massDOT
Massachusetts Department of Transportation
Highway Division

PFC Ralph T. Basiliere Bridge Replacement

Crescent Yacht Club Briefing

Haverhill | July 18, 2023 |

Project File No. 605304

Agenda

1. Welcome & Overview
2. Projects Purpose
3. Proposed Construction Approach
4. Feedback and Concepts to Date
5. Questions & Discussion

massDOT Massachusetts Department of Transportation Highway Division

How did we get here?

1925

The Basiliere Bridge opens to traffic

1966

On May 17th, Private 1st Class Ralph T. Basiliere becomes Haverhill's first Vietnam War casualty

1972

The Bridge is named in PFC Basiliere's memory

2018

MassDOT begins study to replace the Basiliere's deck and arches while reusing the foundations to support new piers

2021

MassDOT study concludes the Basiliere Bridge must be replaced

2022

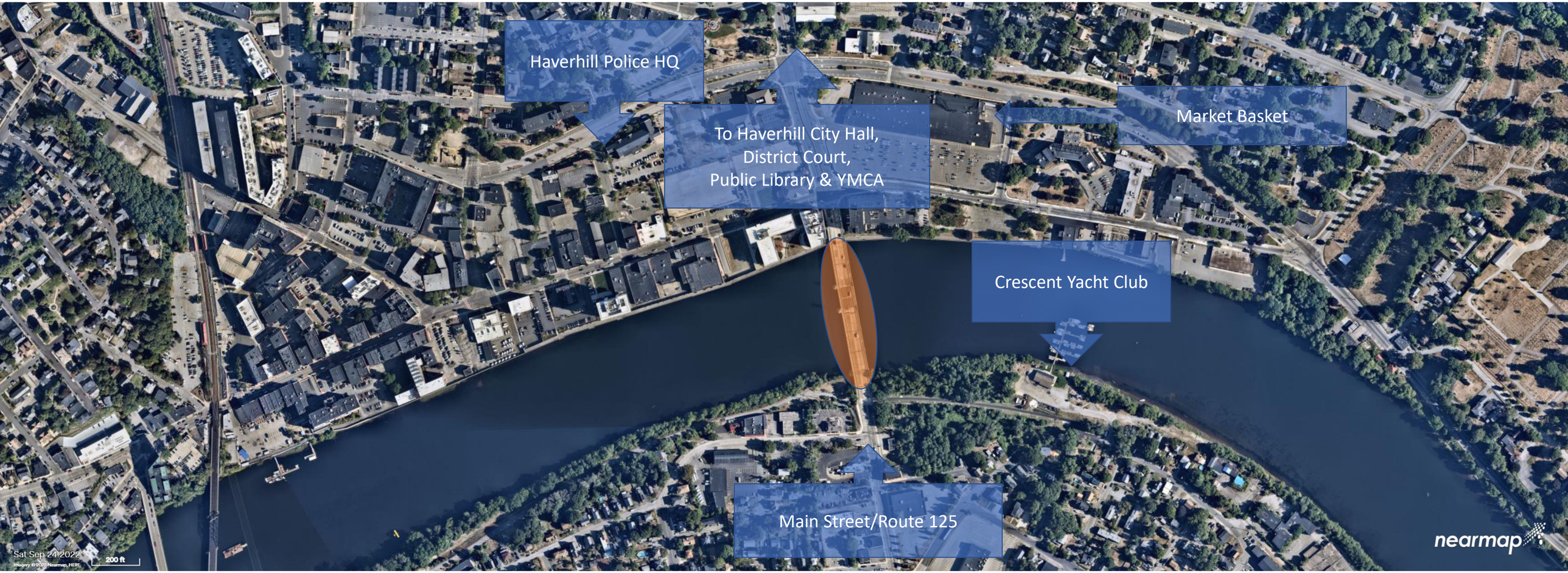
MassDOT initiates concept design phase for bridge replacement

