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DEPARTMENT OF INFRASTRUCTURE ENGINEERING

TECHNICAL MEMORANDUM

TO: William G. Keegan, Jr., Town Administrator
FROM: Jason L. Mammone, P.E., Director of Engineering
DATE: September 30, 2013
SUBJECT: Traffic Condition – Barrows Street

Purpose

In response to resident requests and complaints regarding the speed and volume of traffic travelling on Barrows Street, between East Street and Mt. Vernon Street in Dedham, the Board of Selectmen (BOS) requested that the Engineering Department investigate this matter. This report summarizes the findings of the Engineering Department.

Study Area

Barrows Street is a thickly settled residential street which runs parallel to Whiting Avenue and the Middle School. Because of high volumes of traffic on Whiting Avenue and the presence of the Middle School, Barrows Street is subject to cut-through traffic looking to avoid school related traffic.

Barrows Street is an east west residential through street with a pavement width of approximately 22 feet between East Street and Mt. Vernon Street. Barrows Street was repaved in the summer of 2010. There is generally a sidewalk on both sides of the street throughout its length. Vehicles are parked sporadically along the side of the roadway by residents.

The prima facie speed limit on Barrows Street is 30 mph. A prima facie speed limit is a default speed limit that applies when no other specific speed limit is posted. As stated in the latest version of the Commonwealth of Massachusetts Driver's Manual; unless posted otherwise, your speed would not be reasonable and proper if you drive over:

- 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

Previous 2009 Study

Barrows Street was studied back in September of 2009 at the request of the BOS due to resident complaints regarding speeding and volume of traffic. Results of the study indicated that the average daily traffic (ADT) was 391 vehicles and the 85th percentile speed (which is the speed used to establish speed limits) was 23 mph and 24 mph respectively eastbound and westbound. Only one accident was reported from 2004 through 2007. This data showed that there was not a speeding, volume or safety issue on Barrows Street.

2013 Observations

The Town of Dedham utilized a Jamar Radar Recorder to log the speed and volume of vehicles on Barrows Street during the period beginning September 24, 2013 and ending September 27, 2013. The counter was located at station 8+05 which is near the intersection of Barrows Street and Dunn Place.

Barrows Street

The volume of traffic expressed as average daily traffic (ADT) on Barrows Street was found to be 372 vehicles, with 38% of vehicles travelling eastbound and 62% traveling westbound. The average speed in the eastbound direction was found to be 18 mph and in the westbound direction 20 mph. The 85th percentile speed was also found to be 25 mph and 26 mph respectively eastbound and westbound. The 85 percentile indicates that a majority of the vehicles are travelling below the prima facie speed limit of 30 mph.

Table 1 – Traffic Volumes

<i>Location</i>	<i>Average Daily Volume</i>	<i>Peak Hour Volume</i>	<i>Peak Hour Direction/Time</i>
Barrows Street	372	63	81% Westbound
Eastbound	142	15	5:00 – 6:00 PM
Westbound	230	51	7:00 – 8:00 AM

Table 2 – Observed Speed

<i>Location</i>	<i>Speed Limit</i>	<i>Average Speed</i>	<i>85th Percentile Speed</i>
Eastbound	30 mph ^a	18 mph	25 mph
Westbound	30 mph ^a	20 mph	26 mph

^aPrima Facie Speed Limit

Crash Data

The Engineering Department also analyzed crash data utilizing the most recent 2004-2010 data available from the Massachusetts Highway Department and the most recent 2006-2013 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 MassHighway and Town of Dedham data, it was determined that there were 4 accidents along Barrows Street over a 10 year period.

These 4 crashes were accidents with parked vehicles. This low number of crashes on Barrows Street indicates there are no overriding geometric safety issues in this area.

Conclusion

The 2013 study yielded 85th percentile speeds and volume data that were very similar to the study performed in 2009. Although Barrows Street is clearly used, especially during school pick-up and drop-off times, as a cut through between East Street and Mt. Vernon Street, the data collected and reviewed indicates that vehicles are travelling below the prima facie speed limits. In addition, the volume of traffic on Barrows Street appears consistent with other streets in Dedham especially when considering that there are approximately 40 + housing units on Barrows Street and the intersecting side streets.

Cc: Board of Selectmen
Joseph M. Flanagan, Director of Public Works
Michael Weir, Chief of Police



**BARROWS STREET
REQUEST #2013-002
LOCUS MAP**





Town Of Dedham Engineering Department

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

Site Code: 00000017
Station ID:
Barrows Street
Sta 8+05

COMBINED

Speed	Volume
7	1
8	4
9	5
10	13
11	19
12	18
13	36
14	36
15	49
16	52
17	49
18	49
19	60
20	78
21	79
22	101
23	84
24	95
25	81
26	60
27	51
28	32
29	33
30	28
31	16
32	16
33	8
34	3
35	5
36	2
37	3
38	2
39	0
40	1
41	0
42	0
43	0
44	0
45	0
46	0
47	0
48	0
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