

2020 YEAR IN REVIEW

PROJECT BACKGROUND

The original North Washington Street Bridge, also known as the Charlestown Bridge, was opened in 1898. The bridge connects the neighborhoods of Charlestown and the North End. The bridge carries local and regional vehicular traffic, heavily used MBTA and Boston Public Schools buses, private shuttles, cyclists, and pedestrians headed to work, school, and destinations around Boston.

The bridge has been reconfigured and repaired multiple times to extend its lifespan. For example, in 1961, the bridge's swing span was permanently closed, the elevated Orange Line was removed in 1977, and the center bay closed in 2003. Before the rehabilitation project began, the bridge required \$3-5 million of repairs and operational services.

Between 2004 and 2017, the City of Boston and MassDOT undertook a joint planning process that included coordination with local, state, and federal agencies and an extensive public outreach process.



On the left, a view of the temporary bridge under construction in December 2019, with structural beams being installed. On the right, a similar view of the completed temporary bridge just before opening to traffic in July 2020.

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PROJECT ACHIEVEMENTS

In one of our early look-aheads in 2020, we described building the temporary vehicle and pedestrian bridge. Since then, we have accomplished much more.

As of January 2021, we have:

- Transferred all the utilities (gas, electric, fiber, communications) off the old bridge (February 2020)



Relocated utilities on temporary bridge

By July, all utilities were relocated and in place on the temporary utility bridge. Photo: December 2020

- Constructed, paved, striped, and opened the temporary bridge (July)
- Reopened the staircase to Lovejoy Wharf by the Converse building
- Installed first-of-their-kind wayfinding signs to help people navigate the work zone and give visitors information about the new bridge



One of the informational and wayfinding signs we installed around the project, showing a map of the project area and narrative history of the project. Photo: July 2020

- Started and completed the demolition process of the old Charlestown Bridge (July)
- Removed the center swing span (July and August)
- Demolished the piers (September to December)



Close up of demolition work between the old bridge and the utility bridge. Photo: December 2019

- Completed demolition of the bridge down to mudline (start of December)
- Began building the new bridge with foundation and abutment work



View of north abutment after demolition of old bridge. Photo: December 2020

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THE TEMPORARY BRIDGE

The temporary bridge was not originally part of the project. The contractor, JF White, proposed the temporary bridge as an opportunity to simplify construction staging, shorten the duration and complexity of demolition, and provide a safe and more predictable path for users to cross the water during construction. MassDOT approved the construction of the temporary bridge at the beginning of 2018. The temporary bridge was opened in July 2020.



View of the temporary bridge structure under construction.
Photo: December 2020



View of temporary bridge the weekend it opened, looking south towards Boston. Photo: July 2020

The bridge carries two lanes inbound to Boston from City Square and one lane outbound to Charlestown from City Square, including a safe and secure 8' sidewalk with the Freedom Trail's trademark red stripe on the western/locks side of the bridge.



Pedestrian section of temporary bridge showing relocated Freedom Trail. Photo: December 2020

The bridge is also LED-lit to increase visibility for roadway and sidewalk users and the bridge's sidewalk is textured to give pedestrians extra grip during the winter. Additionally, the temporary bridge allowed us to re-open the staircase connecting Lovejoy Wharf up to the bridge much sooner and maintain access to the Converse building.

Over the weekend of July 17, 2020, we shifted traffic and the sidewalk onto the now old, demolished bridge shifted onto the current temporary bridge. Since then, the bridge has been open and will remain in place until August 2022.

PUBLIC MEETINGS

At the start of July, before the traffic shift onto the temporary bridge, MassDOT hosted three virtual public meetings with more than 100 participants, along with several dedicated briefings for state, local, and community stakeholders to prepare nearby residents and abutters for the shift and beginning of major demolition. Due to the ongoing COVID-19 crisis, these meetings were held virtually. While we missed seeing everyone at the Nazzaro Community Center, the Charlestown Knights of Columbus, and the West End Museum, these virtual meetings allowed the project to advance while also keeping the public safe and informed.

