

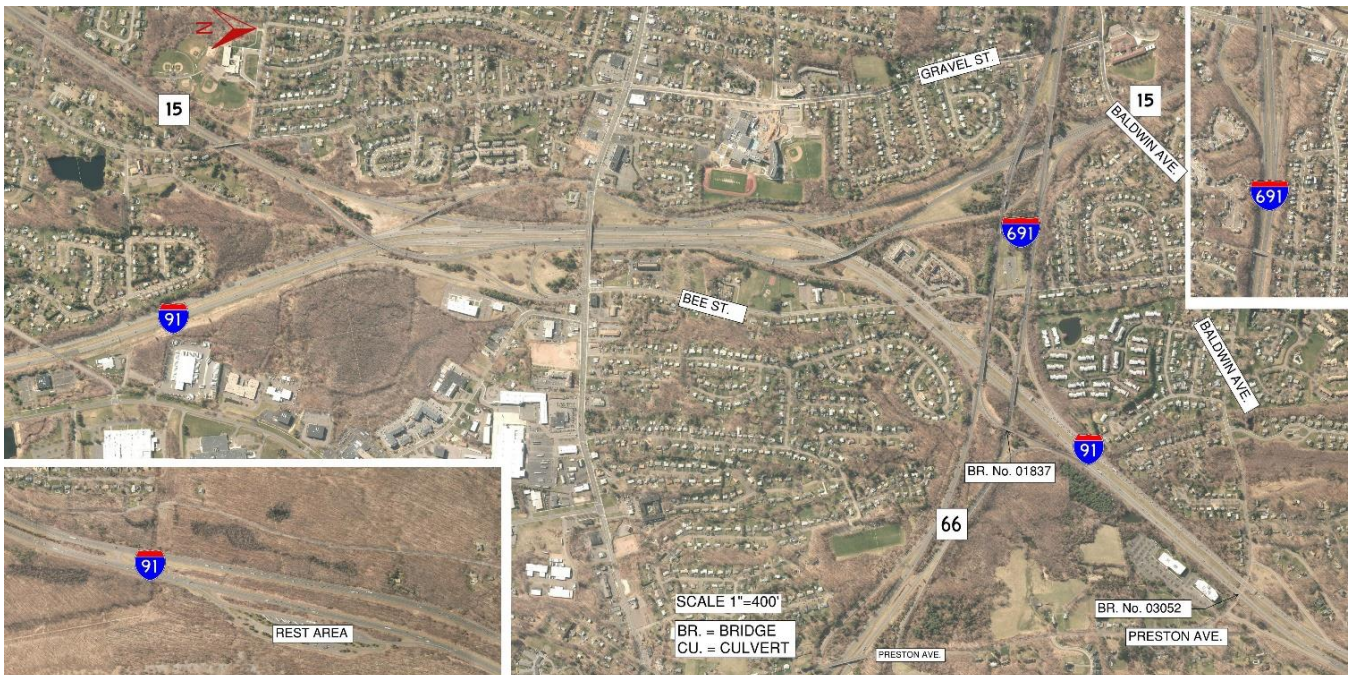
PROJECT DESCRIPTION

Interchange Improvements to I-691 Eastbound Off-Ramp to I-91 Northbound

LOCATION:

This proposed project is located on a segment of Interstate 91 (I-91) that provides access to Route 15 (Wilbur Cross Parkway), Interstate 691 (I-691), and East Main Street in the City of Meriden. All three highways in the project area consist of a complex system of mainline lanes, weave sections and ramp connections that form the I-91/I-691/Route 15 Interchange. The improvements proposed as part of this project encompass highway elements along the northbound direction of I-91 and eastbound direction of I-691 within the limits as described below.

- The proposed project limits begin on I-91 NB from the junction of the on-ramp from Route 15 NB (MP 19.6) to the Middletown rest area (MP 21.42) for approximately 1.8 miles.
- The proposed project limits begin on I-691 EB off-ramp (MP 0.02) and extend to its junction with I-91 NB for approximately 0.4 miles.