2023

Outreach to Haverhill residents, businesses, and stakeholders

massDOT Massachusetts Department of Transportation Highway Division

A Haverhill Landmark & Connector Since 1925

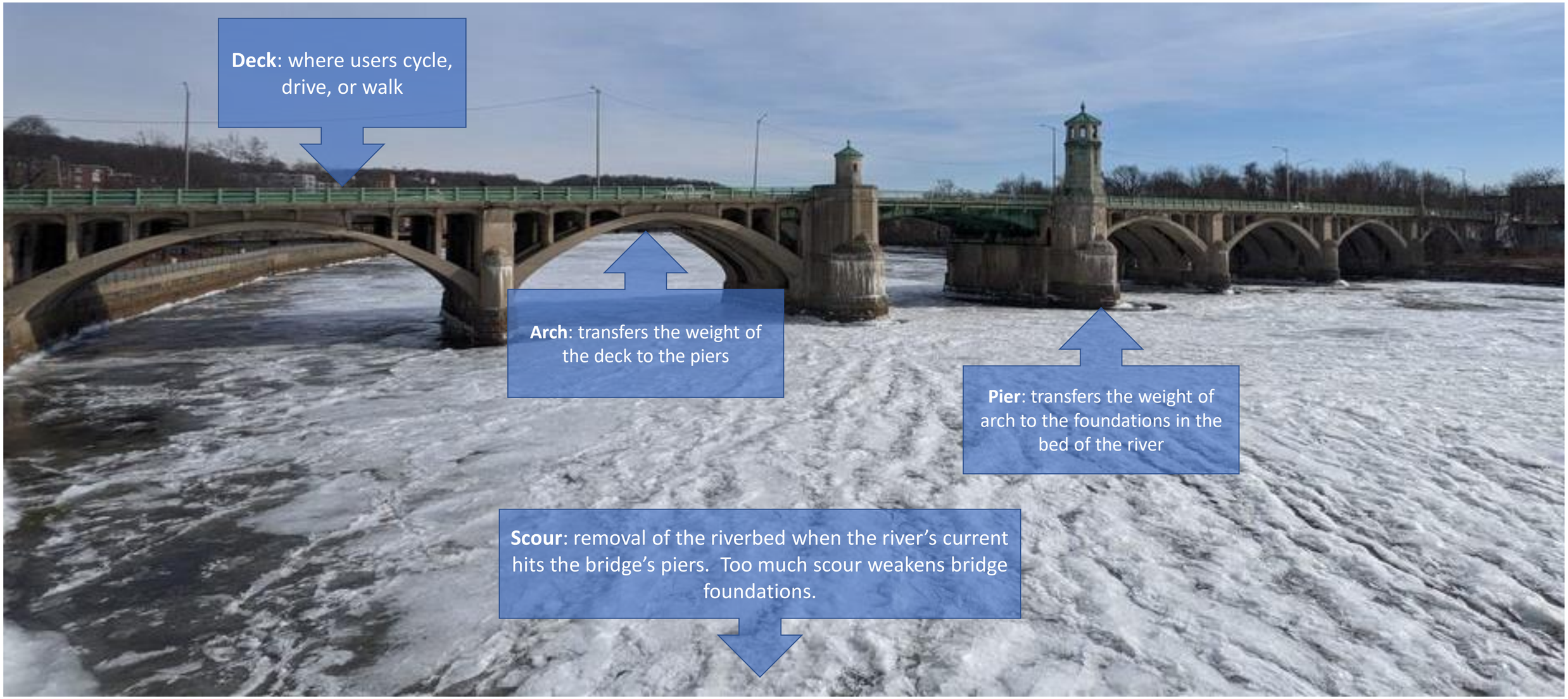


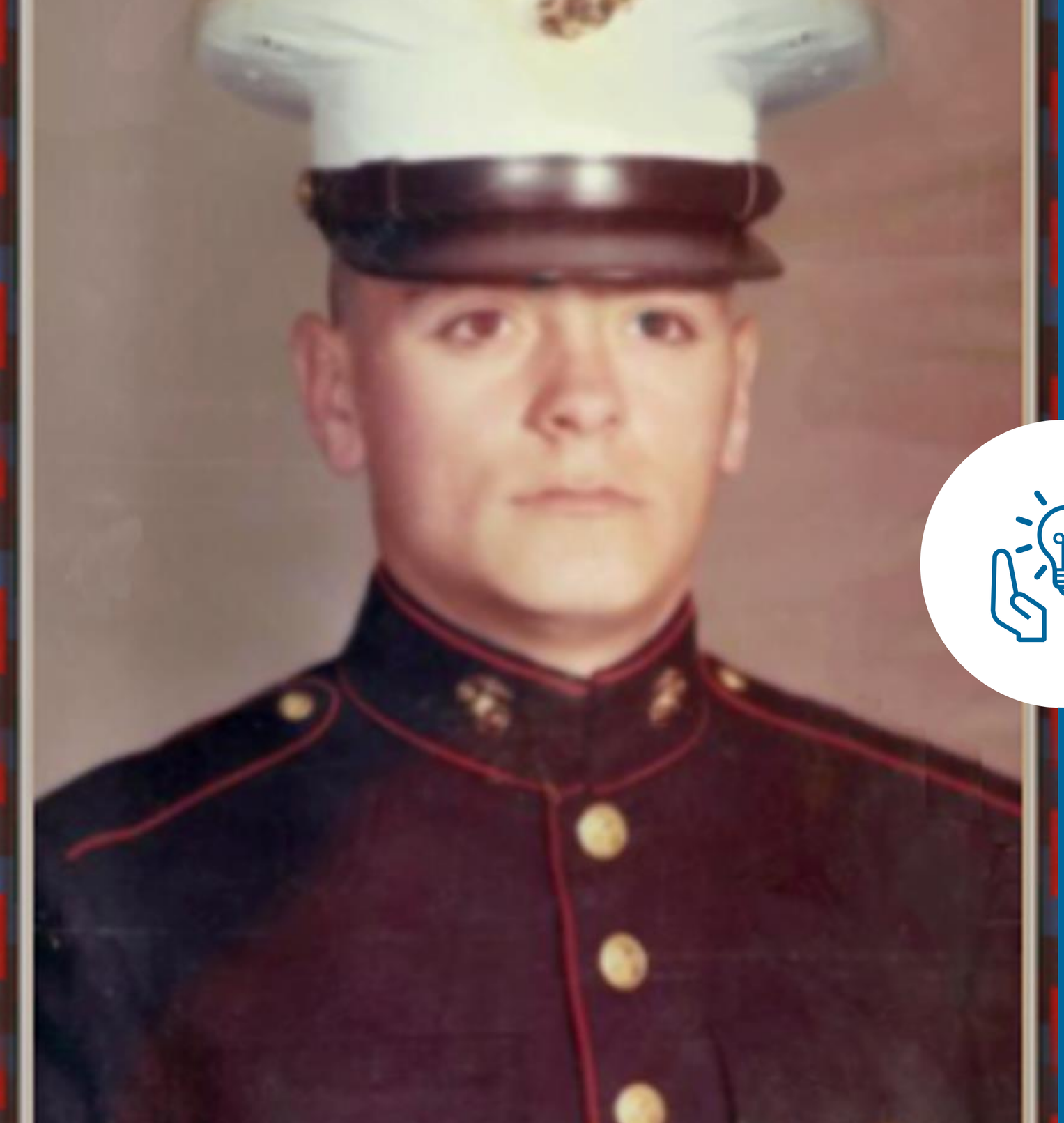
Current Limits of Work

- In the North:
  - The Main Street/Water Street/Merrimack Street intersection
  - A portion of Main Street as far north as Bailey Boulevard
- In the South:
  - Just past the S. Main Street/Middlesex Street intersection
