I-90 ALLSTON INTERCHANGE

A MULTIMODAL TRANSPORTATION PROJECT

ENVIRONMENTAL NOTIFICATION FORM

OCTOBER 2014

massDOT
Massachusetts Department of Transportation
Highway Division

Deval L. Patrick, Governor
Richard A. Davey, Secretary & CEO
Frank DePaola, Administrator

MassDOT
Massachusetts Department of Transportation
Highway Division

RE: I-90 Allston Interchange Project

To whom it may concern:

An Environmental Notification Form (ENF) has been filed with the Massachusetts Environmental Policy Act (MEPA) Office for the above-mentioned project.

This document was filed with the Executive Office of Environmental and Energy Affairs on October 31, 2014. Comments on this project are due by November 25th, 2014.

Notice of the ENF can be viewed on the MEPA website, in the November 5th, 2014 MEPA Environmental Monitor.

All comments regarding the ENF should be sent to:

Secretary Maeve Vallely Bartlett
Executive Office of Energy & Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Please send a copy of your comments to:

MassDOT Highway Division
Environmental Services Section
Attn: James Cerbone
10 Park Plaza, Room 4260
Boston, MA 02116
James.Cerbone@state.ma.us

A public meeting to discuss the project will be scheduled in the near future. All persons wishing to be notified of the public meeting should write to the Secretary of Energy and Environmental Affairs, 100 Cambridge Street, Suite 900, Boston, Massachusetts 02114, Attention: MEPA Office, referencing the above project or contact me directly.

If you need any additional information regarding the subject project, please contact me at (857) 368-8792 or james.cerbone@state.ma.us.

Sincerely,

James J. Cerbone
Project Manager
Environmental Services Division

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act (MEPA) Office

Environmental Notification Form

For Office Use Only

EEA#: _____

MEPA Analyst: _____

The information requested on this form must be completed in order to submit a document electronically for review under the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: **I-90 Allston Interchange Project**
Street Address: **I-90, Cambridge Street and Soldiers Field Road**
Municipality: **Boston (Allston)** Watershed: **Charles River**
Universal Transverse Mercator Coordinates: Latitude: **42.357593**
4691660.71 N, 325275.40 E Longitude: **-71.121626**
Estimated commencement date: **2017** Estimated completion date: **2020**
Project Type: **Roads; Transit-Rail** Status of project design: **Conceptual Design** (**5** % complete)
Proponent: **Massachusetts Department of Transportation (MassDOT)**
Street Address: **10 Park Plaza**
Municipality: **Boston** State: **MA** Zip Code: **02116**
Name of Contact Person: **James Cerbone**
Firm/Agency: **MassDOT** Street Address: **10 Park Plaza**
Municipality: **Boston** State: **MA** Zip Code: **02216**
Phone: **(857) 368-8792** Fax: **(857) 368-0609** E-mail: **james.cerbone@state.ma.us**

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
☒**Yes** ☐No

301 CMR 11.03(1)(a)1 – Direct alteration of 50 or more acres of land.

If this is an Expanded Environmental Notification Form (ENF) (see 301 CMR 11.05(7)) or a Notice of Project Change (NPC), are you requesting:

a Single EIR? (see 301 CMR 11.06(8)) ☐Yes ☒**No**
a Special Review Procedure? (see 301CMR 11.09) ☐Yes ☒**No**
a Waiver of mandatory EIR? (see 301 CMR 11.11) ☐Yes ☒**No**
a Phase I Waiver? (see 301 CMR 11.11) ☐Yes ☒**No**
(Note: Greenhouse Gas Emissions analysis must be included in the Expanded ENF.)

Which MEPA review threshold(s) does the project meet or exceed (see 301 CMR 11.03)?

11.03)(3)(b)5 – New non-water dependent use of tidelands.
11.03(6)(b)1.a – Construction of a new roadway one-quarter or more miles in length.
11.03(6)(b)1.b – Widening of an existing roadway by four or more feet for one-half or more miles.

Which State Agency Permits will the project require?

Chapter 91 License – Mass DEP
Notification Prior to Construction or Demolition – MassDEP
Review under M.G.L. Chapter 9, Section 26-27C as amended by Chapter 254 of the Acts of 1988 - Massachusetts Historical Commission
Consistency Review – Massachusetts Coastal Zone Management
Access Permit – Department of Conservation and Recreation
8(m) Permit – Massachusetts Water Resources Authority
Building Permit – Department of Public Safety
Sewer Use Discharge Permit, a Group Permit or a General Permit (To Be Determined) - Massachusetts Water Resources Authority

Identify any financial assistance or land transfer from an Agency of the Commonwealth, including the Agency name and the amount of funding or land area in acres:

MassDOT will fund the construction of the I-90 Allston Interchange Project with Metropolitan Highway System funds and other non-federal aid funding.

Summary of Project Size & Environmental Impacts	Existing	Change	Total
LAND			
Total site acreage	150		
New acres of land altered		0	
Acres of impervious area	67	-4.7	62.3
Square feet of new bordering vegetated wetlands alteration		0	
Square feet of new other wetland alteration		Inland Bank - TBD (ped bridge over SFR[1]) Riverfront Area - TBD (ped bridge over SFR)	
Acres of new non-water dependent use of tidelands or waterways		1.3	
STRUCTURES			
Gross square footage	16,400± SF	49,200± SF	65,600± SF
Number of housing units	N/A	N/A	N/A
Maximum height (feet)	~25 (existing viaduct)	+25[2]	~50
TRANSPORTATION			
Vehicle trips per day [3]	147,000	0	147,000
Parking spaces	0	70	70
WASTEWATER			
Water Use (Gallons per day)	0	5,700	5,700
Water withdrawal (GPD)	N/A	0	0
Wastewater generation/treatment (GPD)	N/A	5,700	5,700

[1] A new bicycle/pedestrian bridge over Soldiers Field Road.
[2] Height of West Station 25 feet above station mezzanine floor which is level with station access roads.
[3] Vehicles trips per day on I-90 at the existing interchange.

Length of water mains (miles)	N/A	0.7	0.7
Length of sewer mains (miles)	N/A	0.5	0.5
Has this project been filed with MEPA before? ☐ Yes (EEA #_____) ☒**No**			
Has any project on this site been filed with MEPA before? ☒ **Yes** (EEA # 15028) ☐No			

GENERAL PROJECT INFORMATION – all proponents must fill out this section

PROJECT DESCRIPTION:

Describe the existing conditions and land uses on the project site:

Project Area

The I-90 Allston Interchange Project area includes the area encompassed by the former Beacon Park Yards (BPY) and bounded by Ashford Street to the south, the Commonwealth Avenue bridge and Soldiers Field Road to the east, and Cambridge Street to the north and west. The project limit to the west on I-90 includes the Lincoln Street pedestrian bridge over I-90.

Within these boundaries the project area includes Interstate 90 (I-90), also known as the Massachusetts Turnpike, I-90 interchanges 16, 17 and 18, a major local arterial (Cambridge Street) and its intersections, and active and inactive railroad facilities in BPY. I-90 within the project area is partially at-grade, partially carried on embankment sections, and partially traverses a viaduct. The project area also includes Soldiers Field Road, an historic parkway, and the adjacent Paul Dudley White Path, a shared-use path, along the banks of the Charles River.

Most of the land within the project area is presently owned by Harvard University, with the existing I-90 interchange and railroad facilities operated by CSX Corporation and MassDOT located within easements. Existing land use within the project area consists of highway and street roadways, the Paul Dudley White Path, and railroad transportation elements surrounded by undeveloped open space, largely portions of a former rail yard.

Describe the proposed project and its programmatic and physical elements:

NOTE: The project description should summarize both the project's direct and indirect impacts (including construction period impacts) in terms of their magnitude, geographic extent, duration and frequency, and reversibility, as applicable. It should also discuss the infrastructure requirements of the project and the capacity of the municipal and/or regional infrastructure to sustain these requirements into the future.

Need for the Project

The existing I-90 viaduct, constructed in 1965, is deteriorating and nearing the end of its useful life. Additional maintenance of the viaduct is becoming increasingly expensive and the viaduct must be replaced. The existing I-90 toll plazas will be removed in the near future as toll plazas along the Massachusetts Turnpike will be replaced with All Electronic Tolling. There is an opportunity to reconfigure the interchange to meet modern highway design standards, improve safety on I-90, and enable future development in the project area with a new interchange design.

The intersection of the I-90 ramps with Cambridge Street is severely congested in both the morning and afternoon peak hours. The intersection of Cambridge Street with Soldiers Field Road averages 55 crashes per year and is within the top 5% of crash locations in the Boston region. The existing I-90 Allston interchange is a significant part of the regional and local infrastructure carrying over 140,000

vehicles per day, and connecting Logan Airport, I-93 and downtown Boston with areas to the west with connections to I-95 and I-495.

Access for alternative modes of transportation in the project area is constrained. Bicycle riders and pedestrians in the area do not have easy access to the Charles River, the Paul Dudley White Bike Path, and the Charles River Reservation. The BPY and the I-90 interchange have prevented direct and convenient access from Cambridge Street to areas of Allston south of the rail yard.

Harvard University, which owns the former rail yard property, will develop the area in the future. This anticipated future growth will spur the need for additional public transit service in the project area. MassDOT has identified a future commuter rail station, West Station, located along the existing Worcester branch commuter rail line to South Station. A potential future connection for potential diesel multiple unit (DMU) service along the Grand Junction Rail corridor to North Station in Boston has also been identified as a future opportunity.

Components of the Project

The four existing interchange toll plazas within the project area will be removed and replaced by an All Electronic Tolling system with gantries positioned east and west of the project limits under a separate project in 2016. Removal of the toll plazas creates an opportunity to reduce the paved area within the project area and create a new and more efficient roadway system.

I-90 Viaduct and Soldiers Field Road

The viaduct extends from just east of the Allston Brighton toll plaza and extends approximately 2,500 feet to the east, passing over the MassDOT commuter rail and Grand Junction railroad tracks before ending to the west of the Commonwealth Avenue overpass over I-90. The I-90 Allston Interchange Project proposes to completely reconstruct the viaduct to modern interstate highway design standards. Four travel lanes will be provided in each direction, with incorporation of shoulders and a breakdown lane.

The new viaduct will be slightly cantilevered over the eastbound lanes of Soldiers Field Road in the area immediately west of the Grand Junction Railroad bridge. A portion of Soldiers Field Road will be relocated to the south, away from the Charles River. This relocation will result in an area of additional parkland along the Charles River and the Paul Dudley White bike path.

Interchange

The existing interchange will be completely reconfigured and reconstructed to modern interstate highway design standards. Working in cooperation with a 50-member Task Force of residents, business owners, city officials, and other local stakeholders, MassDOT explored a range of interchange concepts ultimately focusing upon suburban-type interchanges and urban-type interchanges. Suburban-type interchanges are generally characterized by broadly sweeping ramp systems providing direct access to and from the highway system to local streets. Urban-type interchanges generally utilize a system of signal-controlled access roadways to provide connections from the highway to the local street system and more closely resemble typical urban street networks. MassDOT, with input from the Task Force, has determined that an urban-type interchange design is preferred for replacing the existing interchange. An urban interchange occupies less land area than a suburban style interchange design, better fits the urban context of the project area, and better accommodates additional multimodal connections and future land development in the former BPY.

Several alternative variants of the urban interchange concept were explored, varying the numbers of connecting roadways between I-90 and Cambridge Street, one-way and two way traffic patterns and adding a Parallel Roadway south of Cambridge Street. Development of the urban interchange concepts was an iterative process, culminating in three variations of the 3J series as preferred conceptual alternatives. Earlier concepts (3A through 3H) were eliminated for the following reasons:

- Traffic operations and safety;
- Ability to accommodate future land development; and
- Multi-modal connectivity to West Station and throughout the project area.

See Attachment 9 for a detailed description of the alternatives and a description of the preliminary Alternatives Evaluation criteria and preliminary screening of alternatives.

Alternatives 3J-1, 3J-2, and 3J-3 best meet the goals of the project. The preferred conceptual alternatives encompass the major design variables to be explored further in the Draft Environmental Impact Report (DEIR):

- Connections between I-90 to a two-way Cambridge Street without a parallel roadway south of Cambridge Street (3J-1);
- Connections between I-90, a one-way parallel roadway south of Cambridge Street, and a one-way Cambridge Street (3J-2); and
- Connections between I-90, a two-way parallel roadway south of Cambridge Street, and two-way Cambridge Street (3J-3).

Each of these preferred alternatives are described in the ENF and will be developed in greater detail and analyzed in the DEIR.

Figures 11A through 11C in Attachment 5 illustrate the three variations of Alternative 3J. Figures illustrating the 16 interchange alternatives developed to date are included in ENF Attachment 9.

West Station and Commuter Rail Layover

MassDOT is beginning to design a new commuter rail station (West Station) within the BPY. West Station will be constructed along the existing commuter rail tracks of the Worcester Branch line at the south border of the parcel. The station will consist of two platforms serving four service tracks. The platforms will be accessed through a station structure at a mezzanine level over the platforms, with local street connections for pedestrian and bicycle access from the south, and a busport located on the north side of the station. The busport would be connected to the I-90 interchange by means of a viaduct loop rising above the BPY layover facility. Design development during the DEIR will consider feasibility of a two-way bus loop, a "kiss and ride" area, as well as provisions for shuttles and taxis.

The street connections would provide for bicycle/pedestrian access from Malvern Street and from Babcock Street south of the station. MassDOT plans to provide a bicycle/pedestrian connection from the Babcock Street station access point to the Paul Dudley White Bicycle Path at Soldiers Field Road. The details of this connection and its relationship to the West Station access have yet to be developed.

As part of the South Station Expansion project (EEA #15028), MassDOT determined that there is a need for additional layover capacity for commuter rail operations. MassDOT intends to expand layover capacity to the west of South Station to provide a more-balanced mix of commuter rail layover sites across the commuter rail system, and the preferred location is BPY. MassDOT also intends to include certain operational support functions at BPY, including a covered pit track, a wheel truing facility, a train car wash, a power substation, and crew quarters. MassDOT has determined that it is appropriate to consider the review of a layover facility as part of the I-90 Allston Interchange Project's environmental review process.

Figure 11D in Attachment 5 illustrates the conceptual layout for West Station and the layover yard facilities.

Cambridge Street

Cambridge Street will be redesigned in accordance with MassDOT and City of Boston Complete Streets design guidelines. Conceptual design for Cambridge Street includes sidewalks on either side of the

street separated from a cycle track by a planted buffer. A separate parking lane, (with bus stops at intervals), along with travel and/or turning lanes are also included. The existing overpass over the I-90 ramps at the eastern end of Cambridge Street will be removed. The number of lanes at locations along Cambridge Street varies with different interchange design alternatives, but pedestrian and bicycle accommodations are features of all of the alternatives under further consideration.

Multi-modal Improvements

In accordance with the GreenDOT policy, MassDOT is integrating measures to improve access for alternative modes of transportation within the project design. These measures include:

- Bicycle and pedestrian accommodations on Cambridge Street, the roadway segments to be constructed in the area south of Cambridge Street, and roadway connections to West Station;
- Bicycle and pedestrian connections from West Station south to Ashford Street;
- Construction of a shared-use pathway (termed the "People's Pike" by some members of the community), providing a more direct connection from the area of Cambridge Street and Lincoln Street to the Charles River and the existing Paul Dudley White bicycle path, including a new bicycle/pedestrian bridge over Soldiers Field Road;
- A new West Station commuter rail station; and
- Multi-modal access to West Station.

MassDOT will continue to develop the details and location of the multi-modal improvements through the design phase of the project, including the final alignment of the shared-use pathway and the location of the bicycle/pedestrian bridge over Soldiers Field Road.

Lincoln Street Pedestrian Bridge

Based on preliminary pedestrian and bicycle data significant demand already exists to maintain a pedestrian and bicycle facility that crosses I-90 immediately west of the Cambridge Street overpass. The existing pedestrian bridge is non-compliant with the Americans with Disabilities Act/Architectural Access Board (ADA/AAB) requirements for access ramp grades. Due to existing development and significant variation in topography in the vicinity of this location south of I-90, the new structure will likely require construction of retaining walls and may require some property taking in order to comply with accessibility requirements.

Describe the on-site project alternatives (and alternative off-site locations, if applicable), considered by the proponent, including at least one feasible alternative that is allowed under current zoning, and the reasons(s) that they were not selected as the preferred alternative:

NOTE*: The purpose of the alternatives analysis is to consider what effect changing the parameters and/or siting of a project, or components thereof, will have on the environment, keeping in mind that the objective of the MEPA review process is to avoid or minimize damage to the environment to the greatest extent feasible. Examples of alternative projects include alternative site locations, alternative site uses, and alternative site configurations.*

MassDOT has initiated engineering and environmental investigations for the project. Working in cooperation with the Task Force, a range of conceptual interchange alternative designs has been developed. Interchange alternatives include both suburban and urban style interchange designs. Suburban style designs generally occupy greater land area than a more compact urban style design and were determined to be unsuitable as viable alternative designs. An urban interchange design would occupy less land area, leaving more space available for future land development in the project area, and would better accommodate pedestrian and bicycle improvements and provide access to West Station for all modes of transportation.

Interchange

A total of sixteen (16) conceptual alternative interchange designs have been identified. The alternatives differ in the arrangement and number of ramp connections to Cambridge Street, the amount of elevated or at-grade ramp and/or roadway segments, and the degree to which an alternative provides for improved multi-modal connectivity throughout the project area.

As the alternatives were developed through coordination with the Task Force, later versions of the urban interchange design incorporated design variations involving the layout of Cambridge Street, as described below.

Figures illustrating the 16 interchange alternatives are included in ENF Attachment 9. ENF Attachment 9 includes the draft Alternatives Analysis Screening Criteria developed with input from the Task Force and also includes a summary matrix of the preliminary screening of the project alternatives.

MassDOT will continue to advance design elements and enhancements as identified through the Task Force meetings. These include:

- Shared-use pathway location, width, features, etc.;
- Replacement of pedestrian bridge over I-90;
- Sidewalk and cycle treatment along Cambridge Street and other facilities;
- Travel lanes/intersection layout for Cambridge Street;
- Other roadways including parallel roadways north and south of Cambridge Street;
- Location of bicycle/pedestrian bridge over Soldiers Field Road;
- Extent of the relocation of Soldiers Field Road;
- Allocation of open space within the area of relocated Soldiers Field Road;
- West Station including connections to the north and south;
- Rail layover yard configuration and operations;
- Viaduct configuration;
- Approach streets to West Station;
- Incorporate Central Transportation Planning Staff regional traffic study;
- Noise, vibration and air quality analysis;
- Providing a project design that would not preclude a future two-track Grand Junction Railroad crossing;
- Stormwater treatment and feasible Best Management Practices;
- State Highway "No Access" limits on connecting roadways; and
- Construction staging concepts.

West Station and Commuter Rail Layover

MassDOT considered several options to locate the station platforms for West Station. In opting for the present location, MassDOT weighed factors including the distances between adjacent stations (Boston Landing and Yawkey Station), and the travel-time headways needed to promote maximum system efficiency. MassDOT also considered neighborhood issues in its siting criteria, and it determined that locating the station and pedestrian access points furthest to the east within BPY would result in the fewest direct and indirect impacts to the residential neighborhood on Wadsworth and Pratt Streets.

MassDOT also considered various options for the station and platform layout, and determined that a two-platform/four-track arrangement would provide the optimal arrangement to provide service along the Worcester Branch and potential future two-track service along the Grand Junction Branch into Cambridge. Other options that were considered included a single platform with two tracks, and a two-platform/three-track arrangement. MassDOT also considered platform height options (low, mini-high, and high types) and is opting for the high platform to best achieve accessibility goals for the station.

MassDOT developed a tiered alternatives analysis process to identify potential locations to meet the future South Station Expansion (SSX) Project operational needs. Initially, MassDOT identified 28 alternatives for screening in consideration of:

- Ease of land acquisition;
- Effect on operations;
- Ability to integrate the site into the existing rail and roadway networks;
- Consistency with adopted plans and zoning;
- Ability to meet location requirements;
- Railroad operations,
- Environmental impacts; and
- Capital improvements.

MassDOT advanced on four locations for the final evaluation. These locations included BPY, the Boston Transportation Department (BTD) Tow Lot, Widett Circle, and Readville - Yard 2. BPY was the only location that is along a western branch line.

MassDOT determined that no single site could meet the physical and operational requirements to fully meet the SSX future layover needs. Ultimately, they determined that a plan that maximized use of the BPY and Widett Circle sites, in combination with additional capacity at Readville – Yard 2, would provide the greatest capacity and operational flexibility when compared to all other scenarios. Based on these findings, MassDOT selected the combination of Widett Circle, BPY, and Readville – Yard 2 for inclusion as part of the preferred alternative in the SSX DEIR analysis. By maximizing the use of the BPY, MassDOT will minimize damage to locations that are presently not a part of the railroad network.

Cambridge Street Design

In conjunction with the Task Force, MassDOT has identified alternative design options for improvements to Cambridge Street incorporating principles outlined in MassDOT and City of Boston Complete Streets design guidelines. All design options include full bicycle and pedestrian accommodations and include landscaping treatments to improve the streetscape along Cambridge Street. Depending on the interchange design alternative, the design of Cambridge Street varies in width, the number of travel lanes and the number of turning lanes at specific intersections from Soldiers Field Road west to the overpass over I-90.

As additional urban interchange design alternatives were identified in conjunction with the Task Force, three design variations for the reconstruction of Cambridge Street were developed, including:

- Two-way Cambridge Street with parking/bus stop lane and the addition of turning lanes at I-90 ramp connection intersections;
- A one-way pair of roadways with a narrower Cambridge Street for eastbound traffic and a Parallel Roadway south of Cambridge Street for westbound traffic; and
- A two-way pair with two-way traffic on both Cambridge Street and the new Parallel Roadway south of Cambridge Street.

No Build Alternative

MassDOT will also evaluate a No Build Alternative in the DEIR. The No Build Alternative will include the following:

- The existing toll plaza will be removed and All Electronic Tolling gantries installed east and west of the interchange;
- Barriers will be installed in the area of the toll plaza in order to narrow the highway to four lanes in each direction;
- No modifications will be made to the existing interchange ramps;

- No changes will be made to Cambridge Street;
- No changes will be made to the intersection of Cambridge Street/River Street with Soldiers Field Road;
- West Station will not be constructed;
- Accommodation of a second track for future DMU service on the Grand Junction Railroad will not be made;
- No shared-use pathway, pedestrian and bicycle accommodations and other multi-modal improvements will be constructed;
- Stadium Way will be constructed by others;
- Soldiers Field Road will not be relocated and no additional parkland will be created;
- No improvements to stormwater runoff water quality will be made; and
- No highway noise mitigation will be implemented.

The No Build Alternative will also include the construction of the MassDOT commuter rail layover yard in BPY.

Public Outreach

As noted, MassDOT has convened a 50-member Task Force of residents, business owners, city officials, and other local stakeholders to provide stakeholder input on the broad range of issues affecting interchange design and to narrow the range of design alternatives to a preferred alternative or alternatives. Over a series of meetings, the Task Force input has informed MassDOT's decisions regarding the development of implementable alternatives, selection of a preferred alternative, and the details of design.

A total of ten (10) Task Force meetings have been held (the tenth meeting is scheduled for November 5):

- May 7;
- May 21;
- June 11;
- June 25;
- July 16;
- August 13;
- September 3;
- October 1;
- October 15; and
- November 5.

Task Force meeting minutes are available on the project website:

http://www.massdot.state.ma.us/highway/HighlightedProjects/AllstonI90InterchangeImprovementProject.aspx

The Task Force has provided insight on a broad range of issues and has provided input regarding the evolution of design alternatives. The major Task Force influences on the interchange concepts are summarized as:

- Overall emphasis on neighborhood cohesion;
- Advancement of urban interchange concepts;
- Integration and location of West Station into the project;
- Incorporation of a shared-use pathway providing a route from North Allston to the Charles River;
- Inclusion of bicycle and pedestrian connections throughout the project including connections to the Charles River waterfront, Cambridge, West Station and the Boston University area;
- Flexibility for future land use development opportunities;
- Importance of a traffic design which discourages cut-through traffic on residential streets;

- Defining the scale of Cambridge Street and including sidewalks, cycle tracks, and on-street parking to create an urban streetscape; and
- Focus on reducing the impact of the interchange roadways on the surrounding neighborhood.

The Task Force members have requested that MassDOT continue holding Task Force meetings periodically through the environmental review and project design process to provide input at key decision making points in the project.

Additional agency and neighborhood coordination meetings have been held to discuss the project, identify issues of concern and coordinate city and MassDOT resources. These meetings include the following agencies, institutions and neighborhood organizations:

- Boston Redevelopment Authority;
- Boston Transportation Department;
- Harvard University;
- Boston University;
- Cambridge City Council; and
- Cambridgeport Neighborhood Association.

MassDOT has also held two public informational meetings in Allston on April 10 and September 18 to present the project details and to solicit additional public input. MassDOT will continue to hold quarterly public meetings to update the public on project details, progress on the completion of the environmental impact analysis of the project, and to further solicit public input.

Through Task Force and public input during conceptual development, the project scope was expanded to include such items as:

- West Station as a design component of this project;
- Analysis of BPY layover facilities; and
- Inclusion of bicycle/pedestrian bridges over Soldiers Field Road and at Franklin Street over I-90.

Finally, MassDOT will continue to seek input on urban design issues from key stakeholders, and other entities including the Boston Redevelopment Authority and the Boston Society of Architects during the DEIR process.

A summary of the public outreach process conducted to date is included as Attachment 10 to this ENF.

Summarize the mitigation measures proposed to offset the impacts of the preferred alternative:

In the DEIR, MassDOT will seek to avoid and minimize environmental impacts and identify feasible mitigation measures to offset the unavoidable environmental impacts of the project. At this conceptual stage of design, MassDOT has identified several potential mitigation measures:

- Incorporation of appropriate Best Management Practices for stormwater management during construction and operation of the project in compliance with the MassDEP Stormwater Management Regulations;
- Construction of a noise barrier to mitigate rail noise impacts along the south side of the commuter rail tracks and further transit and highway noise evaluation to determine if additional noise barriers are reasonable and feasible;
- A project design that includes moving traffic away from the North Harvard Street neighborhood where possible; and
- Detailed construction traffic management plans to protect businesses and residents during project construction.

MassDOT will identify any additional mitigation in the DEIR as project design is developed further and impact analyses are completed. A combined highway traffic noise and transit noise and vibration study will be completed to identify feasible mitigation measures where warranted.

If the project is proposed to be constructed in phases, please describe each phase:

Construction of the I-90 Allston Interchange project, particularly the replacement of the existing viaduct and construction of additional roadway infrastructure in the area south of Cambridge Street, will be constructed in phases to safely maintain traffic flow through the project area. Conceptual viaduct and interchange construction phasing plans will be developed for the DEIR. The design/build contractor will develop the final construction phasing plans for the viaduct replacement and interchange construction.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN:

Is the project within or adjacent to an Area of Critical Environmental Concern?
☐Yes (Specify_____)
☒**No**
If yes, does the ACEC have an approved Resource Management Plan? ___ Yes ___ No;
If yes, describe how the project complies with this plan.
_____
Will there be stormwater runoff or discharge to the designated ACEC? ___ Yes ___ No;
If yes, describe and assess the potential impacts of such stormwater runoff/discharge to the designated ACEC.
_____

RARE SPECIES:

Does the project site include Estimated and/or Priority Habitat of State-Listed Rare Species? (see http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/priority_habitat/priority_habitat_home.htm)
☐Yes (Specify_____) ☒**No**

HISTORICAL /ARCHAEOLOGICAL RESOURCES:

Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?
☒Yes (Specify See below_____) ☐No

The project area is bordered by the Charles River Basin Historic District and the Harvard Avenue Historic District, both of which are listed in the State and National Registers of Historic Places. The Charles River Basin is the keystone element in the Boston metropolitan park system, the first such system brought into being in the United States. Historically a tidal estuary flanked by mud flats, the lower reaches of the Charles were transformed into a park-lined basin after construction of the Charles River Dam in 1910. The 820-acre district includes the Charles River Basin itself and the parkways and landscaped areas on both banks of the river for approximately six miles, from the Charles River Dam to the Elliot Bridge. The elements of the Charles River Basin Historic District closest to the project area include Soldiers Field Road, the Boston University Bridge, the Grand Junction Railroad Bridge, and the River Street Bridge.

The Harvard Avenue Historic District encompasses approximately 23 acres of land along the north/south axis of the Harvard Avenue Corridor in Allston and is significant as an illustration of small-scale land development by individual property owners and local real estate syndicates in the early 20th century. The Allston Station, a Richardsonian Romanesque railway station constructed in 1887 by Shepley, Rutan & Coolidge, is located adjacent to the project area and within the bounds of the Harvard Avenue Historic District; the station also has been designated a Local Landmark by the City of Boston.

Nearby properties included in the *Inventory of Historic and Archaeological Assets of the Commonwealth*, but not listed in the State or National Registers of Historic Places, include the Longefellow [sic] House at 4 Wadsworth Street and several Boston University facilities on the southern side of the CSX tracks, including the College of Fine Arts Building at 855-861 Commonwealth Avenue (BOS.8069), the B.U. College of General Studies at 871 Commonwealth Avenue (BOS.15420), the Boston Academic Office Building at 25 Buick Street (BOS.15426), the B.U. Comptroller-Registrar's

Office at 991 Commonwealth Avenue (BOS.15419), the Physical Plant Building at 120 Ashford Street (BOS.15429), the Athletics Department Building at 300-316 Babcock Street (BOS.15428), and the Nickerson Field Entrance/Boston Braves Baseball Field, Office and Gatehouse at 32 Agganis Way (BOS.15414). Inventoried areas in the general vicinity of the project area include Packards Corner (BOS.KO), Ashford Street (BOS.KS), Gardner Street 4-98 (BOS.LC), Hano Street (BOS.KM), and Adamson Street 1-87 (BOS.KP).

There are no State Register-listed or recorded archaeological sites within the project area. The closest recorded pre-Contact archaeological site (19-MD-172) is located on the opposite bank of the Charles River, approximately 1000 feet northeast of the project area. The closest recorded historic site (Cambridge Almshouse, CAM.1) is located more than 800 feet northeast of the project. The next closest recorded pre-Contact archaeological site (19-MD-173) is located approximately 1 mile north of the project area and the next closest recorded historic site (John F. Kennedy Birthplace, BKL.4) is located more than a ½ mile south of the project area.

Preliminary review indicates the project area has been heavily impacted by past highway, railway, and utility construction and that survival of intact archaeological resources is unlikely. MassDOT Cultural Resources Unit staff is reviewing the project for historic and archaeological impacts and will coordinate these findings with the Massachusetts Historical Commission and the State Historic Preservation Officer in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and M.G.L. Chapter 9, Sections 26-27C as amended by Chapter 254 of the Acts of 1988.

Figure 10 in ENF Attachment 4 illustrates the historic resources in the project area.

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources? ☐Yes (Specify_____) ☒**No**

Although no demolition or destruction of historic resources is anticipated, the project as currently proposed would relocate one section of Soldiers Field Road slightly to increase the width of the parkland adjacent to the riverbank. The toll plaza and some utility buildings associated with the Massachusetts Turnpike and CSX railroad will be demolished as part of the project, however, none of these buildings are State Register-listed or inventoried.

WATER RESOURCES:

Is there an Outstanding Resource Water (ORW) on or within a half-mile radius of the project site? ___Yes **_X_ No**; if yes, identify the ORW and its location. _____

(NOTE: Outstanding Resource Waters include Class A public water supplies, their tributaries, and bordering wetlands; active and inactive reservoirs approved by MassDEP; certain waters within Areas of Critical Environmental Concern, and certified vernal pools. Outstanding resource waters are listed in the Surface Water Quality Standards, 314 CMR 4.00.)

Are there any impaired water bodies on or within a half-mile radius of the project site? **_X_ Yes** ___No; if yes, identify the water body and pollutant(s) causing the impairment:

Charles River segment MA 72-36 (source: *Final Massachusetts Year 2012 Integrated List of Waters)*

- Fish-Passage Barrier
- Non-Native Aquatic Plants
- Other flow regime alterations
- Other
- Chlorophyll-a
- DDT
- Escherichia coli 1
- Fishes Bioassessments
- Nutrient/Eutrophication Biological Indicators

- Oil and Grease
- Oxygen, Dissolved
- PCB in Fish Tissue
- pH, High
- Phosphorus (Total)
- Secchi disk transparency
- Sediment Bioassays – Acute Toxicity Freshwater

Is the project within a medium or high stress basin, as established by the Massachusetts Water Resources Commission? ___Yes **_X_No**

STORMWATER MANAGEMENT:

Generally describe the project's stormwater impacts and measures that the project will take to comply with the standards found in MassDEP's Stormwater Management Regulations:

Due to the fact that the project area is located within an urban area which encompasses an historic railroad yard, the I-90 Allston Interchange Project will be designed in compliance with the MassDEP Stormwater Management performance standards for redevelopment projects and will comply with the Stormwater Management Regulations to the maximum extent possible. MassDOT will investigate measures to achieve groundwater recharge in the project area consistent with existing groundwater levels and areas of soil and groundwater contamination.

A detailed construction period Erosion, Sedimentation and Pollution Prevention Plan will be developed and implemented during project construction.

MASSACHUSETTS CONTINGENCY PLAN:

Has the project site been, or is it currently being, regulated under M.G.L.c.21E or the Massachusetts Contingency Plan? **Yes _X_**No ___ ; if yes, please describe the current status of the site (including Release Tracking Number (RTN), cleanup phase, and Response Action Outcome classification):_____

There are currently 88 Massachusetts Contingency Plan (MCP) Release Tracking Numbers (RTNs) within the boundaries of or in the near vicinity of the site, each representing a release of oil or hazardous materials (OHM) that was considered reportable to the DEP under the MCP. A total of 53 of the RTNs fall within the site proper, while 35 fall very close to, but not within, the boundaries of the site. The vast majority of these RTNs are attributable to releases of various quantities of petroleum products, much of it diesel fuel oil, but releases of dielectric fluids and hydraulic fluids have also been reported.

In addition, reportable levels of select metals and polycyclic aromatic hydrocarbons have also been observed in site soils. The DEP searchable sites database does not list any of these RTNs as being associated with an Activity and Use Limitation at this time. To date all but two of these RTNs have reached some measure of resolution by virtue of having been the subject of one of the following MCP filings: Downgradient Property Status, Permanent Solution (Class A or B Response Action Outcomes (RAOs)), Temporary Solutions (Class C RAOs), Utility Release Abatement Measures (URAMs), or having been linked to another RTN to facilitate tracking. The two open sites are in Phase II (Comprehensive Site Investigation) and Phase IV (Remedy Implementation), respectively. The population of RAOs includes Temporary Solutions designated by Class C RAOs. These Class C RAOs require some level of continued monitoring and periodic evaluation to assess feasibility of achieving Permanent Solutions.

A listing of the RTNs is included in ENF Attachment 8.

The information provided in the documentation of these RTNs will be used to inform design elements, construction practices, and materials management during construction of the project.

Is there an Activity and Use Limitation (AUL) on any portion of the project site? Yes ___ **No _X_**;

if yes, describe which portion of the site and how the project will be consistent with the AUL: _____.

Are you aware of any Reportable Conditions at the property that have not yet been assigned an RTN?
Yes ___ **No** **X**; if yes, please describe:_____

SOLID AND HAZARDOUS WASTE:

If the project will generate solid waste during demolition or construction, describe alternatives considered for re-use, recycling, and disposal of, e.g., asphalt, brick, concrete, gypsum, metal, wood:

MassDOT adopted its GreenDOT Policy Directive on June 2, 2010, with the primary goal to reduce greenhouse gas emissions; promote the healthy transportation options of walking, bicycling, and public transit; and to support smart growth development. As part of that policy, and as specified in Appendix B to the GreenDOT Policy Directive, MassDOT has identified specific measures for implementation, including measures identified under the category of "Sustainable Design and Construction Best Practices." For example, MassDOT currently uses a range of recycled materials in pavement, including recycled asphalt pavement, recycled tires, and shingles, as well as warm mix asphalt. MassDOT is working to increase the use of environmentally-friendly technologies, and continues to conduct research so that it can maximize use of recycled materials and warm-mix asphalt paving.

MassDOT will also require thorough contract specifications that the contractor recycle demolition materials to the maximum extent practicable. Structural steel, concrete and asphalt pavement are commonly recycled in the Commonwealth.

(NOTE: Asphalt pavement, brick, concrete and metal are banned from disposal at Massachusetts landfills and waste combustion facilities and wood is banned from disposal at Massachusetts landfills. See 310 CMR 19.017 for the complete list of banned materials.)

Will your project disturb asbestos containing materials? Yes ___ No **X**;
if yes, please consult state asbestos requirements at http://mass.gov/MassDEP/air/asbhom01.htm

MassDOT Highway Division's Hazardous Materials Unit reviews all projects to determine if the project will encounter and/or generate waste containing asbestos. If asbestos containing materials are encountered, appropriate special conditions are provided in the project's contract, such that contractors handle and dispose of those materials appropriately and in accordance with all applicable local, state, and federal regulations.

MassDOT will conduct a visual inspection of the buildings to identify the presence, location, and quantity of suspect asbestos containing materials. Work plans will be developed for sampling based on the facility walk-throughs once the inspections are complete. Bulk samples of potential hazardous materials will be collected for laboratory analysis. Once the laboratory results are received, types, conditions, and quantities of potential hazardous materials and universal wastes, including PCBs, lead paint, fluorescent light tubes, light ballasts, CFCs and refrigerants associated with HVAC systems, mercury switches, emergency light batteries, and exit signs, etc. will be documented and inventoried. Finally, response actions that would be required prior to demolition will be identified. Response actions could be required, including development of a site-specific health and safety plan.

Describe anti-idling and other measures to limit emissions from construction equipment:

As stated in MassDOT's GreenDOT Policy Directive, MassDOT requires that contractors install emission control devices in all off-road vehicles. MassDOT's Revised Diesel Retrofit Specification states emissions control standards must be met or technology must be used for non-road, diesel powered construction equipment in excess of 50 horsepower on MassDOT job sites.

MGL Chapter 90, Section 16A and the DEP idling reduction regulation (310 CMR 7.11(1)(b)) prohibit unnecessary vehicle idling and require that engines be shut down if the vehicle will be stopped for more than five minutes. Compliance with this regulation will be required in the construction contract.

DESIGNATED WILD AND SCENIC RIVER:

Is this project site located wholly or partially within a defined river corridor of a federally designated Wild and Scenic River or a state designated Scenic River? Yes ___ **No _X_**
if yes, specify name of river and designation:

If yes, does the project have the potential to impact any of the "outstandingly remarkable" resources of a federally Wild and Scenic River or the stated purpose of a state designated Scenic River? Yes ___ No ___ ; if yes, specify name of river and designation: _____;
if yes, will the project will result in any impacts to any of the designated "outstandingly remarkable" resources of the Wild and Scenic River or the stated purposes of a Scenic River.
Yes ___ No ___ ;
if yes,describe the potential impacts to one or more of the "outstandingly remarkable" resources or stated purposes and mitigation measures proposed.

ATTACHMENTS:

1. List of all attachments to this document.
2. U.S.G.S. map (good quality color copy, 8-½ x 11 inches or larger, at a scale of 1:24,000) indicating the project location and boundaries. **Figure 1 – USGS Locus Map**
3.. Plan, at an appropriate scale, of existing conditions on the project site and its immediate environs, showing all known structures, roadways and parking lots, railroad rights-of-way, wetlands and water bodies, wooded areas, farmland, steep slopes, public open spaces, and major utilities. **Figure 2 – Aerial Photograph**
4 Plan, at an appropriate scale, depicting environmental constraints on or adjacent to the project site such as Priority and/or Estimated Habitat of state-listed rare species, Areas of Critical Environmental Concern, Chapter 91 jurisdictional areas, Article 97 lands, wetland resource area delineations, water supply protection areas, and historic resources and/or districts. **Figures 3 through 10**
5. Plan, at an appropriate scale, of proposed conditions upon completion of project (if construction of the project is proposed to be phased, there should be a site plan showing conditions upon the completion of each phase). **Figures 11A through 11D – Proposed Conditions**
6. List of all agencies and persons to whom the proponent circulated the ENF, in accordance with 301 CMR 11.16(2).
7. List of municipal and federal permits and reviews required by the project, as applicable.
8. MGL Chapter 21E Release Tracking Notification Information
9. Supplemental Information, Alternatives Development and Future Analyses
10. Summary of Public Outreach Process

LAND SECTION – all proponents must fill out this section

I. Thresholds / Permits

A. Does the project meet or exceed any review thresholds related to **land** (see 301 CMR 11.03(1)
_**X**_ **Yes** ___ No; if yes, specify each threshold:

11.03(1)(a)1 – Direct alteration of 50 or more acres of land...

II. Impacts and Permits

A. Describe, in acres, the current and proposed character of the project site, as follows:

	Existing	Change	Total
Footprint of buildings	0.4	1.1	1.5
Internal roadways	0	0	0
Parking and other paved areas	67	-4.7	62.3
Other altered areas	82.6	3.6	86.2
Undeveloped areas	0	0	0
Total: Project Site Acreage	150	0	150

B. Has any part of the project site been in active agricultural use in the last five years?
___ Yes _**X**_ **No**; if yes, how many acres of land in agricultural use (with prime state or locally important agricultural soils) will be converted to nonagricultural use?

C. Is any part of the project site currently or proposed to be in active forestry use?
___ Yes _**X**_ **No**; if yes, please describe current and proposed forestry activities and indicate whether any part of the site is the subject of a forest management plan approved by the Department of Conservation and Recreation:

D. Does any part of the project involve conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97? ___ Yes _**X**_ **No**; if yes, describe:

E. Is any part of the project site currently subject to a conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction?
___ Yes _**X**_ **No**; if yes, does the project involve the release or modification of such restriction?
___ Yes ___ No; if yes, describe:

F. Does the project require approval of a new urban redevelopment project or a fundamental change in an existing urban redevelopment project under M.G.L.c.121A? ___ Yes _**X**_ **No**; if yes, describe:

G. Does the project require approval of a new urban renewal plan or a major modification of an existing urban renewal plan under M.G.L.c.121B? Yes ___ **No** _**X**_; if yes, describe:

III. Consistency

A. Identify the current municipal comprehensive land use plan
Title: North Allston Strategic Framework for Planning
Date: 2005

The *North Allston Strategic Framework for Planning* (2005) was prepared by the Boston Redevelopment Authority (BRA).

