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TOWN OF DEDHAM
Commonwealth of Massachusetts



55 RIVER STREET
DEDHAM, MA 02026-2935

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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: November 4, 2020

SUBJECT: Traffic Calming Request #2020-002 – Pratt Avenue (Cedar St to Dale St)

Purpose

The Transportation Advisory Committee (TAC), at their 10/13/20 meeting, reviewed the traffic calming request form (#2020-002) submitted by Henry Jemiola of 85 Pratt Avenue. Based upon the information provided in the form Mr. Jemiola's concerns are the speed at which vehicles travel, high traffic volume and pedestrian/bicyclist safety. Mr. Jemiola's request also makes mention of vehicles using Pratt Avenue as a cut-through to avoid potential speed traps on Cedar Street, Uber/Lyft drivers are having their GPS services direct them down Pratt Avenue as an alternate route to Cedar Street and the aggressive behavior of motorists traveling on Pratt Avenue. The TAC determined that this request warranted an initial evaluation on Pratt Avenue and requested that the Engineering Department investigate this matter. This report summarizes the findings of the Engineering Department.

Study Area

Pratt Avenue (Cedar St. to Dale St.):

Pratt Avenue is an east/west thickly settled residential through street with a pavement width of approximately 23 to 26 feet. Pratt Avenue is approximately 700 feet (0.13 miles) in length extending from Cedar Street to Dale Street. There is one continuous sidewalk on the northerly side of the street that extends for the entire length. Some of the residents utilize Pratt Avenue for on-street parking.

The statutory speed limit on this section of Pratt Avenue 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 September 15, 2020 and ending September 18, 2020. The radar was installed on a utility pole in front of #99 Pratt Avenue at approximately Station 9+69 (See Attached Locus Map).

The combined average speed for both directions was found to be 24 mph for Pratt Avenue. The combined 85th percentile speed for both directions was found to be 30 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 5 mph over the speed limit with approximately 41% of the vehicles driving at speeds greater than 25 mph and approximately 11% driving at speeds greater than 30 mph.

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

Table 1 – Traffic Data Station 9+69

<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>
Westbound	199 (44%)	19	2 - 3 pm	25 mph ^a	30 mph	24 mph
Eastbound	257 (56%)	25	3 - 4 pm	25 mph ^a	29 mph	23 mph
Combined	461	44	3 - 4 pm	25 mph ^a	30 mph	24 mph

^a – Statutory Speed Limit

Pratt Avenue does not experience a higher than normal volume of vehicles considering its location to two collector roadways (Cedar Street & River Street) and the volume of residential properties in the neighborhood. The observed ADT of 461 vehicles per day (VPD) is similar to those residential streets in Dedham with similar characteristics. Over the past few years, the Engineering Department has also performed traffic studies for Upland Road (614 VPD), Taylor Avenue (525 VPD) and Greenwood Avenue (398 VPD).

Crash Data (Traffic Collisions)

The Engineering Department analyzed crash data utilizing the most recent 2016-2019 data available from the Dedham Police Department and MassDOT 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>
Pratt Avenue	1	0.3

The one crash did not involve a pedestrian and/or bicyclist. Based upon this data, there are no overriding roadway geometric safety issues.

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, there is one pedestrian generator (Oakdale School) within the 1,000 foot buffer area.

Based upon the available data, the 1,000 foot buffer area has approximately 2 - 4 to 6 Apartment Buildings, 13 Condo Units, 1 Three-Family Dwelling, 46 Two-Family Dwellings and 348 Single-Family Dwellings.

Scoring

According to the latest version of the Town’s Traffic Calming Policy, for a 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

<i>Criteria</i>	<i>Score (Pratt Avenue)</i>
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	10
Volume – 1 point awarded for every 100 vehicles of average daily traffic (ADT)	4
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.	0
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	10
Residential Density – 1 point awarded for every 50 dwelling units within 1,000 feet of the subject roadway	9
TOTAL SCORE	38

Conclusion

Traditional traffic calming measures are not recommended for Pratt Avenue since it did not score greater than 50 points based upon the criterion listed in Table 4 above.

