



# Welcome!

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



## Chamber of Commerce Briefing

308 Broadway

February 14, 2018 | 8:30 a.m.

# Agenda

- **Welcome and Introductions**
- **Project Overview**
  - Context
  - Need
  - Goals
  - Schedule
  - Scope
- **Anticipated Project Impacts**
- **Public Outreach**
- **Discussion**

# Project Team

## **MassDOT's Highway Division**

Project Proponent

## **Federal Highway Administration**

Responsible for Oversight and NEPA compliance

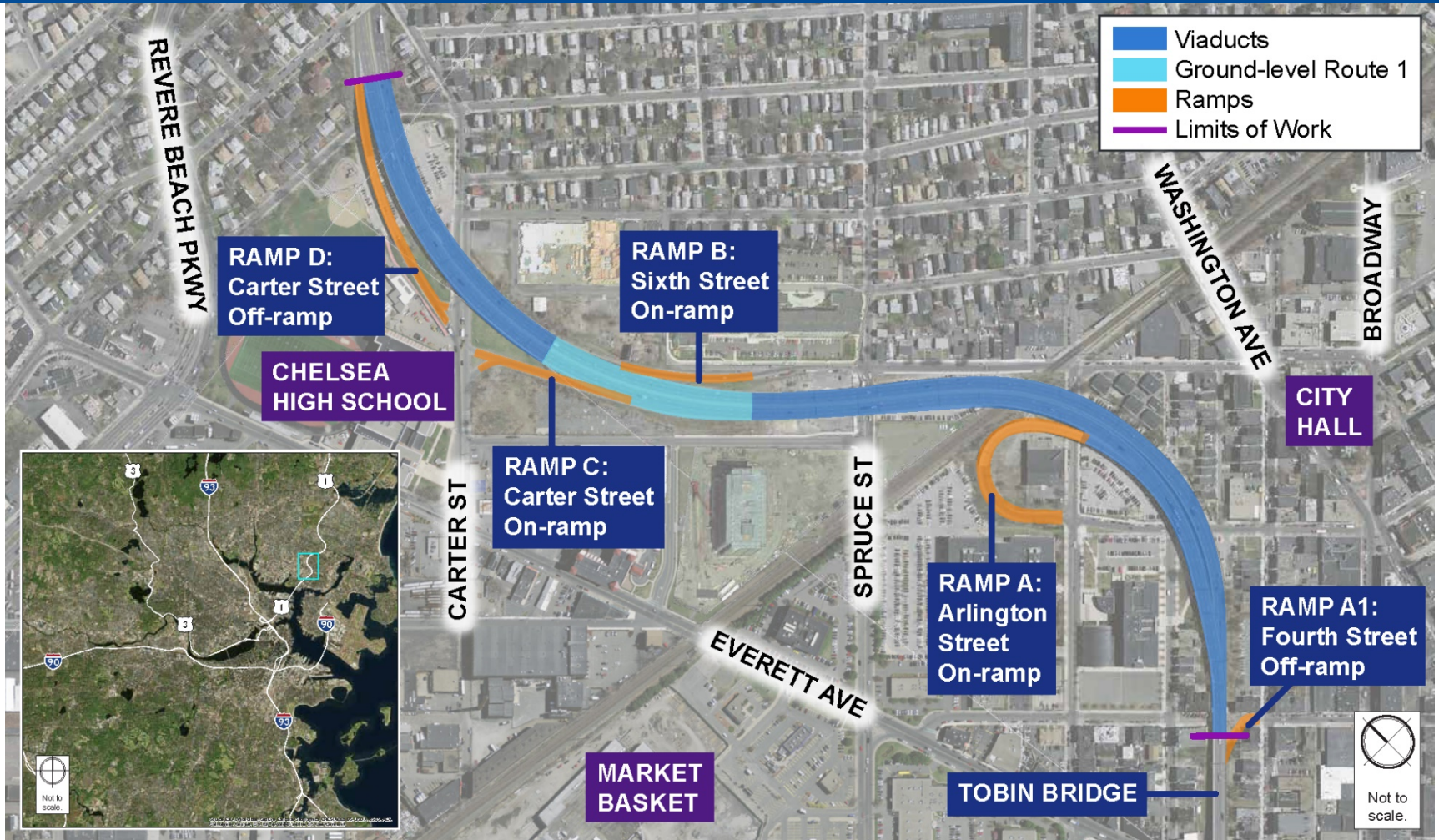
## **HNTB**

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**  
March 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 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)

