

PROJECT DESCRIPTION

Project No. 0060-0160

F.A.P No. 0082(126)

Modern Roundabouts at Route 82 and Route 154

Town of Haddam

PROJECT LOCATION

This project is located in the Town of Haddam at the northern and southern intersections of Route 82 and Route 154, and includes the overlapping section of Route 82 and 154 between these two intersections. The northern intersection of Route 82 (Bridge Road) and Route 154 (Saybrook Road) is located at mile points 3.12 and 19.47 respectively. The southern intersection of Route 82 (Route 9 Connector) and Route 154 (Saybrook Road) is located at mile points 2.75 and 19.11 respectively. Route 82, through the project limits, is a primary route for vehicles traveling from Route 9 to cross the Connecticut River into East Haddam via the East Haddam Swing Bridge.

EXISTING CONDITIONS

Route 82 is an east-west minor urban arterial which overlaps Route 154, a scenic designated north-south minor urban arterial within the project location. These routes intersect at two T-type intersections at the northern and southern limits of the overlap.

The northern three-way signalized intersection of Route 82 (Bridge Road) and Route 154 (Saybrook Road) is located 0.60 miles to the west of the East Haddam Swing Bridge. The predominant vehicle turning movements are left from Bridge Road westbound onto Saybrook Road in the AM, and right from the Saybrook Road northbound onto Bridge Road in the PM. The current intersection configuration does not effectively process the high traffic volumes during peak hours and has resulted in excessive queue lengths and delays. Traffic operations at the intersection are complicated by the close proximity of several commercial driveways. Crash history shows a number of rear-end crashes which have likely occurred due to close proximity of commercial driveways to the signalized intersection. The East Haddam Swing Bridge has further complicated the operation of the intersection during times when the bridge is drawn open, closing Bridge Road traffic for 10-15 minutes at a time, resulting in traffic queues that periodically extend through the intersection.

The southern intersection of Route 82 (Route 9 Connector) and Route 154 (Saybrook Road) is stop-controlled at the Route 9 Connector approach and free flowing on the Saybrook Road approaches, with supplemental flashing beacons at all approaches. The Route 9 Connector intersects Saybrook Road at a 60-degree angle. The predominant vehicle turning movements are right from Saybrook Road southbound onto the Route 9 Connector in the AM, and left from the Route 9 Connector eastbound onto Saybrook Road in the PM. These disproportionate movements create an issue where drivers queued on the Route 9 Connector expect that vehicles traveling southbound on Saybrook Road will turn right onto the Route 9 Connector, rather than continuing straight on Saybrook Road southbound. The intersection crash history shows a high number of angle crashes involving vehicles on the Route 9 Connector turning into Saybrook Road southbound traffic. Based on an analysis of the crash data and intersection characteristics, the cause of the accidents can largely be attributed to the heavily skewed intersection geometry, high speed roadway approaches, the false expectation that all southbound vehicles will turn right onto the Route 9 Connector, and driver frustration associated with the lengthy queues at the Route 9 Connector approach.

Bridge No. 00622, which carries Saybrook Road over Clark Creek, is located 160 feet to the northwest of the southern intersection. Bridge No. 00622 is a hybrid structure of a cast-in-place concrete arch and a cast-in-place

concrete slab, covered with ballast fill. Bridge No. 00622 is classified as structurally deficient, with a superstructure rating of 4 as of the latest routine inspection dated 8/8/2019.

Based a three-year crash period, between January 1, 2017 and December 31, 2019, a total of 38 crashes occurred resulting in 10 injuries within the project limits. The northern intersection reported 12 crashes resulting in 4 injuries, and the southern intersection reported 20 crashes resulting in 6 injuries. An additional 4 crashes, which resulted in no injuries, were reported at other locations within the project area. The existing T-type intersections have 3 vehicle crossing conflict points each, which only contributed 10 of the total 38 crashes (26% project area total) but resulted in 6 of the 10 total injuries (60% project area total).

The current sidewalk system in the area fails to meet current ADA standards, lacks connectivity to key locations, and includes unmarked crosswalks at the northern intersection. Shoulder widths within the project limits vary from approximately zero to five feet. The southern intersection does not have any pedestrian facilities or equipment. These factors create unfavorable conditions for pedestrian and bicyclist travel through the area.

PROJECT PURPOSE

The purpose of this project is to improve traffic operations by reducing queue lengths and delays at the intersections while improving vehicular, bicyclist, and pedestrian safety by reducing vehicle conflict points and speeds, and improving pedestrian facilities. The replacement of Bridge No. 00622 is also needed to address its structural deficiency.

PROJECT DESCRIPTION

This project proposes to replace both existing T-type intersections with single-lane modern roundabouts. The roundabouts will improve traffic capacity by reducing vehicle queue lengths and delays, improve vehicle safety by eliminating the crossing conflict points and reducing the overall severity of the crashes. The approach geometry will be modified at the southern intersection to reduce the skew. Raised splitter islands will be constructed to channelize traffic and gradually reduce speeds as vehicles approach the intersections. Work within the circulatory roadways will include the construction of a concrete truck apron and a landscaped central island. Sidewalks will be provided around the circulatory roadway at both roundabouts. At the northern intersection, proposed sidewalk will be extended and tie-into the existing sidewalk systems along the east side of Route 154 and the south side of Bridge Road. The elevated topography located to the west of the northern intersection will require the installation of a retaining wall to accommodate the wider footprint of the circulatory roadway. Utility relocations are anticipated due to the increased roadway footprint of the circulatory roadways. The structurally deficient Bridge No. 00622, Saybrook Road over Clark Creek, will be replaced as part of this project. A new precast three-side frame structure will be installed immediately upstream of the existing Bridge No. 00622 and then the existing structure will be removed. It is anticipated that the majority of the installation of the proposed bridge will be performed offline while traffic is maintained on the existing bridge. Construction work related to the replacement of Bridge No. 00622 will result in approximately 250 linear feet of channel reconstruction of Clark Creek.

RIGHTS OF WAY

The construction of proposed roundabouts will require partial acquisitions, temporary rights and slope easements. The number of properties, and the extent to which they will be impacted, will be determined as the project progresses.

ENVIRONMENTAL CONSIDERATIONS

The following permits are anticipated for this project:

- CT DEEP Structures, Dredge & Fill/Tidal Wetlands (SDF/TW)
- Army Corps PCN
- DEEP Individual FMC
- DEEP General Permit for Water Resource Construction Activities (IWGP)
- General Permit registration for the Discharge of Stormwater and Dewatering Wastewater for Construction activities

PROJECT SCHEDULE

ROW: 06/09/2021

FDP: 09/21/2022

DCD: 11/02/2022

ADV: 11/30/2022

NTP: 04/10/2023¹

¹ The following projects are adjacent to the project and share overlapping construction activities.

0040-0141- Rehabilitation of the East Haddam Swing Bridge

0060-0162 - Bridge Road Sidewalks Improvements

PROJECT COST (CONSTRUCTION)

The estimated construction cost is \$7,300,000.