

I-90 ALLSTON INTERCHANGE
A MULTIMODAL TRANSPORTATION PROJECT
MBTA FMCB BRIEFING
RAILROAD ELEMENTS – December 11, 2017

Meeting Agenda

- **Overview**
- Purposes to be served
- Rail Infrastructure Phasing
- Worcester Main Line
- Grand Junction Railroad
- Layover Yard
- West Station
- Cost Estimate/Funding
- Next Steps
- Questions

Overview

- **This presentation is intended to familiarize the Boards with the transit elements of the Allston Interchange Project**
 - Worcester Main Line (WML)
 - Grand Junction Railroad (GJR)
 - Layover Yard at Beacon Park
 - West Station (Rail and Bus)
- **MassDOT is considering 3 “Throat Area” variations, with differing impacts on the short term and long term rail transportation operations. Those impacts are explained in this presentation.**

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Purposes to be Served

- **Rail elements are included in the project for different reasons**
 - **Addresses existing MBTA operational needs(e.g. Worcester Main Line Improvements, Commuter Rail Layover)**
 - **Preserves or advances future capital improvements to the MBTA system (e.g. Grand Junction, West Station)**
 - **Traffic analysis in DEIR does not identify need for any rail elements to mitigate highway traffic**
 - **These elements will have to be weighted against other potential investments by the MBTA**

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Rail Infrastructure Phasing

- **Phase 1: I-90 Construction**
 - Limited core rail infrastructure improvements
 - MBTA continues utilizing existing yard tracks
 - Track switch improvements
 - Electric plug-ins (& on-site generator) to satisfy Clean Air Act settlement
 - 8 layovers available
- **Phase 2: Rail Yard Construction**
 - Builds yard with paved access, crew quarters, substation, laydown area, and Stormwater Management features
 - 16 layovers available
- **Phase 3: West Station Construction**
 - 3 station platforms/4 tracks (add 2 GJ tracks)
 - 8 layovers available
 - Bus Concourse

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Worcester Main Line (WML)

- **Purpose: Addresses MBTA operational needs by incorporating second track that increases operational flexibility**
 - WML recent history operation relied on a single track
 - ENF identified adding a 2nd WML track within I-90 project in conjunction with West Station
 - MBTA has now built the second track throughout the Project Area
 - I-90 project will introduce new cross-over tracks that connect the 2 WML tracks for operational flexibility
 - Intent is to meet or exceed Maximum Authorized track speeds

MBTA Easement – Yard Area



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Grand Junction Railroad (GJR)

- **Purpose: Addresses future capital improvements to the MBTA system and maintains existing operational needs**
 - The GJR is a vital service link between the south side and north side commuter railroad systems
 - The GJR branch links Beacon Park Yard (BPY) to the Commuter Rail Maintenance Facility (CRMF) in Somerville, and is the only north/south rail link in the metro area
 - The GJR operates on a single track through this run
 - MBTA performs all heavy maintenance at the CRMF
 - All south side commuter rail equipment serviced at the CRMF use the GJR

GJR (continued)

- **Other Operations**
 - CSX maintains operating rights on the GJR, and runs regular freight service to the Chelsea produce markets and Everett scrap yards
 - Amtrak uses the GJR to transfer *Downeaster* equipment to and from its Southampton Street Maintenance Yard at least weekly
- **GJR in relation to the I-90 Project**
 - The Project proposes 2 GJR tracks easterly from West Station to the existing bridge over SFR
 - GJR tracks will neck down to a single track before reaching SFR and the Charles
 - GJR tracks will connect into the WML west of the station

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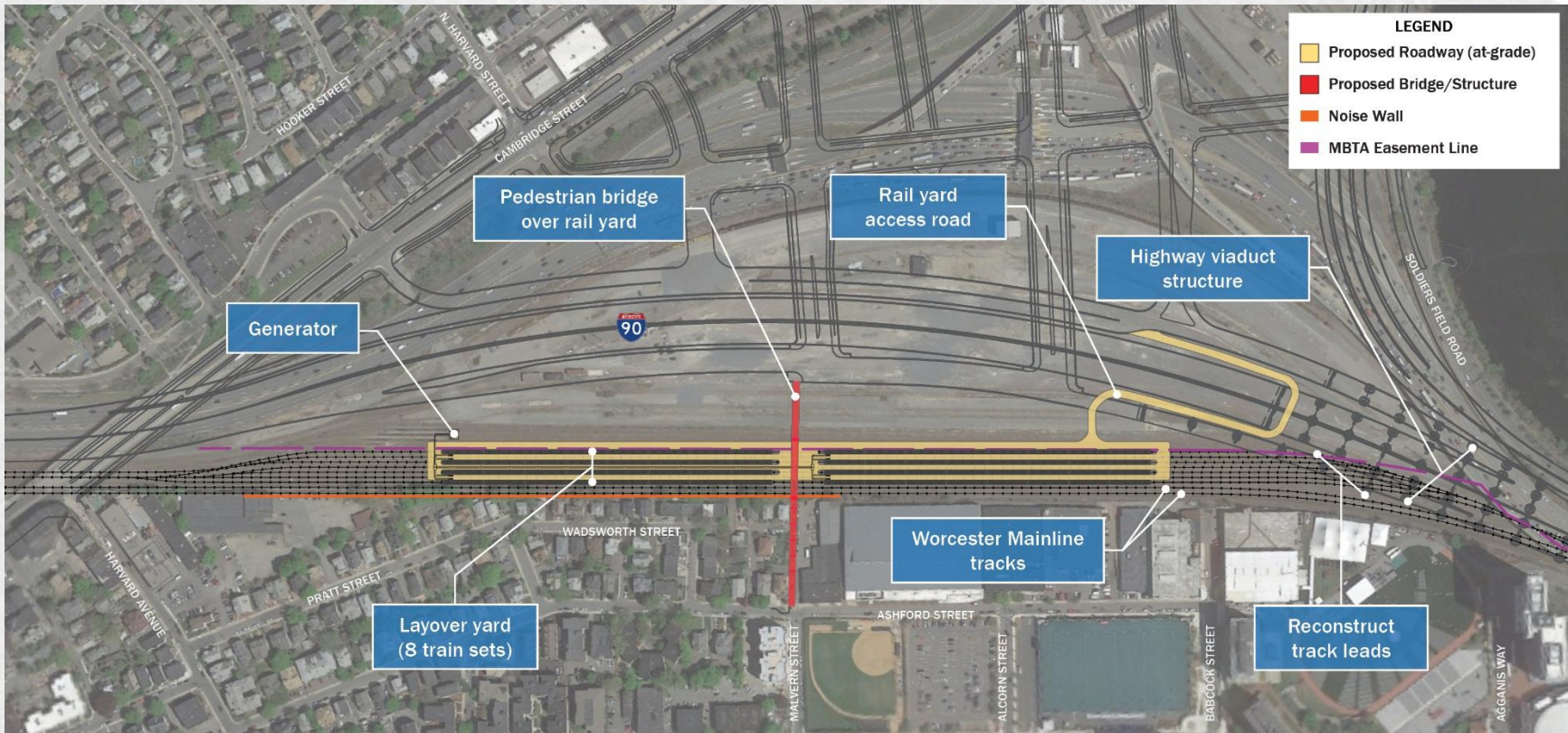
Layover Yard

