



Welcome!

Route 1 Viaduct Rehabilitation Project
Chelsea | Project File No. 605287

Local Business Briefing
Chelsea Station Restaurant Bar & Lounge
March 19, 2018 | 11:00 a.m.

Agenda

- **Welcome and Introductions**
- **Project Overview**
 - Context
 - Need
 - Goals
 - Schedule
 - Scope
- **Anticipated Project Impacts**
- **Public Outreach**
- **Design Changes Based on Community Input**
- **Discussion**

Project Team

MassDOT's Highway Division

Project Proponent

Federal Highway Administration

Responsible for Oversight and NEPA compliance

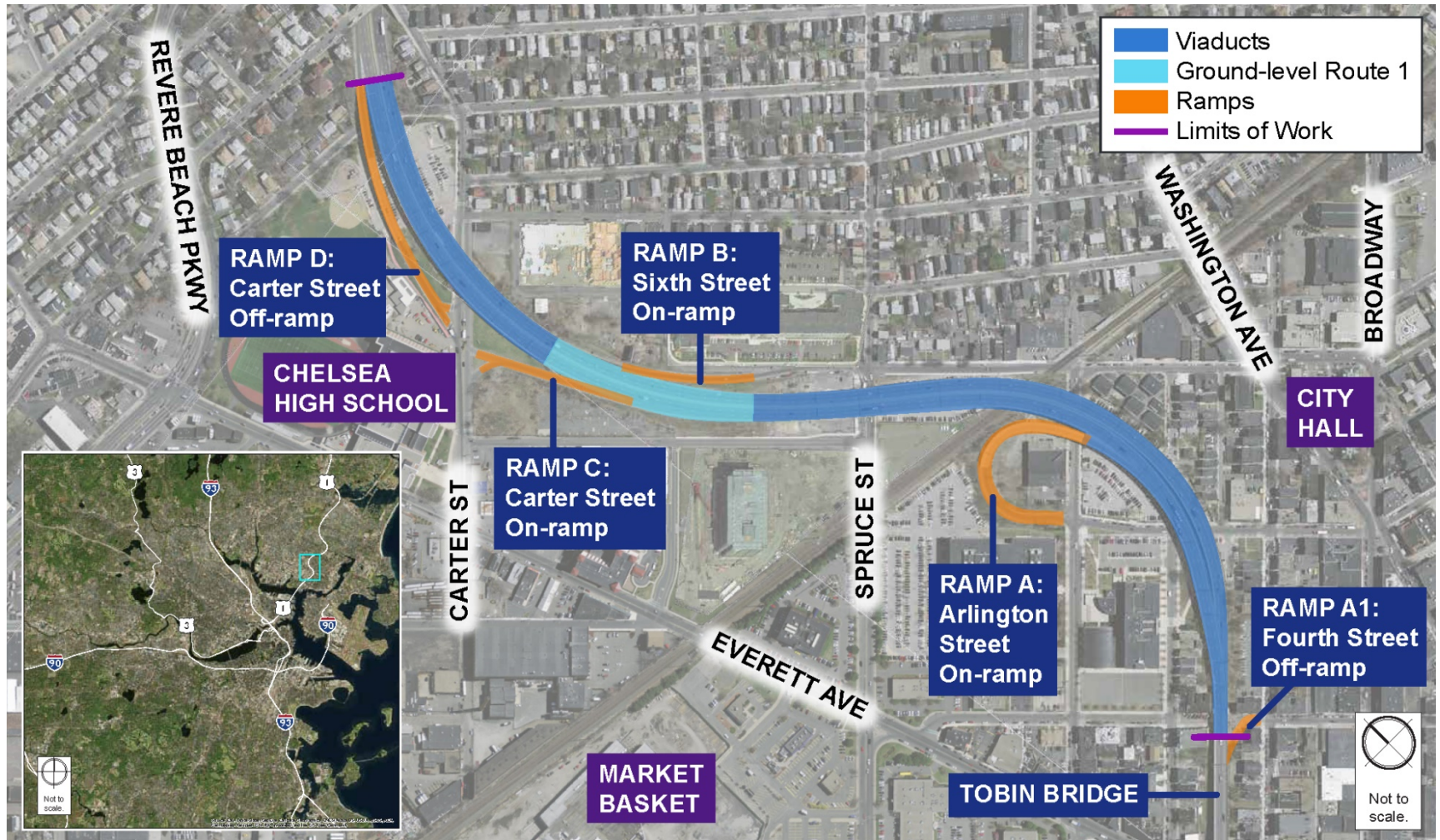
HNTB

Lead Consultant for team including Howard Stein Hudson, CME, VHB, Green International

City of Chelsea, MBTA

Coordination

Project Limits of Work



Project Limits of Work



Chelsea Viaduct

- Carries US Route 1 through Chelsea from the County Road Overpass to the Tobin Bridge
- Designated evacuation route
- Constructed 1956 and 1957
- Southern Viaduct – 2,000 ft long
- Northern Viaduct – 1,000 ft long
- 75 spans
- Carries 63,000 vehicles per day
- Carries MBTA Bus 111 from Chelsea to Haymarket Station via Ramp A, and MBTA 426 and 428 from North Shore



Existing Conditions

- Viaduct structurally deficient
- Substructure: poor condition
- Deck at bridge joints: poor to severe condition
- Superstructure/Beams: poor to severe condition
- Does not meet statutory load ratings for all legal vehicles



Project Goals

- 
- Address structurally deficient conditions
 - Advertise early spring 2018
 - Reduce construction impacts through accelerated bridge construction techniques
 - Work towards the federal goal of reducing structurally deficient (SD) deck area in Massachusetts to less than 10%
 - Coordinate with Tobin Bridge rehabilitation to minimize neighborhood and traffic impacts

Project Status

- Preliminary Structures Report completed
- Functional Design Report completed
- Subsurface exploration completed
- Survey complete
- 25% Design and public hearing complete
- Value Engineering study complete
- Approximate cost: \$110M



Design Schedule

Preliminary Design
October 2017

Final Design
February 2018

Advertisement
April 2018

Design Public Hearing
January 2018

PS&E
March 2018

Design & TMP Development

Public Outreach: 7 public appearances to
date plus pop-up meetings

Scope of Work

- Repair and Retrofit Substructure to support regulatory weight requirements and the new superstructure
- ABC Methods for Superstructure Rehabilitation:
 - Pre-Fabricated Bridge Units (PBUs) throughout majority of project
 - Use conventional repair methods at 6 isolated spans
- Provide new crash tested bridge barriers
- Provide new **solid** snow fence where safe
- Replace roadway lighting and bridge drainage
- Rebuild existing parking lots under viaduct, and add new Carter Street lot

Scope – Substructure



**VIEW OF TYPICAL
EXISTING SUPPORT**

Scope – Substructure



Scope – Substructure





Scope - Superstructure

PREFABRICATED BRIDGE UNITS (PBUs)