PURPOSE AND NEED:

The purpose of this project is to reduce congestion for the traffic movement at the left-handed off-ramp from I-691 EB to I-91 NB and along I-91 NB mainline and address associated safety concerns within the proposed project limits. The project intends to complete the following:

- Reduce traffic congestion to achieve a Level of Service (LOS) of D or better by design year 2051.

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Federal Aid Project No.: TBD
I-91/I-691/ Route 15 Interchange Improvements in Meriden, CT

- Improve safety associated with crashes caused by congestion and weaving.

The proposed improvements consist of widening the off-ramp from I-691 EB to I-91 NB (Interchange no. 11) to two lanes and the construction of an operational lane on I-91 NB from the on-ramp from Interchange no. 11 s and the Middletown rest area.

EXISTING CONDITIONS:

I-691 Eastbound and Westbound

Within the project limits, I-691/Route 66 consists of two mainline lanes of travel in each direction. Access to I-91 NB (Interchange no. 11) consists of a single-lane left-hand off-ramp from I-691 EB that merges with a single-lane I-691 WB off-ramp prior to merging with I-91 NB.

The existing (year 2017) operating conditions along mainline I-691 eastbound and westbound are considered good based on a level of service “C” or better. Intermittent backups on the I-691 EB off-ramp prior to its merge with the I-691 WB off-ramp have been observed during the peak hours. Future 2051 traffic volumes are anticipated to increase considerably resulting in LOS “E” on I-691 EB downstream of the off-ramp to I-91 NB. The off-ramp from I-691 EB to I-91 NB is expected to operate at a LOS “F” in 2051.

I-91 Northbound

I-91 NB within the project limits consists of three mainline lanes of travel. North of its merge with Interchange No. 11 ramps (MP 20.41), the existing I-91 NB serves an AM peak hour volume of 5,150 vehicles that is expected to increase to approximately 6,170 vehicles in 2051. The single lane entrance ramp from I-691 currently has an AM peak hour volume of 1,700 vehicles is expected to increase approximately to 2,070 vehicles per hour in 2051.

Levels of service downstream of the on-ramp from I-691 on I-91 NB are anticipated to be “C” during the AM and PM peak periods in 2051. The level of service upstream of the Interchange No. 11 ramp reduces to a LOS “E” in 2051 due to the heavy traffic from the ramp and mainline I-91 NB resulting in traffic congestion and backups.

The I-91 NB segment between the I-691 Interchange No. 11 (MP 20.41) and the rest area off-ramp has three percent positive grade and high truck volume (around 10%) that results in slower traffic.

Crash History

The crash data between May 1, 2014 and April 30, 2017 indicated that there were a total of 63 crashes with 12 injuries (I-91 NB recorded 40 crashes with 8 injuries, I-691 EB to I-91 NB ramp recorded 11 crashes with 2 injuries and I-691 WB to I-91 NB ramp recorded 12 crashes with 2 injuries).

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The predominant types of crashes consist of the following:

I-91 NB	I-691 EB (ramp to I-91 NB)	I-691 WB (ramp to I-91 NB)
Fixed Object – 37%	Fixed Object – 64%	Fixed Object – 83%
Rear End – 35%	Rear End – 27%	Right Angle – 9%
Sideswipe – 28%	Sideswipe – 9%	Sideswipe – 8%

The crash data show that the predominant types of crashes on the roadway segments can be attributed to congestion due to limited ramp capacity as well as to congestion on I-91 mainline.

Traffic Volumes

Maximum approximate peak hour volumes observed in the year 2017 and projected to the year 2051 for each highway corridor within the project area are as follows:

Year	I-91 NB	I-691 EB (ramp to I-91 NB)	I-691 WB (ramp to I-91 NB)
2017	5,370(5,350)*	1,620(1,560)	80(60)
2051	6,440 (6,430)	1,970(1,890)	100(70)