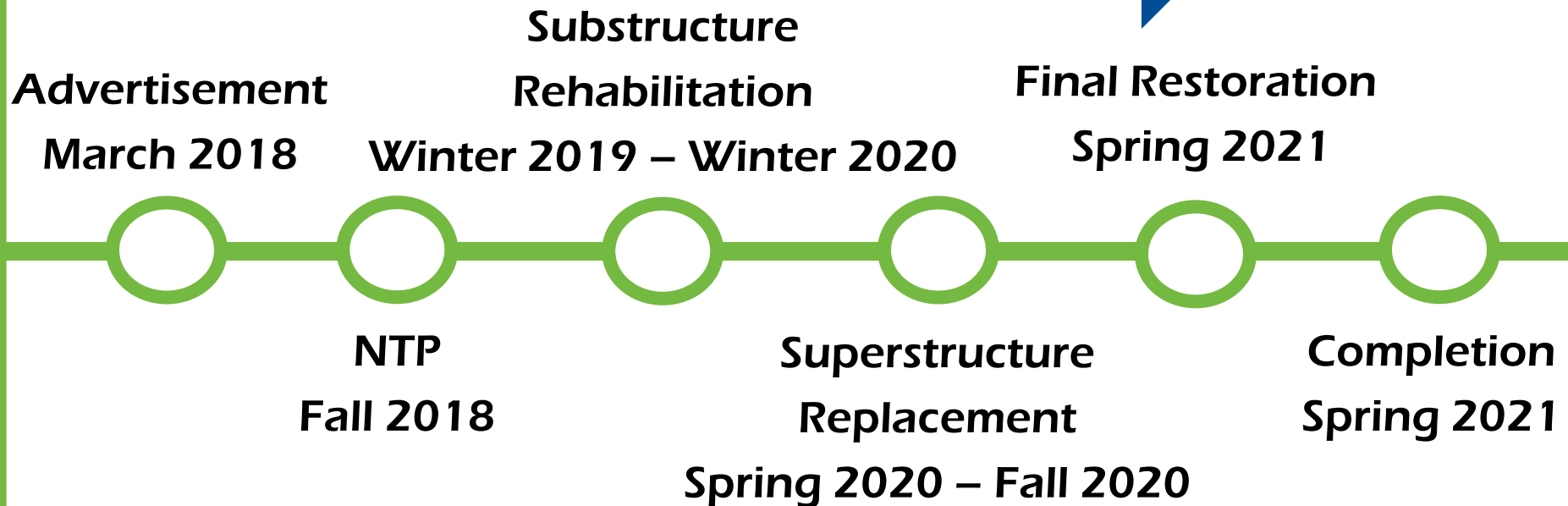


# Scope – Superstructure

- **Isolated Spans will require conventional repair:**
  - Rte 1 SB over Rte 1 NB (at Southern limits of work near 4<sup>th</sup> 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 4<sup>th</sup>)
- 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:
  - 5<sup>th</sup>, Spruce, Carter, Orange, Arlington
- Weekend closures throughout the project
  - Carter Street off-ramp
- Closed throughout construction:
  - Off-ramps at Arlington and 4<sup>th</sup> Streets
- Stage 1 nightly closures:
  - On-ramps at Carter and 6<sup>th</sup> Streets

# Mitigation Commitments

**MassDOT has been coordinating with the City of Chelsea and community groups to identify possible mitigation measures. These measures may include:**

- **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**



# Mitigation Commitments Cont.

- Improved lighting under structures
- Parking lot paving and restriping
- Incentives & disincentives to ensure project delivery

**We're still listening and want to hear  
your concerns prior to finalizing  
mitigation measures**



# 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**  
**March 2018**

**PS&E**

**March 2018**

**NTP**

**Fall 2018**

**Design & TMP Development**



# Discussion



[www.massdot.state.ma.us/highway/HighlightedProjects/ChelseaRoute1ViaductRehabilitationProject.aspx](http://www.massdot.state.ma.us/highway/HighlightedProjects/ChelseaRoute1ViaductRehabilitationProject.aspx)

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Fact sheets and mail-in comment sheets available



# Thank You

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## **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**





