

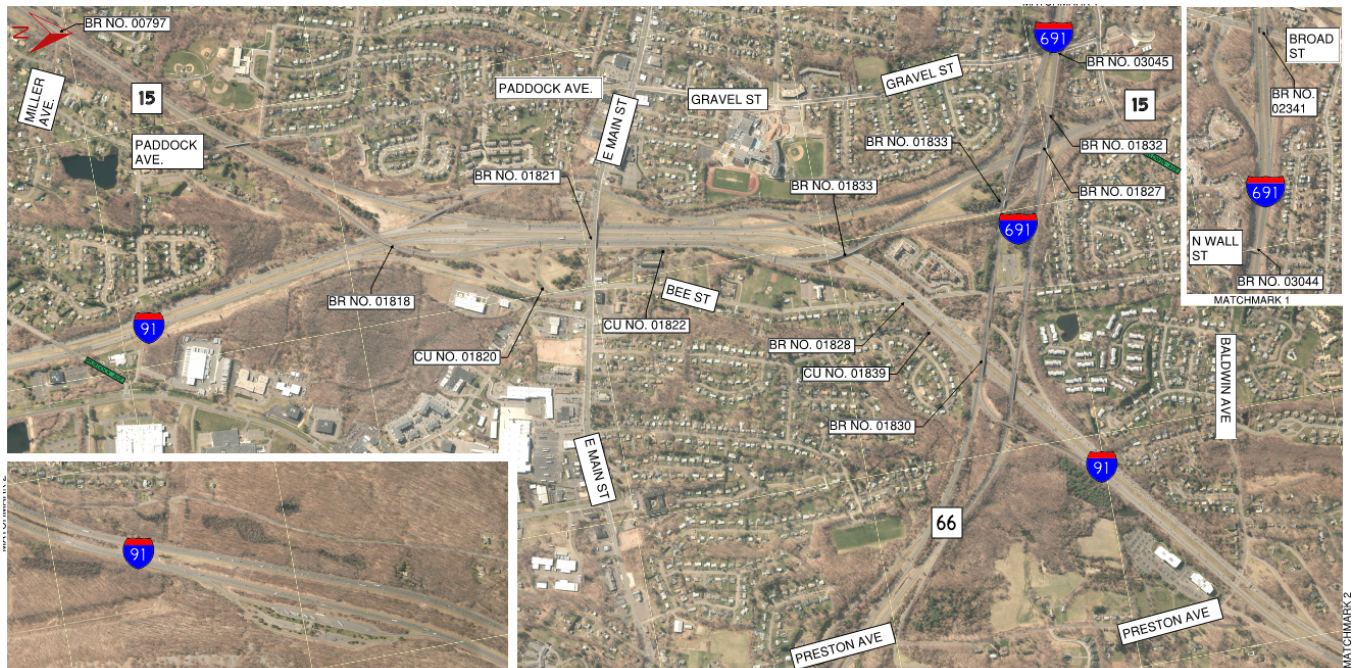
PROJECT DESCRIPTION

Interchange Improvements to I-91 Northbound, I-691 Westbound and Route 15 Northbound

LOCATION:

This proposed project is located on a segment of Interstate 91 (I-91) northbound (NB) from the Wallingford/Meriden town line to interchange 18. This segment provides access to Route 15 NB (Wilbur Cross Parkway), Interstate 691 (I-691) westbound (WB), Route 66 eastbound (EB), 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-91/691/Route 15 Interchange. The improvements proposed as part of this project encompass highway elements in the northbound direction within the limits as described below.

- The limits of improvements begin on I-91 NB, extending from the Meriden-Wallingford town line (MP 17.33) to 700 feet north of Bridge No. 01825 (Route 15 NB overpass; MP 20.03) for approximately 2.5 miles.
- The limits of improvements on Route 15 NB extend from Miller Avenue (MP 63.13) to 300 feet beyond the on-ramp to I-691 WB (Interchange 68W; MP 64.90) for approximately 1.86 miles.
- The limits of improvements on I-691 WB extend from the gore area of the on-ramp from Route 15 NB (Interchange 68W; MP 0.48) to Route 5/Broad Street overpass (MP 1.32) for approximately 0.8 mile.