B. Describe the project's consistency with that plan with regard to:
1) economic development _____
2) adequacy of infrastructure _____

3) open space impacts _____
4) compatibility with adjacent land uses_____

The North Allston Strategic Framework for Planning lists the following among its goals, principles, and vision statements: undertake infrastructure initiatives, including transportation improvements; expand and enhance pedestrian/bicycle networks, encourage walking and bicycle use, and promote pedestrian safety. The project is consistent with these goals through its maintenance of vital infrastructure, provision of cycle tracks, and proposed pedestrian improvements.

C. Identify the current Regional Policy Plan of the applicable Regional Planning Agency (RPA)
RPA: Metropolitan Area Planning Council (MAPC)

Title: MetroFuture Date May 2008

D. Describe the project's consistency with that plan with regard to:
1) economic development _____
2) adequacy of infrastructure _____
3) open space impacts _____

Boston is within the Inner Core subregion of the MAPC. *MetroFuture* establishes a vision for the region in terms of land use and development and establishes 65 goals in six categories: (1) Sustainable Growth Patterns; (2) Housing Choices; (3) Healthy Communities; (4) Regional Prosperity; (5) Transportation Choices; and (6) Healthy Environment. A central vision is that growth is focused in existing developed areas served by an efficient transportation system. Specific goals include:

- Goal 44: An expanded transit system will provide better service to both urban and suburban areas, linking more homes and jobs.
- Goal 45: More people will use transit for work and personal trips.
- Goal 46: Commuters will have more options to avoid congestion.
- Goal 47: Most people will choose to walk or bike for short trips.
- Goal 48: The average person will drive fewer miles every day.
- Goal 54: Roads, bridges, and railways will be safe and well maintained.

The I-90 Allston Interchange Project is consistent with the goals of *MetroFuture*. The project will maintain the structural integrity of the existing I-90 viaduct and provide a safe interstate highway and local roadways, encourage nonautomotive travel by improving conditions for pedestrians and cyclists in the project area, and include the construction of a new commuter rail station to provide additional transit options in the project area.

Massachusetts Healthy Transportation Compact

Relative to the work of this Compact, MassDOT has articulated its vision as: "...a strong commitment to pedestrian and bicycle access. Walking and bicycling move people out of single-occupant vehicles, reduce traffic congestion, and promote healthy lifestyles and a cleaner environment." The Compact's goals include:

- Promoting interagency cooperation on healthy transportation policy;

- Increasing access to healthy transportation alternatives; these will reduce greenhouse gas emissions, increase opportunities for physical activity, and improve access to transportation services for persons with disabilities;
- Increasing bicycle and pedestrian travel; and
- Supporting implementation of "complete streets" in construction projects.

The I-90 Allston Interchange Project will advance the goals of the Healthy Transportation Compact.

RARE SPECIES SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **rare species or habitat** (see 301 CMR 11.03(2))? ___ Yes **_X_ No**; if yes, specify, in quantitative terms:

(NOTE: If you are uncertain, it is recommended that you consult with the Natural Heritage and Endangered Species Program (NHESP) prior to submitting the ENF.)

B. Does the project require any state permits related to **rare species or habitat**? ___ Yes **_X_** No

C. Does the project site fall within mapped rare species habitat (Priority or Estimated Habitat?) in the current Massachusetts Natural Heritage Atlas (attach relevant page)? ___ Yes **_X_** No.

D. If you answered "No" to all questions A, B and C, proceed to the **Wetlands, Waterways, and Tidelands Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Rare Species section below.

II. Impacts and Permits

A. Does the project site fall within Priority or Estimated Habitat in the current Massachusetts Natural Heritage Atlas (attach relevant page)? ___ Yes ___ No. If yes,

1. Have you consulted with the Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP)? ___Yes ___No; if yes, have you received a determination as to whether the project will result in the "take" of a rare species? ___ Yes ___ No; if yes, attach the letter of determination to this submission.

2. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ___ Yes ___ No; if yes, provide a summary of proposed measures to minimize and mitigate rare species impacts

3. Which rare species are known to occur within the Priority or Estimated Habitat?

4. Has the site been surveyed for rare species in accordance with the Massachusetts Endangered Species Act? ___ Yes ___ No

4. If your project is within Estimated Habitat, have you filed a Notice of Intent or received an Order of Conditions for this project? ___ Yes ___ No; if yes, did you send a copy of the Notice of Intent to the Natural Heritage and Endangered Species Program, in accordance with the Wetlands Protection Act regulations? ___ Yes ___ No

B. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ___ Yes ___ No; if yes, provide a summary of proposed measures to minimize and mitigate impacts to significant habitat:

WETLANDS, WATERWAYS, AND TIDELANDS SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wetlands, waterways, and tidelands** (see 301 CMR 11.03(3))? **_X_ Yes** ___ No; if yes, specify, in quantitative terms:

11.03(3)(b)5 – Provided that a Chapter 91 License is required, New or existing unlicensed non-water dependent use of waterways or tidelands...

B. Does the project require any state permits (or a local Order of Conditions) related to **wetlands, waterways, or tidelands**? **_X_ Yes** ___ No; if yes, specify which permit:

Order of Conditions from Boston Conservation Commission
DEP Chapter 91 Waterways License

C. If you answered "No" to both questions A and B, proceed to the **Water Supply Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wetlands, Waterways, and Tidelands Section below.

II. Wetlands Impacts and Permits

A. Does the project require a new or amended Order of Conditions under the Wetlands Protection Act (M.G.L. c.131A)? **_X_ Yes** ___ No; if yes, has a Notice of Intent been filed? ___ Yes **_X_ No**; if yes, list the date and MassDEP file number: _____; if yes, has a local Order of Conditions been issued? ___ Yes ___ No; Was the Order of Conditions appealed? ___ Yes ___ No. Will the project require a Variance from the Wetlands regulations? ___ Yes **_X_ No**.

B. Describe any proposed permanent or temporary impacts to wetland resource areas located on the project site:

At this stage of conceptual design, MassDOT has not identified conceptual estimates of direct impacts to jurisdictional wetland resource areas. Potential impacts to resource areas may result from project activities, including impacts to the Bank of the Charles River for potential modifications to existing stormwater outfalls and the construction of the bicycle and pedestrian overpass connecting the shared-use pathway and the Paul Dudley White path, and temporary and permanent impacts to Riverfront Area resulting from modifications to the existing layout of Soldiers Field Road, the construction of the bicycle/ pedestrian bridge over Soldiers Field Road and expansion of public parkland along the river.

C. Estimate the extent and type of impact that the project will have on wetland resources, and indicate whether the impacts are temporary or permanent:

Coastal Wetlands	Area (square feet) or Length (linear feet)	Temporary or Permanent Impact?
Land Under the Ocean	_____	_____
Designated Port Areas	_____	_____
Coastal Beaches	_____	_____
Coastal Dunes	_____	_____
Barrier Beaches	_____	_____
Coastal Banks	_____	_____
Rocky Intertidal Shores	_____	_____
Salt Marshes	_____	_____
Land Under Salt Ponds	_____	_____

Land Containing Shellfish	_____	_____
Fish Runs	_____	_____
Land Subject to Coastal Storm Flowage	_____	_____
Inland Wetlands		
Bank (lf)	TBD*	Permanent
Bordering Vegetated Wetlands	_____	_____
Isolated Vegetated Wetlands	_____	_____
Land under Water	_____	_____
Isolated Land Subject to Flooding	_____	_____
Bordering Land Subject to Flooding	_____	_____
Riverfront Area	TBD*	Permanent

*Potential impact due to bicycle/pedestrian bridge over Soldiers Field Road

D. Is any part of the project:
1. proposed as a **limited project**? ___ Yes **_X_ No**; if yes, what is the area (in sf)?____
2. the construction or alteration of a **dam**? ___ Yes **_X_ No**; if yes, describe:
3. fill or structure in a **velocity zone** or **regulatory floodway**? ___ Yes **_X_ No**
4. dredging or disposal of dredged material? ___ Yes **_X_ No**; if yes, describe the volume of dredged material and the proposed disposal site:
5. a discharge to an **Outstanding Resource Water (ORW)** or an **Area of Critical Environmental Concern (ACEC)**? ___ Yes **_X_ No**
6. subject to a wetlands restriction order? ___ Yes **_X_ No**; if yes, identify the area (in sf):
7. located in buffer zones? **_X_ Yes** ___No; if yes, how much (in sf) **__TBD*_**

*Potential impact due to bicycle/pedestrian bridge over Soldiers Field Road

E. Will the project:
1. be subject to a local wetlands ordinance or bylaw? ___ Yes **_X_ No**
2. alter any federally-protected wetlands not regulated under state law? ___ Yes **_X_ No**; if yes, what is the area (sf)?

III. Waterways and Tidelands Impacts and Permits

A. Does the project site contain waterways or tidelands (including filled former tidelands) that are subject to the Waterways Act, M.G.L.c.91? **_X_ Yes** ___ No; if yes, is there a current Chapter 91 License or Permit affecting the project site? ___ Yes ___ No; if yes, list the date and license or permit number and provide a copy of the historic map used to determine extent of filled tidelands:

MassDOT has not yet conducted Chapter 91 historic license research for the project area. Existing historic tidelands mapping available through MassGIS indicates small fingers of jurisdictional tidelands along the Charles River and Soldiers Field Road from the BU Bridge to the Cambridge Street/River Street intersection. The area of the potential relocation of Soldiers Field Road to the west of the Grand Junction railroad bridge is identified as filled jurisdictional tidelands. MassDOT will identify all historic licenses and authorizations in the DEIR. The extent of jurisdictional tidelands is illustrated on Figure 6 in ENF Attachment 4.

B. Does the project require a new or modified license or permit under M.G.L.c.91? **_X_ Yes** ___ No; if yes, how many acres of the project site subject to M.G.L.c.91 will be for non-water-dependent use? **TBD**

Current ___ Change ___ Total ___

If yes, how many square feet of solid fill or pile-supported structures (in sf)? **0**

C. For non-water-dependent use projects, indicate the following:
Area of filled tidelands on the site:_____
Area of filled tidelands covered by buildings:_____**0**_____
For portions of site on filled tidelands, list ground floor uses and area of each use:
____**N/A**_____
Does the project include new non-water-dependent uses located over flowed tidelands?
Yes ___ **No** _**X**__
Height of building on filled tidelands_____**N/A**_____

Also show the following on a site plan: Mean High Water, Mean Low Water, Water-dependent Use Zone, location of uses within buildings on tidelands, and interior and exterior areas and facilities dedicated for public use, and historic high and historic low water marks.

Portions of the reconfigured interchange may be located on areas of filled jurisdictional tidelands and landlocked tidelands. The impact to jurisdictional filled tideland areas will be calculated in the DEIR.

D. Is the project located on landlocked tidelands? _**X**_**Yes** ___ No; if yes, describe the project's impact on the public's right to access, use and enjoy jurisdictional tidelands and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:

Portions of the reconfigured interchange may be located on small areas of landlocked tidelands.

E. Is the project located in an area where low groundwater levels have been identified by a municipality or by a state or federal agency as a threat to building foundations? ___Yes _**X**_ **No**; if yes, describe the project's impact on groundwater levels and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:

F. Is the project non-water-dependent **and** located on landlocked tidelands **or** waterways or tidelands subject to the Waterways Act **and** subject to a mandatory EIR?_**X**_**Yes** ___ No; *(NOTE: If yes, then the project will be subject to Public Benefit Review and Determination.)*

G. Does the project include dredging? ___ Yes _**X**_ **No**; if yes, answer the following questions:
What type of dredging? Improvement ___ Maintenance ___ Both ____
What is the proposed dredge volume, in cubic yards (cys) _____
What is the proposed dredge footprint ____length (ft) ___width (ft)____depth (ft);
Will dredging impact the following resource areas?
Intertidal Yes__ No__; if yes, ___ sq ft
Outstanding Resource Waters Yes__ No__; if yes, ___ sq ft
Other resource area (i.e. shellfish beds, eel grass beds) Yes__ No__; if yes __ sq ft
If yes to any of the above, have you evaluated appropriate and practicable steps to: 1) avoidance; 2) if avoidance is not possible, minimization; 3) if either avoidance or minimize is not possible, mitigation?
If no to any of the above, what information or documentation was used to support this determination?
Provide a comprehensive analysis of practicable alternatives for improvement dredging in accordance with 314 CMR 9.07(1)(b). Physical and chemical data of the sediment shall be included in the comprehensive analysis.
Sediment Characterization
Existing gradation analysis results? __Yes ___No: if yes, provide results.

Existing chemical results for parameters listed in 314 CMR 9.07(2)(b)6? ___Yes
____No; if yes, provide results.

Do you have sufficient information to evaluate feasibility of the following management options for dredged sediment? If yes, check the appropriate option.

Beach Nourishment ___
Unconfined Ocean Disposal ___
Confined Disposal:
Confined Aquatic Disposal (CAD) ___
Confined Disposal Facility (CDF) ___
Landfill Reuse in accordance with COMM-97-001 ___
Shoreline Placement ___
Upland Material Reuse____
In-State landfill disposal____
Out-of-state landfill disposal ____
(NOTE: This information is required for a 401 Water Quality Certification.)

IV. Consistency:

A. Does the project have effects on the coastal resources or uses, and/or is the project located within the Coastal Zone? _**X**_ **Yes** __No; if yes, describe these effects and the projects consistency with the policies of the Office of Coastal Zone Management:

The boundary of the Coastal Zone within the City of Boston includes the banks of the Charles River due to the existing fish run in the river. Other than potential improvements to the existing stormwater outfalls in the Charles River, the I-90 Allston Interchange Project will have no direct impact to resources in the Coastal Zone.

A full analysis of the project's consistency with the policies of the Office of Coastal Zone Management will be included in the DEIR.

B. Is the project located within an area subject to a Municipal Harbor Plan? ___ Yes _**X**_ **No**; if yes, identify the Municipal Harbor Plan and describe the project's consistency with that plan:

WATER SUPPLY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **water supply** (see 301 CMR 11.03(4))? ___ Yes _**X**_ **No**; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **water supply**? ___ Yes _**X**_ **No**; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Wastewater Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Water Supply Section below.

II. Impacts and Permits

A. Describe, in gallons per day (gpd), the volume and source of water use for existing and proposed activities at the project site:

	Existing	Change	Total
Municipal or regional water supply	_____	_____	_____
Withdrawal from groundwater	_____	_____	_____
Withdrawal from surface water	_____	_____	_____
Interbasin transfer	_____	_____	_____

(NOTE: Interbasin Transfer approval will be required if the basin and community where the proposed water supply source is located is different from the basin and community where the wastewater from the source will be discharged.)

B. If the source is a municipal or regional supply, has the municipality or region indicated that there is adequate capacity in the system to accommodate the project? ___ Yes ___ No

C. If the project involves a new or expanded withdrawal from a groundwater or surface water source, has a pumping test been conducted? ___ Yes ___ No; if yes, attach a map of the drilling sites and a summary of the alternatives considered and the results. _____

D. What is the currently permitted withdrawal at the proposed water supply source (in gallons per day)? _____Will the project require an increase in that withdrawal? ___Yes ___No; if yes, then how much of an increase (gpd)? _____

E. Does the project site currently contain a water supply well, a drinking water treatment facility, water main, or other water supply facility, or will the project involve construction of a new facility? ___ Yes ___No. If yes, describe existing and proposed water supply facilities at the project site:

	Permitted Flow	Existing Avg Daily Flow	Project Flow	Total
Capacity of water supply well(s) (gpd)	_____	_____	_____	_____
Capacity of water treatment plant (gpd)	_____	_____	_____	_____

F. If the project involves a new interbasin transfer of water, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or proposed?

G. Does the project involve:

1. new water service by the Massachusetts Water Resources Authority or other agency of the Commonwealth to a municipality or water district? ___ Yes ___ No
2. a Watershed Protection Act variance? ___ Yes ___ No; if yes, how many acres of alteration?
3. a non-bridged stream crossing 1,000 or less feet upstream of a public surface drinking

water supply for purpose of forest harvesting activities? ___ Yes ___ No

III. Consistency

Describe the project's consistency with water conservation plans or other plans to enhance water resources, quality, facilities and services:

WASTEWATER SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wastewater** (see 301 CMR 11.03(5))? ___ Yes _**X**_ **No**; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **wastewater**? _**X**_ **Yes** ___ No; if yes, specify which permit:

An MWRA Sewer Use Discharge Permit, an MWRA Group Permit or an MWRA General Permit (To Be Determined)

C. If you answered "No" to both questions A and B, proceed to the **Transportation -- Traffic Generation Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wastewater Section below.

II. Impacts and Permits

A. Describe the volume (in gallons per day) and type of disposal of wastewater generation for existing and proposed activities at the project site (calculate according to 310 CMR 15.00 for septic systems or 314 CMR 7.00 for sewer systems):

	Existing	Change	Total
Discharge of sanitary wastewater	0	3,900	3,900
Discharge of industrial wastewater	0	1,800	1,800
TOTAL	0	5,700	5,700

	Existing	Change	Total
Discharge to groundwater	0	0	0
Discharge to outstanding resource water	0	0	0
Discharge to surface water	0	0	0
Discharge to municipal or regional wastewater facility	0	5,700	5,700
TOTAL	0	5,700	5,700

B. Is the existing collection system at or near its capacity? ___ Yes _**X**_ **No**; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:

C. Is the existing wastewater disposal facility at or near its permitted capacity? ___ Yes_**X**_ **No**; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:

D. Does the project site currently contain a wastewater treatment facility, sewer main, or other wastewater disposal facility, or will the project involve construction of a new facility? ___ Yes _**X**_ **No**; if yes, describe as follows:

	Permitted	Existing Avg Daily Flow	Project Flow	Total
Wastewater treatment plant capacity (in gallons per day)	N/A	N/A	N/A	N/A

E. If the project requires an interbasin transfer of wastewater, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or new? **N/A**

(NOTE: Interbasin Transfer approval may be needed if the basin and community where wastewater will be discharged is different from the basin and community where the source of water supply is located.)

F. Does the project involve new sewer service by the Massachusetts Water Resources Authority (MWRA) or other Agency of the Commonwealth to a municipality or sewer district? ___ Yes **_X_ No**

G. Is there an existing facility, or is a new facility proposed at the project site for the storage, treatment, processing, combustion or disposal of sewage sludge, sludge ash, grit, screenings, wastewater reuse (gray water) or other sewage residual materials? ___ Yes **_X_ No**; if yes, what is the capacity (tons per day):

	Existing	Change	Total
Storage	_____	_____	_____
Treatment	_____	_____	_____
Processing	_____	_____	_____
Combustion	_____	_____	_____
Disposal	_____	_____	_____

H. Describe the water conservation measures to be undertaken by the project, and other wastewater mitigation, such as infiltration and inflow removal.

Water saving plumbing fixtures will be utilized in the buildings. The train car washer will recycle approximately 80 percent of the water used.

III. Consistency

A. Describe measures that the proponent will take to comply with applicable state, regional, and local plans and policies related to wastewater management:

The project will adhere to BWSC's rules and regulations, including design and construction in conformance with current BWSC standards and specifications. As required, MassDOT will obtain permits for industrial wastewater pretreatment and wastewater discharge in accordance with BWSC, MWRA and MassDEP regulations.

B. If the project requires a sewer extension permit, is that extension included in a comprehensive wastewater management plan? ___ Yes ___ No; if yes, indicate the EEA number for the plan and whether the project site is within a sewer service area recommended or approved in that plan:

The project will not require a sewer extension permit.

TRANSPORTATION SECTION (TRAFFIC GENERATION)

I. Thresholds / Permit

A. Will the project meet or exceed any review thresholds related to **traffic generation** (see 301 CMR 11.03(6))? ___ Yes _**X**_ **No**; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **state-controlled roadways**? _**X**_ **Yes** ___ No; if yes, specify which permit:

Department of Conservation and Recreation – Access Permit (modifications to Soldiers Field Road)

C. If you answered "No" to both questions A and B, proceed to the **Roadways and Other Transportation Facilities Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Traffic Generation Section below.

II. Traffic Impacts and Permits

A. Describe existing and proposed vehicular traffic generated by activities at the project site:

	Existing	Change	Total
Number of parking spaces	0	0	0
Number of vehicle trips per day	0	0	0
ITE Land Use Code(s):	N/A		

B. What is the estimated average daily traffic on roadways serving the site?

Roadway	Existing	Change	Total
1. I-90 (MassPike)	147,000	7,000	154,000
2. Soldiers Field Rd.	65,000	3,200	68,200
3. Cambridge Street	31,000	1,500	32,500
4. Western Avenue	12,500	600	13,100

Note: Volume change reflects estimate of 0.25% annual growth in regional traffic between 2014 and 2035

C. If applicable, describe proposed mitigation measures on state-controlled roadways that the project proponent will implement:

MassDOT will work with the Department of Conservation and Recreation to develop a design for the relocation of a portion of Soldiers Field Road to accommodate construction of a bicycle/pedestrian bridge which will enhance the parkway elements of the roadway and maintain the existing traffic patterns and capacity.

D. How will the project implement and/or promote the use of transit, pedestrian and bicycle facilities and services to provide access to and from the project site?

As noted in the Project Description, the I-90 Allston Interchange project will include construction of a new commuter rail station, West Station, on the existing Worcester branch commuter rail line to South Station with multi-modal access and a commuter rail layover yard with ancillary facilities. Improved multi-modal accommodations for pedestrian and bicycle traffic will be incorporated into the project design.

E. Is there a Transportation Management Association (TMA) that provides transportation demand management (TDM) services in the area of the project site? _X_ **Yes** ____**No**; if yes, describe if and how will the project will participate in the TMA:

Representatives of the Allston-Brighton TMA are members of the Task Force.

F. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation facilities? **__X__ Yes** ____ No; if yes, generally describe:

The I-90 Allston Interchange project site includes the existing Worcester branch commuter rail line to South Station and the Grand Junction Railroad.

G. If the project will penetrate approach airspace of a nearby airport, has the proponent filed a Massachusetts Aeronautics Commission Airspace Review Form (780 CMR 111.7) and a Notice of Proposed Construction or Alteration with the Federal Aviation Administration (FAA) (CFR Title 14 Part 77.13, forms 7460-1 and 7460-2)?

III. Consistency

Describe measures that the proponent will take to comply with municipal, regional, state, and federal plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services:

Massachusetts Bicycle Transportation Plan, September 2008. The I-90 Allston Interchange Project will be consistent with the recommendations of the Massachusetts Bicycle Transportation Plan to create better multi-modal connections within the project area. Bicycle accommodations will be integrated into the project design including the construction of a shared-use pathway connecting the area of Cambridge Street and Lincoln Street with a direct connection to the Charles River and the Paul Dudley White bicycle path including a new bicycle/pedestrian bridge over Soldiers Field Road. Cycle tracks will be incorporated into the design of a reconfigured Cambridge Street and the potential Parallel Roadway south of Cambridge Street. Bicycle access will be provided to the proposed West Station commuter rail station from Cambridge Street to the north and from Commonwealth Avenue and Brighton Avenue to the south.

1998 Massachusetts Pedestrian Transportation Plan. The I-90 Allston Interchange project will be consistent with the recommendations of the Massachusetts Pedestrian Transportation Plan to create better pedestrian connections and conditions within the project area. Design features to be integrated into the project design along Cambridge Street and other Local Connector Roadways to the I-90 ramps include measures to slow traffic speeds, the addition of frequent and clearly marked road crossings, provision of fully actuated pedestrian phases in traffic signals, buffering sidewalks from roadway travel lanes and parking lanes, and connections to the proposed West Station from Cambridge Street to the north and Commonwealth Avenue and Brighton Avenue to the south.

Long Range Transportation Plan – Paths to A Sustainable Region (and Amendments through 2013). The layover facility component of the South Station Expansion project is included in the November 2013 third amendment to the Long Range Transportation Plan (LRTP).

The I-90 Allston Interchange Project is consistent with the goals of the LRTP to:

- Support transportation projects serving areas identified for economic development by state, regional, and local planning and areas with a relatively high density of development;
- Support health-promoting transportation options, such as bicycle and pedestrian modes, and activities that reduce single occupant vehicle use and overall vehicle miles traveled;

- Expand, and close gaps in, the bicycle and pedestrian network and promote a "complete streets" philosophy;
- Support transportation design and reasonably priced enhancements that protect community cohesiveness, identity, and quality of life;
- Strengthen existing and create new connections within and between modes;
- Improve access to transit by all persons and the accessibility of transit for persons
- with disabilities;
- Improve the frequency, span, and reliability of transit services;
- Expand the transit, bicycle, and pedestrian networks while focusing bicycle investments (lanes and paths) on moving people between activity centers and linking with transit;
- Improve transportation in areas of existing development;
- Protect natural resources by planning early to avoid or mitigate impacts on stormwater or groundwater and on other resources;
- Protect public health by reducing air pollutants, including fine particulates;
- Avoid funding projects that increase exposure of at-risk populations to ultrafine particulates;
- Increase mode share for transit and nonmotorized modes;
- Support stronger land use and smart growth strategies;
- Increase transit, bicycle, and pedestrian options; and
- Improve safety for pedestrians and cyclists; ensure that safety provisions are incorporated into shared-use corridors.

TRANSPORTATION SECTION (ROADWAYS AND OTHER TRANSPORTATION FACILITIES)

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **roadways or other transportation facilities** (see 301 CMR 11.03(6))? _**X**_ **Yes** __ No; if yes, specify, in quantitative terms:

301 CMR 11.03(6)(b)1.a – construction of a new roadway one-quarter or more miles in length
301 CMR 11.03(6)(b)1.b – widening of an existing roadway by four or more feet for one-half or more miles

B. Does the project require any state permits related to **roadways or other transportation facilities**? ___ Yes _**X**_ **No**; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Energy Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Roadways Section below.

II. Transportation Facility Impacts

A. Describe existing and proposed transportation facilities in the immediate vicinity of the project site:

The project site includes the existing I-90 Allston Interchange, mainline I-90, the Framingham/Worcester line, and the Grand Junction Railroad.

B. Will the project involve any

1. Alteration of bank or terrain (in linear feet)? ___TBD*___
2. Cutting of living public shade trees (number)? ___0_____
3. Elimination of stone wall (in linear feet)? ___0_____

* Impacts due to construction of a bicycle/pedestrian bridge over Soldiers Field Road.

III. Consistency -- Describe the project's consistency with other federal, state, regional, and local plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services, including consistency with the applicable regional transportation plan and the Transportation Improvements Plan (TIP), the State Bicycle Plan, and the State Pedestrian Plan:

See the response to this question in the Transportation Section (Traffic Generation) of this ENF.

ENERGY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **energy** (see 301 CMR 11.03(7))? ___ Yes **_X_ No**; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **energy**? ___ Yes **_X_ No**; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Air Quality Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Energy Section below.

II. Impacts and Permits

A. Describe existing and proposed energy generation and transmission facilities at the project site:

	Existing	Change	Total
Capacity of electric generating facility (megawatts)	_____	_____	_____
Length of fuel line (in miles)	_____	_____	_____
Length of transmission lines (in miles)	_____	_____	_____
Capacity of transmission lines (in kilovolts)	_____	_____	_____

B. If the project involves construction or expansion of an electric generating facility, what are:

1. the facility's current and proposed fuel source(s)?
2. the facility's current and proposed cooling source(s)?

C. If the project involves construction of an electrical transmission line, will it be located on a new, unused, or abandoned right of way? ___Yes ___No; if yes, please describe:

D. Describe the project's other impacts on energy facilities and services:

III. Consistency

Describe the project's consistency with state, municipal, regional, and federal plans and policies for enhancing energy facilities and services:

AIR QUALITY SECTION

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **air quality** (see 301 CMR 11.03(8))? ___ Yes **_X_ No**; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **air quality**? ___ Yes **_X_ No**; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Solid and Hazardous Waste Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Air Quality Section below.

II. Impacts and Permits

A. Does the project involve construction or modification of a major stationary source (see 310 CMR 7.00, Appendix A)? ___ Yes ___ No; if yes, describe existing and proposed emissions (in tons per day) of:

	Existing	Change	Total
Particulate matter	_____	_____	_____
Carbon monoxide	_____	_____	_____
Sulfur dioxide	_____	_____	_____
Volatile organic compounds	_____	_____	_____
Oxides of nitrogen	_____	_____	_____
Lead	_____	_____	_____
Any hazardous air pollutant	_____	_____	_____
Carbon dioxide	_____	_____	_____

B. Describe the project's other impacts on air resources and air quality, including noise impacts:

III. Consistency

A. Describe the project's consistency with the State Implementation Plan:

B. Describe measures that the proponent will take to comply with other federal, state, regional, and local plans and policies related to air resources and air quality:

SOLID AND HAZARDOUS WASTE SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **solid or hazardous waste** (see 301 CMR 11.03(9))? ___ Yes _**X**_ **No**; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **solid and hazardous waste**? __ Yes _**X**_**No**; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Historical and Archaeological Resources Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Solid and Hazardous Waste Section below.

II. Impacts and Permits

A. Is there any current or proposed facility at the project site for the storage, treatment, processing, combustion or disposal of solid waste? ___ Yes ___ No; if yes, what is the volume (in tons per day) of the capacity:

	Existing	Change	Total
Storage	_____	_____	_____
Treatment, processing	_____	_____	_____
Combustion	_____	_____	_____
Disposal	_____	_____	_____

B. Is there any current or proposed facility at the project site for the storage, recycling, treatment or disposal of hazardous waste? ___ Yes ___ No; if yes, what is the volume (in tons or gallons per day) of the capacity:

	Existing	Change	Total
Storage	_____	_____	_____
Recycling	_____	_____	_____
Treatment	_____	_____	_____
Disposal	_____	_____	_____

C. If the project will generate solid waste (for example, during demolition or construction), describe alternatives considered for re-use, recycling, and disposal:

D. If the project involves demolition, do any buildings to be demolished contain asbestos?
___ Yes ___ No

E. Describe the project's other solid and hazardous waste impacts (including indirect impacts):

III. Consistency

Describe measures that the proponent will take to comply with the State Solid Waste Master Plan:

HISTORICAL AND ARCHAEOLOGICAL RESOURCES SECTION

I. Thresholds / Impacts

A. Have you consulted with the Massachusetts Historical Commission? ___ Yes **_X_ No**; if yes, attach correspondence. For project sites involving lands under water, have you consulted with the Massachusetts Board of Underwater Archaeological Resources? ____Yes ____ No; if yes, attach correspondence

B. Is any part of the project site a historic structure, or a structure within a historic district, in either case listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? **_X_ Yes** ___ No; if yes, does the project involve the demolition of all or any exterior part of such historic structure? **_X_ Yes** ___ No; if yes, please describe:

The project as currently proposed would slightly relocate one section of Soldiers Field Road to accommodate a new bicycle/pedestrian bridge over Soldiers Field Road which would increase the width of the parkland adjacent to the riverbank.

C. Is any part of the project site an archaeological site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes **_X_ No**; if yes, does the project involve the destruction of all or any part of such archaeological site? ___ Yes ___ No; if yes, please describe:

D. If you answered "No" to all parts of both questions A, B and C, proceed to the **Attachments and Certifications** Sections. If you answered "Yes" to any part of either question A or question B, fill out the remainder of the Historical and Archaeological Resources Section below.

II. Impacts

Describe and assess the project's impacts, direct and indirect, on listed or inventoried historical and archaeological resources:

The project as currently proposed would have direct, but limited, impacts on a section of Soldiers Field Road, which is within the State/National Register-listed Charles River Basin Historic District. Soldiers Field Road appears to have been constructed in the 1940s and expanded at least once in the 1950s. The 1950s expansion resulted in the loss of parkland along the river. Only a guardrail and intermittent width sections of a narrow grass strip currently separate the roadway and the Paul Dudley White Path. Soldiers Field Road in this area carries four lanes of traffic and is divided by a median with a double-sided guardrail barrier. West and south of Soldiers Field Road, the roadway is separated from train tracks and the existing viaduct by a narrow strip of grass and a chain link fence.

The section of Soldiers Field Road that would be most impacted by the project as currently proposed extends westerly from the CSX tracks at the BU Bridge. Based on the strong and unanimous urging of the public and task force members, and with support from DCR, MassDOT is also proposing to shift a portion of Soldiers Field Road under the proposed viaduct to increase usable parkland along the river and provide adequate room for the new bicycle/pedestrian bridge proposed to span Soldiers Field Road. The viaduct would cantilever over the realigned Soldiers Field Road, ensuring that views of the Charles River would be unimpeded for vehicular traffic.

The project proposes to construct a new bicycle/pedestrian bridge over Soldiers Field Road. The proposed bicycle/pedestrian bridge will be carefully designed to be context sensitive to

its location within the Charles River Basin Historic District.

Additional impacts to Soldiers Field Road will involve the construction of new at-grade connections immediately south of the Doubletree Hotel and north of River Street. The existing ramp between Soldiers Field Road and I-90 will be removed.

Project impacts in the vicinity of the Harvard Avenue Historic District, which is listed in the State and National Registers of Historic Places, are expected to be minor and primarily will involve the reconstruction of an existing bicycle/pedestrian bridge over I-90.

Impacts to inventoried properties south of the project area are anticipated to be very minor. Pedestrian and bicycle access is proposed to connect West Station with the neighborhood south of the project area, however, the exact location and design of these connections has not yet been determined. A noise barrier is proposed to be erected adjacent to the railway tracks servicing the proposed West Station.

At this stage of project design, no other direct or indirect impacts to listed or inventoried historical or archaeological assets have been identified.

III. Consistency

Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to preserving historical and archaeological resources:

MassDOT will consult with the Massachusetts Historical Commission and the Massachusetts State Historic Preservation Officer in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and M.G.L. Chapter 9, Sections 26-27C as amended by Chapter 254 of the Acts of 1988 to determine effects to properties that may be listed in or eligible for listing in the State or National Registers of Historic Places. MassDOT will determine if additional archaeological or architectural surveys are necessary as the project design progresses.

CERTIFICATIONS:

1. The Public Notice of Environmental Review has been/will be published in the following newspapers in accordance with 301 CMR 11.15(1):

(Name)	(Date)
Boston Herald	November 3, 2014
Boston Globe	November 3, 2014
Allston-Brighton Tab	November 7, 2014
El Planeta	October 31, 2014

2. This form has been circulated to Agencies and Persons in accordance with 301 CMR 11.16(2).

Date	Signature of Responsible Officer or Proponent	Date	Signature of person preparing ENF (if different than above)
10/29/2014		10/29/14	

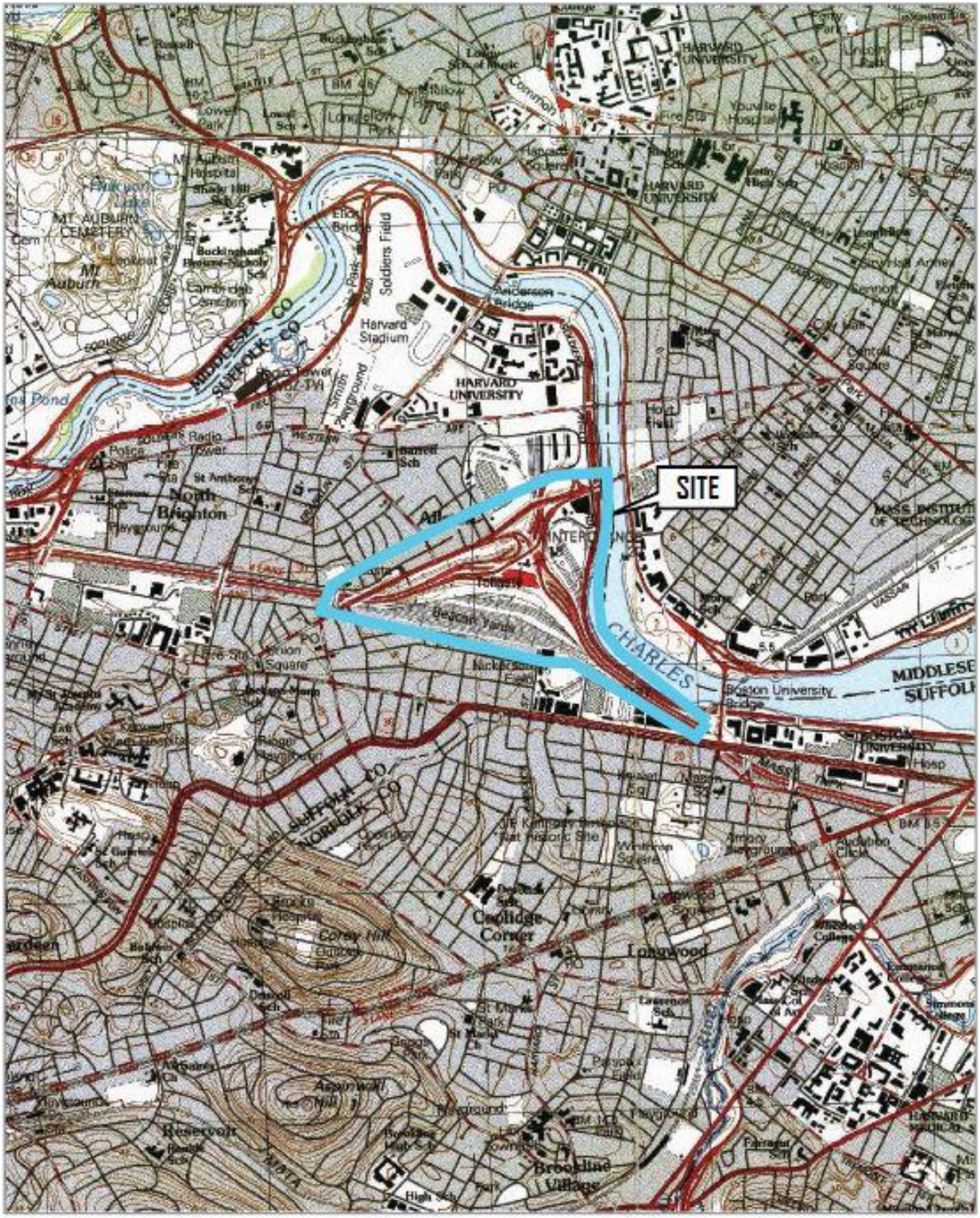
Name (print or type)	Francis A. DePaola, P.E.	Name (print or type)	James Cerbone
Firm/Agency	MassDOT Highway Division	Firm/Agency	MassDOT Highway Division
Street	10 Park Plaza – Room 4160	Street	10 Park Plaza – Room 4260
Municipality/State/Zip	Boston, MA 02116	Municipality/State/Zip	Boston, MA 02116
Phone	(857) 368-8780	Phone	(857) 368-8792

Attachment 1

List of Attachments to ENF Form

Attachment 2

Project Locus Map



ALLSTON

massDOT

0 1,000 2,000

Feet

Base Map:
USGS Topo

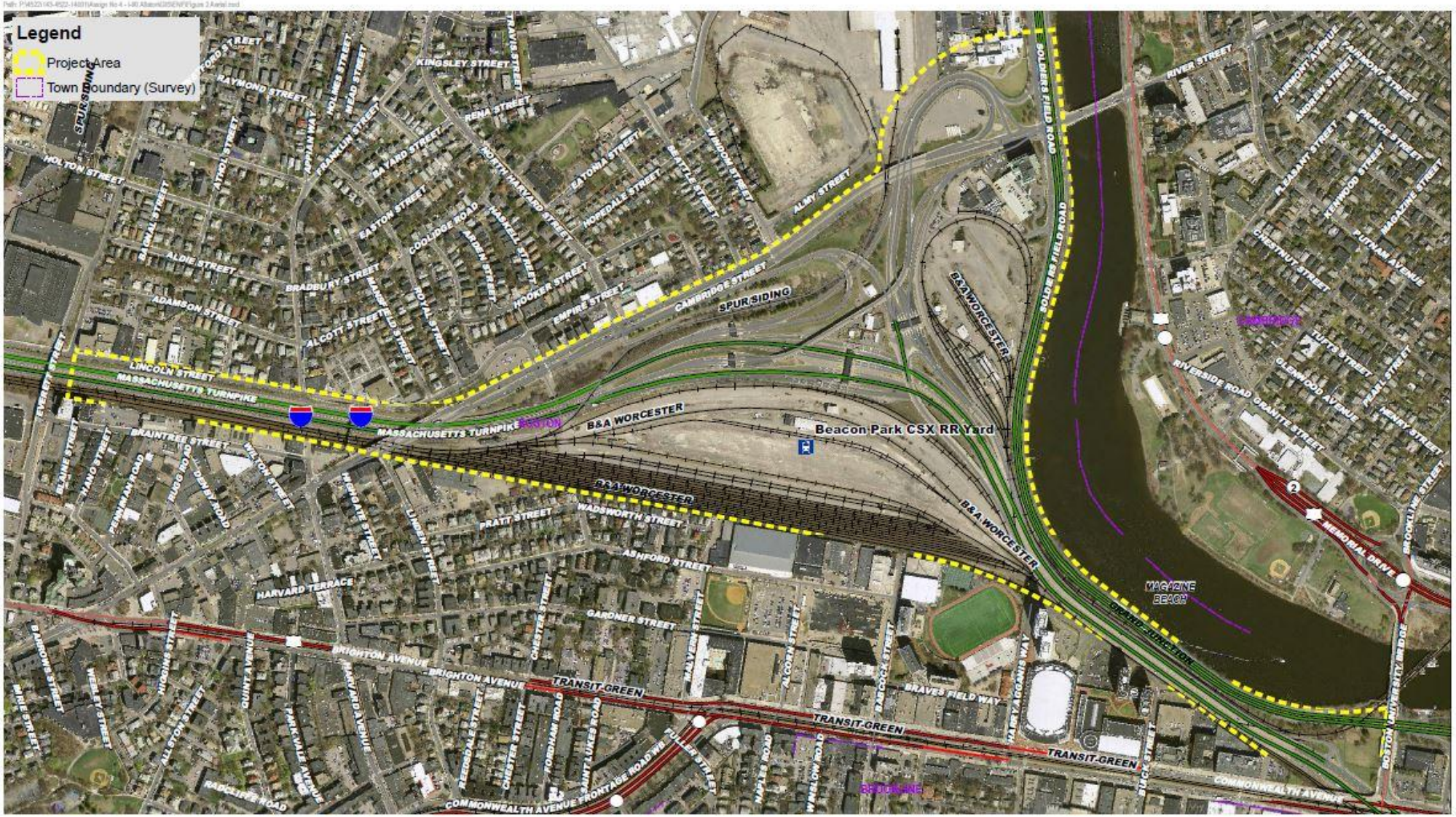
I-90 Interchange Allston, MA
Environmental Notification Form - October 2014