Scope – Superstructure

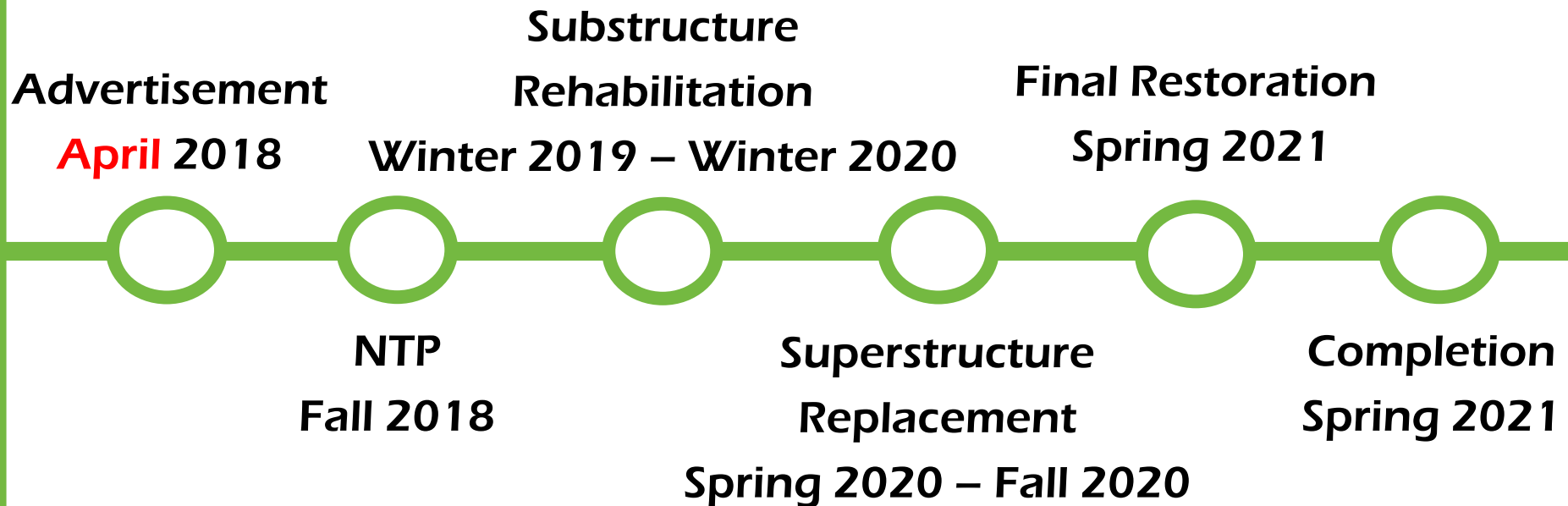
PREFABRICATED BRIDGE UNITS (PBUs)

Scope – Superstructure

- **Isolated Spans will require conventional repair:**
 - Rte 1 SB over Rte 1 NB (at Southern limits of work near 4th Street)
 - Span over Railroad
 - Work includes the removal of the existing deck, cleaning, strengthening and painting of the existing steel, and utilizing steel grid deck elements.



Construction Schedule



Coordination with
Tobin Deck Rehabilitation
2018 - 2020

Construction Impacts - Traffic

- Winter 2019 - Winter 2020: Substructure rehabilitation - *no traffic impacts on Route 1 during peak travel times*
- Spring to Fall 2020: NB/SB superstructure replacement
 - SB reduced from 3 lanes to 2 lanes
 - NB – Tobin work zone of 2 lanes to be extended within project limits
 - NB/SB reduced to 1 lane overnight for ABC construction
 - Interim ramp closures with local detours
 - Interim parking impacts
- Weekend lane reductions on Route 1 (12 weekends) for conventional construction
- Extensive public outreach to ensure motorists and residents understand traffic impacts

Weekend Construction

- Route 1 will be reduced to 1 lane NB/SB for **12 weekends** in 2020
- Lane reductions Friday 10pm through Monday 5am
- Allows for expedited construction in areas where PBUs cannot be used
- Proposed weekend dates include
 - 6 weekends in Spring (excluding Easter)
 - 6 weekends in Summer (excluding July 4th)
- Efforts will reduce duration of impacts to abutters (from 9 months of night work)
- Extensive public outreach will ensure motorists and residents are aware of weekend work.



Regional Traffic Mitigation

- **Robust Public Outreach Program**
- **Comprehensive Police Detail Program**
- **Field Monitoring and Adjustment – starting day 1**
- **Real Time Traffic Management (RTTM) System**
- **Advance Warning Signage**
- **Local Detour Plans**
- **Signal & Corridor Optimization**
- **Incident Response Operation (IRO)**
- **Coordination with adjacent projects**

Local Traffic Detours

- Intermittent nighttime closures (7PM-6AM) to ensure public safety:
 - 5th, Spruce, Carter, Orange, Arlington
- Weekend closures throughout the project
 - Carter Street off-ramp
- Closed throughout construction:
 - Off-ramps at Arlington and 4th Streets
- Stage 1 nightly closures:
 - On-ramps at Carter and 6th Streets

Mitigation Commitments: From the 25% Design Public Hearing

- **Funding for Route 1 corridor enhancement program to be implemented by the City of Chelsea**
- **Allowance for additional crossing guards during construction**
- **Architectural improvements to columns**
 - **Opportunity for local artist displays**
- **Weekend construction to reduce duration of impacts to abutters**
- **Improved lighting under structures**
- **Parking lot paving and restriping**
- **Incentives & disincentives to ensure project delivery**

Additional Mitigation Commitments: Based on Community Input

- **Ramp A to be rebuilt and reopened at job's end**
- **Solid snow barrier will be installed on the viaduct:**
 - Contains snow/debris
 - Acts as sound barrier
- **\$800,000 to City of Chelsea for Rte. 1 Corridor Enhancement**
- **Carter Street Lot will be turned over to Chelsea for the City's use**
- **Ongoing efforts with MBTA:**
 - Work to mitigate Rte. 111 impacts
 - Shift riders to other modes where possible
 - Coordinate transit impacts of Chelsea Viaduct, N. Washington, and Tobin Bridge



Public Participation/Outreach Plan



- Project website
- Digital blast notification to North Shore E-Z pass holders
- Informational materials to be distributed
 - In community facilities – libraries, City Hall
 - On MBTA buses – Rtes. 111, 112, 114, 116, 117
- Door-to-door flyer distribution on immediately adjacent streets
- Pop-ups at community gathering places – libraries, supermarkets, community centers, etc.
- Briefings upon request to local community organizations – Chelsea Green Roots, Chamber of Commerce, etc.
- Coordination with MassPort at Logan Airport satellite parking facilities in Chelsea

Next Steps

- Finalize design based on public feedback
- Continued outreach - look for us in your neighborhood!

Final Design
February 2018

Advertisement
April 2018

PS&E

March 2018

NTP

Fall 2018

Design & TMP Development

Discussion



www.massdot.state.ma.us/highway/HighlightedProjects/ChelseaRoute1ViaductRehabilitationProject.aspx

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Fact sheets and mail-in comment sheets available



Thank You

Route 1 Viaduct Rehabilitation Project
Chelsea | Project File No. 605287

Chamber of Commerce Briefing
308 Broadway
February 14, 2018 | 8:30 a.m.

Public Outreach To Date

- **Public Information Meeting- 11/8/17**
- **Project Open House – 12/5/17**
- **Chelsea Collaborative – 12/7/17**
- **GreenRoots Chelsea – 12/14/17**
- **GreenRoots Chelsea Follow-up – 1/18/18**
- **All-Spanish Public Information Meeting – 1/22/18**
- **Pop-ups – November, December, and ongoing**
- **Door-to-door abutter project notification – 1/16/18-1/21/18**
- **Business Community Meeting – TBD**
- **City of Chelsea – Ongoing coordination**
- **General, Businesses, and Non-Occupant Owners Notification Letters – November, December, and pre-DPH**



