



# Welcome!

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

**Public Update Meeting**  
**Chelsea City Hall**  
**April 5, 2018 | 6:30 p.m.**

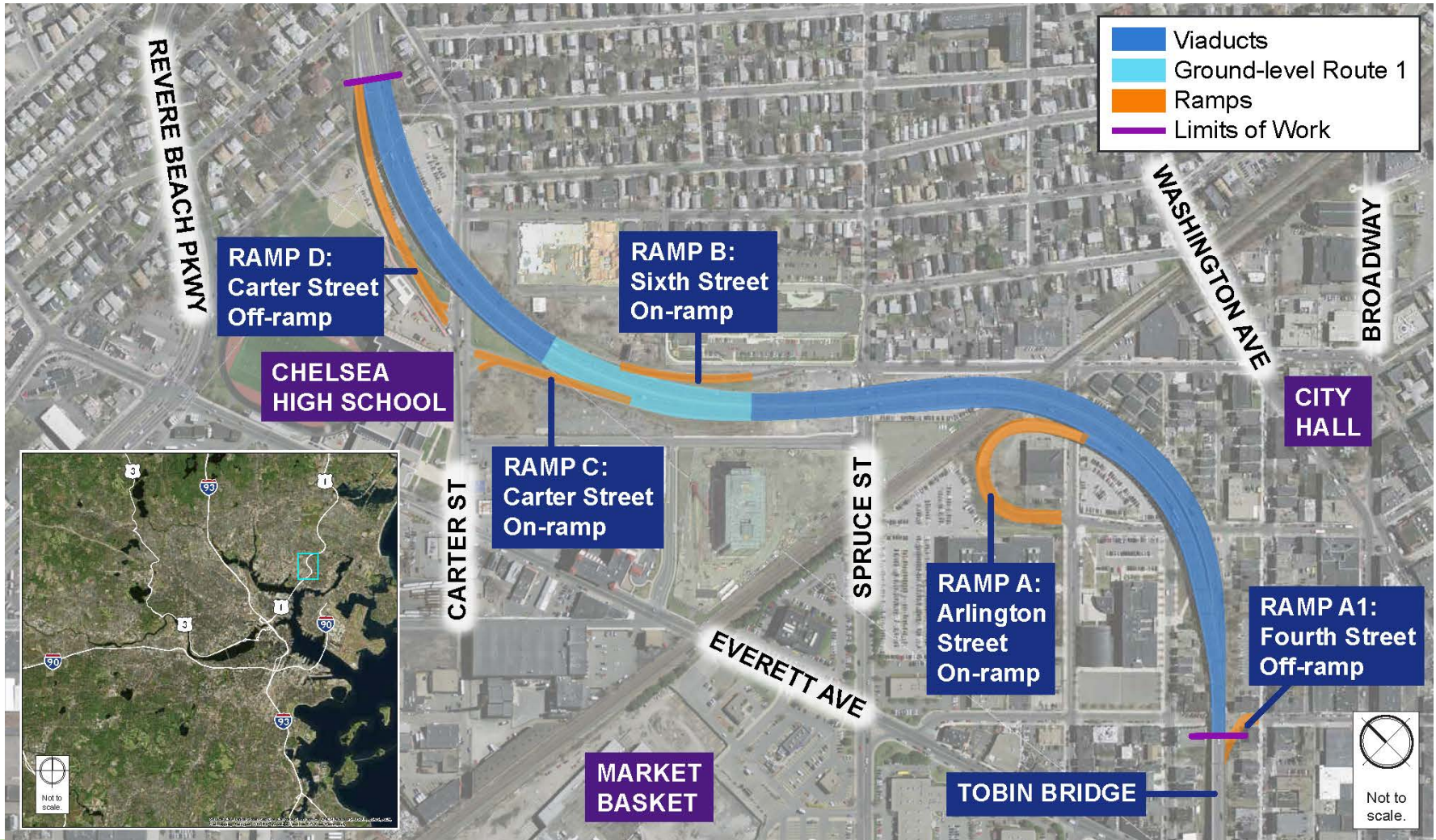
# Agenda

- **Project Overview**
  - Context
  - Need
  - Goals
  - Schedule
- **Anticipated Project Impacts**
- **Environmental Review and Public Outreach**
- **Design Changes Based on 25% Design Public Hearing Input**
- **MBTA and Regional Coordination**
- **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



