Transmittal:

From: Mark McMillan
Date: August 20, 2018
To: Cathy Labadia, Deputy State Historic Preservation Officer

Project:
- State No.: 102-362
- F.A.P. No.: TBD
- Project Title: Over-height Vehicle Warning System
- Washington St. at S. Main Street
- Town: Norwalk

Subject: SHPO Consultation Documentation

Description of Activity

The City of Norwalk proposes to install countermeasures to reduce the number of accidents caused by over-height vehicles striking the Metro North Railroad Bridge (#03693R) in downtown Norwalk (Image 1). The project will use funds provided in part by the Federal Local Roads Accident Reduction Program and technical expertise provided by the Connecticut Department of Transportation (CTDOT). The following countermeasures are proposed to be installed:

- Infrared laser system to detect approaching vehicles that are over the height limit of the bridge
- An LED Variable Message Sign (VMS) to warn over-height vehicles

In addition to these measures, the City has indicated the desire to integrate the over-height detection system with existing traffic control signals and notification systems to alert emergency dispatch and police. Final design for the proposed countermeasures is scheduled for October, 2019 with construction to follow in early 2020.

The majority of the project’s Area of Potential Effect (APE) is within the South Main and Washington Street Historic District.¹ The Metro North Bridge is a contributing element to this National Register district and is listed in Connecticut’s Historic Bridge Inventory.

¹ Bruce Clouette, South Main & Washington Street NRHP Nomination Form (1977), this district was expanded in 1985 and 1999.
Technical Review of Project

Bridge #03693R carries four tracks of the Metro North Railroad line over Washington and South Main streets in South Norwalk. In addition to being the heart of the downtown, it is “the visual center” of the South Main and Washington Street Historic District.²

The bridge is pin-connected Pratt through-truss structure that was produced by the Berlin Iron Bridge Company. Between 1848 and 1896, the rail line was an at-grade. Safety and traffic congestion concerns prompted the line to be raised to its current configuration above the street in 1896. Bridge #03693R has a posted vertical clearance of 11’2” above Washington and Main streets. While this was sufficient height when the raised line was built, there have been several incidences of large trucks striking the bridge, resulting in damage to this structure (Image 2).

Under the proposed project the following safety measures will be installed:

Detectors and Alert Systems

The proposed system consists of infrared detectors and variable message signs (VMS) that will alert drivers that their vehicle exceeds the allowable height limit. The infrared beam hardware consists of a pair of sensors that are mounted on mast arms. They will be powered by a solar panel is installed atop the mast arm pole and will have a back-up battery (Figure 1). The devices will be installed opposite each other and send an infrared beam across the street at a height of 11’2”.

![Figure 1: Elevation view of paired infrared detectors.](image)

When the infrared beam between the devices is interrupted, they will activate a Variable Message Sign (VSM), which displays an LED-powered variable message of “OVERHEIGHT” or “PULL OVER”. When not activated, the signs are black. Including the solar panel on top of the pole, the VSMs are 20’ tall (Image 3).

The VSMs will be mounted onto existing poles and mast arms that support traffic signals at each of the four approaches to the bridge. The infrared sensors will be new features and installed a sufficient distance from the bridge to allow vehicles to detour their path (Figure 2).

² Ibid.
Figure 2: Aerial view of proposed locations of infrared detectors and variable message signs. Bridge #03693 is outlined in red at the center of the image. The boundaries of the National Register Historic Districts are also shown for reference.
The detours are as follows:

<table>
<thead>
<tr>
<th>Location</th>
<th>Sensors Distance from Bridge</th>
<th>Detour Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Main St.</td>
<td>220’ north</td>
<td>Right turn onto Washington St.</td>
</tr>
<tr>
<td>Washington St.</td>
<td>400’ west</td>
<td>Right turn onto Madison St.</td>
</tr>
<tr>
<td>Washington St.</td>
<td>675’ east; at intersection with North Water St.</td>
<td>Left or right onto N. Water St.</td>
</tr>
<tr>
<td>South Main St.</td>
<td>800’ south</td>
<td>Right turn onto Elizabeth St.*</td>
</tr>
</tbody>
</table>