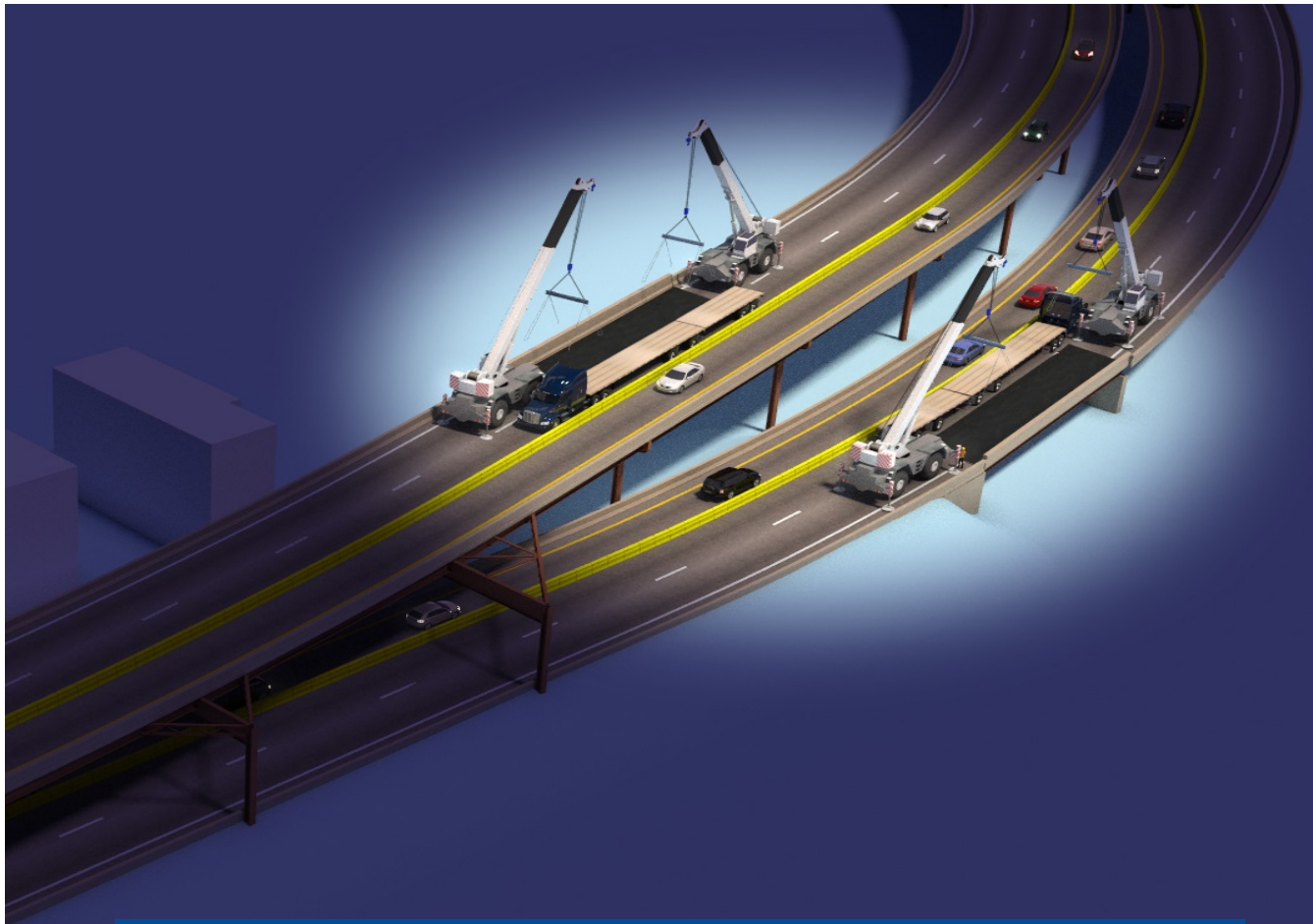
Scope – Superstructure I

PREFABRICATED BRIDGE UNITS (PBUs)



Scope – Superstructure II

PREFABRICATED BRIDGE UNITS (PBUs)



Scope – Superstructure III

PREFABRICATED BRIDGE UNITS (PBUs)



Scope – Superstructure IV

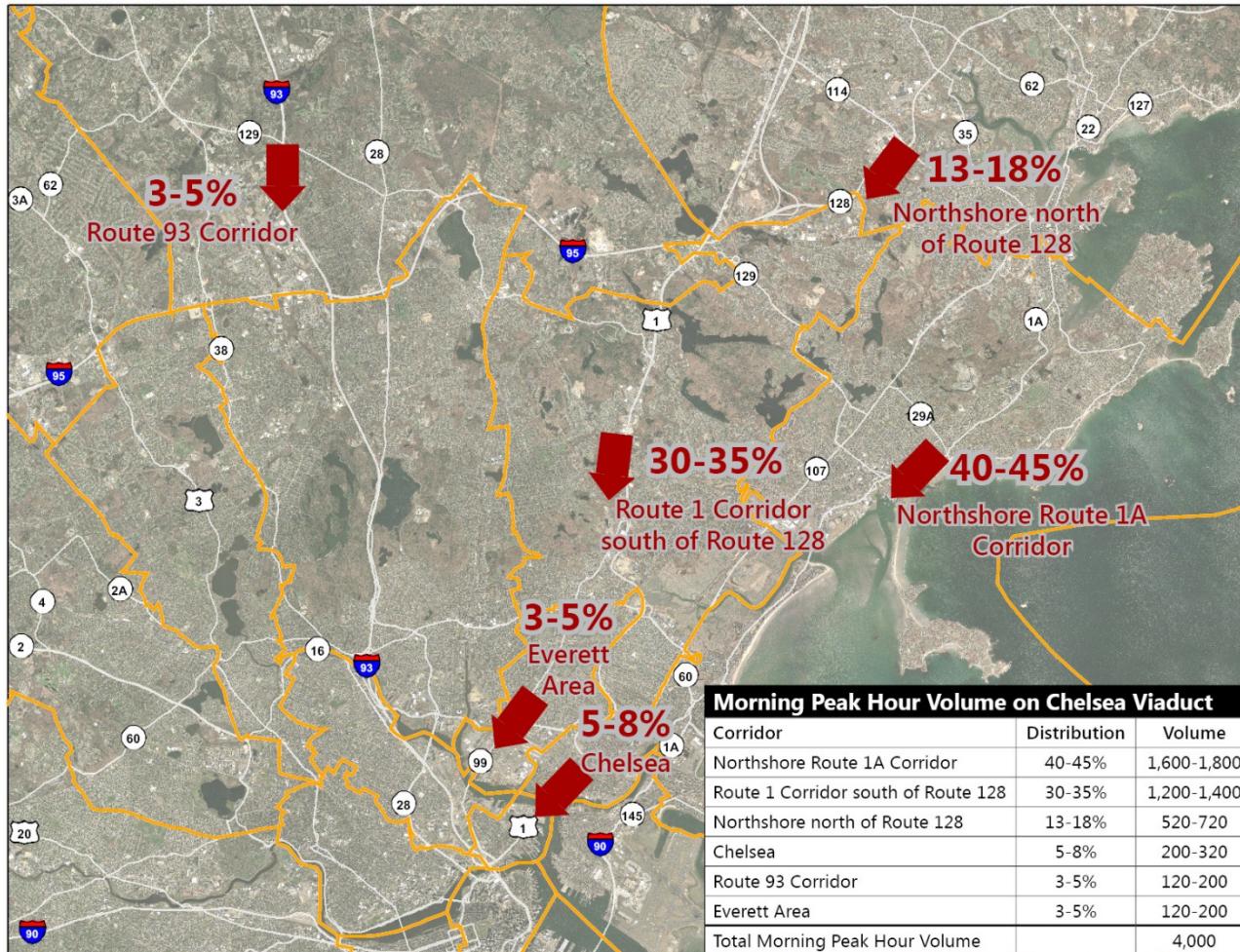
PREFABRICATED BRIDGE UNITS (PBUs)