- **Purpose: Addresses existing and foreseeable operations needs**
 - Layovers help to level-out train use resulting from uneven demand throughout the day
 - Trains typically lay-over 4 to 5 hours during the midday hours
 - MBTA has a current deficit of 6 layover spaces on the south side
 - Projected fleet growth from 41 consists now to 58 consists in 2035
 - Projected layover deficit is 33 consists in 2035 |
 - This layover location study offers the closest proximity to South Station and the availability of Beacon Park Yard.
 - Widett Circle and Readville will still be needed to meet the needed layover demand

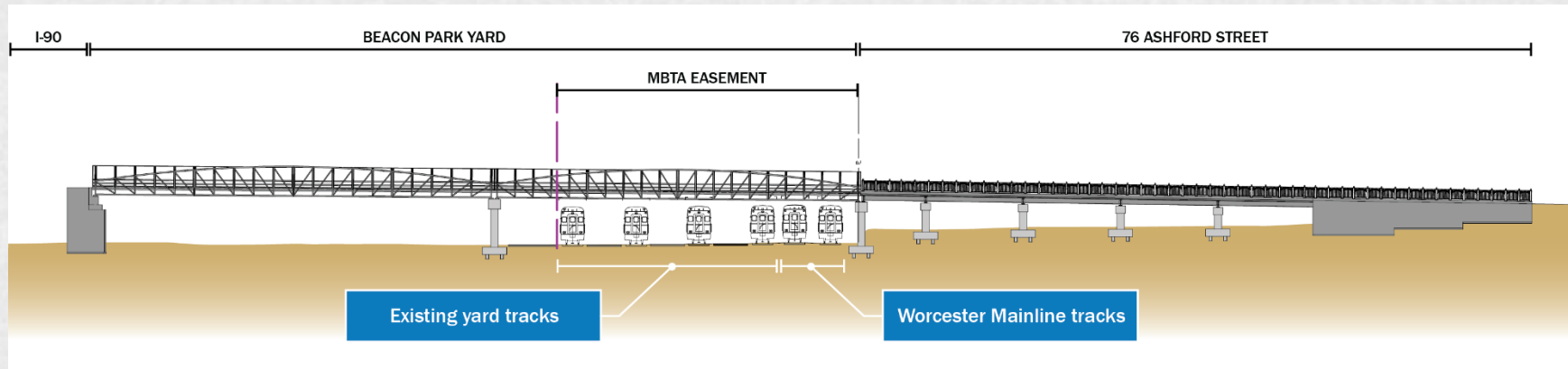
Layover Yard(continued)

- **Anticipates MBTA will occupy layover tracks within its easement area before I-90 construction**
 - 4 tracks suitable for 8 layover trains with east access
- **In Phase 2, MBTA will add 4 more tracks/ 8 more layovers**
 - Total after this phase is 8 tracks supporting 16 trainsets
 - Yard access will be available from the east and west
- **In Phase 3, MBTA will remove the 4 original layover tracks in order to build the West Station platforms**
 - Total permanent layover consists of 4 tracks supporting 8 trainsets

Phase 1: 8-Consist Yard (2025)



