



## Evaluation of Traffic Sign Petition

Radar Speed Display Feedback Board May Street  
June 20, 2023

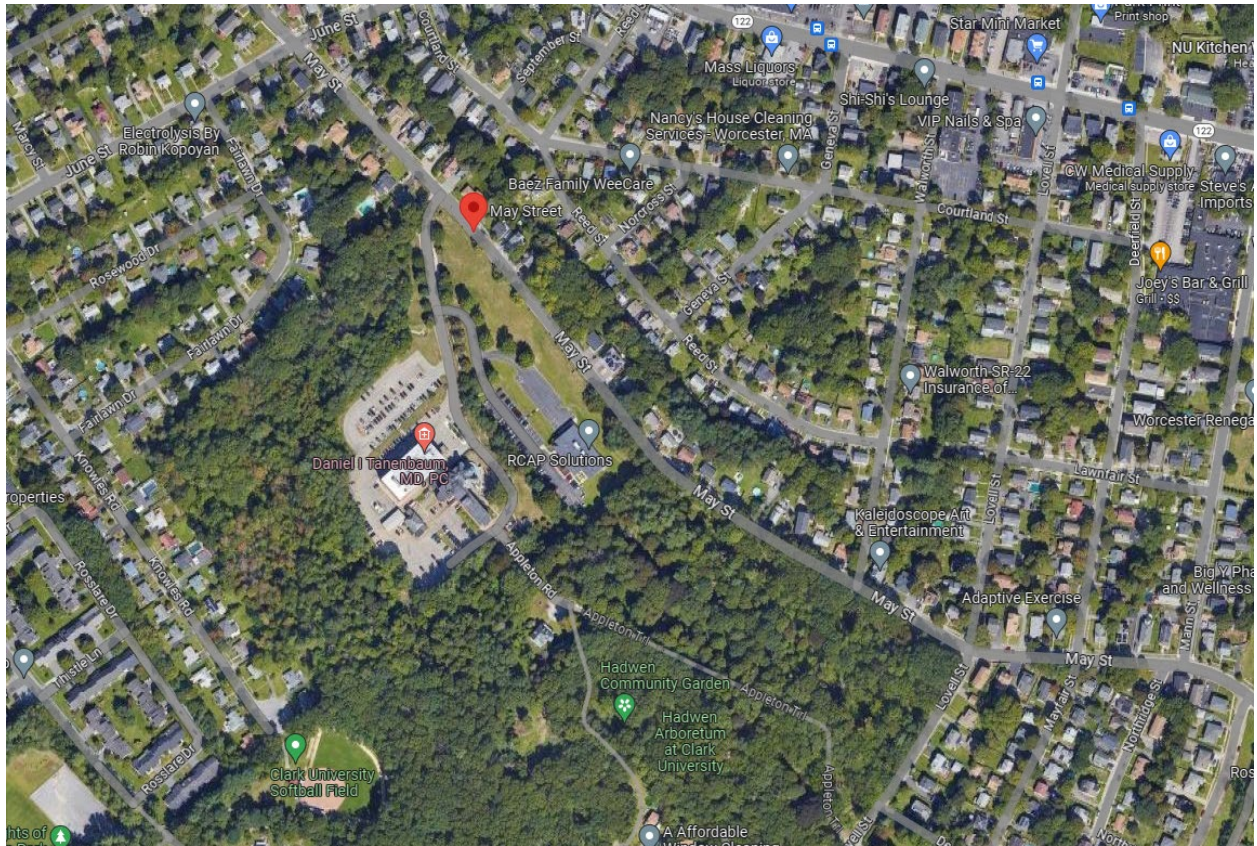
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Petition:	Councilor Etel Haxhiaj on behalf of Lila Pope request May St. be studied to determine the feasibility of putting a solar panel speed limit sign at a suitable location on the street. (# 7g CC December 13, 2022)
Scheduled Committee Hearing:	June 21, 2023 Traffic & Parking Committee, Item 9b
Prepared by:	Todd M. Kirrane., Assistant Director

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The petitioner has requested the installation of a solar powered, radar speed display feedback sign to slow motor vehicles traveling on May Street in the vicinity of the Hadwen Arboretum.

May Street is classified by the Massachusetts Department of Transportation (MassDOT) as an Urban Collector Roadway under City Jurisdiction. The roadway generally runs in an east-west direction and provides a residential connection between Chandler Street and Park Avenue. May Street pavement width is approximately 32 feet curb to curb and provides one travel lane in each direction, on street parking is unregulated in the study area. The statutory (unposted) speed limit is 30 miles per hour (mph) within the study area. Land use along this segment of May Street is a mix of single and multi-family residential, recreational, and medical. There are sidewalks along the northern curblines though they are not ADA compliant in all locations.



