

Project Location

Chicago, IL

Services Provided

Phase I

Project Owner

Chicago Department of Transportation

Project Contact (Prime)

WSP

Jamal Grainawi, PE, Project Manager

Key Team Members

Moussa Issa, Chief Structural Engineer

Mahmoud A. Issa, Structural Project Engineer

Lisa Buntin, Structural Engineer

John Saraceno, Structural Engineer

Mustafa Alobaidi, Staff Engineer

Description of Project**Webster Ave over the Chicago River (SN 016-6057)**

The existing structure is a double-leaf, trunnion bascule bridge carrying one eastbound lane, one westbound lane, one westbound turn lane and two sidewalks over the North Branch of the Chicago River. The existing bridge has an overall length of 291'-3" (back-to-back abutments; 20'-0" / 39'-3" / 168'-9" / 39'-3" / 20'-0" spans). The overall out-to-out deck width is 60'-0". The movable span superstructure consists of a 5" steel grid deck supported on rolled steel stringers, built-up steel floorbeams and two half-through trusses. The movable span sidewalks consist of 2" concrete-filled steel grid supported on rolled steel channel sections and floorbeam brackets. The existing

substructure consists of reinforced concrete piers and abutments with counterweight pits supported by timber piles. The fixed span superstructure consists of an approximately 10"-thick reinforced concrete deck supported on stringers, transverse floorbeams and cross girders.

Description of Scope of Work:

The bridge rehabilitation will include the following:

- Removal and replacement of the deck and sidewalks in the movable and fixed spans
- Construction of expansion joints between fixed and movable spans and at the center break
- Remove and replace all stringers in the movable span and select stringers in the fixed spans
- Remove and replace all floorbeams in the movable span
- Remove and replace bottom lateral bracing in the movable span and over the counterweight pits
- Perform repairs to the anchor columns and anchor column girders
- Repair and strengthen the main truss in areas with section loss as required to restore the original design capacity
- Clean and paint steel superstructure members
- Remove and replace steel and concrete railings
- Repair and adjust the live load bearings
- Perform bridge balancing
- Dewater, clean, and perform structural repair of concrete and epoxy crack injection at the counterweight pits
- Perform structural repair of concrete and epoxy crack injection at the river pier and abutment stems
- Remove and replace damaged dolphins and fender system with new approved pier protection system
- Repair damaged areas to northeast and southeast retaining walls
- Remove existing bearing pedestals, repair surrounding concrete and clean bearing area to accommodate new bearings

HBM assisted PB/WSP with the Phase I engineering services as described below:

- Existing document review, field inspection, and preparation of field notes
- Preparation of Bridge Condition Report (BCR)
- Preparation of Type, Size and Location (TS&L) Plans
- Review of rating calculations for existing stringers and floorbeams
- Quality Assurance / Quality Control (QA/QC)