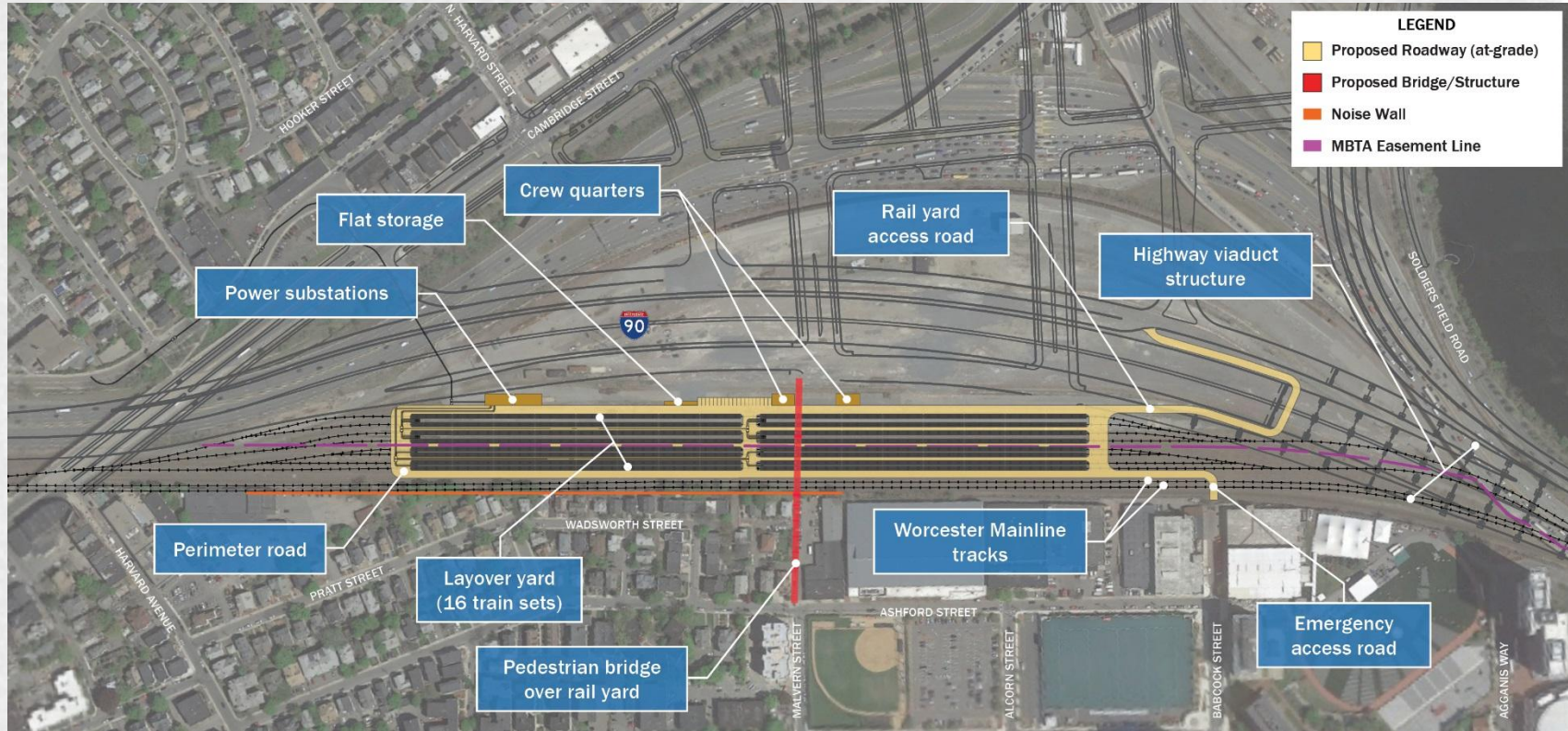
Phase 1 Cross Section



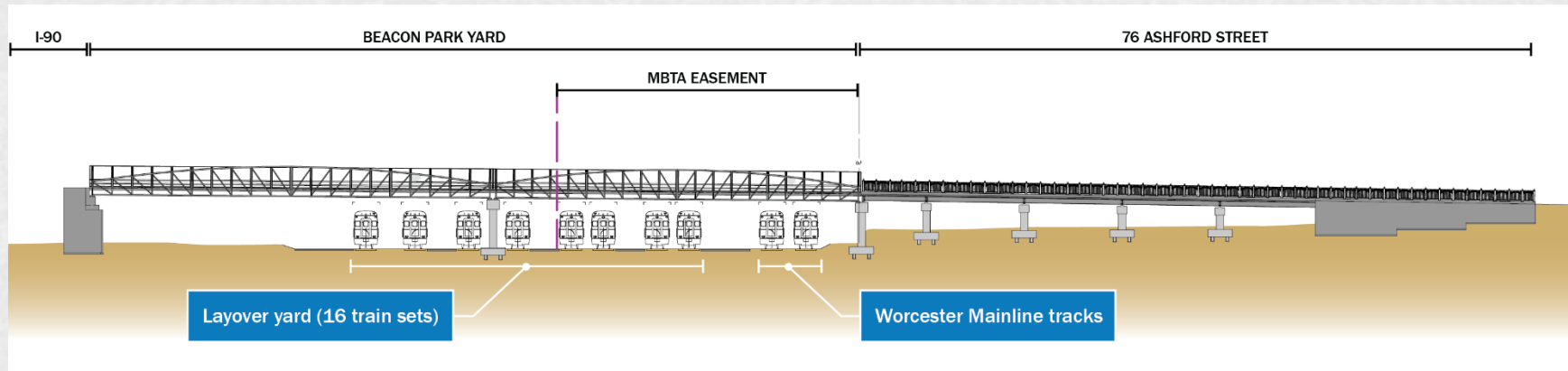
Other Considerations

- **MBTA now uses Front Yard (3 trainsets) and Amtrak's Southampton Street Yard (3 trainsets)**
 - Front Yard track length is too short for future consist lengths
 - Future trainsets assembled as at least 8 bi-level coaches with one engine
 - Do not have plug-in availability
 - MBTA is a tenant at will at Southampton Street Yard , and may lose those tracks
 - Existing layouts do not support running repair and servicing of trainsets during layover
- **Currently all layover is sited along the Fairmount Line and creates operational capacity constraints**
 - 60% of operations occur on the Western Branches (Providence & Worcester)
 - Only 40% of operations occur on the southern branches (Old Colony and Dorchester)