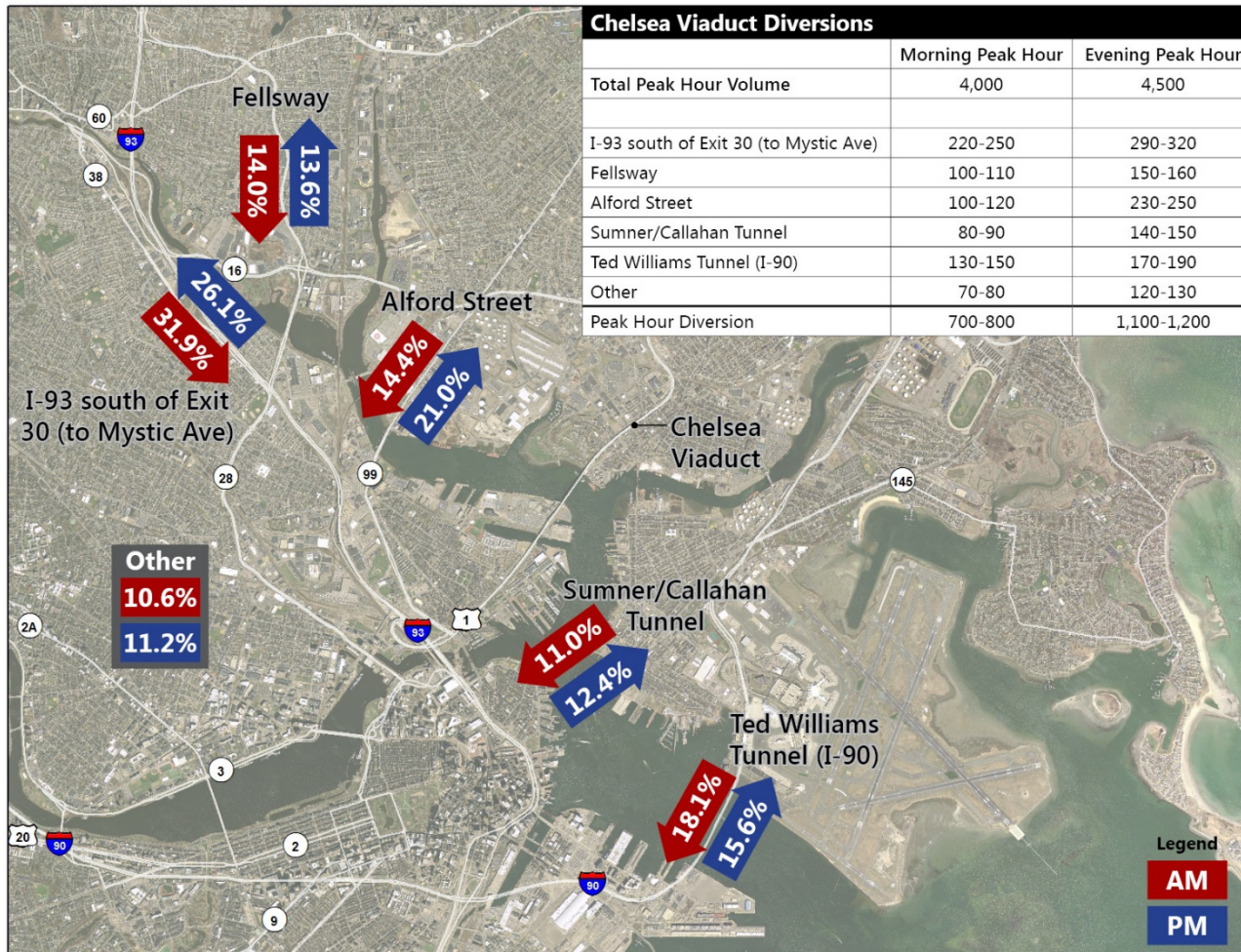
Scope – Superstructure V

PREFABRICATED BRIDGE UNITS (PBUs)