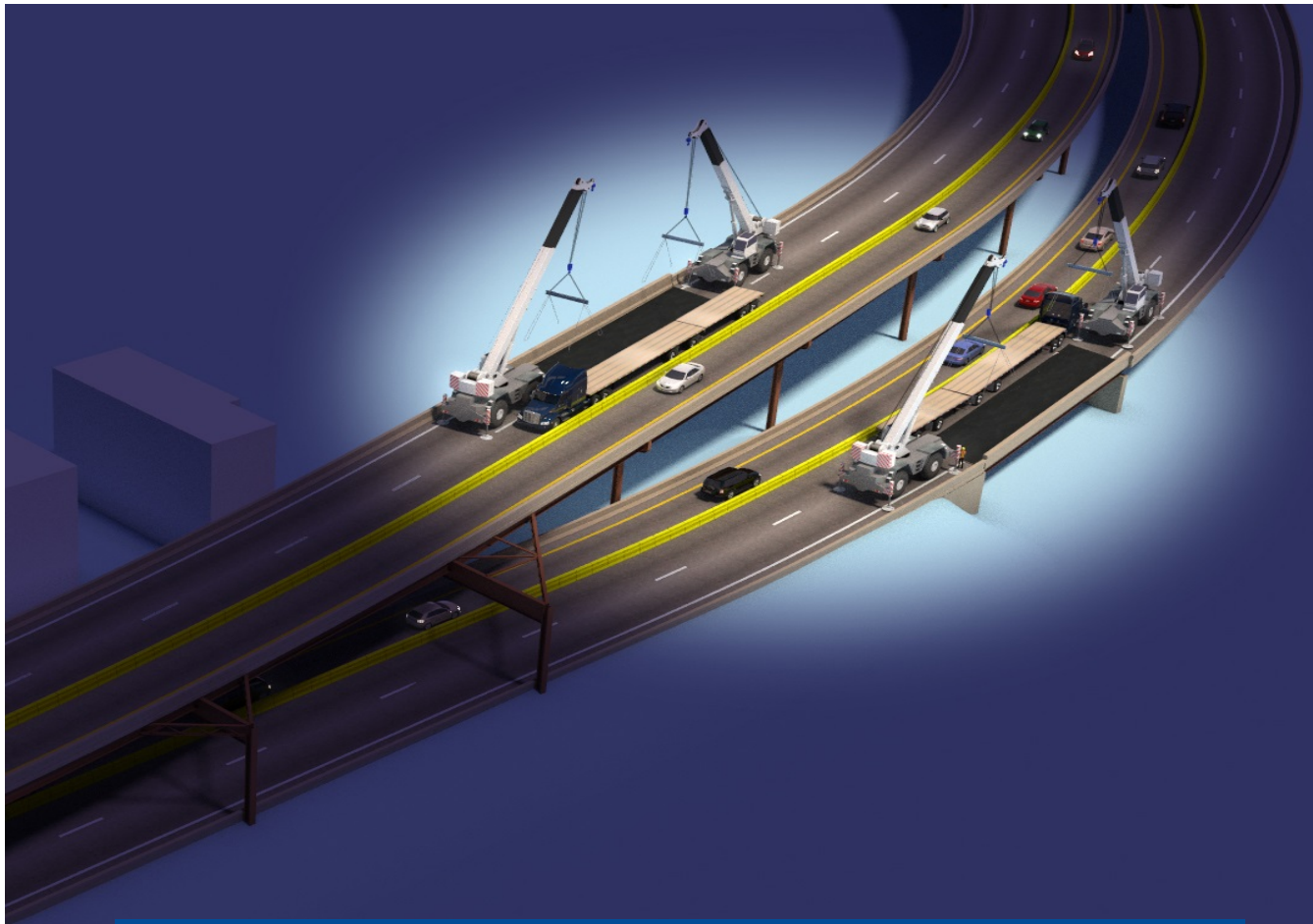
## **Scope – Superstructure I**

**PREFABRICATED BRIDGE UNITS (PBUs)**



## Scope – Superstructure II

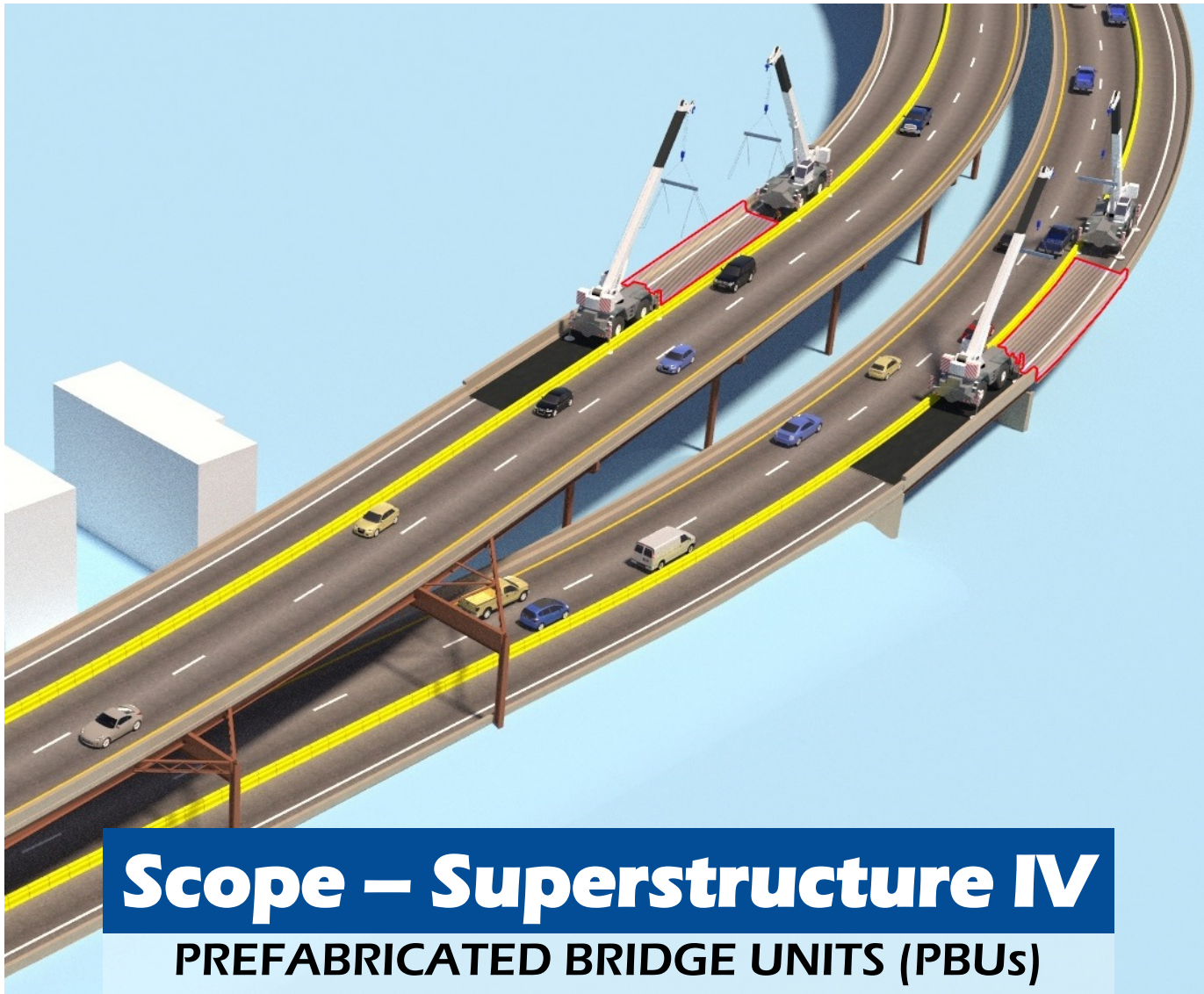
PREFABRICATED BRIDGE UNITS (PBUs)