Although Pratt Avenue is not recommended for traditional traffic calming measures, the collected data did show that there is a minor speeding issue present on Pratt Avenue. It is recommended that the Police Department perform sporadic traffic enforcement on Pratt Avenue to mitigate the speeding that occurs along this roadway. Utilizing the data collected, the best times for enforcement during the work week would be from 9 to 11 AM in the morning and from 2 to 4 PM in the afternoon. The neighborhood could also reach out to the Police Department to see if they can place their mobile “Your Speed Is” indicator sign on Pratt Avenue a couple of times throughout the year.

The Engineering Department would also like to offer the following low-cost traffic calming measures that could be utilized and/or taken on by the concerned residents and neighbors.

- Purchasing a Step2 Kid Alert Visual Warning System – These can be purchased at Toys R’ Us, Wal-Mart, Amazon.com and other similar retail and online stores for about \$25 to \$35. The Step2 Kid should be placed at the end of your driveway so it is visible to motorists. This should only be placed out during times when kids are actually outside playing in the yard. By having it out all the time, it will reduce its effectiveness. Studies have shown that when used properly, it usually aids in the reduction of vehicle speeds.



Photo of Step 2 Kid Alert

- Continue to work with your neighbors to park your cars on either side of the street in a staggered fashion as to reduce the openness of the roadway while still allowing for the safe passage of emergency response vehicles (i.e. Police, Ambulance, Fire Engine). This measure physically narrows the roadway making the motorist slow down to negotiate by the parked vehicles.
-

Cc: Select Board

Attachments: Pratt Avenue Locus Map
Pratt Avenue Neighborhood Locus Map
Combined Speed Statistics Report
Traffic Volume Report
Speed Enforcement Evaluator Report



