Walk Bridge Program Overview

Norwalk Harbor Management Committee Coordination Meeting

March 29, 2016
Meeting Agenda

1. Welcome & Introductions
   James Fallon, CTDOT
2. Program Overview
   John Hanifin, CTDOT
3. Recap and Design Update
   Christian Brown, HNTB
4. Open Discussion
   James Fallon, CTDOT
Project Team

Federal Transit Administration (Federal Agency)

CT Department of Transportation (Owner)

Metro-North Railroad (Rail Operators)

City of Norwalk

HNTB (Design Consultant)

Cianbro Middlesex Joint Venture (Construction Manager/General Contractor)

Parsons Brinckerhoff (Program Management)
Program Overview

John Hanifin, CTDOT
Purpose and Need

The purpose of the Walk Bridge Project is to replace the existing deteriorated bridge with a **resilient** bridge structure which will:

- Enhance the **safety** and **reliability** of rail service
- Offer operational flexibility and ease of maintenance
- Provide for increased efficiencies of rail transportation along the New Haven Line/Northeast Corridor
- Maintain and improve navigational capacity and dependability for marine traffic in the Norwalk River
- Increase bridge reliability, incorporate bridge **redundancy**, and provide a sustainable bridge for significant weather events, thereby accommodating current and future rail and marine traffic
Consultation Process

Stakeholder input to help shape this project and its outcomes through your participation in key activities and milestones.
Program Contracts and Environmental Documents

**Design Contracts**
- HNTB (CTDOT)
  - Emergency Fender Repair *(COP)*
  - Danbury Branch Dockyard *(Cat Ex.)*
  - CP243 Interlocking *(Cat Ex.)*
  - Walk Bridge/Fort Point Street *(EA/EIE)*
- Lochner (CTDOT)
  - Osborne Avenue *(Cat Ex.)*
- McLaren (CTDOT)
  - East Avenue Bridge *(Cat Ex.)*
- A. Discesare & Associates (CTDOT)
  - East Avenue Roadway *(Cat Ex.)*

**Construction Contracts**
- • Emergency Fender Repair
- • Danbury Branch Dockyard
- • CP243 Interlocking
- • Walk Bridge/Fort Point Street
- • Osborne Avenue
- • East Avenue Bridge
- • East Avenue Roadway

COP: Certificate of Permission  EA/EIE: Environmental Assessment/Environmental Impact Evaluation  Cat Ex.: Categorical Exclusion

www.walkbridgect.com
CM/GC Project Delivery Method

- Contractor acts as Construction Manager during design
- Advises CTDOT on schedule, phasing, constructability, materials availability, risk, and cost.
- Reduces construction duration and potential impacts
- Improves construction sequencing
- Reduces risk
- Construction phased to maintain rail service throughout construction and reduce impacts to the community.
Environmental Phase

• National Environmental Policy Act (NEPA) and the Connecticut Environmental Policy Act (CEPA) environmental review

• Combined Environmental Assessment/Environmental Impact Evaluation (EA/EIE)

• Promote informed decision-making by considering a range of reasonable alternatives leading to selection of the preferred alternative

• Public review and comment on the Draft EA/EIE
Program Projects

John Hanifin, CTDOT
Fender Repair Project

The U.S. Coast Guard has determined that the condition of the existing fender system at the center (pivot) pier of the Walk Bridge is a public safety issue, due to the condition at the east channel, and has mandated that repairs be completed. The fender system protects both the bridge and maritime traffic from damage in the event of a collision.
Fender Repair Project (con’t)

• Ensure safety of train traffic & waterway users
• USCG requirements
• Replace deteriorated portions of the existing fender system
  • New vertical timber support piles on the east side
  • New horizontal timber walers

Anticipated Start: 2016

Anticipated Duration: 5-6 months
CP243 Interlocking

An "interlocking" allows a train to switch tracks

- To allow for two-track Metro-North Railroad (MNR) operations during reconstruction of the Walk Bridge and maintain satisfactory rail service.
- Construct a new four-track interlocking
- Minimal impact to the local roadway network
CP243 Interlocking (con’t)

This work will consists of:
• Track realignment
• Installation of switches and turnouts with crossover tracks
• New signals and signal houses
• Overhead catenary modifications (including new crossover wiring throughout the interlocking)

Anticipated Start: Early 2017
Anticipated Duration: 2 years
Danbury Branch Dockyard

- To facilitate rail operations during construction of the Walk Bridge
- Minimal impact to the local roadway network
Danbury Branch Dockyard (con’t)

This work will consist of:
• Adding track sidings
• Signal work and electrification to the southern end of the Danbury Branch
• New bridge over Ann Street

