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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: June 30, 2014

SUBJECT: Traffic Calming Request #2012-003 – Kiely Road

Purpose

The Transportation Advisory Committee (TAC), at their 03/18/14 meeting, reviewed the traffic calming request form (#2012-003) submitted by Kathryn Tauro of 74 Kiely Road. Based upon the information provided in the form, Ms. Tauro's concerns were the speed at which vehicles travel on Kiely Road, the volume of vehicles that utilize Kiely Road, pedestrian and bicycle safety and poor road conditions. The TAC determined that this request warranted an initial evaluation to determine the actual speeds and volumes on Kiely Road and requested that the Engineering Department investigate this matter. This report summarizes the findings of the Engineering Department.

Study Area

Kiely Road is an east/west thickly settled residential through street with a pavement width ranging from approximately 23 to 26 feet from Pine Street to Bridge Street. Kiely Road is approximately 1,485 feet (0.28 miles) in length. There is a 4 - 5 foot wide asphalt sidewalk on the northerly side of Kiely Road for its entire length. Vehicles are parked sporadically along both sides of the roadway by residents, with some parked on the entire or portion of the sidewalk.

The northerly half of Kiely Road from Hillcrest Avenue to Bridge Street was rehabilitated as part of the Town's Pavement Management Program in 2012 and is in good condition. The southerly half of Kiely Road from Hillcrest Avenue to Pine Street is currently in poor condition with a Pavement Condition Index (PCI) of 44 and will be repaved by reclamation in the future through the Town's Pavement Management Program and available funding.

The prima facie speed limit on Kiely Road 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

The Town of Dedham utilized a Jamar Radar Recorder to log the speed and volume of vehicles on Kiely Road during the period beginning April 1, 2014 and ending April 3, 2014. The counter was located on a utility pole at station 9+30 which is located across the street from #74 Kiely Road (See Attached Locus Plan).

Kiely Road

The volume of traffic expressed as average daily traffic (ADT) on Kiely Road was found to be 333 vehicles per day, with 50% of vehicles traveling westbound and 50% traveling eastbound. The combined average speed for both directions was found to be 20 mph. The combined 85th percentile speed for both directions was found to be 25 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. The 85th percentile speed indicates that the majority of the vehicles are travelling below the prima facie speed limit of 30 mph.

Crash Data

The Engineering Department also analyzed crash data utilizing the most recent 2004-2011 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 2 accidents along Kiely Road over a 10 year period. This low number of crashes on Kiely Road indicates there are no overriding roadway geometric safety issues in this area

Conclusion

Traffic calming is not recommended for Kiely Road based upon the following:

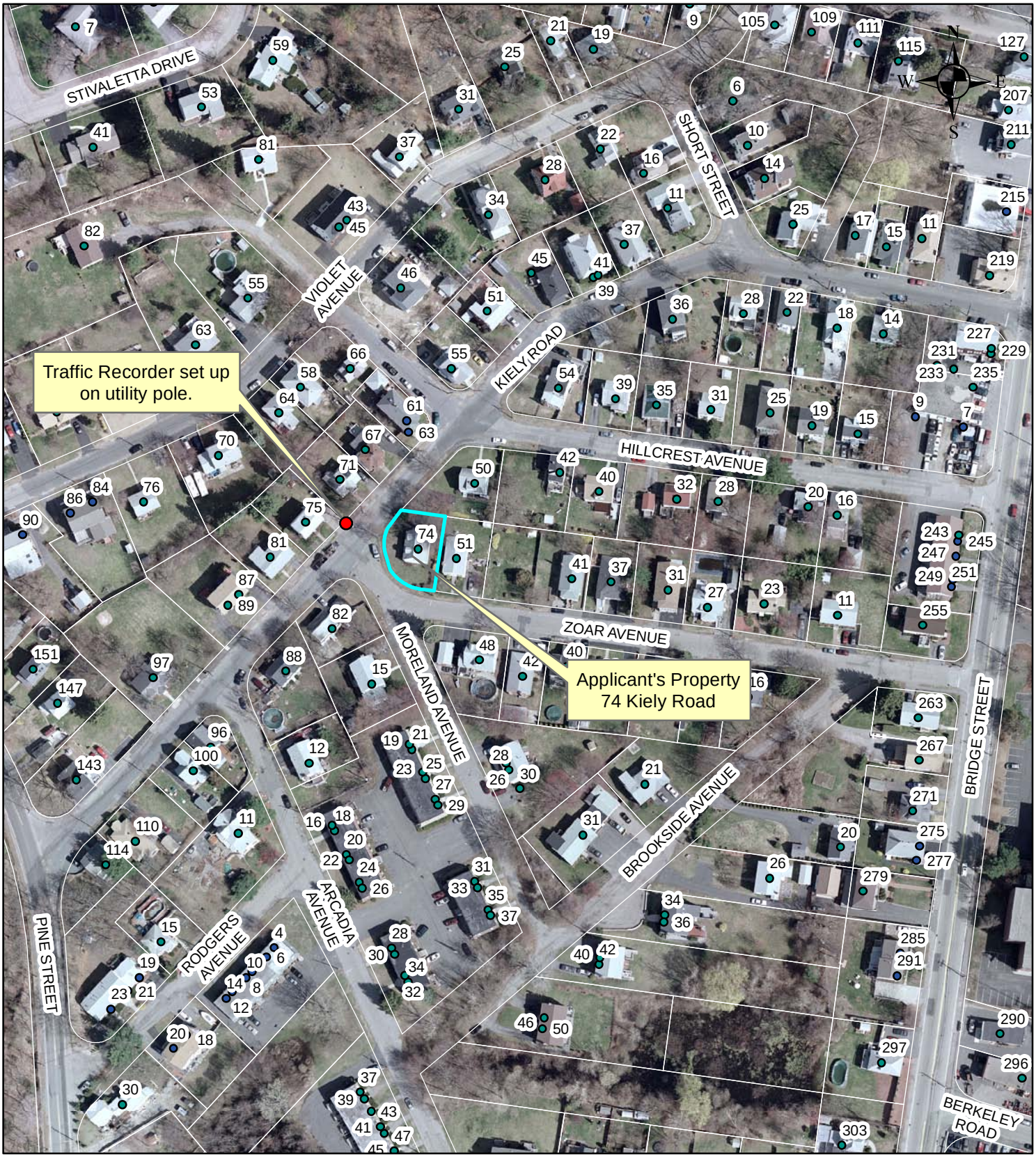
- Kiely Road does not meet the eligibility requirements for traditional traffic calming measures as a means to mitigate speeding since the measured 85th percentile speed of 25 mph is 5 mph below the prima facie speed limit of 30 mph. Eligibility requirements, as stated in the Town's Traffic Calming Policy, require a residential street to exhibit an 85th percentile speed in excess of 5 mph over the speed limit to be considered for traditional traffic calming measures.

- Kiely Road does not experience a higher than normal volume of vehicles. The observed ADT of 333 vehicles per day experienced on Kiely Road is consistent with other residential streets in Dedham with similar characteristics.

- Based upon the 10 years of crash data, there have been no accidents involving bicyclists and/or pedestrians. Kiely Road has an existing sidewalk on the northerly side of the roadway for its entire length that is or could be utilized by pedestrians and bicyclists. Based upon this information it does not appear as though there is a bicyclist and/or pedestrian safety issue.

Cc: Board of Selectmen

Attachments: Kiely Road Locus Map
Combined Speed Statistics Report
Traffic Volume Report



KIELY ROAD
REQUEST #2013-003
LOCUS MAP

DEDHAM GIS

TOWN OF DEDHAM, MASSACHUSETTS

Town Of Dedham
Engineering Department
55 River Street
Dedham, MA 02026
(781) 751-9350

Site Code: 00000021
Station ID:

COMBINED

Report for 4/1/2014 12:00:00 PM to 4/3/2014 11:49:19 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	140	223	207	82	14	1	0	0	0	0	0	0	0	0
Percent	21.0	33.4	31.0	12.3	2.1	0.1	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	527	304	97	15	1	0	0	0	0	0	0	0	0	0
Percent	79.0	45.6	14.5	2.2	0.1	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	12	13	15	19	20	21	25	27	29