Distribution of Existing Traffic

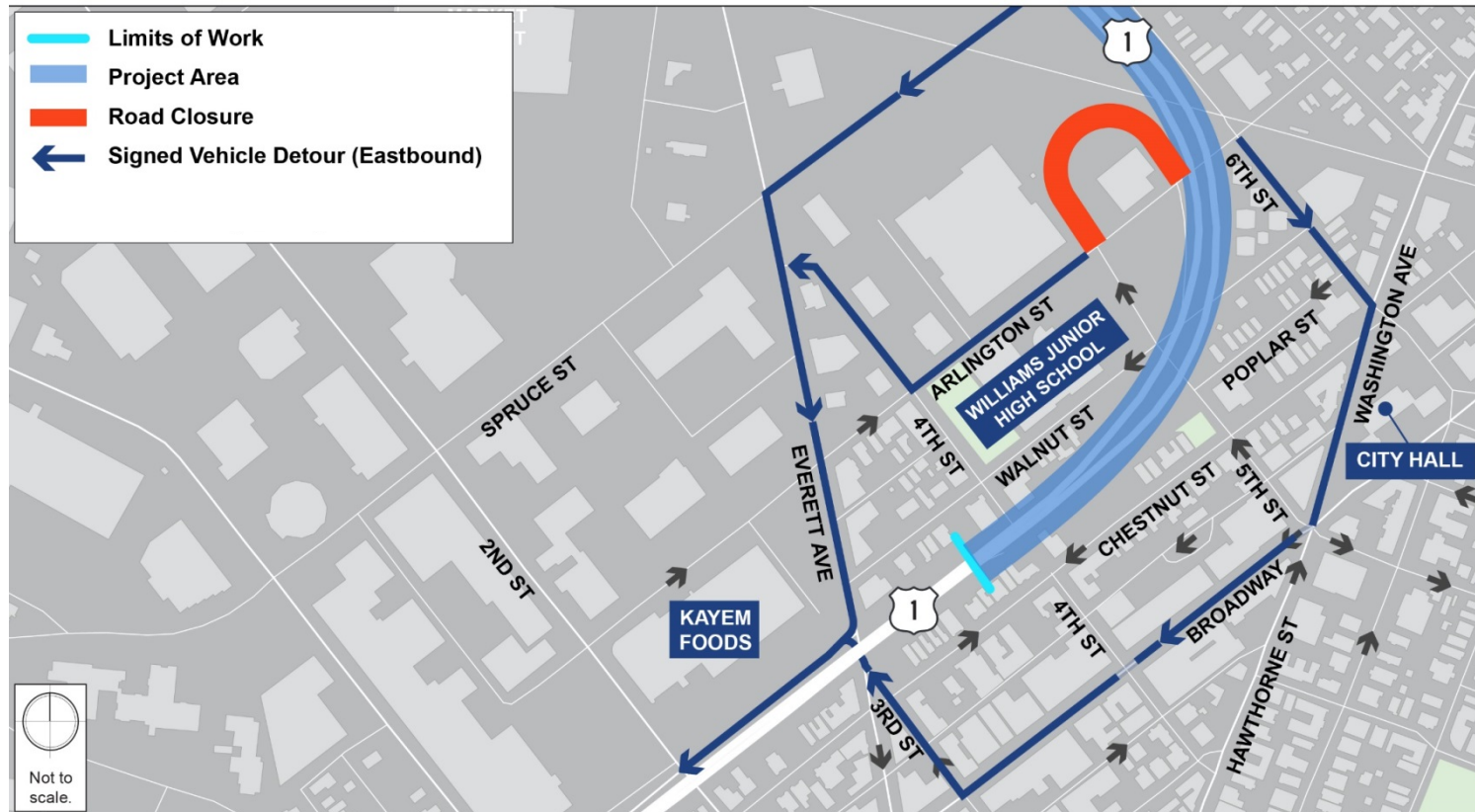


Traffic Diversion During Construction



Arlington Street Ramp Detour

ARLINGTON STREET RAMP DETOUR



4th Street Detour

FOURTH STREET DETOUR



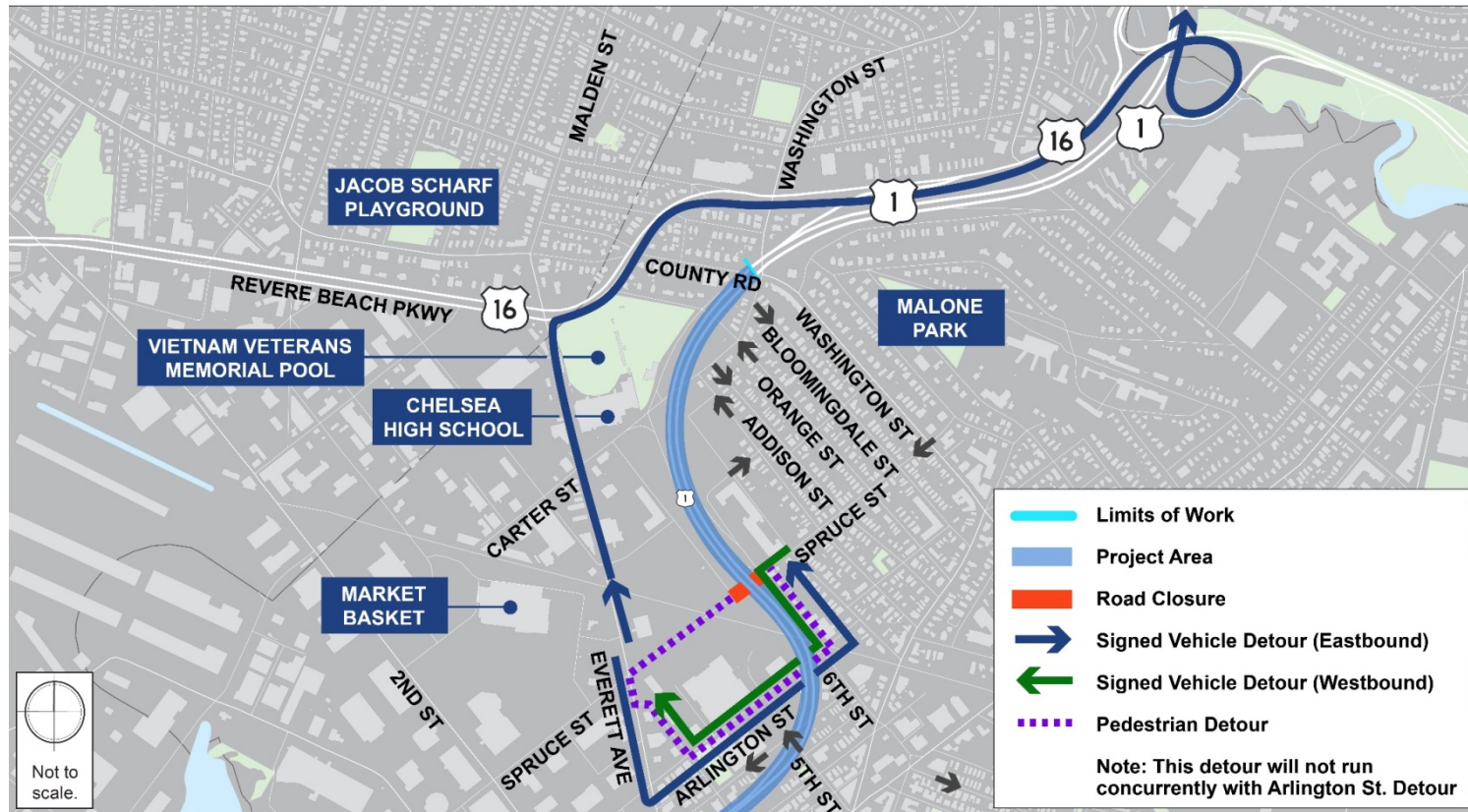
5th Street Detour

5TH STREET DETOUR



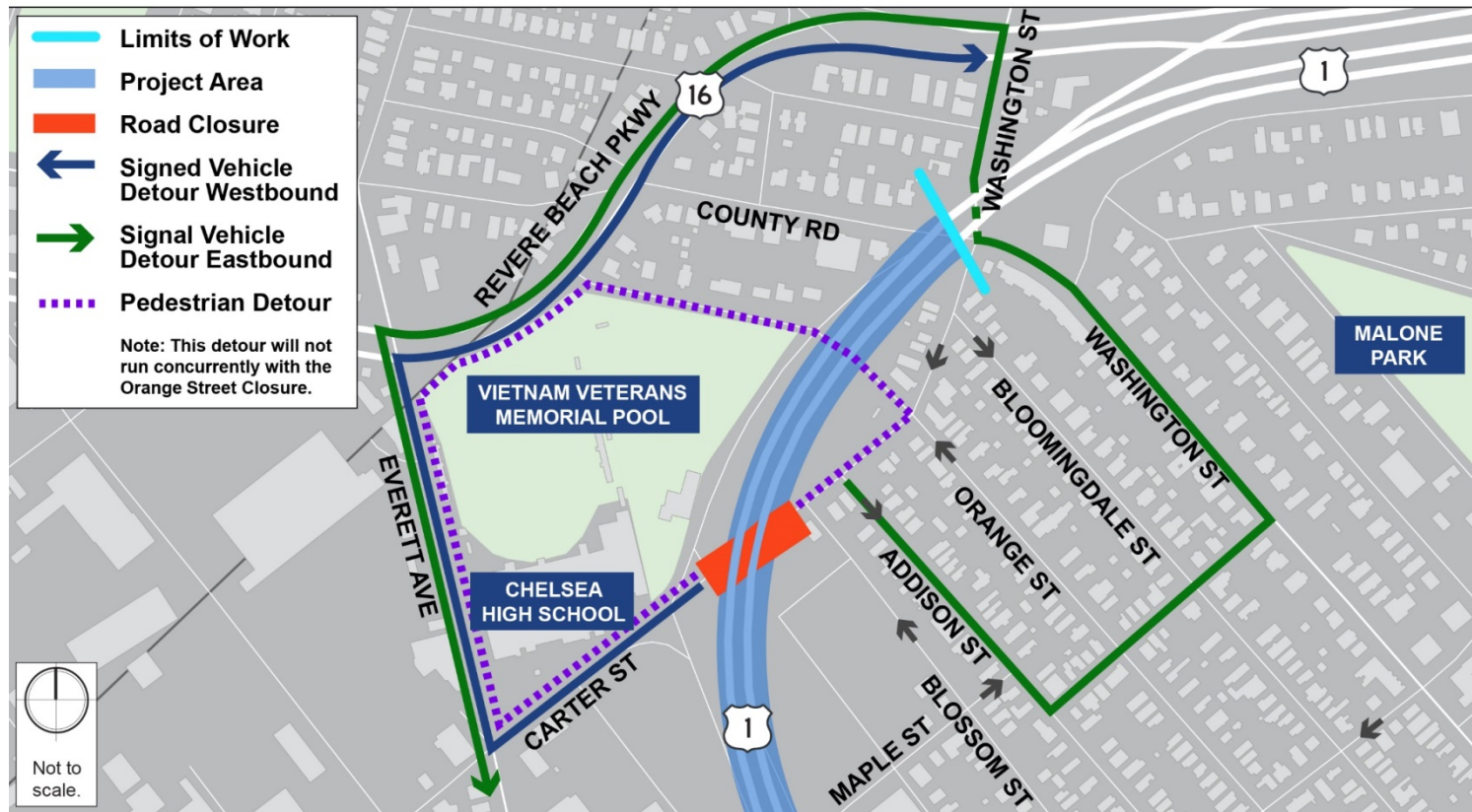
Spruce Street Detour

SPRUCE STREET DETOUR



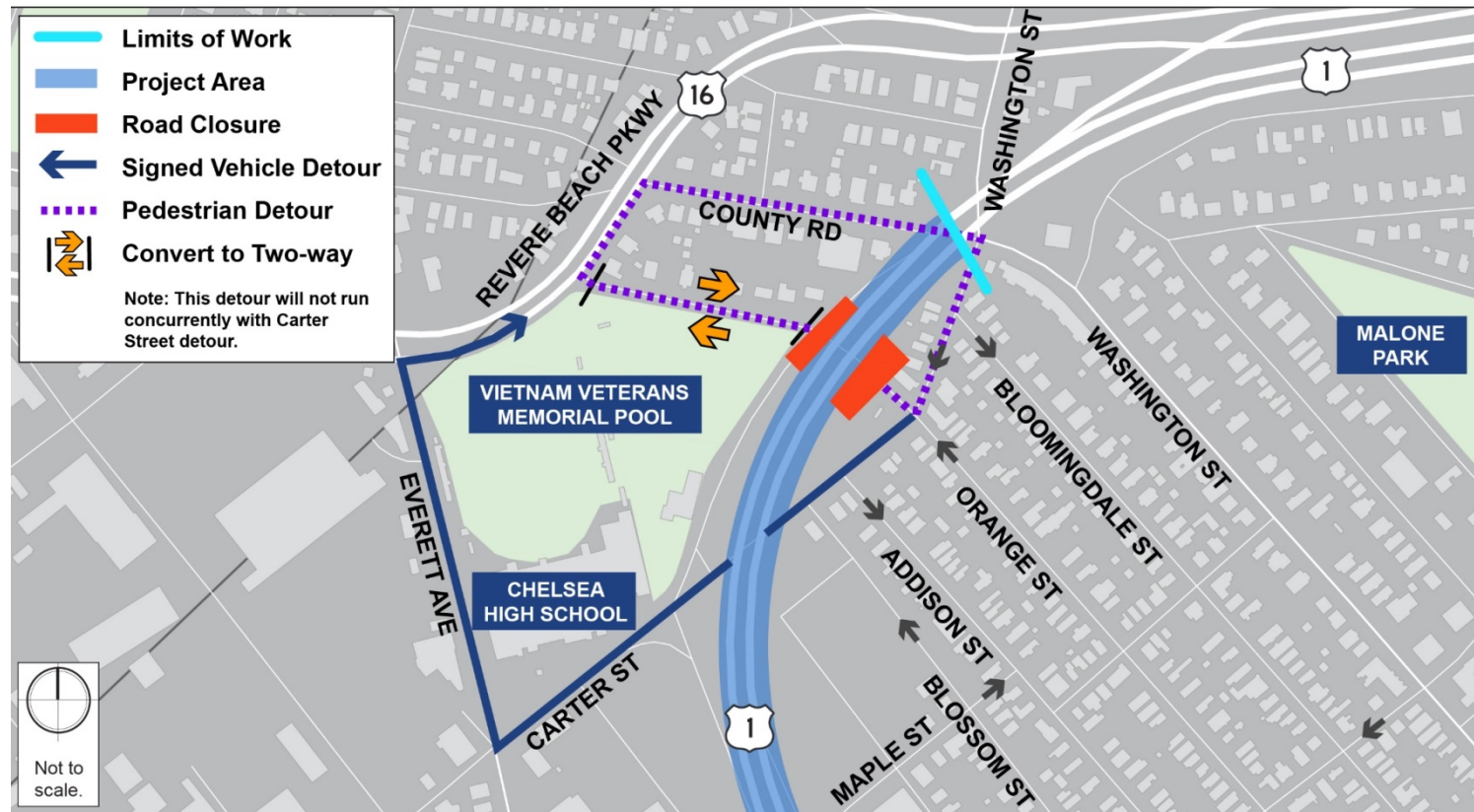
Carter Street Detour

CARTER STREET DETOUR



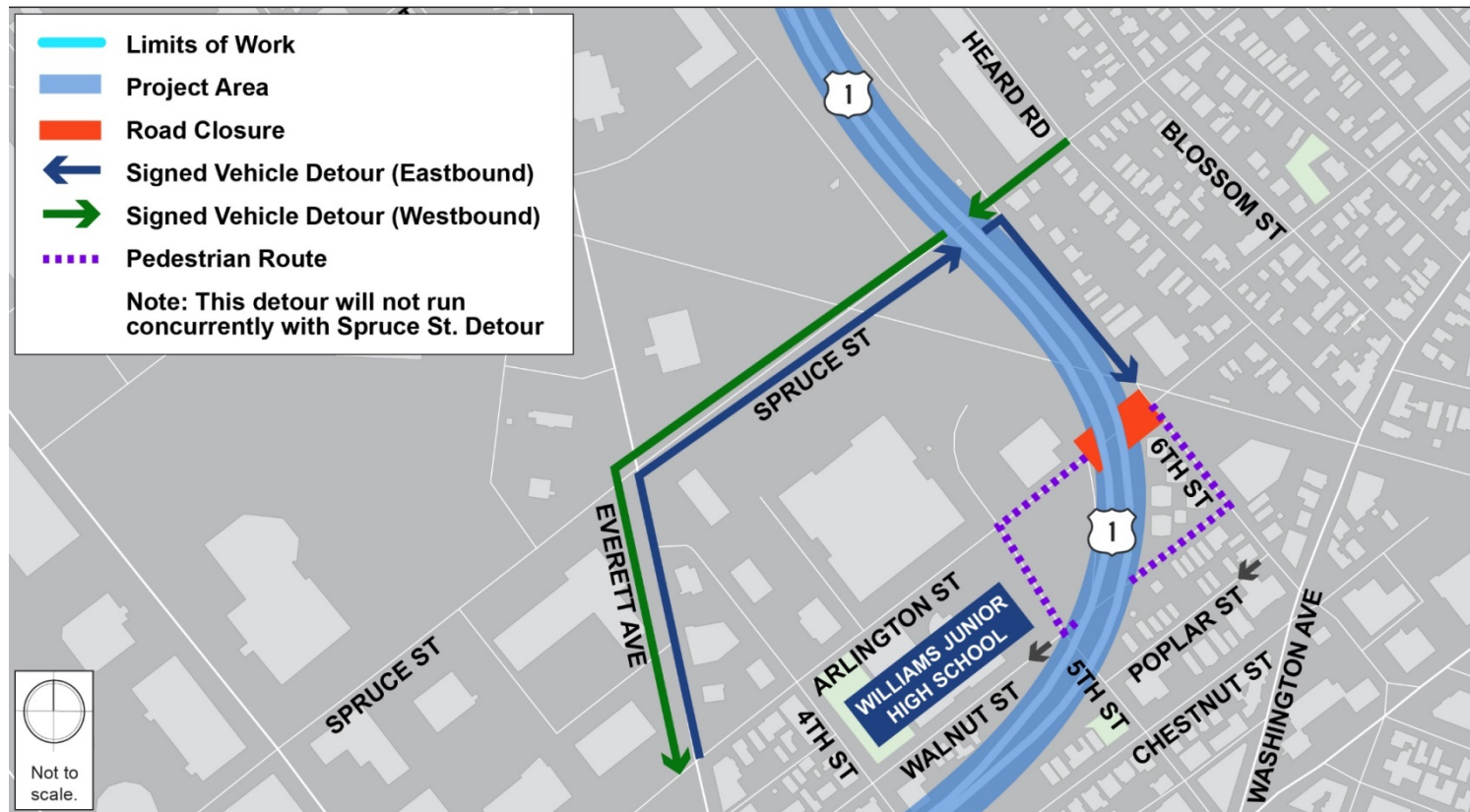
Orange Street Detour

ORANGE STREET DETOUR



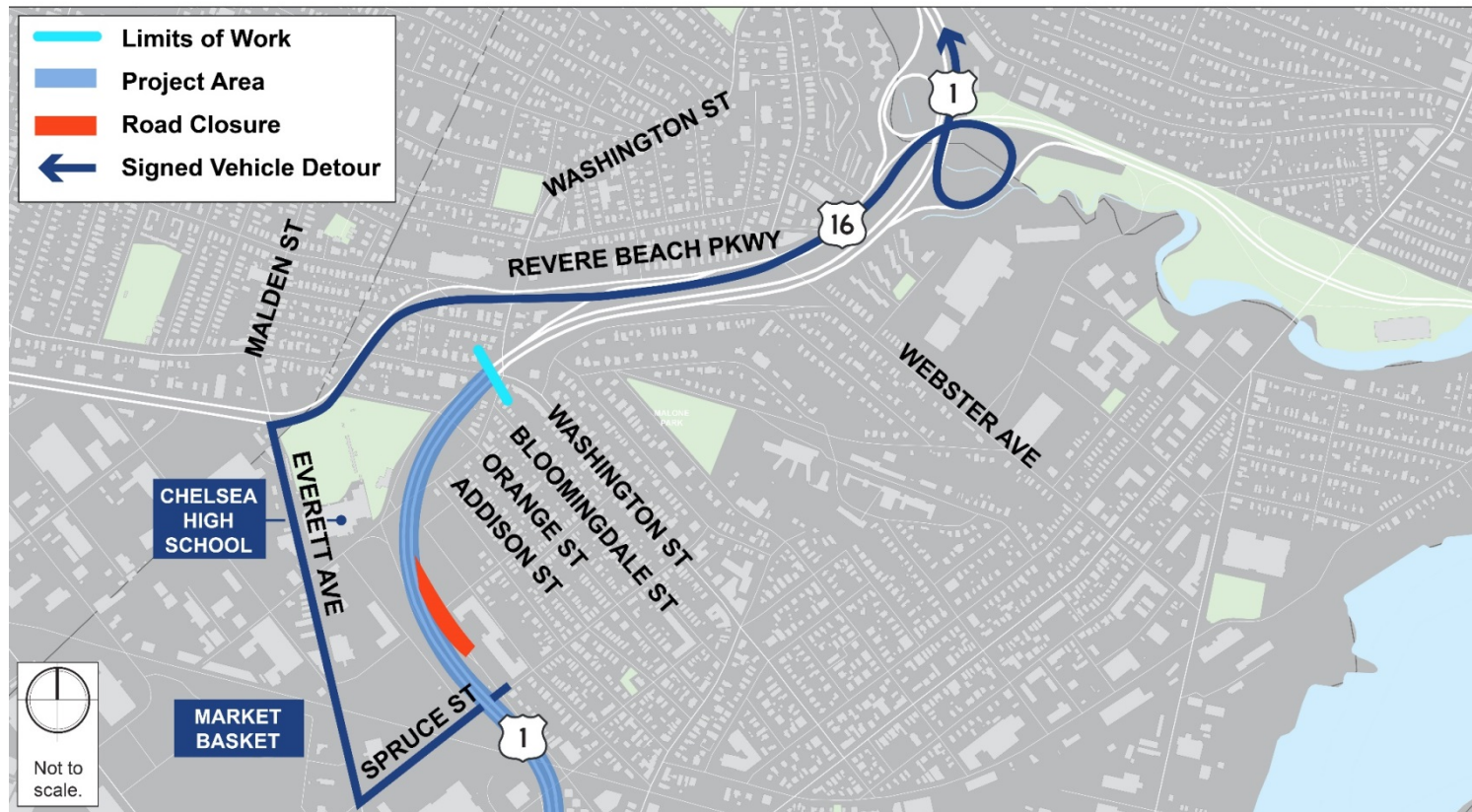
Arlington Street Detour

ARLINGTON STREET DETOUR



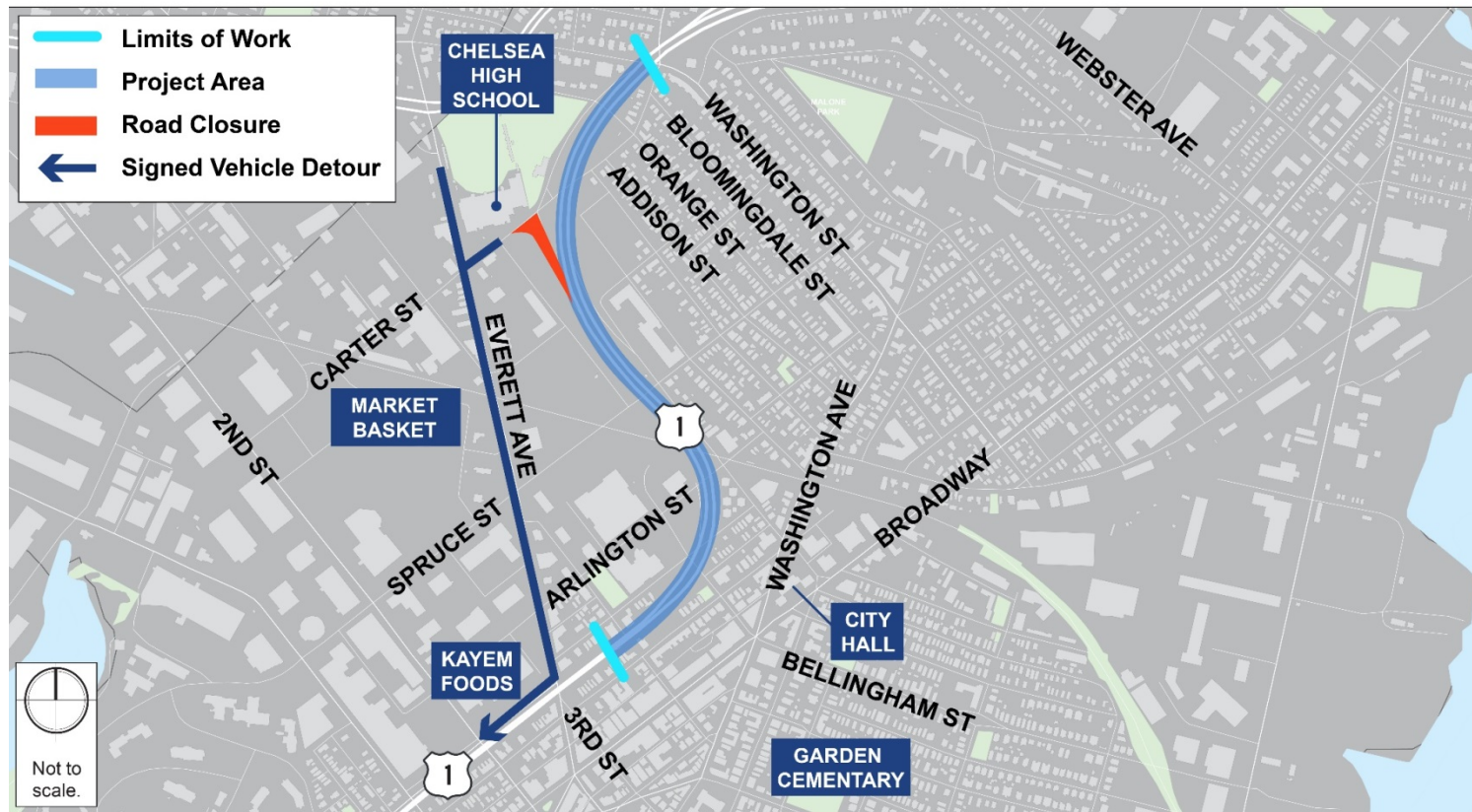
6th Ramp Street Detour

SIXTH STREET RAMP DETOUR



Carter Street On-Ramp Detour

CARTER STREET ON-RAMP DETOUR