Phase 2: 16-Consist Yard



Phase 2 Cross Section



Meeting Agenda

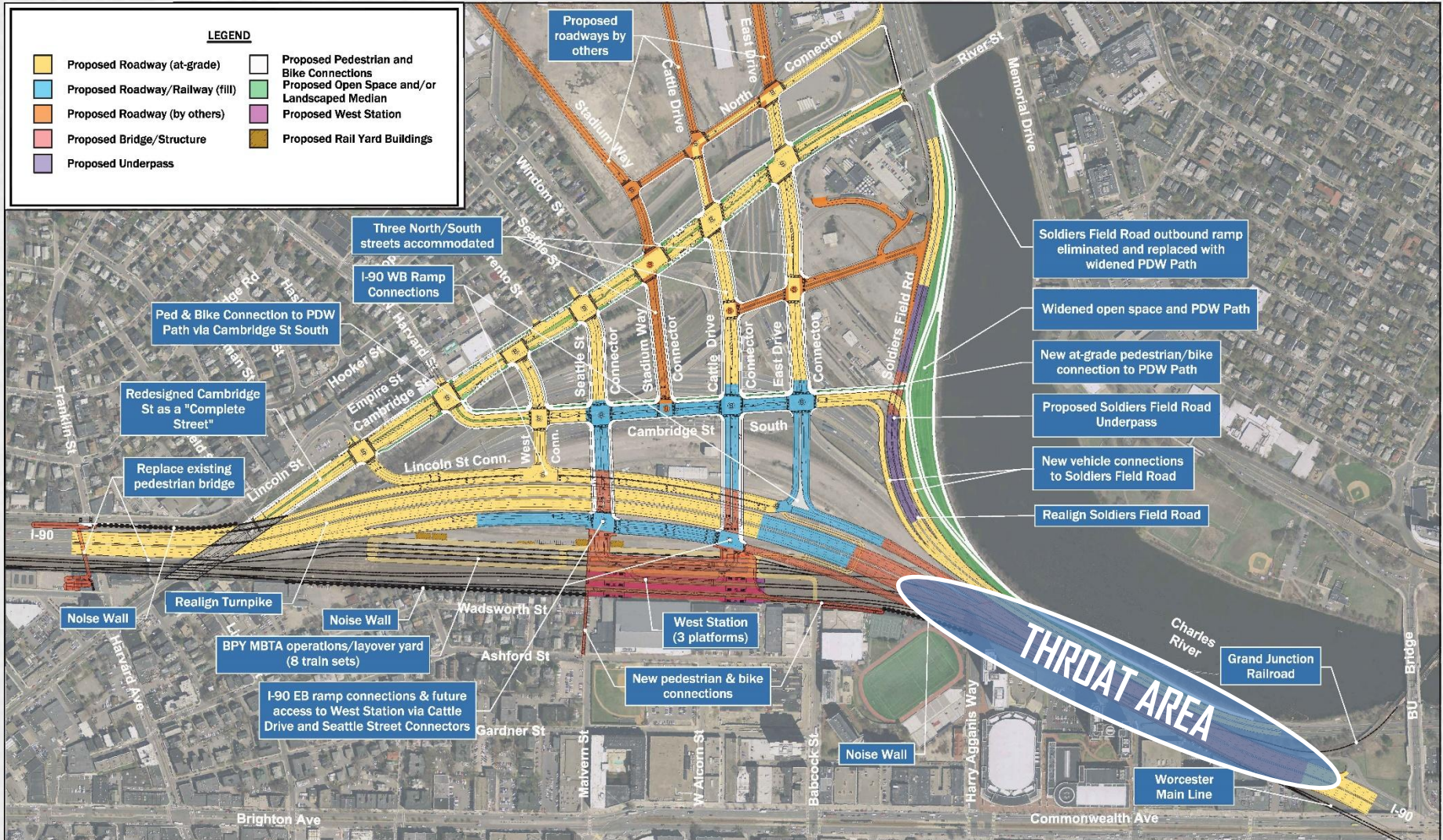
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West Station