APPLICANT'S PROPERTY
85 PRATT AVENUE

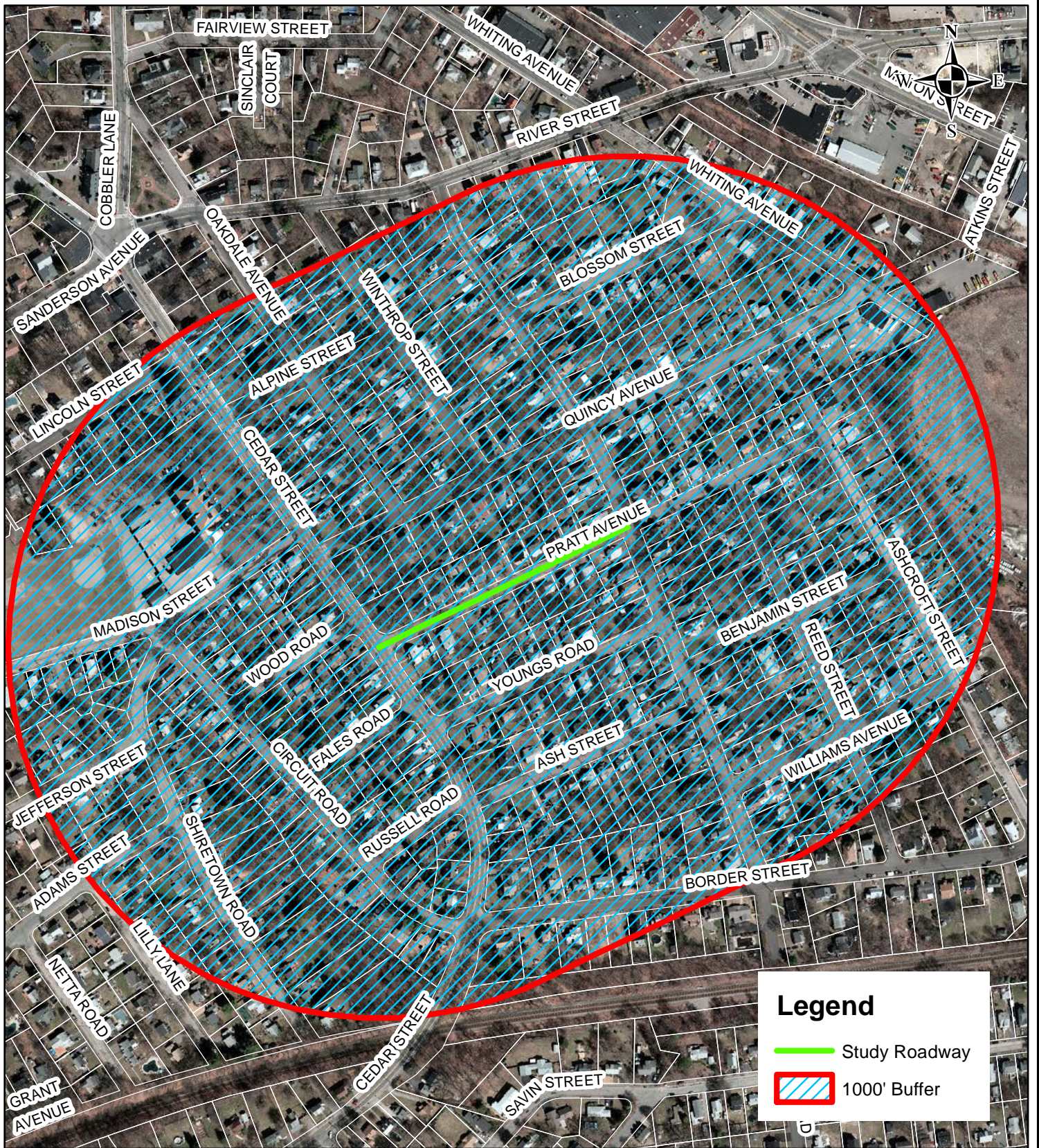
LOCATION OF
RADAR RECORDER





**PRATT AVENUE
REQUEST #2020-002
LOCUS MAP**



DEDHAM GIS



Legend

-  Study Roadway
-  1000' Buffer



**LOCUS MAP
PRATT AVENUE NEIGHBORHOOD MAP
OCTOBER 2020**



DEDHAM GIS



Town of Dedham Engineering Department

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

Site Code: 00000001
Station ID: 9+69
Location 1: On Utility Pole In
Location 2: Front of #99 Pratt
Location 3:
Location 4:
Direction: Combined

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 42.238427
Longitude: -71.151191

9/15/2020	> 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	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	4	2	5	10	0	0	0	0	0	0	0	0	21
12:00 PM	9	3	12	9	0	1	0	0	0	0	0	0	34
1:00	4	8	11	11	1	0	0	0	0	0	0	0	35
2:00	2	3	16	11	7	2	0	0	0	0	0	0	41
3:00	0	3	17	9	3	0	1	0	0	0	0	0	33
4:00	1	3	20	12	4	0	0	0	0	0	0	0	40
5:00	2	10	16	8	2	1	0	0	0	0	0	0	39
6:00	1	4	11	12	2	0	0	0	0	0	0	0	30
7:00	3	6	9	2	3	0	0	0	0	0	0	0	23
8:00	0	3	4	5	1	0	0	0	0	0	0	0	13
9:00	0	3	4	4	2	0	0	0	0	0	0	0	13
10:00	0	1	0	3	2	0	0	0	0	0	0	0	6
11:00	0	1	1	0	0	0	0	0	0	0	0	0	2
Total	26	50	126	96	27	4	1	0	0	0	0	0	330



Town of Dedham Engineering Department

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

Site Code: 00000001
Station ID: 9+69
Location 1: On Utility Pole In
Location 2: Front of #99 Pratt
Location 3:
Location 4:
Direction: Combined

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 42.238427
Longitude: -71.151191

9/16/2020	> 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	1	1	0	0	0	0	0	0	0	0	0	0	2
1:00	0	0	0	0	0	1	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	1	0	0	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	1	0	2	0	3	1	0	0	0	0	0	0	7
6:00	0	3	5	3	4	0	0	0	0	0	0	0	15
7:00	0	5	10	6	2	1	0	0	0	0	0	0	24
8:00	3	9	13	5	3	0	0	0	0	0	0	0	33
9:00	6	4	10	7	4	1	0	0	0	0	0	0	32
10:00	3	3	7	8	1	0	0	0	0	0	0	0	22
11:00	1	5	11	4	2	1	0	0	0	0	0	0	24
12:00 PM	2	3	9	16	2	0	0	0	0	0	0	0	32
1:00	1	2	13	20	4	0	0	0	0	0	0	0	40
2:00	2	3	12	5	5	1	0	0	0	0	0	0	28
3:00	0	3	22	15	5	1	0	0	0	0	0	0	46
4:00	1	8	15	12	3	0	0	0	0	0	0	0	39
5:00	3	8	14	13	1	0	0	0	0	0	0	0	39
6:00	1	3	11	6	3	0	0	0	0	0	0	0	24
7:00	1	3	2	3	3	1	0	0	0	0	0	0	13
8:00	2	5	7	10	2	0	0	0	0	0	0	0	26
9:00	0	0	4	4	0	0	0	0	0	0	0	0	8
10:00	1	0	1	4	0	0	0	0	0	0	0	0	6
11:00	0	1	3	1	2	1	0	0	0	0	0	0	8
Total	29	69	172	142	49	9	0	0	0	0	0	0	470