- Includes short stretches of intersection approaches

massDOT Massachusetts Department of Transportation Highway Division

Key Terms

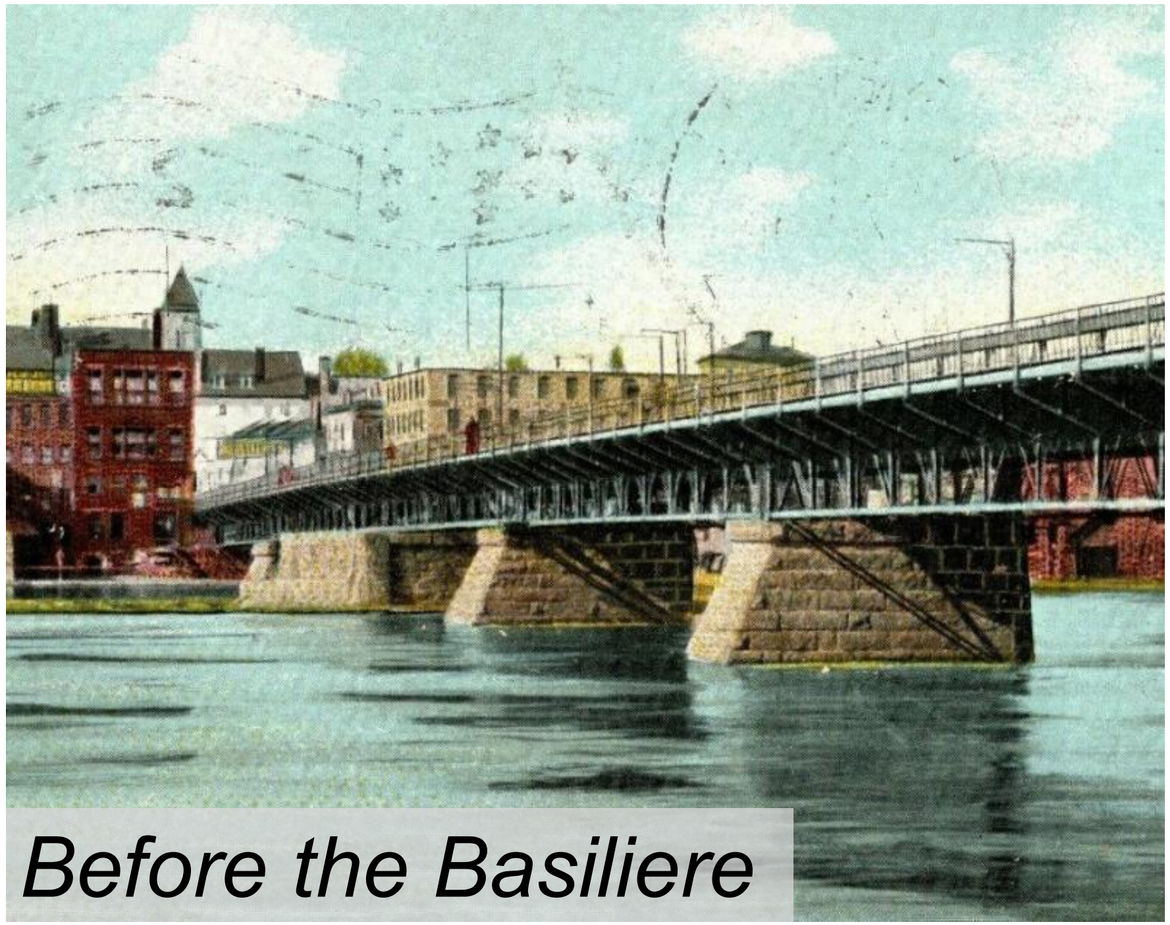

Deck: where users cycle, drive, or walk
Arch: transfers the weight of the deck to the piers
Pier: transfers the weight of arch to the foundations in the bed of the river
Scour: removal of the riverbed when the river's current hits the bridge's piers. Too much scour weakens bridge foundations.



Why was this project initiated?