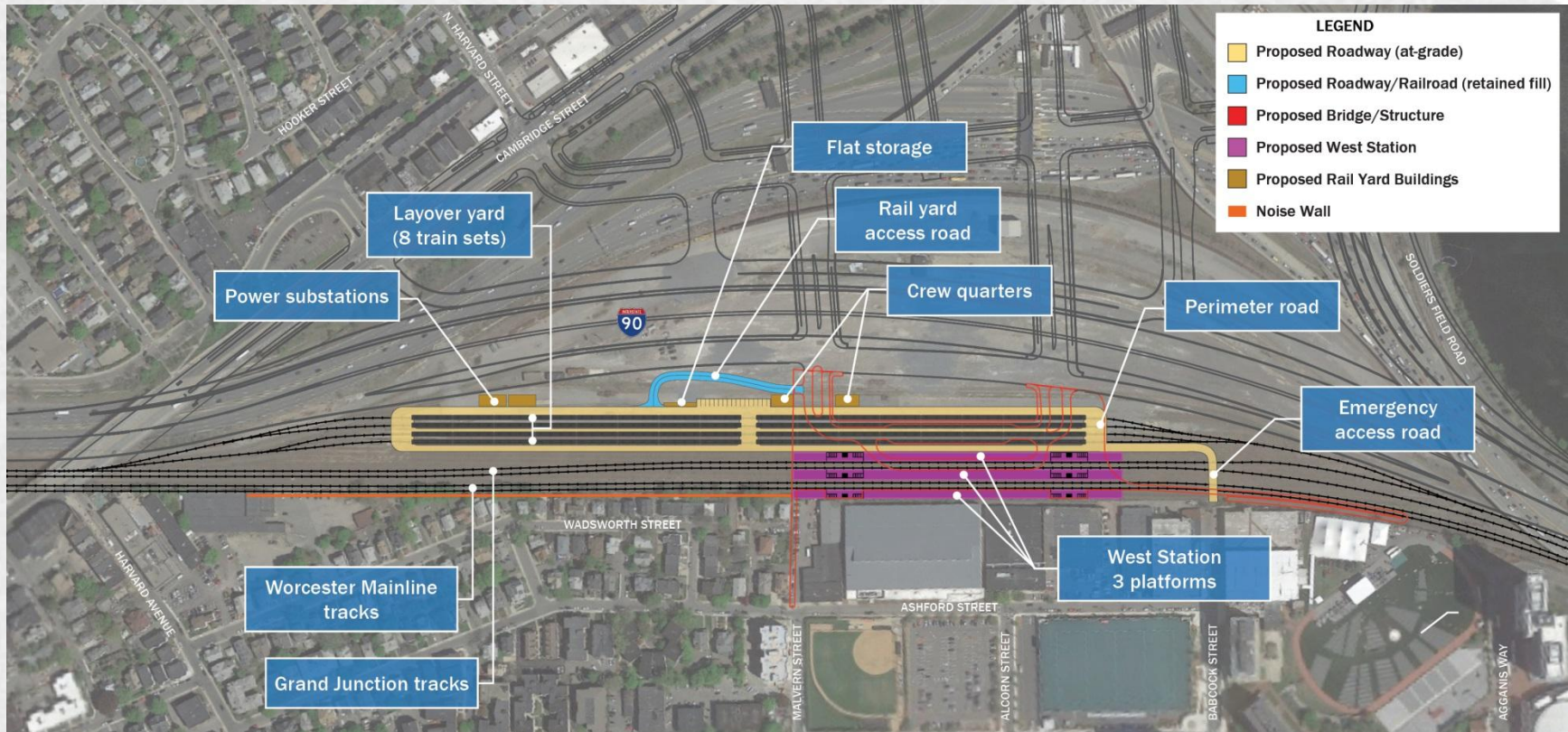
- **Purpose: Addresses future capital improvements to the MBTA system**
 - **West Station includes 4 tracks & 3 platforms***
 - 4 tracks consist of 2 WML tracks and 2 GJR tracks
 - 2 side platform and 1 center island platform arrangement
- **Bus Station includes**
 - 5 Live Bus Berths,
 - MBTA to develop a service considering land development plans advanced by others
 - 5 Layover berths
 - Curbside drop-off for shuttles, livery, and K&R passengers
 - No on-site parking
- **Traffic data presented in the DEIR establishes that West Station is not needed to mitigate traffic impacts of the I-90 project**

* RR viaduct variant operates with 4 tracks and 2 center island platforms

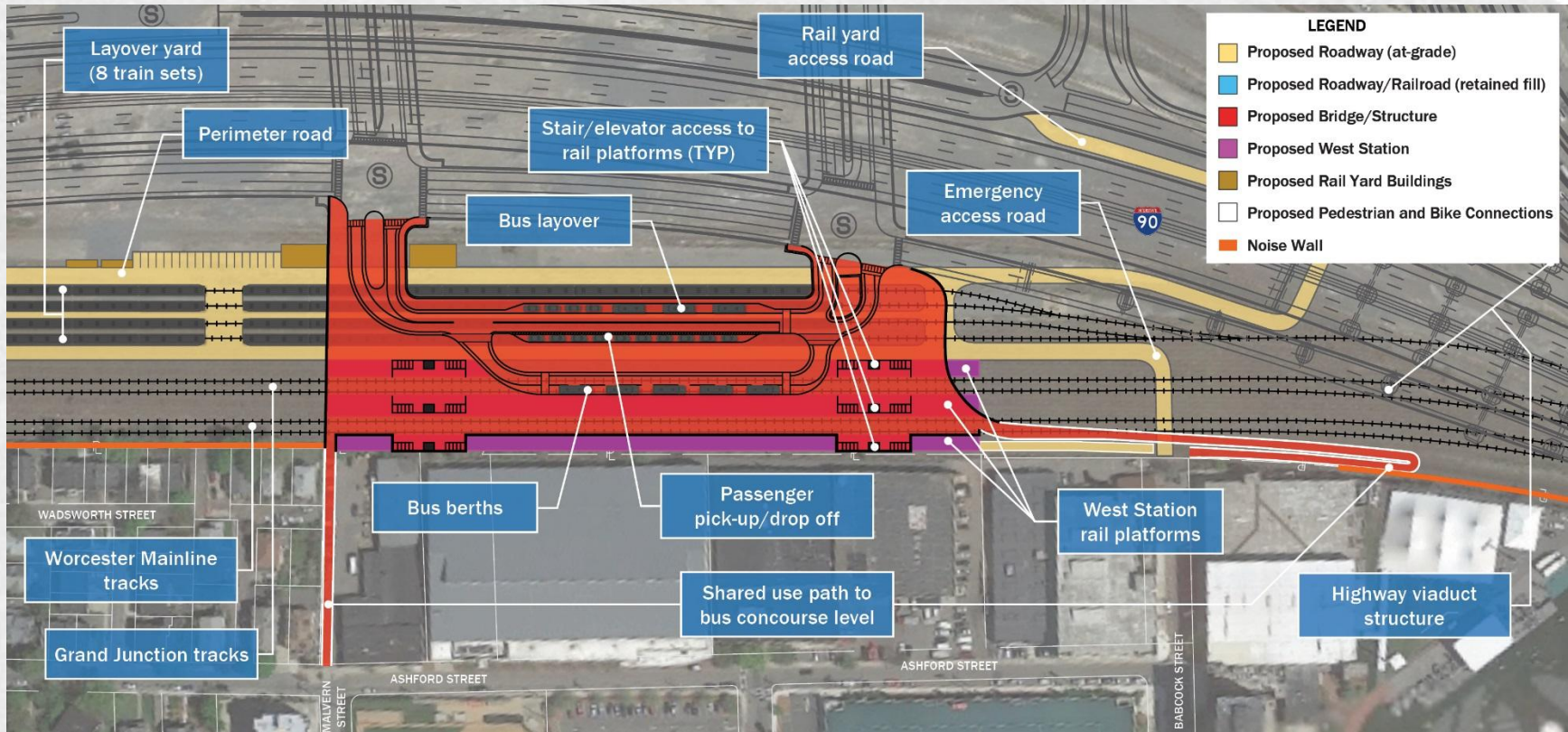
DEIR Preferred Urban Interchange Alternative