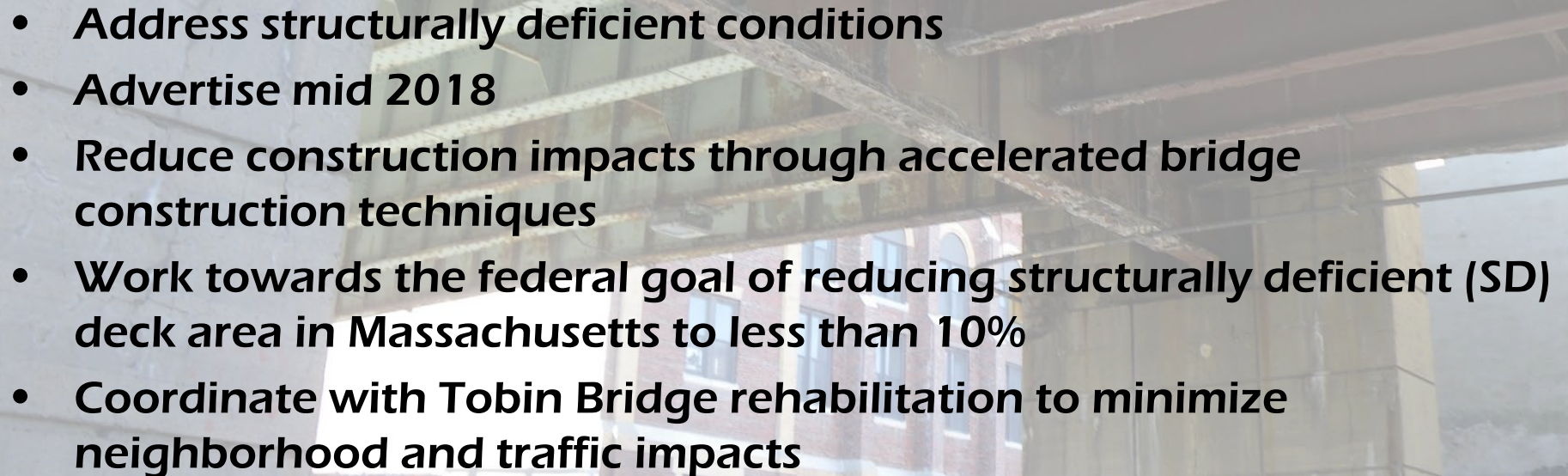
# Existing Conditions

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





# Project Goals

- 
- Address structurally deficient conditions
  - Advertise mid 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
- 75% Design complete
- Value Engineering study complete



