



**Massachusetts Bay
Transportation Authority**

Red Blue Connector

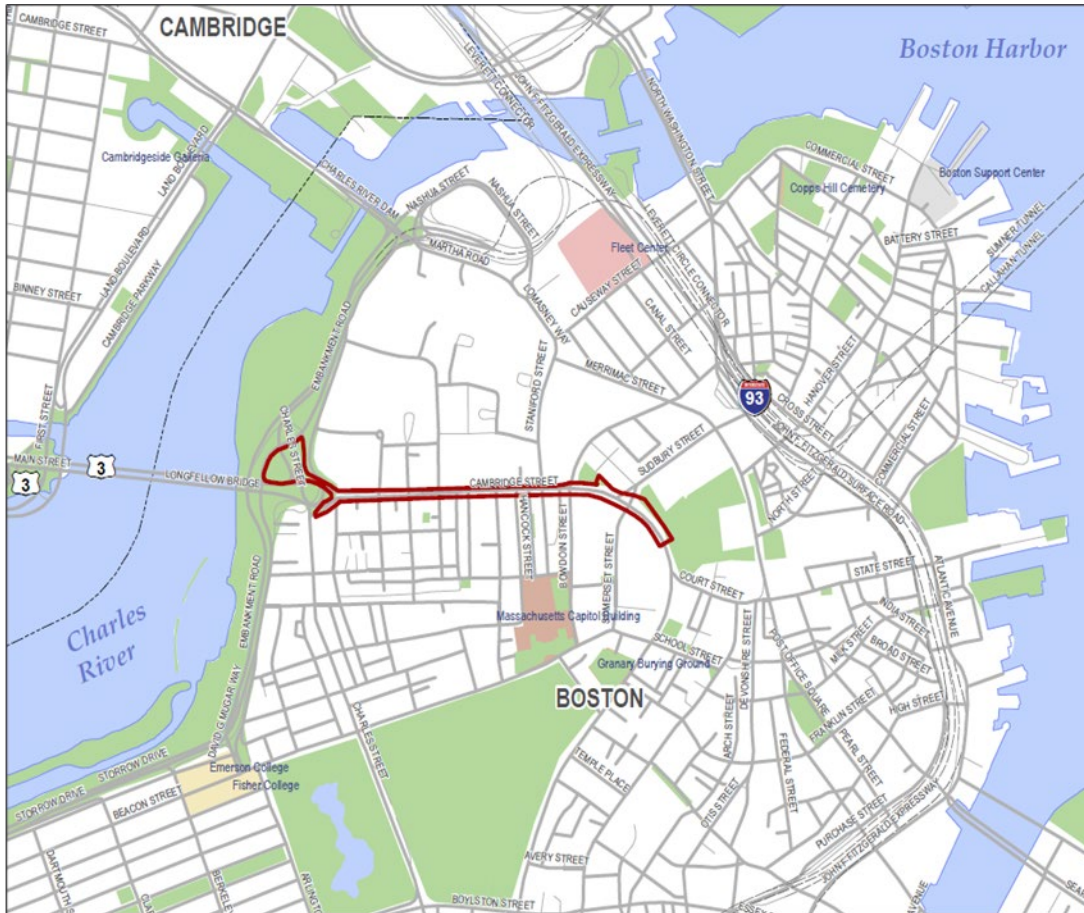
Public Meeting

MBTA
October 2023



Project Overview

The Red Blue Connector seeks to connect the Red and Blue lines by extending the Blue Line beyond its current terminus at Bowdoin Station, through a newly constructed tunnel under Cambridge Street, to the Charles/MGH Red Line headhouse via a new below-grade Blue Line station.



Project site



Current alignment



Proposed future alignment



Project Purpose

The Red Blue Connector would **improve mobility and access to jobs and health care** for East Boston and the North Shore by extending the Blue Line to connect directly to the Red Line, **eliminating the need to make an intermediate transfer** on the Orange or Green line.

Eliminating this transfer would likely have the benefits of **reduced travel time** and **improved system capacity in downtown transfer stations.**



Systemwide map with proposed Red Blue Connector



We are funded to advance the project through 30% design and state (MEPA) and federal (NEPA) environmental review processes.