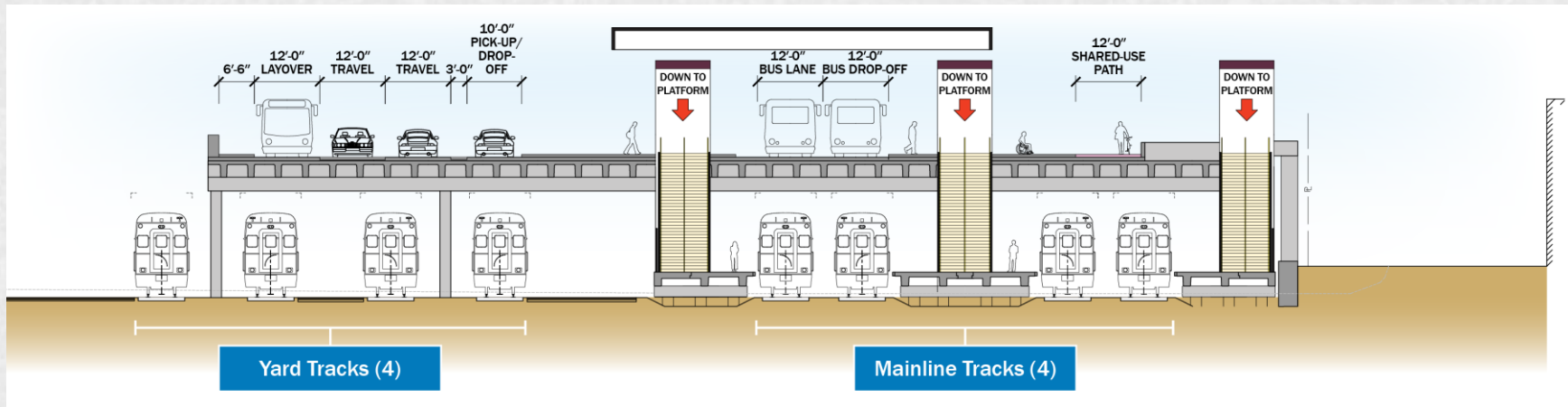
West Station at Yard Level



West Station Bus Loop & Concourse



West Station 3- Platform Cross Section



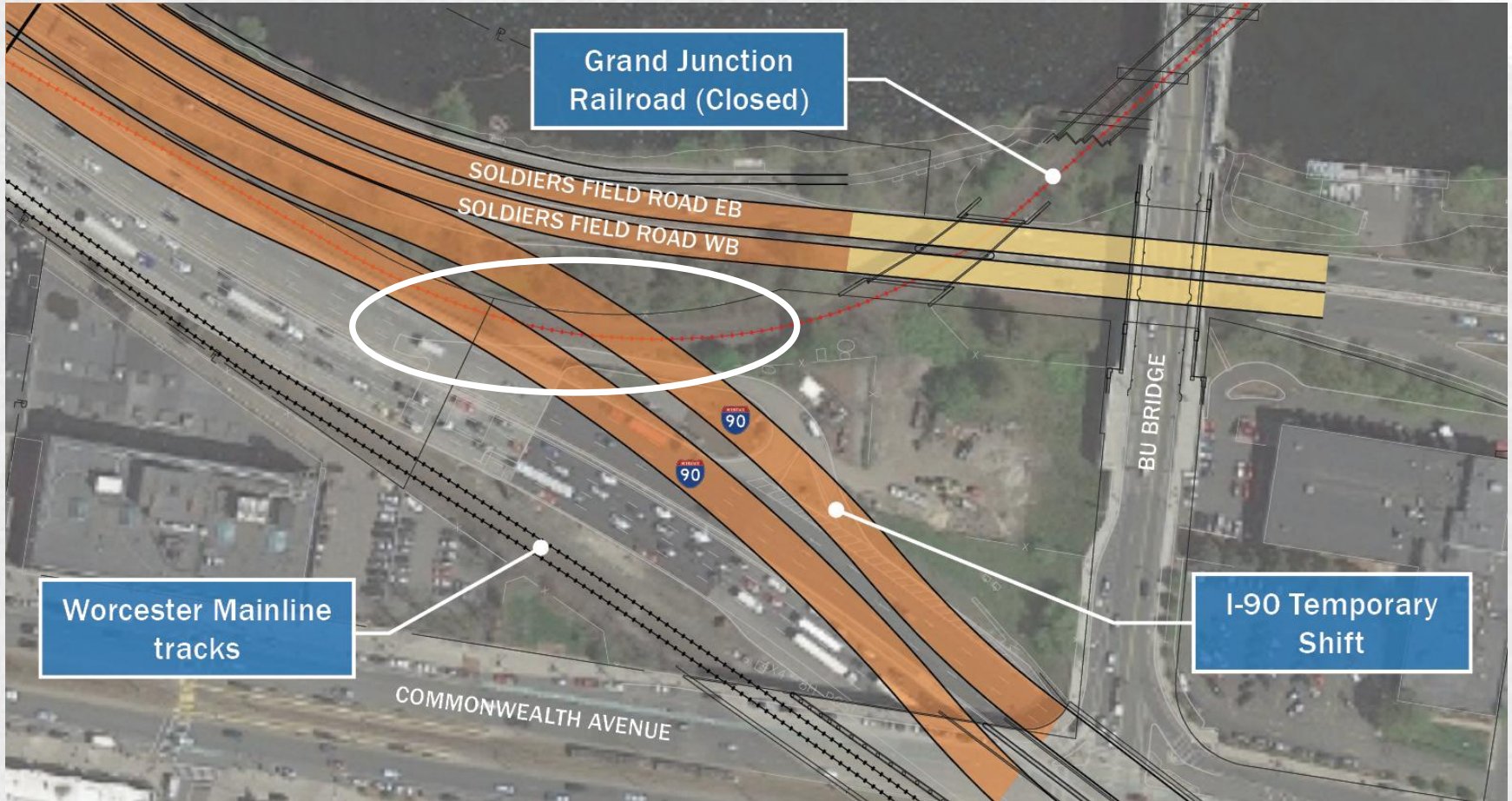
West Station Rail Service Assumptions

- **Commuter Rail Service will meet or exceed MBTA Service Delivery Policy**
- **No Grand Junction passenger service commitment at this time, but not precluded**
- **Development Planning Assumptions for ridership development**
 - **Considers Harvard's Institutional Master Plan for the ERC**
 - **Anticipates 7 MSF development in future Allston Landing street grid area**
