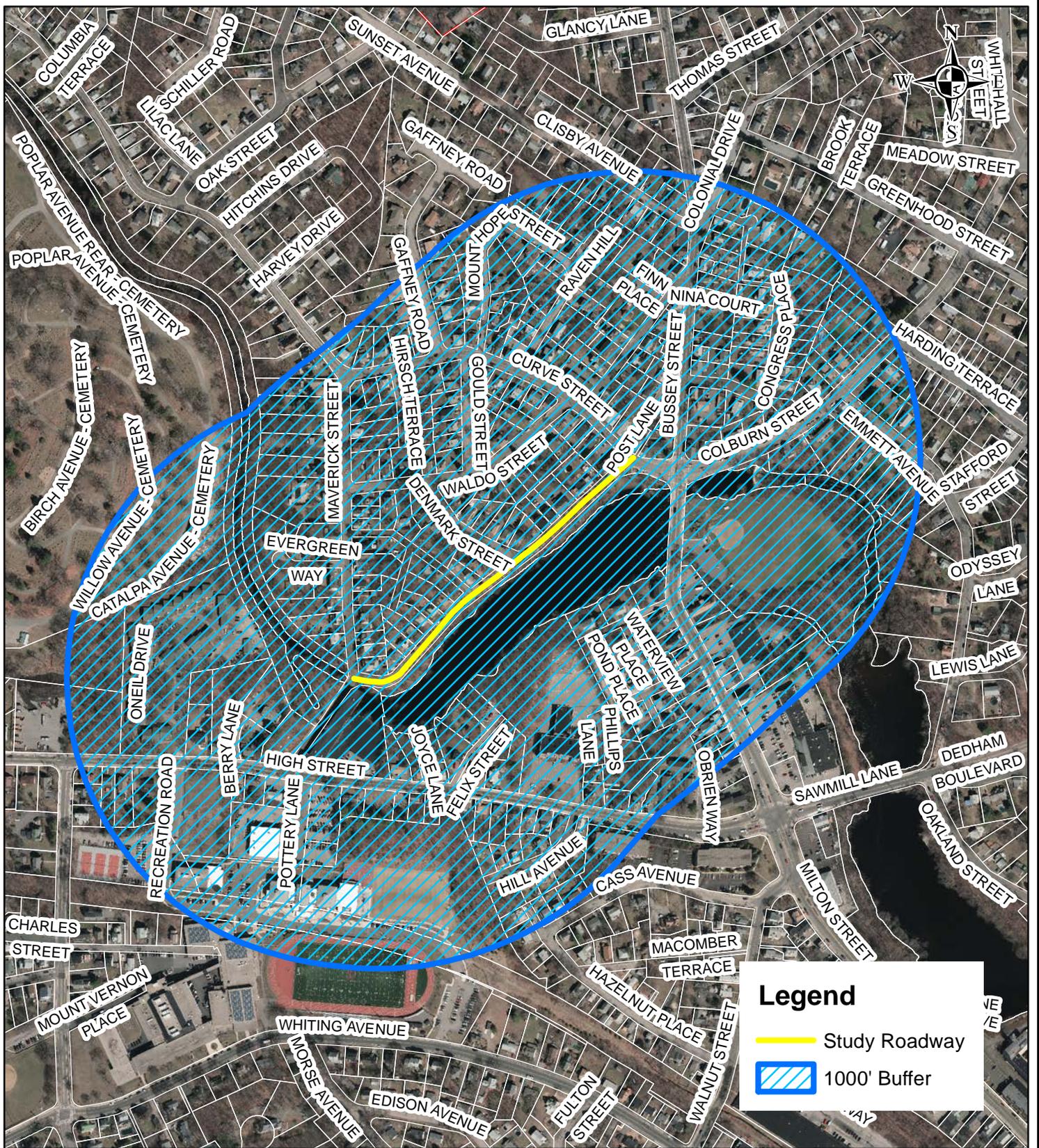
Cc: Select Board

Attachments: Colburn Street Locus Map
Colburn Street Buffer Map
Combined Speed Statistics Report
Traffic Volume Report