PFC Ralph T. Basiliere Bridge: Key Facts

- The existing bridge opened 1925 and replaced an older crossing.
- The Basiliere is technically two bridges with elements of the pre-1925 structure mixed into today's bridge
- Total length – roughly 800 feet
- Bridge width – roughly 68 feet
- Carries 20,000+ vehicles per day
  - 4% heavy vehicles including MVRTA buses
- At the end of its useful lifespan
- ***Remains safe for all users***



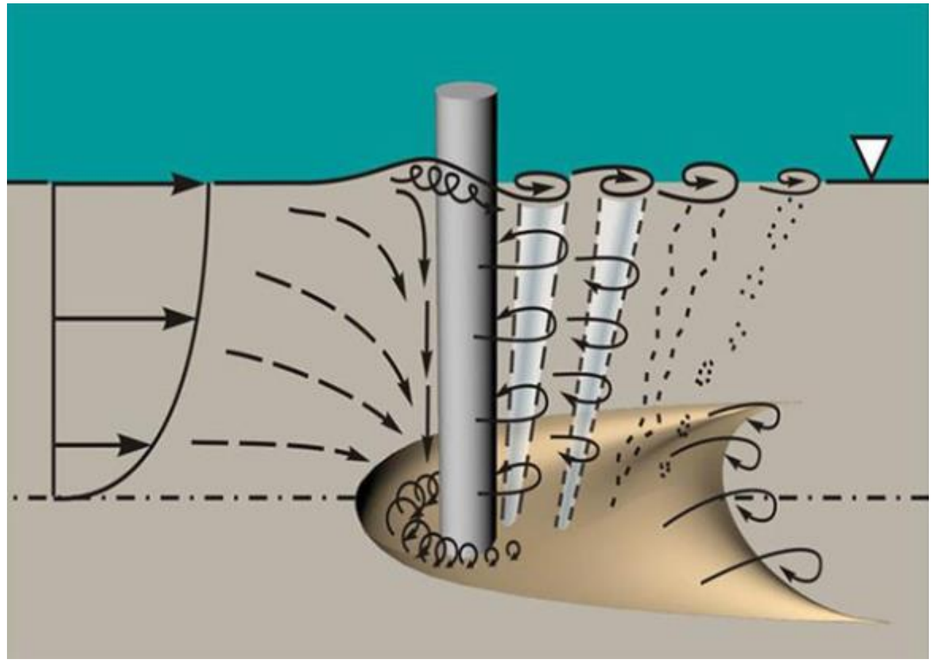
Before the Basiliere

MassDOT Massachusetts Department of Transportation Highway Division

Generally Deteriorated Conditions

Scour

- Scour is the removal of soil which supports bridge abutments and piers, caused by fast-flowing water.
- The fast-flowing water creates scour holes, which can lead to instability of the bridge's foundation.
- Drives the need for a full replacement of the Basiliere Bridge

