Commercial Street Bridge
Feasibility Study
SR 376, SEC A62

PUBLIC MEETING

November 13, 2019
Frick Environmental Center
Project Team

- **PennDOT District 11-0 Design Division**
  - Doug Seeley, P.E. – Assistant District Executive, Design
  - Michael Szurley, P.E. – Project Manager

- **HDR**
  - Roger Eaton, P.E. – Lead Bridge Designer/Deputy Project Manager
Project Location

Source: United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84)
Pittsburgh East, PA 2016
Proximity to Squirrel Hill Tunnel

Summerset at Frick
Walnut Towers
Irish Center
Frick Park
Completed in 1951, the Commercial Street Bridge is nearly 70 years old.

The structure carries approximately 100,000 vehicles per day, but does not allow permit loads due to insufficient load-carrying capacity.
Major Past Rehabilitation

- Construction completed in 1951
- 1980 Rehabilitation
  - Deck widened by 2 feet in both directions
  - Concrete wearing surface removed and replaced
  - Latex overlay added
Major Past Rehabilitation

- 2007 Rehabilitation
  - Joint replacements
  - Hydro-demolition and latex wearing surface
  - Concrete substructure repairs
  - Floorbeam repair
Major Past Rehabilitation

- 2012 Rehabilitation
  - Replace select expansion joints with strip seal dams
  - Strengthen fascia (outer) stringer
  - Install column bracing at top of arch spans
  - Miscellaneous concrete spall repairs
Current Condition

- Numerous concrete spalls
- Cracks up to ¼” wide in some locations
- Active corrosion is evident throughout the structure
- The condition of the deck, floor system, and arch spandrel columns prevent the bridge from carrying large/oversize vehicles

- Another rehabilitation will be needed soon to prevent load restrictions
Study Phase Chronology

- **March, 2019:** Project Purpose and Need Approved: “Address deficiencies of the Commercial Street Bridge in order to provide a safe and efficient bridge”.
- **April, 2019:** Feasibility of rehabilitation options completed. Several rehabilitation options were evaluated and determined not to meet Purpose & Need or Secretary of the Interior criteria.
- **May, 2019:** Historic Bridge Rehabilitation Analysis findings approved by FHWA.
- **Sept, 2019:** Historic Bridge Rehabilitation Analysis findings approved by PA State Historic Preservation Office.
- **Today:** Evaluation of structure replacement options in progress.
Bridge Replacement Options

Two construction methods considered:

▪ **Staged Construction**
  - Build new bridge in 3 partial-width steps
  - Maintains 2 lanes of traffic in each direction during peak hours
  - Long-Term Traffic Control Plan implemented for three major traffic phases over a 4 to 5 year time period

▪ **Slide-In Construction**
  - Build new bridge beside existing and slide into place
  - Full-closure of I-376 required (approximately 2 weeks)
    - Short-term lane restrictions during off-peak hours
Staged Construction Sequence
Staged Construction Sequence
Staged Construction Sequence
Staged Construction Sequence
Staged Construction Sequence
Staged Construction Sequence
Bridge Types - Staged Construction

Steel Arch

Concrete Arch

Haunched Steel Plate Girder
Concrete Arch
Haunched Steel Plate Girder
Slide-In Construction Sequence
Slide-In Construction Sequence
Slide-In Construction Sequence
Slide-In Construction Sequence
Bridge Types- Slide-In Construction

Steel Tied Arch

Haunched Steel Plate Girder
Steel Tied Arch
Haunched Steel Plate Girder
Next Steps

1. *Initiate Section 106* - Completed
2. *Identify & Document Historic Resources* - Completed
3. **Complete Section 106 Consultation**
   - Assess Effects
   - Resolve Adverse Effects
4. Select Preferred Alternative
5. Perform Preliminary & Final Design
6. Construction (Anticipated 2023-2025)
QUESTIONS?

- **PennDOT Design Division**
  - Direct questions to:
    - Michael Szurley, P.E. – Project Manager at 412.429.5035 or miszurley@pa.gov
    - Todd Crouch – Environmental Supervisor - NEPA

- **PennDOT Press Office**
  - Steve Cowan – District Press Officer

We kindly ask that all attendees complete a survey of this presentation… Thank you!
Survey Monkey Feedback

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