# Design Schedule

**Preliminary Design  
October 2017**

**75% Design  
April 2018**

**Advertisement  
June 2018**

**Design Public Hearing  
January 2018**

**PS&E  
May 2018**

**Design & TMP Development**

**Public Outreach**



## **Public Outreach To Date**

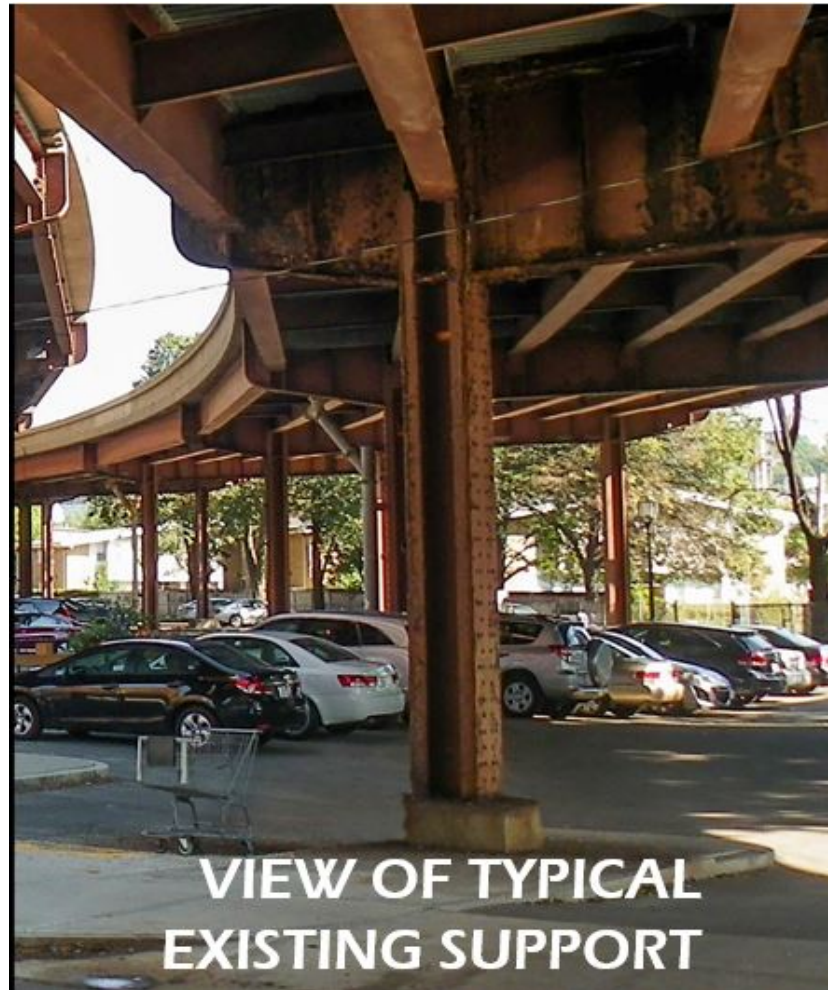
- **Public Information Meeting- 11/8/17**
- **Project Open House – 12/5/17**
- **Chelsea Collaborative – 12/7/17**
- **GreenRoots Chelsea – 12/14/17**
- **GreenRoots Chelsea Follow-up – 1/18/18**
- **All-Spanish Public Information Meeting – 1/22/18**
- **Pop-ups – November, December, and ongoing**
- **Door-to-door abutter project notification – 1/16/18-1/21/18**
- **General, Businesses, and Non-Occupant Owners Notification Letters – November, December, and pre-DPH**
- **Design Public Hearing – 1/24/18**
- **Business Community Meetings:**
  - **Chamber of Commerce - 2/14/18**
  - **Major viaduct adjacent businesses - 3/19/18**
- **City of Chelsea – Ongoing coordination:**
  - **Appearance before Chelsea City Council – 3/1/18**