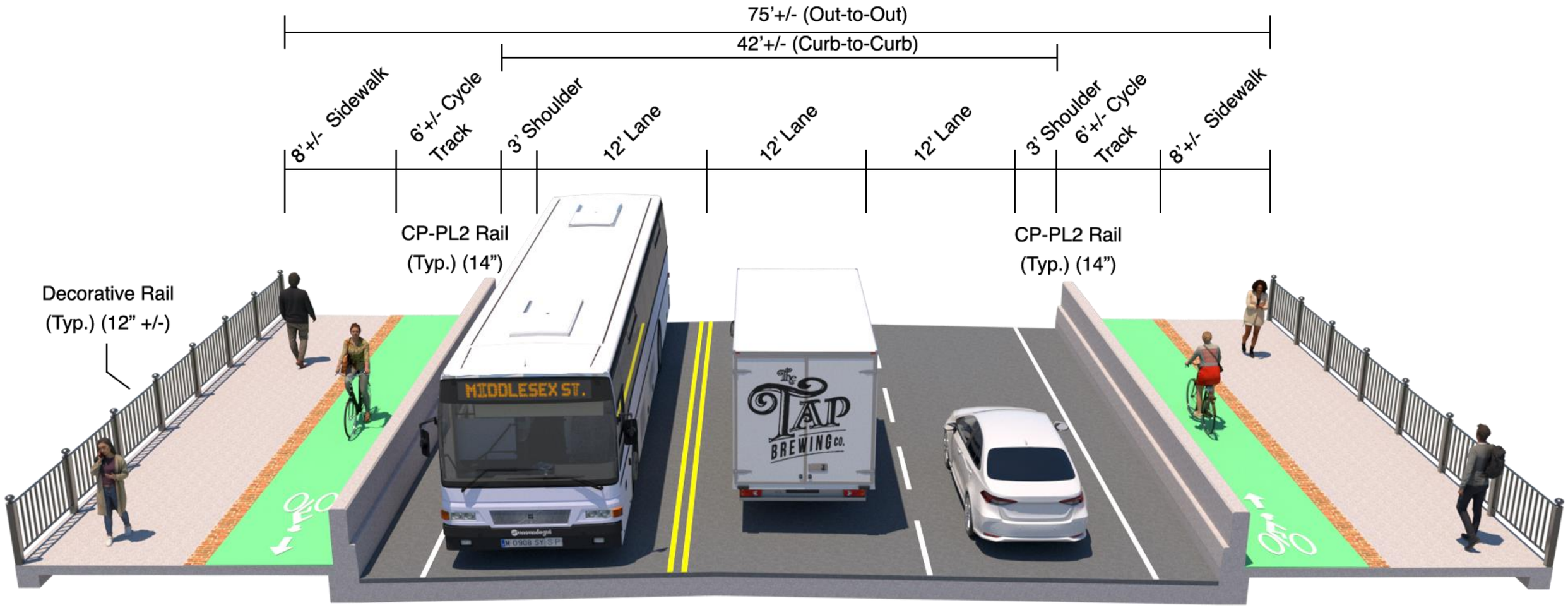


Project Status

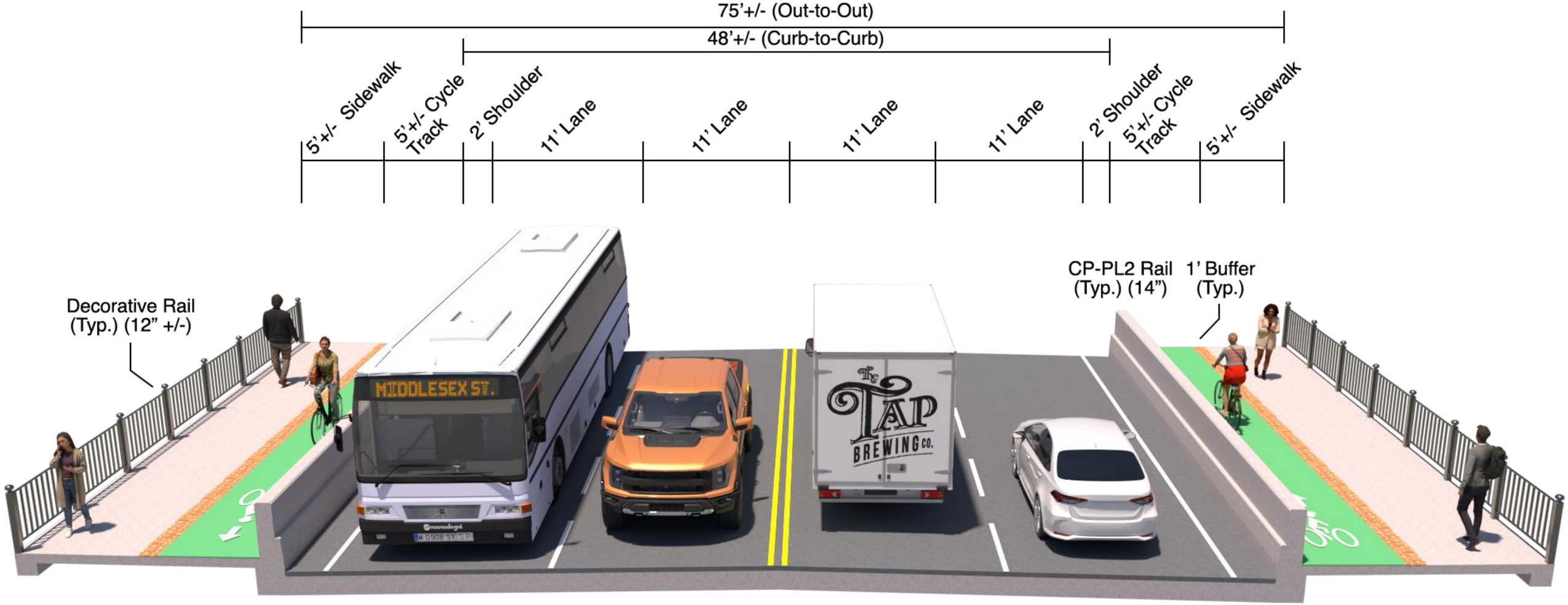
Status of Design Work

- Currently in concept design working to determine:
  - Bridge type
  - Cross-section – cycling facilities, lane arrangement, sidewalk dimensions
  - General bridge appearance
- Upcoming milestones:
  - Summer 2023:
    - MassDOT pre-25% design “over the shoulder” briefing
    - Bridge type study
  - Fall 2023 – Launch 25% design