FIGURE 1

USGS Site Locus Map

Attachment 3

Site Plan



ALLSTON INTERCHANGE

massDOT Massachusetts Department of Transportation Highway Division

1 inch = 500 feet
0 250 500
Feet

Base Map:

N

Base Map:
USGS 2013

I-90 Interchange
Allston, Massachusetts
Environmental Notification Form

I-90 Interchange Allston, MA
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FIGURE 2

Project Site
Aerial Photograph

Project Site - Aerial Photograph

Attachment 4

Environmental Constraints


Legend
Project Area
Tier Classified Sites (Jan 2014)
Tier 1A
Tier 1B
Tier 1C
Tier 1D
Tier II
AUL Sites (Jan 2014)
Underground Storage Tanks (March 2013)
DEP BWP Major Facilities (March 2013)
Large Quantity Generators (LQG)
EPA/RCRA-regulated Hazard. Waste
MA-regulated Hazard. Waste
MA and EPA/RCRA-regulated Hazard. Waste
MOTIVA ENTERPRISES LLC
EXXONMOBIL OIL CORP
HESS 21500
MOTIVA ENTERPRISES LLC
ALLSTON CAR WASH
FIRE HOUSE ENGINE 41
HESS 21300
MAGAZINE BEACH
MA WATER RESOURCE AUTHORITY
COMMONWEALTH MOBIL INC
SOLDIERS FIELD ROAD
MASSACHUSETTS TURNPIKE
LINCOLN STREET
BRAINTREE STREET
PRATT STREET
WADSWORTH STREET
ASHFORD STREET
GARDNER STREET
BRIGHTON AVENUE
BRAVES FIELD WAY
COMMONWEALTH AVENUE
MEMORIAL DRIVE
CAMBRIDGE STREET
ALBANY STREET
ADAMSON STREET
ALCOTT STREET
HOOKER STREET
EMPIRE STREET
ALLSTON INTERCHANGE
massDOT
Highway Division
1 inch = 500 feet
0 250 500
Feet
Base Map:
USGS 2013
I-90 Interchange
Allston, Massachusetts
Environmental Notification Form
I-90 Interchange Allston, MA
Environmental Notification Form - October 2014
DEP Regulated Areas
FIGURE 3
3

I-90 Interchange
Allston, Massachusetts
Environmental Notification Form

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Environmental Notification Form - October 2014

FIGURE 4

Open Space

Open Space

I-90 Interchange
Allston, Massachusetts
Environmental Notification Form - October 2014

FIGURE 5

Environmental Justice Population

1 inch = 500 feet
0 250 500
Feet

Base Map: USGS 2013

I-90 Interchange
Allston, Massachusetts
Environmental Notification Form

Chapter 91 Presumptive Jurisdiction

FIGURE 6

Chapter 91 Presumptive Jurisdiction

I-90 Interchange
Allston, Massachusetts
Environmental Notification Form - October 2014

FIGURE 7

DEP 12k Wetlands and NHESP Data

I-90 Interchange
Allston, Massachusetts
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ALLSTON INTERCHANGE

mass DOT Highway Division

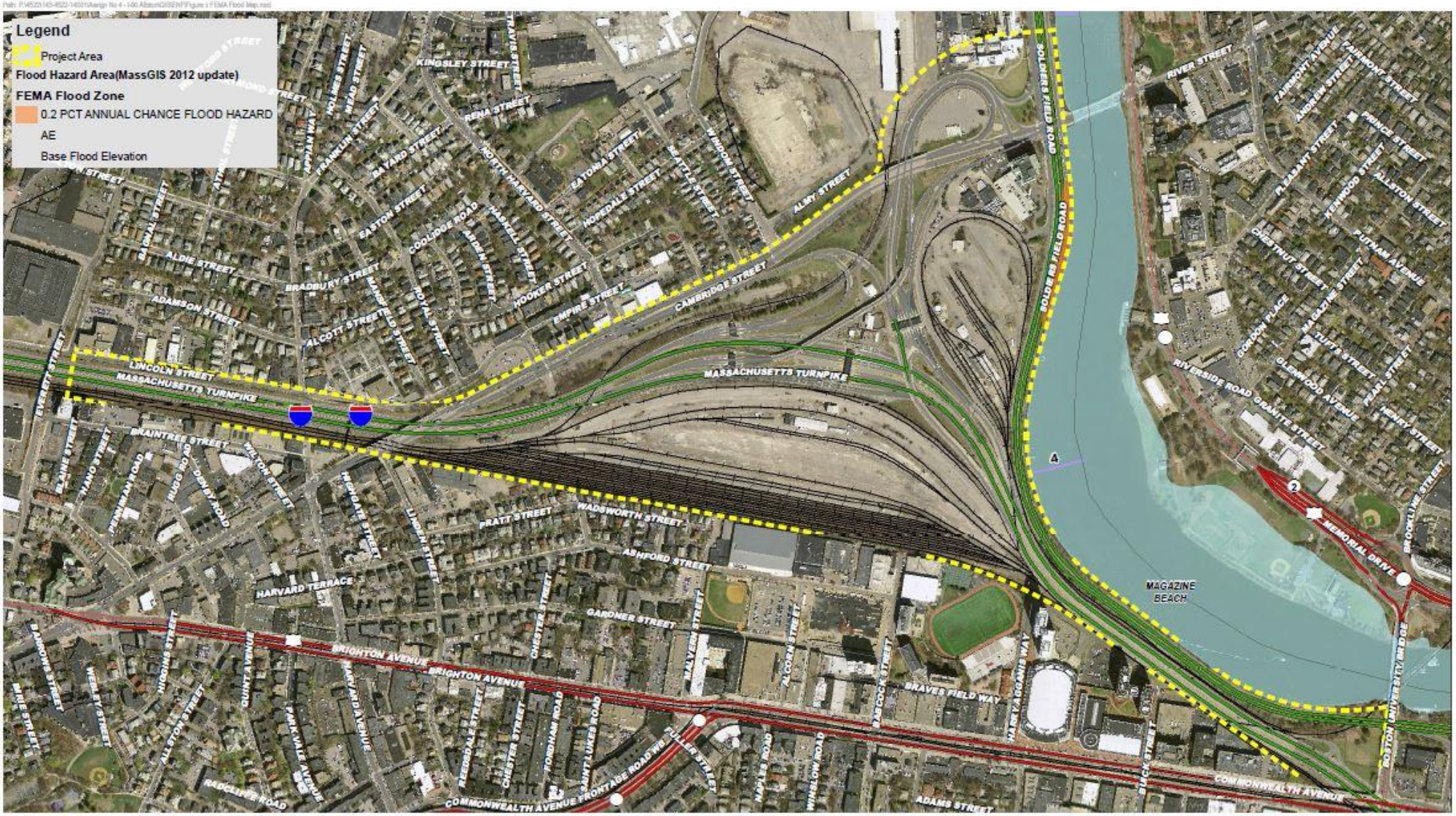
1 inch = 500 feet
0 250 500
Feet

Base Map: USGS 2013

I-90 Interchange Allston, MA
Environmental Notification Form - October 2014

FIGURE 8

Drinking Water



I-90 Interchange

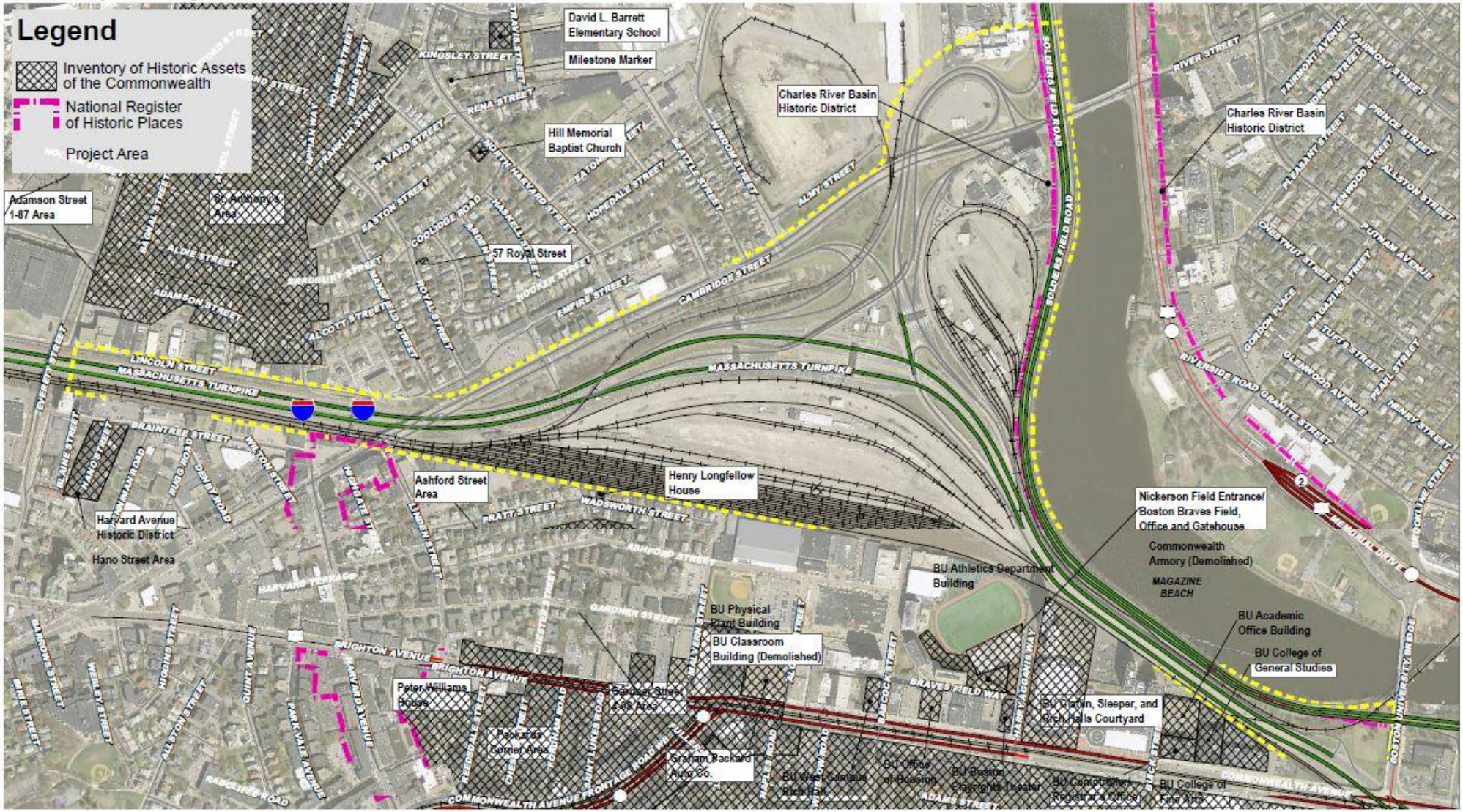
Base Map: USGS 2013

Notes:FEMA Flood Maps 25025C0076G and 25025C0057G Effective Date 9/25/2009

I-90 Interchange Allston, MA
Environmental Notification Form - October 2014

FIGURE 9

FEMA Flood Data



1 inch = 500 feet
0 250 500
Feet

Base Map: USGS 2013

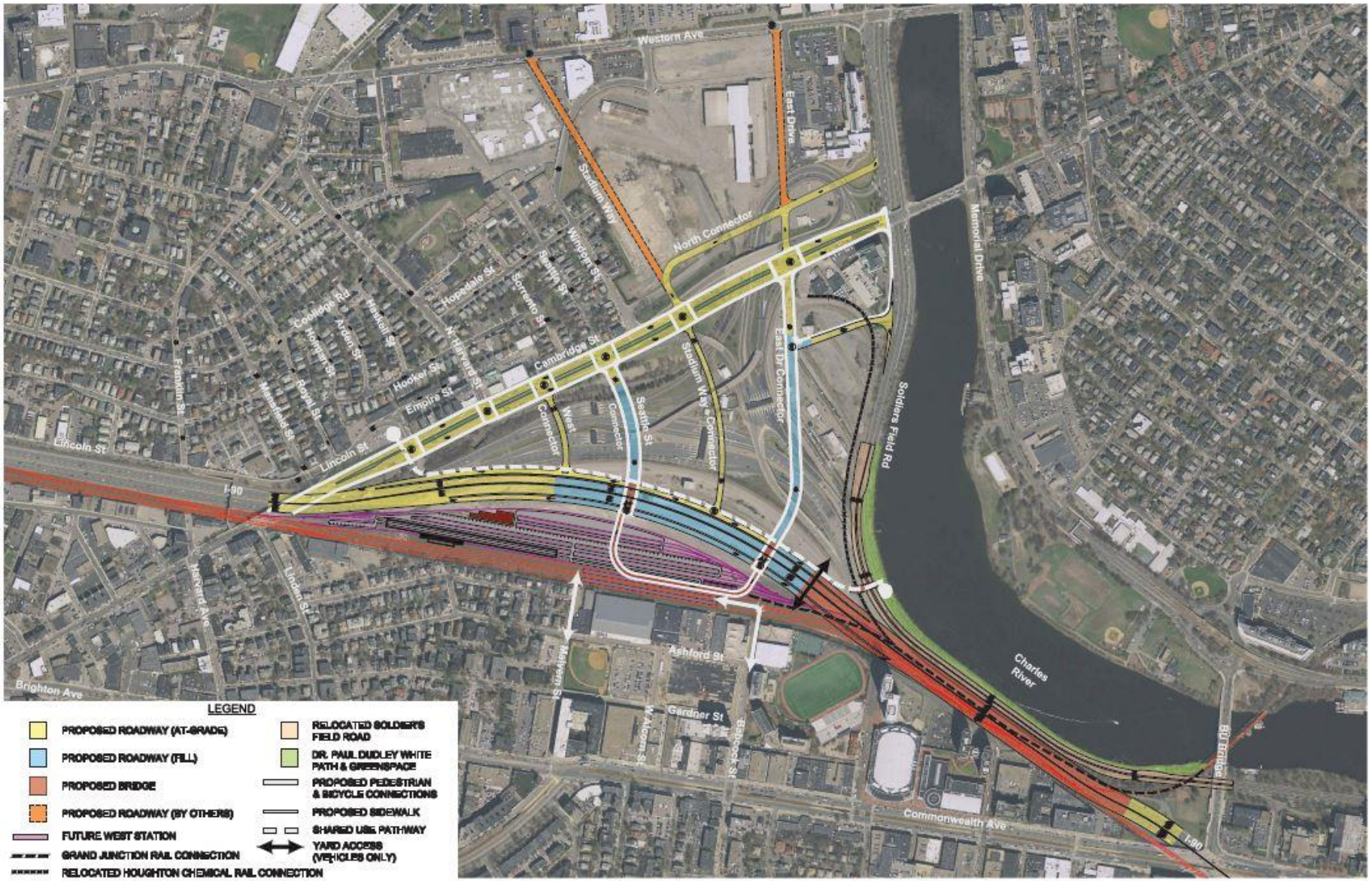
I-90 Interchange Allston, MA
Environmental Notification Form - October 2014

FIGURE 10

Historic Resources

Attachment 5

Proposed Development Plans



ALLSTON INTERCHANGE

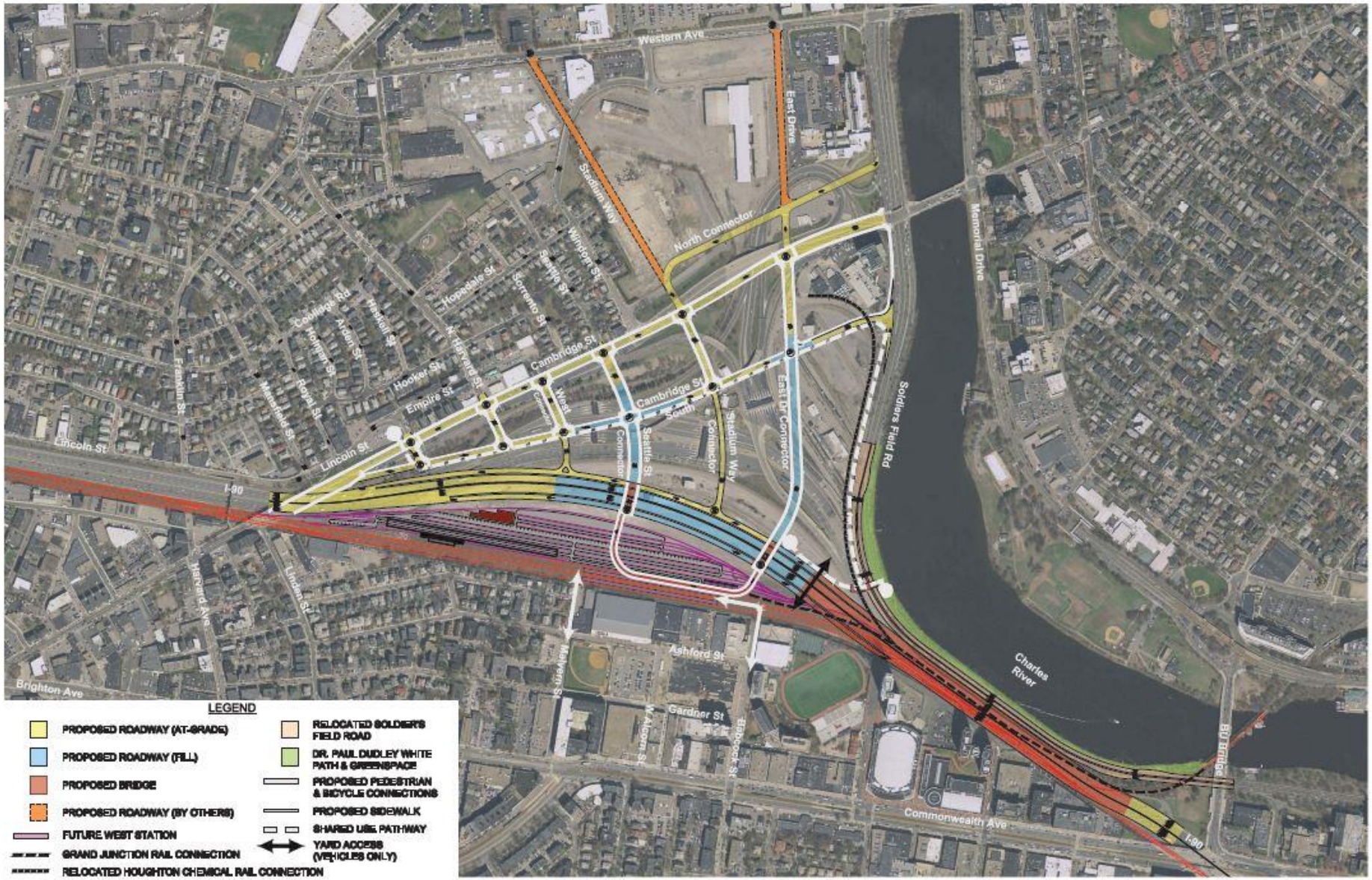
massDOT Massachusetts Department of Transportation Highway Division

HORIZONTAL SCALE IN FEET
0 200 500 1000

I-90 Interchange Allston, MA
Environmental Notification Form - October 2014

FIGURE 11A

Option 3J-1



I-90 Interchange Allston, MA
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FIGURE 11B

Option 3J-2

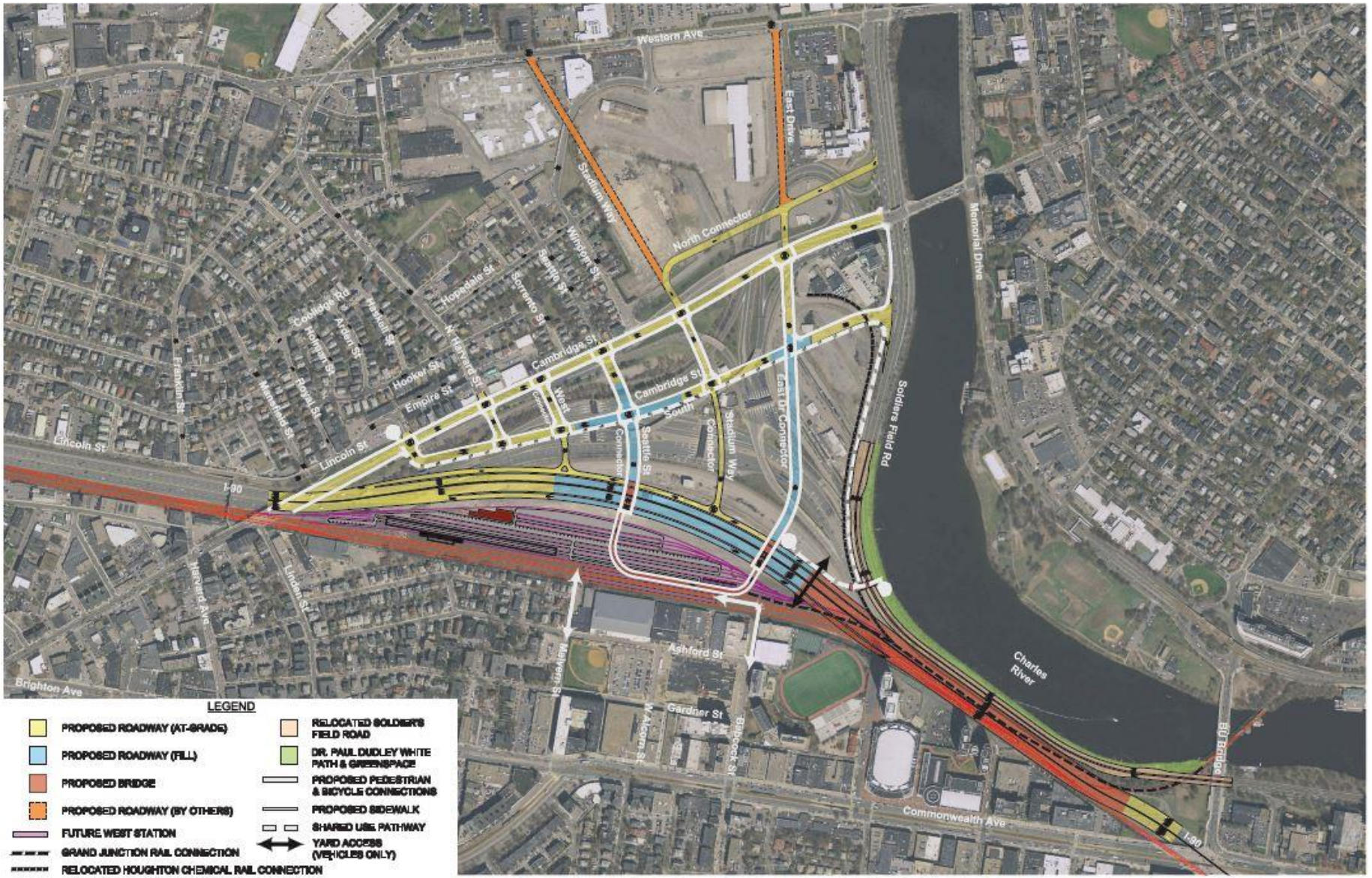

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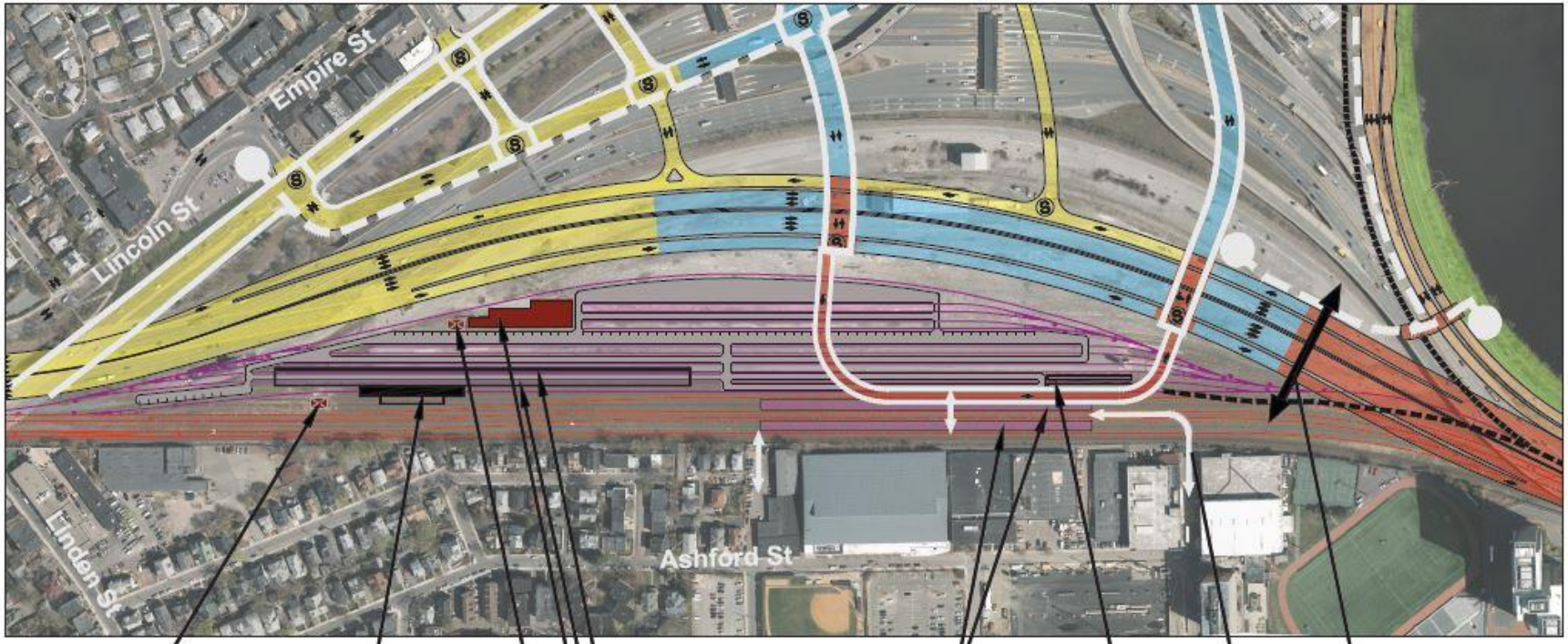
FIGURE 11C

Option 3J-3



POWER SUBSTATION

PROPOSED WHEEL TRUING TRACK & BUILDING

PROPOSED PIT TRACK

PROPOSED COVERED TRACK

CREW QUARTERS / STORAGE

POWER SUBSTATION

PROPOSED WEST STATION

PROPOSED CAR WASH

PED ACCESS (TYP.)

VEHICLE YARD ACCESS

LEGEND

- PROPOSED ROADWAY (AT-GRADE)
- PROPOSED ROADWAY (FILL)
- PROPOSED BRIDGE
- FUTURE WEST STATION
- GRAND JUNCTION RAIL CONNECTION
- RELOCATED HOUGHTON CHEMICAL RAIL CONNECTION
- RELOCATED SOLDIER'S FIELD ROAD
- DR. PAUL DUDLEY WHITE PATH & GREENSPACE
- PROPOSED PEDESTRIAN & BICYCLE CONNECTIONS
- PROPOSED SIDEWALK
- SHARED USE PATHWAY
- YARD ACCESS (VEHICLES ONLY)

ALLSTON INTERCHANGE

massDOT Highway Division

HOR. SCALE IN FEET

0 100 200 400

I-90 Interchange Allston, MA
Environmental Notification Form - October 2014

West Station and Layover Yard

FIGURE 11D

Attachment 6

ENF Circulation List

ENF CIRCULATION LIST

David Cash, Commissioner
Massachusetts Department of
Environmental Protection
One Winter Street
Boston, MA 02108

Massachusetts Department of
Environmental Protection
Northeast Regional Office
Attn: MEPA Coordinator
205B Lowell Street
Wilmington, MA 01887

Massachusetts Department of Transportation
Public/Private Development Unit
10 Park Plaza
Boston, MA 02116

Massachusetts Department of Transportation
District 6 Office
Attn: MEPA Coordinator
185 Kneeland Street
Boston, MA 02111

The Massachusetts Historical Commission
The MA Archives Building
220 Morrissey Boulevard
Boston, MA 02125

Metropolitan Area Planning Council
60 Temple Place, 6th floor
Boston, MA 02111

Boston City Council
Boston City Hall
1 Cambridge Street
Boston, MA 02108

Boston Redevelopment Authority
1 City Hall Square
Boston, MA 02201

Coastal Zone Management
Attn: Project Review Coordinator
251 Causeway Street, Suite 800
Boston, MA 02114

Division of Conservation and Recreation
Attn: MEPA Coordinator
251 Causeway Street, Suite 600
Boston, MA 02114

Division of Energy Resources
Attn: MEPA Coordinator
100 Cambridge Street, 10th floor
Boston, MA 02114

Massachusetts Water Resources Authority
Attn: MEPA Coordinator
100 First Avenue
Charlestown Navy Yard
Boston, MA 02129

Massachusetts Bay Transportation Authority
Attn: MEPA Coordinator
10 Park Plaza, 6th Fl.
Boston, MA 02216-3966

Mass DEP
Waterways Regulation Program
One Winter Street
Boston, MA 02108

Boston Public Health Commission
1010 Massachusetts Avenue, 6th Fl.
Boston, MA 02118

Boston Conservation Commission
1 City Hall Square, Room 709
Boston, MA 02201

ENF CIRCULATION LIST

The Honorable Michael E. Capuano
110 First Street
Cambridge, MA 02141

Senator Elizabeth A. Warren
2400 JFK Federal Building
15 New Sudbury Street
Boston, MA 02203

Senator Edward J. Markey
975 JFK Federal Building
15 New Sudbury Street
Boston, MA 02203

Senator Sal N. DiDomenico
State House Room 218
Boston, MA 02133

Representative Brian Honan
State House Room 38
Boston, MA 02133

Senator William N.. Brownsburger
State House Room 413C
Boston, MA 02133

Representative Michael J. Moran
State House Room 39
Boston, MA 02133

Allston Brighton Community Development Corporation
20 Linden Street
Suite 288
Boston, MA 02134

Allston Brighton Area Planning Action Council
143 Harvard Avenue
Boston, MA 02134

Brazilian Immigrant Center Inc.
14 Harvard Avenue
Boston, MA 02134

Robert Zimmerman, Jr.
Executive Director
Charles Water Watershed Association
190 Park Road
Weston, MA 02493

Ms. Ellen Lipsey
Executive Director
Boston Landmarks Commission
One City Hall Plaza, Room 805
Boston, MA 02201

Brooke Thurston
Vice President, Media Relations
St. Elizabeth's Medical Center
736 Cambridge Street
Brighton, MA 02135

Harvard University
Public Affairs & Communications
1350 Massachusetts Avenue
Smith Campus Center
Cambridge, MA 02138

Boston University
Government & Community Affairs
One Silber Way
Boston, MA 02215

Massachusetts Institute of Technology
Government and Community Relations
77 Massachusetts Ave, 11-245
Cambridge, MA 02139

Attachment 7

List of Federal and Municipal Permits

Issuing Authority	Permit
Federal Permits	
U.S. Environmental Protection Agency	Coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Construction Activities
	Coverage under the NPDES Dewatering General Permit for Dewatering Discharges from Construction Activities
	Coverage Under the NPDES Multi-Sector General Permit (Railroad Maintenance facility)
US Army Corps of Engineers	Authorization under Category II of the Massachusetts Programmatic General Permit
Massachusetts Historical Commission	Section 106 Review (36 CFR 800)
Federal Highway Administration/Federal Transit Administration	National Environmental Policy Act review
	Section 4(f) Review
Municipal Permits	
Boston Conservation Commission	Order of Conditions (310 CMR 10.00)

Attachment 8

MGL Chapter 21E Release Tracking Notification Information

Table 1 - List of Common Abbreviations used in the List of Sites with MCP Release Tracking Numbers (Table 2)

Abbreviation	Explanation
AST	Aboveground Storage Tank
AUL	Activity and Use Limitation; legal restrictions used in the context of the Massachusetts Contingency Plan to limit future exposure to contaminants remaining at a site.
bgs	below ground surface
BWSC	Bureau of Waste Site Cleanup
CESQG	Conditionally exempt small quantity under RCRA; generates less than 100 kg/month of hazardous waste
Closed	The spill case has been closed by the DEP.
COCs	Contaminants of Concern
CS	Completion Statement
CY	Cubic yard
DEP	Department of Environmental Protection
DEP MOU	DEP has a Memorandum of Understanding (MOU) or other written agreement with a responsible party.
DEP NDS	DEP Not a Disposal Site - DEP determined these locations did not need to be reported and are not disposal sites.
DEP NFA	DEP No Further Action - DEP determined that no further investigation or remedial activity is required
DPS	Downgradient Property Status - contamination on the property attributed to an upgradient property.
EPA	Environmental Protection Agency
EPH	extractable petroleum hydrocarbons
Gal	gallons
IH	Imminent Hazard
IRA	An Immediate Response Action has been initiated at the site.
IRA CS	IRA Completion Statement. Documentation of IRA activities.
LAST	Leaking aboveground storage tank
LGN	RCRA Large Quantity Generator; generates more than 1,000 mg/kg hazardous waste per month
LSP NFA	LSP No Further Action means that response actions were conducted and an LSP has determined that no further action was needed for the site.
LTBI	DEP Location to Be Investigated.
LUST	Leaking underground storage tank
MCP	Massachusetts Contingency Plan
mg/kg	milligrams per kilogram
NA	Not Available
NFRAP	No Further Remedial Action Planned
NON	Notice of Noncompliance
OHM	Oil and/or Hazardous Materials
OHM	oil and/or hazardous materials
PAHs	polycyclic aromatic hydrocarbons
Pending NDS	The site is under consideration for removal from the DEP State Site List.
PENNFA	Pending No Further Action
Phase I - ISI	Initial Site Investigation, including Tier Classification. In this phase, samples are collected and analyzed to determine the types, amounts, and location of contaminants.
Phase II - CSA	Comprehensive Site Assessment. During Phase II, the risks posed to public health, welfare, and the environment are determined.
Phase III	Identification, Evaluation, and Selection of Comprehensive Remedial Action Alternatives and the Remedial Action Plan. In Phase III, cleanup options are assessed and a cleanup plan is selected.
Phase IV	Implementation of the Selected Remedial Action Alternative and Remedy Implementation Plan. The cleanup plan is implemented in Phase IV.
Phase V	Operation, Maintenance, and/or Monitoring. During Phase V, long-term treatment processes are implemented and monitored to track cleanup progress.
ppb	parts per billion
ppm	parts per million
RAM	A Release Abatement Measure is ongoing at the site.
RAO	Response Action Outcome Statement has been submitted to the DEP for the site/release. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.
RAO-A1	Response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated. A permanent solution has been achieved: contamination has been reduced to backround or a threat of a release has been eliminated.
RAO-A2	Response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated. A permanent solution has been achieved. Contamination has not been reduced to background.

Table 1 - List of Common Abbreviations used in the List of Sites with MCP Release Tracking Numbers (Table 2)

Abbreviation	Explanation
RAO-A3	Response actions were sufficient to achieve a level of no significant risk. A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented. The permanent solution is contingent on the AUL.
RAO-B1	Initial reportable condition; however, site assessment indicates that "no significant risk" exists. Remedial actions have not been conducted because a level of No Significant Risk exists.
RAO-B2	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more Activity and use Limitations (AULs) that have been implemented.
RAO-B3	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more Activity and use Limitations (AULs) that have been implemented, and contamination is located at a depth of >15 feet but evaluation has determined that it is not feasible to reduce it.
RAO-C1	A temporary cleanup. Although the site does not present a "substantial hazard", it has not reached a level of no significant risk. The site must be evaluated every five years to determine whether a Class A or Class B RAO is possible. All sites are expected eventually to receive a Class A or B RAO.
RAO NR	RAO Not Required. Future response actions addressing the release associated with this Release Tracking Number (RTN) will be conducted as part of the response actions planned for the site under another "primary" RTN.
REMOPS	Remedy Operation Status. A site where a remedial system which relies upon Active Operation and Maintenance is being operated for the purpose of achieving a Permanent Solution. Active status.
RCRA	Resource Conservation and Recovery Act
RCs	Reportable Concentrations
RNF	Release Notification Form
RTN	Release Tracking Number - number assigned to every site /reportable release. The same site may have multiple RTNs for different release conditions.
RCRA NLR	No Longer Reporting. Non-generators do not presently generate hazardous waste.
RCRA SGN	Small Quantity Generator of hazardous waste under RCRA (100 to 1,000 kg/month).
Tier 1A	These sites/releases require a permit and the person undertaking response actions must do so under direct DEP supervision. High potential hazard to human health and the environment.
Tier 1D	A site/release where the responsible party fails to provide a required submittal to DEP by a specified deadline.
Tier II	Permits are not required at Tier 2 sites/releases and response actions may be performed under the supervision of an LSP without prior DEP approval. Active status; assessment activities ongoing.
TPH	Total Petroleum Hydrocarbons
ug/L	micrograms per liter
Unclassified	A release that has not reached its Tier Classification deadline (usually one year after it was reported), and where an RAO Statement, DPS Submittal, or Tier Classification Submittal has not been received by DEP.
URAM	Utility Release Abatement Measure; conducted when contamination discovered during utility work.
UST	Underground Storage Tank
VOCs	volatile organic compounds
VPH	volatile petroleum hydrocarbo
VSQG	Very Small Quantity Generator of hazardous waste under RCRA (less than 100 kg/month).

