



Hopkinton-Westborough

*Interchange Improvements,
Interstate 495 (NB & SB) at
Interstate 90 (EB & WB)*

Capital Programs Committee

April 6, 2022

Hopkinton & Westborough | MassDOT #607977

Overview

- Reconstruction of the interchange at Interstate 495 (NB & SB) and Interstate 90 (EB & WB), two regionally and nationally significant roadways
- Replace, demolish, design and construct, and/or rehabilitate 18 structures within the project limits



Highway Improvements Along Interstates

I-495 NB & SB

- Lanes – Three 12' wide
- Shoulders – 10' wide min. inside/outside
- New auxiliary lane from I-90 to Route 9 EB on I-495 NB



I-90 EB & WB

- Lanes – Three 12' wide
- Shoulders – 6' wide min. inside, 10' wide min. outside
- Reconstructed Whitehall Brook Culvert
 - Meets Stream Crossing Standards



Ramp Improvements at the Interchange

8 New Connections

- Direct or semi-direct
- Weaves removed
- WN & NE = 50 mph design speed
- ES, EN, NW SW, WS = 45 mph design speed
- SE = 40 mph design speed
- Acceleration and deceleration lane lengths designed for gap acceptance
- Two Exit Design – I-90 WB, I-495 NB
- Single Exit Design – I-90 EB, I-495 SB



Project Elements

- Full depth construction and widening of portions of I-495, I-90, Fruit Street, and Flanders Road
- Full depth construction and realignment of the Interchange ramps
- Retaining walls and modified rockfill slopes along I-495, I-90, the Interchange ramps, and Fruit Street
- Widening of Fruit Street and Flanders Road to provide proposed bicycle and pedestrian facilities
- Stormwater infiltration areas, swales, and check dams
- Improvements and modifications to the drainage systems
- Signs and pavement markings including overhead signs, guide signs, route markers, milled rumble strips, and slotted pavement markers
- Landscaping and restoration of disturbed areas
- Wetland mitigation areas
- Compensatory flood storage areas