*detour directs traffic into a historic district

All four approaches pass through the South Main/Washington Street Historic District. Of the four proposed detour routes, over-height vehicles travelling north onto South Main Street will be directed into the Haviland and Elizabeth Streets/Hanford Place Historic District (Image 4).³

The Haviland and Elizabeth Street Historic District is characterized by its collection of mid- to late-19th century residential and commercial buildings. The segment of Elizabeth Street that will be subject to the rerouted oversized traffic includes 8 multi-unit houses that were built between 1860 and 1890. The district Inventory form identifies 12 contributing buildings on Elizabeth Street; however the houses at #3, #5, #7, and #9 were demolished in 2005 and replaced by condominiums. The remaining houses on Elizabeth Street are each contributing elements to the historic district. On the south side of the street, they are set back approximately 30 feet from the curb and screened by an iron/brick fence or tall box hedges (Image 5).

The homes on the north side of Elizabeth Street are situated closer to the curb; typically 15 feet. They also have low fences or hedges that provide separation from the sidewalk and street and the property (Image 6). This project does not propose any direct impacts such as widening Elizabeth Street. There is the potential for indirect impacts created by rerouting truck/over-height vehicles along this street. However, given the urban context of this district, this does not appear to constitute an adverse impact to these properties.

The mast arms and variable message signs will introduce new, modern element; however, Norwalk’s downtown urban setting has several other examples of stoplights and traffic signs. In the professional opinion of CTDOT’s architectural history staff, the proposed changes will not introduce new or dissonant elements, nor will they significantly diminish the overall historic context of the district.

Given the limited potential for ground disturbance, there is minimal foreseeable potential for disturbing archaeological resources. Notify the Office of Environmental Planning and SHPO of any significant changes in the project scope.

³ National Park Service, Haviland and Elizabeth Streets/Hanford Place Historic District (NRHP #88000664), listed on May 26, 1980.
Recommendation
The cultural resources staff at CTDOT’s Office of Environmental Planning has reviewed the project documents for the proposed undertaking. It is their recommendation that the proposed accident reduction measures, when reviewed under Section 106 of the National Historic Preservation Act, will not diminish the integrity of the historic districts within the APE. As such, we recommend that State Project will have **No Adverse Effect on Historic Properties**.

Mark McMillan  
National Register Specialist  
Office of Environmental Planning  
Connecticut Department of Transportation
Image 1: South face of Metro North Railroad Bridge (#03693R), viewed from South Main Street.

Image 2: Detail of floorbeam on south truss of Bridge #03693R. Both the beam and the vertical clearance sign have been damaged by collisions.
Image 3: Elevations of proposed variable message signs (VSM). The left elevation depicts the VSMs proposed for North Main Street, South Main Street, and the western approach of Washington Street, it will have a longer mast arm and will include a posted sign to call for assistance.

Image 4: Elizabeth Street, viewed from South Main Street. Over-height vehicles would be directed down this street to avoid hitting Bridge #03693R. The eastern half of Elizabeth Street is part of an NHRP-listed district.
Image 5: Homes at #14 and #12 Elizabeth Street. These buildings are contributing elements to the historic district.

Image 6: Houses on the north side of Elizabeth Street (#17 in foreground to #11)
Office of Environmental Planning
Environmental Review - Historical and Archaeological Resources

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F.I.D. #: TBD
Overheight Vehicle Warning System
Washington St. at S. Main Streets
Norwalk

Predicted Archaeological Soil Sensitivity
- High
- Low
- Moderate
- Variable
- Poor
- Unknown

National Register Historic District

Approximate Location of Archaeological Site
- Historic
- Pre-Contact
- Unknown

September 15, 2017