## **Scope – Superstructure III**

**PREFABRICATED BRIDGE UNITS (PBUs)**





## **Scope – Superstructure IV**

**PREFABRICATED BRIDGE UNITS (PBUs)**

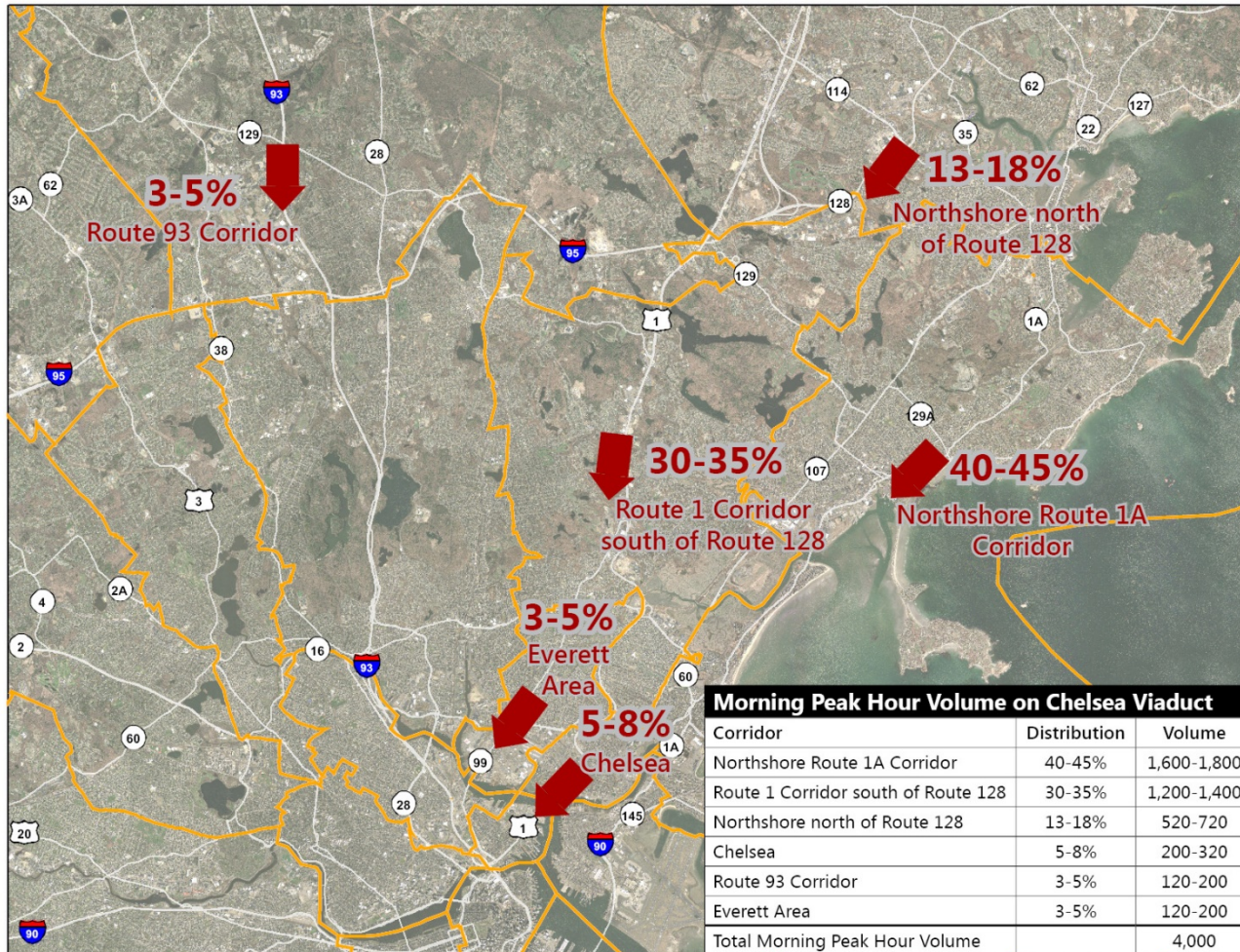


## **Scope – Superstructure V**

**PREFABRICATED BRIDGE UNITS (PBUs)**

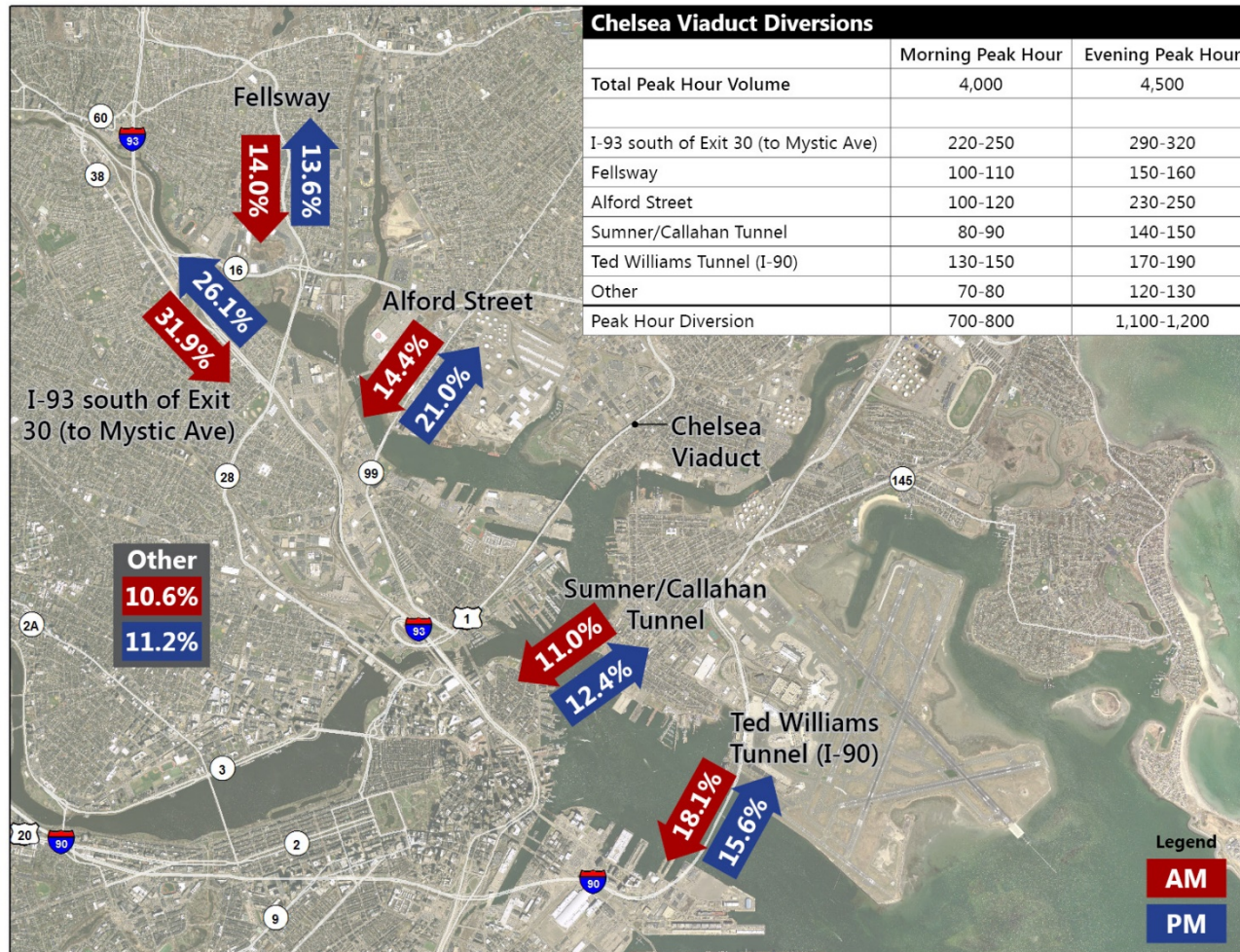