State Project No.: 0079-246
Federal Aid Project No.: TBD
I-91/I-691/ Route 15 Interchange Improvements in Meriden, CT

PURPOSE AND NEED:

The purpose of this project is to address traffic operational and safety concerns associated with capacity, congestion and weaving along Route 15 and I-91 in the northbound direction, as well as capacity deficiencies on the Route 15 NB off-ramp to I-691 WB and on mainline I-691 WB. This project intends to complete the following:

- Reduce traffic congestion to achieve a Level of Service (LOS) D or better by design year 2051
- Improve safety associated with crashes caused by congestion and weaving

It is proposed to reconfigure both I-91 and Route 15 mainlines, replace existing ramp connection from I-91 NB to Route 15 NB with a new two-lane off-ramp and the existing off-ramp from Route 15 to East Main Street with a new one lane off-ramp. In addition, the existing off-ramp from Route 15 NB to I-691 WB is proposed to be widened to a two-lane off-ramp.

EXISTING DESCRIPTION:

Route 15 NB has an approximate 2000-foot weaving section beginning at the I-91 NB off-ramp (Interchange 17) and ending at the off-ramp to I-91 NB and Route 66 EB (Interchange 68 N-E). Within this weaving section, traffic enters from the left side via I-91 NB Interchange 17 and the right lane transitions into an exit only lane for Interchange 68 N-E and serves as an access point for traffic entering from East Main Street. Although this weaving section meets the current design standards, high traffic volumes and complex traffic movements render the available weaving length insufficient, resulting in unacceptable levels of service and contribute to driver confusion. The off-ramps to Interchanges 68 N-E and 68 W experience additional congestion due to the weaving condition.

Crash History

Evaluation of crash data has identified high crash rates in the project area. This may be attributed to the weaving distance, which meets current design standards but is insufficient due to high traffic volumes and complex traffic movements.

Between May 1, 2014 and April 30, 2017 there were a total of 852 crashes with 233 injuries and one fatality (I-91 NB recorded 132 crashes with 33 injuries, I-691 WB recorded 61 crashes with 15 injuries and Route 15 NB recorded 659 crashes with 185 injuries and one fatality). The fatal crash occurred in the segment between Interchange 68W off-ramp and entrance ramp from I-691 WB. The predominant types of crashes consist of:

<u>I-91 NB</u>	<u>I-691 WB</u>	<u>Route 15 NB</u>
Fixed object-38%	Fixed object – 39%	Rear End – 84%
Sideswipe – 31%	Rear End -31%	Fixed Object – 9%
Rear End - 27%	Sideswipe - 26%	Sideswipe - 7%

I-91/I-691/ Route 15 Interchange Improvements in Meriden, CT

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 WB	Route 15 NB
2017	3,820(4,210)*	3,270(4,910)	4,490(4,860)
2051	4,560(5,060)	3,920(5,900)	5,380(5,840)