The project scope includes the following tasks:

- Preliminary engineering
- Continued state environmental review process: MEPA
 - Advanced EJ notification
 - Notice of Project Change
 - Anticipated Supplemental DEIR
 - Anticipated Final DEIR
- Federal environmental review process: NEPA
 - Anticipated Draft EA
 - Anticipated Final EA/FONSI
- Design Build bid documents
- Outreach and engagement



Rendering: Entering new Blue Line station platform

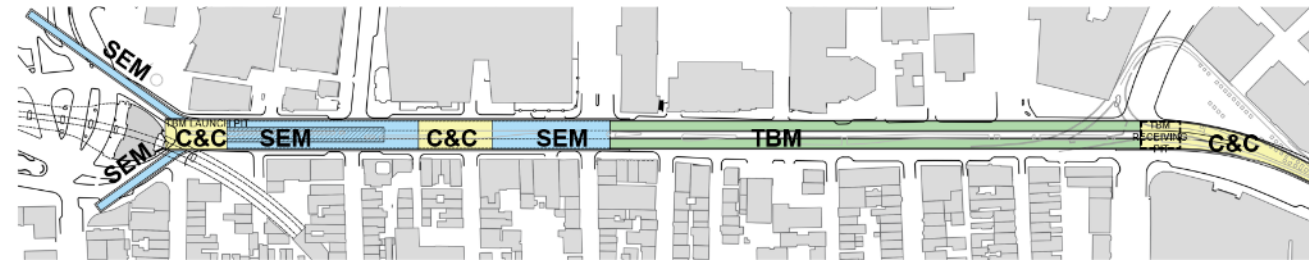


Rendering: Charles/MGH headhouse

2010

DEIR Red Line/Blue Line Connector Project

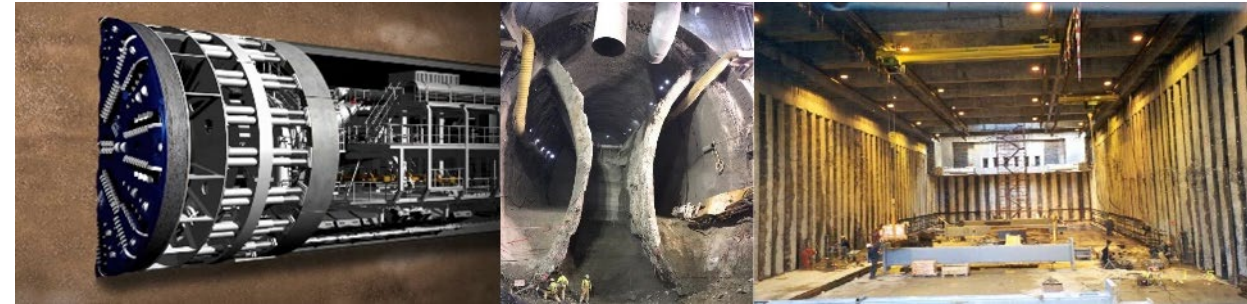
- Recommended Design and Construction Methodology
- Tunnel design utilized TBM, SEM, C&C
- DEIR / MEPA Certificate



2018

Tunnel Constructability Study: Update to the 2010 DEIR

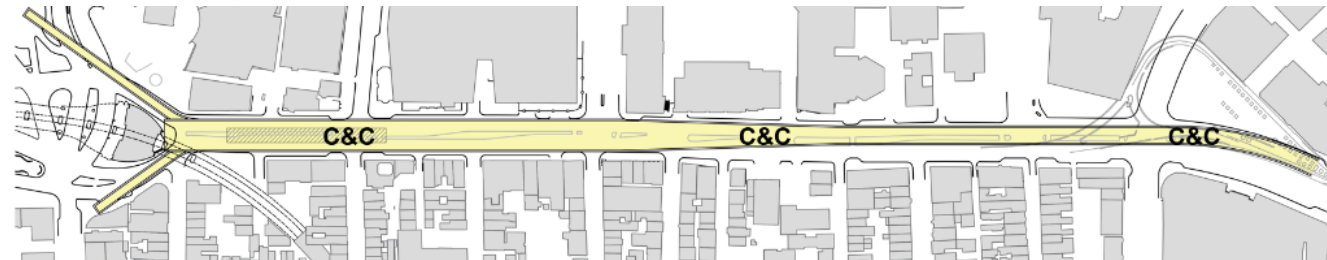
- Focus on refreshed tunnel methods experience and costs
- C&C recommended as most efficient
- Ridership update