**IMAGE 1: AERIAL VIEW OF LOCATION**



**IMAGE 2: STREET VIEW OF LOCATION**

## **TRAFFIC VOLUME**

### ***Daily Traffic***

A traffic volume study was conducted using StreetLight vehicle volume data. StreetLight vehicle volume are calculated by StreetLight's machine learning algorithm. The learning algorithm gathers anonymized location records from smart phones and navigation devise in connected cars and trucks. The data is processed using StreetLight Route Science algorithm which uses the location data points over time into contextualized, aggregated, and normalized travel patterns.

As reviewed earlier, May Street is classified as an Urban Collector roadway under City jurisdiction by the Massachusetts Department of Transportation (MassDOT). A two-lane Urban Collector roadway typically carries 1000 to 8000 vehicles per day, on average. The results for 2021 data indicate an Average Daily Volume of 4524 vehicles, which is within range for an Urban Collector Roadway in an urban environment.

### **SPEED DATA**

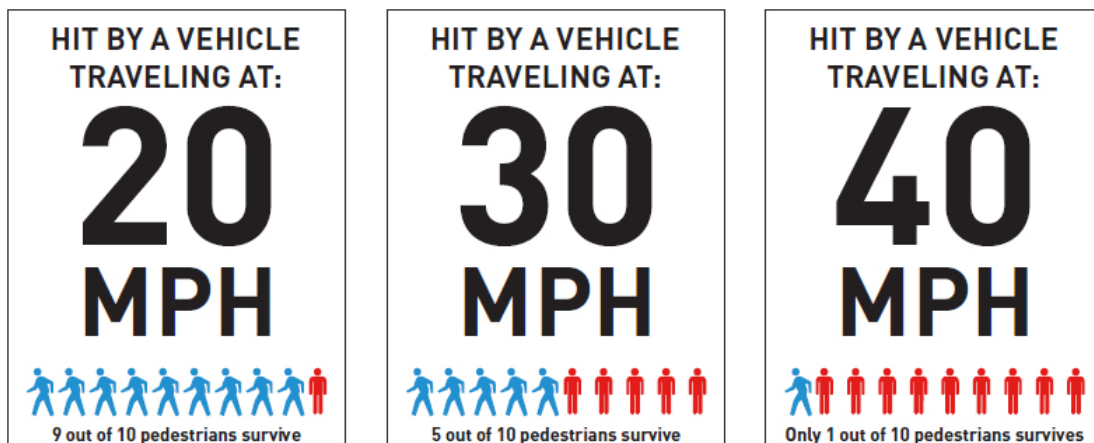
As stated earlier, the unposted statutory speed limit for May Street is 30 mph per Chapter 90, Section 17 of the Massachusetts General Laws. To evaluate the incidence and severity of speeding, two measures are evaluated using Streetlight Insight. The average speed is as the name implies, the average or mean speed of all travelers on a particular roadway segment. The 85th percentile speed is the speed below which 85% of the vehicles on the road are traveling (conversely, 15% of drivers are traveling faster than the 85th percentile speed). The results for 2021 data are an Average Speed of 26 to 27 mph and an 85th percentile speed of 32 to 35 mph. These speeds are within expected limits for a residential side street in an urban setting. However, the 95<sup>th</sup> percentile speed was between 36 and 43 mph with vehicles traveling as much as 13 miles over the statutory speed limit.

### **CRASH SUMMARY**

In order to identify crash trends and safety characteristics for the study area, crash reports were obtained from MassDOT Crash Database for the latest five-year period available. There were 34 reported crashes on this segment of May Street over the last 5 years. 30 occurred at the intersection with June Street and 4 occurred along the street between June and Lovell. 18 involved property damage only, 11 involved non-fatal injuries, and 5 were unknown. Only one involved a crash with a vulnerable roadway user (bicycle) at the intersection.

### **PEDESTRIAN SAFETY**

As public health studies over the last decade have shown, the likelihood of a pedestrian surviving a crash with a motor vehicle decreases exponentially as the speed of the motor vehicle increases. A pedestrian struck by a motor vehicle traveling 20 mph has a 90% chance of survival while a pedestrian struck by a motor vehicle traveling 40 mph only has a 10% chance of survival.



The goal of traffic calming interventions, including speed radar feedback display signs, are to reduce motor vehicle operating speeds, especially in high pedestrian & cyclist locations or those where separate pedestrian & bicycle facilities do not exist. Speed Feedback Display signs, like the one requested by the petitioner, have been shown to successfully reduce the number of vehicles traveling over the posted or advisory speed limit, reducing high-end speeds, reducing the average and 85th percentile speeds, and reduce motor vehicle crash rates according to studies conducted by the Federal Highway Administration.

**Recommendation:** Based on the fact the characteristics of this section of May Street as it relates to motor vehicle speeds, the fact that a sidewalk only exists on one side of the street, and that the street has a potential high pedestrian & cyclist generator (Arboretum) DTM staff recommends that Council

- Approve, pending funding, the installation of a solar powered radar speed feedback display board in the vicinity of 178 May Street.