Carter Street Off-Ramp Detour

CARTER STREET OFF-RAMP DETOUR



Environmental Review

- Project requires NEPA review and approval by FHWA
 - Anticipated Categorical Exclusion (CE)
- Community engagement is integral to the NEPA Process – your input in this design process will be documented
- FHWA is a participant in project development and will determine adequacy of the public process
- Other environmental approvals:
 - Section 106 of the Historic Preservation Act
 - Section 4(f) of the DOT Act



Construction Impacts - Noise

- Contractor will be required to have an approved Noise Control Plan
- Baseline noise monitoring will occur under normal, everyday conditions
- Certain activities and hours of operations will be limited
- Different noise limits for different times of day
- Noise mitigation will be required if allowable noise levels are exceeded
 - Shielding
 - Limit machinery types and use
- Installation of PBUs



Construction Impacts - Parking

- **Winter 2019 - Winter 2020:**
Parking Lots Impacted during
Substructure Rehabilitation
- **Spring 2020 – Fall 2020:** Parking
Lots Impacted During
Demolition and Erection of
Bridge Superstructure
- **Potential Loss of Parking Spaces**
due to Retrofit of Existing
support foundations and
proposed drainage structures
- **Introduction of new Carter Street**
lot for temporary relocation



Dust and Lead Paint Control

Dust:

- During demolition activities, water will be used to minimize dust emissions per MassDOT and OSHA regulations.
- Dust monitoring will be conducted during ALL concrete demolition activities.
- Contractor Health and Safety Plan will address dust control on-site