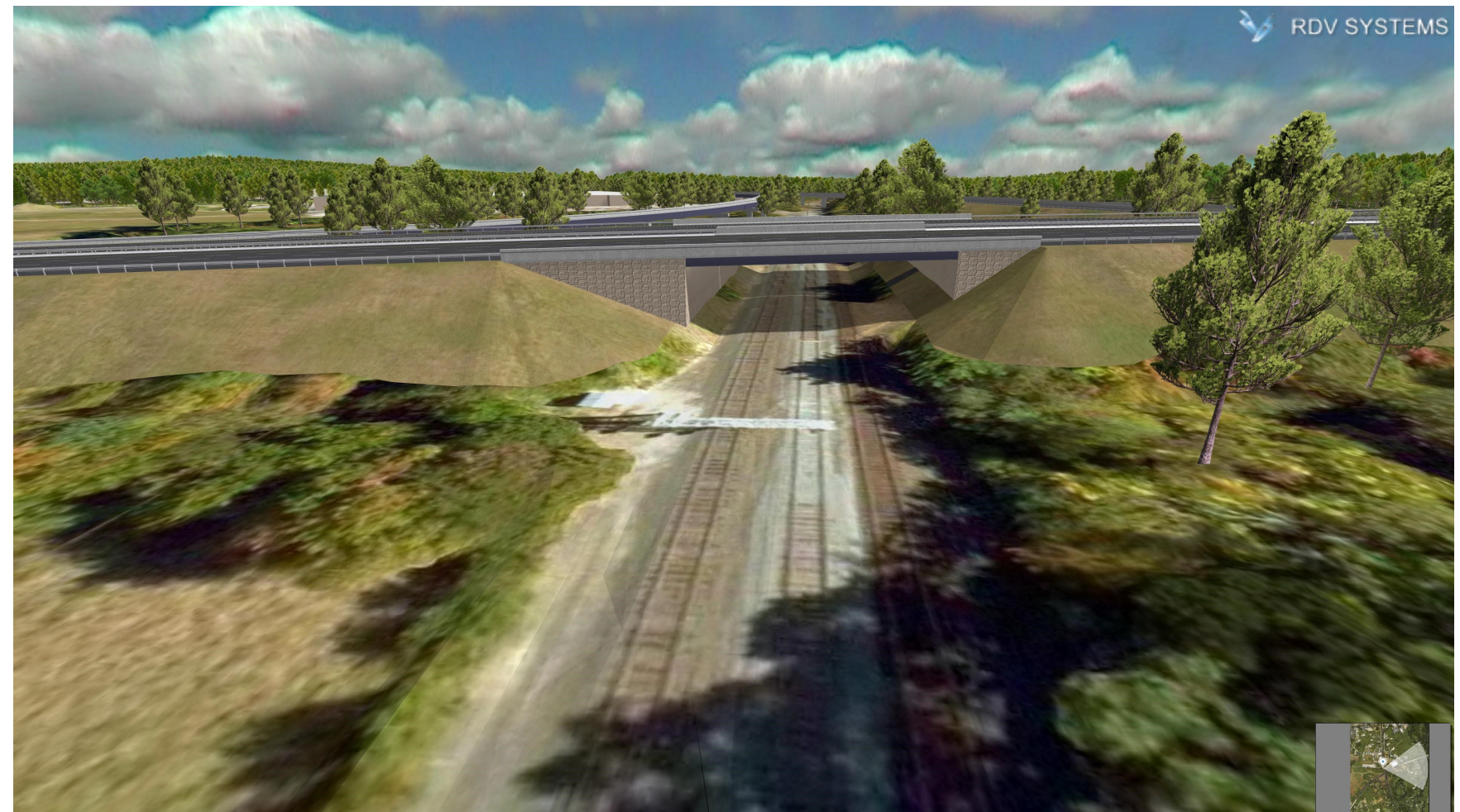
Coordination with other Owners

Utilities

- Fiber optic installation/relocation
- Local Utility protection and relocation
- Project wide lighting and ITS upgrades

MBTA

- Work within MBTA Right of Way
- MBTA, Keolis, Amtrak, and CSX coordination
- Positive Train Control (PTC) relocation



Traffic Impacts

- Traffic will be maintained throughout construction
 - Three lanes in each direction on Interstates
 - All ramp connections maintained
 - Milestone driven work on Fruit Street
- Mitigation Measures
 - Contractor prepared Temporary Traffic Control Plans
 - Public briefings in advance of major traffic shifts (meetings, Project Website updates, email/social media blasts)
 - Deployment of Real Time Traffic Management Smart work zone