- **West Station Boardings, 2040 (CTPS)**
 - **250 rail passengers**
 - **2900 bus passengers**

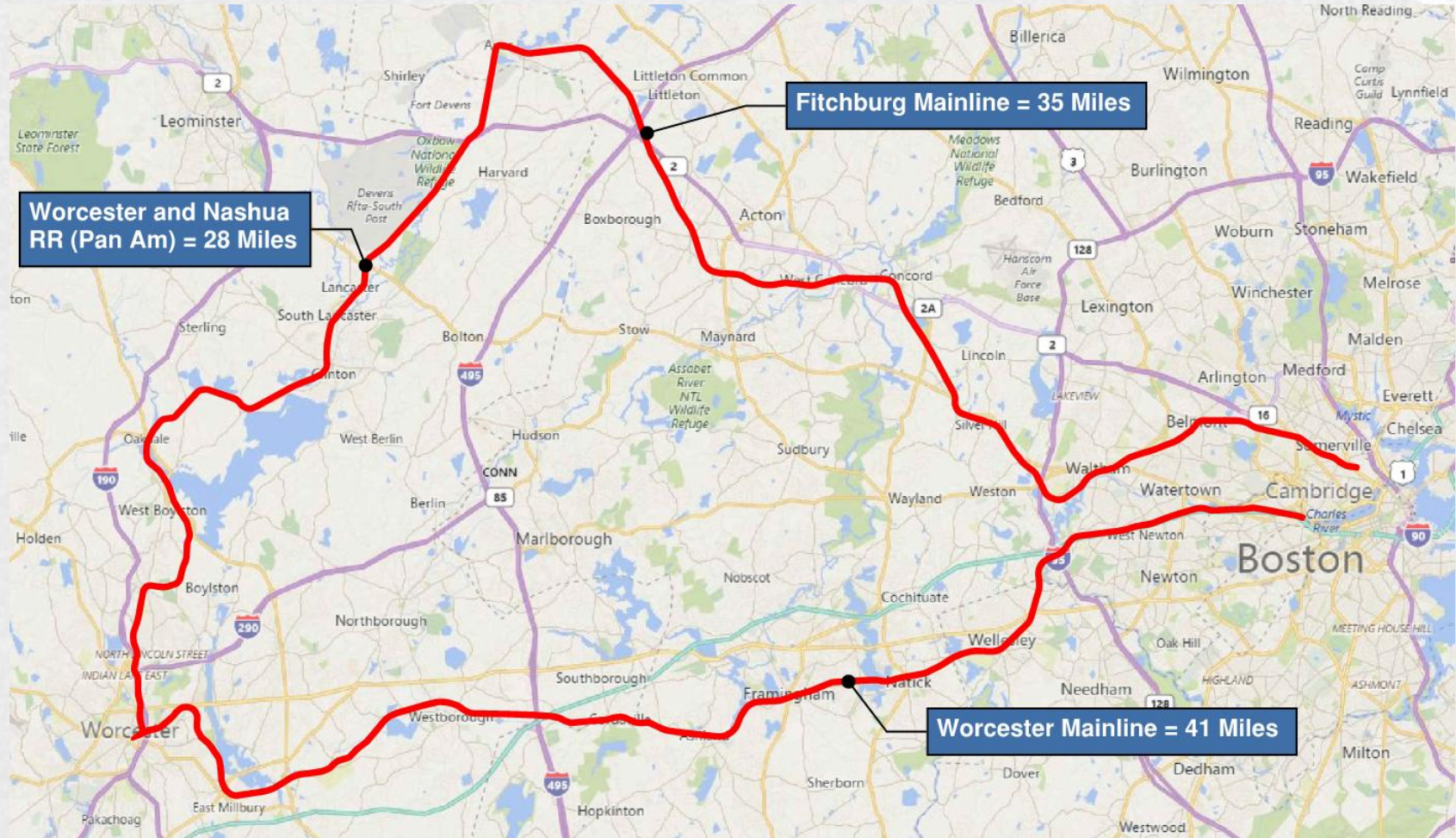
Construction Phase Closure of GJR

- The GJR will be closed for 3 years(estimated) to construct either of the at-grade variations
- MBTA will utilize a 104 mile detour to transfer equipment between the south side and the CRMF in Somerville

GJR Conflict with Temp I-90



GJR Detour - 104 miles



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Conceptual Construction Cost Estimate