2021

Concept Design Report

- Updated Station and Tunnel Design
- MGH Station Entrance



No Build Alternative

- Assumed Blue Line operations would remain similar to existing operations and included funded capital improvements in the Boston Metropolitan Planning Organization's (MPO) Long Range Transportation Plan

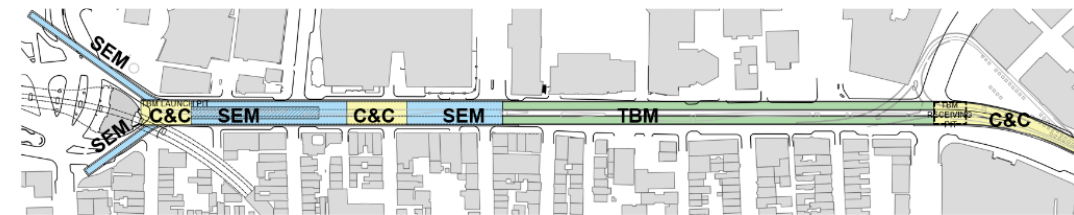
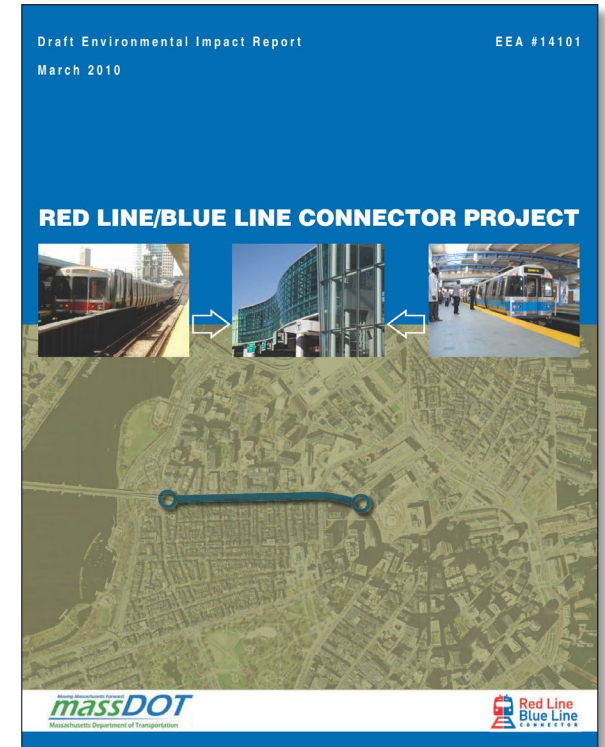
Build Alternative 1: Blue Line Extension with the Elimination of Bowdoin station

- Blue Line is extended to Charles/MGH station
- New Blue Line platform is constructed below/connected to existing Charles/MGH Station
- Bowdoin Station is decommissioned to passengers
- The 2010 DEIR identified this as the preferred alternative**

Build Alternative 2: Blue Line Extension with Relocated Bowdoin station

- Blue Line is extended to Charles/MGH Station
- Bowdoin Station platform is relocated while maintaining the existing mezzanine and headhouse
- New Blue Line platform is constructed below/connected to existing Charles/MGH Station