Public Outreach

Public Involvement

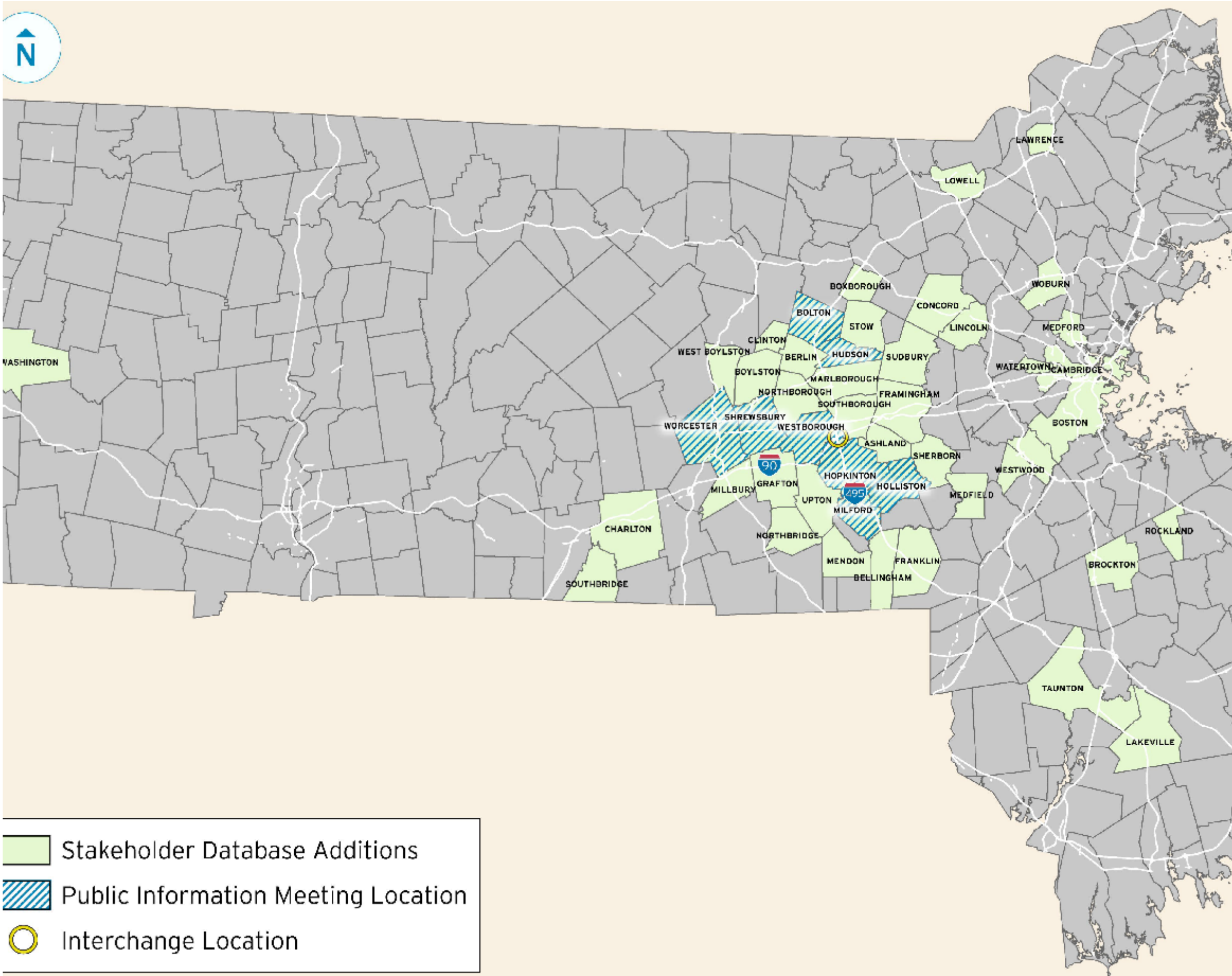
- General public
- Local municipalities
- Neighborhood groups
- Local Conservation Commission
- DEP Wetland Public Hearing
- Adjacent business owners
- Elected officials

Communication Methods

- Broadcast and print media
- Variable message signs
- Project webpage
- Mobile media
- MassDOT and Commonwealth websites
- Social media
- Fliers, fact sheets, newsletters, e-mail, presentations, briefings, meetings, and signs

Regional Outreach

Outreach for the Project has been greatly influenced by the idea that more people pass through the Interchange each day than live next to it

