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**TOWN OF DEDHAM**  
*Commonwealth of Massachusetts*



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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:** June 11, 2015

**SUBJECT:** Traffic Calming Request #2013-004 – Madison Street

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Purpose

The Transportation Advisory Committee (TAC), at their 03/31/15 meeting, reviewed the traffic calming request form (#2013-004) submitted by Kate McDermott of 212 Madison Street. Based upon the information provided in the form and via a phone conversation, Ms. McDermott's concerns are the speed at which vehicles travel, the volume of vehicles, pedestrian and bicycle safety and parking issues for the stretch of Madison Street from East Street to Elmwood Avenue. The TAC determined that this request warranted an initial evaluation to determine the actual speeds and volumes on Madison Street and requested that the Engineering Department investigate this matter. This report summarizes the findings of the Engineering Department.

Study Area

Madison Street is an east/west thickly settled residential through street with a pavement width of approximately 23 feet from East Street to Elmwood Avenue. This section of Madison Street is approximately 600 feet (0.11 miles) in length. There are no sidewalks on either side of the roadway within this section. Vehicles are parked sporadically along both sides of the roadway by residents and some possibly utilizing the Endicott train station.

The prima facie speed limit on Madison Street is 30 mph. A prima facie 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; 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
- 30 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

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The Town of Dedham utilized a Jamar Radar Recorder to log the speed and volume of vehicles on Madison Street during the period beginning June 9, 2015 and ending June 11, 2015. The counter was located on a utility pole at station 25+93 which is located in front of #206 Madison Street (See Attached Locus Plan).

### *Madison Street*

The volume of traffic expressed as average daily traffic (ADT) on Madison Street was found to be 463 vehicles per day, with 46% of vehicles traveling eastbound and 54% traveling westbound. The combined average speed for both directions was found to be 24 mph. The combined 85<sup>th</sup> percentile speed for both directions was found to be 28 mph. The 85<sup>th</sup> 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. The 85<sup>th</sup> percentile speed indicates that the majority of the vehicles are travelling below the prima facie speed limit of 30 mph.

## Crash Data

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The Engineering Department analyzed crash data utilizing the most recent 2004-2012 data available from the Massachusetts Highway Department (MassDOT) and the most recent 2006-2015 data available from the Dedham Police Department to determine if the subject area was experiencing a higher than normal rate of accidents. Upon review of the MassDOT and Town of Dedham data, it was determined that there was 1 accident along this section of Madison Street over a 12 year period. This low number of crashes on Madison Street indicates there are no overriding roadway geometric safety issues in this area. The one crash did not involve a pedestrian or bicyclist.

## Conclusion

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Traffic calming is not recommended for Madison Street based upon the following:

- Madison Street does not meet the eligibility requirements for traditional traffic calming measures as a means to mitigate speeding since the measured 85<sup>th</sup> percentile speed of 28 mph is 2 mph below the prima facie speed limit of 30 mph. Eligibility requirements, as stated in the Town's Traffic Calming Policy, require a residential street to exhibit an 85<sup>th</sup> percentile speed in excess of 5 mph over the speed limit to be considered for traditional traffic calming measures.
- Madison Street does not experience a higher than normal volume of vehicles. The observed ADT of 463 vehicles per day experienced on Madison Street is consistent with other residential streets in Dedham with similar characteristics.
- Based upon the 12 years of crash data, there has been 1 motor vehicle accident which did not involve a bicyclist and/or pedestrian. Based upon this information it does not appear as though there is a bicyclist and/or pedestrian safety issue.

Although the Engineering Department does not recommend traditional traffic calming measures for this section of Madison Street, we do recommend the following low-cost traffic calming

measures that could be utilized and/or taken on by the concerned residents and neighbors of the Madison Street area.

- 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*

- Establish a neighborhood group that could create pamphlets or flyers that can be passed out in the neighborhood that discusses the concerns of speeding vehicles on Madison Street making people aware that they should drive cautiously.
- 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.
- Coordinate with the Police Department to see if they can place their mobile “Your Speed Is” sign on Madison Street a couple of times throughout the year.

