



## **DOMI Post-collapse Actions**

**Pittsburgh, PA**

**HWY22MH003**

(5 pages)

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MAYOR



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CITY-COUNTY BUILDING

January 26, 2023

Since the collapse of the Fern Hollow Bridge, the City of Pittsburgh and its Department of Mobility and Infrastructure have implemented a number of process improvements and other changes to improve our management of City-owned bridges. Significant accomplishments include:

Staffing:

- Hired a new project manager in the Bridges and Structures Division to focus on bridges
- Reorganized to add a senior project manager to the Bridges and Structures Division
- Engaged a consulting firm to provide an embedded project manager in the Bridges and Structures Division to focus on bridges
- Approved 2023 City of Pittsburgh Operating Budget includes 5 new positions in the Bridges and Structures Division including:
  - o Deputy Chief Engineer – Bridges & Structures
  - o Bridge Maintenance Supervisor
  - o Project Manager
  - o Project Engineer
  - o Staff Engineer

Budget:

- Approved 2023 City of Pittsburgh Operating Budget includes a new funding stream for bridge routine maintenance, critical & urgent repairs, inspection, and other smaller-scale repairs
- Worked with PennDOT and Southwest Pennsylvania Commission (our MPO) to fund additional bridge projects on the TIP. In 2022, we advertised for design consultants on the following significant bridge projects:
  - o Swindell Bridge Rehabilitation
  - o California Avenue Bridge Rehabilitation
  - o West Carson Street Bridge Rehabilitation
  - o Larimer Avenue Bridge Rehabilitation or Replacement
  - o Bridge Group 1 (preservation of the Herron Avenue and Elizabeth Street Bridges)
  - o Bridge Group 2 (replacement of the Calera and Corley Street Bridges and superstructrue replacement of the Maple Avenue Bridge)
  - o Consultants have been selected for all of these projects and design/engineering work will kick off in 2023.
- Working with PennDOT and SPC to identify and start work on an additional bridge group in 2023.

Asset Management/Operations:

- Engaged an engineering consulting firm, WSP, to conduct an independent review of all city-owned bridges and assist the City with creating a comprehensive bridge asset management plan.
- Updated our bridge inventory to create a comprehensive list of all bridges wholly or partially owned by the City of Pittsburgh. This includes vehicular bridges over 20' in length, vehicular bridges from 8'-20' in length, and non-vehicle bridges of 8' or more in length. Improved utilization of digital databases (BMS2 and Cartegraph) for inventory and condition tracking.
- Updated procedures for tracking of high priority (priority code 0 and 1) maintenance items as determined by bridge inspections.
- Established a system of reviewing all bridge inspection reports.
- Continued to work with Department of Public Works and Traffic Bureau forces to mitigate high priority maintenance items, as determined by bridge inspections and peer audit, when appropriate required resources were available.
- Established a standing monthly progress meeting with NBIS-inspection contract consultant to improve communication and coordination.
- Engaged bridge inspection consultant to ensure that all "local responsibility" bridges (vehicle bridges under 20' and non-vehicle bridges) have current inspection reports on file and have established an inspection schedule for each bridge going forward.
- Improved outreach, coordination, and collaboration with the other agencies who own bridges in the city (Norfolk Southern, CSX, Allegheny Valley Railroad, Pittsburgh Regional Transit (formerly PAAC), PennDOT, and Allegheny County) and the utilities who own facilities on our bridges to ensure safe and efficient operation throughout the city.
- Revamped contract for on-demand bridge maintenance contractor, advertised, and selected a new on-demand bridge maintenance contractor. Contractor has been performing maintenance and repairs on a variety of bridges since Fall 2022.
- Completed scupper cleaning and joint flushing of 25 bridges in fall 2022.
- Bid out contract to replace leaking expansion dam seals on 11 bridges. Work will occur in 2023.
- Worked with PennDOT to start utilizing PennDOT's "BridgeCares" web-based program for asset management planning. This program uses inventory and inspection data, along with statewide bridge deterioration data, to suggest schedules for bridge work including preservation, rehabilitation, and replacement for the entire bridge inventory. This information feeds back into our Department's planning activities and informs our requests for funding on the TIP.
- As noted above, DOMI will be hiring a Bridge Maintenance Supervisor in 2023. This is the first step in establishing an in-house Bridge Maintenance Division, which the city has not had for many years. The Bridge Maintenance Division will complete routine cleaning, maintenance, and small-scale repairs in-house at a lower cost than is currently done through outside contractors. The City is working with WSP (through the Comprehensive Bridge Asset Management Program contract) to identify staffing levels, skills, pay levels, equipment, etc. that will be needed for this new division.