Table 2 - List of Sites with MCP Release Tracking Numbers (RTNs)

Map Coordinates	Map ID	EDR Map ID	Site Name	Street Number	Street	Database ID Number	Database / Source	Notes / Regulatory Information	Regulatory Status
F4	3	51	No Location Aid	250	Lincoln Street	3-0026132	SHWS, RELEASE	Reportable release of lead (467 mg/kg) and TPH (690 mg/kg) in soil. RAM CS and RAO A-2 statement submitted December 5, 2006.	RAO-A2
G6	7	41	60 Feet Before Exit 18 Toll		RTE 90 E	3-0015856	SHWS, RELEASE	Approximately 50 gallons of #2 fuel oil spilled on the roadway on December 21, 1997. RAO A1 submitted January 21, 1998.	RAO-A1
F11	7	42	Mile Marker 130.5		Beacon Park	3-0011845	SHWS, RELEASE	Detection of approximately 3 inches of DNAPL in an on-site groundwater monitoring well reported on November 10, 1994. Source of petroleum contamination was likely from former railroad operations and a 10,000-gallon UST that had been abandoned on site. IRA CS submitted on January 29, 2001. Method 1 Risk Characterization determined a condition of No Significant Risk based on the location of the contamination beneath roadways or paved toll plazas, the observations that active migration appeared to be diminishing and the conclusion that the source of the release is no longer active. A RAO C1 statement was submitted on August 10, 2000.	RAO-C1
F11	7	43	Flexivan Entrance		Cambridge Street	3-0015898	SHWS, RELEASE	Reportable release of TPH in soil at 1830 mg/kg. IRA Status report submitted January 6, 1998. Linked to RTN 3-0015067 on July 20, 1998 which has RAO-C1 status..	RAO NR (linked to 3-0015067)
F11	7	45	Allston Brighton Tolls		Beacon Park	3-0012038	LUST, RELEASE	Release of oil to soil during the removal of a UST. Excavation of approximately 30 cubic yards of contaminated soil. Linked to RTN 3-0011845 which has RAO-C1 status.	RAO NR (linked to 3-11845)
G6	8	44	CSX Entrance Across Lincoln Street	310	Cambridge Street	3-0019434	LUST, RELEASE	Gasoline (100 ppm) was released from a UST at this site. IRA activities conducted and IRA CS submitted on June 6, 2000. Tier II classification on April 30, 2001. RAO A2 statement submitted June 6, 2001.	RAO-A2
G6	8	44	CSX Entrance Across Lincoln Street	310	Cambridge Street	3-0012144	SHWS, RELEASE	Approximately 15 gallons of lubricating oil released from a pipe. IRA activities conducted. RAO A1 statement submitted on April 5, 1995.	RAO-A1
G6	8	44	CSX Entrance Across Lincoln Street	310	Cambridge Street	3-0027208	SHWS, RELEASE	Approximately 225 gallons of diesel fuel released from a rail car saddle tank. IRA activities conducted. RAO A2 statement submitted on December 24, 2007.	RAO-A2
G6	8	44	CSX Entrance Across Lincoln Street	310	Cambridge Street	3-0024102	SHWS, RELEASE	Approximately 30 gallons of xylene released from a pipe. RAO A1 statement submitted on August 9, 2004.	RAO-A1
G6	8	44	CSX Entrance Across Lincoln Street	310	Cambridge Street	3-0030428	SHWS, RELEASE	Approximately 500 gallons of vegetable oil released from a rail car. IRA activities conducted. IRA CS and RAO A2 statement submitted on October 15, 2012.	RAO-A2
G7	9	16	Boston Edison Co		Cambridge Street @ Lincoln Street	3-004307	SHWS, RELEASE	Release of approximately 1,800-gallons of cable oil from a buried roadway cable reported on September 5, 1990. IRA activities conducted included LNAPL gauging and recovery in monitoring wells, analysis of soil and groundwater samples excavation of impacted soils. Excavation and disposal of approximately 6 tons of impacted soil. Method 3 risk characterization concluded a Condition of No Significant RIsk exists. RAO A2 statement submitted on May 9, 2003.	RAO-A2
G7	9	17	Lincoln Street		Cambridge Street	3-0015545	SHWS, RELEASE	Detection of 5.8 inches of NAPL from an on-site monitoring well during Phase II work associated with RTN 3-4307. IRA activities conducted and IRA CS submitted in November 1997. Linked to RTN 3-4307 which has RAO A2 status.	RAONR (linked to 3-004307)
E10	13	22	Beacon Park Yard	174	Cambridge Street	3-0011474	SHWS, RELEASE	Release of approximately 30 gallons of transformer oil from a vehicle on August 16, 1994. IRA activities conducted. RAO A2 statement submitted on October 24, 1994.	RAO-A2
G7, G8	14	13	Beacon Park Yard	170	Cambridge Street	3-0015067	SHWS, RELEASE	Oil sheens were detected on the Charles River entering from a storm drain near 310 Cambridge Street which was reported to DEP on March 29, 1997. Gauging of monitoring wells within the disposal boundary detected up to 1.45 feet of LNAPL. The source of the LNAPL is unknown; however, it is likely attributed to the historical use of the site as a rail yard. IRA activities conducted included sealing the joints in the storm drain in 2002 to prevent infiltration of LNAPL and decommissioning the storm drain groundwater depression system. RAO C1 statement submitted on September 25, 2003. Post Class C monitoring activities include semi-annual gauging of groundwater monitoring wells.	RAO-C1
F12, F13, G13	72	13	Beacon Park Yard	170	Cambridge Street	3-0028327	SHWS, RELEASE, LAST	Release of approximately 300 to 500 gallons of diesel fuel from an AST in a rail yard on February 19, 2009. IRA activities conducted included recovering the fuel from an oil water separator and the excavation of approximately 15 cubic yards of impacted soils. IRA CS submitted on April 15, 2009. Linked to RTN 3-004495.	RAONR (linked to 3-004495)

Table 2 - List of Sites with MCP Release Tracking Numbers (RTNs)

Map Coordinates	Map ID	EDR Map ID	Site Name	Street Number	Street	Database ID Number	Database / Source	Notes / Regulatory Information	Regulatory Status
F12, F13, G13	72		Beacon Park Yard	170	Cambridge Street	3-0011783	SHWS, RELEASE	Release of approximately 100 gallons of diesel fuel from a train engine on October 28, 1994. Less than 10 gallons of fuel released to soil - majority was captured in an oil water separator or absorbant pads. URAM activities conducted. Linked to RTN 3-004495.	RAONR (linked to 3-004495)
F12, F13, G13	72		Beacon Park Yard	170	Cambridge Street	3-0030531	SHWS, RELEASE	URAM was conducted to repair a leaking water line located in the CSX Rail Yard within the disposal boundary identified for RTN 3-0004495. Approximately 30 cubic yards of soil was excavated and removed off-site for disposal. URAM CS submitted on September 24, 2012. Linked to RTN 3-0004495.	RAONR (linked to 3-004495)
F12, F13, G13	72		Beacon Park Yard	170	Cambridge Street	3-0004495	SHWS, RELEASE	Historic releases of fuel oil and detection of LNAPL on groundwater. LNAPL plume is located below a layer of peat found across the majority of the site. An emergency response treatment systems was installed as an IRA to remove LNAPL from 2 extraction wells which operated from 1995-2002 and extracted a total of approximately 70,000 gallons of LNAPL. System upgraded to include 4 additional extraction wells and and product-only recovery pumps. RAO C1 statement submitted on May 1, 2000.	RAO-C1
E10	14	24	Beacon Park Yard	170	Cambridge Street	3-0031374	SHWS, RELEASE, LAST	Release of approximately 10 gallons of diesel fuel from an industrial AST on February 18, 2013. IRA activities conducted, and RAO A2 statement submitted on April 18, 2013.	RAO-A2
E10	15	36	Boston Edison Cable 329 510	159	Cambridge Street	3-002988	SHWS, RELEASE	Release of an unspecified volume of oil onto the roadway from a pipe. Tier classified on August 2, 1996 and RAO A2 statement submitted on May 6, 1991.	RAO-A2
F10	16	37	Allston Tolls		Rte 90W Milemarker 130.1	3-0026957	SHWS, RELEASE	Release of approximately 50 gallons of diesel fuel onto the roadway from the saddle tank of a MBTA bus. IRA activities conducted. RAO A1 submitted on September 17, 2007.	RAO-A1
G9	17	31	Mass Pike & Conrail/.5 Mi W of Toll		Lincoln Street	3-0010497	SHWS, RELEASE	Release of approximately 2,000 gallons of dielectric oil from a pipe. IRA & RAM activities conducted. RAM CS and Tier Classification submitted on February 1, 1995. RAO A2 submitted on April 19, 1994.	RAO-A2
G9	17	32	No Location Aid		Corner of Winship	3-0010700	SHWS, RELEASE	Release of approximately 25 gallons of hydraulic fluid from a vehicle on the roadway. IRA activities conducted. RAO A1 statement submitted July 11, 1994	RAO-A1
G9	17	33	Conrail Yard		Cambridge Street	3-0015260	SHWS, RELEASE	Release of an unknown volume of an unknown chemical from a UPS box. IRA activities conducted. RAO A2 statement submitted on July 29, 1997.	RAO-A2
E11	18	28	Parcel 1L		South of Cambridge, Near Windam Street	3-0020100	SHWS, RELEASE	Reportable release of thallium (13.1 mg/kg), antimony (87.7 mg/kg), benzo(a)pyrene (1500 mg/kg), benzo(b)fluoranthene (1400 mg/kg), chromium (4900 mg/kg), and benzo(a)anthracene (1100 mg/kg) in soil; and C9-C18 aliphatic hydrocarbons (560 mg/L), C11-C22 aromatic hydrocarbons (430 mg/L), and C19-C36 aliphatic hydrocarbons (190 mg/L) in groundwater. RAO B1 submitted on November 1, 2001.	RAO-B1
F12	19	12	Interchange 19		MA Tpke Eastbound	3-0012631	SHWS, RELEASE	Release of approximately 25 gallons of diesel fuel onto the roadway from a vehicle fuel tank. IRA activities conducted. RAO A1 submitted on August 31, 1995.	RAO-A1
E12	20	40	No Location Aid		East Harvard Street	3-0019578	SHWS, RELEASE	Reportable release of PAHs (4 mg/kg) in soil. URAM CS submitted on August 18, 2000.	URAM
D12	21	15	CSX International	100	Cambridge Street	3-0030464	SHWS, RELEASE	Release of approximately 15 gallons of hydraulic oil from a hose. RAO A1 submitted on January 17, 2012.	RAO-A1
E11	73	15	CSX International	100	Cambridge Street	3-0021281	SHWS, RELEASE	Release of approximately 10 gallons of diesel fuel from an unknown source. IRA activities conducted. IRA CS and RAO A1 submitted on February 22, 2002.	RAO-A1
E11	73	15	CSX International	100	Cambridge Street	3-0024580	SHWS, RELEASE	Release of approximately 15 gallons of diesel fuel. IRA activities conducted. RAO A1 submitted on March 23, 2005.	RAO-A1
E11	73	15	CSX International	100	Cambridge Street	3-0026455	SHWS, RELEASE	Release of approximately 20 gallons of diesel fuel from a vehicle. IRA activities conducted. RAO A2 submitted on February 1, 2007.	RAO-A2
E11	73	15	CSX International	100	Cambridge Street	3-0026496	SHWS, RELEASE	Release of approximately 100 gallons of diesel fuel from a vehicle saddle tank. IRA activities conducted. RAO A2 submitted on December 29, 2006.	RAO-A2
E11	73	15	CSX International	100	Cambridge Street	3-0026661	SHWS, RELEASE	Release of approximately 50 gallons of diesel fuel. IRA activities conducted. RAO A2 submitted on April 17, 2007.	RAO-A2
D13	24	15	CSX International	100	Cambridge Street	3-0028036	SHWS, RELEASE	Release of approximately 20 gallons of diesel fuel from a vehicle saddle tank. IRA activities conducted. RAO A1 submitted on November 13, 2008.	RAO-A1

Table 2 - List of Sites with MCP Release Tracking Numbers (RTNs)

Map Coordinates	Map ID	EDR Map ID	Site Name	Street Number	Street	Database ID Number	Database / Source	Notes / Regulatory Information	Regulatory Status
D13	24	15	CSX International	100	Cambridge Street	3-0029249	SHWS, RELEASE	Release of approximately 30 gallons of diesel fuel from a vehicle fuel tank. IRA activities conducted. RAO A2 submitted on May 2, 2010.	RAO-A2
D12	21	15	CSX International	100	Cambridge Street	3-0029627	SHWS, RELEASE	Release of approximately 80 gallons of diesel fuel from a railroad car. IRA activities conducted. RAO A2 submitted on February 8, 2011.	RAO-A2
D12	21	15	CSX International	100	Cambridge Street	3-0029969	SHWS, RELEASE	Release of approximately 50 gallons of hydraulic oil from a crane fuel line. IRA activities conducted. RAO A1 submitted on May 13, 2011.	RAO-A1
D12	21	15	CSX International	100	Cambridge Street	3-0030288	SHWS, RELEASE	Release of approximately 25 gallons of diesel fuel from a refrigeration unit. IRA activities conducted. IRA CS and RAO A2 submitted July 30, 2012.	RAO-A2
G7-G12, H9-H13	22	15	CSX International	100	Cambridge Street	3-0030413	SHWS, RELEASE	Reportable concentrations of oil and/or hazardous materials in soil and groundwater were discovered during an initial environmental site assessment in 2011/2012. The Phase I Initial Site Investigation and Tier II classification was submitted on November 2, 2012. A Phase II Scope of Work was submitted June 2013. Proposed work includes collection and analysis of soil and groundwater samples, installation of additional monitoring wells, and soil vapor sampling.	Phase II
D12	21	15	CSX International	100	Cambridge Street	3-0030423	SHWS, RELEASE	Release of approximately 35 gallons of diesel fuel. IRA activities conducted. RAO A1 submitted on January 10, 2012.	RAO-A1
D12	21	15	CSX International	100	Cambridge Street	3-0030493	SHWS, RELEASE	Release of approximately 20 gallons of hydraulic oil from a construction vehicle. IRA activities conducted. RAO A2 submitted on April 2, 2012.	RAO-A2
D12	21	15	CSX International	100	Cambridge Street	3-0031122	SHWS, RELEASE	Release of approximately 20 gallons of hydraulic oil from an industrial line. IRA activities conducted. RAO A2 submitted on November 27, 2012.	RAO-A2
D13	74	4	Parcel 1C and 1D		Cambridge Street and Soldiers Field Road	3-0019635	SHWS, RELEASE	A limited subsurface investigation was conducted in conjunction with a real estate diligence prior to Harvard purchasing the property. Petroleum impacted soil was detected during the limited subsurface investifation.	Tier II, Phase IV
D13	23	1	Boston Edison Cable 329 510		Soldiers Field Road @River Street	3-002989	SHWS, RELEASE	Release of an unknown volume of cable oil from an underground electrical distribution cable line beneath a roadway. RAO A2 statement submitted on January 15, 1990.	RAO-A2
D13	24	5	No Location Aid	52	Cambridge Street	3-0020882	SHWS, RELEASE	Detections of C11-C22 and C9-C18 hydrocarbons in soil. Granted Downgradient Property Status (DPS) on June 13, 2001.	DPS
E14	25	18	No Location Aid	400	Soldiers Field Road	3-0031784	LUST, RELEASE, SHWS	A release of oil to soil from UST piping during UST removal activities. IRA activities conducted. IRA CS and RAO A2 statement submitted on March 28, 2014	RAO-A2
E13	26	23	MM 130/Toll Administrator Building		Beacon Park	3-0011415	LUST, RELEASE	During UST removal headspace screening of soil was conducted using a PID, which indicated readinsg of up to 640 ppm. IRA activities conducted. IRA CS submitted on October 3, 1994. RAO A2 statement submitted on August 3, 1994.	RAO-A2
G13	27	46	Intersecyion Western Ave	1	Soldiers Field Road	3-0022182	RELEASE, SHWS	Reportable quantities of napthalene (11 mg/kg) and TPH (1200 mg/kg) detected in soil. RAO B1 statement submitted on October 4, 2002.	RAO-B1
J16	28	47	Newell Boathouse	65	Soldiers Field Road	3-0014238	LUST, RELEASE	During UST removal headspace screening of soil was conducted using a PID, which registered readings of over 100 ppm. Cause of PID reading was due to gasoline and diesel fuel. Soil was removed off property to an off-site asphalt batching facility. IRA CS submitted on November 11, 1996 and RAO A2 statement submitted on March 26, 1997.	RAO-A2
C13	29	2	Genzyme Expansion Phase 2	500	Soldiers Field Road	3-0026896	SHWS, RELEASE	Reportable quantities of lead (710 mg/kg), arsenic (28 mg/kg),napthalene (21 mg/kg), benzo(a)anthracene (28 mg/kg), indeno(1,2,3-CD)pyrene (15 mg/kg), TPH (4100 mg/kg), benzo(b)fluoranthene (29 mg/kg), chrysene (23 mg/kg), phenol (3.9 mg/kg), and benzo(a)pyrene (25 mg/kg) detected in soil. RAM CS statement submitted on April 20, 2009. RAO C2 statement and Tier 2 Classification on June 23, 2008.	Phase IV C2
C13	29	9	No Location Aid	500	Soldiers Field Road	3-0025058	SHWS, RELEASE	Release of approximately 20 gallons of hydraulic fluid from a vehicle. IRA activities conducted. RAO A1 statement submitted on August 11, 2005.	RAO-A1
F2	32	112		176	Lincoln Street	3-0013220	SHWS, RELEASE	Detection of dichloroethene in groundwater. RAM activities conducted and RAM CS submitted on October 12, 2000. Granted Downgradient Property Status (DPS) on October 14, 2003. Investigations at the site and historical research/file reviews indicate several potential upgradient sources located southwest of the property.	DPS
G3	34	87		24	Blaine Street	3-0015852	RELEASE, LAST	Release of approximately 75 gallons of fuel oil from a residential AST. IRA activities conducted. RAO A2 statement submitted on March 4, 1998.	RAO-A2

Table 2 - List of Sites with MCP Release Tracking Numbers (RTNs)

Map Coordinates	Map ID	EDR Map ID	Site Name	Street Number	Street	Database ID Number	Database / Source	Notes / Regulatory Information	Regulatory Status
G3	35	71	Industrial Property	119	Braintree Street	3-0002097	SHWS, RELEASE	Phase I Limited Site Investigation Report submitted on December 15, 1989 identified CVOCs present in soil and groundwater at the site. The investigation identified three possible disposal sites located upgradient (southeast) of the property, including a former laundry facility. Subsurface investigation concluded that contamination likely migrated to the site via underground utilities and bedding. Downgradient Property Status granted on August 7, 1996.	DPS
G4	37	67		83-89	Braintree Street	3-0026177	SHWS, RELEASE	Detection of approximately 2 inches of NAPL reported on August 28, 2006. IRA activities conducted included gauging of groundwater monitoring wells, installation of additional wells, and collection and fingerprint analysis of the LNAPL. RAM Plan and IRA CS submitted on May 14, 2007. Linked to RTN 3-0024367.	RAONR (linked to 3-24367)
G4	37	67		83-89	Braintree Street	3-0024367	SHWS, RELEASE	Detection of LNAPL in on-site groundwater monitoring wells. Additional investigations conducted reported a release of oil from a leaking UST at the property abutting the site to the south, with the impacted well located ~50 feet from the property boundary. Fingerprint analysis of the LNAPL was consistent with the material released from the LUST. Downgradient Property Status granted.	DPS
G4	39	63	Commercial Building	43	Braintree Street	3-0029345	SHWS, RELEASE	Detections of C9-C10 aromatic hydrocarbons (220 mg/kg), C5-C8 aliphatic hydrocarbons (290 mg/kg), C9-C12 aliphatic hydrocarbons (2300 mg/kg), and napthalene (4.5 mg/kg) in soil reported on June 22, 2010. RAO B1 statement submitted on November 5, 2010. Based on regulatory status, this release is not likely to impact subsurface conditions at the Site.	RAO-B1
G4	40	86		40	Braintree Street @ Wilton Terrace	3-0002156	SHWS, RELEASE	Property listed as a valid transition site on April 15, 1989. DEP determined No Further Action required for the listing on April 30, 1996.	DEP NFA
G6	41	62	Jack Young Company Inc.	356	Cambridge Street	3-0024333	SHWS, RELEASE	Detection of aromatic hydrocarbons C11-C22 at 590 ppm which. Condition of No Significant Risk was determined for the site and RAO B1 statement was submitted on October 13, 2004.	RAO-B1
H6	42	73		14-20	Linden Street	3-0004462	SHWS, RELEASE	Site listed as a Valid Transition Site on October 1, 1993. Detection of low levels of VOCs in soils during the removal of a 500-gallon gasoline UST. Presence of low levels (non-reportable) of PCBs in soil samples collected from the base of a pole-mounted utility transformer. RAO B1 statement submitted on December 23, 2002. Based on the regulatory status and concentrations of contaminants reported, this property is not likely to impact subsurface conditions at the Site.	RAO B1
H10	43	101	Consolidated Machine Corporation	76	Ashford Street	3-0024669	SHWS, RELEASE	Reportable concentrations of lead, copper, chromium, and nickel detected in soil. RAO A2 statement submitted on February 23, 2006. Based on the non-migratory nature of the COCs, the distance relative to the Site, and the regulatory status, this release is not likely to impact subsurface conditions at the Site.	RAO-A2
H10	44	100		80-110	Ashford Street	3-0020095	SHWS, RELEASE	Reportable concentrations of lead, TPH, benzo(a)anthrancene, benzo(a)pyrene, benxo(b)fluoranthene, and benxo(g,h,i)perylene in soil. RAM activities conducted. Tier II classification. RAO A2 statement submitted on September 18, 2002. Based on regulatory status and non-migratory nature of the COCs, this release is unlikely to impact subsurface conditions at the Site.	RAO-A2
I11	45	98		100	Ashford Street	3-0011811	SHWS, RELEASE	Detection of approximately 16 inches of petroleum reported on November 3, 1994. IRA activities conducted. Linked to RTN 3-11860 on March 16, 1996.	RAONR (linked to 3-11860)
I11	46	94	Boston University	120	Ashford Street	3-0001487	SHWS, RELEASE	Release of an unknown material. Listed as a valid transition site on January 15, 1990.	RAO
I11	46	95	Boston University Physical Plant	120	Ashford Street	MAD985287358	RCRA Generator, US AIRS	SQG. Waste produced includes spent halogenated solvents, waste oil and/or universal waste. No violations noted in the database.	SQG
I11	46	96	Boston University	120	Ashford Street	3-0024159	SHWS, RELEASE	Release of approximately 15 gallons of hydraulic oil from a pipeline. IRA activities conducted. RAO A1 statement submitted on October 15, 2004. Based on the regulatory status and nature of the release, it is not expected to impact subsurface conditions at the Site.	RAO-A1

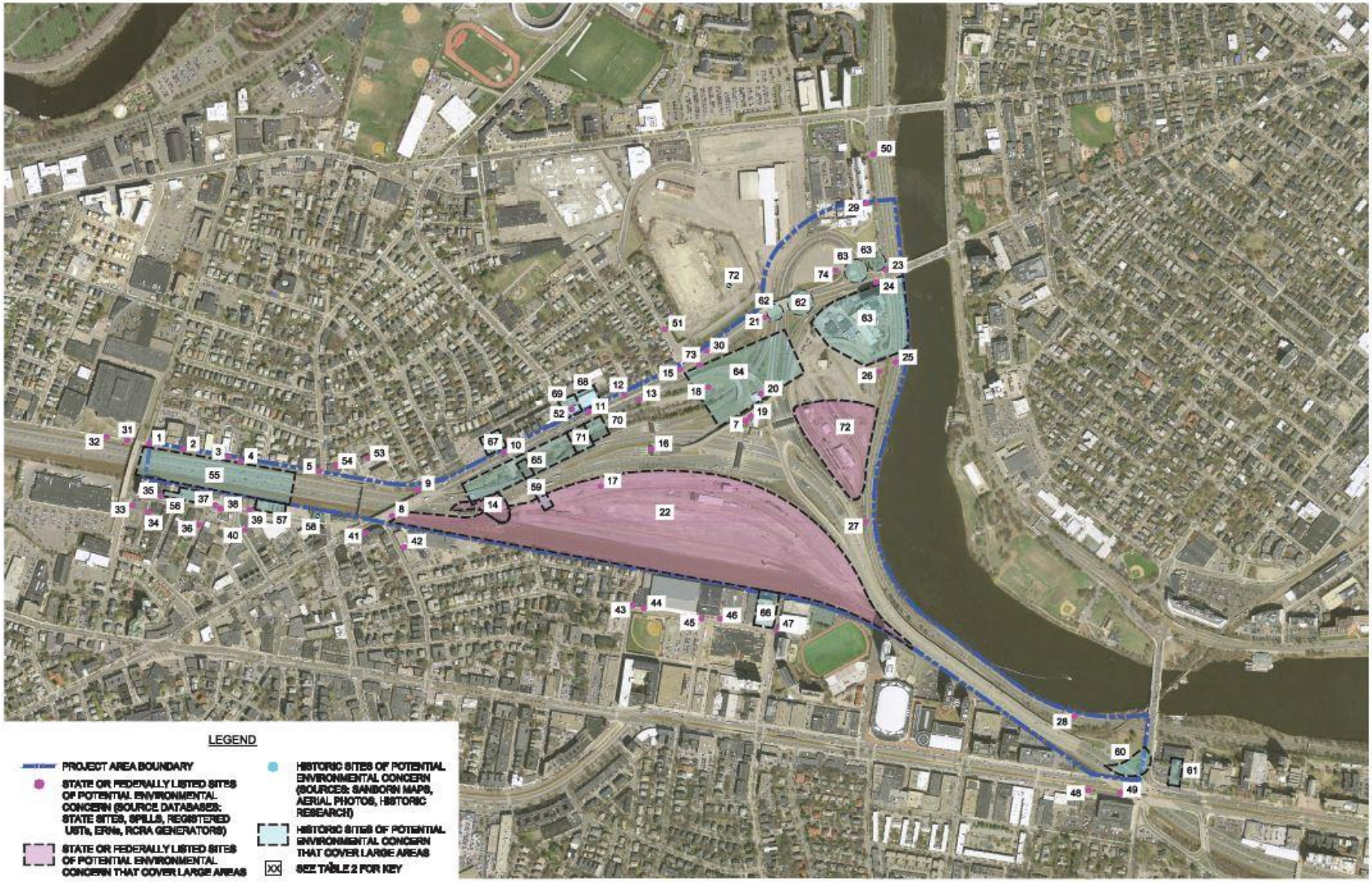
Table 2 - List of Sites with MCP Release Tracking Numbers (RTNs)

Map Coordinates	Map ID	EDR Map ID	Site Name	Street Number	Street	Database ID Number	Database / Source	Notes / Regulatory Information	Regulatory Status
I11	46	96	Boston University	120	Ashford Street	3-0026255	SHWS, RELEASE	Release of approximately 25 gallons of #2 fuel oil reported on September 26, 2006. IRA activities conducted. IRA CS and RAO A2 statement submitted on November 28, 2006. Based on the regulatory status and nature of the release, it is not expected to impact subsurface conditions at the Site.	RAO-A2
I12	47	88	Nickerson Field	285	Babcock Street	3-0027853	SHWS, RELEASE, SPILLS	Reportable concentrations of methylene chloride (.85 mg/kg), chromium (55.7 mg/kg) and arsenic (20.4 mg/kg) in soil. RAM activities conducted. RAM CS and RAO A2 statement submitted on August 18, 2009. Based on regulatory status and non-migratory nature of the COCs, this release is unlikely to impact subsurface conditions at the Site.	RAO-A2
I12	47	89	Road Surface	300	Babcock Street	3-0020066	SHWS, RELEASE	Release of approximately 25 gallons of hydraulic fluid from a vehicle on the roadway. IRA activities conducted. RAO A1 statement submitted January 2, 2001. Based on the nature of the release and regulatory status, this release is not expected to impact subsurface conditions at the Site.	RAO-A1
I12	47	89	Road Surface	300	Babcock Street	3-0024681	SHWS, RELEASE	Release of approximately 60 gallons of #2 fuel oil from a pipeline. IRA activities conducted. RAO A2 statement submitted on March 9, 2006. Based on the nature of the release and regulatory status, this release is not expected to impact subsurface conditions at the Site.	RAO-A2
K16	48	68	Boston University Amory Street	834-846	Commonwealth Ave	3-0014187	RELEASE, LUST	Release of #2 fuel oil from a LUST reported on September 3, 1996. IRA activities conducted. RAO A2 statement submitted on July 29, 1999. Based on the nature of the release and regulatory status, this release is not expected to impact subsurface conditions at the Site.	RAO-A2
K17	49	61	MTA Pump House		Commonwealth Ave	3-0022804	SHWS, RELEASE	Release of approximately 500 gallons of dielectric oil from a pipeline on the roadway reported on April 22, 2003. IRA activities conducted. RAO A2 statement submitted on July 7, 2003. Based on the nature of the release and regulatory status, this release is not expected to impact subsurface conditions at the Site.	RAO-A2
K17	49	64	Former Fuller Cadillac Building	808	Commonwealth Ave	3-0013296	LUST, SHWS, RELEASE	Release of approximately 315 gallons of fuel oil from a vehicle pipeline onto a paved parking lot. Reported on December 28, 1995 at which time oral approval for IRA activities granted. RAO A2 statement submitted on January 7, 1997. Based on the nature of the release and regulatory status, this release is not expected to impact subsurface conditions at the Site.	RAO A-2
K17	49	64	Former Fuller Cadillac Building	808	Commonwealth Ave	3-0015327	LUST, SHWS, RELEASE	Release of fuel oil #4 from a commercial LUST reportedon July 23, 1997. IRA activities conducted and IRA CS submitted on September 26, 1997. Linked to RTN 3-0014855 on February 27, 1998.	RAONR (linked to 3-0014855)
K17	49	65	Corner of Essex Street	808	Commonwealth Ave	3-0014855	SHWS, RELEASE	Reportable concentration of fuel oil #4 (7,800 mg/kg) in soil. Classified a Tier 2 site on February 27, 1998. RAO A2 statement submitted on February 29, 2000.	RAO-A2
B13	50	115	SW Corner Parcel II		Western Ave & Soldiers Field Road	3-0020097	SHWS, RELEASE	Detection of petroleum-related compounds in soil, reported on October 30, 2000. RAO B1 statement submittedon October 30, 2001. Based on regulatory status, this release is not expected to impact subsurface conditions at the Site.	RAO-B1
F9	52	59	Merit Gasoline Station	219	Cambridge Street	3-0010995	SHWS, RELEASE, LUST	Detection of gasoline from a LUST reported on May 13, 1994 during removal of a UST. IRA activities conducted which included soil excavation and removal of UST. RAO A2 statement submitted December 24, 1997. Based on regulatory status, this release is not expected to impact subsurface conditions at the Site.	RAO-A2
F9	52	59	Merit Gasoline Station	219	Cambridge Street	3-0023062	SHWS, RELEASE, LUST	Release of gasoline from a pipeline reported on August 6, 2003. IRA activities conducted and IRA CS submitted on January 21, 2004. RAO A2 statement submitted on March 10, 2004. Not expected to impact subsurface conditons at the Site.	RAO-A2
F9	52	59	Merit Gasoline Station	219	Cambridge Street	3-0030446	SHWS, RELEASE	Release of approximately 7 gallons of gasoline from a vehicle. Reported on November 10, 2011 at which time oral approval of IRA activities was granted. RAO A2 statement submitted on December 13, 2011. Based on regulatory status, release is not expected to impact subsurface conditions at the Site.	RAO-A1
F9	52	59	Merit Gasoline Station	219	Cambridge Street	3-0029388	SHWS, RELEASE, LUST	Release of approximately 1 gallon of diesel fuel from a LUST reported on July 20, 2010. RAO A1 statement submitted on September 7, 2010. Based on the nature of the release and regulatory status, it is not expected to impact subsurface conditions at the Site.	RAO-A1

Table 2 - List of Sites with MCP Release Tracking Numbers (RTNs)

Map Coordinates	Map ID	EDR Map ID	Site Name	Street Number	Street	Database ID Number	Database / Source	Notes / Regulatory Information	Regulatory Status
F9	52	59	Merit Gasoline Station	219	Cambridge Street	3-0004216	SHWS, RELEASE	Detection of VOCs at a gas station property. Listed as a valid transition site on January 15, 1993. RAO A2 statement submitted on January 30, 1997. Based on the nature of the release and regulatory status, it is not expected to impact subsurface conditions at the Site.	RAO A-2
F6	53	76	Boston Edison Station 329	350	Lincoln Street	3-0019613	SHWS, RELEASE	Release of approximately 90 gallons of oil from a transformer reported on June 10, 2000. IRA activities conducted. RAO A2 statement submitted on July 19, 2000. Based on the nature of release and regulatory status, this release is not likely to impact subsurface conditions at the Site.	RAO-A2
F6	53	76	Boston Edison Station 329	350	Lincoln Street	3-0021244	SHWS, RELEASE	Detection of mineral oil (9250 ppm) from a leaking transformer. RAO A2 statement submitted on November 14, 2001. Based on the relative downgradient location of the property and regulatory status, this release is not likely to impact subsurface conditions at the Site.	RAO-A2
F6	53	76	Boston Edison Station 329	350	Lincoln Street	3-0021714	SHWS, RELEASE	Release of approximately 1,000 gallons of oil from a transformer reported on April 26, 2002. IRA acitivities conducted. IRA CS submitted on June 7, 2002 and RAO A2 statement submitted on August 26, 2002. Based on the relative downgradient location of the property and regulatory status, this release is not likely to impact subsurface conditions at the Site.	RAO-A2
F6	53	76	Boston Edison Station 329	350	Lincoln Street	3-0023177	SHWS, RELEASE	Detection of PCBs (2.1 ppm) and MODF (19500 ppm) from a leaking transformer. RAO A2 statement submitted on August 15, 2003. Based on the relative downgradient location of the property and regulatory status, this release is not likely to impact subsurface conditions at the Site.	RAO-A2
F6	53	77	Boston Edison Station 329	350	Lincoln Street	3-0010337	SHWS, RELEASE	Release of approximately 60 gallons of mineral oil from a transformer. IRA activities conducted. RAO A2 statement submitted on June 28, 1994. Based on the relative downgradient location of the property and regulatory status, this release is not likely to impact subsurface conditions at the Site.	RAO-A2

Listing within Site boundaries
Listing in close proximity to Site boundaries, unlikely to affect Site conditions
Listing in close proximity to Site boundaries, could impact Site conditions



ALLSTON INTERCHANGE

massDOT Massachusetts Department of Transportation Highway Division

HOR. SCALE IN FEET

I-90 Interchange Allston, MA
Environmental Notification Form - October 2014

Hazardous Materials Assessment
Sites of Potential Concern

FIGURE **8-1**

Attachment 9

Supplemental Information, Alternatives Development and Preliminary Screening of Alternatives

Table of Contents

1.0 Project Site

The Interstate 90 (I-90) Allston Interchange Project is located in the Allston section of the City of Boston. The project site, totaling approximately 150 acres, includes Beacon Park Yards (BPY), a 22.4-acre site historically used as a freight rail yard and intermodal terminal for CSX Transportation, Inc. (and preceding railroads), and the Allston Interchange on I-90. The I-90 Allston Interchange includes Exit 18 (eastbound entrance and westbound exit), Exit 19 (Allston toll plaza) and Exit 20 (eastbound exit and westbound entrance).

I-90 intersects with Cambridge Street at the interchange. Cambridge Street provides connections to Allston and Brighton in Boston, the City of Cambridge across the Charles River and intersects with the Charles River parkways, Soldiers Field Road in Boston and Memorial Drive in Cambridge. The interchange provides access to and from I-90 for areas of Boston, Brookline, Cambridge and communities to the west including Arlington and Watertown.

BPY is located on the Framingham/Worcester Line between the I-90 Allston Toll Plaza to the north and the Framingham/Worcester Line to the south. The CSXT freight and intermodal functions have been relocated to central Massachusetts.

The entire project site is currently owned by Harvard University and a permanent transportation easement is retained over the land by MassDOT.

2.0 Existing Condition of Viaduct and I-90 Interchange

2.1 I-90 Interchange

The existing I-90 Allston Interchange dates from the original construction of the Boston Extension of the Massachusetts Turnpike in the 1960s. The conditions in the interchange do not meet current interstate highway design standards.

I-90 carries four travel lanes in the eastbound direction and four travel lanes in the westbound direction both east and west of the I-90 interchange. Within the interchange, the number of lanes in the eastbound direction and in the westbound direction decreases to three. American Association of State Highway Transportation Officials (AASHTO) guidelines stipulate that the number of travel lanes should not decrease for localized volume reductions that frequently occur at interchanges due to exiting ramp traffic, but should remain constant within and through interchanges. The number of travel lanes in the eastbound direction within the interchange cannot be increased because the position of piers that support a ramp overpassing I-90 limits the space that is available. The number of lanes in the westbound direction could be increased to four if the roadway is widened to the limits of existing retaining walls that ultimately constrain the available space.

I-90 westbound traffic currently passes between the I-90 eastbound exit bridge piers, located just west of the existing I-90 toll plaza, with two travel lanes passing on each side just prior to the roadway narrowing to three travel lanes. Currently the piers are located within narrow curbed medians, which are unacceptable safety hazards on open interstate highways. Construction of a narrow, double-faced concrete barrier with impact attenuation to protect the pier would be possible after removal of the toll plaza, but the split between interstate through lanes traveling in the same direction would be unusual and is not recommended.

The westbound I-90 exit ramp to Cambridge Street carries two travel lanes, but the exit from I-90 is improperly designed and as a result, increases safety hazards. Specifically, I-90 provides no separate lane for decelerating traffic on the approach to the exit, which violates AASHTO design requirements. A deceleration lane safely segregates exiting traffic from through traffic as the exiting traffic slows on the ramp approach. Without the deceleration lane, I-90 is operationally deficient and unsafe at this location. I-90 should include a separate 440 foot long (minimum) deceleration lane for this exit. In addition, a two-lane exit requires two travel lanes on the main highway that safely diverge traffic without conflict with other traffic continuing through. I-90 westbound on the exit approach carries only four travel lanes, thereby leading to a crossing maneuver conflict between the right-most of the four I-90 westbound through traffic lanes with the left-most of the two exiting lanes.

The entrance ramp that originates from Cambridge Street and connects to I-90 eastbound operates as a two-lane ramp, but the entrance ramp to I-90 is improperly designed and as a result, increases safety hazards. Specifically, the left-most of the two ramp lanes entering I-90 connects directly with the right-most of the three I-90 eastbound lanes, leading to a conflict between entering and through traffic. A separate 1000 foot long (minimum) lane for acceleration and merging should be provided on the far right of the I-90 section to eliminate this safety deficiency.

The same design deficiency described above occurs at the I-90 westbound entrance ramp.

The I-90 eastbound exit destined for Cambridge Street diverges from the I-90 travel lanes on the left side. This design is not recommended by AASHTO because the exit is made from the high speed travel lane on the left which introduces a safety hazard due to the differential in travel speeds. This safety concern is minimized with a design that moves the exit lane to the right. Reconstruction of the interchange configuration is required to move the exit to the right side.

The left and right shoulder widths and lateral offsets between the shoulders and adjacent features higher than 6 inches in elevation on I-90 are not compliant with current AASHTO interstate requirements.

2.2 VIADUCT

The following is a summary of the overall condition of the viaduct based on the latest inspection report and field observations.

Deck

The exposed concrete deck is in poor condition with numerous areas of cracking, potholes and patched areas.

Superstructure

The longitudinal stringers (beams) exhibit a deteriorated, faded and chalky paint system with areas of peeling paint. There are areas of light to moderate rusting to the bottom flanges throughout with several areas of localized corrosion (pitting and steel delamination) along the exterior beam bottom flanges (mainly along the top face). The bottom flanges along the centerline median have typically a 1/8-inch section loss along their entire length with up to 3/16-inch section loss at random locations.

The stringer beam webs have moderate corrosion with rusting and up to 1/16-inch pitting that measures full height on each face of the beams, at several of the girder connections.

The steel cross girders, which transfer the loads from the stringers to the substructure, are considered fracture critical members. Many of the cross girders have losses to the underside of the top flanges, webs and bottom flanges, with the worst cases usually occurring along the interior faces between cross girders, especially below the median longitudinal joint. There are numerous repairs (partial length repair plates/angles, bolted and/or welded) to the bottom flanges and lower web. There are several areas that have continued to deteriorate with areas of section loss (up to 100%, holes) that have formed at the ends of the repair plates in the lower webs or that have not been repaired. The interior vertical web stiffeners typically have deep pitting and/or holes through the bottom measuring up to 3-inches high. Several of the stiffeners have been altered (a few locations have compromised the continuity of the stiffener plates) to allow for the continuation of repairs to the lower portion of the webs.

The overall superstructure exhibits extensive areas of deterioration to the deck. The majority of the stringers (beams) are in satisfactory condition with more advanced deterioration at locations of higher exposure such as under the median. The stringer ends for the majority of the structure are protected from higher exposure by the steel cross girders that the stringers frame into. Nearly all of the cross girders have measured section loss along portions of their length. Some of these girders have undergone repairs/strengthening of the deteriorated areas.

Substructure

The columns have areas of random and map cracking, hollow areas, staining, scattered spalls and areas with exposed reinforcement. Many of the columns have also been patched (many with a skim coat of shotcrete), which typically exhibit map cracking and rust staining. In some areas where the top of the columns are deteriorated, the spalls have caused the partial undermining of the bearing base plate. The concrete column bent piers are generally in fair to satisfactory condition. There are areas of cracking, hollow areas, incipient spalling, patched areas, efflorescence and staining throughout. The heaviest deterioration occurs at the center of the pier which corresponds to the open longitudinal median joint above.

Both abutment breastwalls have vertical hairline cracks and map cracking throughout. Some of the deterioration extends to the bridge seat area with localized hollow areas. The abutment backwalls have scattered hairline to narrow vertical cracks, small areas of delaminated concrete (popouts) and areas of light to moderate scaling. There are scattered spalled areas just below the deck joint armor at the East Abutment and a few spalls at the West Abutment.

Most of the concrete columns with the steel cross girders have previously undergone repairs and/or patching over large areas. The abutments are generally in satisfactory condition. The concrete pier bents continue to deteriorate but the condition has not changed significantly over the past few inspection cycles.

3.0 Project Alternatives

MassDOT has not currently identified a preferred alternative for the I-90 Allston Interchange Project. MassDOT will include an alternatives analysis in the Draft Environmental Impact Report (DEIR) in which alternatives for the project will be evaluated, including construction of commuter rail layover facilities and West Station.

To date, MassDOT has identified a total of sixteen (16) alternative interchange designs. The project includes seven (7) significant transportation components: I-90 interstate highway re-alignment; I-90 interstate viaduct reconstruction; new I-90 interchange ramps; Cambridge Street reconstruction; West Station commuter rail station, twenty-eight (28) commuter rail layover yard alternatives, and ancillary facilities; replacement of the bicycle/pedestrian bridge over I-90 west of Cambridge Street, and Soldiers Field Road re-alignment. Although the final development of each of the seven components will involve consideration of design variations, only the I-90 interchange ramps component and the Cambridge Street reconstruction component present significantly different design concepts to warrant a formal alternatives analysis.

For all alternatives, equal consideration for the accommodation of pedestrians, bicyclists, and public transportation is required. To that end, the evaluation of alternatives will consider City of Boston standard sidewalks on Cambridge Street and on

other full access roadways, cycle tracks (separated bike lanes) on Cambridge Street and bike lanes on other roadways where cycle tracks may be infeasible, pedestrian and bicycle access to West Station from the north and the south, with public transportation access available from the north, and bus stops with locations coordinated with City of Boston Transportation Department and MassDOT. In addition, the analysis will consider improvements in pedestrian and bicycle connectivity with the Paul Dudley White Bike Path along the Charles River and Allston neighborhoods.

3.1 Project Alternatives – Common Elements

Five project components, described as follows, do not present significant variation among alternatives, and they are also independent of the remaining two components that have significant variation.

3.1.1 I-90 Interstate Highway Re-alignment

After the existing toll booths are removed and electronic tolling is in operation, I-90 north of the existing discontinued BPY will be relocated on a new, large radius curving alignment further to the south of its current location and into the most northerly portion of the former railroad yard. Within the proposed interchange, between the initial exit ramp and the subsequent entrance ramp in both directions, I-90 will carry three travel lanes and shoulders.

One of the four travel lanes approaching the proposed interchange from each direction will be dropped at each of the two new exit ramps with the fourth lane in each direction added back to the interstate at the new entrance ramps. The I-90 median will consist of an inside shoulder in each direction, a concrete barrier with offsets on each side, and a capped median area between the two barriers reserved for the future construction (by others) of columns to support future air-rights structures over the interstate.

3.1.2 I-90 Viaduct Reconstruction

Due to advanced deterioration to both the concrete substructure and the steel superstructure, the existing viaduct will be completely removed and a new viaduct will be constructed in the same approximate location including a portion of I-90 westbound cantilevered over Soldiers Field Road eastbound. I-90 traffic cannot be detoured and must be maintained within the existing viaduct corridor throughout the construction period. In addition, the existing railroad lines that are located under the viaduct, including two commuter rail lines, Grand Junction Railroad, and a spur line to Houghton Chemical Company, must also be maintained during and after construction.

The idea of removing the viaduct completely and reconstructing I-90 at-grade was not advanced because the railroad lines already occupy the at-grade location and those cannot be moved, depressed or elevated.

The idea of depressing I-90 in a shallow tunnel or capped boat section under the railroad lines was not advanced because the length of I-90 that will need to be reconstructed to transition from its existing at-grade location east and west of the project area to an underground alignment within the project area would result in unacceptable project risk, schedule impact and implementation challenges. Also, this would require the relocation of the large, gravity MWRA sewer interceptor and drainage pipes out from the area of the I-90 underground construction and the conversion of these systems from gravity to pumped facilities would also prohibitively increase the project scope.

From east to west, the new viaduct will begin at the same location as the existing easterly abutment and will curve to the south to meet the new re-alignment of I-90, ending at a new, full height abutment where the new I-90 profile will descend adjacent to the proposed commuter rail yard. The viaduct width will increase to accommodate inside shoulders, deceleration and acceleration lanes for the most easterly ramps of the new I-90 interchange and/or outside shoulders. Any widening of the viaduct is to enhance safety for existing traffic. The new viaduct will be constructed of similar materials and in the same span arrangement as the existing structure to facilitate construction staging.

3.1.3 West Station Commuter Rail Station and Commuter Rail Layover Yard

West Station

MassDOT considered several options to locate the West Station platforms. In opting for the location proposed herein, MassDOT weighed factors including the distances between adjacent stations (Boston Landing soon to be built 0.9 miles to the west, and Yawkey Station 1.3 miles to the east); and the travel-time headways needed to allow the rail network to operate most effectively. MassDOT also considered neighborhood issues and determined that locating the station and pedestrian access points furthest to the east would result in the fewest direct and indirect impacts to the residential neighborhood containing Wadsworth and Pratt Streets.

MassDOT also considered various options for the station and platform layout, and determined that a two-platform/four-track arrangement would provide the optimal arrangement to provide service along the Worcester Branch and future two-track service along the Grand Junction Branch into Cambridge. Other options that were considered included a single platform with two tracks, and a two-platform/three track arrangement. MassDOT also considered platform height options (low, mini-high, and high types) and is opting for the high platform to best achieve accessibility goals for the station.