Cc: Board of Selectmen

Attachments: Madison Street Locus Map  
Combined Speed Statistics Report  
Traffic Volume Report





**MADISON STREET  
REQUEST #2013-004  
LOCUS MAP**







## Town of Dedham Engineering Department

55 River Street  
Dedham, MA 02026  
**(781) 751-9350**

Site Code: 00000027  
Station ID: 25+93  
On Utility Pole  
In Front Of #206  
Latitude: 0' 0.0000 Undefined

COMBINED

**Report for 6/9/2015 10:22:08 AM to 6/11/2015 10:06:54 AM**

### SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	49	173	358	308	51	3	0	0	0	0	0	0	0	0
Percent	5.2	18.4	38.0	32.7	5.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	893	720	362	54	3	0	0	0	0	0	0	0	0	0
Percent	94.8	76.4	38.4	5.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%					
Speed	15	18	19	23	24	25	28	29	31					

Average 24  
(Mean)

Pace Speed 19-28  
Number in 689  
Pace  
Percent in 73.1  
Pace



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## COMBINED

Speed	Volume
8	3
9	1
10	6
11	6
12	7
13	11
14	7
15	8
16	19
17	24
18	37
19	43
20	50
21	50
22	77
23	84
24	79
25	68
26	94
27	82
28	62
29	41
30	29
31	18
32	14
33	12
34	6
35	1
36	2
37	0
38	0
39	1



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Start Time	08-Jun-15		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West
12:00 AM	*	*	*	*	1	1	1	1	*	*	*	*	*	*	1	1
01:00	*	*	*	*	0	1	1	1	*	*	*	*	*	*	0	1
02:00	*	*	*	*	0	0	1	1	*	*	*	*	*	*	0	0
03:00	*	*	*	*	0	0	0	0	*	*	*	*	*	*	0	0
04:00	*	*	*	*	0	0	1	1	*	*	*	*	*	*	0	0
05:00	*	*	*	*	0	6	1	6	*	*	*	*	*	*	0	6
06:00	*	*	*	*	2	7	2	6	*	*	*	*	*	*	2	6
07:00	*	*	*	*	5	12	6	14	*	*	*	*	*	*	6	13
08:00	*	*	*	*	22	26	18	22	*	*	*	*	*	*	20	24
09:00	*	*	*	*	14	7	5	10	*	*	*	*	*	*	10	8
10:00	*	*	*	*	12	31	2	4	*	*	*	*	*	*	7	18
11:00	*	*	11	18	12	17	*	*	*	*	*	*	*	*	12	18
12:00 PM	*	*	14	15	8	12	*	*	*	*	*	*	*	*	11	14
01:00	*	*	9	10	18	12	*	*	*	*	*	*	*	*	14	11
02:00	*	*	13	13	16	27	*	*	*	*	*	*	*	*	14	20
03:00	*	*	30	32	18	25	*	*	*	*	*	*	*	*	24	28
04:00	*	*	18	11	17	25	*	*	*	*	*	*	*	*	18	18
05:00	*	*	18	20	23	15	*	*	*	*	*	*	*	*	20	18
06:00	*	*	22	20	17	15	*	*	*	*	*	*	*	*	20	18
07:00	*	*	15	12	13	9	*	*	*	*	*	*	*	*	14	10
08:00	*	*	4	7	16	8	*	*	*	*	*	*	*	*	10	8
09:00	*	*	3	4	9	6	*	*	*	*	*	*	*	*	6	5
10:00	*	*	3	6	3	3	*	*	*	*	*	*	*	*	3	4
11:00	*	*	1	2	1	1	*	*	*	*	*	*	*	*	1	2
Lane	0	0	161	170	227	266	38	66	0	0	0	0	0	0	213	251
Day	0	0	331		493		104		0	0	0	0	0	0	464	
AM Peak	-	-	11:00	11:00	08:00	10:00	08:00	08:00	-	-	-	-	-	-	08:00	08:00
Vol.	-	-	11	18	22	31	18	22	-	-	-	-	-	-	20	24
PM Peak	-	-	15:00	15:00	17:00	14:00	-	-	-	-	-	-	-	-	15:00	15:00
Vol.	-	-	30	32	23	27	-	-	-	-	-	-	-	-	24	28

Comb. Total	0	331	493	104	0	0	0	464
ADT	ADT 463	AADT 463						