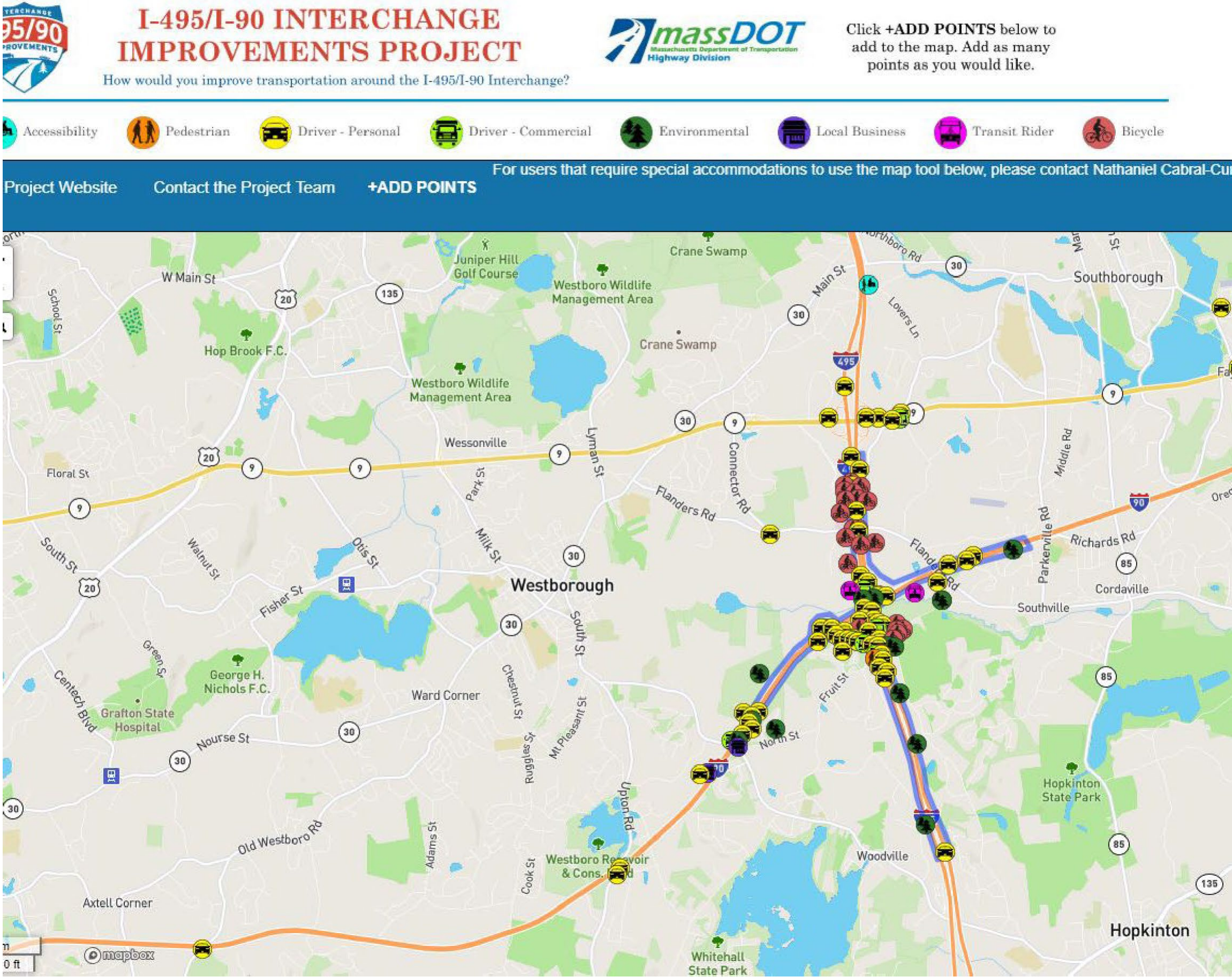


Public Engagement

- Three rounds of public information meetings:
 - Round 1: Fall 2017 – Understanding Existing Conditions
 - Round 2: Fall 2018 – Sharing Interchange Concepts
 - Round 3: Summer 2019 – Announcing a Preferred Alternative
- Proposed design was introduced to stakeholders during the second round of public outreach meetings
- Stakeholder/public/regulatory agency feedback identified the proposed design (Alternative C-2) as the Preferred Alternative
- October 2019 MEPA Public Meeting
- July 2020 Virtual Design Public Hearing