Anticipated Start: Early 2017
Anticipated Duration: 2 years
Replacement of the Walk Bridge Project
Replacement of the Walk Bridge Project
Replacement of the Walk Bridge

- Installation and commissioning of 2 new movable spans and fixed approaches
- Replacement of bridge piers
- Installation of new overhead contact system (OCS) and modifications to existing OCS
- Track relocations
Replacement of the Walk Bridge Project

- Retaining wall and civil-related construction, including utility relocations
- High tower and transmission line removal/relocation
- Overall construction phasing to limit impacts to rail, waterway traffic, and community

Anticipated Start: Mid 2018
Anticipated Duration: 4-5 years
Replacement of the Walk Bridge–Fort Point Street

Rehabilitation of Metro-North Railroad Bridge over Fort Point Street is included in the Walk Bridge Replacement

• Single-span structure carrying four railroad tracks
• Now in deteriorated condition
Additional Projects – Currently In Design

Osborne Avenue Bridge

East Avenue Bridge
RECAP: Public Scoping Meeting  Feb 2015
Christian Brown, HNTB
Existing Walk Bridge
What We Examined - Bridge and Rail

• Rehabilitation Needs
• Movable Span Types
• Track Alignments
• High Tower Needs
• Geotechnical Screening
• Traffic Impacts
• Right-of-way Property Needs
• Utility Impacts
• Construction Staging
What We Examined - Navigation

• Navigation Needs – clearance and alignment
• Opening Requirements
• Vessel Collision Data
• Maritime User Needs
• Channel Hydraulics
• All options increase the horizontal clearance
• All options increase the span-down vertical clearance
• All options improve channel alignment
What We Examined - Construction

• Overall construction staging and railroad operations; rail and maritime operations
• Construction access and staging areas
• Construction adjacent to operating tracks
• Construction adjacent to existing bridge piers
• Construction adjacent to buildings/properties
• Seasonal limitations on in-water construction
Narrowing Bridge Replacement Options

- Movable Span Types
- Navigation Clearances
- Counterweight Configuration
- Approach Span Types
- Substructure Types
- Mechanical Systems
- Electrical Systems
- Architectural Requirements
- Resiliency
- Redundancy

- Track Alignment
Alternatives Analysis
UPDATE: Design Status

Christian Brown, HNTB
Project Overview

1. Conceptual Engineering Phase
   • Developed Feasible Alternatives
   • On-going Agency Coordination

2. Preliminary Walk Bridge Design Phase (30% level)
   • Advancing 2 Alternatives
   • On-going Environmental Documentation and Permitting

3. Constructability and Sequencing Refinement

4. CMGC Delivery

5. Public Involvement Program:  www.walkbridgect.com
Structure Type Study

The final design and actual look of a selected bridge replacement option will evolve over time.
Preliminary Engineering Design: 2 Alternatives

Trunnion Bascule Through Plate Girder
Rolling Bascule Through Truss

- Non-parallel track alignment
- CMGC Process
- On-going Environmental
Bridge Replacement Challenges

• Physical Constraints
• Overall Constructability
• Construction Schedule
• Rail Traffic Impacts
• Waterway User Impacts
• What we’ve learned...
  • West Approach geometry
  • High Tower coordination and replacement
  • Retaining walls
  • Fort Point Street bridge
  • Coordination with adjacent bridges
  • Contractor means and methods
Preliminary Design Refinement

Through Truss Vertical Lift Span

- West Approach Rebuild and Updated High Tower sequence
- Parallel track alignment
- Improved constructability
- Reduced retaining wall requirement
- Reduced impacts at Fort Point Street
- Reduced disruptions to rail and marine traffic
Design Status and Consultation

Detail Design (Public Outreach)
- Main Span Configuration
- Piers/Abutments/Walls configuration
- Finishes and colors
- High Towers
- Historic and Public Input

Construction Staging and Refinement (CMGC)
- Main Span Configuration
- Track Alignment
- West Approach Rebuild
- High Towers
- Construction Staging
Main Span Configuration: Movable Span Type

1. Main Span Superstructure
2. Overall Constructability
3. Construction Schedule Reduction
4. Rail Traffic Impacts
5. Waterway User Impacts
6. Final Site Context
Replacement of the Walk Bridge Project
Design Elements: Main Span Superstructure
Through Truss Rolling Bascule
Through Truss Rolling Bascule
Through Truss Moveable Lift Span
Through Truss Moveable Lift Span
Channel Alignment
Channel Alignment
Channel Alignment
Span Color
Design Elements: Control House
Bridge Approach Spans
Open Discussion

Review of December Letter
Stay Involved

Additional information about the project can be viewed at www.walkbridgect.com

or in person between 8:30 am and 4:30 pm Monday through Friday at

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