

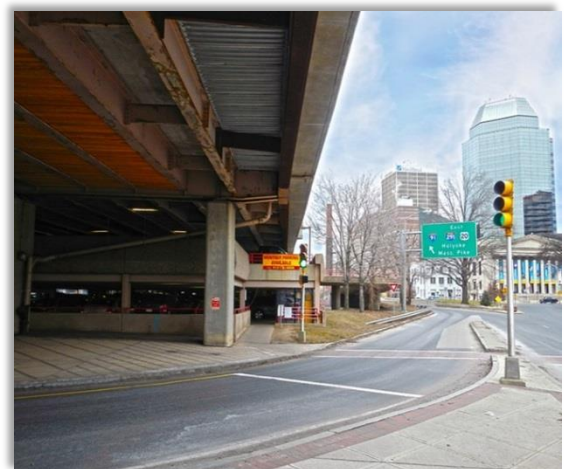
I-91 Springfield Viaduct

SPRINGFIELD, MASSACHUSETTS



The Springfield Viaduct is a 4,200ft long, 48 span, elevated structure carrying I-91 NB and SB through downtown Springfield. The project consists of a complete bridge deck replacement and associated steel repairs of the viaduct and connecting ramps utilizing a phased construction approach.

Steere Engineering, as the engineer for contractor J.F. White was responsible for the temporary works designs associated with the \$176 Million project. As part of the construction approach, the existing bridge deck required shoring support to be designed along the construction phase lines. These locations required support at the exterior overhangs resulting from the deck saw cutting which converted typical interior bays to exterior overhangs at the phase lines. Critical to this shoring design was the accommodation of the relative movement between framing located on each side of the phase line as the existing deck dead was removed from half of the bridge while the cross frames remained intact. In addition to the shoring design, Steere was also responsible for the analysis and design associated with the contractor's demolition procedure. This included stress analysis, of multiple girders, under various states of composite and non-composite conditions as multiple pieces of construction equipment traveled across the 48 span structure removing the deck. Spans 3 through 11 of the structure were comprised of pin and hanger spans requiring special analysis to accommodate the demolition sequence.



Owner/Contractor: MassDOT / J.F. White Contracting Company
Reference: Rober Murphy, JF White Contracting
Phone: 617-454-1838

Design and Support: 2015/2015
Construction Completion: 2019
Project Cost: \$178 Million