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Site Code: 00000001
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Location 3:
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Direction: Combined

Comment 1:
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Latitude: 42.238427
Longitude: -71.151191

9/17/2020	> 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	1	0	0	0	0	0	0	0	0	2
1:00	0	0	0	1	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	1	0	0	0	0	0	0	0	0	0	1
5:00	0	0	1	1	2	1	0	0	0	0	0	0	5
6:00	0	2	6	4	0	1	0	0	0	0	0	0	13
7:00	0	2	5	6	0	0	0	0	0	0	0	0	13
8:00	0	8	13	12	1	0	0	0	0	0	0	0	34
9:00	3	3	13	15	1	2	0	0	0	0	0	0	37
10:00	0	5	5	6	0	1	0	0	0	0	0	0	17
11:00	0	7	7	4	2	1	0	0	0	0	0	0	21
12:00 PM	7	5	19	7	3	1	1	0	0	0	0	0	43
1:00	3	3	14	10	2	1	0	0	0	0	0	0	33
2:00	0	5	8	16	3	0	0	0	0	0	0	0	32
3:00	3	7	14	24	3	0	2	0	0	0	0	0	53
4:00	2	3	11	10	5	0	0	0	0	0	0	0	31
5:00	4	7	15	12	3	1	0	0	0	0	0	0	42
6:00	1	4	6	12	2	0	0	0	0	0	0	0	25
7:00	2	4	11	3	1	0	0	0	0	0	0	0	21
8:00	0	7	5	0	1	0	0	0	0	0	0	0	13
9:00	1	1	5	1	1	0	0	0	0	0	0	0	9
10:00	0	0	0	1	0	0	0	0	0	0	0	0	1
11:00	0	0	2	0	0	1	0	0	0	0	0	0	3
Total	26	73	162	146	30	10	3	0	0	0	0	0	450



Town of Dedham Engineering Department

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

Site Code: 0000001
Station ID: 9+69
Location 1: On Utility Pole In
Location 2: Front of #99 Pratt
Location 3:
Location 4:
Direction: Combined

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 42.238427
Longitude: -71.151191

9/18/2020	> 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	1	0	2	0	1	0	0	0	0	0	0	0	4
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	1	0	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	1	2	1	1	0	0	0	0	0	0	5
6:00	0	1	3	3	1	0	0	0	0	0	0	0	8
7:00	1	2	7	9	1	0	0	0	0	0	0	0	20
8:00	2	4	11	5	1	0	0	0	0	0	0	0	23
9:00	1	4	12	8	3	0	0	0	0	0	0	0	28
10:00	1	3	14	11	3	0	0	0	0	0	0	0	32
11:00	0	4	12	6	3	0	0	0	0	0	0	0	25
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	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	*	*	*	*	*	*	*	*	*	*	*	*	0
10:00	*	*	*	*	*	*	*	*	*	*	*	*	0
11:00	*	*	*	*	*	*	*	*	*	*	*	*	0
Total	6	18	62	44	15	1	0	0	0	0	0	0	146
Grand Total	87	210	522	428	121	24	4	0	0	0	0	0	1396
Stats		Percentile	15th	50th	85th	95th							
		Speed	18.9	23.9	29.9	31.9							
	Mean Speed (Average)		23.6										
	10 MPH Pace Speed		20-29										
	Number in Pace		946										
	Percent in Pace		67.8%										
	Number > 25 MPH		577										
	Percent > 25 MPH		41.3%										



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Location 3:
Location 4:

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 42.238427
Longitude: -71.151191