# 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

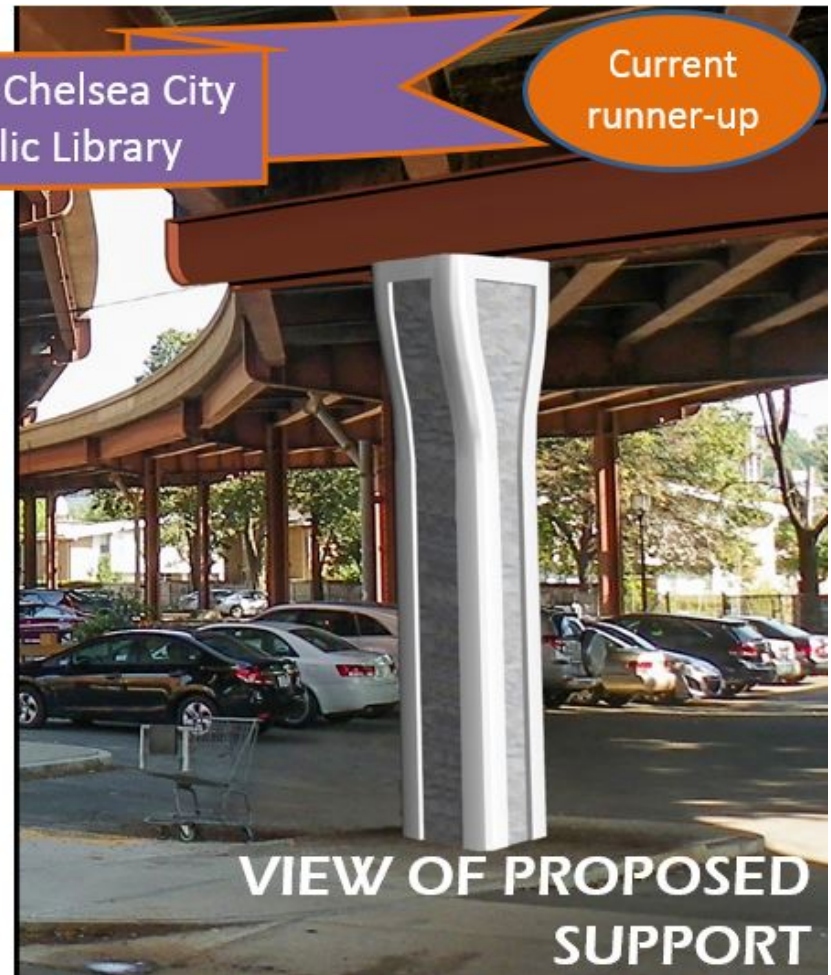


# Scope – Substructure





# Scope – Substructure



## Chelsea Viaduct Rehabilitation Project



**Scope - Superstructure**  
**PREFABRICATED BRIDGE UNITS (PBUs)**



## Chelsea Viaduct Rehabilitation Project



**Scope – Superstructure**  
**PREFABRICATED BRIDGE UNITS (PBUs)**

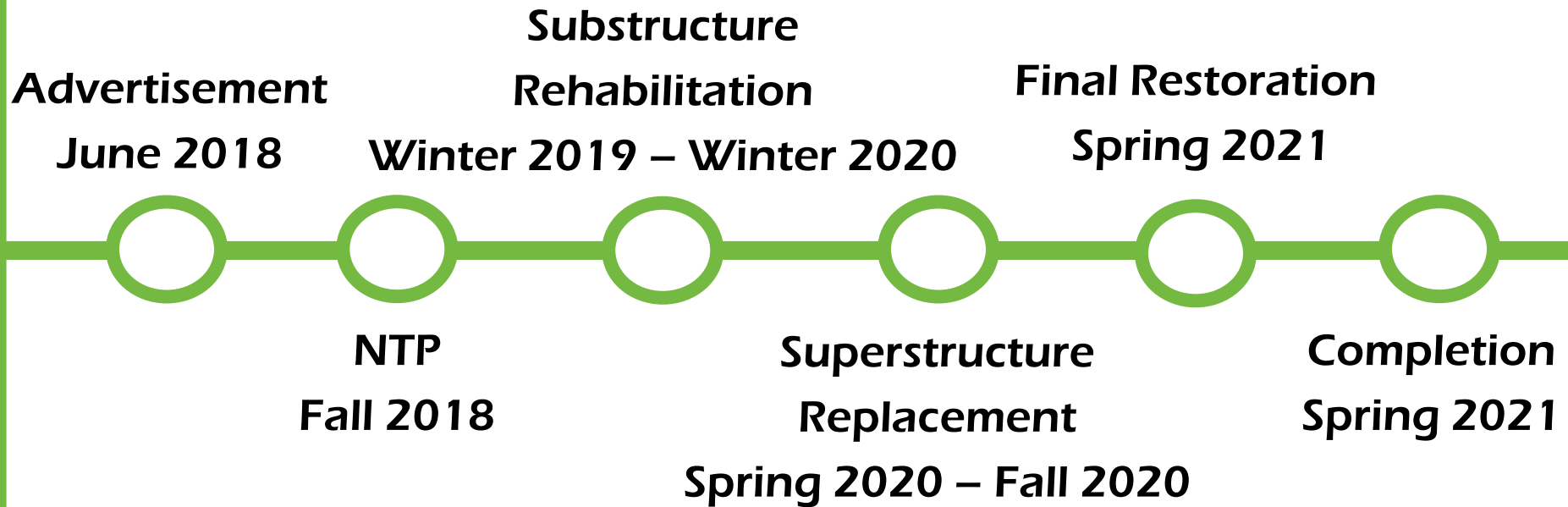


# Scope - Superstructure

- **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

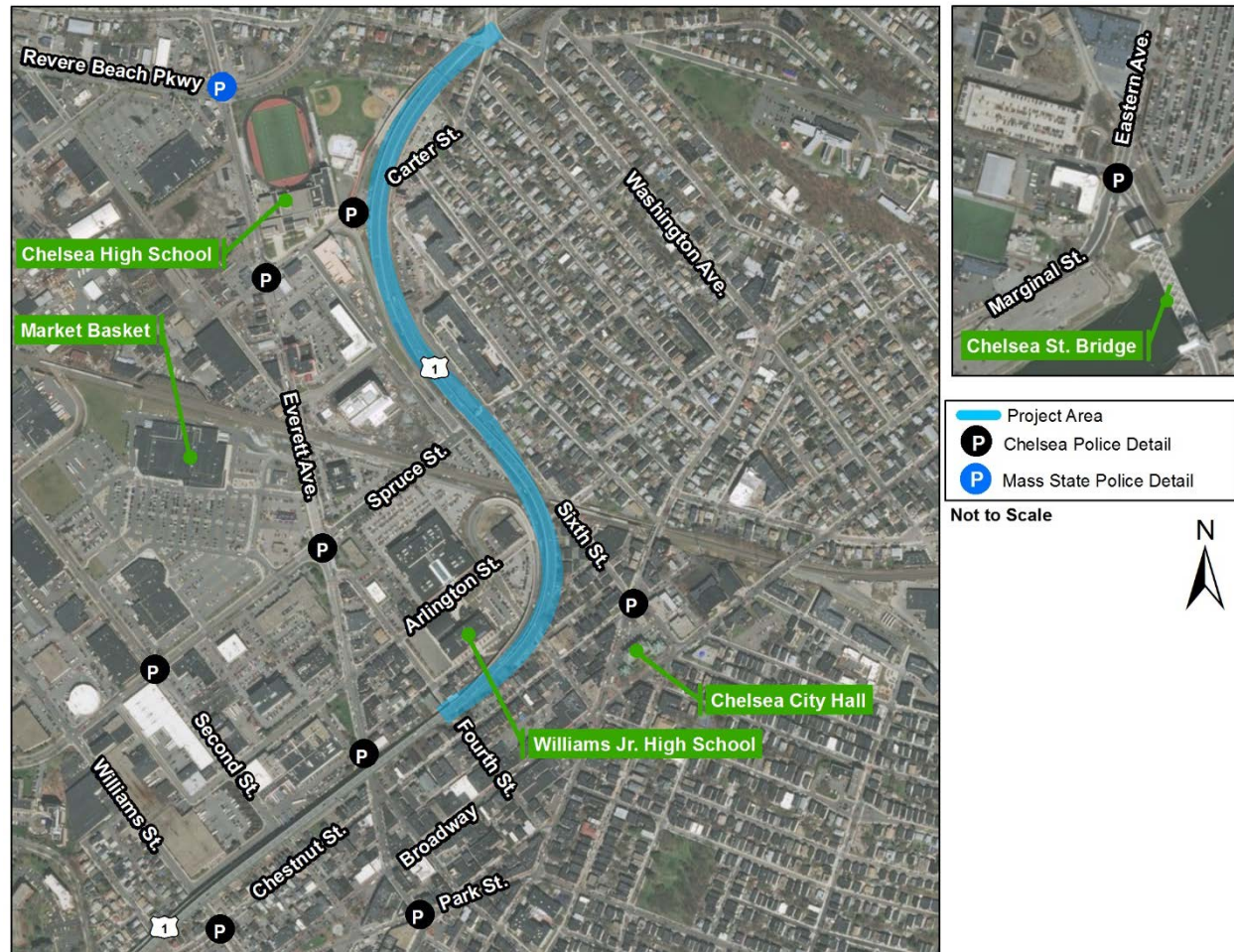
- Route 1 will be reduced to 1 lane NB/SB for **12 weekends** in 2020
- Lane reductions Friday 10pm through Monday 5am
- Allows for expedited construction in areas where PBUs cannot be used
- Proposed weekend dates include
  - 6 weekends in Spring (excluding Easter)
  - 6 weekends in Summer (excluding 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**

# Police Detail Deployment





# **Local Traffic Detours**

- **Local nighttime road closures intermittently throughout each construction stage (7pm-6am)**
- **Weekend closures for Carter Street Off-ramp**
- **Arlington Street On-ramp and Fourth Street Off-ramp closed during all construction stages**
- **Nightly closures for Carter Street On-ramp and Sixth Street On-ramp during the first construction stage**

# Construction Impacts - Abutters

- **Noise Control**
- **Dust and pollutant containment system will be used for mitigation**
- **Lead Paint Abatement Plan for Hazardous Materials Mitigation**
- **Reallocation of temporary loss of parking**
- **Public outreach will help keep abutters and users informed of construction impacts**



# Construction Impacts - Noise

- **Baseline noise monitoring under normal, everyday conditions completed**
- **Contractor will be required to have an approved Noise Control Plan**
- **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**