- 2017 Costs based on Full Project Buildout (not phased)
- Includes Base Construction, Contingency and Escalation

Construction Elements	No Build	Throat Area Variation		
		3K-HV	3K-AMP	3K-ABC
I-90 Urban Interchange	\$175.6 M	\$457.5 M	\$352.7 M	\$359.6 M
Rail Operations	\$82.0 M	\$82.4 M	\$297.0 M	\$138.6 M
West Station	\$0	\$95.6 M	\$89.0 M	\$96.2 M
Sub-Total	\$257.6 M	\$635.5 M	\$738.7 M	\$594.4 M
Escalation 3.5%	\$58.0 M	\$143.0 M	\$190.9 M	\$133.7 M
Contingencies 35%	\$110.5 M	\$272.4 M	\$325.3 M	\$254.8 M
Total	\$426.1 M	\$1.05 B	\$1.25 B	\$982.9 M

West Station Funding

- While the Allston Interchange project is part of the Metropolitan Highway System, state law prohibits the use of toll revenues to fund projects off the toll system
- The station needs to be funded from some combination of non-toll sources
 - MBTA funds
 - Commonwealth bonds
 - Third-Party contributions (City, Harvard, B.U., developer, etc.)
- In 2014, Harvard University and Boston University each committed *in principle* to fund one-third of the capital cost of West Station based upon a then estimated cost of \$25 million

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Next Steps

- **DEIR comment period runs from 12/6/17 thru 1/19/18**
- **Continued public outreach and work with stakeholders**
 - **3 Public Information sessions**
 - **2 Task Force Workshops**
- **MEPA Scoping for a FEIR**
- **Selection of a Preferred Alternative**
- **Prepare and submit joint EA/FEIR**

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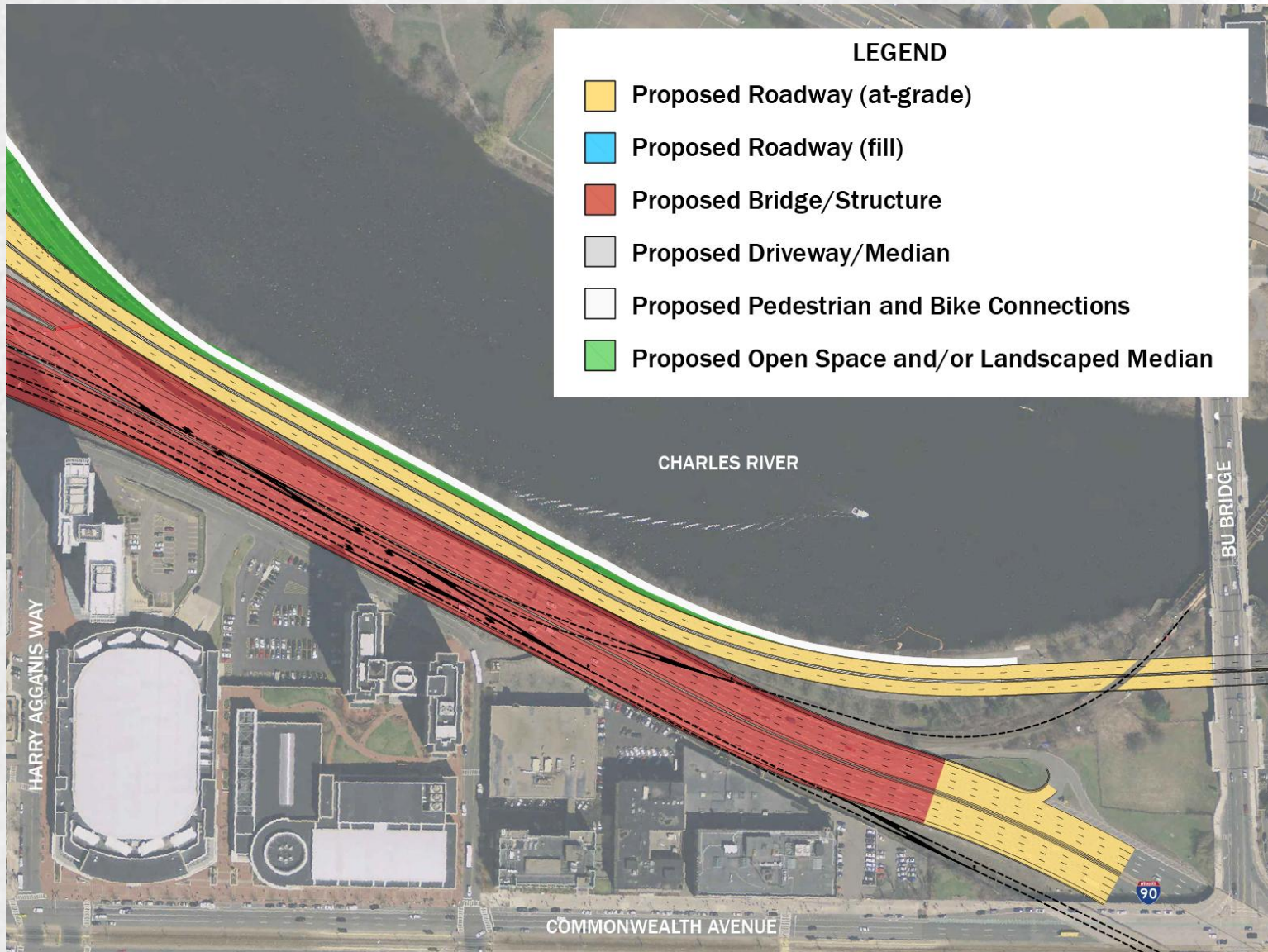
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Questions?





3K-HV Throat Area Variation



3K-ABC Throat Area Variation



3K-AMP Throat Area Variation