9/14/2020	Monday		Tuesday		Wednesday		Thursday		Friday		Weekday Average		Saturday		Sunday	
Time	West, 1	East, 2	West, 1	East, 2	West, 1	East, 2	West, 1	East, 2	West, 1	East, 2	West, 1	East, 2	West, 1	East, 2	West, 1	East, 2
12:00 AM	*	*	*	*	2	0	1	1	1	3	1	1	*	*	*	*
1:00	*	*	*	*	0	1	1	0	0	0	0	0	*	*	*	*
2:00	*	*	*	*	0	0	0	0	0	1	0	0	*	*	*	*
3:00	*	*	*	*	1	0	0	0	0	0	0	0	*	*	*	*
4:00	*	*	*	*	0	0	1	0	0	0	0	0	*	*	*	*
5:00	*	*	*	*	4	3	3	2	5	0	4	2	*	*	*	*
6:00	*	*	*	*	8	7	5	8	5	3	6	6	*	*	*	*
7:00	*	*	*	*	7	17	7	6	8	12	7	12	*	*	*	*
8:00	*	*	*	*	12	21	16	18	11	12	13	17	*	*	*	*
9:00	*	*	*	*	18	14	19	18	14	14	17	15	*	*	*	*
10:00	*	*	*	*	11	11	7	10	13	19	10	13	*	*	*	*
11:00	*	*	12	9	13	11	12	9	11	14	12	11	*	*	*	*
12:00 PM	*	*	17	17	18	14	15	28	*	*	17	20	*	*	*	*
1:00	*	*	13	22	18	22	9	24	*	*	13	23	*	*	*	*
2:00	*	*	25	16	17	11	15	17	*	*	19	15	*	*	*	*
3:00	*	*	15	18	17	29	24	29	*	*	19	25	*	*	*	*
4:00	*	*	18	22	19	20	20	11	*	*	19	18	*	*	*	*
5:00	*	*	15	24	13	26	16	26	*	*	15	25	*	*	*	*
6:00	*	*	9	21	9	15	7	18	*	*	8	18	*	*	*	*
7:00	*	*	7	16	8	5	5	16	*	*	7	12	*	*	*	*
8:00	*	*	2	11	10	16	5	8	*	*	6	12	*	*	*	*
9:00	*	*	6	7	3	5	4	5	*	*	4	6	*	*	*	*
10:00	*	*	2	4	2	4	0	1	*	*	1	3	*	*	*	*
11:00	*	*	0	2	4	4	0	3	*	*	1	3	*	*	*	*
Total	0	0	141	189	214	256	192	258	68	78	199	257	0	0	0	0
Day	0		330		470		450		146		456		0		0	
AM Peak			12:00 PM	12:00 PM	9:00	8:00	9:00	12:00 PM	9:00	10:00	9:00	12:00 PM				
Volume	0	0	17	17	18	21	19	28	14	19	17	20	0	0	0	0
PM Peak			2:00	5:00	4:00	3:00	3:00	3:00			2:00	3:00				
Volume	0	0	25	24	19	29	24	29	0	0	19	25	0	0	0	0
Comb Total	0		330		470		450		146		456		0		0	
ADT		ADT: 461		AADT: 461												



Town of Dedham
 Engineering Department
 55 River Street
 Dedham, MA 02026
 781-751-9350

Speed Enforcement Evaluator

Location

Radar Installed on Utility Pole In Front Of #99 Pratt Ave

Total Percentage of Enforceable Violations

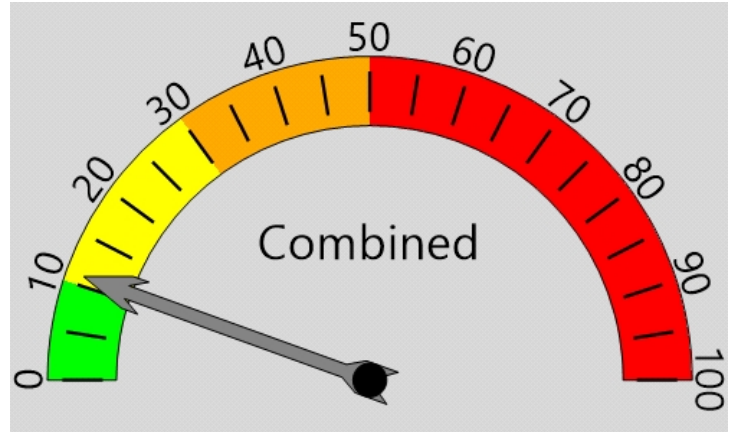
Closest Cross Street

Dale Street

Posted Speed Limit 25 MPH
 Enforcement Tolerance 5 MPH
 Enforcement Limit Greater than 30 MPH

Analysis Dates

Start: 9/15/2020
 End: 9/18/2020



Percent Speeding: 11%
 Rating: Medium Low

ADT

462

24.3
 Average Speed