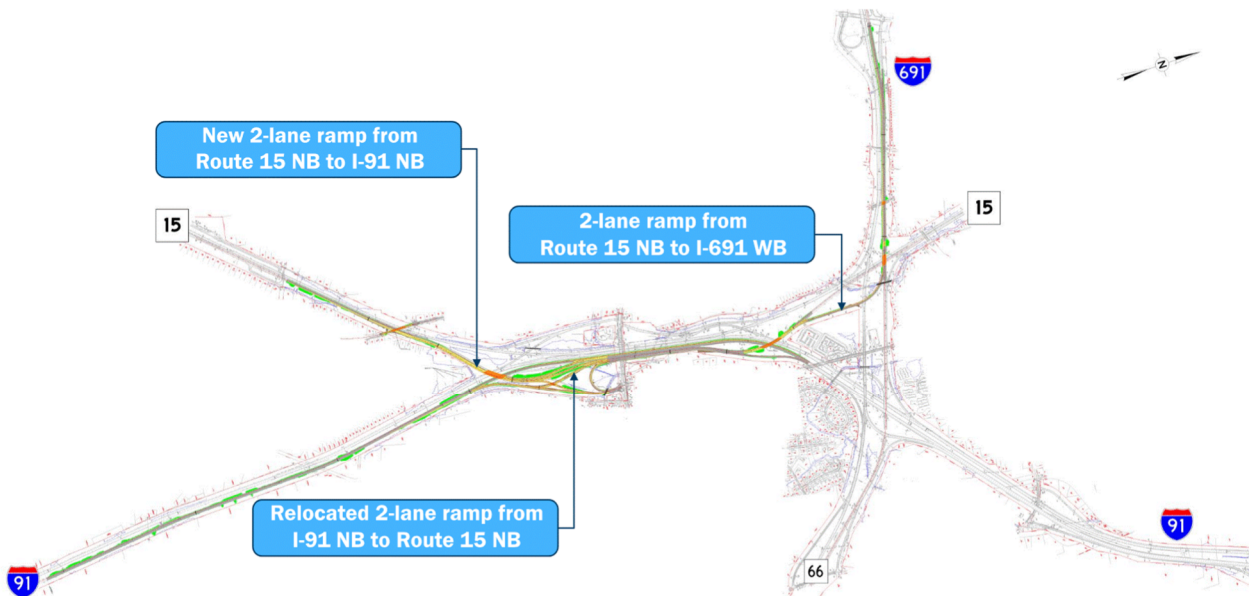
*AM Peak volume (PM Peak volume)

PROPOSED IMPROVEMENTS:

Route 15 Northbound and I-691 Westbound

Route 15 NB is proposed to be reconfigured and widened. The new four lane roadway, from Miller Avenue to Interchange 68 N-E, will be reconfigured to provide a two-lane entrance ramp to I-91 NB and two through lanes for Route 15 NB. The revised configuration would eliminate a weaving point at the I-91/Route 15 junction. Interchange 67 (Route 15 NB off-ramp to East Main Street) will be replaced with a new one-lane off-ramp. Interchange 68 N-E will also be aligned to provide improved geometry. Interchange 68 W will be widened to a two-lane off-ramp to I-691 WB to provide additional capacity and reduce congestion. The proposed widening will continue along I-691 WB to the Route 5/Broad Street.

0079-0246: Northbound Improvements



I-91 Northbound

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I-91/I-691/ Route 15 Interchange Improvements in Meriden, CT

I-91 currently has three lanes in the northbound direction except from the Murdock Avenue overpass to the I-691 overpass, which has only two lanes. This area is proposed to be widened and reconfigured to provide four lanes with two through lanes dedicated for I-91 NB and a two-lane on-ramp for vehicles entering from Route 15 NB that will eventually merge into one lane in the vicinity of the I-691 overpass. The additional lanes would increase transition lengths for weaving and provide additional capacity in the area. Interchange 16 (I-91 NB exit ramp to East Main Street) will be realigned and widened to provide an additional travel lane that will replace Interchange 17 to provide access to Route 15 NB and continue to provide access to East Main Street. The proposed Interchange 16 will allow vehicles to access Route 15 NB from the right side, as opposed to the left side as currently configured. The new configuration will also eliminate a weaving area and increase the merging distance along Route 15 NB.

It is anticipated that the proposed improvements will require the construction/rehabilitation of approximately eleven structures (one new bridge, three replacement bridges, two widening/rehabilitation bridges, two rehabilitation bridges, one removal bridge, two rehabilitation culverts) and approximately eighteen retaining walls.

ESTIMATED COSTS:

- Construction.....\$215 million
- ROW.....\$1 million
- Utilities.....TBD
- Preliminary Engineering.....\$32 million (Includes Project 0079-0240 & 0079-0245)

ANTICIPATED SCHEDULE:

- Final Design Plans (FDP).....Summer 2023
- Beginning of construction/Notice to Proceed (NTP).....Spring 2024
- Construction Duration4-5 years