**COLBURN STREET
REQUEST #2021-001
LOCUS MAP**





**BUFFER MAP
COLBURN STREET NEIGHBORHOOD
MARCH 2021**





Town of Dedham Engineering Department

55 River Street
Dedham, MA 02026
781-751-9350

Site Code: 00000001
Station ID: 34+00
Location 1: On Utility Pole Across
Location 2: From #285 Colburn St
Location 3:
Location 4:
Direction: Combined

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 0.000000
Longitude: 0.000000

3/8/2021	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	0
1:00	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	2	2	13	17	9	0	1	0	0	0	0	0	44
10:00	3	10	18	21	11	0	1	0	0	0	0	0	64
11:00	1	16	21	35	9	2	0	0	0	0	0	0	84
12:00 PM	1	6	25	27	15	5	0	0	0	0	0	0	79
1:00	2	6	11	37	22	1	0	0	0	0	0	0	79
2:00	2	6	28	55	28	2	2	0	0	0	0	0	123
3:00	4	10	37	53	17	1	0	0	0	0	0	0	122
4:00	0	11	33	43	17	3	0	0	0	0	0	0	107
5:00	1	5	24	41	22	1	0	0	0	0	0	0	94
6:00	3	13	21	25	16	4	0	0	0	0	0	0	82
7:00	1	10	24	17	12	2	0	0	0	0	0	0	66
8:00	0	1	10	16	9	0	1	0	0	0	0	0	37
9:00	0	0	5	14	5	0	0	0	0	0	0	0	24
10:00	0	2	3	12	2	4	0	0	0	0	0	0	23
11:00	1	0	3	3	5	1	0	0	0	0	0	0	13
Total	21	98	276	416	199	26	5	0	0	0	0	0	1041



Town of Dedham Engineering Department

55 River Street
Dedham, MA 02026
781-751-9350

Site Code: 00000001
Station ID: 34+00
Location 1: On Utility Pole Across
Location 2: From #285 Colburn St
Location 3:
Location 4:
Direction: Combined

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 0.000000
Longitude: 0.000000

3/9/2021	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	1	2	6	1	0	0	0	0	0	0	10
1:00	0	0	0	1	0	0	0	0	0	0	0	0	1
2:00	0	0	0	2	0	0	0	0	0	0	0	0	2
3:00	0	0	1	0	0	2	1	0	0	0	0	0	4
4:00	0	1	2	3	2	0	0	0	0	0	0	0	8
5:00	0	2	4	7	4	0	0	0	0	0	0	0	17
6:00	3	2	10	20	11	0	0	0	0	0	0	0	46
7:00	2	1	22	39	18	4	0	0	0	0	0	0	86
8:00	1	9	34	55	16	1	0	0	0	0	0	0	116
9:00	0	4	20	28	11	1	0	0	0	0	0	0	64
10:00	0	5	23	30	13	2	1	0	0	0	0	0	74
11:00	2	5	24	25	15	2	0	0	0	0	0	0	73
12:00 PM	2	8	25	36	18	1	0	0	0	0	0	0	90
1:00	2	6	30	34	17	3	0	0	0	0	0	0	92
2:00	3	13	33	45	25	3	0	0	0	0	0	0	122
3:00	3	14	41	57	15	4	0	0	0	0	0	0	134
4:00	4	9	37	46	16	3	1	0	0	0	0	0	116
5:00	1	9	29	52	19	5	0	0	0	0	0	0	115
6:00	1	5	25	48	7	1	0	0	0	0	0	0	87
7:00	2	6	25	24	7	0	0	0	0	0	0	0	64
8:00	0	1	9	18	11	0	0	0	0	0	0	0	39
9:00	2	1	4	11	8	2	0	0	0	0	0	0	28
10:00	0	1	3	11	1	1	0	0	0	0	0	0	17
11:00	0	3	4	5	5	0	0	0	0	0	0	0	17
Total	28	105	406	599	245	36	3	0	0	0	0	0	1422



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Site Code: 00000001
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 Location 1: On Utility Pole Across
 Location 2: From #285 Colburn St
 Location 3:
 Location 4:
 Direction: Combined