Three Lane Cross-Section – Directional Cycling Facilities



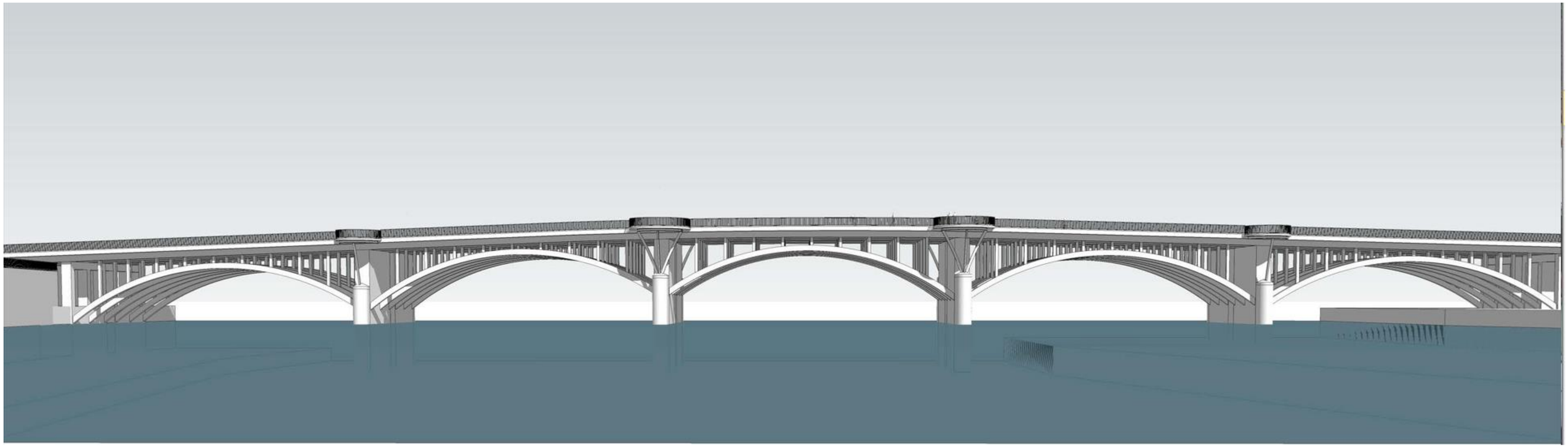
Four Lane Cross-Section – Directional Cycling Facilities



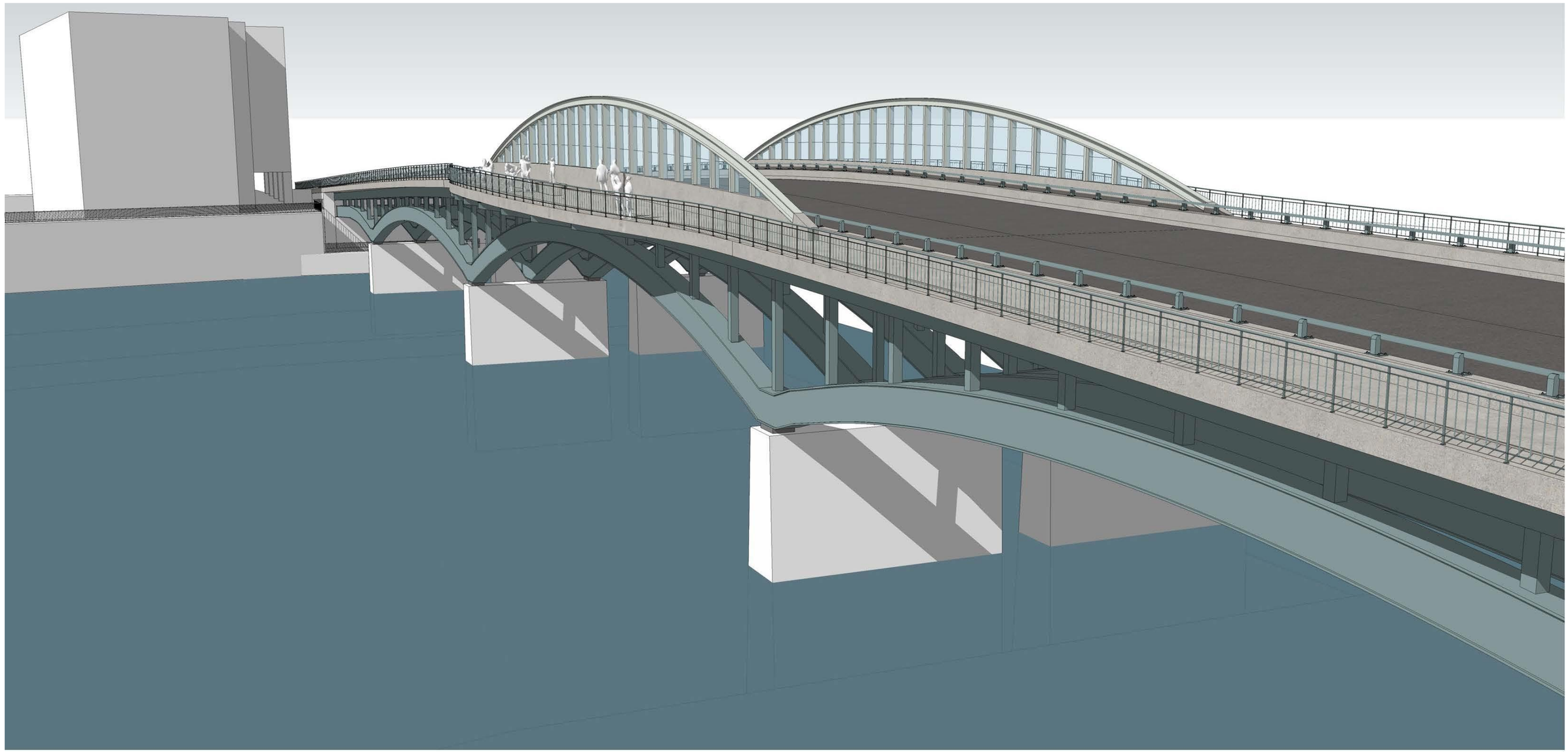
Roadway Cross-Section Design Update

- Cross-section study submitted to MassDOT and under review:
  - Clear recommendation for directional/symmetric cycling/walking facilities:
    - Familiar conditions for users of all modes
    - Four lane cross-section preferred in part on local preference:
      - Additional space for emergency response during congested conditions
      - Reserve capacity for anticipated future traffic volumes
- Three lane cross-sections remain under review by MassDOT
- Project team still seeking public input