MassDOT will consider options for the architectural and functional design of West Station itself. It has identified Yawkey Station and JFK Station as models for certain aspects of the station. Yawkey Station was recently completed and opened to traffic, and

represents the desirable architectural design features for a new commuter rail station. JFK Station presents a functional similarity in that it serves two platforms and four tracks, and offers commuters the option to gather on the mezzanine level for an announcement regarding approaching trains and boarding information.

Commuter Rail Layover Yard

MassDOT proposes to construct sufficient storage track in the general vicinity of the existing BPY to provide mid-day layover capacity for South Station train consists (a consist is comprised of a locomotive and passenger cars). During construction of this new facility, existing commuter rail service through the project must remain uninterrupted. The layout of the new track will provide storage for 14 to 20 train consists in a parallel track arrangement.

Adjacent to this storage yard on two parallel tracks to the south, MassDOT proposes to construct a commuter rail station, West Station, that will be pedestrian and bicycle accessible from both north of I-90 and south of the railroad tracks. Access by public transit vehicles will be provided only from the north, over the storage tracks on an elevated structure that connects with the proposed I-90 interchange. Pedestrians and bicyclists from the north will access the at-grade station platforms by stair or elevator from this elevated structure.

Vehicular access must be provided at-grade for rail workers and emergency responders. Vehicular access at-grade will be provided by an access-controlled driveway that is located adjacent to the full height abutment at the westerly terminus of the I-90 viaduct. The driveway will continue north to connect with the proposed local street network.

The South Station Expansion (SSX) DEIR and associated Technical Reports analyzed the concepts for a layover facility at BPY. MassDOT developed a tiered alternatives analysis process to identify potential locations to meet the future SSX operational needs. Initially, MassDOT identified 28 screening alternatives. The preliminary screening evaluated the ability of those 28 sites to meet the overarching transportation and program objectives for the SSX project, using criteria such as ease of land acquisition; effect on operations; and ability to integrate the site into the existing rail and roadway networks. Of the 28 candidate sites, ten locations were advanced for a more detailed evaluation. At this level, MassDOT developed conceptual designs and preliminary operating plans, and identified infrastructure requirements. Most of these top ten alternatives did not rate well when compared to the more rigorous evaluation criteria of consistency with adopted plans and zoning; ability to meet location requirements; railroad operations, environmental impacts; site suitability; and capital improvements. MassDOT advanced four of these locations to the final evaluation stage. These sites included BPY, the Boston Transportation Department (BTD) Tow Lot, Widett Circle, and Readville - Yard 2. However, MassDOT determined that no single site could meet the physical and operational requirements to fully meet the SSX future layover needs.

MassDOT tested combinations of the sites to determine how to best meet the layover needs. Ultimately, they determined that a plan that maximized use of the BPY and Widett Circle sites, in combination with additional capacity at Readville – Yard 2, would provide the greatest capacity and operational flexibility when compared to all other scenarios. Based on these findings, MassDOT selected the combination of Widett Circle, BPY, and Readville – Yard 2 for inclusion as part of the preferred alternative in the SSX DEIR analysis.

3.1.4 Replacement of the Bicycle and Pedestrian Bridge over I-90

Based on preliminary pedestrian and bicycle data significant demand already exists to maintain a pedestrian and bicycle facility that crosses I-90 immediately west of the Cambridge Street overpass. The existing pedestrian bridge is non-compliant with the Americans with Disabilities Act/Architectural Access Board (ADA/AAB) requirements for access ramp grades. Due to existing development and significant variation in topography in the vicinity of this location south of I-90, the new structure will likely require construction of retaining walls and may require some property taking in order to comply with accessibility requirements.

3.1.5 Soldiers Field Road Re-alignment

Based on the strong and unanimous urging of the public and Task Force members, and with support from the Department of Conservation and Recreation (DCR), MassDOT is also proposing to shift a portion of Soldiers Field Road under the proposed viaduct to increase usable parkland along the river and provide adequate room for the new bicycle/pedestrian bridge proposed to span Soldiers Field Road. The viaduct would cantilever over the realigned Soldiers Field Road, ensuring that views of the Charles River would be unimpeded for vehicular traffic.

The DCR maintains Soldiers Field Road, a four-lane parkway on the southerly bank of the Charles River that lies within the Charles River Basin Historic District and is listed in the National and State Registers of Historic Places. Soldiers Field Road highway characteristics in the vicinity of the project include limited access, narrow 11-foot wide curbed travel lanes, no shoulders, a narrow curbed median with double-faced guardrail, guardrail on each side of the roadway, a 10-foot to 12-foot height restriction at overpasses, and a posted speed limit of 40 mph. Within the project area, the right of way for Soldiers Field Road extends southward from the eastbound roadway and is approximately defined by a chain link fence adjacent to the I-90 viaduct. On the opposite side of Soldiers Field Road, the Dr. Paul Dudley White Bike Path is situated between the westbound roadway guardrail and the bank of the Charles River.

A re-alignment of Soldiers Field Road southward will increase usable open space on the northerly side, providing separation between the parkway and the Dr. Paul Dudley White Bike Path. The location within the project where re-alignment is possible begins

west of the Grand Junction Railroad Bridge over Soldiers Field Road and ends east of the Soldiers Field Road underpass at River Street.

The re-alignment involves moving both the eastbound and westbound roadways southward, with the eastbound roadway positioned under a proposed cantilevered portion of the new I-90 viaduct. The proposed re-alignment would increase the amount of open space on the northerly side of Soldiers Field Road along the Charles River. Some of this new space can be used for the placement of bicycle/pedestrian ramps to access a new bicycle/pedestrian bridge that will span over Soldiers Field Road and the Houghton Chemical Company railroad spur line.

Re-positioning all or a portion of Soldiers Field Road under the proposed viaduct was investigated as a means of further increasing open space on the southerly shore of the Charles River. Moving more of the roadway under the viaduct requires moving Grand Junction Railroad further under the viaduct. The most significant obstacle to moving more of the roadway under the viaduct is the absence of adequate vertical clearance under the viaduct at the easterly limit of the Soldiers Field Road re-alignment that is required for the relocated Grand Junction Railroad line to pass.

3.2 Cambridge Street and I-90 Interchange

3.2.1 Cambridge Street

Three Alternatives under consideration for Cambridge Street reconstruction include a Two-way Directional Street Alternative and a One-way or Two-way Parallel sSreet Alternative. With each alternative the objective is to maintain adequate vehicular capacity while providing traffic calming measures to enhance the pedestrian experience.

Two-way Alternative

The two-way Alternative provides two through lanes in each direction (eastbound and westbound), turn lanes at intersections (single lane and double lane configurations), a raised, planted median to accommodate turn lanes at the intersections, a parking lane on each side of the street, a cycle track buffered three feet from the parking lane in each direction on Cambridge Street, a full width sidewalk on each side of the street, and a reserved strip between the sidewalks and cycle tracks for planters, benches, bike racks, lighting, and other street amenities. Bus stops in their approximate existing locations are preserved. This fully developed “complete streets” Alternative accommodates all travel modes and all turning movements at intersections, but results in a wide cross section.

Travel convenience for all modes in the Two-way Alternative is challenging because the street width is significant. For instance, crosswalk distances exceed 70 feet at the most minor intersections and approach 100 feet at the major intersections, even though curb extensions (bump outs) are proposed. In addition, traffic signal phasing must accommodate all travel movements as well as separate pedestrian phases, all of which

results in longer cycles and the subsequent need to provide long queue storage lanes for vehicles on intersection approaches when the signal is red. The volume and multiple turning movements of vehicular traffic passing through the intersections introduce delay and inconvenience for all travel modes.

One-way Parallel Street Alternative

The One-way Street Alternative requires two, parallel, one-way streets separated by the width of a city block, but the width of the individual streets is significantly less than the Two-way Alternative. Each one-way street requires only two vehicular travel lanes and no separate turn lanes. The one-way street section on the original Cambridge Street includes two travel lanes in the westbound direction, a parking lane on the existing developed northerly side of the street, a cycle track westbound buffered from the parking lane, a full width sidewalk on both sides of the street, and a reserved strip between the northerly sidewalk and cycle track for planters, benches, bike racks, lighting, and other street amenities.

The street cross-section on the parallel, one-way street eastbound includes two travel lanes, no turn lanes, a cycle track eastbound buffered from the travel lane and a full width sidewalk on the southerly side of the street. Because the land between the parallel streets will be undeveloped at the conclusion of the project, the parking lanes are not included and the sidewalk on the northerly side of the street is not included. The southerly side of the one-way street carries the sidewalk and cycle track because these features connect to the Cambridge Street bridge over I-90 on the southerly side.

The One-way Parallel Street Alternative reduces delay and improves convenience for all modes of travel in comparison to the Two-way Alternative. The streets carry only two travel lanes and no turn lanes are needed, resulting in crosswalk lengths less than 30 feet at intersections. Traffic signal phasing is simplified in comparison to the Two-way Alternative because several movements are removed, and as a result, more traffic may pass through the intersections on each cycle. No separate right turn lanes are needed, thereby reducing conflicts with bicycle traffic.

Two-way Parallel Street Alternative

Similar to the One-Way Parallel Street Alternative, the Two-way Parallel Street Alternative includes two, parallel, two-way streets separated by the width of a city block (approximately 250-feet), but the width of the individual streets is significantly less than the Two-way Alternative.

Cambridge Street and the parallel two-way street require three vehicular travel lanes with separate turn lanes. The two-way street section on the original Cambridge Street includes two travel lanes in the westbound direction and one travel lane in the eastbound direction, parking lanes on the northerly and southerly sides of the street, cycle tracks both westbound and eastbound buffered from the parking lane, a full width sidewalk on both sides of the street, and a reserved strip between the sidewalks and

cycle tracks for planters, benches, bike racks, lighting, and other street amenities. The two-way street section on the Parallel Road south of Cambridge Street includes two travel lanes in the eastbound direction and one travel lane in the westbound direction with a separate turning lane at certain intersections, no parking lanes, cycle tracks both westbound and eastbound buffered from the parking lane, a full width sidewalk on both sides of the street, and a reserved strip between the sidewalks and cycle tracks for planters, benches, bike racks, lighting, and other street amenities.

As with the One-way Alternative, the Two-way Parallel Street Alternative reduces delay and improves convenience for all modes of travel in comparison to the Two-way Alternative. The Two-Way Parallel Street Alternative reduces the width of Cambridge Street resulting in shorter pedestrian crossing distances. The reduction in right turn volumes on Cambridge Street eastbound provide opportunities to incorporate concurrent pedestrian phasing at four of the seven signals on Cambridge Street. The incorporation of the two-way parallel street to the south results in improved operations and reduced queues at the intersection of Cambridge Street and Soldiers Field Road.

3.2.2 I-90 Interchange

The I-90 interchange is comprised of the exits and entrances to and from I-90, the ramp and/or street connections (connectors) to and from the I-90 exits and entrances, and the terminal locations where the connectors end on local city streets. Cambridge Street and the intersection at River Street are the terminal locations for the existing I-90 interchange. As a result of the limited number of existing terminals, traffic congestion and queues are significant on these intersection approaches under exiting conditions.

For all proposed interchange alternatives, the current landowner, the City of Boston and many local interest groups envision the space between I-90 and Cambridge Street as highly developable land that should be accessed by a new, local street grid. The proposed I-90 interchange should ideally minimize its footprint within this space and fit into the new street pattern.

However, because I-90, Cambridge Street, and Soldiers Field Road, which are all high traffic volume carriers, border the street grid, high volumes of traffic from these transportation facilities can be expected to pass through the main collectors of these connector roadways. Cambridge Street will remain the principal terminal location for the interchange connectors, with an additional connection proposed at Soldiers Field Road eastbound and another connection proposed at the Soldiers Field Road west frontage roadway just north of the River Street intersection.

Cambridge Street remains the principal terminal location for the interchange connectors because it borders the entire northerly project limit and is an existing principal arterial carrying traffic to the east, into Cambridge, and to the west, into Allston/Brighton.

Soldiers Field Road borders the entire easterly project limit, but several factors limit its attractiveness as a significant terminal location. Soldiers Field Road transitions to a

grade-separated configuration on the approach to the River Street intersection to allow through traffic to continue north/west and south/east, underpassing River Street without having to travel through a traffic signal. An entrance ramp and an exit ramp split from the Soldiers Field Road through lanes several hundred feet to the south/east of the River Street underpass, thereby establishing the most northerly/westerly boundary where potential new terminals can be located.

Further to the south/east, the I-90 viaduct constrains the available space where ramps to and from the highway can potentially connect to Soldiers Field Road. The length of Soldiers Field Road between these two boundaries is not significant. Multiple connections in close proximity to each other on Soldiers Field Road will introduce merging and/or diverging movements that cannot be safely accommodated within the available space. The introduction of signalized intersections to avoid these conflicts is contrary to the existing operation of the parkway and its function as a limited access facility.

The existing commuter rail lines define the southerly project limit. There has been some community interest in extending existing street connection(s) to the south of the project toward Commonwealth Avenue. This would require construction of structures to pass over the commuter rail tracks and ramps to the south of the tracks to transition from the overpassing structure to the local street level. Construction of the transitional ramps will require removing portions of existing neighborhoods because undeveloped space is not available. Due to the significant impact that these connections will create, southerly terminal connectors for vehicles are considered impracticable.

To reduce traffic congestion, one of the primary strategies of the proposed interchange Alternatives is to distribute traffic along Cambridge Street at separate intersections. Several groups of interchange alternatives have been considered to achieve this goal. These groups of alternatives can be more generally characterized as either “rural/suburban” or “urban” interchanges.

Group 1 - Alternatives 1A, 1B, 1C, 1D (Figures 9-1 through 9-4)

Group 1 includes suburban style interchange Alternatives 1A through 1D, all of which provide two terminal connections on Cambridge Street and one on Soldiers Field Road. The connectors to Cambridge Street are each one way, with one connector combining all traffic exiting I-90 and the other combining all traffic entering I-90. The main differences in the Alternatives include ramp geometry as the ramps separate from or access to and cross I-90 (underpass or overpass structures), and the locations of the one-way connector intersections on Cambridge Street. On all Alternatives the Soldiers Field Road connector is accessed through a proposed signalized intersection from the most easterly connector to Cambridge Street. Some of the key deficiencies of this group of Alternatives include:

- Concentrates all interstate traffic to two intersections on Cambridge Street, although some relief would be provided by the connector to Soldiers Field Road;
- Results in poor operating conditions at the intersections due to the high volume of traffic passing through them, the need to phase all movements, and high bicycle and pedestrian usage on Cambridge Street;
- The weave length between the point where the most easterly connector roadway intersects with the Soldiers Field Road connector is very short. This geometry would lead to an unsafe traffic movement;
- Vehicular access to and from the proposed West Station is not achievable from the proposed connectors; and
- Due to the operational character of these roadways, they would provide poor access for the adjacent undeveloped land.

Group 2 - Alternatives 2A, 2B (Figures 9-5 and 9-6)

Group 2 includes Alternatives 2A and 2B, both of which provide two terminal connectors on Cambridge Street and one on Soldiers Field Road. Both terminal connectors to Cambridge Street are two-way, as opposed to the one-way connectors that defined Group 1. The two-way feature of the Group 2 connectors is the primary difference between Groups 1 and 2. Both Alternatives in Group 2 have sweeping horizontal curvature in the space between I-90 and Cambridge Street. On both Alternatives 2A and 2B, the Soldiers Field Road connector is accessed through a proposed signalized intersection from the most easterly connector to Cambridge Street.

Similar to the Group 1 Alternatives, these Alternatives have the same operational deficiencies:

- Concentrates all interstate traffic to two intersections on Cambridge Street, although some relief would be provided by the connector to Soldiers Field Road;
- Results in poor operating conditions at the intersections due to the high volume of traffic passing through them, the need to phase all movements, and high bicycle and pedestrian usage on Cambridge Street;
- The weave length between the point where the most easterly connector roadway intersects with the Soldiers Field Road connector is very short. This geometry would lead to an unsafe traffic movement;
- Vehicular access to and from the proposed West Station is not achievable from the proposed connectors; and

- Due to the operational character of these roadways, they would provide poor access for the adjacent undeveloped land.

In summary, the rural/suburban interchange configurations representative of Groups 1 and 2 present sweeping curvature and direct connections of the I-90 exits and entrances to and from Cambridge Street. However, these configurations accentuate convenience for highway traffic, but not for other transportation modes, contrary to the "complete streets" doctrine and contrary to Task Force and public input.

Group 3

Group 3 represents urban interchange configurations that are intended to limit the footprint in the available space, to more successfully disperse traffic to a local street network as well as the terminal roadways of Cambridge Street and Soldiers Field Road, and to accommodate increased pedestrian and bicycle accommodations throughout the project area.

Several alternative variants of the urban interchange concept were explored, varying the numbers of connecting roadways between I-90 and Cambridge Street, one-way and two way traffic patterns, and adding a Parallel Road south of Cambridge Street. Development of the urban interchange concepts was an iterative process, culminating in three variations of the 3J series as preferred conceptual alternatives. Earlier concepts (3A through 3H) were eliminated for the following reasons:

- Traffic operations and safety;
- Ability to accommodate future land development; and
- Multi-modal connectivity to West Station and throughout the project area.

Alternatives 3A, 3B, 3C (Figures 9-7 through 9-9)

Alternatives 3A, 3B, and 3C offer a split diamond interchange configuration with the I-90 entrance and exit ramps positioned closely adjacent to the I-90 horizontal alignment. The entrance and exit ramps end at a total of four signalized intersections close in to I-90, with continuing connectors between the intersections. All three Alternatives involve two connector roadways to and from Cambridge Street with crossings perpendicular over or under I-90, as follows:

- On Alternative 3A, the connector roadway passes over I-90 and the easterly connector roadway passes under I-90;
- On Alternatives 3B and 3C, both connector roadways pass under I-90.

On all three Alternatives, the two connector roadways to Cambridge Street are two way. On Alternatives 3A and 3C, the most easterly connector intersects with a Soldiers Field

Road connector at a signalized intersection located approximately 250-300 feet south of Cambridge Street.

In contrast, Alternative 3B proposes a two-way bypass roadway beginning from an intersection on Cambridge Street that proceeds south past the Houghton Chemical parcel, where the roadway turns sharply to the east and ends at inbound Soldiers Field Road, independent of any connector to the interchange.

The most significant difference between Alternatives 3A, B and C is where the two connector roadways from I-90 terminate at Cambridge Street. Alternative 3A also introduces an offset frontage roadway on the north side of I-90, created by offsetting the entrance and exit ramps and the roadway in between the ends of the ramps to a location several hundred feet north of I-90.

These three Alternatives, while limiting the area that is occupied by the I-90 entrance and exit ramps, only offer two connectors to Cambridge Street and one to Soldiers Field Road. The traffic operational deficiencies that are characteristic of Groups 1 and 2 are also present in Alternatives 3A, 3B, and 3C. In addition, the signalized intersections at the ends of the ramps concentrate all exiting traffic that must pass through a signal, which introduces a risk that traffic may queue at a red signal and back on to the interstate.

Vehicular access to West Station is possible only with Alternative 3A.

Alternative 3D (Figure 9-10)

Alternative 3D is a spilt diamond interchange with the I-90 entrance and exit ramps positioned closely adjacent to the I-90 horizontal alignment. Similar to Alternatives 3A, 3B and 3C, two crossings of I-90 are proposed. However, unlike Alternatives 3A, 3B and 3C, three connectors to Cambridge Street are proposed instead of two. All three are two way.

Similar to Alternatives 3A, 3B and 3C, Alternative 3D also includes a Soldiers Field Road connector, beginning at a signalized intersection located approximately 250-300 feet south of Cambridge Street on the easterly connector and ending at Soldiers Field Road inbound. The eastbound entrance and exit ramps end at signalized intersections close in to I-90, but in contrast to the first three Alternatives, the eastbound exit ramp splits into two roadways immediately after the I-90 diverge. One of the roadways rises in grade, continuing to a signalized intersection with the westerly connector that services traffic with more westerly oriented destinations beyond Cambridge Street. The other roadway continues several hundred feet east, grade-separated from the first intersection, and quickly rises in elevation to the second signalized intersection. From here, traffic turns sharply left to enter the most easterly connector that services traffic with more easterly oriented destinations beyond Cambridge Street. This split ramp arrangement is intended to reduce the volume of traffic passing through the first traffic signal, thereby

reducing the back-up queuing potential on to I-90 that is characteristic of Alternatives 3A, 3B and 3C.

Similar to the eastbound exit ramp, the westbound exit ramp also splits beyond the diverge from I-90, with one roadway continuing to the first signalized intersection with the easterly connector that services traffic having more easterly oriented destinations beyond Cambridge Street. The other roadway continues west, grade-separated from the first elevated intersection, and passes under the next westerly connector to a location approximately opposite Sorrento Street, but several hundred feet away immediately adjacent to I-90. From here, the roadway curves sharply to the north on an alignment that terminates at a new signalized intersection on Cambridge Street opposite Sorrento Street.

Traffic originating from Cambridge Street destined for I-90 westbound may proceed from two intersection locations to make this move. The first, most easterly intersection location is adjacent to the Houghton Chemical parcel where traffic turns on to the easterly connector and proceeds south, rising to the elevated signalized intersection with one of the split roadways previously described at the end of the I-90 westbound exit ramp. From this intersection, traffic destined for I-90 westbound turns sharply right and descends to an at-grade roadway running parallel to I-90. This roadway is adjacent, but not connected to the previously described westbound exit ramp roadway that turned and continued to the Sorrento Street intersection. The roadway continues west and joins with another roadway that originated from the Sorrento Street intersection destined for I-90 westbound. From this point the two roadways merge and enter I-90 westbound.

Traffic that enters the most easterly intersection on Cambridge Street destined for I-90 eastbound proceeds south on the easterly connector and rises to the first, previously described signalized intersection north of I-90, then continues south crossing over I-90 on a bridge to the next, and final signalized intersection on this connector. Eastbound traffic then turns sharply left and proceeds on the eastbound ramp to enter I-90. This ramp carries traffic originating from two roadways: the outermost lane(s) originate(s) from the intersection just described, carrying traffic from the easterly end of Cambridge Street; the innermost lane(s) carry(s) traffic that originates from the signalized intersection at the southerly end of the westerly connector. These multiple lanes must merge and enter I-90 eastbound.

Traffic that originates from westerly oriented locations beyond Cambridge Street destined for I-90 eastbound enters the westerly connector intersection that is situated just east of Windom Street, and turns right on to the connector. Heading south, the connector rises in elevation to pass over I-90 to a signalized intersection. From here, traffic heading east turns left, travels on an elevated link to the signalized intersection with the easterly connector, and continues straight through the intersection to the beginning of the I-90 eastbound entrance ramp. At some distance east of the intersection, this elevated roadway from the intersection and a rising roadway that originated from the westerly signalized intersection meet in common elevation and the

merging of these multiple eastbound lanes on the eastbound I-90 entrance ramp then begins.

Alternative 3D, with three connectors, offers more traffic dispersion than Alternatives 3A, 3B, and 3C, and the split ramp and grade-separated roadway design reduces the amount of traffic that must pass through traffic signals and as such, reduces queues and delays for all travel modes.

The compact, split diamond interchange layout minimizes the footprint of impact on the area and maximizes development area potential. The eastbound I-90 entrance ramp includes lane drops that may be challenging to accommodate within available space.

Vehicular travel to West Station is possible from the middle and most easterly connectors.

Alternative 3E (Figure 9-11)

Alternative 3E is a spilt diamond interchange with the I-90 entrance and exit ramps positioned closely adjacent to the I-90 horizontal alignment. This Alternative is similar to Alternatives 3A, 3B and 3C, with two crossings of I-90 and two, two-way connectors to Cambridge Street. This Alternative also includes the eastbound exit ramp split to two roadways after the I-90 diverge, with one roadway rising to an elevated signalized intersection with the westerly connector while the second roadway passes under this signalized intersection and continues eastward several hundred feet to an at-grade signalized intersection with the easterly connector, where traffic may turn sharply left and continue to Cambridge Street. The westerly connector carries only northbound traffic destined for Cambridge Street from the signalized intersection at the end of the ramp to a point several hundred feet north of the I-90 alignment. At that point, the westerly connector widens on the approach to Cambridge Street to include a merging lane that originated from the I-90 eastbound exit ramp. From this point, also, the westerly connector carries traffic that originated from Cambridge Street and is destined for I-90 westbound. The merging lane and the lane destined for I-90 westbound are defined by large radius alignments.

The I-90 westbound exit ramp splits to two roadways beyond the I-90 diverge, similar to Alternative 3D, with one roadway curving to the right and merging with the easterly connector on its approach to Cambridge. The other roadway continues west, grade-separated and passing over the at-grade easterly connector and staying elevated, passing over the westbound roadway that originates from the easterly connector. The overpassing roadway curves to the right and continues northward towards the intersection at Cambridge Street, merging with the westerly connector.

Traffic destined for I-90 westbound from Cambridge Street may use either the easterly or the westerly connectors to access the westbound entrance ramp. Traffic proceeds southward on the easterly connector to a right turning curve just north of the I-90 alignment, where the roadway continues westward and parallel to I-90. This roadway

passes under the westerly connector, then combines with a westbound roadway that originates from the westerly connector. The combined lanes merge as the roadway proceeds to the I-90 westbound entrance ramp.

Alternative 3E offers less traffic dispersion than Alternative 3D, but similar to Alternative 3D, it provides grade-separation at the critical eastbound and westbound exit ramps where queues back in to I-90 would otherwise be possible

The compact, split diamond interchange layout minimizes the footprint of impact on the area and maximizes development area potential, but not to the extent that Alternative 3D provides due to the curvature of the roadway connections north of I-90.

Vehicular travel to West Station is possible from the westerly connector.

Alternative 3F (Figure 9-12)

Alternative 3F is a split diamond interchange with the I-90 entrance and exit ramps positioned closely adjacent to the I-90 horizontal alignment. Similar to all previous Group 3 Alternatives, two crossings of I-90 are proposed. Unlike any of the previous Alternatives, four connectors to Cambridge Street are proposed instead of two or three, with one additional connection to Soldiers Field Road. Similar to Alternative 3D, all of the connectors are two way. Similar to Alternatives 3A, 3B and 3C, the I-90 eastbound exit ramp passes through a signalized intersection with a westerly connector, then continues through this signal to a second signalized intersection with an easterly connector. There is no opportunity for traffic to bypass the first traffic signal.

Traffic heading on I-90 eastbound wishing to connect with westerly oriented destinations beyond Cambridge Street take the I-90 eastbound exit, rise in elevation to the first traffic signal, then turn left and cross over I-90 and descend to a signalized intersection at Cambridge Street opposite Seattle Street. For I-90 eastbound exiting traffic that is traveling to easterly oriented destinations beyond Cambridge Street, the route passes through the first signalized intersection and continues on an elevated section to the second signalized intersection. At this intersection, traffic turns left and descends to Cambridge Street at a new signalized intersection adjacent to the Houghton Chemical Company parcel.

Traffic heading on I-90 westbound wishing to travel to either easterly or westerly oriented destinations beyond Cambridge Street take the I-90 westbound exit, descend on a ramp closely parallel to I-90 that passes under the most easterly connector, to an at-grade signalized intersection. Traffic headed to easterly oriented destinations turn right, towards Cambridge Street and a new signalized intersection located just east of Windom Street. Traffic heading to westerly oriented destinations continue straight through the signalized intersection, pass under the westerly connector, and turn right at a second signalized intersection. From the intersection, an at-grade connector roadway proceeds north to a signalized intersection at Cambridge Street.

For those wishing to access I-90, the four connector roadways from Cambridge Street to the I-90 interchange each provide specific directional connections, as does the Soldiers Field Road connection.

Traffic originating from westerly oriented locations heading to westbound I-90 travel to a signalized intersection at North Harvard Street, turn right, proceed south on a connector roadway to a second signalized intersection that is located adjacent to I-90, turn right again and proceed on to the I-90 westbound entrance ramp. For traffic originating from easterly oriented locations that also wish to head westbound on I-90, a new signalized intersection just east of Windom Street provides the terminal for this connection. Traffic heading west on Cambridge Street turn left at this intersection, proceed south on a connector roadway to a signalized intersection located adjacent to I-90, turn right through this signal and proceed west several hundred feet to a second signalized intersection. The second signalized intersection is the end of the connector that originated at the North Harvard Street intersection previously described. From this intersection, traffic proceeds on two lanes straight on to the I-90 westbound entrance ramp, where one lane must be dropped.

Traffic originating from westerly oriented locations heading to eastbound I-90 travel east on Cambridge Street to a signalized intersection at Seattle Street, turn right on to a connector roadway that leads south and rises in elevation to pass over I-90 to a signalized intersection located just south of I-90. From this intersection, traffic turns left and proceeds east on the previously described elevated structure to a second signalized intersection and pass straight through to the I-90 eastbound entrance ramp. Traffic originating from easterly oriented locations that also wish to connect to I-90 eastbound travel west on Cambridge Street to a new signalized intersection, previously described, that is situated east of the Houghton Chemical Company parcel, and turn left on to a connector roadway that leads south and rises in elevation to pass over I-90, ending at a signalized intersection located just south of I-90. From this intersection, traffic turns left and heads east on to the I-90 eastbound entrance ramp, where one lane must be dropped.

With four Cambridge Street connectors plus the Soldiers Field Road connector, Alternative 3F offers better traffic dispersion than any of the previously described alternatives. However, it does not provide grade-separation at the critical eastbound exit ramp where there is potential for queues to stack back to the I-90 eastbound travel lanes.

The compact, split diamond interchange layout minimizes the footprint of impact on the area and maximizes development area potential to a similar extent as Alternative 3D.

One way vehicular travel to West Station is possible from the westerly connector that rises over I-90, with the one way route continuing to the easterly connector that descends back to Cambridge Street.

Alternative 3G (Figure 9-13)

Alternative 3G is a split diamond interchange with the I-90 entrance and exit ramps positioned closely adjacent to the I-90 horizontal alignment, and is similar to Alternative 3D, having three, two-way connectors with Cambridge Street, the Soldiers Field Road connector, and split I-90 eastbound exit ramps. The differences between Alternative 3D and 3G are limited to the I-90 westbound exit configuration, the westbound exit and westbound entrance ramp connections to and from the Cambridge Street connector roadways, and the eastbound link between the two elevated signalized intersections south of I-90.

The I-90 westbound exit ramp passes under the most easterly connector roadway and connects instead to the next two connector roadways with small radius curves and no signalized intersections. For traffic originating on Cambridge Street wishing to head west on I-90, the connector roadways that originates at the new signalized intersection just east of Windom Street rises in elevation as it proceeds south towards I-90, then a roadway separates from the connector on a small radius, right turning curve overpassing the westbound exit roadway. The overpassing roadway then descends to an at-grade alignment parallel, but not connecting with the westbound exit road. The at-grade roadway proceeds west several hundred feet to run parallel with and connect to a westbound roadway that originates from the most westerly connector. The multiple lanes of the combined westbound roadways must merge as they proceed to the I-90 westbound entrance ramp.

The I-90 eastbound exit ramp splits after the I-90 diverge, similar to Alternative D, with one roadway rising in elevation to a signalized intersection with the westerly connector while the second roadway remains at-grade, passing under the elevated structure, and then quickly rises in elevation to the second, signalized intersection at the easterly connector. However, unlike Alternative 3D, there is no eastbound connection from the first (westerly), signalized, elevated intersection to the second. This arrangement reduces the number of travel lanes that must merge beyond the second (easterly) intersection prior to entering I-90 eastbound.

With three connectors to Cambridge Street plus the connector to Soldiers Field Road, Alternative 3G offers similar traffic dispersion as Alternative 3D, but not as much as Alternative 3F. Similar to Alternative 3D, but not Alternative 3F, 3G provides the split ramp arrangement at the I-90 eastbound exit ramp, which reduces the risk of queues backing in to the I-90 eastbound travel lanes. Alternative 3G provides only one route for traffic from Cambridge Street to access I-90 eastbound instead of the two routes offered by Alternatives 3D and 3F. However, by providing only the one route, Alternative 3G eliminates the Alternative 3D problem of having to merge multiple lanes from two separate eastbound roadways at a common elevation east of the easterly signalized intersection, all to be accomplished in advance of the eastbound I-90 entrance ramp nose.

Common to Alternatives 3D and 3F, the compact, split diamond interchange layout minimizes the footprint of impact on the area and maximizes development area potential.

Similar to Alternative 3D, vehicular travel to West Station is possible from the westerly connector.

Alternative 3H (Figure 9-14)

Alternative 3H is a split diamond interchange with the I-90 entrance and exit ramps positioned closely adjacent to the I-90 horizontal alignment, and is similar to Alternatives 3D and 3G, having three, two-way connectors with Cambridge Street, the Soldiers Field Road connector, and split I-90 eastbound exit ramps. Unlike Alternative 3G, but similar to Alternative 3D, for those wishing to access I-90 eastbound there is a route from the first signalized intersection at the westerly connector that continues to the I-90 eastbound entrance ramp, thereby offering two routes for Cambridge Street traffic to access I-90 eastbound. A unique feature of Alternative 3G is that after the I-90 eastbound exit where the exit ramp splits to two roadways, the roadway that continues at-grade enters a signalized at-grade intersection with the westerly connector, the only Alternative that proposes an at-grade westerly connector. The roadway that continues beyond the first signalized intersection remains at the same elevation as I-90 up to that intersection, where it then descends in elevation, continuing to the same location as the elevated easterly connector, but underneath it. At this location, the roadway turns sharply left and passes at-grade under I-90, following an alignment northward towards Cambridge Street, adjacent and to the right of the easterly connector as the connector descends in elevation on its approach to Cambridge Street.

Similar to Alternative 3G, exiting I-90 westbound traffic passes under the easterly connector, but unlike Alternative 3G, the roadway remains at the same elevation as I-90. At a location approximately opposite Windom Street, but in close proximity to I-90, this roadway turns sharply right. From here, the roadway continues to a new signalized intersection on Cambridge Street just east of Windom Street. From this same intersection, traffic destined for I-90 westbound travels south on this same roadway to a location adjacent to I-90, where it turns sharply right. The roadway continues west, parallel to I-90 westbound and at the same elevation as I-90 to point where another westbound roadway, originating from the at-grade westerly connector, reaches the same elevation. Beyond this point, the lanes from both roadways must merge as they proceed on the I-90 westbound entrance ramp.

Similar to Alternative 3D, for traffic that entered the most easterly intersection on Cambridge Street that is destined for I-90 eastbound, traffic proceeds south, rising in elevation on the easterly connector, crossing over I-90 on a bridge to the signalized intersection on the south side of I-90. Eastbound traffic then turns sharply left and proceeds on the eastbound ramp to enter I-90. This entrance ramp carries traffic originating from two roadways: the outermost lane(s) originate(s) from the intersection

just described, carrying traffic from the easterly end of Cambridge Street; the innermost lane(s) carry(s) traffic that originates from the signalized intersection at the southerly end of the westerly connector. These multiple lanes must merge before entering I-90 eastbound.

With three connectors to Cambridge Street plus the connector to Soldiers Field Road, Alternative 3H offers similar traffic dispersion as Alternative 3D and 3G, but not as much as Alternative 3F. Similar to Alternative 3D and 3G, but not Alternative 3F, 3H provides the split ramp arrangement at the I-90 eastbound exit ramp, which reduces the risk of queues backing in to the I-90 eastbound travel lanes. Similar to Alternative 3D and 3F, but not 3G, Alternative 3H provides two routes for traffic from Cambridge Street to access I-90 eastbound. However, this arrangement presents a multiple lane merge on the eastbound I-90 entrance ramp that must be completed before the ramp connects to I-90.

The compact, split diamond interchange layout minimizes the footprint of impact on the area and maximizes development area potential to a similar extent as Alternatives 3D, 3F and 3G.

Vehicular access to West Station is possible only from the easterly connector that rises over I-90.

Alternative 3I (Figure 9-15)

Alternative 3I is a split diamond interchange with the I-90 entrance and exit ramps positioned closely adjacent to the I-90 horizontal alignment. On the southerly side of I-90, the ramp entrance and exit arrangement is identical to Alternative 3G. In summary, this arrangement avoids the multiple merging lane problem on the I-90 eastbound entrance ramp, but it also provides only one access route from Cambridge Street to I-90 eastbound. This arrangement also provides the split I-90 eastbound exit ramp configuration that minimizes the risk of queues backing up in to I-90 eastbound travel lanes.

On the northerly side of I-90, Alternative 3I provides five connectors with Cambridge Street, more than any of the other Alternatives, plus the one connector to Soldiers Field Road. Exiting I-90 westbound traffic descends under the elevated easterly connector to an at-grade roadway that runs closely parallel to I-90. This roadway continues westward, also passing under the westerly connector, as a collector-distributor roadway all the way to the I-90 westbound entrance ramp. Two roadways exiting from the collector-distributor provide connections to the Cambridge Street and parallel roadway couplet. The most easterly of the exiting roadways is two-way, ending at a signalized intersection just east of Windom Street. The other roadway is one way, ending at a signalized "T" intersection between North Harvard Street and Sorrento Street. Two roadways enter the collector-distributor, providing access to I-90 for westbound traffic. The most easterly roadway, the two-way roadway previously mentioned, enters the collector-distributor roadway at a traffic signal that is proposed to meter traffic to avoid

an undesirable weave to the next exiting roadway. The next entering roadway is approximately opposite North Harvard Street and it enters the collector-distributor roadway on its own lane. West beyond this point, the two lanes on the collector-distributor roadway must merge on the I-90 entrance ramp.

Alternative 3I provides the most traffic dispersion of any alternative and the most flexibility for access to I-90, with the exception of the I-90 eastbound movement, where only one access route is provided.

The compact, split diamond interchange layout minimizes the footprint of impact on the area and maximizes development area potential and access to development parcels.

One way vehicular access to West Station is provided over I-90 from the westerly connector to the easterly connector.

Alternative 3J (Figure 9-16)

Alternative 3J is a split diamond interchange with the I-90 entrance and exit ramps positioned closely adjacent to the I-90 horizontal alignment. On the southerly side of I-90, the ramp entrance and exit arrangement is identical to Alternative 3G. In summary, this arrangement avoids the multiple merging lane problem on the I-90 eastbound entrance ramp, but it also provides only one access route from Cambridge Street to I-90 eastbound. This arrangement also provides the split I-90 eastbound exit ramp configuration that minimizes the risk of queues backing up in to I-90 eastbound travel lanes.

On the northerly side of I-90, Alternative 3J provides four connectors with Cambridge Street plus the one connector to Soldiers Field Road. Exiting I-90 westbound traffic descends under the elevated easterly connector to an at-grade roadway that runs closely parallel to I-90. This roadway continues westward, also passing under the westerly connector, as a collector-distributor roadway all the way to the I-90 westbound entrance ramp. Two roadways exiting from the collector-distributor provide connections to the Cambridge Street and parallel roadway couplet. The most easterly of the exiting roadways is two-way, ending at a signalized intersection opposite the planned future alignment of East Drive. The other roadway is two way, ending at a signalized intersection opposite Seattle Street. Two roadways enter the collector-distributor, providing access to I-90 for westbound traffic. The most easterly roadway, the two-way roadway previously mentioned, enters the collector-distributor roadway at a traffic signal that is proposed to meter traffic to avoid an undesirable weave to the next exiting roadway. The next entering roadway is east of North Harvard Street and it enters the collector-distributor roadway on its own lane. West beyond this point, the two lanes on the collector-distributor roadway must merge on the I-90 entrance ramp.

This alternative eliminates the connection from North Harvard Street onto the I-90 westbound collector-distributor roadway, minimizing potential cut through traffic on North Harvard Street for vehicles desiring to access I-90 westbound.

The compact, split diamond interchange layout minimizes the footprint of impact on the area and maximizes development area potential and access to development parcels.

Vehicular access to West Station is provided over I-90 from the westerly connector to the easterly connector. Design development during the DEIR will consider feasibility of a two-way bus loop, a "kiss and ride" area, as well as provisions for shuttles and taxis.

Similar design refinements will be considered during the DEIR, for example, further analysis of making the East Drive Connector at-grade and elevating Stadium Way Connector.

3.3 Beacon Park Yards and West Station

3.3.1 Beacon Park Yards

Addressing the long-term transportation needs of Greater Boston, MassDOT has been considering alternatives to expand passenger rail service (commuter and intercity rail) into South Station. Concurrent with the submission of this ENF, MassDOT is submitting a Draft Environmental Impact Report (DEIR) for its South Station Expansion (SSX) project. The SSX DEIR includes consideration of facilities needed to support the operational expansion of the commuter rail system south of Boston, including the need to maintain and store the additional train sets that would be part of the program. Through this process, MassDOT has determined that a layover facility located west of South Station is needed, and has identified Beacon Park Yards (BPY) as a component of its preferred alternative for a layover facility. Locating layover and related facilities at the BPY would maintain the existing industrial use at this location and be consistent with existing zoning.

The BPY facilities would include a pit track, a wheel truing facility, crew quarters, a car wash (trains), a power substation, maintenance crew parking areas, and related utility infrastructure. An access roadway will be required to allow staff and delivery trucks to gain entry to the facility from local streets. MassDOT expects to locate the access roadway leading to the east side of the layover yard following a path that would lead behind the I-90 viaduct west abutment to the east of the project locus. From there, the access roadway would lead into the new roadway network to be built on the north side of the relocated I-90. The layover facility will provide parking for up to 70 maintenance staff.

3.3.2 West Station

MassDOT is also moving forward with the design for a new commuter rail station within the BPY, to be known as West Station. West Station would be constructed along the existing commuter rail tracks of the Worcester Branch line towards the southerly boundary of the BPY property. As proposed, the station would consist of two platforms serving four service tracks. The platforms would be accessed through a station structure at a mezzanine level over the platforms, with local street connections to the south and a

busport on the north side of the stations. The busport would be connected to the I-90 interchange via a viaduct loop above the BPY layover facility. The street connections would provide for pedestrian access from the Boston University West Campus area at Malvern Street and Babcock Street. MassDOT will evaluate opportunities to provide "kiss & ride" areas where cars can discharge and pick up rail passengers in the vicinity of the station. MassDOT also envisions providing a through connection for bicycles and pedestrians from the Babcock Street Station access point to the shared-use pathway and Paul Dudley White Path at Soldiers Field Road. The pedestrian and bicycle connection from Babcock Street would allow for through pedestrian and bicycle traffic over the rail lines without the need to enter the commuter rail station. The details of these connections to the West Station access will be developed.

MassDOT does not intend to provide local parking for station patrons.