Tunnel design for both alternatives utilized TBM, SEM, and C&C

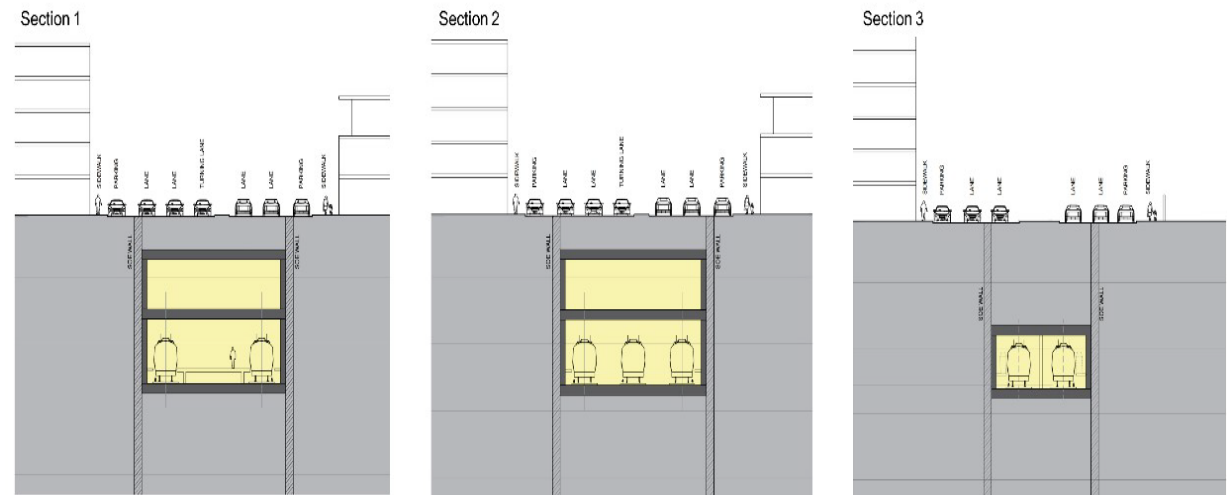
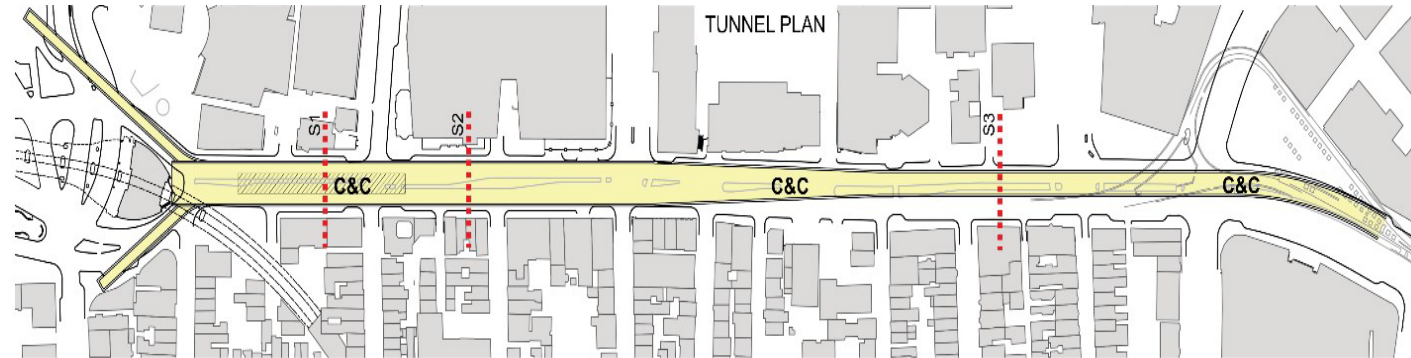


The constructability study evaluated if there were any changes in technology, tunneling methods, or contractor preferences that would affect 2010 DEIR tunnel recommendation.

This analysis recommended cut and cover as the preferred method for the entirety of the project.

Advantages to using cut and cover for the length of the project:

