

Multnomah County Willamette River Bridges Capital Improvement Plan



Project Summary Information: Gate, Span Lock and Structural Rehabilitation - River Spans

Bridge Names(s):	Broadway	Project ID#:	BUN-BR-10	Project Status:	In Progress		
Project Rank:	12	Primary Category of Work	Electrical and Lighting	Performance Attribute Total Score	24	Importance Score	TI-2 31.07
Logical Grouping Project ID #'s:	BR-ELEC-02, BR-ELEC-03, BR-MECH-04, and BR-STRUCT-14						
Bridge Num and Names(s):	06757 Willamette River, Broadway St [Broadway] ; 06757 Willamette River, Broadway St [Broadway]						

Definition of Problem

The span supports for the movable bridge require re-alignment to allow for even loading at each corner of the bridge. The span guide roller assemblies are worn and can cause binding of the span during operation of the bridge. All four span locks have clearance that prevents holding the bridge down when closed. The bridge warning and barrier gates are in good condition but impact damage would necessitate replacement of the warning and/or barrier gates. Some of the vertical truss members have been severed in order to avoid conflicts with the gates.

Description of Proposed Solution

The proposed solution is to analyze the current state of the span supports for the movable bridge and re-align the shoes to ensure even loading on each corner. The span guide assemblies should be removed from the bridge, disassembled, cleaned, and have wearable components replaced. The bronze span lock guide and receiver shoes will also be replaced to reduce the clearance to a closer fit. Both warning and barrier gates may be replaced in-kind. Work would include the demolition of the existing gate and installation of new gate in both cases. The vertical truss members will be strengthened in the areas where the sectional area has been reduced.

Project Justification

The benefits of completing this work are even load across all span supports on the movable bridge, which prevents a "pumping" effect created by traffic when the supports are not in hard contact. Improved bearing also ensures that the traffic load of the bridge is evenly distributed across all four corners. Improvement of the span guide and seating guide operation will allow for more reliable overall bridge operation. The benefits of replacing the shoes are increased service life of the span lock due to reduced shock loading and improved safety during a seismic event. The benefit of reconstructing the warning and barrier gates is to ensure the reliable operation of an essential safety feature.



Right-of-Way:	\$0
Utility Reimbursement:	\$0
Construction:	\$3,058,824
Preliminary Engineering:	\$760,410
Construction Engineering:	\$760,410
Total Cost at Target Construction Time:	\$4,579,643
Target Construction Time:	2020-2024

Notes:

This project includes improvements identified during the 2014 public engagement process.