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Memorandum

To: Mr. Steve Fogg, PE
Town Engineer

Date: November 9, 2019

Project #: 14567.01

From: Laura Castelli
VHB

Re: Love Lane

At the request of the Town of Weston, VHB has been retained to review traffic volume and speed data along Love Lane between Route 20 and Highland Street. VHB reviewed 24 hours of traffic volume and speed data collected in September 2019 along with previous data collected and summarized by the Weston Police Department for a full week in May 2019. Overall, the data collected by VHB along the corridor in September identifies a significantly higher traffic volume along Love Lane than the summary data provided by the Police Department. VHB has asked Town engineering staff to contact the police to determine if raw data is available for comparison purposes. Since the data sets are not comparable at this time, this memo focuses on the data collected in September 2019 only.

Existing Conditions

Love Lane is a local roadway roughly 3,500 feet in length connecting Route 20 in the north with Highland Street to the east. The roadway is about 20 feet wide and there are numerous mature trees and stone walls located along the roadway's edge throughout. The traffic data collected in September 2019 show 1,840 vehicles along Love Lane during the day – 890 southbound vehicles and 950 northbound vehicles. Volumes were recorded in 15-minute time intervals and were found to be less than 20 vehicles per interval per direction for most of the day; or just about one car per direction per minute.

A directional increase in peak period traffic was noted in both directions. In the southbound direction, volumes were found to be between 20 and 40 vehicles per 15-minute time interval between 7:15 and 10:15 AM. Overall, during this three-hour time period, 340 of the 890 daily southbound vehicles (38 percent) travel the corridor. Conversely, in the northbound direction volumes between 20 and 40 vehicles per 15-minute time interval were observed between 4:30 PM and 6:15 PM. Overall, during this almost two-hour time period, 225 of the 950 daily northbound vehicles (24 percent) travel the corridor. At its peak, this translates into just under 3 vehicles traveling the peak direction per minute along Love Lane. Although the town did not request VHB look at intersection operations as part of this evaluation, given the volume of peak traffic along Love Lane and the corresponding peak traffic flows along Highland Street and (particularly) Route 20, VHB concurs with resident comments regarding queuing along Love Lane during peak times. It is noted that over 95 percent of all vehicles are passenger vehicles, with the balance being primarily box delivery trucks (FedEx, UPS, etc.). There were ten heavy trucks (i.e. tractor trailer) observed on Love Lane during the day, three of which traveled during peak commuting hours).

Although the data collection did not include identification of Love Lane residents, the data is consistent with commuter flows and higher than would be expected to be generated by the neighborhood (including Claridge Drive and Sanderson Lane), indicating some level of "cut-through" traffic is present and may possibly be avoiding the intersection of Route 20 at Highland Street, which is a noted high crash location.



Travel speeds were also collected along Love Lane, with the 85th percentile travel speed registering at 32 mph in each direction. These travel speeds are consistent with the data provided by the Weston Police Department. Given the width of the roadway, the geometry along the corridor, and the residential nature of Love Lane, travel speeds are well in excess of what should be expected.

The attachments to this memorandum provide the raw traffic and speed data.

Considerations

There are several options to alleviate concerns about speeding and traffic volume along Love Lane that the town can consider. In addition to the options discussed below, VHB suggests the town contact MassDOT to request they address potential safety and congestion issues at the intersection of Route 20 and Highland Street that may be contributing to the conditions along Love Lane. The intersection of Route 20 and Highland Street is a state highway location and is identified by the state as a Highway Safety Improvement Program eligible high crash location. The town may also consider working with Waze to eliminate Love Lane from their service application. However, it is noted that once drivers discover a route, they are not likely to depart from that route solely because it is eliminated from the application.

Option 1 – Closing Love Lane

Closing Love Lane at its intersection with Highland Street is the most effective solution to address vehicular volume and travel speed concerns along the corridor. It is suggested that the Highland Street access be closed since Route 20 provides the most direct emergency response route for responders and because this intersection does not fall under the town's jurisdiction. Mountable curbing is suggested in order to facilitate emergency response, if necessary.