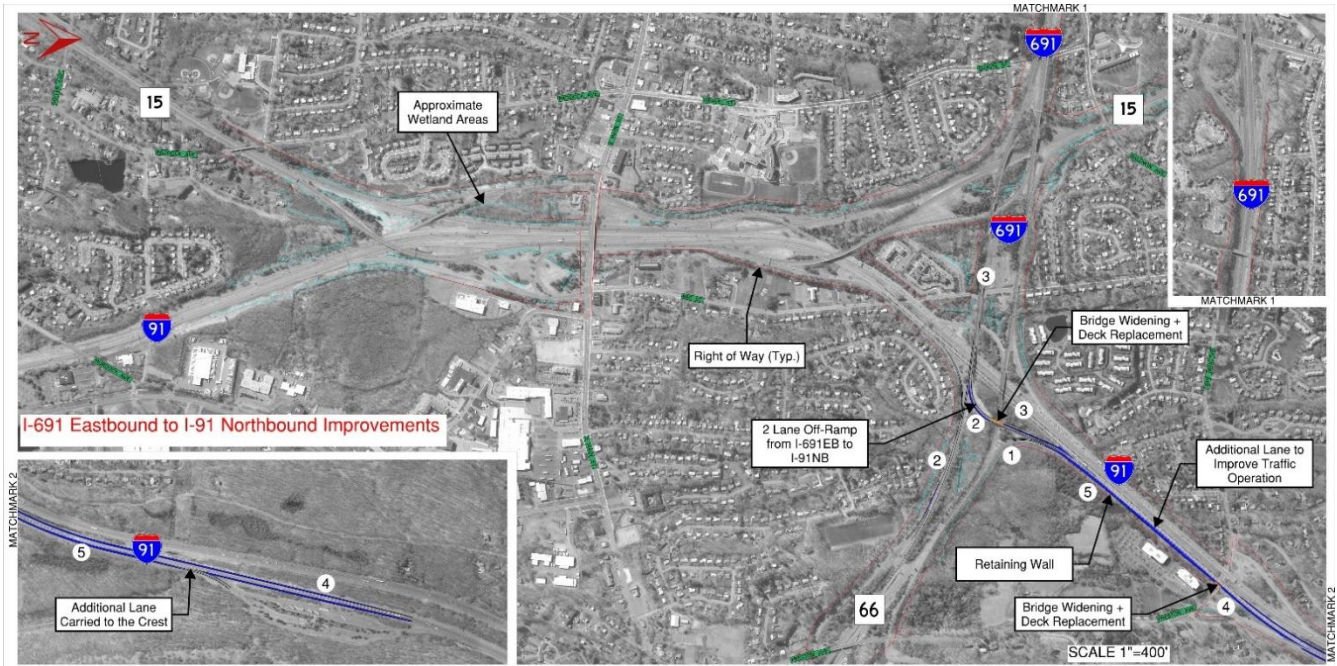
*AM Peak volume (PM Peak volume)

PROPOSED IMPROVEMENTS

I-691 Eastbound

It is proposed to widen the exit ramp from I-691 EB to I-91 NB to increase capacity and reduce congestion. Bridge No. 01837 will be widened due to the proposed improvements. The merge point of the I-691 EB and WB off-ramps will be re-aligned to improve traffic operations by providing additional storage and maneuverability for vehicles.

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I-91 Northbound

I-91 NB is proposed to be improved between the on-ramp from Route 15 NB and the Middletown Rest Area by adding an operational lane and widening Bridge No. 03051 (I-91 NB over Baldwin Avenue) to accommodate the additional mainline lane. The deck for this bridge is also proposed to be replaced.