# Distribution of Existing Traffic





# Traffic Diversion During Construction



# Arlington Street Ramp Detour

## ARLINGTON STREET RAMP DETOUR





# 4<sup>th</sup> Street Detour

## FOURTH STREET DETOUR





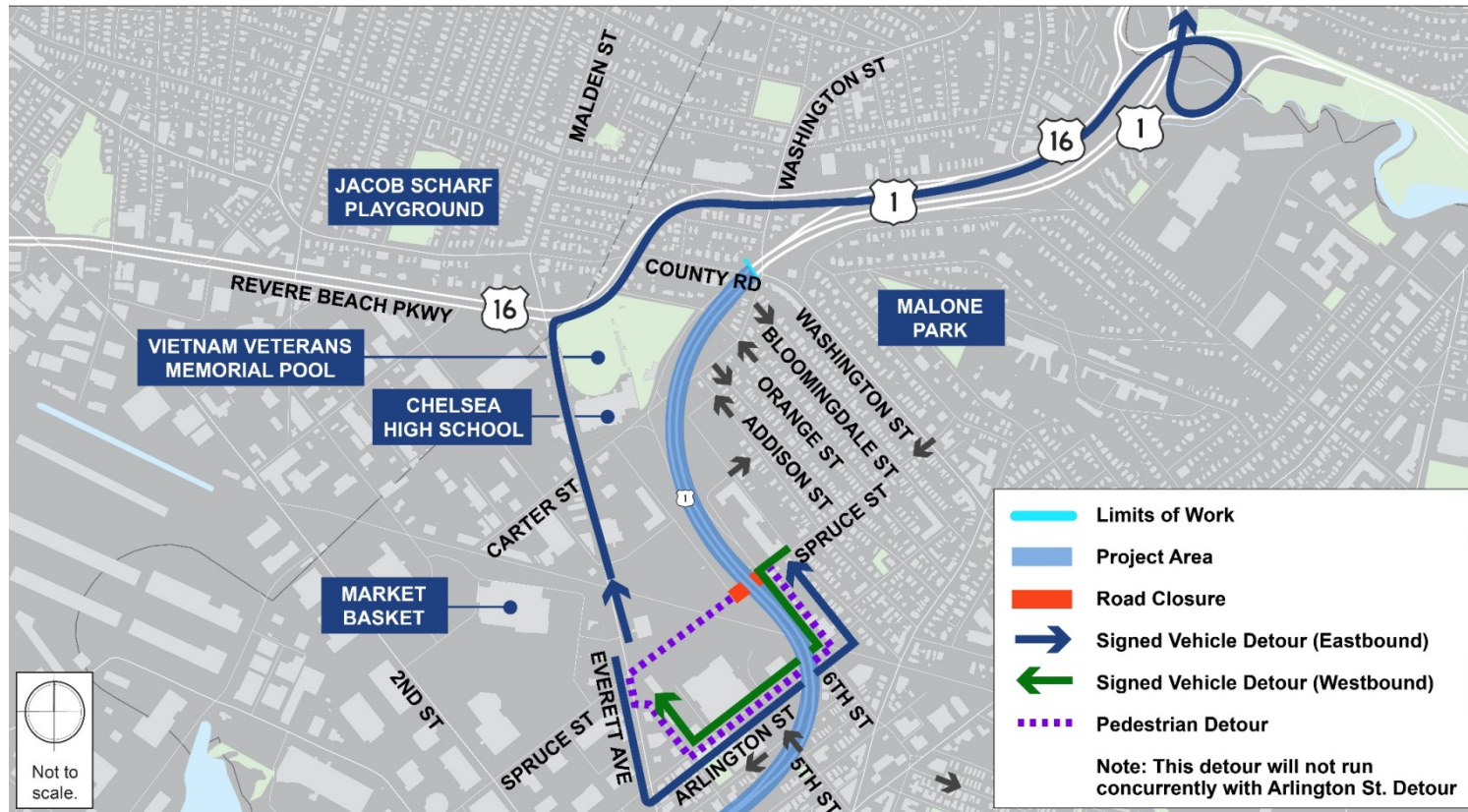