Public Experience

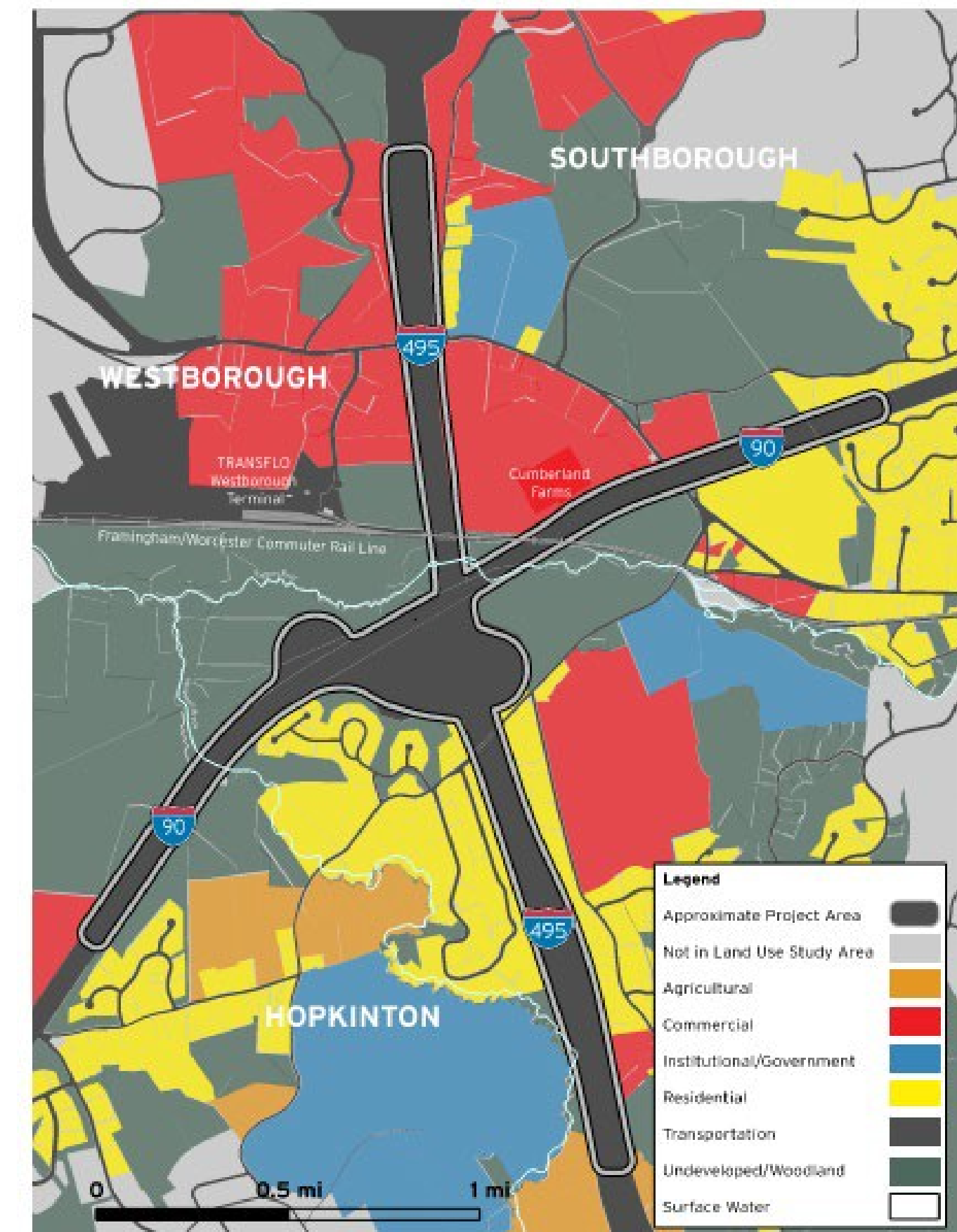
Findings from the Wikimap and commentary in public meetings closely aligned with the results of technical data collection which helped to demonstrate to members of the public that MassDOT’s observations matched commuters’ and truckers’ lived experience as drivers



Abutter Concerns

- Hopkinton North Woods Coalition
 - Resident of Roosevelt Farms, Fruit Street, Huckleberry Road, and Saddle Hill Road
- Concerns
 - Water Quality – safeguard the integrity of residential wells
 - Noise – Construction Phase and Post-Construction noise from the Interchange
 - Roadway Safety – Safety and accessibility of Fruit Street
- Mitigation Measures
 - Construction Phase public outreach and engagement
 - Dedicated project hotline and email address
 - Construction Phase stormwater and site controls
 - Noise monitoring and mitigation (e.g., work hour and equipment restrictions)
 - Dust Control Plan
 - Fruit Street access milestones

FIGURE 4-3-2: LAND USE MAP



Design-Builder's Role

Public Involvement

- Public Participation (Outreach) Plan
- Coordination meetings with MassDOT, FHWA, State Police, Local Municipalities and their Emergency Services departments, local elected officials, the community, utility owners, state and local commissions
- Provide content for MassDOT Project Website