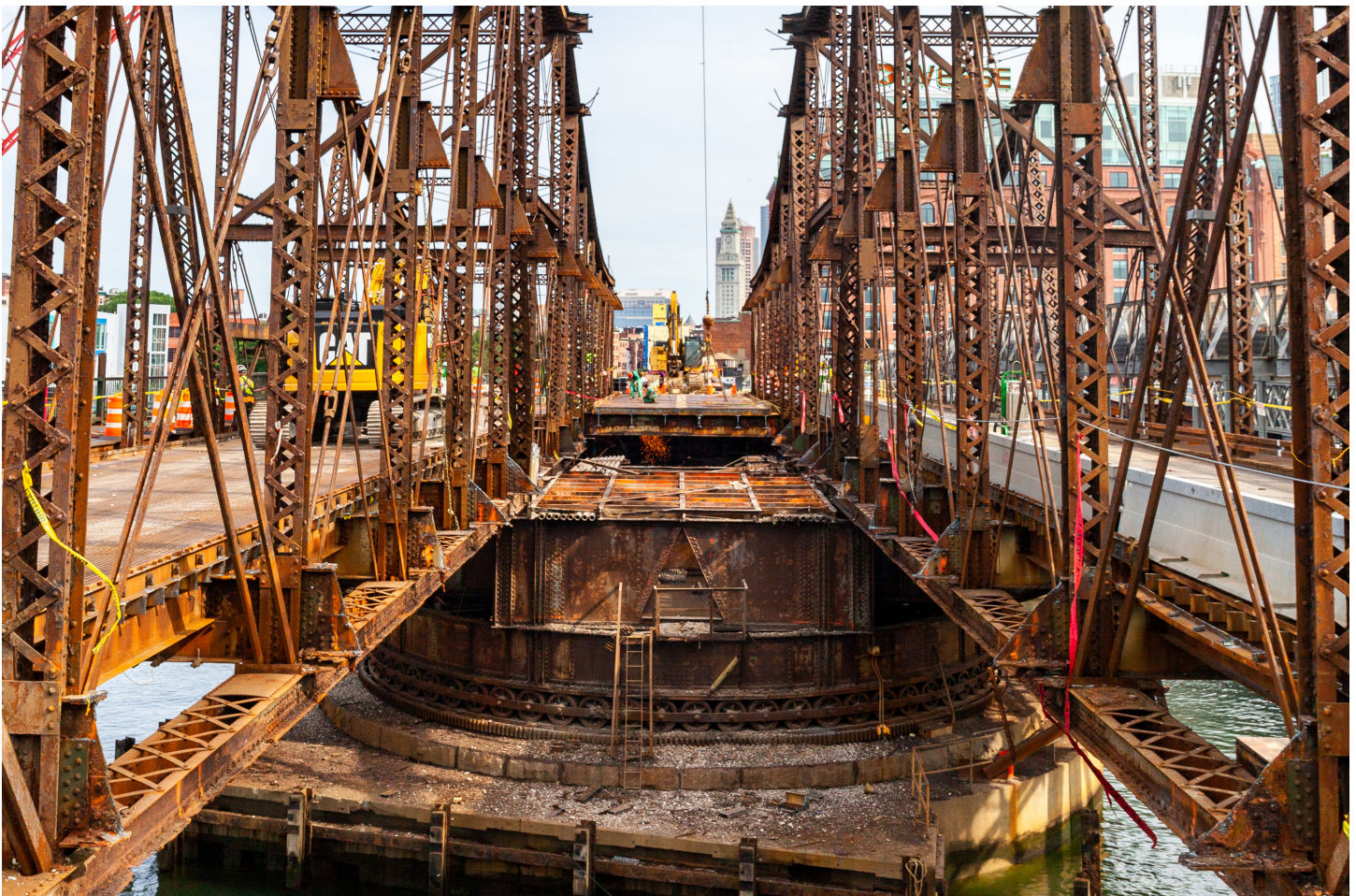
DEMOLITION IMPACTS

The project has now entered stage 2 which runs from July 2020 to As soon as the temporary bridge was open, we began demolition of the old bridge. This phase of the project included some of the heaviest expected impacts that were discussed in the virtual public meetings and briefings. Throughout our design and planning process, we heard from residents to prioritize “ripping off the bandage” and getting demolition done as quickly as possible, rather than working longer and slower. To accomplish a quicker timeline, we worked in two main steps: first, removing the center swing span structure, then second, removing the piers and the bridge’s substructure.

While removing the center swing span over four weeks in July and August 2020, we instituted a temporary marine safety zone around

the bridge. Because of the safety zone, marine traffic under the bridge was prohibited. The temporary safety zone enabled us to safely cut and remove the old steel and deck while also beginning the removal process of the substructure.

Next, from September to December, we demolished the old bridge’s stone piers down to the mudline at the bottom of the harbor, using hoe rams (power shovel-mounted hydraulic hammers) and claw buckets to demolish and then remove material. Once those piers were removed, we started installing cofferdams (temporary enclosures to create a dry workspace on the bottom of the harbor) to build the foundations and supports for the new bridge. The cofferdams were built out of sheet piles driven into the mud with vibratory hammers.



Demolition of the Center Span. Photo: Summer 2020

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While this work was necessary, it was disruptive, and led to noise, vibration, and wake complaints. Most of these complaints came from residents to the owners of the Constitution Marina, who then requested a meeting with MassDOT and the project team. During that meeting, the team discussed strategies to mitigate the impacts. The strategies included laying out sound blankets and arranging barges as best as possible to create barriers between the marina and the work. This arrangement was put in place shortly after meeting with marina representatives.



Harbor view rendering of future new bridge.

We want to thank everyone for their patience during the impacts of demolition and cofferdam installation. Demolition is typically the most impactful construction operation, and the bulk of demolition is now complete. We will continue to enforce regular noise monitoring, proactively respond to complaints, and follow the strict noise guidelines set by the MassDOT contract and by the City of Boston as we move into construction of the new bridge.



Motorist View

PROJECT PROGRESS & NEXT STEPS

The project is now in stage 2 of 4. This stage began in July 2020 when the temporary bridge was opened and will run until November 2021.



Aerial Bridge View

By November 2021, most of the new bridge will be built, and then will move into Stage 3 that runs until August 2022. By the end of stage 3, the east or harbor side of the newly constructed bridge will be open to traffic and pedestrians, while final demolition and construction occurs on the southwest corner of the bridge (near Prince Street Park).

The final stage, stage 4, will run from August 2022 to February 2023. In this stage, the temporary bridge will be dismantled allowing the west or locks side of the new bridge to be built. This stage will also include completion of the sidewalks, landscaping, barriers, and the decorative trellises. The Harborwalk connection below the Keaney Square end of the bridge will also be restored, raised, and reopened at the end of Stage 4.

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THE NEW BRIDGE

