



# Walk Bridge Replacement Project

## Rehabilitation of Existing Walk Bridge

WALK BRIDGE PROGRAM | 2018

Environmental Footprint

The final environmental footprint of the bridge is impacted by the strengthening measures for the existing bridge piers. Additionally, temporary work trestles and a two-track temporary bridge are required to perform the rehabilitation, all of which would have significant environmental impacts during construction.

*The environmental footprint refers to the areas of permanent construction, the limits of construction activity, and the impacts along the corridor.*

Construction

All rehabilitation work occurs while working adjacent to the operating railroad, leading to construction inefficiencies and additional project costs and duration. North Water Street will be impacted for 24-30 months as the existing abutment, walls, truss spans and high tower structures are strengthened. Unexpected repair needs represent a risk to project cost and schedule. Typically, newly identified repair needs are uncovered once the work begins. The rehabilitation measures for the swing span's mechanical and electrical systems represent a small percentage of the overall improvement needs of the structure. Converting the existing swing span to a non-movable span, navigation requirements aside, reduces the cost by about 5% with no improvement to the overall construction schedule.

Rail Service

Rail traffic is maintained throughout construction with a two-track outage expected for nearly the entire construction duration. While only two tracks are available, train operations will be affected.



Properties

Approximately 22 properties are affected, including the total acquisition of the Marina at 11 Goldstein Place, the relocation of the IMAX, and temporary impacts to the Maritime Aquarium. These properties are necessary for contractor staging and access to the river in the vicinity of the Bridge.

River Navigation

One of the existing navigation channels remains open during construction, with the exception of brief periods to complete channel closure due to specific construction operations. The vertical clearance is restricted to a minimum of 16 feet and a maximum of 25 feet during construction. Post construction, the rehabilitated movable span retains the existing vertical navigation clearance for both the span open and span closed condition.

Resiliency

Some of the bridge components would remain more than 120 years old, requiring more frequent repairs and higher life-cycle costs. This alternative would continue to be vulnerable to extreme weather conditions and does not offer any improvements to resiliency or redundancy.

**Rehabilitating the Existing Bridge** would require in-place strengthening or replacement of the existing Walk Bridge elements and supporting systems that would extend the bridge's service life by an additional 100 years. The areas requiring improvement are the steel trusses; bridge piers, foundations, abutments and retaining walls; mechanical, electrical and architectural components; rail systems, including track and catenary; and the high tower transmission structures. Making improvements to the swing span's mechanical and electrical systems, allowing it to continue to open and close reliably, represents a small percentage of the overall rehabilitation needs of the existing Walk Bridge and supporting systems.

### Estimated Construction Cost

(Conceptual Design Estimate from the Environmental Assessment)

Approx. \$425 – 475 million

Movable bridge features represent approx. 5% of the total cost.

### Construction Duration

Approx. 60 months

### Vertical Clearance

16 feet (closed)

### Horizontal Clearance

58 feet (west channel) 53 feet (east)

Clearance may be reduced due to strengthening of the existing piers.



### Contact Us

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