# 5<sup>th</sup> Street Detour

## 5TH STREET DETOUR



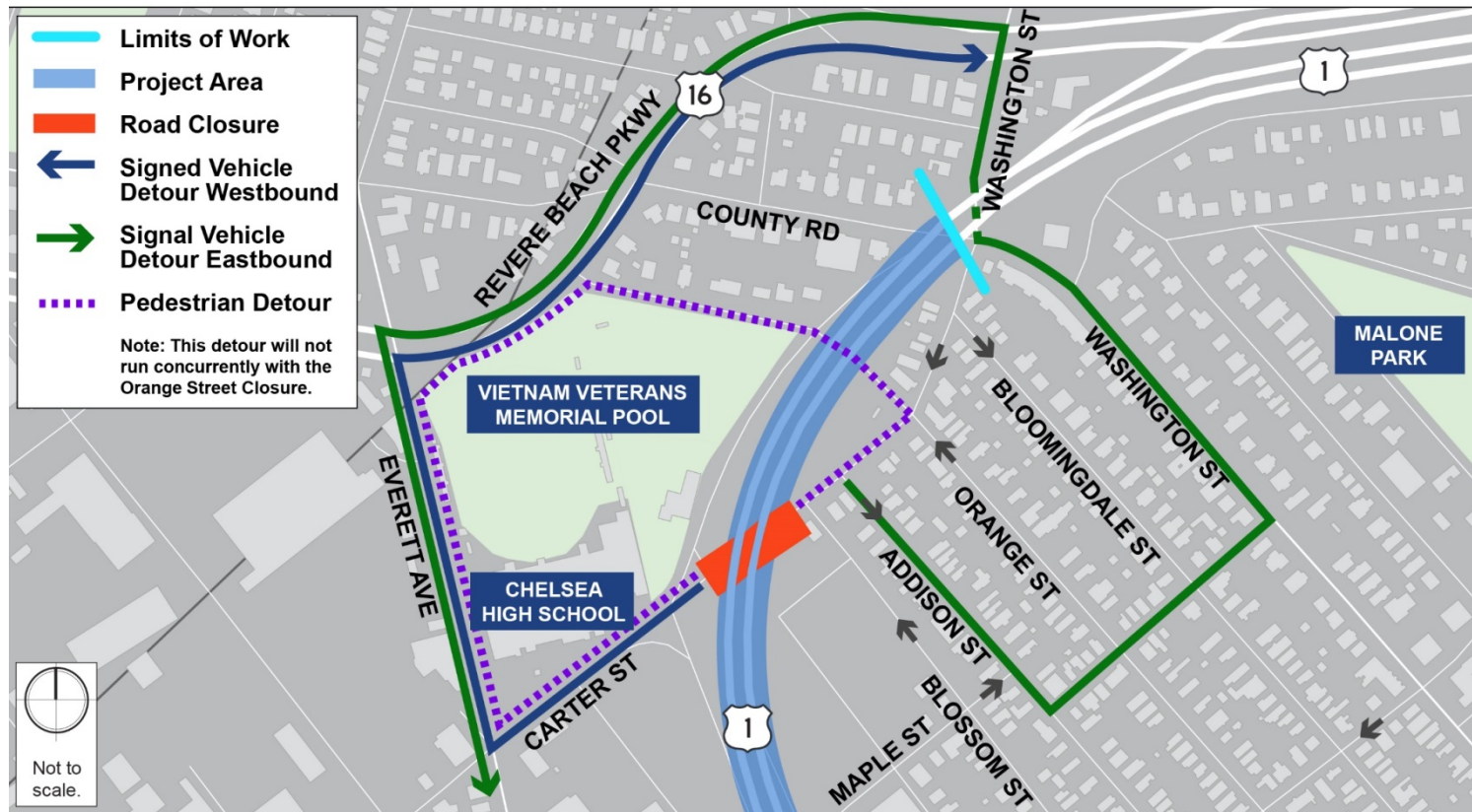
# Spruce Street Detour

## SPRUCE STREET DETOUR



# Carter Street Detour

## CARTER STREET DETOUR





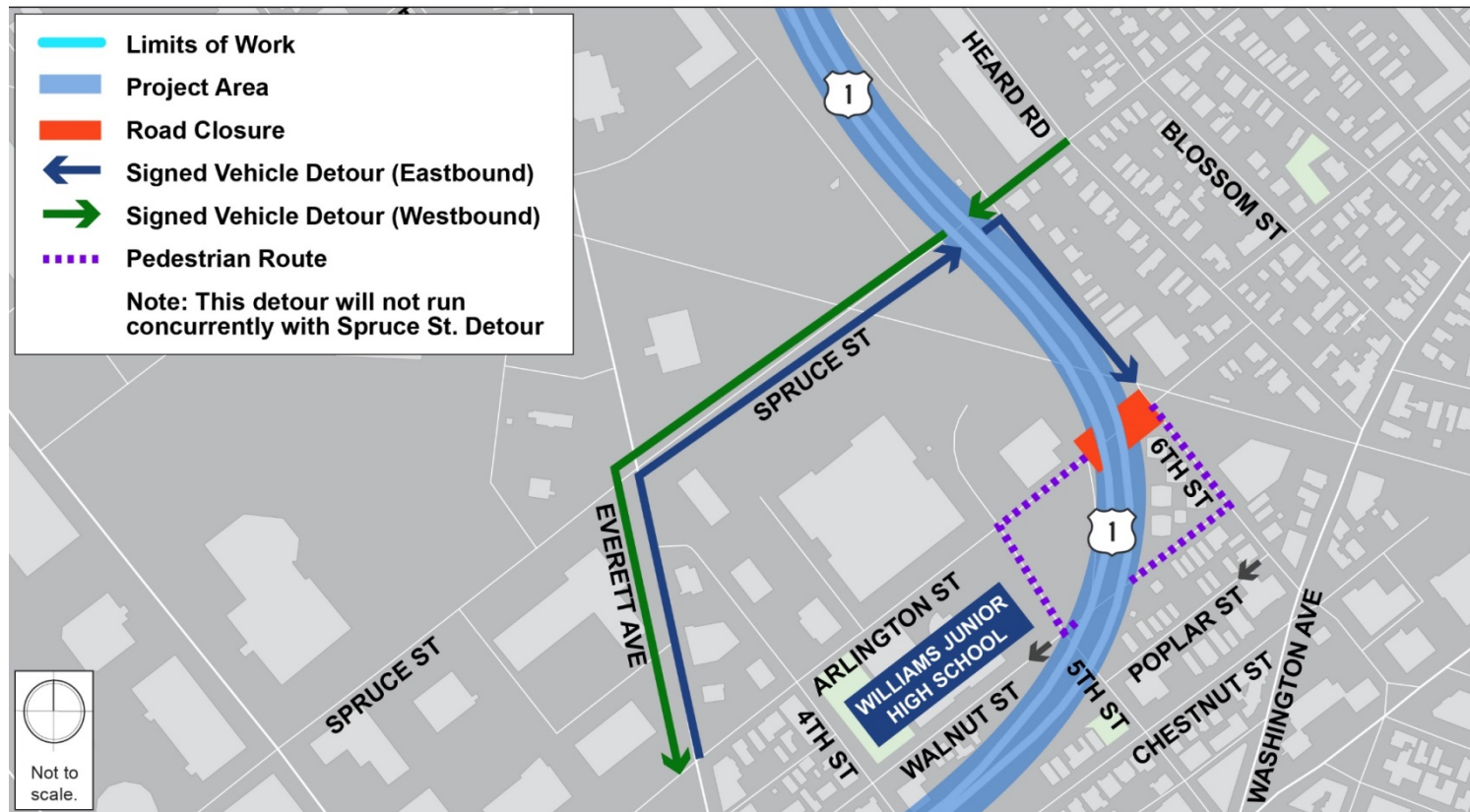
# Orange Street Detour

## ORANGE STREET DETOUR



# Arlington Street Detour