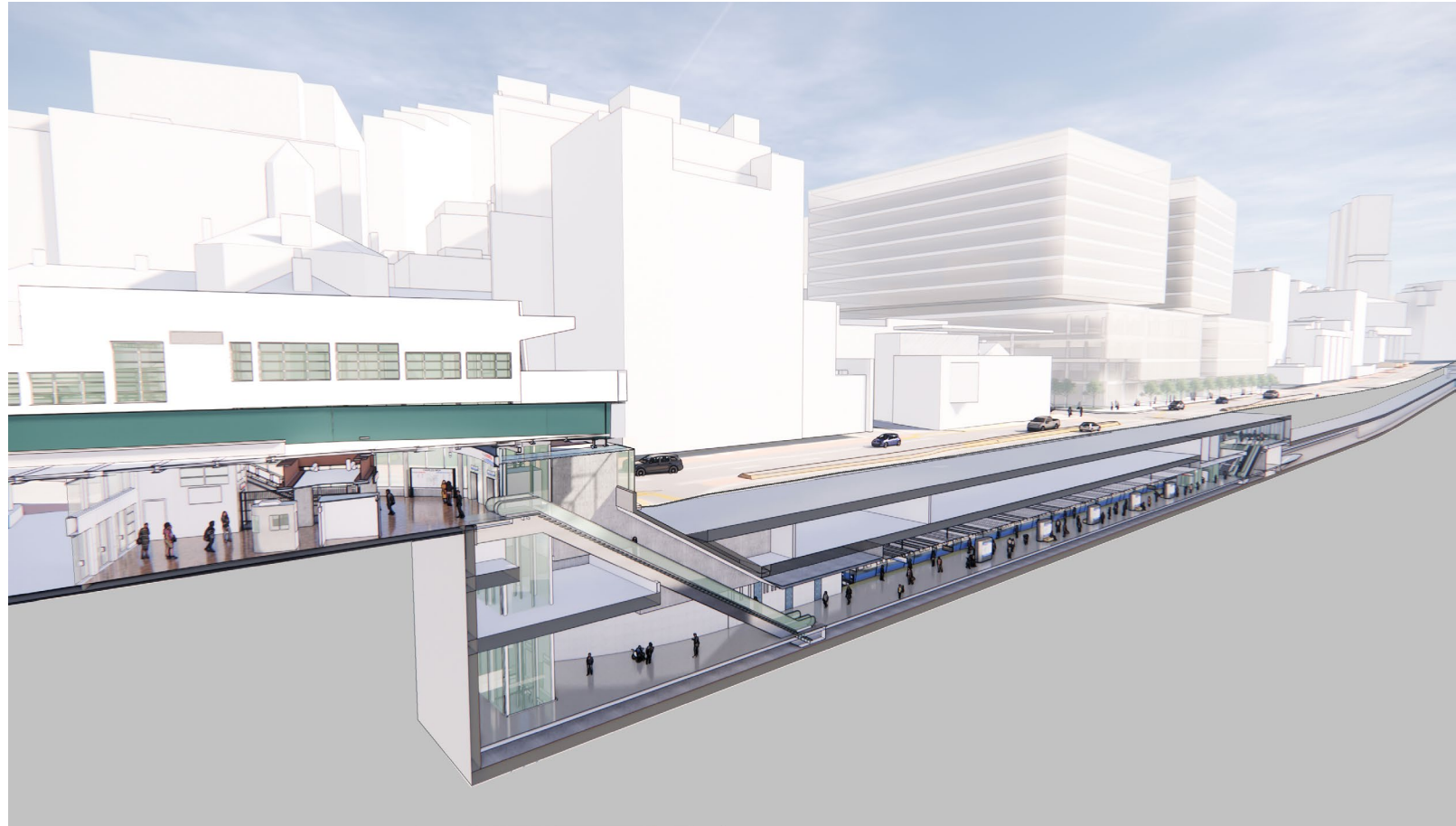
- Least cost
- Shortest construction duration
- Greatest flexibility to incorporate program elements
- Less project risk compared to other tunneling methods
- Not substantially more disruptive to Cambridge Street during construction



The Concept Design Report refined the DEIR preferred alternative and reaffirmed the C&C recommended tunnel methodology. This is the Build Alternative for this phase of design and environmental review.

Build Alternative Project Elements

- ½-mile tunnel under Cambridge Street
- New Blue Line terminus station
- Direct connection to Red Line at Charles/MGH
- New headhouse connecting to MGH campus
- Decommission Bowdoin Station
- Providing redundant elevators and direct escalator runs from platform to Charles/MGH station
- Upgrades signal, power, and ventilation systems
- Consideration of storage tracks



MGH Headhouse

MGH has included space for a Blue Line Station headhouse in the second tower of the Ragon Building currently under construction.



Rendering: Interior MGH Entrance at Grade



Rendering: Interior MGH Entrance Concourse

The Red Blue Connector extension **cannot utilize the existing Bowdoin Loop or station platforms** due to an operating restriction in the loop and the elevation of the existing platforms.

- Trains cannot carry passengers through the loop as the curve's tight radius does not allow for safe emergency evacuations in the loop
- Existing platforms are not deep enough to accommodate the appropriate slope for the tunnel extension

By eliminating passenger service at Bowdoin Station, the **project avoids additional costs associated with rebuilding the station platforms to align with the new track design.**

Eliminating passenger service at Bowdoin Station also provides the **rider benefit of reduced travel time to the Red Line** as compared with making an intermediate transfer on the Orange or Green lines.