Public Information Meetings

- One meeting after MassDOT acceptance of 75% Highway Design
- 30 days prior to commencement of any construction activities
- 30 days prior to completion of major milestones and traffic phase changes
- 7 days prior to short duration closures
- 14 days prior to long term partial or complete closures

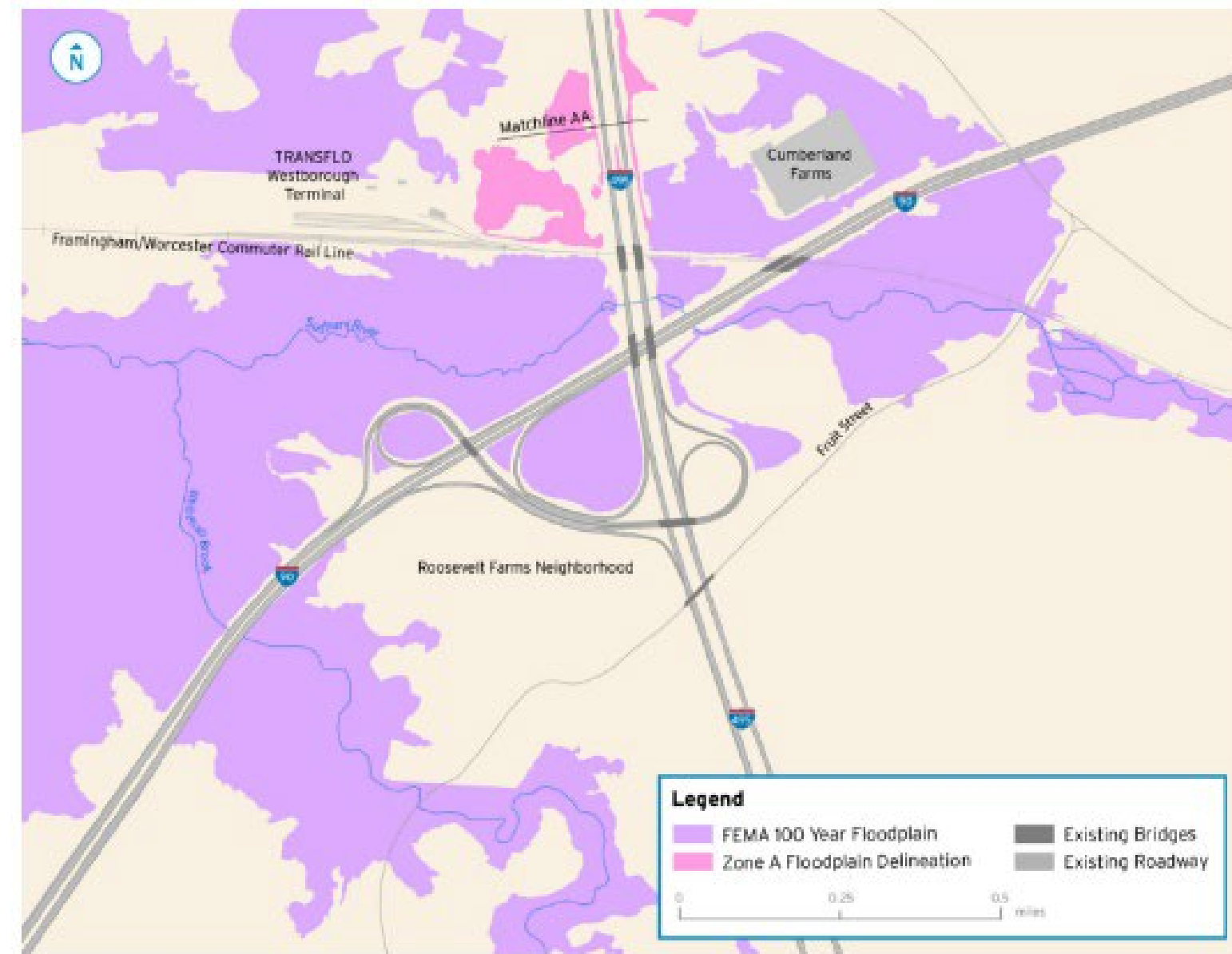
Environmental Considerations

Project Location:

- Cedar Swamp Area of Critical Environmental Concern (ACEC)
- Sudbury River Floodplain



Existing Conditions: Area of Critical Environmental Concern (ACEC)



Existing Conditions: FEMA Floodplain

Environmental Approvals/Clearances

Provided by MassDOT

- National Environmental Policy Act (NEPA) – Individual Categorical Exclusion
- Section 404 of the Clean Water Act – Individual Permit
- Massachusetts Environmental Policy Act (MEPA) – Environmental Impact Report
- Massachusetts Wetlands Protection Act (MA WPA) – Variance Order of Conditions
- 401 Water Quality Certification (WQC) – Variance 401 WQC (Fill/Excavation)
- 401 Water Quality Certification (WQC) – 401 WQC (Minor Dredge Project – BRP WW 08)
- Chapter 91 of the Massachusetts Public Waterfront Act – Chapter 91 Water Dependent License

Design-Builder's Responsibilities

- DB is responsible to obtain all required Environmental Approvals/Clearances not already obtained by MassDOT, or any Amendments based on design changes
- Preparation of all documentation required to satisfy any conditions in the Environmental Approvals/Clearances as it relates to their scope of work

Environmental Impacts

Permanent Impacts

- 2.22 acres of federal and state jurisdictional Vegetated Wetlands (VW), including Isolated Vegetated Wetlands (IVW)
- 6,900 SF of federal and state water Below Ordinary High Water (OHW) associated with freshwater ponds, rivers, and streams