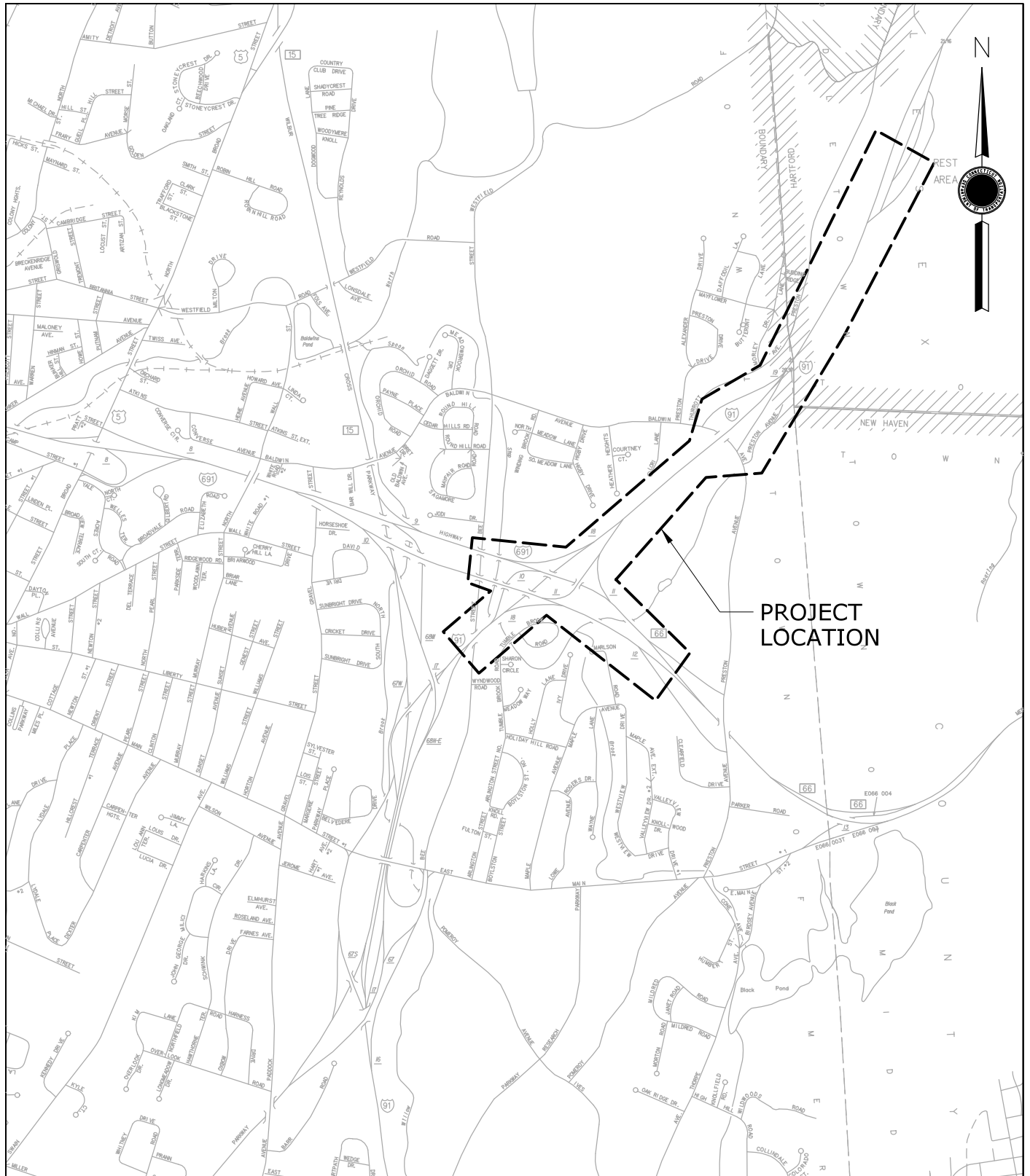
No right-of-way impact is anticipated as part of this project.

ESTIMATED COSTS:

- Construction\$45 million (2023 Construction Year)
- ROW\$0
- UtilitiesTBD
- Preliminary Engineering\$25 million (Includes Project 79-240 and 79-246)

SCHEDULE (DESIGN/BUILD):

- Design Approval..... 02/16/2022
- Procurement.....February 2022
- Final Design Completion Date.....February 2023
- Construction Completion Date..... 03/31/2025



0 2000' 4000'
 HORIZONTAL SCALE
 1"=2000'

STATE PROJECT NO.:
 0079-0245

CITY/TOWN:
 MERIDEN & MIDDLETOWN



STATE OF CONNECTICUT
 DEPARTMENT OF TRANSPORTATION

FIGURE 7
 I-691EB TO I-91NB IMPROVEMENTS
 LOCATION MAP



DATE:

06/23/2020