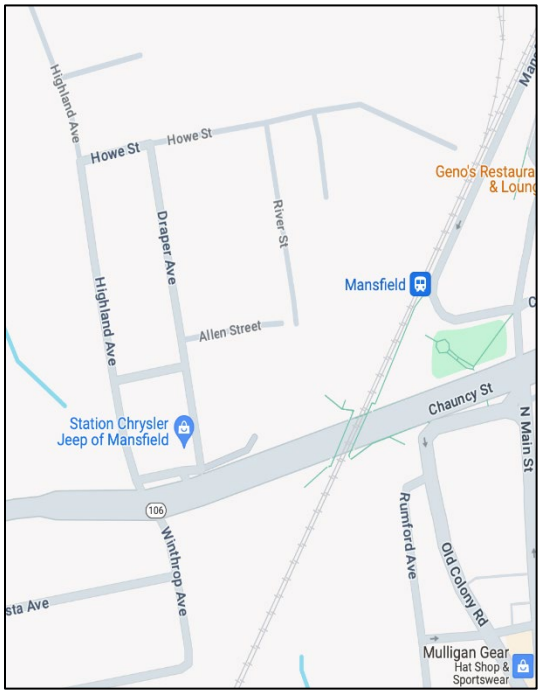
Speed Bumps on Highland Ave., Draper Ave. & Howe St. – Mansfield, MA

Site Description

The area around the Mansfield Train Station comprises several local residential streets including Highland Avenue, Draper Street, and Howe Street. The streets provide land access for the residents and station and parking access for commuters. Access to parking – both private and public, as well as direct access to the southbound track is provided via the residential neighborhood.



Commuters traveling to the train station by vehicle use the residential neighborhood to access parking and the southbound boarding area. Residents in the area frequently complained to the town regarding vehicle commuters speeding along the streets – both as they approached the train station and when they were leaving.

In an effort to reduce speed along the roadway, the town in 2017 adopted a "safety zone" in the residential area, posting a 20 mph speed limit for several residential streets.

Treatment Description

The town reviewed options for temporary speed bumps for the area. Since the area around the train station is being redesigned the measures were selected based on their inexpensive cost and ease of installation. The temporary bumps are typically installed after the last plowable snow in the spring and removed before the first plowable snow in the winter.

The first speed bumps purchased were made of a soft rubber, parabolic in shape, and were 12 inches wide (in the direction of travel) and 2 inches high. Installation included pre-drilling holes in the asphalt and inserting a threaded anchor in the pavement. The bumps were then placed on top and bolts were driven through the speed bump into the embedded anchors.

The second set of bumps were constructed of hard plastic and had a triangular profile. The triangular speed bumps were 14 inches wide (in the direction of travel) and 2.25 inches high (altitude). The bumps were installed with bolts, that were driven through the pre-drilled hump holes into the pavement below.

Design

The speed bumps were purchased from a local distributor and required no modifications for installation. They were installed in a continuous configuration - across the entire roadway – from edge of pavement to edge of pavement. Warning signs were installed at the speed bumps with the text “SPEED BUMP”. Upstream of the speed bumps, additional warning signs were installed – “SPEED BUMP AHEAD”.

Cost

The Town of Mansfield paid for the materials that were installed by the public works department.

Maintenance

Due to their material and installation configuration the speed bumps are seasonally installed – from last snow until first snow. During the winter months, they are stored off site. Once street plowing is no longer required, the speed bumps are re-installed. The bumps are installed as close as possible to their previous locations, yet with a slight offset – in the direction of vehicle travel – so they are secure for the season. The slight offset allows for new holes to be drilled into the pavement, ensuring a season long secure installation.

Lessons Learned

The first set of speed bumps, which were primarily rubber, shifted under vehicle loading – they moved a couple of inches – in the direction of travel. To avoid constantly repositioning the speed bumps, the rubber speed bumps were removed and replaced with the triangular plastic speed bumps. The triangular plastic speed bumps have not shifted and have become the preferred choice for the area.

The speed bumps were initially installed on the most direct route to the train station. Drivers quickly figured out what streets did not have speed bumps, albeit less direct, and started using those streets. The town quickly responded by installing speed bumps on the less direct routes as well. All streets accessing the parking on the outbound side of the train station all have speed bumps.

The speed bumps eliminated all resident complaints. Prior to the installation of the speed bumps, the town was receiving frequent complaints from area residents regarding drivers speeding through the area – when arriving to board a train as we ll as in the reverse direction, when alighting the train and departing the station. Once the speed bumps were installed, the complaints disappeared.