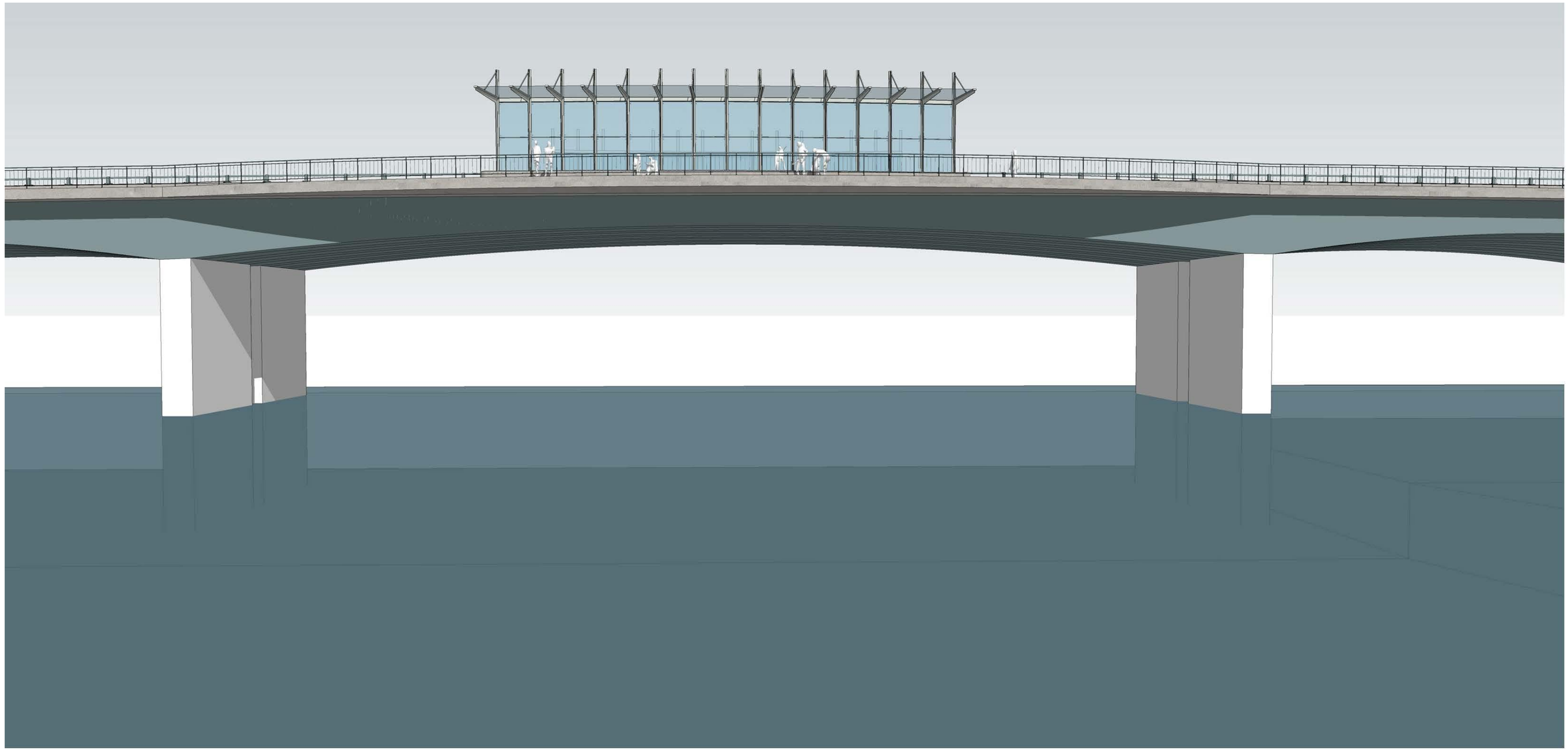
Evoking Today's Basiliere – From the River