## ARLINGTON STREET DETOUR



# 6<sup>th</sup> Ramp Street Detour

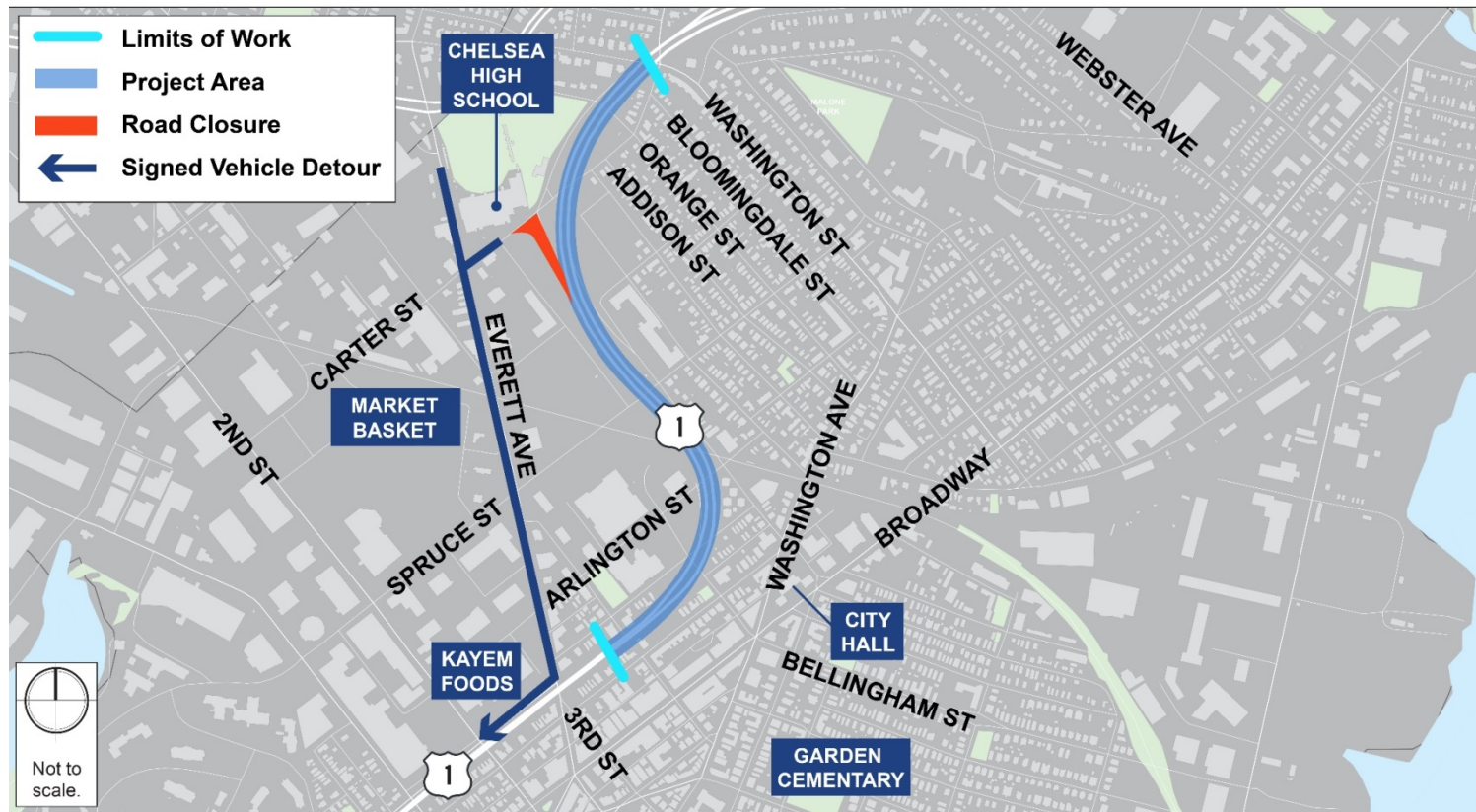
## SIXTH STREET RAMP DETOUR





# 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:**

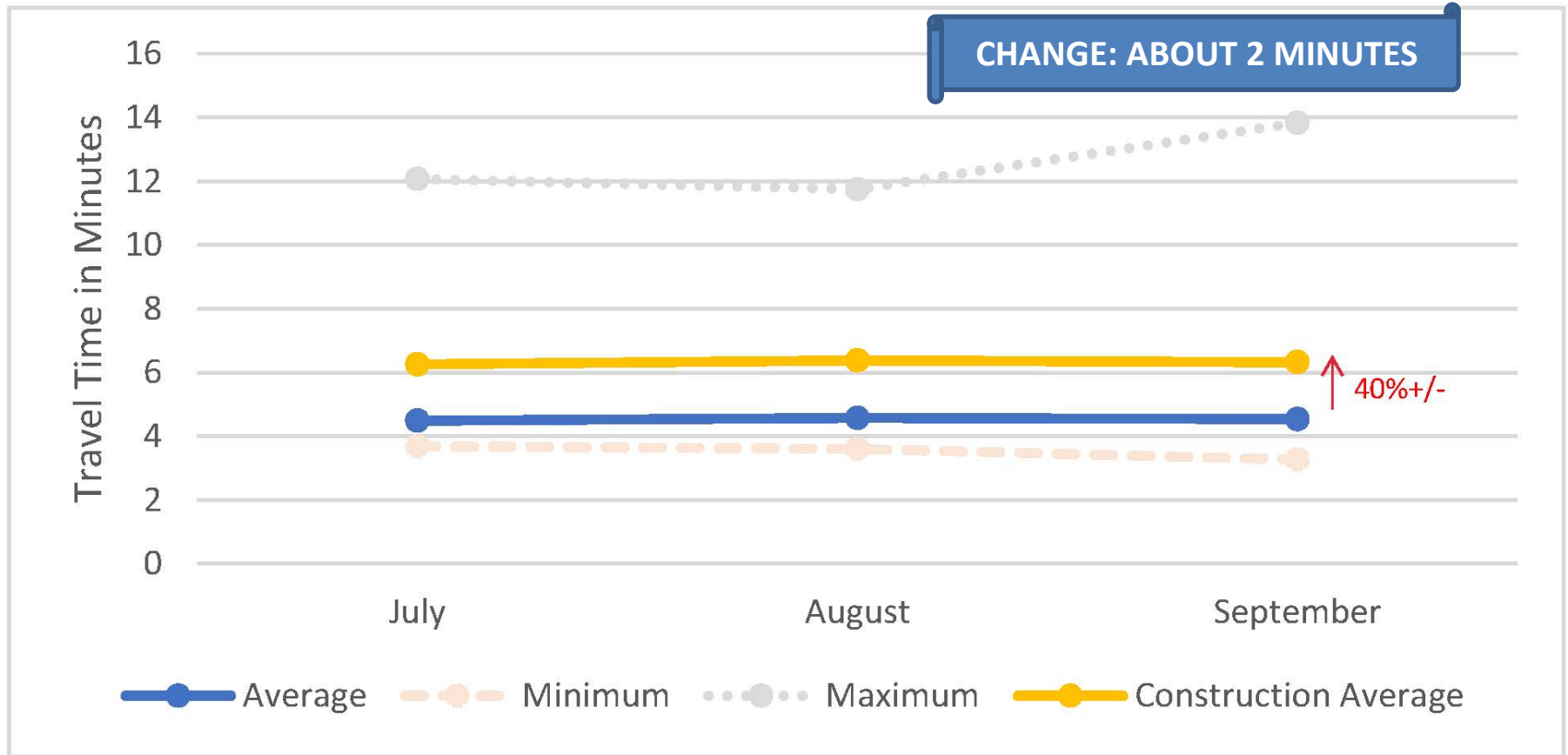
- All Federal, State, Local and OSHA regulations will be followed