4.0 Alternative Modes of Transportation – Multi-Modal Connectivity

MassDOT has integrated significant multi-modal features into the project design to improve connectivity for all modes of transportation in the project area. An extensive network of sidewalks and bicycle tracks will be incorporated into the design of Cambridge Street, future local roadway connections to the I-90 ramps and the access ramps to West Station from the north. Dedicated bicycle and pedestrian connections to West Station from the Commonwealth Avenue/Beacon Street area to the south of the railroad are also provided.

5.0 Traffic – Existing and Future Conditions

MassDOT will conduct a transportation analysis, consisting of a detailed traffic analysis of the project alternatives. The transportation analysis will examine existing travel patterns and future 2035 No Build and Build alternative transportation conditions. Travel demand forecasting performed by the Central Transportation Planning Staff will be developed for 2035 and used to assess transportation and traffic impacts, using a traffic model (SYNCHRO network) to analyze weekday a.m. and p.m. peak hours and Saturday midday traffic. The transportation analysis will include collection of existing data on transportation modes, including vehicular, public/private transit (rail and bus), pedestrians, bicyclists, as well as crash data. Transit ridership and service data will be collected, and information on future private development on the project site will be identified based on Harvard University Allston developments and supplemented with data from the Boston Redevelopment Authority (BRA) for use in developing forecasts.

6.0 Future Development in the Project Area

The future land development of the Harvard University property has been identified as a significant issue for the community. As a state agency, MassDOT has no control over land use developments and zoning issues as these decisions are the purview of the

landowner (Harvard University) and the City of Boston acting through the Boston Redevelopment Authority.

MassDOT understands, however, that the design of the I-90 Allston Interchange may have a significant effect on the future development of the area. For the EIR, MassDOT will develop future land use development assumptions which will be used in several analyses. Most important of these analyses include the traffic analysis and the analysis of the potential social and economic effects of the project.

MassDOT has been coordinating with Harvard University to develop the future land use development assumptions for the project area, consistent with land uses and density of other approved Harvard Allston developments. These land use assumptions will be used as inputs into the CTPS regional transportation model to be used to analyze the regional transportation impacts of the project.

7.0 Noise and Vibration

MassDOT will conduct a detailed analysis of the potential highway/transit noise and transit vibration impacts of the project. In the EIR, analysis of noise and vibration will be included in compliance with the MassDOT Noise Policy, the Federal Highway Administration (FHWA) Procedures for Abatement of Highway Traffic Noise and Construction Noise and the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

The noise analysis will evaluate the sound levels associated with the relocation of I-90, the proposed West Station, and the BPY layover yard. Noise monitoring data will be collected to help establish existing noise conditions and to validate the noise models. The FHWA's traffic noise model (TNM) and the FTA modeling procedures will be used to determine build sound levels that will be compared to the FHWA and/or FTA noise impact criteria. Mitigation measures will be evaluated for receptor locations that are determined to exceed the noise impact criteria. The noise analysis will evaluate the cumulative sound levels of both highway and transit noise sources to determine if the proposed noise barrier associate with the BPY layover yard will provide adequate noise reduction to the residential area.

The vibration analysis will evaluate the vibration levels associated with the transit activities within the study area. The FTA modeling procedures will be used to determine build vibration levels that will be compared to the FTA ground-borne vibration impact criteria. Mitigation measures will be evaluated for receptor locations that are determined to exceed the vibration impact criteria.

8.0 Air Quality and Greenhouse Gases

MassDOT will conduct a detailed analysis of the potential air quality impacts of the project. In the EIR, analysis of the highway air quality and transit air quality components of the project will be included.

8.1 Highway

The air quality analysis of the highway components of the project will include both microscale and mesoscale analyses. Compliance with the Executive Office of Energy and Environmental Affairs *Revised MEPA Greenhouse Gas Emissions Policy and Protocol* (May 2010) will be addressed. MassDOT will also include an assessment of the project's contributions to advancing the Massachusetts *Clean Energy and Climate Plan for 2020*. The Plan includes a target reduction of 7.6 percent decrease in the 1990 GHG emissions by 2020 for the transportation sector.

8.1.1 Microscale Analysis

The microscale analysis will be conducted at each traffic study intersection with a projected level of service equal to D, E or F where the project adds 10% or more traffic volume. Worst-case traffic volumes will be used to predict maximum one-hour and eight-hour CO concentrations at selected sensitive locations (receptors) intersections for the Existing, No-Build, Build cases. The microscale analyses will include the No Build alternative for the existing year (2014) and the Build and No Build alternatives for the estimated time of completion year, (2020) and the design year, (2035).

Predictions will be made at all identified sensitive receptors for the maximum one-hour and eight-hour periods. CO concentrations will be predicted for the Build and No Build alternative for the years previously indicated and will be compared to the State and National Ambient Air Quality Standards (NAAQS). Predictions of CO concentrations will be made at intersections where the LOS is worse than C. If violations of the NAAQS occur, then mitigation measures will be developed.

8.1.2 Mesoscale Analysis

A mesoscale analysis will be performed to estimate the total daily emissions of volatile organic compounds (VOC), oxides of nitrogen (NOx), and carbon monoxide (CO) in the mesoscale study areas. The mesoscale analyses will include the No Build alternative for the existing year (2014) and the Build and No Build alternatives for the estimated time of completion year, (2020) and the design year, (2035).

No mitigation scenarios will be analyzed since the project will not directly result in the development of any new traffic-generating projects. MassDEP guidance in *Guidelines for Performing Mesoscale Analysis of Indirect Sources* (May 1991) will be followed to perform the mesoscale analysis.

8.2 TRANSIT

A regional emissions inventory will be prepared for criteria pollutants (volatile organic compounds (VOCs), oxides of nitrogen (NO_x), carbon monoxide (CO0, sulfur oxides (SO_x) and particulate matter ($PM_{10}/PM_{2.5}$)). The emissions inventories will include daily and annual emissions from the diesel locomotives and motor vehicles on roadways in the air quality study area for the existing and design year for the No Build and Build alternatives.

As noted in EPA's November 2013 Guidance document *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas,* PM hot-spot analyses are required for projects of "local air quality concern" which include certain highway and transit projects that involve significant levels of diesel vehicle traffic and any other project identified in the PM State Implementation Plan as a localized air quality concern.

Under the EPA Transportation Conformity Rule (40 CFR Part 93), project-level air quality conformity determinations may be required for certain projects. Section 93.123(b)(1) of the conformity rule defines the projects that require a PM2.5 or PM10 hot-spot analysis and includes:

> (iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location.

If a particulate matter (PM) quantitative hotspot analysis is needed, and if data are available, MassDOT will conduct a quantitative PM hotspot analysis following current U.S. EPA guidelines. For the quantification, the analysis will focus only on the emissions from the diesel trains and the motor vehicles in the air quality study area. If data are unavailable or if consensus with the MassDEP cannot be reached on the analysis area or the methodology, MassDOT will conduct a qualitative analysis following joint FHWA and U.S. EPA previous guidance dated March 2006. Additionally, MassDOT will conduct a screening analysis of NO_2 using dispersion modeling.

9.0 Solid Waste and Hazardous Materials Assessment

MassDOT has initiated preliminary research and will conduct field investigations to identify any recognized environmental conditions associated with the project area. Due to the historic use of the project site as a railroad terminal and layover area, additional investigations will be completed to adequately characterize both above-ground and below-ground contamination at the site. If any recognized environmental conditions are identified, recommendations for further evaluations and testing may be warranted. MassDOT will also address the need for state permits under the Massachusetts Contingency Plan (MCP) and MGL Chapter 21E related to solid and hazardous waste at the site.

10.0 Historic and Archaeological Resources

MassDOT, FHWA and the FTA will consult with the Massachusetts Historical Commission (MHC) and other interested parties, such as the Boston Landmarks Commission, to assess potential impacts to significant historic resources in accordance with Massachusetts General Law (MGL) Chapter 9, Sections 26-27C (950 CMR 71.00) and Section 106 of the National Historic Preservation Act of 1966 (36 CFR Part 800).

11.0 Open Space and Recreational Resources

The project area borders the Charles River Reservation, a significant open space and recreational resource. The Paul Dudley White bicycle path along the Charles River is a popular and well used recreational resource. Figure 4 in Attachment 4 to this ENF illustrates the open space resources in the project area.

The potential relocation of Soldiers Field Road away from the river would create additional areas of parkland within the Charles River Reservation. In the EIR, MassDOT will fully analyze the impacts to the existing open space. An analysis of the relocation's compliance with the provisions of the Section 4(f) requirements and the requirements of Article 97 of the Amendments to the Massachusetts Constitution, including the EEA Article 97 Land Disposition Policy will be provided.

The Charles River Reservation is located within the boundaries of the Charles River Basin Historic District. Under the provisions of Section 106 of the National Historic Preservation Act, any impact to land within the district is subject to review by the MHC SHPO for a determination as to whether an adverse effect to the historic resource would occur. In addition, impacts to listed historic resources are also subject to Section 4(f) review.

12.0 Stormwater Management and Impaired Waters

MassDOT will prepare a complete analysis of the project's compliance with the MassDEP Stormwater Management Regulations in the EIR. The Charles River adjacent to the project area is listed as an Impaired Water under the federal Clean Water Act. Total Maximum Daily Loads (TMDLs) have been issued for the Charles River and are based on several impairments, including Phosphorus (Total), Chlorophyll-a, Escherichia coli, Nutrient/Eutrophication Biological Indicators and Secchi Disk Transparency.

In the EIR, MassDOT will investigate all feasible Best Management Practices (BMPs) for the treatment and control of stormwater runoff consistent with the MassDEP Stormwater Management Handbook. The project area is located in an area of historic soil and groundwater contamination, and MassDOT will seek to identify BMPs which maximize groundwater recharge in the project area consistent with the existing groundwater levels and areas of soil and groundwater contamination.

A draft construction period Erosion, Sedimentation and Pollution Prevention Plan will be included in the EIR.

13.0 Environmental Justice

MassDOT has defined an area surrounding the I-90 Allston Interchange Project site as that whose socioeconomic and institutional development is most likely to be directly affected by the proposed improvements. The area was drawn to include key institutional properties of Harvard and Boston Universities and important development projects such as Boston Landing and Barry's Corner. Most importantly, the area includes the neighborhoods whose residents and businesses are most affected by the existing interchange configuration and, therefore, would most likely be impacted by any changes in access and accessibility.

MassDOT has also identified existing Environmental Justice (EJ) populations in the project area as illustrated on Figure 5 in Attachment 4 to the ENF.

MassDOT will prepare an EJ analysis of the project based on federal and state guidance to be included in the EIR. MassDOT will verify locations of EJ populations, and will assess whether there are specific impacts upon those populations. The effects of the alternatives on EJ populations will be evaluated and compared to the effects on the larger project area, to determine whether the impacts on EJ populations would be disproportionate and adverse. Any necessary mitigation measures will be identified.

14.0 Construction Phasing

The I-90 Allston Interchange Project will be constructed in phases in order to safely maintain traffic flow through the project area. Viaduct and interchange construction phasing plans will be developed for and included in theDEIR.

The detailed construction phasing plan will be based on the following assumptions:

- Three I-90 travel lanes in each direction must be maintained during daytime peak travel periods for the duration of construction;
- Two I-90 travel lanes in each direction must be maintained during nighttime off peak travel periods for the duration of construction;
- Two travel lanes on Soldiers Field in each direction must be maintained during daytime peak travel periods for the duration of construction; and
- One commuter rail track, the Grand Junction Rail line and the Houghton Chemical rail spur must remain in operation through the project for the duration of construction.

The number of travel lanes required for I-90 and Soldiers Field Road during construction is based on the magnitude of the current average daily traffic volumes. I-90 currently carries an average daily traffic volume of 147,000 vehicles. Soldiers Field Road currently carries an average daily traffic volume of 65,000 vehicles.

15.0 Alternatives Analysis Criteria and Preliminary Screening of Project Alternatives

The following is intended to explain the evaluation criteria developed by MassDOT to select a preferred alternative to replace the current I-90 Allston Interchange. In this task, the criteria have two roles to play which are central to the current conceptual planning process.

One is to reflect the wishes and desires of the Allston community as expressed to MassDOT and its project team. By reflecting these wishes and applying them as evaluation criteria, it is MassDOT's goal to ensure that to the extent possible and appropriate, the current Allston Interchange is replaced with modern, multimodal infrastructure which reflects the aspirations and values of the community in which it is located.

The other is to explain for the purposes of the Massachusetts Environmental Policy Act (MEPA) and National Environmental Policy Act (NEPA) processes and the metrics by which a preferred alternative will be selected. As such, the evaluation criteria are a mix of the general, things which would be applicable to any project anywhere in the Commonwealth (e.g, the new interchange should provide for safer traffic operations on I-90), and the specific, things which are tightly connected to what members of the community have told the project team (e.g., the project should reknit the neighborhoods of Allston to themselves and the key green space of the Charles River basin).

The genesis of the evaluation criteria is traceable to the initial public information meeting held on April 10, 2014, and the first two sessions of the task force, held on May 7th and 21st, 2014. As was noted during the May 21st Task Force meeting, there is in fact significant overlap between the community's and the agency's goals for this project.

Comments on an earlier draft of this document were solicited from the Task Force in August 2014 and certain criteria have been revised to incorporate comments received.

Perhaps the most significant point of difference between MassDOT and the Allston community, as represented by the Task Force, is one of terminology. Where members of the project team are inclined to think of project goals broadly (i.e., the new interchange should incorporate multimodal connections), members of the Task Force are inclined to define their goals with a much tighter and more tactical focus (i.e. the new interchange should incorporate a mixed use pathway which connects the Allston neighborhood to the Charles River such that cyclists and pedestrians do not have to mix with automotive traffic).

All of these highly specific elements have been captured by the project team and have been incorporated into the design over the course of the past several months. The dismissal of the suburban style interchange, the incorporation of the shared-use pathway described above, and the incorporation of cycle tracks into current proposals for Cambridge Street, have all come from either the Allston community or its representative Task Force.

In light of this, and because of the dual nature of these criteria, it should not be assumed that just because a particular, focused element is not seen herein that it has been lost or ignored, rather it has been incorporated into the broader goals for the project. In light of that, and before reviewing what follows, readers should take note of the following points of agreement between the Task Force and MassDOT regarding goals for the project articulated on May 21st:

- Improve safety for all modes: walking, cycling, driving, transit;
- Realign I-90;
- Context sensitive design:
    - Lessen impact of interchange;
    - Avoid inducing cut-through traffic with new configuration;
    - Reconnect sections of Allston to each other and the River;
- Protect the neighborhood during construction;
- A more vibrant Cambridge Street that serves all modes;
- Support future expansion of transit services; and
- Accessibility to transit at future West Station.

It is these points of broad agreement which have been used to develop the following criteria and which continue to guide the actions of the project team as it works with the Task Force towards selecting a preferred alternative.

A matrix illustrating the results of the preliminary screening of the project alternatives is included at the end of the Attachment.

15.1 Methodology

The screening process is intended to identify feasible project alternatives to carry forward in the detailed environmental impact assessment for the National Environmental Policy Act (NEPA) Environmental Assessment (EA) and the Massachusetts Environmental Policy Act (MEPA) Environmental Impact Report (EIR) for the project.

A range of engineering, environmental, cost, and schedule screening criteria have been developed with which the Alternatives will be assessed. These criteria can also be generally grouped into two categories: the Human Environment and the Natural Environment. The screening criteria have been developed with input from the I-90

Allston Interchange Task Force advising MassDOT in concert with the professional judgment of the senior professional staff of the project team and MassDOT staff members based on previous experience. The screening factors reflect the potential relevant factors affecting the feasibility of the alternatives.

Once the screening criteria are finalized with input from the Task Force, each alternative will be assessed for the criteria and the rating for the particular alternative determined for those criteria. Alternatives are ranked on a three-point scale: Positive, Neutral or Negative. Alternatives are ranked Negative if the alternative does not meet the criteria, Positive if the alternative meets or exceeds the criteria, and Neutral if the alternative is considered not to be affected by the criteria.

15.2 Screening Criteria

15.2.1 Meets Purpose and Need

This criterion assesses the potential of each alternative to meet the Purpose and Need of the project. The Purpose and Need identifies the characteristics (geometry, safety, traffic, etc.) necessary to meet the basic requirements of the project purpose. For the I-90 Allston Interchange Project, these include:

- To reduce congestion and improve the flow of traffic through the project area;
- To improve safety along I-90 by removing the existing toll plazas and providing a design in compliance with Highway Design Standards;
- To improve safety within the project area by providing improvements at affected intersections;
- To improve local and regional air quality by reducing congestion on I-90 and in the project area and offering alternative (or non-motorized) modes of transportation;
- To provide the infrastructure to support construction of West Station and transit infrastructure; and
- To provide the infrastructure to support alternative (or non-motorized) modes of transportation within the project area and connections to the broader non-motorized infrastructure outside of the project area.

15.2.2 Multi-Modal Connectivity

This criterion includes several sub-criteria assessing the degree to which each of the alternatives provides for improved multi-modal connectivity in the project area. MassDOT has implemented several initiatives which encourage development of multi-modal infrastructure including GreenDOT, the Healthy Transportation Policy, and the MassDOT Complete Streets initiative. The City of Boston has also implemented a Complete Streets policy. An Alternative which better incorporates multi-modal transportation elements which reflect the principles outlined in these initiatives will receive a higher rating than an alternative which does not. These sub-criteria include:

Safety

This criterion assesses the degree to which an alternative provides improved safety for non-motorized modes of travel including bicycles and pedestrians as well as safe access to public transit throughout the project area. For example, an alternative which meets all or most of the shared-use pathway design standards and provides improved safety at local intersections and planned roadways in the project area would be scored higher than an alternative that does not meet standards at all or several locations.

Pedestrian Routes

This criterion assesses the degree to which the alternative provides safe, more direct pedestrian routes throughout the project area, including the Cambridge Street corridor, the Lincoln Street footbridge, planned roadways, existing neighborhoods and shared use pathway alignments.

Bicycle Routes

Similar to the Pedestrian Routes criterion, this criterion assesses the degree to which the alternative provides safe, direct bicycle routes throughout the project area, including the Cambridge Street corridor and planned roadways, existing roadways and shared use pathway alignments. Also, measured within the criteria is alternative design that improves safe bicycle travel along Cambridge Street and/or provides additional options for bicycle travel within the project area (e.g., north-south connections from the area abutting Boston University across the interchange towards Cambridge Street, connections to the White bicycle path along the Charles River). An alternative which facilitates future connections to a proposed shared use pathway along the Grand Junction Line in Cambridge would also receive a positive rating.

Access to West Station

Positively rated design alternatives provide multi-modal access to the planned location for West Station from south of the rail tracks and from the neighborhood to the north. Alternatives which do not include this access would be scored negative.

15.2.3 Traffic Operation

This criterion includes several sub-criteria assessing the degree to which each of the alternatives affect traffic operations in the project area. These sub-criteria include:

Safety

This criterion assesses the degree to which an alternative improves the safety of the traveling public within the project area and allows for a safe design that meets existing standards for interstate highways, local streets, shared-use pathways and transit facilities. Positive alternatives provide safety improvements at known high volume accident locations in the project area. In addition, positive alternatives will create safer

connections between the Turnpike and Cambridge Street, creating intersections which safely transition motorists from the high speed environment of I-90 to the low speed environment of the Allston neighborhood.

Travel Time/Level of Service (LOS)

Travel Time: The amount of time it takes for a vehicle to traverse the project area depends on the speed of vehicles, the number of lane changes that are occurring, and the degree of congestion and delay at area intersections. Travel time will depend on the speed of vehicles and the number of lane changes that occur for merging, weaving, and diverging conditions. Improvements to project area intersections which would decrease existing delays are also assessed. Improvements to the roadway system should likewise take steps to protect abutting residential streets from cut-through traffic associated with the interchange. An alternative which improves travel time on the I-90 mainline and through the interchange would be scored higher for this criterion.

Level of Service (LOS): LOS is an indicator of operating conditions occurring on a given roadway or at a given intersection. For a roadway, it is based on the freedom vehicles have to maneuver and their proximity to other vehicles, as measured by the density of the traffic. For a signalized intersection, the LOS is based on the average stopped delay of vehicles at the intersection. The estimated traffic volume at each location will be used as a measure of the potential LOS at that location. LOS is presented as a letter grade ranging from A (free flow, no congestion) to F (extreme congestion). Alternatives which provide improved operation conditions overall within the project area would score higher for this criterion than an alternative for which there would be several or many locations with potential congestion under projected traffic conditions.

Intersection Connectivity

This criterion assesses the degree to which an alternative improves connectivity from I-90 to Cambridge Street and serves to disperse traffic along the Cambridge Street corridor and elsewhere in the project area. Alternatives with more connections to Cambridge Street and other roadways are considered to improve connectivity compared to existing conditions and other alternatives with fewer connections.

Streetscape

This criterion assesses the ability of the alternative to provide for improvements to the existing streetscape for Cambridge Street and planned roadways in the project area. Positive design elements and goals heard from the community include but are not limited to: making Cambridge Street a more welcoming place to be as a cyclist or pedestrian; making Cambridge Street a two-sided urban roadway; enhanced landscaping treatments and installation of “street furniture” such as benches, and lighting; increased opportunities for future development of neighborhood-scale streets which could accommodate future appropriately-scaled development, additional open

spaces. An alternative which reserves more space for future development would be scored higher for this criterion.

15.2.4 Environmental

The Environmental criterion includes seven separate sub-criteria which incorporate consideration of the alternatives impact on and the potential to improve the natural and cultural resources and open space in the project area. These sub-criteria include:

Drainage and Stormwater

The existing interstate highway interchange, the railroad yard, Soldiers Field Road and local roadways drain to the Charles River, which has been designated as an "Impaired" waterbody under the federal Clean Water Act because the existing water quality does not meet surface water quality standards. Total Maximum Daily Loads (TMDLs) have been established for this reach of the Charles River for pollutants including phosphorus and pathogens (E. coli).

Alternatives will be assessed for their relative ability to improve the quality of stormwater discharges to the river with the addition of feasible stormwater Best Management Practices (BMPs). Examples of BMPs include installing catch basins with deep sumps to minimize suspended particulate discharges, or the construction of vegetated swales or infiltration basins to infiltrate runoff to the ground.

The alternatives will also be evaluated based on their potential to allow for implementing stormwater management measures that meet the requirements of the Wetlands Protection Act Regulations and the Massachusetts Stormwater Handbook, including the following standards:

- Potential to provide water quality treatment;
- Potential to provide recharge volume;
- Potential to provide peak flow attenuation; and
- Potential for staging of the stormwater management measures during construction.

Historic Impacts

The project area is bordered by the Charles River Basin Historic District and the Harvard Avenue Historic District, both listed in the National Register of Historic Places (NR). Soldiers Field Road, the Boston University Bridge, the Grand Junction Railroad Bridge, and the River Street Bridge are all listed as contributing elements in the Charles River Basin Historic District. The Peter Fuller Building at 808 Commonwealth Ave. is individually NR-listed. Nearby properties recorded in the *Inventory of Historic and Archaeological Assets of the Commonwealth*, but not NR-listed, include the Longefellow [sic] House at 4 Wadsworth St. and several Boston University facilities

bordering the CSX tracks, the least altered of which are the College of Fine Arts Building at 855-861 Commonwealth Ave., the Physical Plant Building at 120 Ashford St., the Athletics Department Building at 300-316 Babcock St., and Nickerson Field.

This criterion assesses the potential impacts of an alternative on the historic resources in the project area. Any alternative that would impact National Register-listed and –eligible properties may result in a finding of Adverse Effect from the Massachusetts Historic Preservation Officer under the provisions of Section 106 of the National Historic Preservation Act. Historic structures are also protected under the provisions of Section 4(f) of the Department of Transportation Act of 1966. Projects which impact Section 4(f) resources must demonstrate that there is no prudent and feasible alternative which avoids the impact.

For this criterion, any alternative that would clearly have no effect to the historic character and elements of the existing historic resources would be scored Positive. Alternatives for which an effect to the historic resources cannot be clearly defined at this time would be scored Neutral. Alternatives that would clearly result in permanent adverse effects to the historic resources would be scored Negative.

Wetlands

Jurisdictional wetland resources in the project area are limited to the Charles River, including the state wetland resources Land Under Water, Inland Bank and Riverfront Area. Modifications or improvements to the existing stormwater outfalls in the river may affect wetlands. This criterion assesses the potential impacts of an alternative to the wetland resources along the Charles River. In general, any Alternative that would result in no permanent impacts to wetland resources would be scored Positive.

Alternatives that would result in minimal permanent direct impacts to wetland resources (e.g., less than 5,000 square feet of vegetated wetlands, less than 50 linear feet of Inland Bank) would be scored Neutral.

Alternatives that would result in greater permanent direct impacts to wetland resources (e.g., greater than 5,000 square feet of vegetated wetlands and greater than 50 linear feet of Inland Bank) would be scored Negative.

Noise

This criterion assesses the potential impacts of highway and rail noise on the surrounding neighborhoods. The removal of the existing toll plaza may result in an increase in highway noise due to the increase in travel flow speed along I-90 in the area. However, the realignment of I-90 may reduce highway noise for areas to the north as the highway is shifted away from the residential neighborhood. The realignment of I-90 to the south may result in changes to the proposed noise barrier parameters that is associated with the BPY layover project. The change in the distribution on Cambridge Street accessing I-90 may result in changes in highway noise for areas along Cambridge

Street. Rail noise impacts could result from the operation of the train layover yard. However, the new West Station may reduce rail noise as travel speeds would be decrease as trains pass through the station.

For this criterion, alternatives which are judged to result in increased noise impacts would be scored Negative, while alternatives which are judged to result in decreased noise impacts would be judged Positive.

Construction noise impacts are assessed under the "Construction Impacts" criterion.

Parks/Open Space

This criterion assesses both the potential impacts of an alternative on existing parks and open space in the project area, as well as the potential for an alternative to enable or result in improvements to existing parks or the creation of additional parks and open space.

Parks and designated open spaces are protected under the provisions of Section 4(f) and Article 97 of the Amendments to the Massachusetts Constitution.

For this criterion, any alternative that would not result in an adverse effect to the existing parks and open spaces would be scored Positive. Alternatives that would result in temporary changes to existing parks and open spaces would be scored Neutral. Alternatives that would result in permanent adverse impacts to existing parks and open spaces would be scored Negative.

Contaminated Soils

The BPY is an area with known areas of contaminated soils and groundwater. Construction of new highway, roadway and multi-modal infrastructure in the project area could potentially disturb areas of contamination and could result in increased costs for construction and remedial activities. An alternative which would result in greater impact to known areas contaminated soils and/or groundwater would be scored lower for this criterion.

Air Quality

Air quality impacts for transportation projects are measured both on a localized ("Microscale") and an area-wide ("Mesoscale") basis. Emissions of carbon monoxide (CO) are assessed for a microscale analysis at CO "hotspots" (for this project, the toll plaza and congested intersections where traffic from the interchange is more than 10% of total traffic) and compared to CO 1-hour and 8-hour air quality standards.

A mesoscale air quality analysis measures the total daily emissions of volatile organic compounds (VOC), oxides of nitrogen (NOx), carbon monoxide (CO), and carbon dioxide (CO2) in the project area. The purpose of controlling VOC and NOx emissions is to reduce the concentration of ground-level ozone. VOC react with NOx in the presence

of sunlight to create ground-level photochemical oxidants (ozone). CO is primarily a concern with regard to local (microscale) concentrations near congested intersections. CO2 is a concern with regard to global climate change as a greenhouse gas.

Alternatives which would result in improvements in local air quality at a greater number of existing problem locations by reducing congestion would be scored higher than alternatives which would result in fewer areas of improvement.

15.2.5 Land Use

Accommodate Future Development

This criterion assesses the degree to which an alternative provides roadway infrastructure that enables future development in the project area. Elements of the new interchange design can affect the amount of land available for future development as well as the size and shape of potential development parcels. For example, in the absence of a specific plan for future development an alternative which occupies greater land area (and leaves a lesser amount of land area available for development) would be scored lower than an alternative which occupies lesser land area. Optimal access to potential development parcels might be provided by an alternative that did not necessarily maximize land available for development but rather help create an effective local street network and enhance the possibilities for and value of future local development. An alternative that enhanced traffic flow on largely commercial roadways and minimized impacts on local residential streets might also be desirable from the standpoint of local business and residential development outside the immediate project area.

This criterion also assesses the degree to which an alternative can enhance local and regional productivity and economic development. The assessment is based on travel time benefits to and through the intersection and their general effect on the regional economy as well as on planned and proposed development likely to be most affected by the project. Impacts on jobs, business sales, and municipal tax revenues are also to be considered, including existing land uses and activities as well as potential future development.

Community Cohesion

As the Task Force has made clear to the project team, a significant community goal of this project is to "reconnect Allston to itself and the Charles River." This criterion is intended to assess the ability of an alternative to improve connections between the existing Allston neighborhoods to the Charles River and to provide for more direct bicycle and pedestrian connections between the Packards Corner area south of the railroad tracks and the Cambridge Street/Lower Allston area north of I-90. Design features would include elements such as improvements to pedestrian and bicycle accommodations along Cambridge Street and along future streets and shared-use pathway(s) to provide for more direct east-west connections to the Charles River or north-south connections.

15.2.6 Construction

Logistics

This subcategory defines the level of construction complexity associated with each of the proposed alternatives. Alternatives with a more complex construction phasing would score lower than alternatives with simpler phasing. This subcategory also defines the relative difficulty in achieving compliance for each of the proposed alternatives with current AASHTO design standards for highways and shared-use pathways, and MBTA and AREMA standards for railroads.

Construction Phase Impacts

This subcategory includes an assessment of the likely impacts to the surrounding neighborhoods as well as the existing highway and street network in the project area. Included are impacts such as noise, traffic congestion and/or the difficulty of traffic maintenance, utility relocations, the ease or difficulty of construction staging for the alternative, ease or difficulty of maintain pedestrian and bicycle access through the project area, and maintenance of commuter rail and freight rail operations.

15.2.7 Cost/Schedule

Construction Cost

This criterion assesses the relative cost differences between the Alternatives. This includes an assessment of constructability, construction staging ease/restraints, traffic management plans, risk and schedule impact on extended contractor overhead costs of the specific alternative to meet the budget of the project. The resulting cost assessment is a qualitative indicator of the relative cost effectiveness of the project scope as implemented through the various alternatives.

Construction Schedule

This criterion assesses the relative schedule differences between the alternatives. The schedule differentiators include risk, constructability, site access, construction staging ease/restraints, traffic management plans, need to inspect and strengthen the viaduct structure, and schedule of the specific alternative to meet the budget of the project. The resulting schedule assessment is a qualitative indicator of the relative schedule duration for the project scope as implemented through the various alternatives.

Maintenance/Life Cycle Cost

This subcategory defines how each of the proposed alternatives would rank from the standpoint of Maintenance and from the standpoint of Life Cycle/Cost, which seeks to define a threshold of benefits realized from the proposed new viaduct structure over an extended period while minimizing financial cost. Financial cost includes not only the cost of building a new structure or rehabilitating an existing structure, but also includes

the cost of maintenance and repair of that structure over time. Life Cycle/Cost is evaluated on an entire cycle over the long term. This includes both highway, rail and pedestrian/bicycle improvements.

		GROUP 1 - SUBURBAN TYPE				GROUP 2 - SUBURBAN TYPE		GROUP 3 - URBAN TYPE									
	NO BUILD	OPTION 1A	OPTION 1B	OPTION 1C	OPTION 1D	OPTION 2A	OPTION 2B	OPTION 3A	OPTION 3B	OPTION 3C	OPTION 3D	OPTION 3E	OPTION 3F	OPTION 3G	OPTION 3H	OPTION 3I	OPTION 3J
Traffic Operation																	
Safety	●	●	●	●	●	◉	○	●	●	●	●	●	○	●	○	○	○
Travel Time/LOS	●	○	○	○	○	○	○	◯	○	○	○	○	○	○	○	○	○
Intersection Connectivity	●	◯	◯	◯	◯	◯	●	◯	◯	◯	◯	◯	○	◯	◯	○	○
Multi-Modal Connectivity																	
Safety	●	○	○	○	○	◉	●	○	○	○	○	◯	○	○	◯	○	○
Pedestrian Routes	●	◯	◯	◯	◯	◯	●	○	◯	◯	◯	●	○	◯	◯	○	○
Bicycle Routes	●	◯	◯	◯	◯	◯	●	○	◯	◯	◯	●	○	◯	◯	○	○
Access to West Station	●	●	●	●	●	●	●	○	●	◯	◯	◯	○	○	○	○	○
Streetscape	●	◯	◯	◯	◯	◯	●	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Environmental																	
Drainage and Stormwater	●	○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○
Historic Impacts	○	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Wetlands	○	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Noise	◯	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Parks/Open Space	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Contaminated Soils	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Air Quality	●	○	○	○	○	◉	○	○	○	○	○	○	○	○	○	○	○
Land Use																	
Accommodate Future Development	●	◯	◯	◯	◯	◯	●	○	○	●	●	◯	○	◯	◯	○	○
Community Cohesion	●	●	●	●	●	●	●	●	●	●	○	◯	○	◯	○	○	○
Construction																	
Logistics	○	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Construction Phase Impacts	○	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Cost/Schedule																	
Construction Cost	○	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	●	◯	◯	●	◯
Construction Schedule	○	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Maintenance/Life Cycle Cost	●	○	○	○	◯	○	○	○	○	○	○	◯	○	◯	○	○	○
Meets Purpose & Need	●	●	●	●	●	●	●	◯	●	●	○	◯	○	◯	○	○	○

Positive ○

Neutral ◯

Negative ⊖

Summary of Alternatives Screening
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	No Build	Group 1 – Suburban Type				Group 2 – Suburban Type	
		Option 1A	Option 1B	Option 1C	Option 1D	Option 2A	Option 2B
Traffic Operation							
Safety	No change to existing deficiencies	High volume weaves for EB and WB off-ramp movements	High volume weaves for EB and WB off-ramp movements	High volume weaves for EB and WB off-ramp movements	High volume weaves for EB and WB off-ramp movements	No signals on ramps	No signals on ramps
Travel Time/LOS	No change	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement
Intersection Connectivity	No improvement	Only two connections to Cambridge Street	Only two connections to Cambridge Street	Only two connections to Cambridge Street	Only two connections to Cambridge Street	Only two connections to Cambridge Street	Only ONE connection to Cambridge Street
Multi-Modal Connectivity							
Safety	No change to existing deficiencies	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement
Pedestrian Routes	No change to existing deficiencies	Some Improvement	Some Improvement	Some Improvement	Some Improvement	Some Improvement	Least improvement
Bicycle Routes	No change to existing deficiencies	Some Improvement	Some Improvement	Some Improvement	Some Improvement	Some Improvement	Least Improvement
Bus/Rail Access	No access to West Station	No access to West Station	No access to West Station	No access to West Station	No access to West Station	No access to West Station	No access to West Station
Streetscape	No change	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement
Environmental							
Drainage and Stormwater	No change	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement
Historic Impacts	No impacts to historic resources	Potential effect on SFR to be determined	Potential effect on SFR to be determined	Potential effect on SFR to be determined	Potential effect on SFR to be determined	Potential effect on SFR to be determined	Potential effect on SFR to be determined
Wetlands	No impacts to wetland resources	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank
Noise	No change to existing noise	Elimination of toll plaza	Elimination of toll plaza	Elimination of toll plaza	Elimination of toll plaza	Elimination of toll plaza	Elimination of toll plaza

	No Build	Group 1 – Suburban Type				Group 2 – Suburban Type	
		Option 1A	Option 1B	Option 1C	Option 1D	Option 2A	Option 2B
Parks/Open Space	No impacts to existing parks	Potential for additional open space	Potential for additional open space	Potential for additional open space	Potential for additional open space	Potential for additional open space	Potential for additional open space
Contaminated Soils	No mitigation	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated
Air Quality	No Improvement	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing
Land Use							
Accommodate Future Development	No opportunity	Land available but less than Group 3 alts	Land available but less than Group 3 alts	Land available but less than Group 3 alts	Land available but less than Group 3 alts	Land available but less than Group 3 alts	Least opportunity
Community Cohesion	No change	No improvement	No improvement	No improvement	No improvement	No improvement	No improvement
Construction							
Logistics	No construction issues	Manageable construction	Manageable construction	Manageable construction	Manageable construction	Manageable construction	Manageable construction
Construction Phase Impacts	No construction impacts	Minor impacts	Minor impacts	Minor impacts	Minor impacts	Minor impacts	Minor impacts
Cost/Schedule							
Construction Cost	No cost	Not significant difference	Not significant difference	Not significant difference	Not significant difference	Not significant difference	Not significant difference
Construction Schedule	No construction	Maintain schedule	Maintain schedule	Maintain schedule	Maintain schedule	Maintain schedule	Maintain schedule
Maintenance/Life Cycle Cost	Continuing and increasing maintenance costs	Lesser	Lesser	Lesser	Some increase compared to Group 1 and 2	Lesser	Lesser
Meets Purpose and Need	No	No	No	No	No	No	No

Summary of Alternatives Screening
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	Group 3 – Urban Type									
	Option 3A	**Option 3B**	**Option 3C**	**Option 3D**	**Option 3E**	**Option 3F**	**Option 3G**	**Option 3H**	**Option 3I**	**Option 3J**
Traffic Operation										
Safety	Inadequate operations at ramp signals	Queue length at EB off ramp back up to I-90; Inadequate Queue Storage between ramps & North Harvard St.	High volume weave in short distance at WB frontage road and WB entering movement.	Poor operations at ramp connections to Cambridge Street	Concentration of volumes at two Cambridge Street connections leads to poor operating conditions	Grade separation of EB and WB ramps reduces queue	Poor operating conditions at Cambridge Street and Stadium Way	Grade separation of EB and WB ramps reduces queue	Grade separation of EB and WB ramps reduces queue	Grade separation of EB and WB ramps reduces queue
Travel Time/LOS	Some Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement
Intersection Connectivity	Two connections to Cambridge Street	Two connections to Cambridge Street	Two connections to Cambridge Street	Three connections to Cambridge Street	Two connections to Cambridge Street	Four connections to Cambridge Street	Three connections to Cambridge Street	Three connections to Cambridge Street	Five connections to Cambridge Street	Four connections to Cambridge Street
Multi-Modal Connectivity										
Safety	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement
Pedestrian Routes	Some Improvement Connection to West Station	Some Improvement No access to West Station	Some Improvement Difficult crossings at channelized right turn lanes Indirect access only to West Station.	Some Improvement	Some Improvement No pedestrian access to West Station	Improvement	Inconvenient pedestrian connection to West Station	Inconvenient pedestrian connection to West Station	Improvement	Improvement
Bicycle Routes	Some Improvement Connection to West Station Right turn conflict at Cambridge	Some Improvement Right turn conflict at Cambridge Street and Stadium Way	Some Improvement Difficult crossings at channelized right turn lanes Indirect access	Right turn conflict at Cambridge Street and Stadium Way	Some Improvement No bicycle access to West Station	Improvement	Some Improvement	Right turn conflicts along Cambridge Street EB	Improvement	Improvement

Summary of Alternatives Screening
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	Group 3 – Urban Type									
	Option 3A	**Option 3B**	**Option 3C**	**Option 3D**	**Option 3E**	**Option 3F**	**Option 3G**	**Option 3H**	**Option 3I**	**Option 3J**
	Street and Stadium Way	No access to West Station	only to West Station.							
Bus/Rail Access	Access provided to West Station	No access to West Station	No access to West Station	Access provided to West Station	Access provided to West Station	Access provided to West Station	Access provided to West Station	Access provided to West Station	Access provided to West Station	Access provided to West Station
Streetscape	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement
Drainage and Stormwater	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement	Improvement
Historic Impacts	Potential adverse effect on SFR	Potential adverse effect on SFR	Potential adverse effect on SFR	Potential adverse effect on SFR	Potential adverse effect on SFR	Potential adverse effect on SFR	Potential adverse effect on SFR	Potential adverse effect on SFR	Potential adverse effect on SFR	Potential adverse effect on SFR
Wetlands	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank	Potential minor impact to Charles River Bank
Noise	Elimination of toll plaza Noise barrier along south side of RR adjacent to Wadsworth, Pratt Streets	Elimination of toll plaza Noise barrier along south side of RR adjacent to Wadsworth, Pratt Streets	Elimination of toll plaza Noise barrier along south side of RR adjacent to Wadsworth, Pratt Streets	Elimination of toll plaza Noise barrier along south side of RR adjacent to Wadsworth, Pratt Streets	Elimination of toll plaza Noise barrier along south side of RR adjacent to Wadsworth, Pratt Streets	Elimination of toll plaza Noise barrier along south side of RR adjacent to Wadsworth, Pratt Streets	Elimination of toll plaza Noise barrier along south side of RR adjacent to Wadsworth, Pratt Streets	Elimination of toll plaza Noise barrier along south side of RR adjacent to Wadsworth, Pratt Streets	Elimination of toll plaza Noise barrier along south side of RR adjacent to Wadsworth, Pratt Streets	Elimination of toll plaza Noise barrier along south side of RR adjacent to Wadsworth, Pratt Streets
Parks/Open Space	Potential for additional open space	Potential for additional open space	Potential for additional open space	Potential for additional open space	Potential for additional open space	Potential for additional open space	Potential for additional open space	Potential for additional open space	Potential for additional open space	Potential for additional open space
Contaminated Soils	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated	Contaminated soils to be mitigated
Air Quality	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing	Elimination of toll plaza – reduced queuing
Land Use										