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October 18, 2023

On January 26, 2023, the City of Pittsburgh submitted a memo to the National Transportation Safety Board documenting accomplishments and improvements in our bridge management staffing, funding, and capabilities in the wake of the Fern Hollow Bridge collapse. During 2023, the City's Department of Mobility and Infrastructure has continued to make strides in improving our bridge asset management program. Significant accomplishments include:

**Staffing:**

- As noted in the January 26th memo, 5 new positions were added to the Bridges and Structures Division in the 2023 operating budget. The following positions have been filled:
  - o Deputy Chief Engineer – Bridges & Structures
  - o Project Engineer
  - o Staff EngineerInterviews for the following positions are underway:
  - o Bridge Maintenance Supervisor
  - o Project Manager
- Hired two summer interns to work alongside engineering staff on field inspection and records management for structures assets.
- The Mayor's draft 2024 City of Pittsburgh Operating Budget includes 4 new positions to build out an in-house bridge maintenance division, including a Bridge Maintenance Foreman and 3 Bridge Maintenance Workers.

**Budget:**

- Worked with PennDOT and the Southwest Pennsylvania Commission to move up \$50,000,000 in construction funding to fast track construction of the Charles Anderson Bridge project due to an unexpected bridge closure.
- Worked with PennDOT to advertise an Open-End Design Agreement for City of Pittsburgh bridge preservation projects. This Open-End agreement will allow the City to efficiently issue work orders for preservation projects or smaller bridge replacement projects. Consultant selection is currently under way and design/engineering work will kick off in 2024.
- Worked with PennDOT and bridge inspection consulting firm for City NBIS bridge inspection to supplement the current contract to fund updated load rating analyses on many bridges. This is based on recommendations made by WSP, who was hired by the City to complete our Comprehensive Bridge Asset Management Program. To date, 10 updated analyses have been completed, two are in-progress, and several more are scheduled to be completed this fall.

Asset Management/Operations:

- Closed the Charles Anderson Bridge on February 1, 2023 due to an updated load rating analysis based on deterioration identified in the most recent bridge inspection. A full bridge rehabilitation project had been underway in the Preliminary Engineering phase since 2019. Worked with PennDOT and the bridge designer to fast-track the rest of the preliminary engineering phase and the final design phase to get the bridge into construction for the full rehabilitation. While fast-tracking design, also added a superstructure replacement project for an adjacent bridge that will be completed under the same road closure for efficiency. The project is planned to go out to bid in January, and work will start in Spring 2024.
- Completed steel repairs on the Swindell Bridge to remove a lane restriction. Then, based on an updated load rating analysis accounting for additional section loss found in the most recent bridge inspection, implemented a new lane restriction in August 2023. Started Preliminary Engineering for the full rehabilitation of the Swindell Bridge.
- Closed half of the North Avenue / Brighton Road Bridge over Norfolk Southern Railroad tracks on August 30, 2023 due to an updated load rating analysis accounting for section loss identified in the most recent bridge inspection. Coordinating with Norfolk Southern and their engineer on their plans to replace this bridge.
- Engaged engineering consulting firms to complete updated and/or new load rating analyses on 14 “local responsibility” vehicular bridges. Utilized internal staff to complete updated and/or new load rating analyses on four “local responsibility” bridges. With this effort, all vehicular bridges have a current load rating analysis on file.
- City staff will be continuing these efforts by performing or updating load rating analyses on 21 “local responsibility” pedestrian bridges.
- Continued to issue and complete maintenance and repair work orders through on-call bridge maintenance contractor. Twenty-five work orders have been issued from October 2022 through October 2023. Quadrupled local spending on bridge inspection, maintenance, and repair over last 12 months as compared to 2018-2021.
- Replacement of leaking expansion dam seals is ongoing and will be completed in Fall 2023. Two bridges were added to contract, for a total of 13 bridges receiving new seals.
- Issuing work order to clean scuppers and joints on 29 bridges in Fall 2023.