Average (Mean)	20
Pace Speed	15-24
Number in Pace	434
Percent in Pace	65.1

Town Of Dedham
Engineering Department

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

Site Code: 00000021
Station ID:

COMBINED

Speed	Volume
9	6
10	7
11	8
12	21
13	32
14	23
15	43
16	44
17	38
18	43
19	46
20	52
21	45
22	40
23	45
24	38
25	39
26	23
27	20
28	16
29	15
30	8
31	5
32	1
33	3
34	3
35	2
36	0
37	1

Town Of Dedham
Engineering Department

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

Site Code: 00000021
Station ID: Sta. 9+32
Kiely Road
On utility pole between #71 and #75

Start	31-Mar-14		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Westboun	Eastboun	Westbou	Eastboun	Westbou	Eastboun	Westbou	Eastboun	Westbou	Eastboun	Westbou	Eastboun	Westbou	Eastboun	Westbou	Eastboun
12:00 AM	*	*	*	*	1	3	0	0	*	*	*	*	*	*	0	2
01:00	*	*	*	*	1	1	0	1	*	*	*	*	*	*	0	1
02:00	*	*	*	*	0	0	0	0	*	*	*	*	*	*	0	0
03:00	*	*	*	*	0	1	0	0	*	*	*	*	*	*	0	0
04:00	*	*	*	*	0	0	0	0	*	*	*	*	*	*	0	0
05:00	*	*	*	*	2	1	3	2	*	*	*	*	*	*	2	2
06:00	*	*	*	*	3	5	1	4	*	*	*	*	*	*	2	4
07:00	*	*	*	*	11	**15**	**20**	18	*	*	*	*	*	*	**16**	**16**
08:00	*	*	*	*	**20**	12	7	**21**	*	*	*	*	*	*	14	16
09:00	*	*	*	*	4	8	6	9	*	*	*	*	*	*	5	8
10:00	*	*	*	*	11	8	8	5	*	*	*	*	*	*	10	6
11:00	*	*	*	*	8	7	5	12	*	*	*	*	*	*	6	10
12:00 PM	*	*	13	13	6	7	*	*	*	*	*	*	*	*	10	10
01:00	*	*	7	5	11	6	*	*	*	*	*	*	*	*	9	6
02:00	*	*	12	**15**	7	**18**	*	*	*	*	*	*	*	*	10	**16**
03:00	*	*	8	11	17	16	*	*	*	*	*	*	*	*	12	14
04:00	*	*	12	11	11	10	*	*	*	*	*	*	*	*	12	10
05:00	*	*	**17**	13	**21**	15	*	*	*	*	*	*	*	*	**19**	14
06:00	*	*	13	14	11	7	*	*	*	*	*	*	*	*	12	10
07:00	*	*	10	10	11	11	*	*	*	*	*	*	*	*	10	10
08:00	*	*	2	5	4	6	*	*	*	*	*	*	*	*	3	6
09:00	*	*	2	4	2	5	*	*	*	*	*	*	*	*	2	4
10:00	*	*	1	2	3	4	*	*	*	*	*	*	*	*	2	3
11:00	*	*	3	5	2	4	*	*	*	*	*	*	*	*	2	4
Lane	0	0	100	108	167	170	50	72	0	0	0	0	0	0	158	172
Day	0		208		337		122		0		0		0		330	
AM Peak	-	-	-	-	08:00	07:00	07:00	08:00	-	-	-	-	-	-	07:00	07:00
Vol.	-	-	-	-	20	15	20	21	-	-	-	-	-	-	16	16
PM Peak	-	-	17:00	14:00	17:00	14:00	-	-	-	-	-	-	-	-	17:00	14:00
Vol.	-	-	17	15	21	18	-	-	-	-	-	-	-	-	19	16

Comb. Total	0	208	337	122	0	0	0	330

ADT ADT 333 AADT 333