# 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





# 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

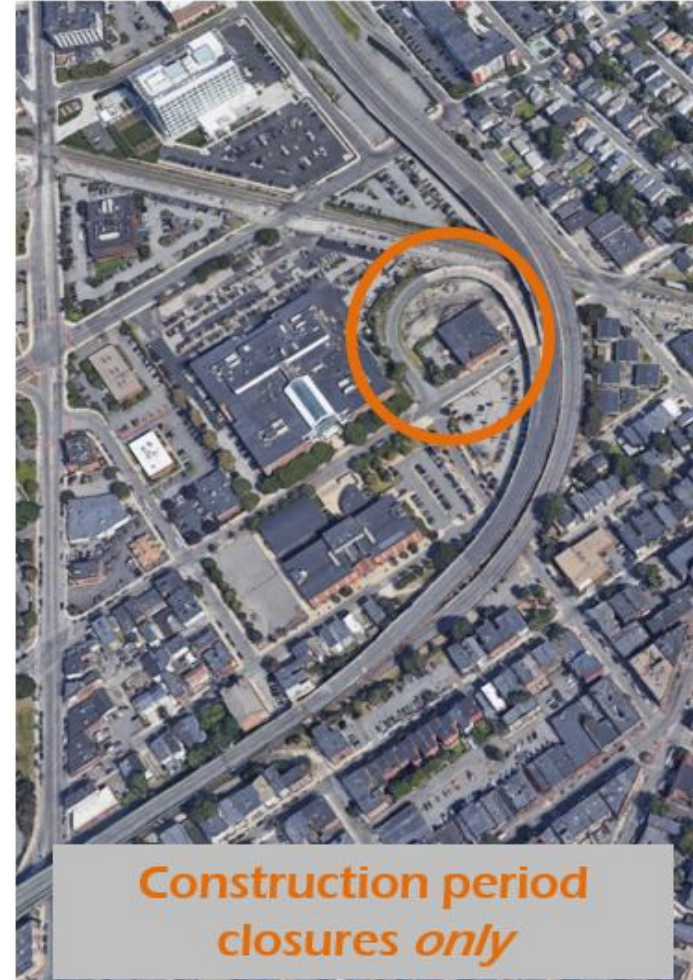
## **Mitigation Commitments: From the 25% Design Public Hearing**

- **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**

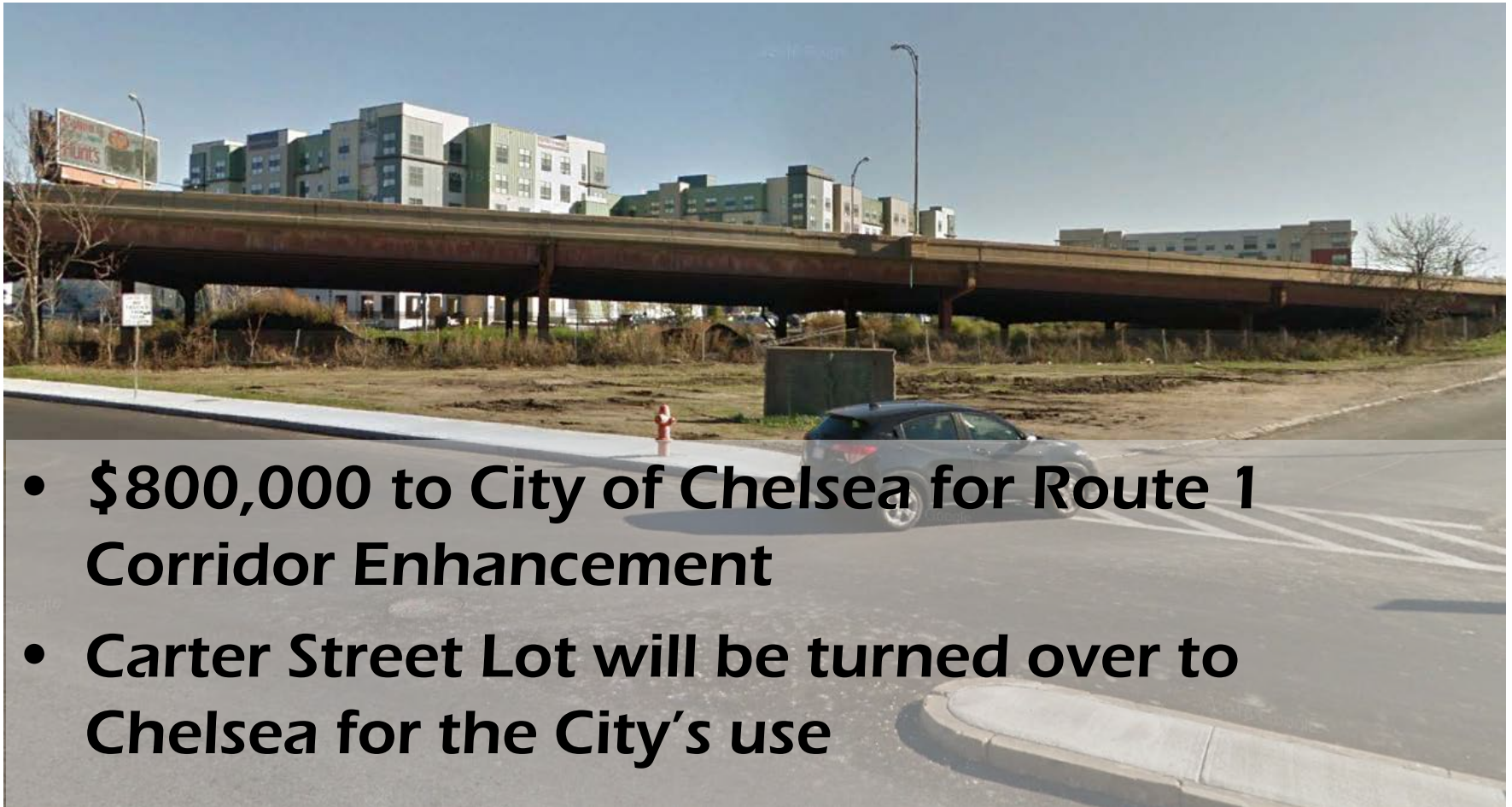
- Ramp A to be rebuilt and reopened at job's end
- Solid snow barrier will be installed on the viaduct:
  - Contains snow/debris
  - Acts as sound barrier