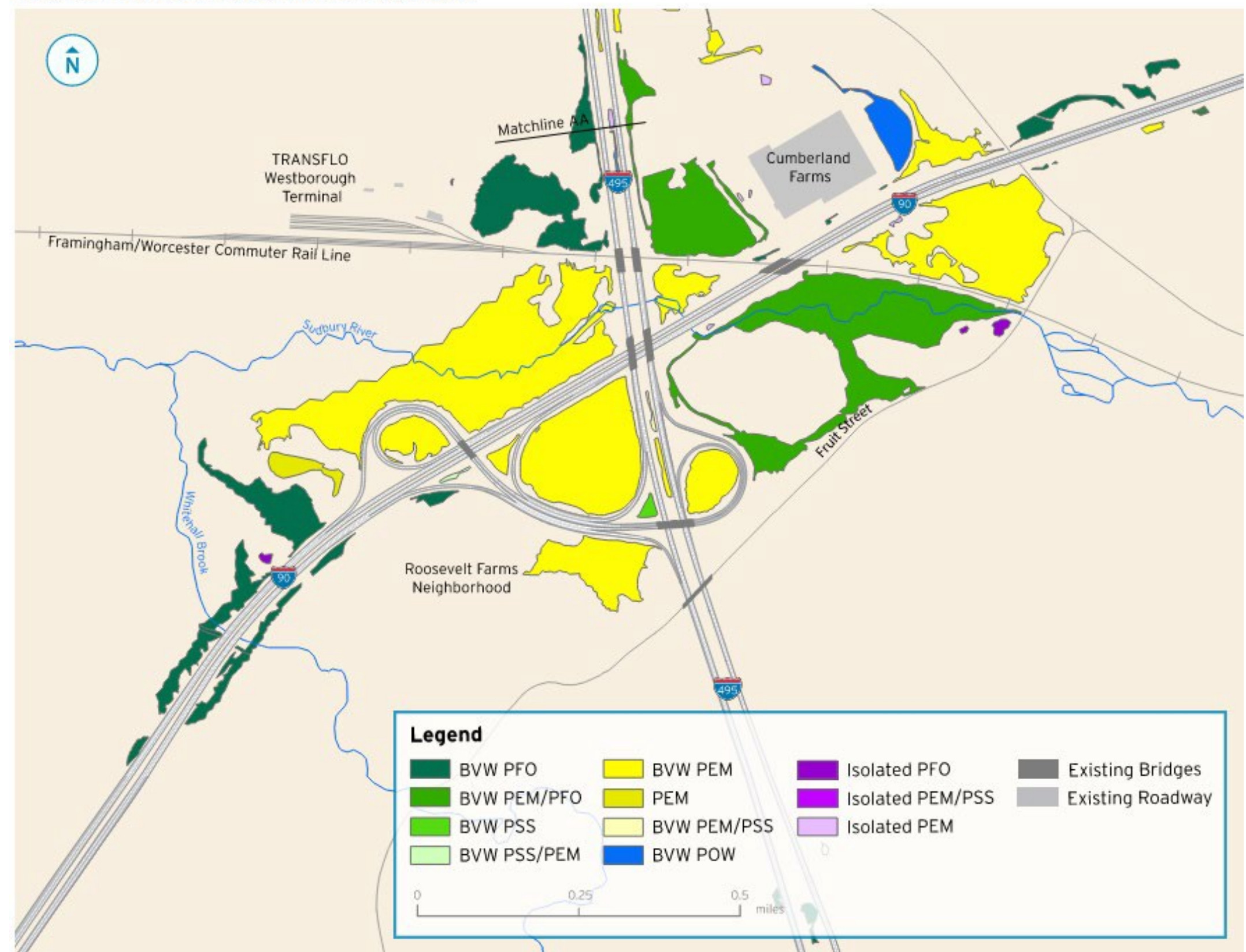
Temporary Impacts

- 5.48 acres of Bordering Vegetated Wetland
- 12,763 SF of Land Under Water

Restoration Areas

- 6.8 acres of wetland mitigation adjacent to the ACEC

FIGURE 4-6-1 - EXISTING WETLANDS WITHIN THE PROJECT AREA



Coordination with Other Projects

Active Projects

- Fabrication and Installation of Overhead and Ground Mounted Guide and Traffic Signs along Interstate 495
- Bridge Replacement Br. No. H-23-006=W-24-016 (Steel) Fruit Street over CSX Railroad and the Sudbury River
- Conversion of Interstate and Freeway Exit Signs to Milepost-Based Numbering on the Massachusetts Turnpike (I-90)
- Roadway Reconstruction and Related Work (Including Signals) along Sections of Routes 85 and 135
- Superstructure Replacement and Related Work Br. No. M-22-038 (Steel) along a Section of Interstate 90 at Interchange 11
- Resurfacing and Related Work on a Section of Interstate 90
- Pavement Preservation and Related Work (Including 6 Bridges) along a Section of Interstate 495

Anticipated Projects

- Pavement Preservation and Related Work on I-495
- Interstate Maintenance and Related Work on I-90
- Pavement Preservation and Related Work on I-90
- I-495 SB Ramp to I-290 WB
- MassDOT Project 610792 - ITS Project

Utility Project

- Eversource Gas Improvements on Flanders Road

Schedule of Events

EVENT	DATE
Request for Letters of Interest	5/22/2021
Letters of Interest Due	7/1/2021
RFO Close Date for Questions	7/23/2021
Statements of Qualifications Due	8/23/2021
Design-Builders Short-Listed	9/29/2021
Draft RFP Issued to Short-Listed Design-Builders	10/5/2021
Final RFP Issued to Short-Listed Design-Builders	11/2/2021
Technical & Price Proposals Due	2/23/2022
Oral Presentations	3/9/2022
Public Price Proposal Opening Date	3/30/2022
Anticipated Award Date	TBD
Anticipated Notice to Proceed	5/13/2022

Overall Project Budget

LINE ITEM	BUDGET
Bid Amount	\$394,422,000.00
Contingencies	\$39,422,000.00
Construction Engineering	\$19,721,100.00
Traffic Police	\$9,281,898.00
Traffic Police OT/Non-Participating	\$3,977,979.00
Trainees	\$7,000.00
Total	\$466,831,977.00

Request of the Board

Staff request that the MassDOT Board authorize the Secretary of the Massachusetts Department of Transportation, or his designee, to award and execute MassDOT Construction Contract 1 16673: Interchange Improvement, Interstate 495 (NB & SB) and Interstate 90 (EB & WB) Design-Build Project with Barletta/O&G/Aetna for an amount not to exceed \$394,422,000.00.



Thank You

Presentation to the Board

April 13, 2022

MassDOT #607977

Project Website: mass.gov/massdot/495-90interchange