Comment 1:
 Comment 2:
 Comment 3:
 Comment 4:
 Latitude: 0.000000
 Longitude: 0.000000

3/10/2021	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	0	0	0	2	2	0	0	0	0	0	0	0	4
1:00	0	0	1	1	1	1	0	0	0	0	0	0	4
2:00	0	0	0	1	0	0	0	0	0	0	0	0	1
3:00	0	1	1	2	1	1	0	0	0	0	0	0	6
4:00	0	1	2	1	1	1	0	0	0	0	0	0	6
5:00	0	0	2	9	6	1	0	0	0	0	0	0	18
6:00	1	3	7	23	14	1	0	0	0	0	0	0	49
7:00	1	7	19	28	12	3	0	0	0	0	0	0	70
8:00	2	3	17	35	16	1	0	0	0	0	0	0	74
9:00	3	8	13	32	12	1	0	0	0	0	0	0	69
10:00	3	3	24	29	8	4	0	0	0	0	0	0	71
11:00	5	7	36	31	19	4	0	0	0	0	0	0	102
12:00 PM	1	4	27	46	23	3	0	0	0	0	0	0	104
1:00	1	6	29	57	16	3	1	0	0	0	0	0	113
2:00	2	3	26	46	30	3	1	0	0	0	0	0	111
3:00	0	14	30	69	15	4	0	0	0	0	0	0	132
4:00	2	5	46	56	12	3	0	0	0	0	0	0	124
5:00	2	12	36	56	23	6	1	1	0	0	0	0	137
6:00	3	7	38	37	9	0	0	0	0	0	0	0	94
7:00	3	3	26	22	10	2	0	0	0	0	0	0	66
8:00	2	0	10	19	10	2	1	0	0	0	0	0	44
9:00	2	1	5	14	6	1	0	0	0	0	0	0	29
10:00	0	1	8	6	3	2	0	0	0	0	0	0	20
11:00	1	1	1	6	3	2	0	0	0	0	0	0	14
Total	34	90	404	628	252	49	4	1	0	0	0	0	1462



Town of Dedham Engineering Department

55 River Street
Dedham, MA 02026
781-751-9350

Site Code: 00000001
Station ID: 34+00
Location 1: On Utility Pole Across
Location 2: From #285 Colburn St
Location 3:
Location 4:
Direction: Combined

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 0.000000
Longitude: 0.000000

3/11/2021	> 15 - 20	> 20 - 25	> 25 - 30	> 30 - 35	> 35 - 40	> 40 - 45	> 45 - 50	> 50 - 55	> 55 - 60	> 60 - 65	> 65 - 70	> 70 MPH	Total
Time 0 - 15 MPH MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	
12:00 AM	1	0	4	0	2	0	0	1	0	0	0	0	8
1:00	0	0	2	1	0	0	0	0	0	0	0	0	3
2:00	0	0	0	1	1	0	0	0	0	0	0	0	2
3:00	0	0	1	1	0	0	0	0	0	0	0	0	2
4:00	0	0	1	3	4	0	0	0	0	0	0	0	8
5:00	0	1	7	4	7	0	1	0	0	0	0	0	20
6:00	1	2	13	20	11	2	0	0	0	0	0	0	49
7:00	4	7	26	40	11	1	0	0	0	0	0	0	89
8:00	2	14	29	45	20	2	1	0	0	0	0	0	113
9:00	1	3	13	34	15	0	1	0	0	0	0	0	67
10:00	3	4	12	33	19	1	0	0	0	0	0	0	72
11:00	2	4	20	26	15	5	0	0	0	0	0	0	72
12:00 PM	1	3	21	33	10	1	0	0	0	0	0	0	69
1:00	*	*	*	*	*	*	*	*	*	*	*	*	0
2:00	*	*	*	*	*	*	*	*	*	*	*	*	0
3:00	*	*	*	*	*	*	*	*	*	*	*	*	0
4:00	*	*	*	*	*	*	*	*	*	*	*	*	0
5:00	*	*	*	*	*	*	*	*	*	*	*	*	0
6:00	*	*	*	*	*	*	*	*	*	*	*	*	0
7:00	*	*	*	*	*	*	*	*	*	*	*	*	0
8:00	*	*	*	*	*	*	*	*	*	*	*	*	0
9:00	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	0
Total	15	38	149	241	115	12	3	1	0	0	0	0	574
Grand Total	98	331	1235	1884	811	123	15	2	0	0	0	0	4499
Stats		Percentile	15th	50th	85th	95th							
		Speed	21.9	26.9	31.9	33.9							
	Mean Speed (Average)		26.2										
	10 MPH Pace Speed		20-29										
	Number in Pace		3088										
	Percent in Pace		68.6%										
	Number > 25 MPH		2835										
	Percent > 25 MPH		63.0%										