- Bowdoin Station has the third lowest ridership on the heavy rail system and is the only station on the Blue Line that is not accessible to person with disabilities. It is 900 ft from the Government Center station entrance and 1,600 ft to the new Charles/MGH Blue Line station entrance.



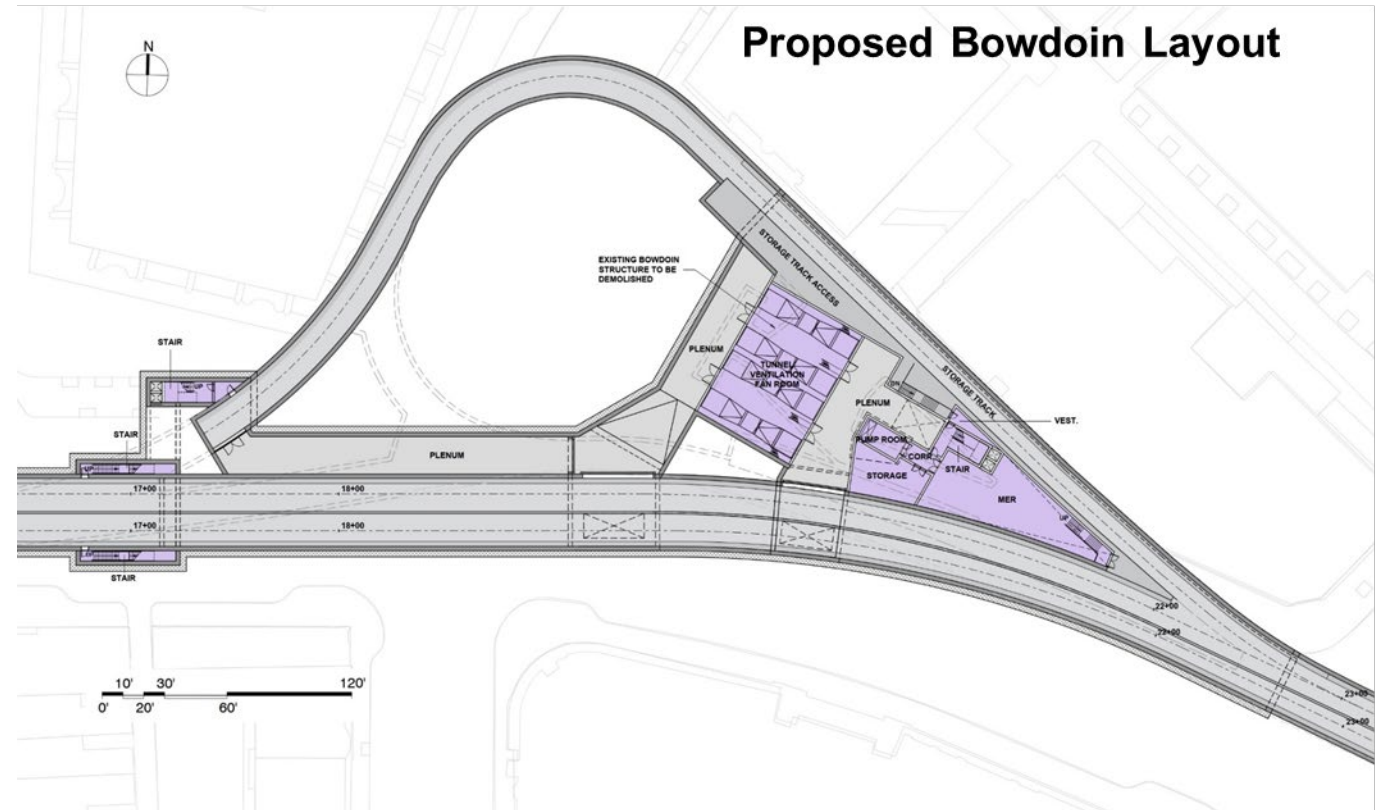
The preferred build alternative decommissions Bowdoin Station to passengers and repurposes the area to support the project.

The Red Blue Connector extension cannot utilize the existing Bowdoin Loop or station platforms due to an operating restriction in the loop and the elevation of the existing platforms.