**Construction period  
closures *only***



## **Additional Mitigation Commitments: Based on Community Input**



- **\$800,000 to City of Chelsea for Route 1 Corridor Enhancement**
- **Carter Street Lot will be turned over to Chelsea for the City's use**

## **Additional Mitigation Commitments: Based on Community Input**

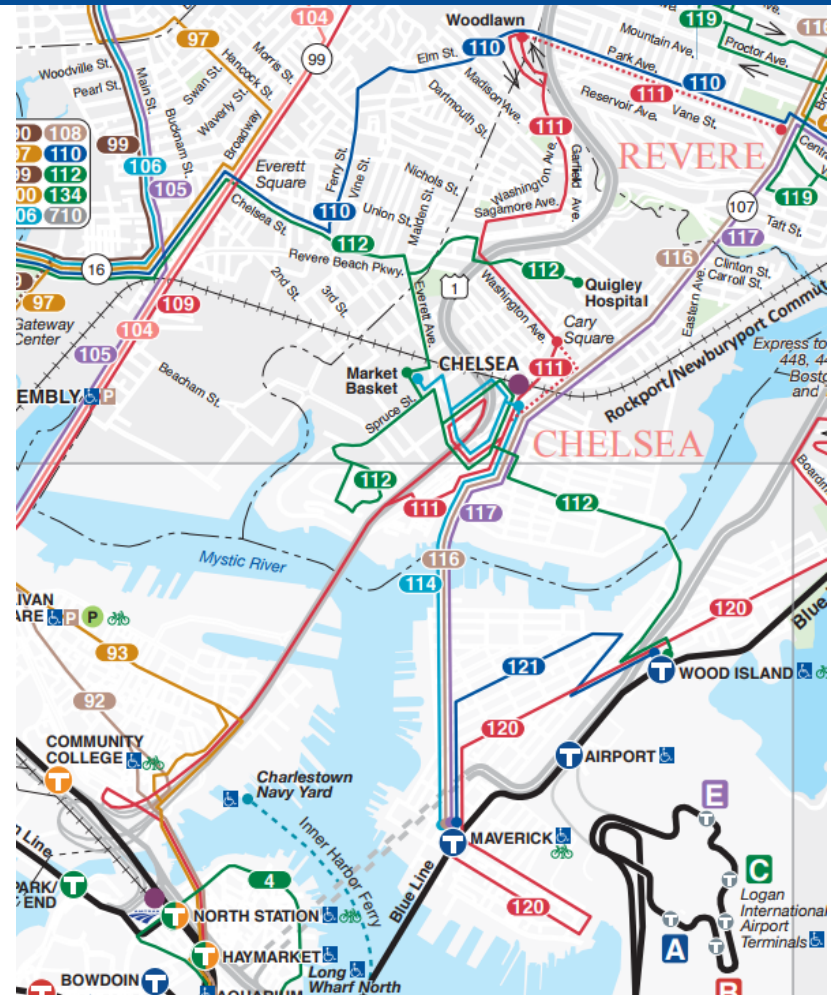
- **Ongoing efforts with MBTA:**
  - Work to mitigate Rte. 111 impacts
  - Coordinate transit impacts of Chelsea Viaduct, N. Washington, and Tobin Bridge