- Contractor to contain all areas where paint is removed
- Removed steel is recycled off-site



# 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

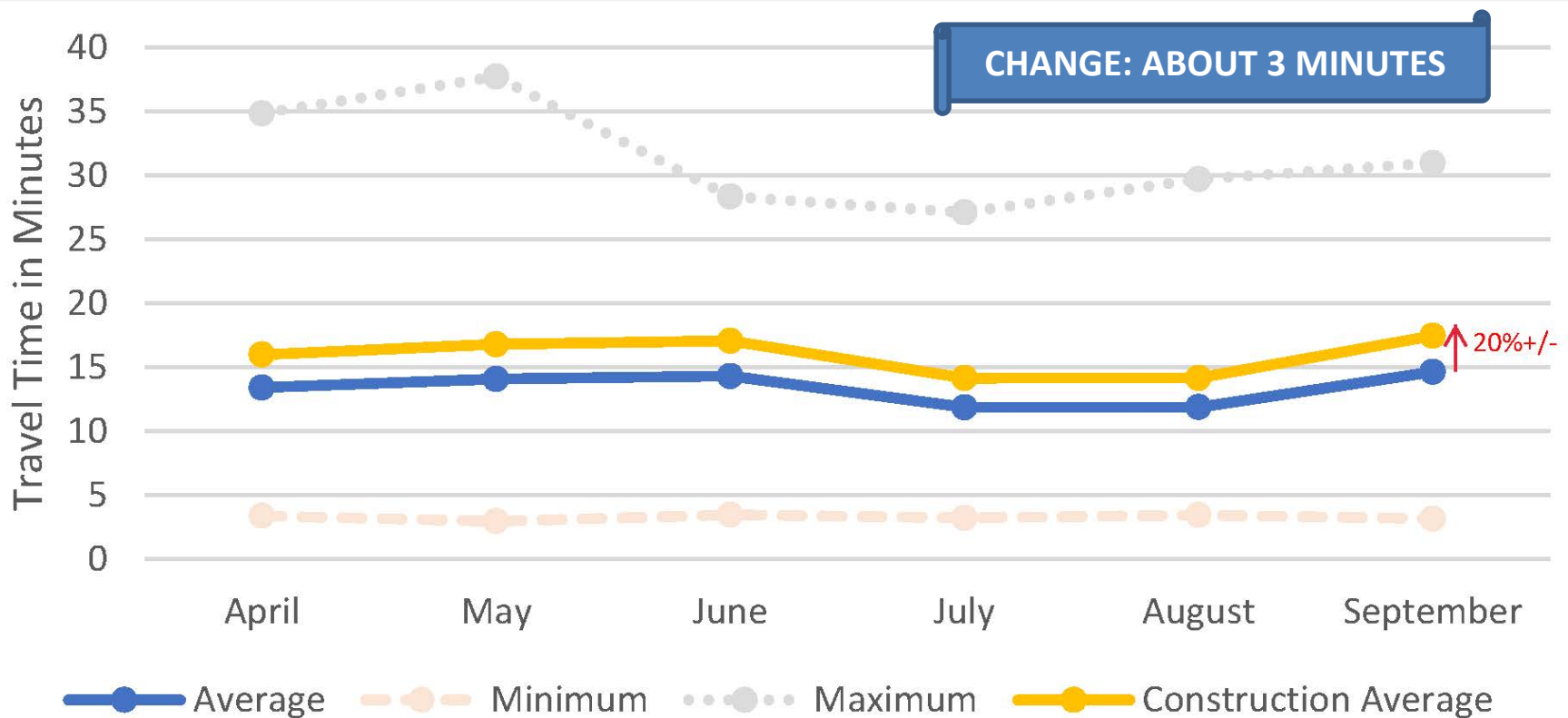
# NB Evening Peak Period Travel Times



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