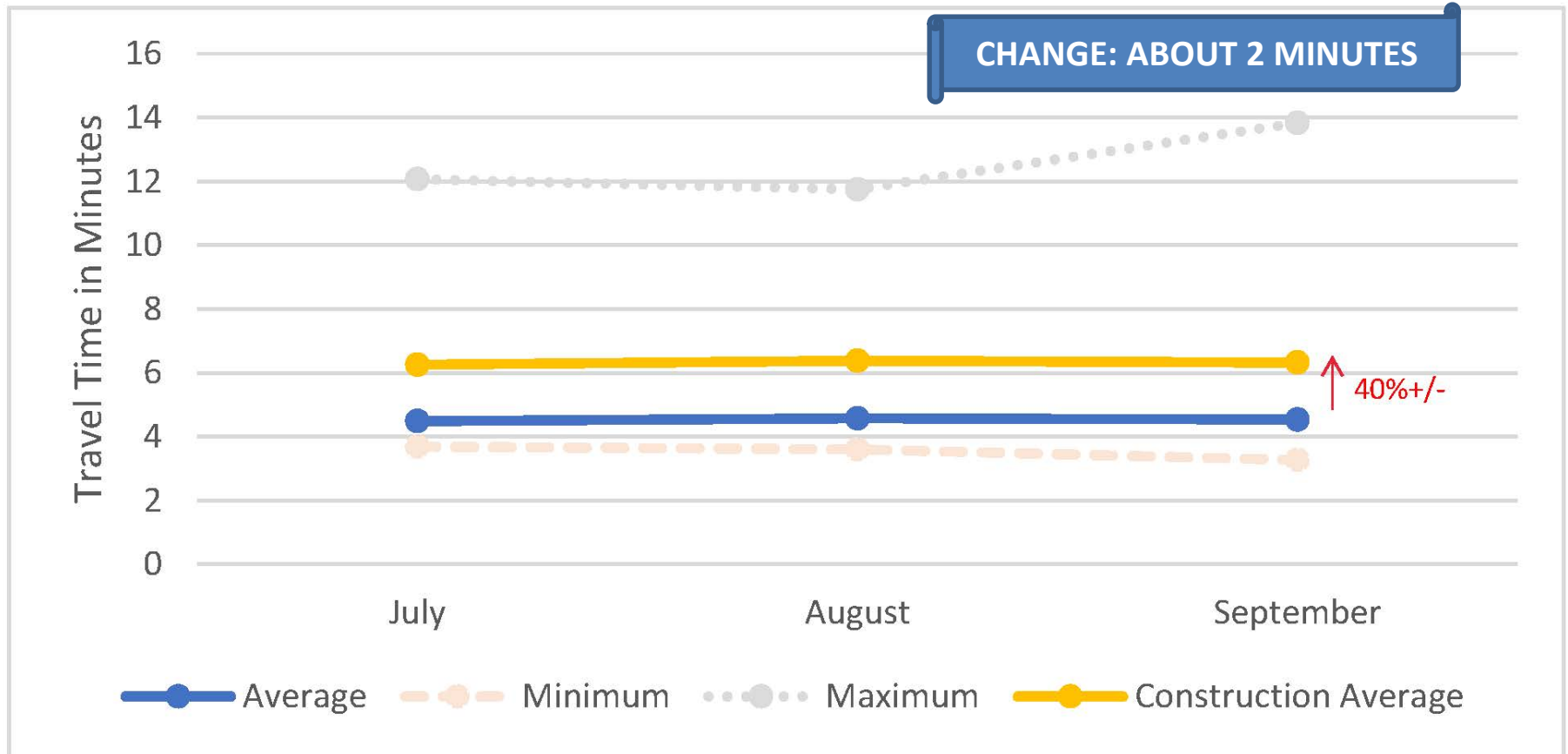
Lead Paint:

- All Federal, State, Local and OSHA regulations will be followed
- Contractor to contain all areas where paint is removed
- Removed steel is recycled off-site

Construction Period Traffic

- **Today:**
 - 70-80% of viaduct traffic originates from Routes 1 and 1A south of Route 128
- **During construction diversions:**
 - I-93
 - Alford Street
 - Harbor tunnels
 - Fellsway

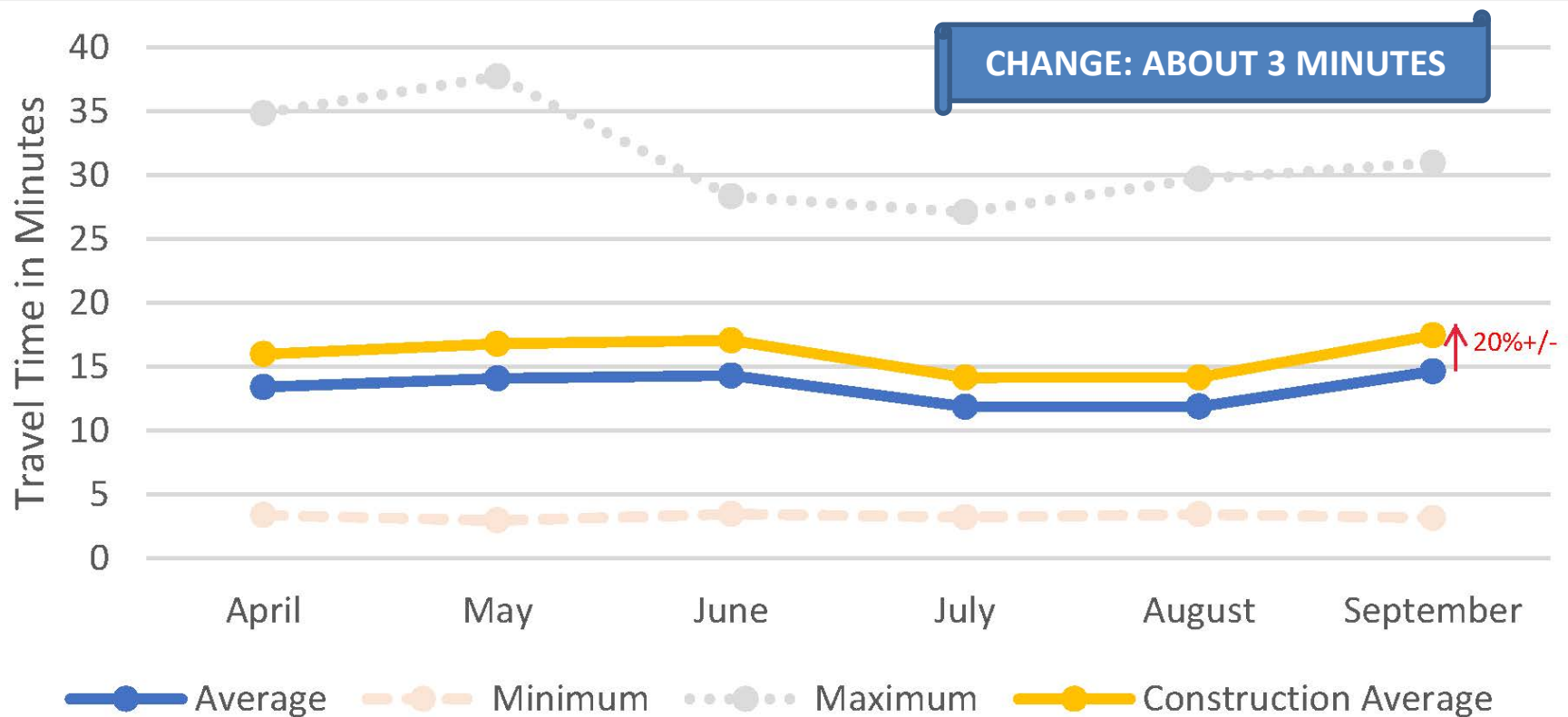
NB Evening Peak Period Travel Times



Travel Time is between Charlestown Ramps and Route 16

Overall Average - 4.5 Minutes
Construction Average - 6.3 Minutes

SB Morning Peak Period Travel Times



Travel Time is between Route 16 and Charlestown Ramps

Overall Average - 14.6 Minutes
Construction Average - 17.5 Minutes

Construction Impacts - Abutters

- **Contract specifications will address control of:**
 - Noise
 - Dust and lead paint
 - Disposal of excavated material
 - Rodents
- **Reallocation of temporary loss of parking**
- **Public outreach will help keep abutters and users informed of construction impacts**



Police Detail Deployment