# MBTA Route 111

## Background & Context

- Primary link between Chelsea, Boston
- 3<sup>rd</sup> largest MBTA bus route
- Serves 11,800 passengers per weekday—that's as large as Alewife Red Line Station, the 14<sup>th</sup> busiest subway station
- Route meets standards for span, frequency, and cost efficiency, but needs improvement on reliability and comfort standards; these will be evaluated through upcoming Better Bus Project





# Project Impacts to Bus Operations

## Project

## Anticipated MBTA transit Impacts

### Chelsea Viaduct Rehabilitation

- Substructure Work
  - 11/2018 thru 3/2020
- Superstructure Work
  - 4/2020 thru 11/2020
- Ramp A Temporary Closure
  - 4/2020 thru 11/2020

No service impacts; barriers/fencing near CR, bus 112/114

Minor Impacts to due to traffic diversions, night work

No Impacts – Bus 111 permanently diverted to Everett Avenue Ramp

### Tobin Bridge Deck Rehabilitation

- NB Lane Reduction
- Beacon Street Ramp Closure
  - 4-6 weeks (May – August 2018)
- Everett Avenue Ramp Closure
  - 4 weeks (August – Sept 2018)
- 4<sup>th</sup> Street Ramp Closure
  - 4-6 weeks (August – Oct 2018)

No Impacts

Minor Impacts – detour to 4<sup>th</sup> Street Off-ramp

No Impacts – Remain on Ramp A on-ramp as existing

Minor Impacts – resume use of Beacon Street Off-ramp

### North Washington Street Bridge Replacement

- 2 lanes inbound/ 1 lane outbound
  - Jan 2019– Dec 2024
- 1 lane inbound/ 1 lane outbound
  - Jul 2019– Aug 2019

Bus 111 minor impacts: Expected delays

Bus 111 moderate impacts: Expected delays

## **Next Steps**

- **MBTA will continue to meet with MassDOT, City Council members and the community, throughout the duration of construction, to identify, implement and monitor a plan.**
- **The plan will focus on diverting customers to other routes and modes of transportation.**
- **As with other plans, as the MBTA monitors and collaborates with partners, changes can be made during the construction period.**
- **Communication of the plan will be posted on buses, at bus stops and within the network to notify customers in advance of potential impacts.**

## **Project Benefits**

### **Project**

#### **Chelsea Viaduct Rehabilitation**

- Project will result in a reliable structure with a 75 year design life, new lighting, drainage, snow fence and parking lot improvements.

#### **Tobin Bridge Deck Rehabilitation**

- Project will result in a reliable deck surface resulting in reduced maintenance costs and improved riding surface.

#### **North Washington Street Replacement**

- Project will result in a new bridge with a 75 year design life, architectural treatments, new lighting, and dedicated pedestrian and bicycle accommodations.
- Project will result in a dedicated bus lane that will provide improved service to Bus 92, 93, 111, 426 and 428.



# Next Steps

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

**Final Design**  
**May 2018**

**Advertisement**  
**June 2018**

**PS&E**  
**May 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)

**Nathaniel Cabral-Curtis**  
**Howard Stein Hudson**  
**Public Involvement Specialist**  
[ncabral-curtis@hshassoc.com](mailto:ncabral-curtis@hshassoc.com)  
**617-482-7080 x 236**

**Joseph A. Pavao, Jr., P.E.**  
**MassDOT**  
**Project Manager**  
[Joseph.pavaojr@dot.state.ma.us](mailto:Joseph.pavaojr@dot.state.ma.us)

**Fact sheets and mail-in comment sheets available**



# Thank You

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

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