The space at the existing station would be repurposed to accommodate

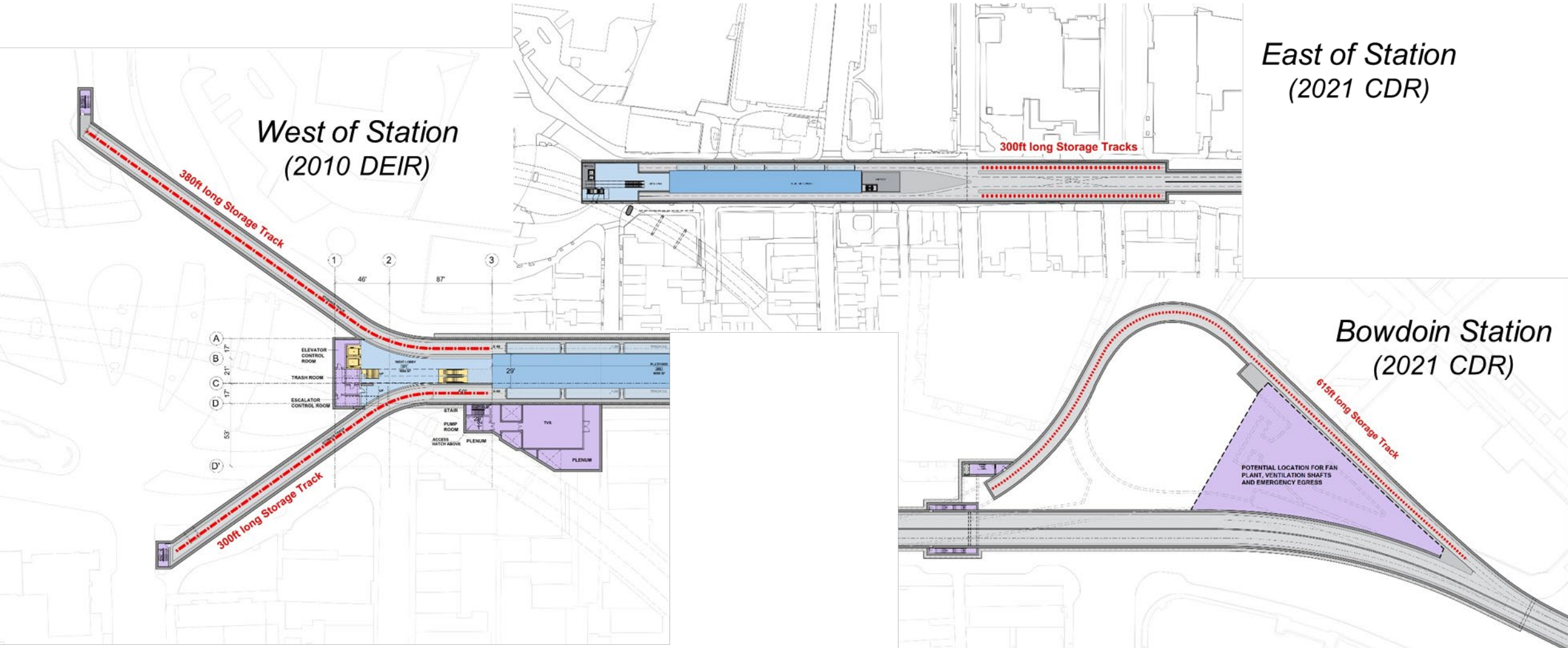
- the connection of the new tunnel to the existing tunnel
- the introduction of a new emergency tunnel ventilation plant
- the construction of an emergency exit

In addition, consideration is being made in the current scope for the storage of trains and maintenance equipment.



Storage Track Alternatives

Storage tracks were proposed to the west of the new Blue Line station in the 2010 DEIR. The 2021 Concept Design Report expanded the evaluation to include pocket tracks to the east of the station and utilization of the Bowdoin Station area.