Summary of Alternatives Screening
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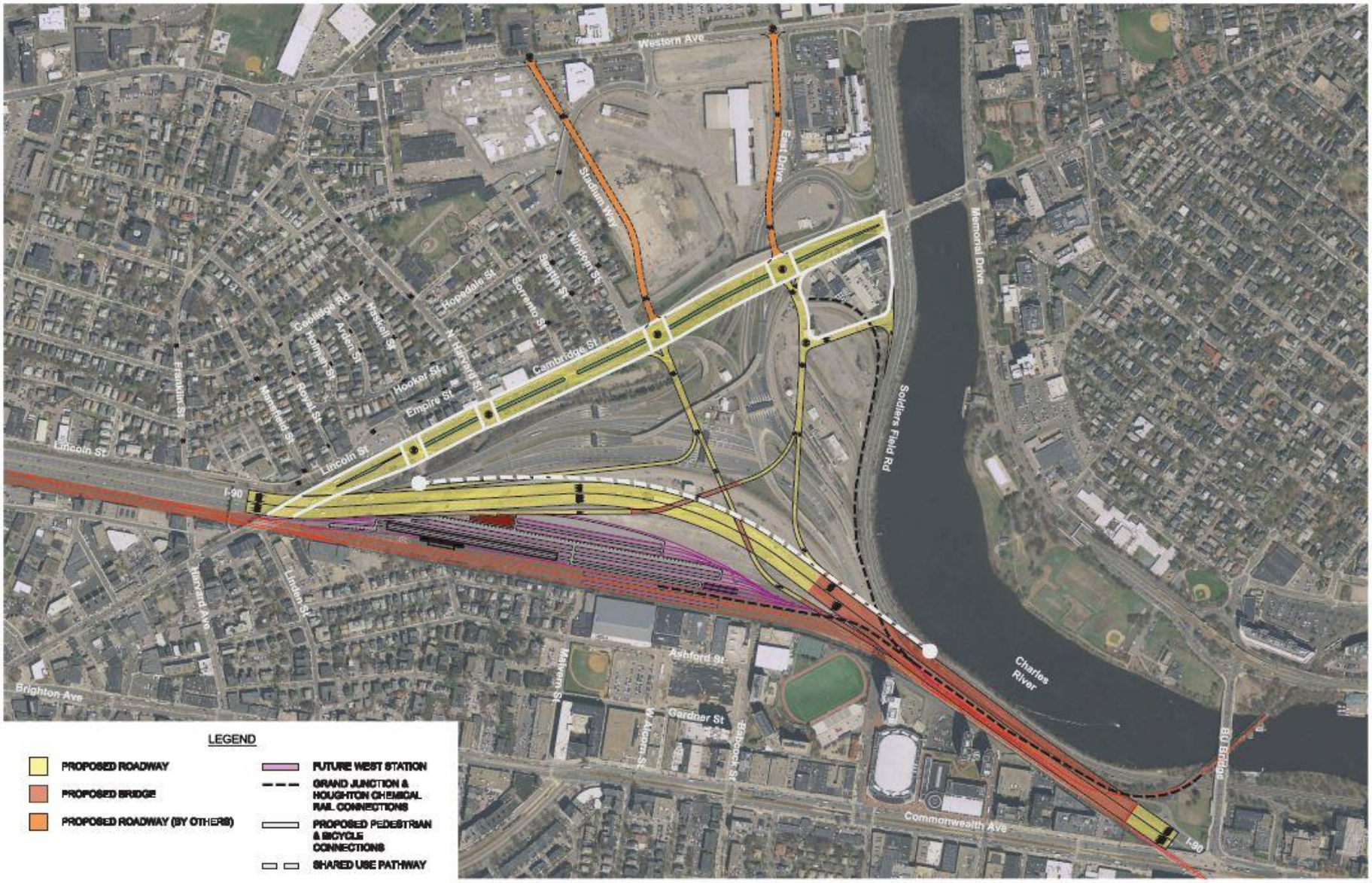
	Group 3 – Urban Type									
	Option 3A	**Option 3B**	**Option 3C**	**Option 3D**	**Option 3E**	**Option 3F**	**Option 3G**	**Option 3H**	**Option 3I**	**Option 3J**
Accommodate Future Development	Most land available	Most land available	Land available but significantly less than other Group 3 alternatives	Land available but less than other Group 3 alternatives	Land available but less than other Group 3 alternatives	Ramp layout provides more accessible parcels for future development	Ramp layout provides more accessible parcels for future development but less than Alt. 3F	Ramp layout provides more accessible parcels for future development but less than Alt. 3F	Ramp layout provides more accessible parcels for future development	Ramp layout provides more accessible parcels for future development
Community Cohesion	No improvement No ped/bike connection to area south of rail line	No improvement No ped/bike connection to area south of rail line	No improvement No ped/bike connection to area south of rail line	Improvement Potential ped/bike connection to area south of rail line	No Improvement No ped/bike connection to area south of rail line but	Improvement Ped/bike connection to area south of rail line provided	No improvement Inconvenient pedestrian connection to West Station	No improvement Inconvenient pedestrian connection to West Station	Improvement Ped/bike connection to area south of rail line provided	Improvement Ped/bike connection to area south of rail line provided
Construction										
Logistics	Manageable construction	Manageable construction	Manageable construction	Manageable construction	Manageable construction	Manageable construction	Manageable construction	Manageable construction	Manageable construction	Manageable construction
Construction Phase Impacts	Minor impacts	Minor impacts	Minor impacts	Minor impacts	Minor impacts	Minor impacts	Minor impacts	Minor impacts	Minor impacts	Minor impacts
Cost/Schedule										
Construction Cost	Not significant difference	I-90 WB on-ramp would require reconstruction of Cambridge Street overpass but fewer ramp connections than other alternatives	Not significant difference	Not significant difference	Not significant difference	I-90 WB on-ramp would require reconstruction of Cambridge Street overpass	Not significant difference	Not significant difference	I-90 WB on-ramp would require reconstruction of Cambridge Street overpass	Not significant difference
Construction Schedule	Maintain schedule	Maintain schedule	Maintain schedule	Maintain schedule	Maintain schedule	Maintain schedule	Maintain schedule	Maintain schedule	Maintain schedule	Maintain schedule
Maintenance/Life Cycle Cost	Less	Less	Less	Less	Less	Less	Less	Less	Less	Less
Meets Purpose and	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	Group 3 – Urban Type									
	Option 3A	**Option 3B**	**Option 3C**	**Option 3D**	**Option 3E**	**Option 3F**	**Option 3G**	**Option 3H**	**Option 3I**	**Option 3J**
Need	Less than other alternatives which provide access to West Station and connections to area south of rail line	No ped/bike access to West Station and no connectivity to area south of rail line	No ped/bike access to West Station and no connectivity to area south of rail line	Provides connectivity to West Station for all modes with connection to area south or rail line	Provides connectivity to West Station for all modes	Provides connectivity to West Station for all modes with connection to area south or rail line	Provides connectivity to West Station for all modes although less convenient ped/bike access than other alternatives	Provides connectivity to West Station for all modes although less convenient ped/bike access than other alternatives	Provides connectivity to West Station for all modes with connection to area south or rail line	Provides connectivity to West Station for all modes with connection to area south or rail line



I-90 Interchange Allston, MA
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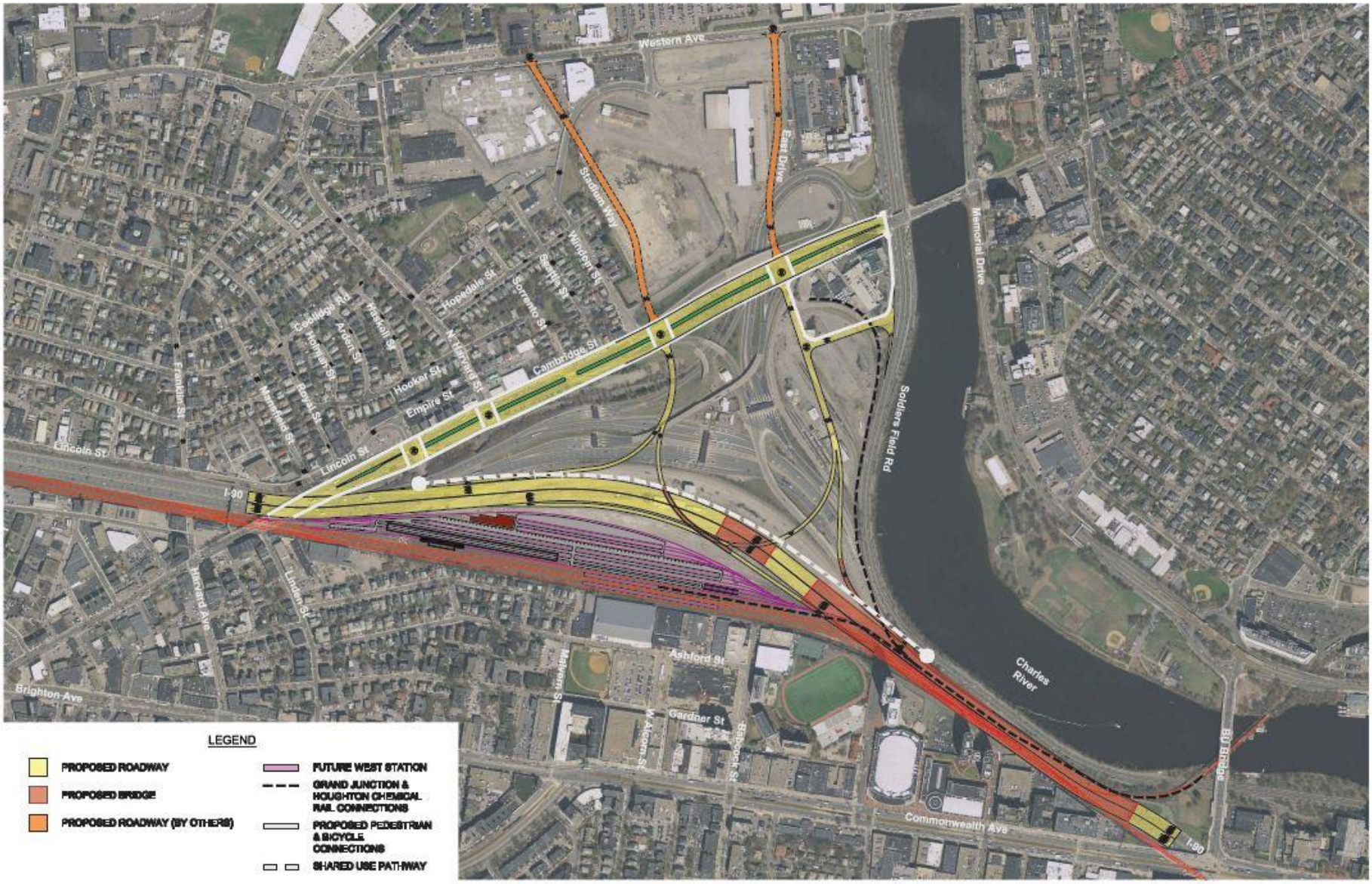
FIGURE 9-1

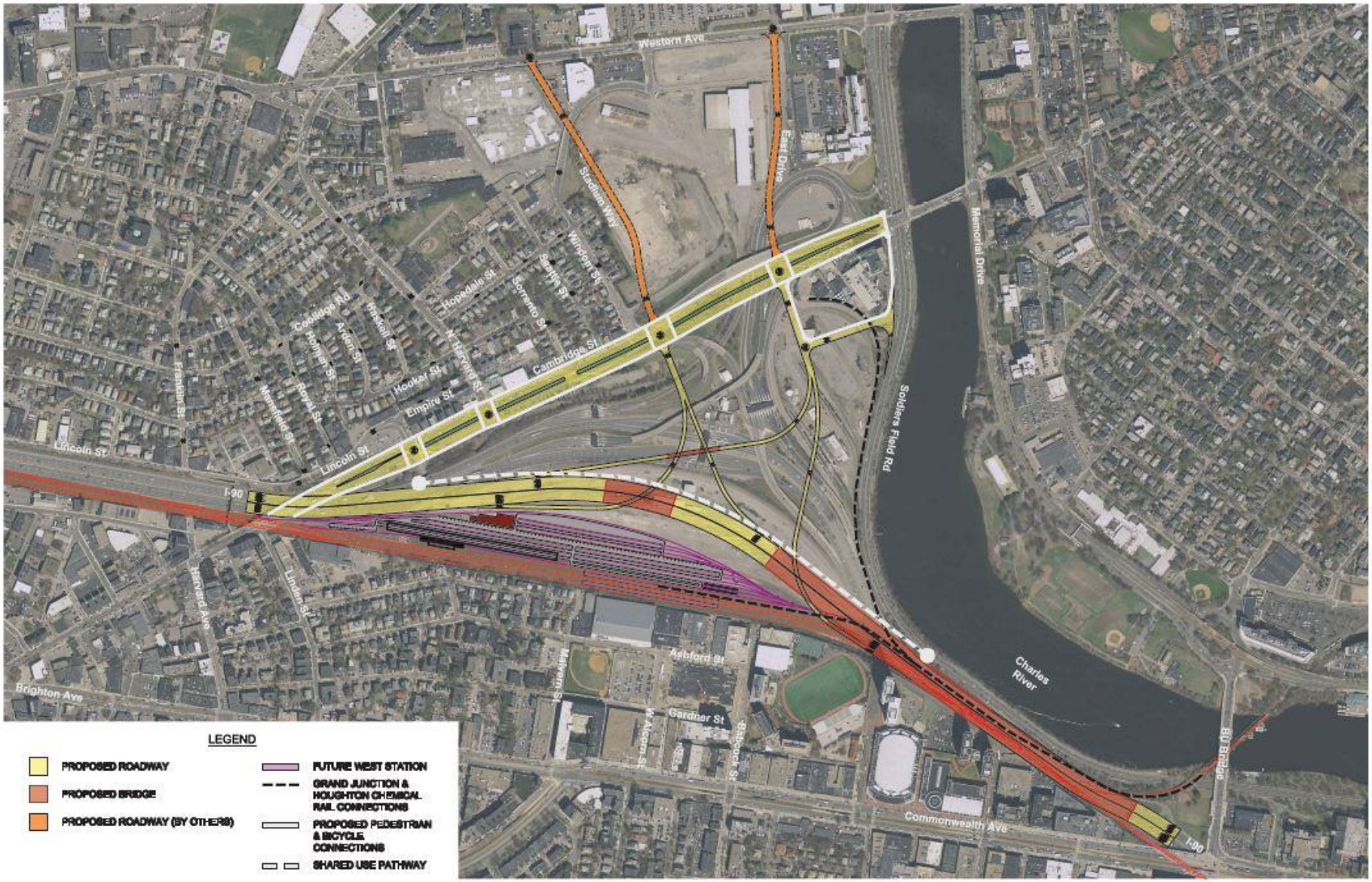
Alternative 1A



I-90 Interchange Allston, MA
Environmental Notification Form - October 2014

FIGURE 9-2

Alternative 1B



I-90 Interchange Allston, MA
Environmental Notification Form - October 2014

FIGURE 9-3

Alternative 1C

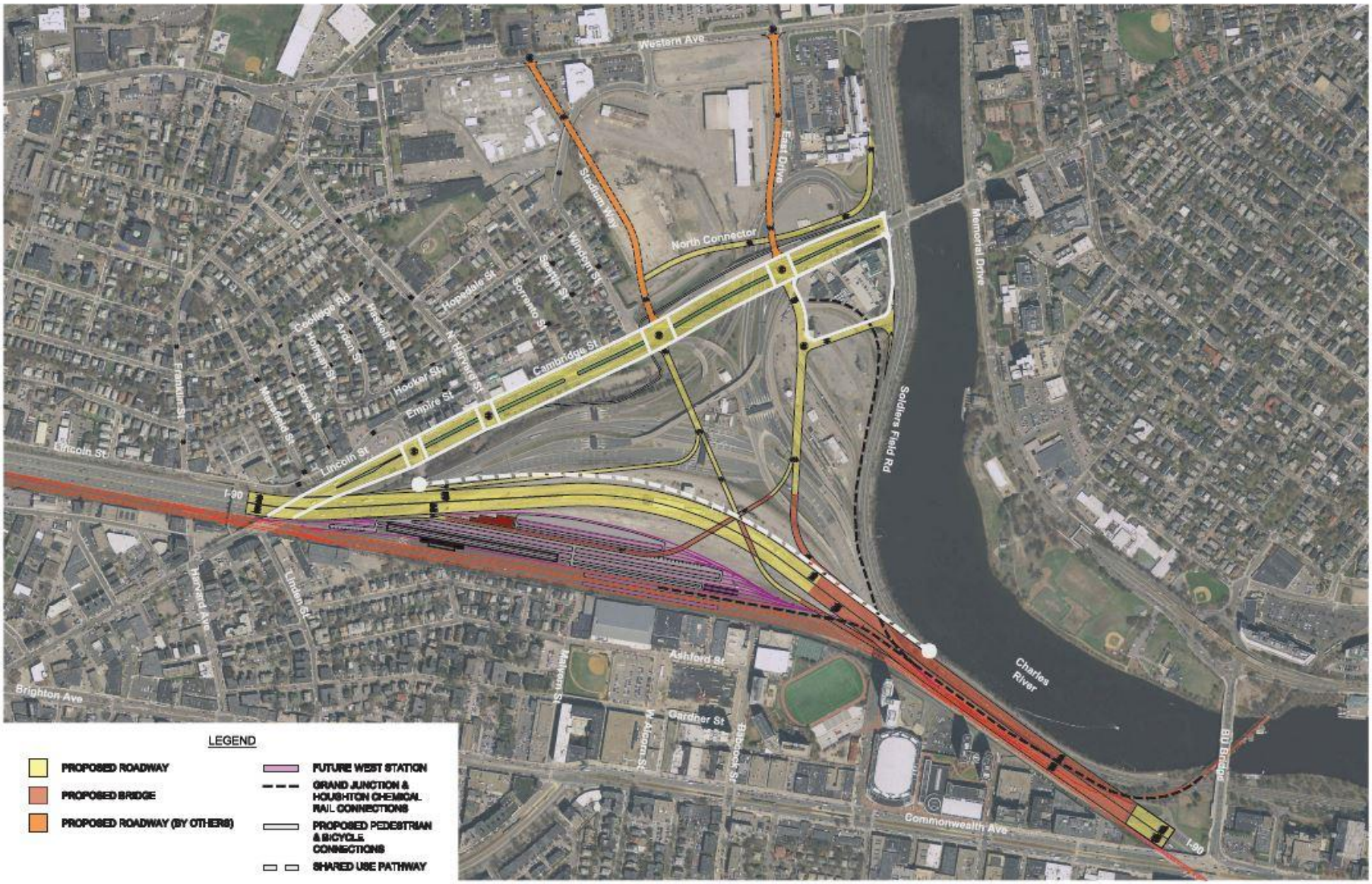


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FIGURE 9-4

Alternative 1D

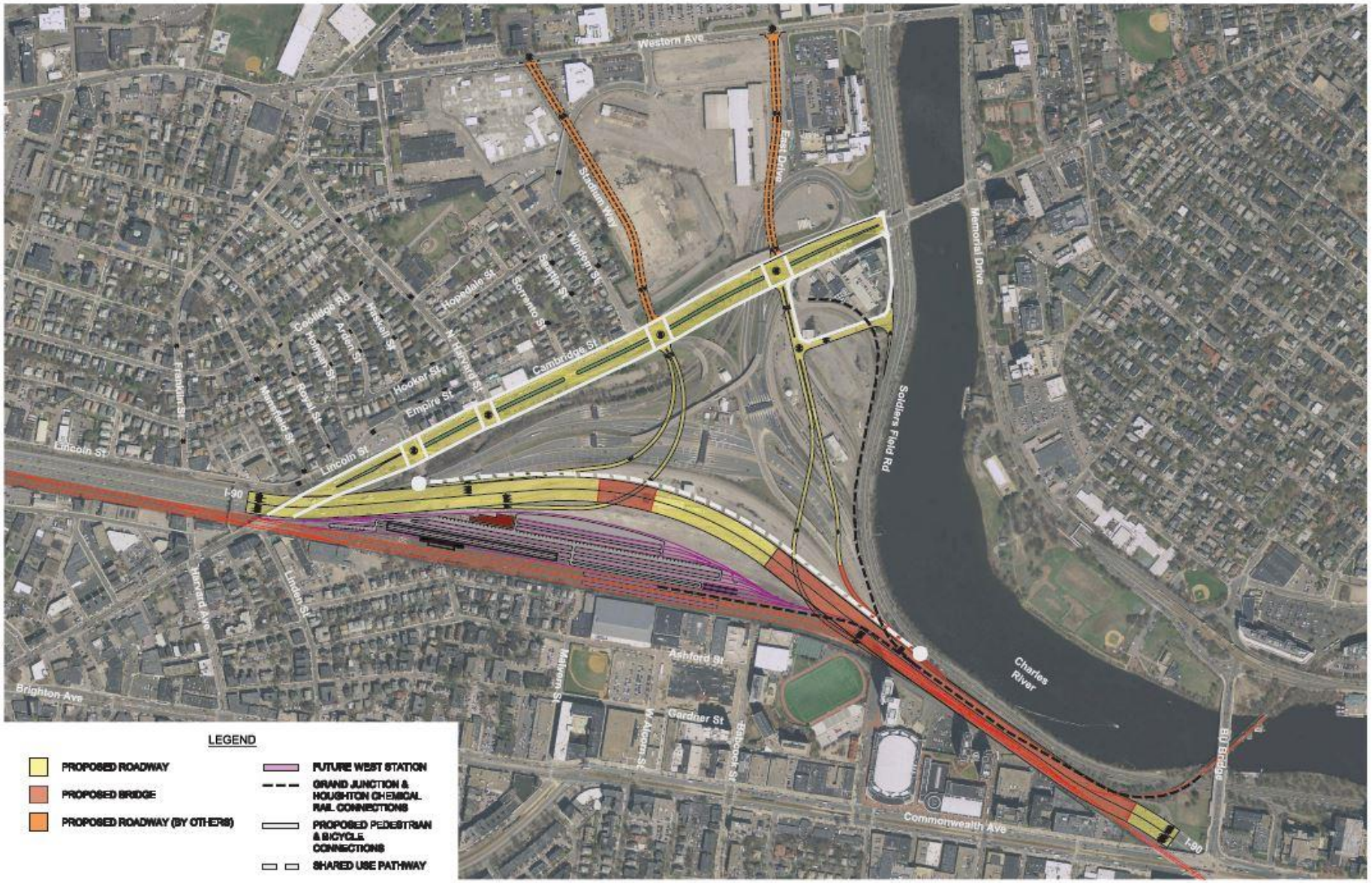

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FIGURE 9-5

Alternative 2A

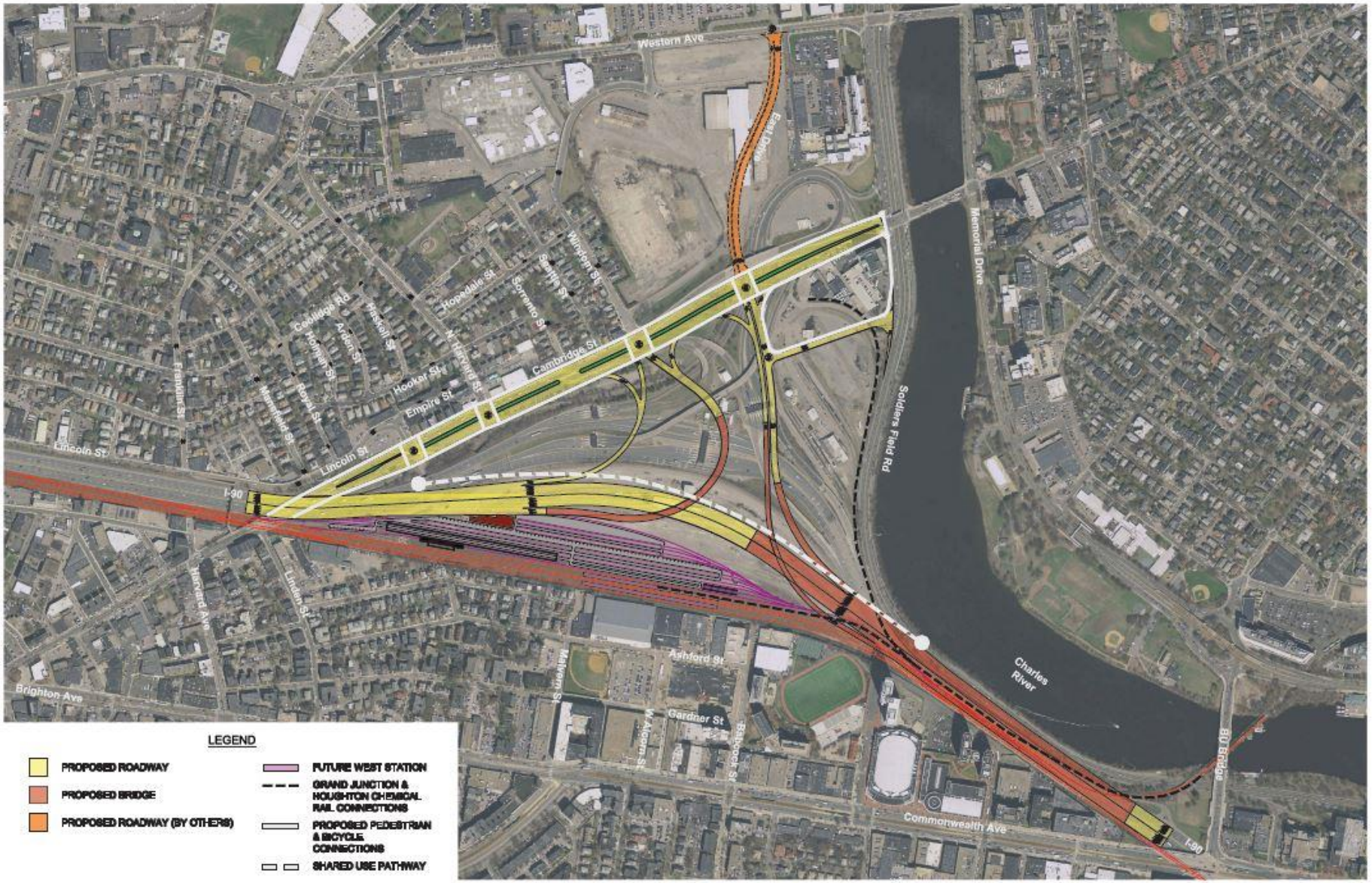

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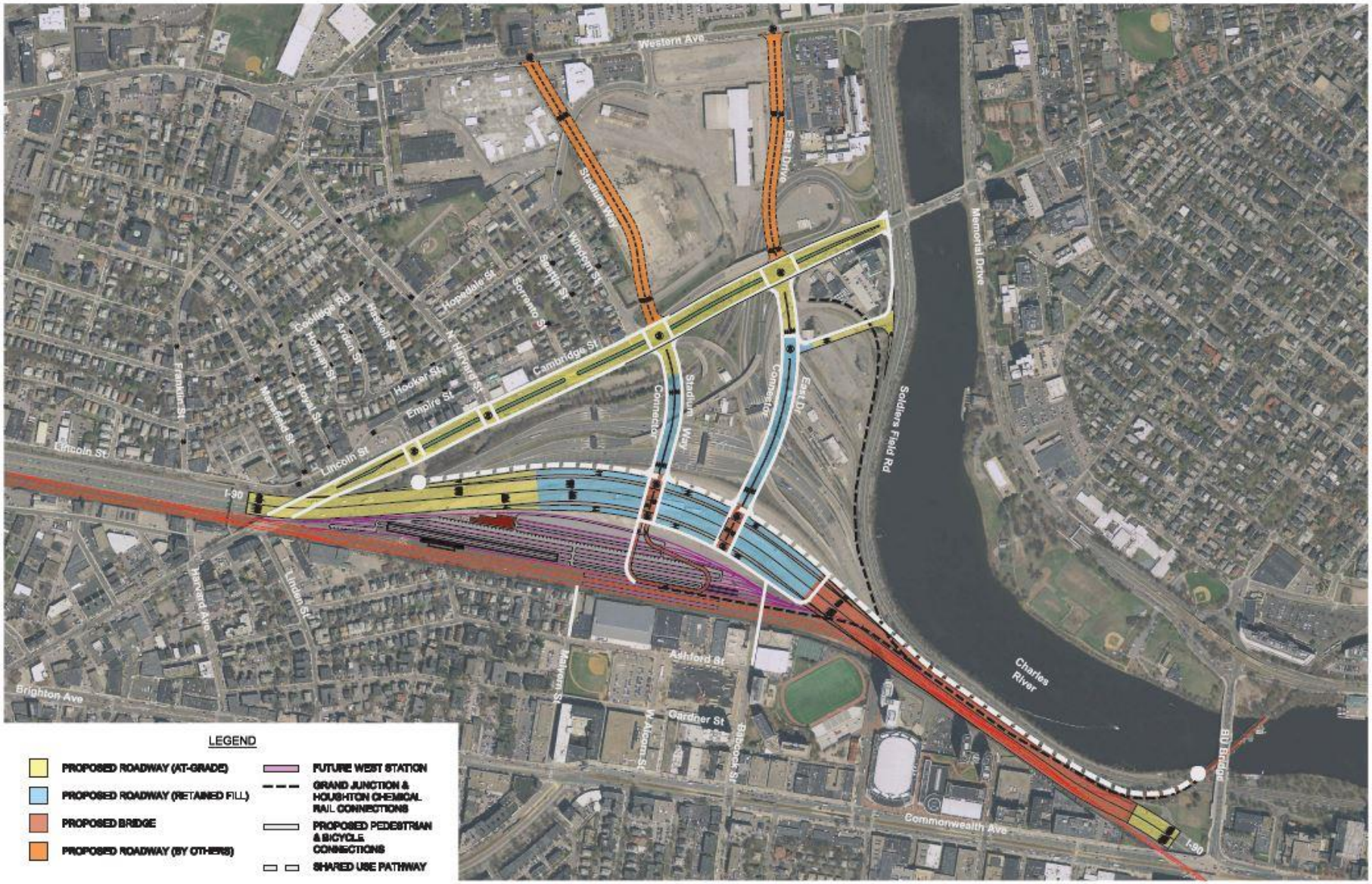
FIGURE 9-6

Alternative 2B



ALLSTON INTERCHANGE

massDOT Highway Division

HORIZONTAL SCALE IN FEET
0 200 600 1000

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FIGURE 9-7

Alternative 3A

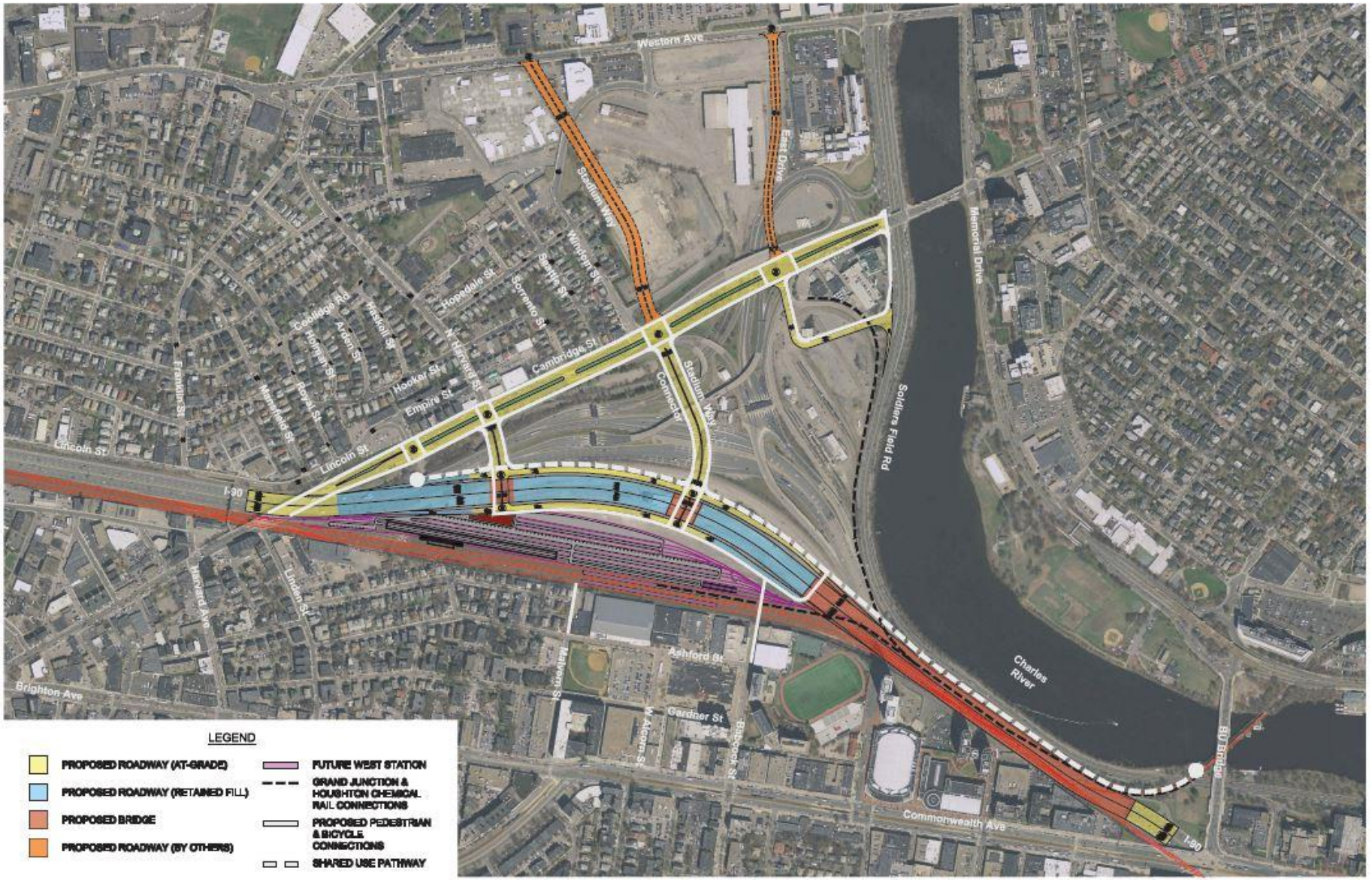

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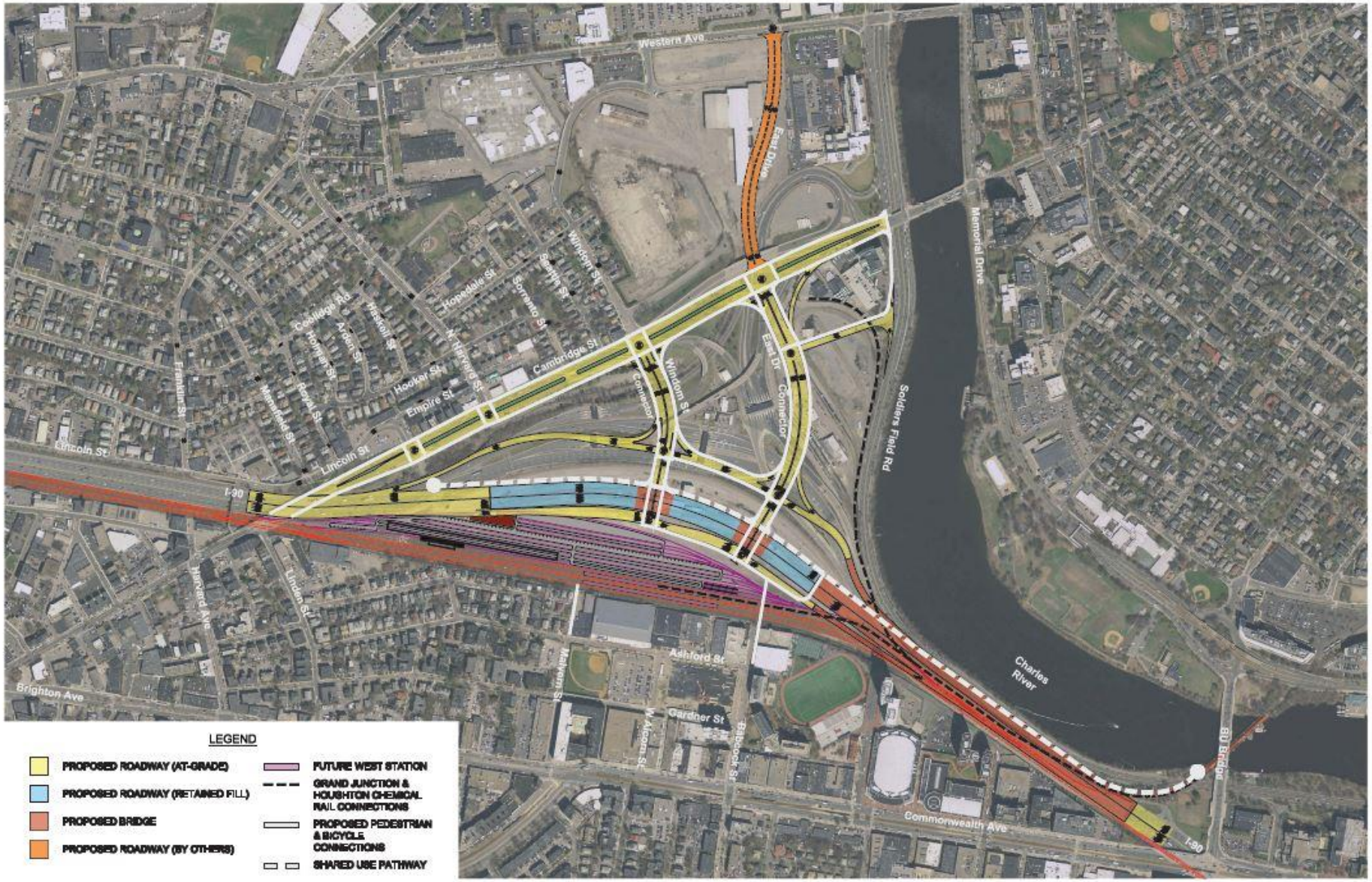
FIGURE 9-8

Alternative 3B



LEGEND

- PROPOSED ROADWAY (AT-GRADE)
- PROPOSED ROADWAY (RETAINED FILL)
- PROPOSED BRIDGE
- PROPOSED ROADWAY (BY OTHERS)
- FUTURE WEST STATION
- GRAND JUNCTION & HOUGHTON CHEMICAL RAIL CONNECTIONS
- PROPOSED PEDESTRIAN & BICYCLE CONNECTIONS
- SHARED USE PATHWAY