Steel Arch Girders – Side View

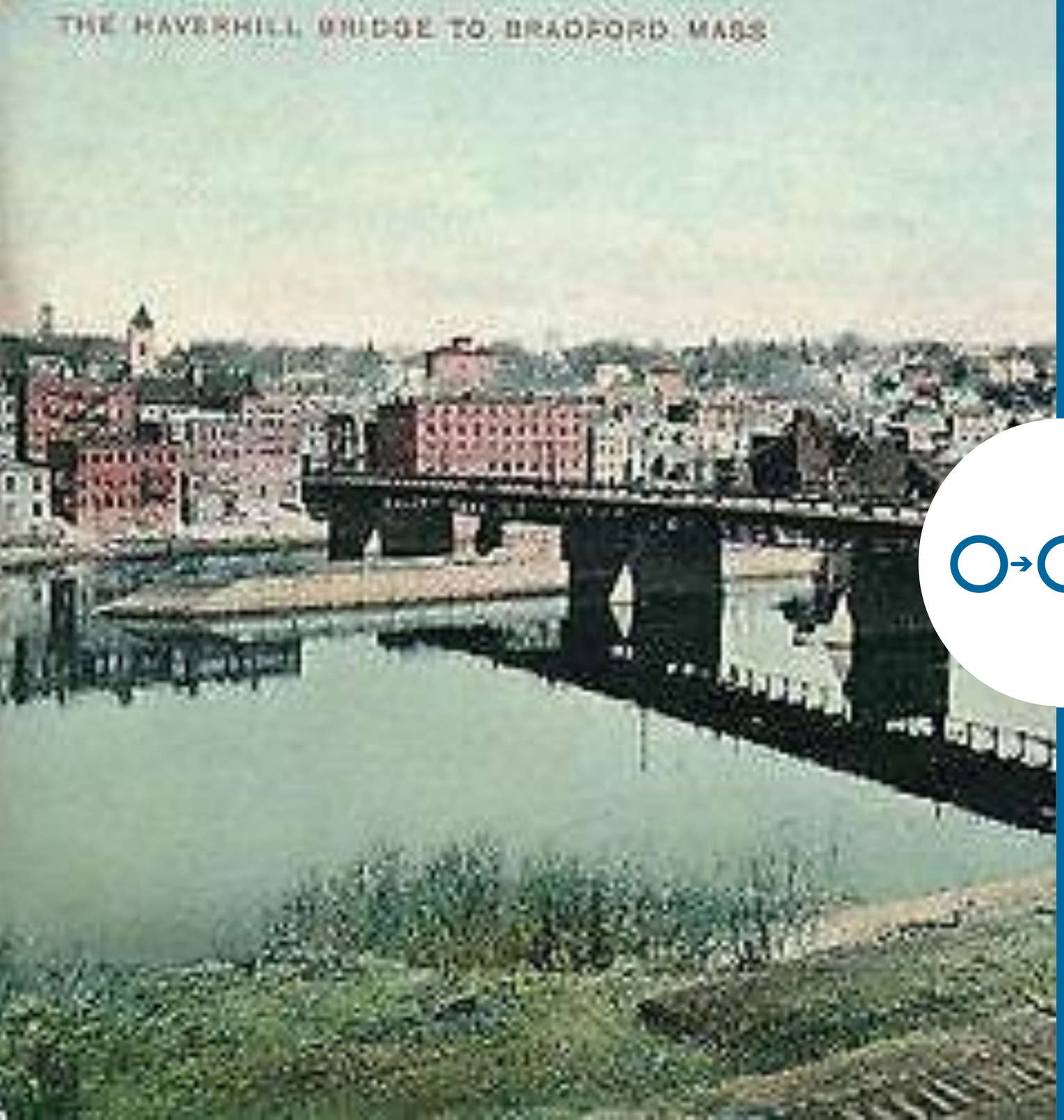


Haunched Girders – Side View



Promising Directions – A Blend of Old and New

- Allows for a modern structure that evokes today's bridge with arches
- Provides a central overlook to enjoy the river
- Offers opportunities to:
  - Open water views from the riverbank
  - Improve bridge-to-Bradford Rail Trail connection
  - Include gateway features, lighting, vertical elements
- Does not preclude future Dempsey Boardwalk-to-Wall Street Path connection
- More to follow on bridge appearance soon
- Project team remains open to public input



Working With River Users

Assumed Boating Concerns & Our Approach

Concern		Approach
Conflicts between work boats and other vessels		• Provide advance communication to mariners including radio channel to use if applicable • Clearly mark safe channels with buoys and lighting • Clearly light moored barges accounting for height differences between kayaks and power boats
Construction debris		• Provide appropriate shielding during demolition • Direct boaters towards areas not under demolition/construction
Damage to Crescent Yacht Club moorings		• Obtain plan of current mooring set-up to include in design/build package • Ensure coordination between D/B entity and club leadership prior to first spring with in-water work
Water quality issues		• Contractor must adhere to DEP-approved water quality plan • Potential to construct new foundations within cofferdams
River access for construction		• Remains under investigation • Project team seeking public input

What is the construction approach?

Proposed construction approach: Design-Build

- Tonight's team will develop a 25% design and base technical concept (BTC) for bid by Design-Build (DB) entities
- DB Best Value procurement
  - Short-List Best Qualified Teams
  - Shorten project duration
  - Promote innovation by teaming the engineer and the general contractor
  - Allow for accelerated bridge construction (ABC) techniques if applicable
- MassDOT's contract with the Design Builder will stipulate requirements for traffic management while also providing the DB flexibility to develop their own approach to staging.
- Incentives / Disincentives may be used to ensure compliance with contract timelines
- Public outreach will continue once construction begins

Questions and discussion

Discussion Questions

- Have we captured your concerns correctly?
- Are there things we have missed regarding the boating community?
- Are there special events on the river we need to consider?
- Do you have thoughts regarding the bridge's cross-section or appearance?

How to reach us?

- Submit written comments to:

  Carrie Lavallee, P.E., Chief Engineer
  MassDOT
  10 Park Plaza
  Boston, MA 02116
  Attention: BRIDGE SECTION, PROJECT FILE NO. 605304

- Submit email comments to:

  haverhillbasilierebridge@dot.state.ma.us

- Visit the project website at:

  www.mass.gov/basiliere-bridge-project-haverhill

massDOT Massachusetts Department of Transportation Highway Division