Project Cost

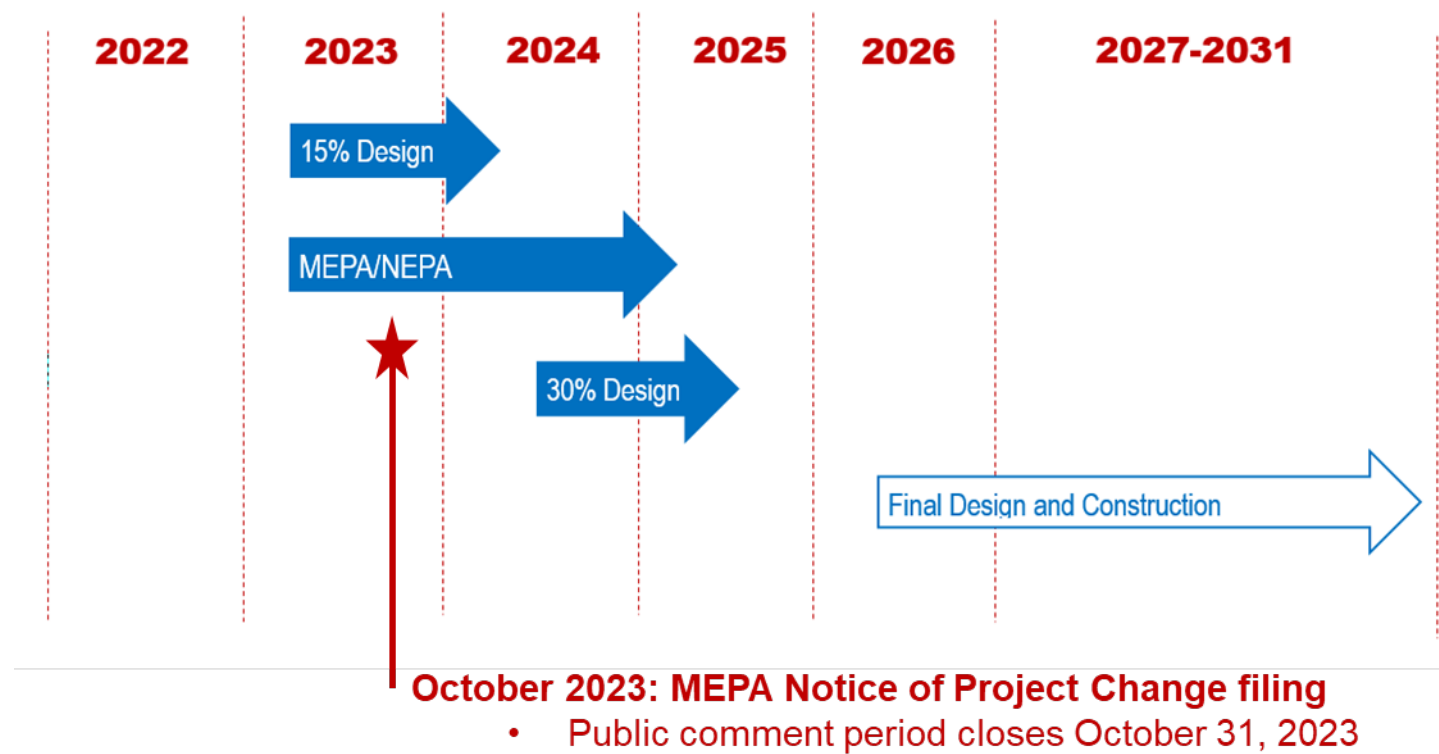
The Red Blue Connector has **\$30 million in programmed funding** to complete 30% design, environmental review, and prepare Design Build bid documents.

The 2021 Concept Design Report **cost estimate is \$850 million**. This concept-level estimate includes:

- Construction
- Design
- Administrative
- Rolling stock

The project cost estimate will be **updated at 15% design** and will be informed by the advanced design, current escalation factors, and current market conditions.

Project timeline



The MBTA submitted a Notice of Project Change to the MEPA Office on October 2, 2023. The **MEPA public comment period is open until October 31, 2023**, and it is anticipated that MEPA will issue a certificate by November 13, 2023.

Submit Comments to MEPA

Submit comments **online** through MEPA's public comment portal:
<https://eeaonline.eea.state.ma.us/EEA/PublicComment/Landing/>

Email comments directly to the MEPA Analyst, Eva Vaughan, at Eva.Vaughan@mass.gov

Mail written comments to:

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Eva Vaughan
EEA No. 14101
100 Cambridge Street, Suite 900
Boston MA 02114

Red Blue Connector Project webpage

- Access project information
- Sign up to receive project updates

<https://www.mbta.com/projects/red-blue-connector>



Contact MBTA Project Manager

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