Closing Love Lane would restrict access to all users except for residents of Love Lane, Claridge Drive, and Sanderson Lane. Any residual speeding issues can be handled through targeted outreach to the neighborhood since through traffic would be eliminated in this scenario. Full access for all residents would be provided via Route 20, although some residents may find this to be inconvenient.

An alternative option for closure would be to keep both primary access points (at Route 20 and at Highland Street) open, but discontinue Love Lane in the middle, near (roughly) 36 Love Lane. This would split Love Lane into two smaller cul-de-sacs like other streets located throughout the town and similar to how Winsor Way functions today. The southern portion of Love Lane and Sanderson Lane would have access via Highland Street, while the northern portion of Love Lane and Claridge Drive would have access via Route 20. In this scenario, the town may want to consider whether one portion of Love Lane should be renamed.

Option 2 – Time-of-Day Turn Restrictions

The town can consider time-of-day turn restrictions to/from Love Lane along both Highland Street and Route 20. Turn restrictions may include:



- No right-turn 7 AM to 9 AM posted on Route 20 eastbound at Love Lane
- No right-turn 7 AM to 9 AM posted on Love Lane at Highland Street
- No left-turn 4 PM to 6 PM posted on Highland Street at Love Lane
- No left-turn 4 PM to 6 PM posted on Love Lane at Route 20

VHB inquired with the MassDOT District 6 office to determine their process for turn restrictions to/from state highway. MassDOT noted the town would have to enact a traffic ordinance establishing the restrictions and MassDOT would create a sign regulation for the specific signs requested. MassDOT also noted that they would require a traffic study to document other traffic calming that has been considered or tried and whether there are any upcoming projects planned for the area. The traffic study would typically include a traffic analysis showing potential impacts (i.e. increased delays, queuing, etc.) at adjacent signalized intersections. While this requirement is not applicable to Love Lane, MassDOT may require a similar analysis at Route 20/Highland Street/Boston Post Road.

Time-of-day turning restrictions, if followed, would reduce the magnitude of volume along Love Lane during peak periods but not would address the higher rates of speed that were observed. Time-of-day restrictions are enforceable for all drivers, including those that live on Love Lane, Claridge Drive, and Sanderson Lane. They are often difficult for the police department to enforce and may be ignored if not enforced. However, restrictions can be implemented more easily for a short-term or trial period to determine whether they can successfully address the concern. Focusing on restrictions only at the intersection of Love Lane and Highland Street would help alleviate concerns the town may have regarding MassDOT's requirement for the town to enact a traffic ordinance and possibly needing to rescind that ordinance if the trial period is not successful.

Option 3 – Speed Tables

As noted above, the volume of traffic observed along Love Lane exceeds the volume that would typically be generated by the number of houses in the neighborhood. However, it is not possible to identify with certainty the magnitude of the volume that has business on Love Lane; either as a resident of Love Lane, one of the adjacent cul-de-sacs, or as visitors/deliveries to a resident. Speed tables placed at pre-determined intervals along Love Lane would successfully reduce travel speeds if placed appropriately and with the correct frequency. While speed tables do not address the residents' concerns regarding volume, over time drivers may be less likely to travel along Love Lane due to perceived inconvenience of the route. A preliminary analysis of Love lane shows that six speed tables could be placed at roughly 400' intervals; three on either side of the roadway curve.

Speed tables would be placed such that they would not require modification to driveways. However, they could require drainage changes along the corridor, with catch basins installed to collect runoff that would otherwise be trapped by the speed table. They could also be constructed to allow for runoff on either side, but further evaluation of the roadway is required to determine if this would be sufficient. Initial discussions with the town, including emergency response personnel, indicate that they would not support the construction of speed tables.



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Findings

Given the initial push back received over the possibility of speed tables, the options for addressing resident concerns over traffic and volume and speeds are limited to roadway closures or time-of-day turn restrictions; both of which have associated benefits and impacts. While it is reasonable to install turn restrictions and determine what level of relief they provide prior to making a decision on roadway closure, the town should work with affected residents to determine the improvement option that residents can best support.