ALLSTON INTERCHANGE

massDOT Massachusetts Department of Transportation Highway Division

HORIZONTAL SCALE IN FEET
0 500 1000

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FIGURE 9-9

Alternative 3C

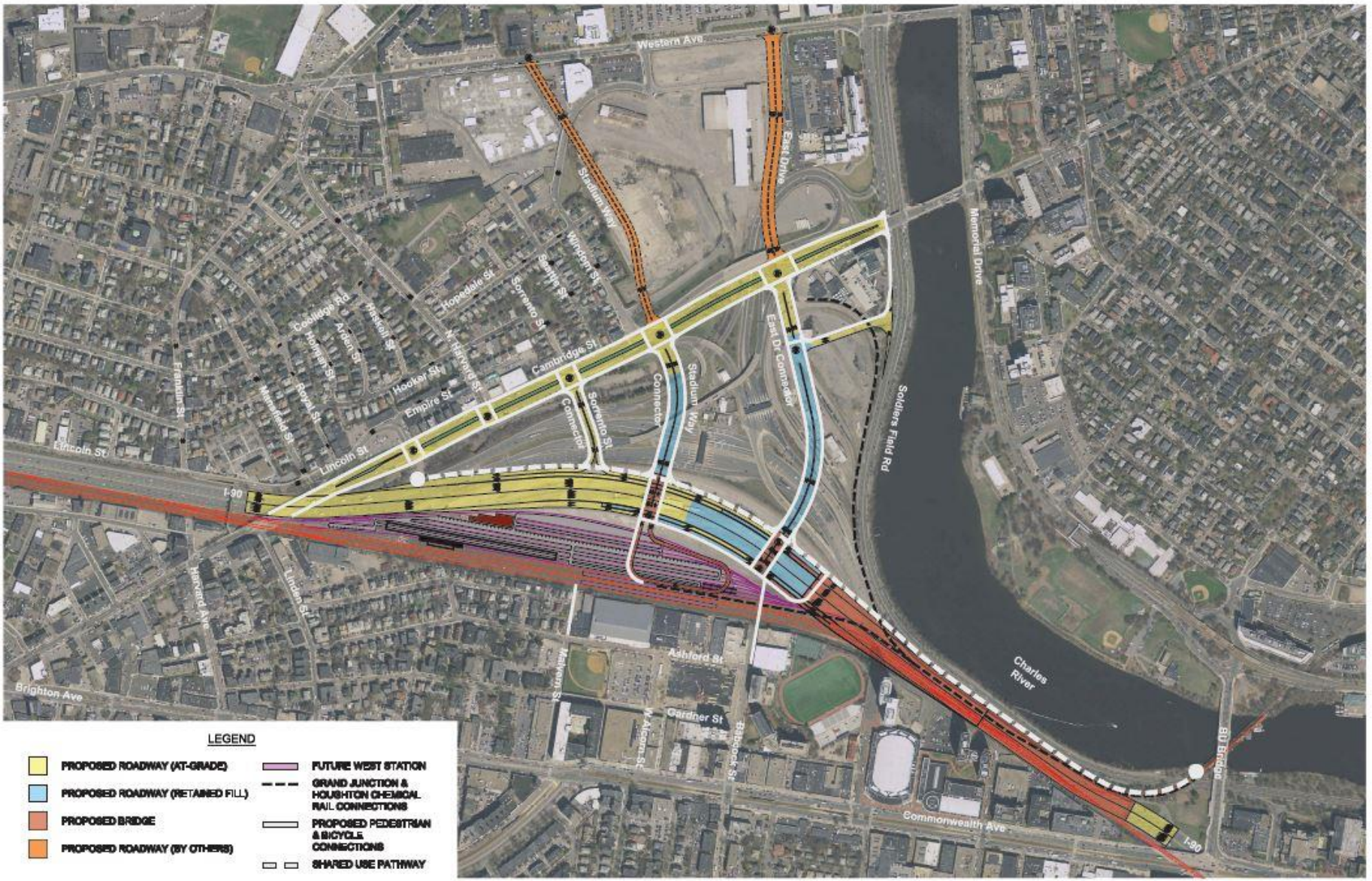

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FIGURE 9-10

Alternative 3D

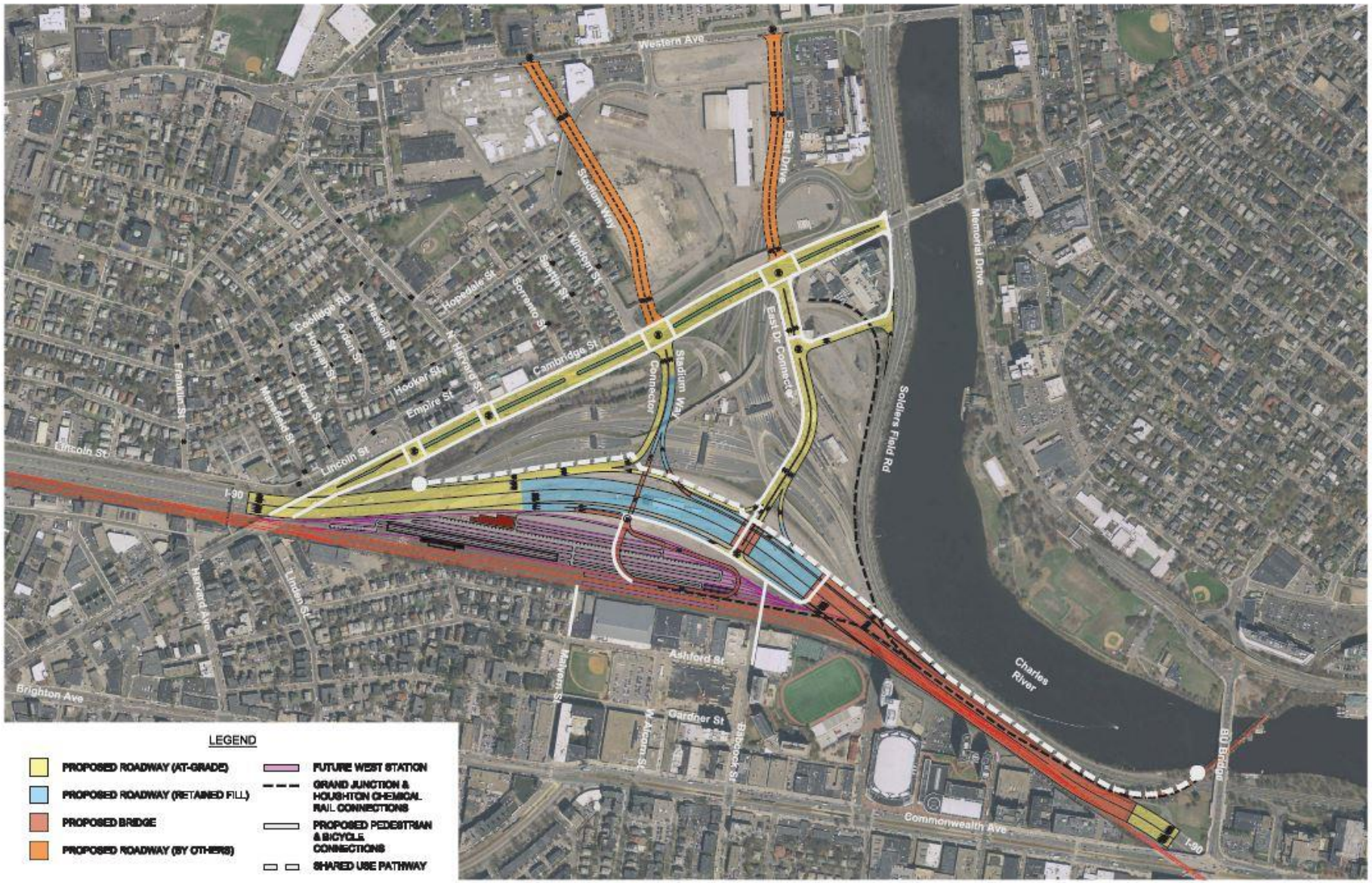

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FIGURE 9-11

Alternative 3E

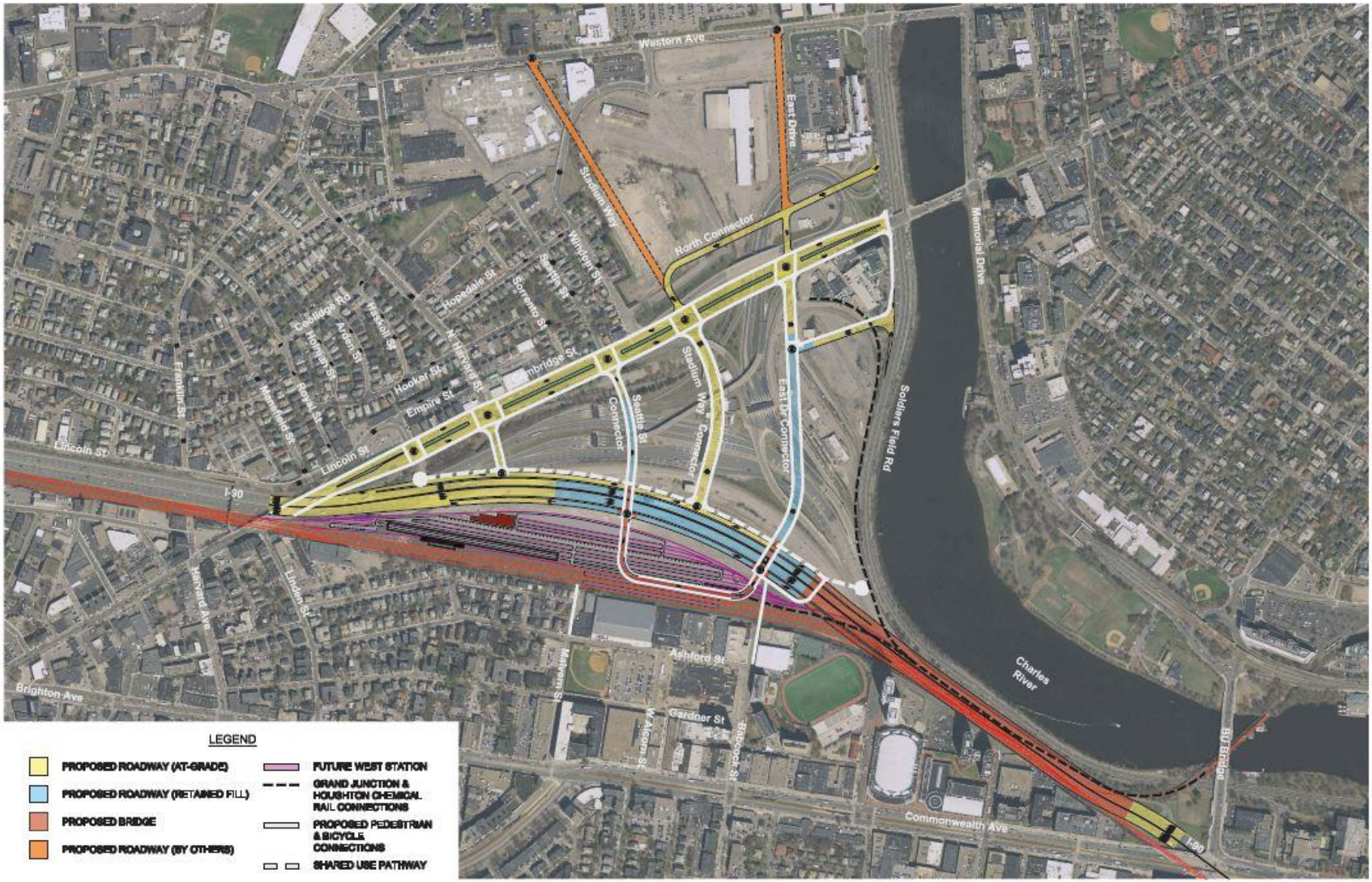

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FIGURE 9-12

Alternative 3F

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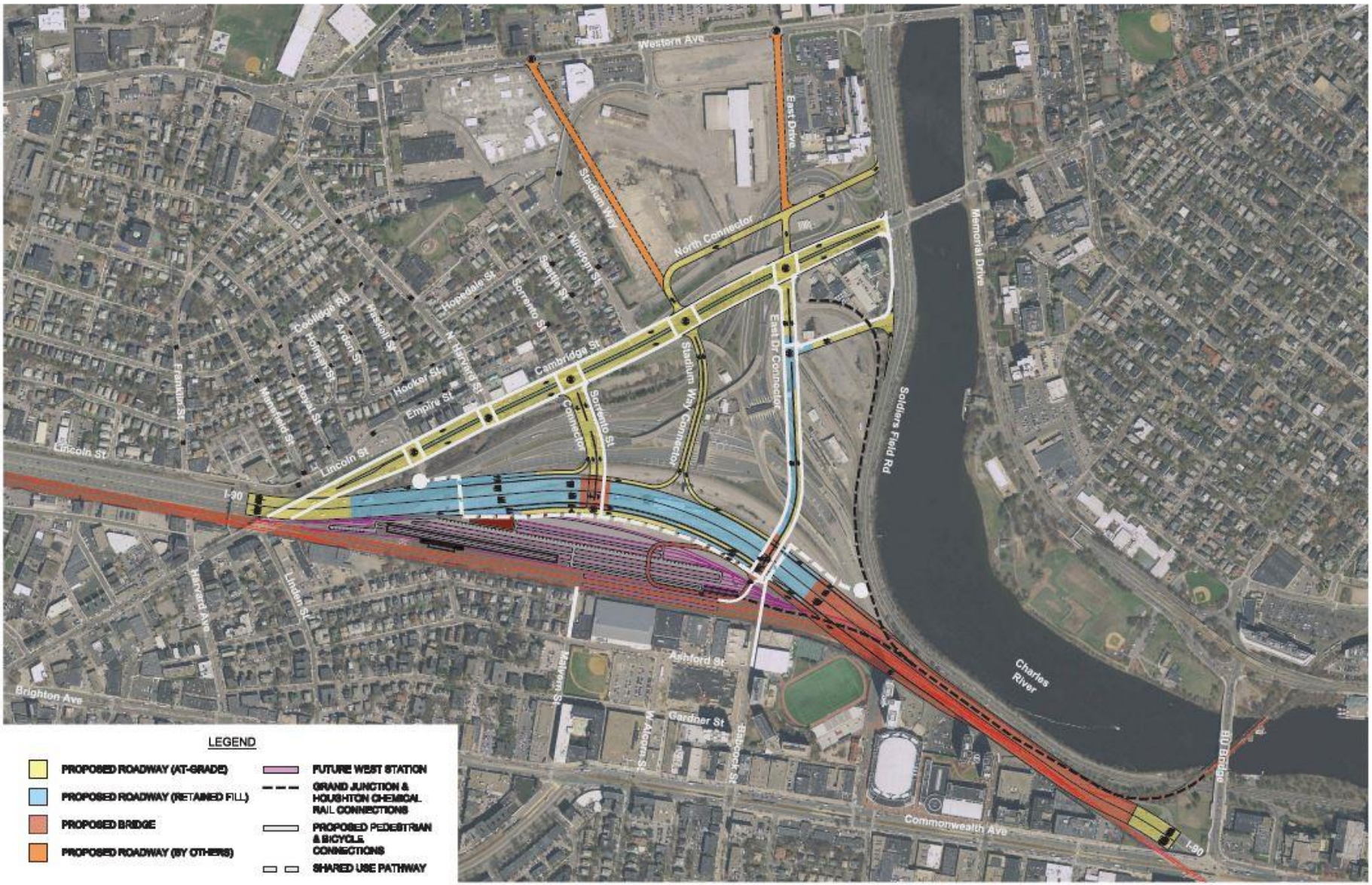
FIGURE 9-13

Alternative 3G



ALLSTON INTERCHANGE

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I-90 Interchange Allston, MA
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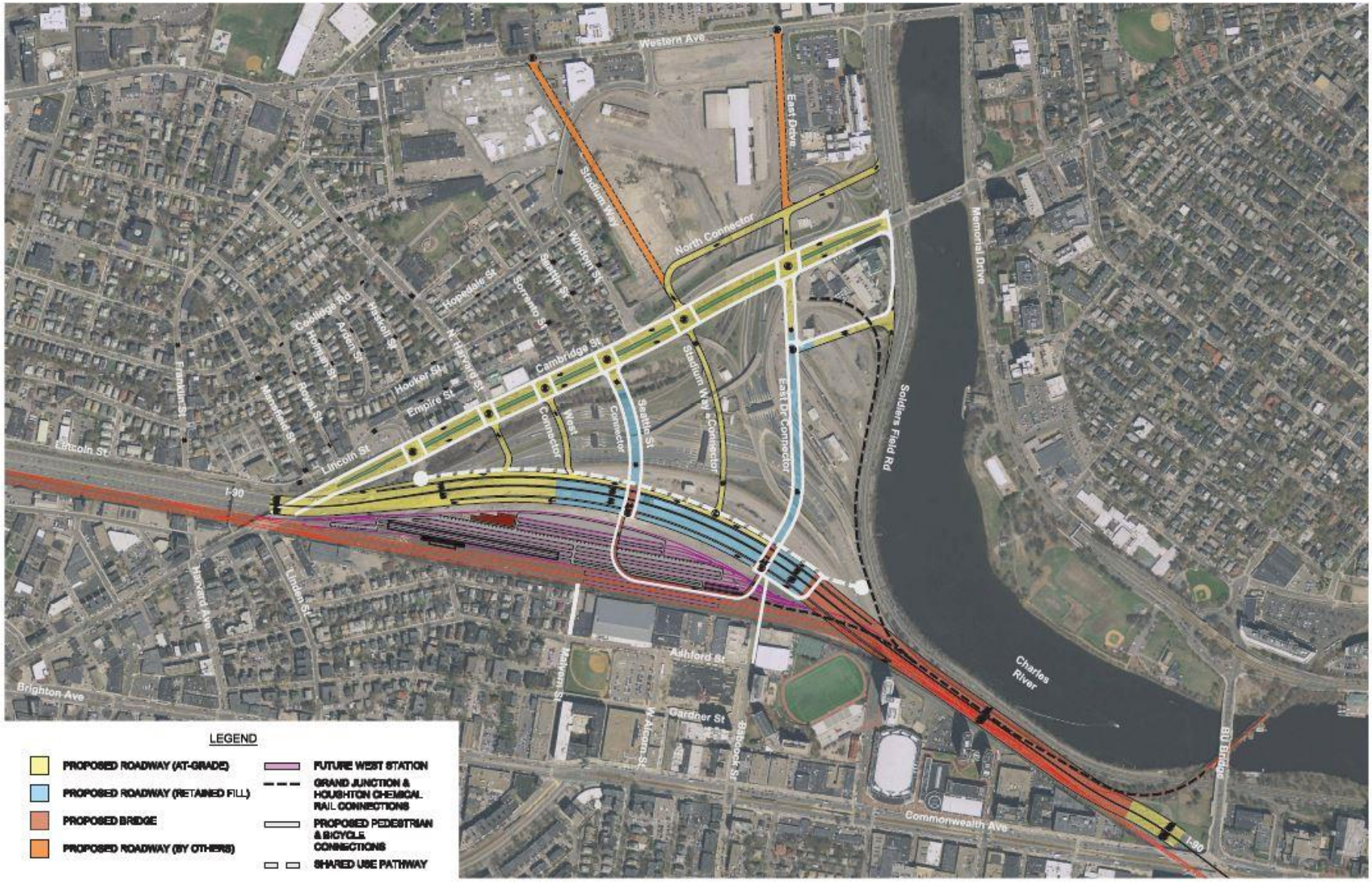
FIGURE 9-14

Alternative 3H



LEGEND

- PROPOSED ROADWAY (AT-GRADE)
- PROPOSED ROADWAY (RETAINED FILL)
- PROPOSED BRIDGE
- PROPOSED ROADWAY (BY OTHERS)
- FUTURE WEST STATION
- GRAND JUNCTION & HOUSATONIC RAIL CONNECTIONS
- PROPOSED PEDESTRIAN & BICYCLE CONNECTIONS
- SHARED USE PATHWAY

ALLSTON INTERCHANGE

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0 200 500 1000

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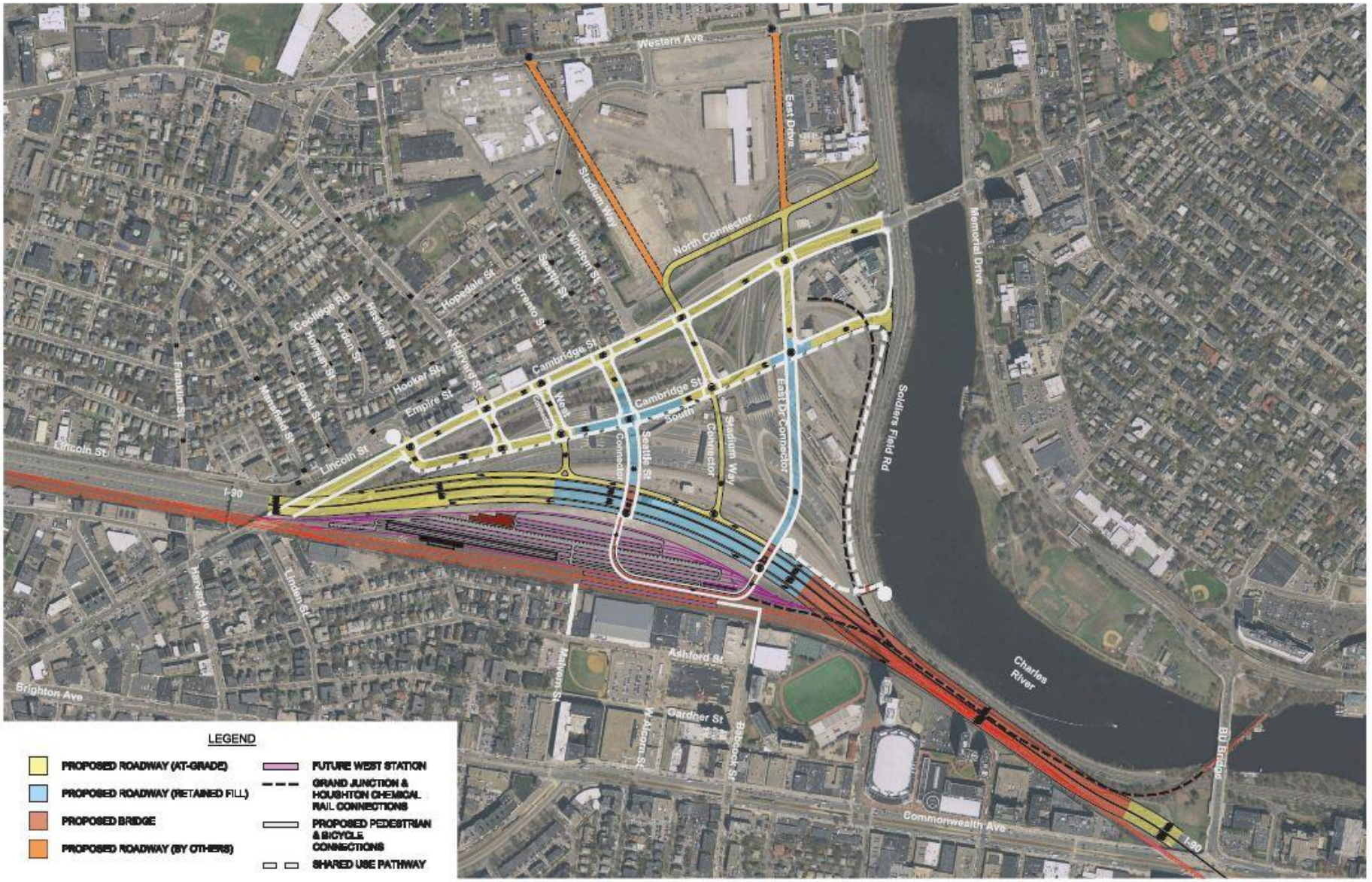
FIGURE 9-15

Alternative 3I



ALLSTON INTERCHANGE

massDOT Massachusetts Department of Transportation Highway Division

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0 200 400 1000

I-90 Interchange Allston, MA
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FIGURE 9-16

Alternative 3J

Attachment 10

Summary of Public Outreach Process

Overview

Begun in the early spring of 2014, the goal of the I-90 Allston Interchange Improvement Project is to reconfigure the Allston Interchange on the Massachusetts Turnpike, also known as Exits 16, 17 and 18, and to replace the aging, structurally deficient Allston Viaduct which carries I-90 over the Worcester/Framingham Commuter Rail line between Boston University and Soldiers Field Road. The project will coincide with implementation of All Electronic Tolling (AET) at the Allston Interchange, along with all other interchanges on the Turnpike, the creation of a new commuter rail station on the Worcester/Framingham line to serve the Allston community, a new commuter rail layover yard and associated rail support facilities. The project also includes a suite of traffic calming improvements to Cambridge Street, and new on- and off-street bicycle/pedestrian facilities including a new shared use path from the area of Lincoln Street down through the interchange parcel to the Paul Dudley White Pathway via a new bicycle/pedestrian bridge as well as new bicycle and pedestrian connections between the area around Boston University and Cambridge Street via the new West Station. Soldiers Field Road will be shifted to the south underneath a portion of the replacement I-90 viaduct and the resulting space turned over to the Charles River reservation for expansion of green space and the White Pathway. All of these elements stem from the project's conceptual design phase, and while all will be subject to further refinements as the project moves through the 25% design phase, MassDOT is committed to their inclusion in the project. Just as significantly, all of the elements outlined above come either in part or in full from direction obtained from the Allston community.

The changes outlined above, though discussed in extreme brevity here, owe much to the public involvement process associated with the conceptual design process. Understanding the level of complexity associated with this project and the anxiety it could cause, MassDOT launched an outreach effort including a project website, a series of broadly advertised public information meetings, and an advisory Task Force. At the time of this writing, the Task Force has met nine times with one more session calendared for November 5th, following the filing of environmental documentation on the 31st of October. The Task Force was composed of local residents and activists, members of the Allston business community, and representatives of key institutional players such as Boston and Harvard Universities.[1] The project team has also had four public information meetings: two in Allston, two in Cambridge.

Narrative of the Public Process

The first meeting associated with this project was a public information meeting held at the Jackson-Mann Community Center in Allston on April 10th, 2014. The purpose of

[1] For a listing of taskforce members, see Table 1 at the end of this Attachment 10.

this meeting was to introduce the project to Allston residents for the first time by laying out MassDOT's goals and objectives as well as the challenges the agency would have to overcome to meet its aims. Some preliminary interchange concepts were also shared at this meeting with the caveat that significant work remained to be accomplished both internally and with the neighborhood before a replacement ramp system and highway alignment would be selected. The tone of this meeting was broadly positive with many audience members praising MassDOT for its open approach to the community. More importantly, much of the commentary provided had a direct impact on the rest of the project including that the project should:

- Enhance safety and mobility for all modes of travel: transit, walking, cycling, and driving;
- Make improvements to Cambridge Street, calming traffic on this roadway and making it into an urban street. Traffic entering Cambridge Street should be slowed;
- Provide safe bicycle and pedestrian access to the Charles River and its associated green space from Allston;
- Make the interchange a "better neighbor," blending it into the Allston neighborhood such that its impact on the area is reduced;
- The interchange replacement type should be the smallest one capable of successfully processing traffic volumes; and,
- Whatever option for the replacement of the interchange was selected, mainline traffic from I-90 should not filter off the highway and onto the residential streets of Allston.

Another public information meeting was held in Cambridge on May 1st, 2014 by arrangement of that municipality's city council. The themes articulated at that meeting were very similar to those noted at the April meeting, but with a particular focus on Cambridge issues, particularly the idea that the replacement interchange and viaduct should not increase noise in the Cambridgeport neighborhood.[2]

The Task Force met for the first time on May 7th. Much of the material covered was a more in-depth review of the information addressed during the April public information meeting. A significant element of this meeting was providing Task Force members with an opportunity to voice their priorities for a successful project. From that conversation emerged the following elements which MassDOT has used for guiding principles in developing the project to date:

- Improving safety for all modes of travel, particularly at those points where entrance and exit ramps for the Turnpike connect to local roadways;

[2] At this meeting, Cambridge Councilors requested that their city be formally represented on the project's taskforce. Based on this request, Bill Deignan, a member of city staff, was added to the group shortly after it began meeting.

- Ensuring that traffic continues to flow and that its impact on abutting residential areas is ideally lessened, and under no circumstances made worse;
- Improving multimodal connections in the area around the interchange;
- Reknitting Allston to itself as the interchange acts as barrier between portions of the neighborhood;
- Tightening multimodal connections between North Allston, Allston Village and the Charles River; and,
- Creating conditions which foster local business.

Another major theme of the discussion on May 7th was the idea of developing new north-south connections over the Turnpike and commuter rail lines between Cambridge Street at the area around Boston University.

The Task Force next met on May 21st to discuss more background information including current traffic operations for all modes, land ownership in the area of and immediately around the interchange parcel, and the physical constraints associated with the project area that had been driving the consultant team's approach towards finding an interchange replacement. Members of the project team also shared several interchange concepts they had been looking at with the Task Force. Generally speaking, these fell into two broad camps: suburban and urban with the taskforce generally preferring the urban types as having less impact on the community and providing greater opportunities to slow traffic to city speeds before it reaches Cambridge Street. Two elements were integrated into the project at this meeting based on guidance from the taskforce: a direct connection between the interchange and Soldiers Field Road inbound and a shared use pathway from the vicinity of Lincoln Street to the Paul Dudley White Pathway along the Charles River. The taskforce again reiterated its strong desire to see Cambridge Street calmed and made into an urban street integrated with its community.

The Task Force also requested that the project team begin developing a set of evaluation criteria by which to rank various interchange replacement concepts. While this particular effort began on May 21st, it would continue throughout the summer and into the fall. Significantly, this meeting introduced a set of "shared values" based on the aspirations for the project articulated by both MassDOT and the Task Force. These values have been used to guide concept development to date and will likely continue to play an important role as the project heads into the design process. They are as follows:

- Improve safety for all modes: walking, cycling, driving, transit;
- Realign I-90;
- Context sensitive design or:
    - Lessen impact of interchange;
    - Avoid inducing cut-through traffic with new configuration;
- Reconnect sections of Allston to each other and the River;
- Protect the neighborhood during construction;

- A more vibrant Cambridge Street that serves all modes; and,
- Accessibility to transit at future West Station.

On June 11th, the Task Force met again to continue to discuss background data to ensure that the membership would be working with the same baseline facts as the project team. This meeting focused on the constraints associated with reconstruction of the I-90 where it comes out from under Commonwealth Avenue, ascends onto the Allston viaduct, and crosses the Grand Junction Line and commuter rail tracks. This is the tightest part of the MassDOT right-of-way, an issue which is compounded by the fact that the viaduct is currently below modern highway safety standards without shoulders of any kind which presents both operational challenges and an outstanding safety hazard.[3] The project team outlined a reconstruction scheme by which the viaduct could be widened and replaced while keeping portions of the old structure in service during the replacement process. A portion of the viaduct would extend out over Soldiers Field Road, though not the adjacent parkland. This triggered a significant discussion among Task Force members who expressed concerns to the project team that they were not taking seriously their desires to improve bicycle and pedestrian connections while minimizing impacts on the Allston neighborhood and its green space along the Charles River. Several members suggested that MassDOT was attempting to carry more traffic on the Turnpike through capacity enhancement.[4]

One important piece of Task Force direction to the project team which came out of this discussion was the idea that the suburban interchange types should be dropped from further consideration and that all future development efforts should focus on further refining the urban type. The evaluation criteria requested at the previous meeting were introduced but triggered relatively little discussion.

On June 25th, the Task Force met to both begin looking at elements of bicycle and pedestrian connectivity and look at a series of "out of the box" solutions for the replacement of the I-90 viaduct suggested by the Task Force based on the discussion of a wider, design-standard viaduct which had taken place on the 11th. Among the out of the box solutions dismissed on the basis of either cost, lack of constructability, misalignment with the project goals, or safety deficiency were the ideas of lowering the Turnpike and elevating the commuter rail above it, depressing the rail lines and placing the highway above them, departing from Interstate Highway safety standards, and a diverging diamond interchange.

One out of the box concept which has been carried forward by the project team and will be further fleshed out in the project's design process is the idea of shifting a portion of

[3] MassDOT is actively seeking to place shoulders on other similarly "shoulderless" sections of I-90 on the Turnpike Extension where it passes through Boston.
[4] It should be noted that the shoulders envisioned are safety improvements *only* and will not serve to carry additional traffic.

Soldiers Field Road under a widened I-90 viaduct with the resulting space nearer to the Charles River added into the parkland. This meeting also addressed bicycle and pedestrian connections in and around the interchange area including the connections from the area around Babcock and Malvern Streets out to Cambridge Street, the shared-use pathway from the Lincoln Street area out to the Charles River via the interchange parcel, and cycling and pedestrian connections between Cambridge Street and the future West Station. Reaction to these connections was generally positive although Task Force members reminded the project team of the need to ensure that their plans would dovetail with the Boston Bicycle Network Plan and to work to provide a comfortable experience for cyclists and walkers on the approach streets between Cambridge Street and the new transit connection.

The Task Force next met on July 16th. This meeting focused primarily on process and Cambridge Street. On the process side, the Task Force was introduced to a flowchart, requested by the membership at the previous meeting, which showed them where they were graphically in the overall project conceptual design process. Members appreciated this view, but expressed concern that there would be adequate time for an "iterative" process with the project team. The discussion next turned to the evaluation criteria which had been growing in depth and breadth based on Task Force and community input since May. While some of the criteria were well-received, the membership expressed concern that the list was not comprehensive enough. Based on this reaction, the project team offered the group a chance to contribute their own evaluation criteria for addition by August 6th. Expanded definitions of the existing criteria were supplied to the Task Force members to help them with this "homework" exercise to assist them in their thinking. This meeting also showed early concepts for calming traffic on Cambridge Street including the introduction of cycle tracks on both sides of the roadway, on-street parking, wider sidewalks, and a tree-lined median reflected by new street trees on either side of the road. Reaction to the Cambridge Street enhancements was generally positive, although several Task Force members expressed their concern over the roadway's width and asked that the project team look at ways to narrow its vehicular cross-section.

On August 13th, the Task Force met and began its session by addressing some of the overlap between the MassDOT project to replace the viaduct and interchange, efforts by the Boston Redevelopment Authority (BRA) to understand future land use and place making in the land that will be freed up by the reconfiguration of the interchange, and short-term safety improvements being undertaken by the City of Boston Transportation (BTD) and MassDOT's District 6. This was significant in that it served to help alleviate Task Force concerns that there was inadequate coordination between MassDOT, BRA, and BTD. The short-term safety improvements outlined by BTD's Commissioner Jim Gilooly, also a Task Force member, were well-received as was the BRA presentation. As part of the BRA presentation, chief planner Kairos Shen formally requested that MassDOT continue to analyze the merits of Urban Interchange Option 3F which included a high Turnpike mainline with streets ramping up to meet it. The BRA also

expressed support for the position held by the MassDOT team that while bicycle and pedestrian connections to West Station and Cambridge Street from the area around Boston University are appropriate, vehicular connections are not since this is out of alignment with the Task Force's direction to protect neighborhood streets from new traffic. This meeting also addressed further revisions to the evaluation criteria. A key element which emerged from this discussion was the idea that Task Force members were having difficulty parsing those elements which were required to evaluate an interchange type to take into a design effort and elements appropriate to the project's design period. This would become a recurring theme for much of the Task Force process.

The meeting's last topic was an update on the ongoing effort to analyze the shifting of Soldiers Field Road. The project team had determined that there were two possible options for such a shift: one which would place a portion of the road beneath the viaduct and a more extreme version which would move the entire parkway under the structure. Of these two, the former is considered to be far more constructible than the latter, but the project team committed to analyzing this issue further during the design phase since either option works equally well with any interchange replacement concept.

The September 3rd Task Force meeting returned to a focus on traffic. Scott Peterson of the Central Transportation Planning Staff (CTPS) of the Boston Metropolitan Planning Organization (MPO) provided the Task Force with a briefing on how the regional travel model, kept by CTPS as part of its mandated role, would be used to analyze the traffic performance of the interchange concepts. While his presentation was generally well-received, some Task Force members questioned whether it adequately reflected MassDOT's GreenDOT policies and commitment to tripling the share of trips made by walking, cycling, and transit by a third by 2030.

Following the regional traffic presentation, Mike Hall of the project team walked the Task Force through local traffic projections with a particular focus on how the project was tackling traffic calming on Cambridge Street. Mike's presentation was warmly received with several Task Force members complementing the project team for their approach and the care clearly put into the work. Of particular interest to the membership were north and south parallel roadways for Cambridge Street which would help to cut down the width of this roadway and remove double turning lanes thereby making things safer for cyclists and pedestrians. A variant presented on Cambridge Street twinned with a southern parallel roadway was the idea, of having these two roadways operate as a one-way pair. While this would allow both roads to be narrower, some Task Force members suggested this would not foster ideal conditions for businesses and transit bus users. In some instances, proponents of this idea seemed to be leaning towards the proposition that a wider, two-way roadway would be preferable to a one-way roadway even though it would result in narrower streets. This issue will be further explored during the project's design phase. Task Force members reminded the design team to continue to focus on making the approach streets to West Station as

bicycle and pedestrian friendly as possible and calming Cambridge Street to make it more of a large neighborhood road.

Following the September 3rd Task Force meeting, this group paused in its process to bring its progress back to the broader community in a public information meeting. This public information meeting, which had been requested by Task Force members during the later summer sessions of their group, was held on September 18th at the Jackson-Mann Community Center. The audience was briefed on the Task Force's work to date and then introduced to the interchange concepts then under active consideration, all of them in the urban category, and designated Options 3F, 3G, 3H, and 3I respectively. Using 3I as an example, project staff walked the audience through new connections to Cambridge Street, possible shifting of Soldiers Field Road and the accompanying enlargement of the Paul Dudley White Pathway, connections to West Station for all modes including the bicycle and pedestrian connections between Babcock and Malvern Streets to Cambridge Street, bicycle and pedestrian enhancements along Cambridge Street, reconstruction of the Lincoln Street pedestrian bridge, and the shared use path from Lincoln Street to the Paul Dudley White Path.

The audience's reaction was strongly positive with praise given to both the Task Force and project team. Many of the comments offered by community members addressed issues which will be further and fully tackled in the upcoming design phase including determining how much Soldiers Field Road can shift towards Boston University, refining bicycle and pedestrian accommodations, particularly along Cambridge Street, and investigating measures to mitigate noise impacts from rail operations at West Station and its associated support facilities. Several comments also addressed the strong interest from the Allston community in land use and place making along Cambridge Street and in the to-be-vacated land in the interchange parcel. It was noted that while MassDOT cannot dictate land use, it will address place making along Cambridge Street and other areas where it has control during the design phase.

The September 18th public information meeting, like its April counterpart, was mirrored by a briefing in Cambridge on September 23rd. At the request of the City of Cambridge, public involvement staff from the project team presented the project to the Cambridgeport Neighborhood Association in conjunction with Task Force member Jessica Roberts. Due to a full agenda, the presentation of the project was heavily compressed, but the audience was generally supportive. Project team members were able to address traffic and noise concerns voice by audience members though it is recognized that more work remains to be done on both topics during the design phase. While it is outside of the project scope, significant interest was expressed in providing a bicycle and pedestrian connection from the Paul Dudley White Path to Cambridge via the Grand Junction Railroad Bridge which the I-90 Allston Project is holding harmless to ensure the viability of future transit operations over this structure. The project will do nothing to prevent these future connections in addressing the replacement of the viaduct and interchange.

On October 1st, the Task Force met again to continue its work. At this Task Force meeting, MassDOT project manager Mike O'Dowd reminded the membership that the day prior, Governor Deval Patrick had officially incorporated the construction of West Station into the project, funding for its creation having been arranged. Prior to this point, only planning for the station had been integrated into the project. The manager of MassDOT's GreenDOT project, Assistant Secretary Ned Codd, was also present to discuss how his unit interfaces with the project and how he will continue to monitor it through design to ensure that it meets the agency's internal environmental goals. A listing of elements, nearly all of them items of significant community interest, which will be addressed during the design phase, was provided by the project team.

This meeting was significant in that members of the project team presented the Task Force with Option 3J, a member of the urban interchange group, which is "descended" from Option 3F, but with modifications based on input received from the community and Task Force. Future traffic operations under this option were also presented. While the option was positively received, the Task Force's focus was once again heavily on design period questions particularly making the approach streets between Cambridge Street and West Station pedestrian friendly. Some members of the Task Force suggested this could only be accomplished through the incorporation of a deck over the commuter rail layover tracks. While MassDOT cannot create such a deck, as it is not the landowner, the highway division and MBTA are conducting their planning and engineering exercises in the area to ensure that places for support columns are made if Harvard University wishes to exercise its air rights. The idea of a full vehicular connection between Babcock and Malvern Streets to Cambridge Street was raised again by a handful of Task Force members. As was noted in August, this idea is not seen as desirable by MassDOT, BTD, or the BRA. Lastly, Task Force members underscored the importance of continued public involvement during the design period with several asking that the Task Force be kept in operation.

On October 15, the Task Force met to discuss the conceptual design of West Station, the upcoming environmental filings and design process, and to view 3-D renderings of Option 3J. This last was especially important to the Task Force and the renderings were warmly received with several Task Force members expressing their thanks for the work which had clearly gone into them. The discussion of the conceptual design of West Station was kicked off by Matt Ciborowski, MassDOT transportation program planner. The conversation covered conceptual design aesthetics, West Station access and frequency of usage. It was described that in general, West Station will have an appearance similar to the Yawkey Way Station and the JFK/UMass Station where pedestrians will travel from the boarding platform, up and across a mezzanine deck to access train facilities. Relating to West Station but in a larger context, the Task Force conversation shifted to the discussion of pedestrian and bicycle connections across the Beacon Park Rail Yard (BPY). It was questioned whether the pedestrian and bicycle

throughway would be a part of West Station or separate. MassDOT explained that the connection across the BPY will be at West Station but separate from the Station facilities. Connections across the rail yard will be accessible at times when West Station is closed. The final point of discussion surrounded the Task Force's deep interest in the public involvement process following the end of the conceptual design phase. At present, MassDOT is committed to quarterly meetings, briefing community groups upon request, maintenance of the project website, and responses to inquiries via email and telephone.

As was noted earlier in this document, the Task Force will gather again on November 5th to provide the membership with copies of the environmental documentation and guidance on engaging with the MEPA process.

Conclusion

Option 3J and its variants will be listed as the preferred concepts in the Environmental Notification Form the Allston Interchange Improvement Project team files with the Executive Office of Energy and Environmental Affairs at the end of October, 2014. In brief, it includes an urban interchange, pedestrian and bicycle improvements along Cambridge Street, a shared-use pathway from the area adjacent to Lincoln Street directly to the Charles River's green space and Paul Dudley White Path, bicycle and pedestrian connections between the area around Boston University out to Cambridge Street, West Station, and a direct connection between the approach streets from I-90 out to Soldiers Field Road. A short parallel roadway to Cambridge Street's north helps to bring traffic from Soldiers Field Road to I-90 east and westbound to help narrow Cambridge Street. Its two chief variants include a Parallel Roadway south of Cambridge Street which depending on what is discovered in the design phase could be one way, operating as a pair with a one-way Cambridge Street, or two-way with a two-way Cambridge Street. The exact location of the shared use pathway could vary based on whether this Parallel Road south of Cambridge Street is found to be required for traffic operations and meeting other project goals such as a narrower, calmer, more neighborhood-like Cambridge Street, but the bicycle and pedestrian infrastructure along one alignment or another. This option for the replacement of the current interchange can clearly be seen to have benefitted from and driven by input as laid out in this document. It successfully addresses both the shared values outlined in May, and the following elements which we have found to be essential to the community:

- New bicycle and pedestrian connections east-to-west and north-to-south;
- New connections to the Charles River, drawing Allston closer to its key green space;
- A realigned I-90 can take full advantage of the air quality benefits associated with AET while having a reduced impact on the surrounding neighborhood;

- Highway-like roads are pushed as far back towards the mainline of I-90 as possible;
- A calmer, more neighborly Cambridge Street on which cars still flow, but do not dominate; and,
- New transit connections to Boston, Newton, Framingham, and Worcester via commuter rail at West Station.

Even the chief questions that remain to be answered in the design period are from the Task Force: just how much can Soldiers Field Road shift to the south and how much new green space will that create? Should there be a Parallel Road to the south of Cambridge Street and if so, should it operate in a one-way pair with Cambridge Street? What is the right allocation of space on the new shared-use pathway? What are the appropriate noise mitigation steps to take to protect the neighborhood for commuter rail operations at West Station? The fact that these questions have come to the fore over the past few Task Force meetings show that this project is ready to move ahead into design and to allow the community to truly begin wrestling with those elements which will ultimately impact their daily lives. At the 9th taskforce session, while many of these questions were voiced again, nobody looked at Option 3J and said "that isn't it." While much work remains to take the concept of Option 3J and make from it a buildable design, MassDOT and its design team are ready and excited, with the continued help and advice of the Allston community, to do just that.

Table 1 – Taskforce Listing and Affiliations

Name	Affiliation
Joseph Beggan	Harvard University
Glen Berkowitz	Livable Street
Andrew Bettinelli	Senator Brownsberger Staff
William Brownsberger	State Senator
Steve Bushnell	Senator DiDomenico Staff
Craig Cashman	Representative Moran Staff
Mark Ciommo	Boston City Councilor
Nick Clemons	Congressman Kennedy Staff
Ken Coelho	Federal Highway Administration
Jim Curley	Representative Honan Staff
John Cusack	Allston Resident
Matthew Danish	Allston Civic Association
Bill Deignan	City of Cambridge Planning Department
Sal DiDomenico	State Senator
Richard Dimino	A Better City
Anthony D'Isidoro	Allston Civic Association
Brain Doherty	Boston Building Trades Council
Rochelle Dunne	Allston Resident
Paola Ferrer	Allston Resident
Nicole Freedman	Boston Bikes Program
James Gillooly	Boston Transportation Department
Anabela Gomes	Brighton Allston Improvement
Vineet Gupta	Boston Transportation Department
Mark Handley	Councilor Ciommo Staff
Bruce Houghton	Houghton Chemical
Kevin Honan	State Representative
Barbara Jacobson	Mass Bike
Stephen Jones	MBTA
Marc Kadish	Allston Board of Trade
John Laadt	Mayor's Office of Neighborhood Services
Wendy Landman	Walk Boston
Elizabeth Leary	Boston University
Will Luzier	Allston Resident
David Loutzenheiser	Metropolitan Area Planning Council
Wayne MacKenzie	Allston Resident
Mary Maguire	Triple AAA
Harry Mattison	Charles River Conservancy
Galen Mook	Allston Resident

Table 1 – Taskforce Listing and Affiliations

Name	Affiliation
Michael Moran	State Representative
Tom Nally	A Better City
Paul Nelson	MASCO
Alana Olsen	Allston Village Main Streets
Joe Orfant	Department of Conservation and Recreation
John Pourbaix	Construction Industries of Massachusetts
Susanne Rassmussen	City of Cambridge Planning Department
Tad Read	Boston Redevelopment Authority
Jessica Robertson	Allston Resident
Steve Silveira	Boston University
David Watson[5]	Mass Bike
Kevin Wright	Federal Highway Administration
Jillian Zywien	Mass Motor Association

[5] Replaced after the 9th taskforce meeting by interim director Barbara Johnson.