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Site Code: 00000001
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Location 2: From #285 Colburn St
Location 3:
Location 4:

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 0.000000
Longitude: 0.000000

3/8/2021 Time	Monday		Tuesday		Wednesday		Thursday		Friday		Weekday Average		Saturday		Sunday	
	North, 1	South, 2	North, 1	South, 2	North, 1	South, 2	North, 1	South, 2	North, 1	South, 2	North, 1	South, 2	North, 1	South, 2	North, 1	South, 2
12:00 AM	*	*	7	3	2	2	5	3	*	*	5	3	*	*	*	*
1:00	*	*	1	0	3	1	2	1	*	*	2	1	*	*	*	*
2:00	*	*	1	1	0	1	0	2	*	*	0	1	*	*	*	*
3:00	*	*	0	4	1	5	0	2	*	*	0	4	*	*	*	*
4:00	*	*	2	6	0	6	0	8	*	*	1	7	*	*	*	*
5:00	*	*	2	15	7	11	8	12	*	*	6	13	*	*	*	*
6:00	*	*	13	33	15	34	14	35	*	*	14	34	*	*	*	*
7:00	*	*	22	64	16	54	29	60	*	*	22	59	*	*	*	*
8:00	*	*	48	68	38	36	48	65	*	*	45	56	*	*	*	*
9:00	15	29	23	41	30	39	30	37	*	*	24	36	*	*	*	*
10:00	21	43	28	46	28	43	29	43	*	*	26	44	*	*	*	*
11:00	42	42	31	42	44	58	18	54	*	*	34	49	*	*	*	*
12:00 PM	36	43	38	52	45	59	27	42	*	*	36	49	*	*	*	*
1:00	36	43	48	44	50	63	*	*	*	*	45	50	*	*	*	*
2:00	55	68	54	68	63	48	*	*	*	*	57	61	*	*	*	*
3:00	63	59	72	62	62	70	*	*	*	*	66	64	*	*	*	*
4:00	50	57	47	69	59	65	*	*	*	*	52	64	*	*	*	*
5:00	48	46	59	56	78	59	*	*	*	*	62	54	*	*	*	*
6:00	32	50	49	38	46	48	*	*	*	*	42	45	*	*	*	*
7:00	34	32	38	26	35	31	*	*	*	*	36	30	*	*	*	*
8:00	22	15	21	18	26	18	*	*	*	*	23	17	*	*	*	*
9:00	14	10	15	13	14	15	*	*	*	*	14	13	*	*	*	*
10:00	14	9	8	9	9	11	*	*	*	*	10	10	*	*	*	*
11:00	7	6	9	8	9	5	*	*	*	*	8	6	*	*	*	*
Total	489	552	636	786	680	782	210	364	0	0	630	770	0	0	0	0
Day	1041		1422		1462		574		0		1400		0		0	
AM Peak	11:00	10:00	8:00	8:00	11:00	11:00	8:00	8:00			8:00	7:00				
Volume	42	43	48	68	44	58	48	65			45	59				
PM Peak	3:00	2:00	3:00	4:00	5:00	3:00	12:00 PM	12:00 PM			3:00	3:00				
Volume	63	68	72	69	78	70	27	42			66	64				
Comb Total	1041		1422		1462		574		0		1400		0		0	
ADT	ADT: 1,441		AADT: 1,441													