Welcome & Introductions

- Michael Clark – Project Manager (MassDOT)
- Ethan Britland – Project Manager (MassDOT)
- Mark Arigoni, L.A. – Principal-in-Charge (MMI)
- Van Kacoyannakis, P.E. – Traffic (MMI)
- John Hoey - QA/QC (MMI)
- Sarah Paritsky – Public Involvement (Regina Villa)
Agenda

Welcome and Introductions

Study Progress & Alternatives Review

Refresher of the WGM#10
  Evaluation Criteria Workbook/Comments

Draft Final Recommendations

Next Steps
I-91 Viaduct Study Goals, Objectives, and Evaluation Criteria

- **Mobility and Connectivity** – maintain and improve the efficient function of I-91, I-291, associated ramps, and key intersections in the study area, encouraging mode shift through improved bike/ped functionality

- **Safety** – improve bike/ped and vehicular safety throughout the study area, as well as public safety adjacent to the viaduct

- **Environmental Effects** – improve air quality, reduce noise impacts, and decrease environmental impacts such as wetlands incursion and pavement footprint

- **Land Use and Economic Development** – enhance access to existing development parcels and establish new development parcels, while creating more attractive, economically viable riverfront connections

- **Community Effects** – provide fair and equitable treatment for Environmental Justice populations and improve the visual perception of the viaduct

- **Cost** – estimate construction and long-term maintenance costs
• Ten alternatives initially developed
• Ten Working Group Meetings (WGMs)
• Two Public Meetings
• Three alternatives advanced for analysis
  • Sunken Highway following Current Alignment
  • Sunken Highway following Modified Alignment
  • Reconstructed Elevated Highway

• Detailed Evaluation Criteria Analysis: Alternatives developed to achieve most favorable outcomes for community, environmental impacts, engineering complexity, ease of implementation, and costs
1. Sunken, Tunnel, or Combination(s) following current I-91 Alignment

2. Sunken, Tunnel, or Combination(s) following modified I-91 Alignment (section of combined rail and highway corridor)

3. Reconstructed Elevated Structure (Modern Viaduct)
Alternative No.1

Sunken following current I-91 Alignment

Conceptual Planning Study: This graphic represents a hypothetical development scenario that could be representative of potential future development along the I-91 Viaduct Corridor and is shown for general informational purposes. Any actual future development that occurs along this corridor may vary from this conceptual representation.
Conceptual Planning Study: This graphic represents a hypothetical development scenario that could be representative of potential future development along the I-91 Viaduct Corridor and is shown for general informational purposes. Any actual future development that occurs along this corridor may vary from this conceptual representation.

Alternative #1

July 31, 2018
Alternative No. 2

Sunken following modified I-91 Alignment

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Alternative #2

July 31, 2018
Conceptual Planning Study: This graphic represents a hypothetical development scenario that could be representative of potential future development along the I-91 Viaduct Corridor and is shown for general informational purposes. Any actual future development that occurs along this corridor may vary from this conceptual representation.
Conceptual Planning Study: This graphic represents a hypothetical development scenario that could be representative of potential future development along the I-91 Viaduct Corridor and is shown for general informational purposes. Any actual future development that occurs along this corridor may vary from this conceptual representation.
A workbook was developed to function as a stand alone document providing information to support ratings shown in the Evaluation Criteria.

Comments were generated by the working group following WGM #10.

Responses to comments were provided and posted to the study website (handout provided).
WGM#10 - Evaluation Criteria / Comments

- The Evaluation Criteria was further developed and refined based on comments provided following the WG meeting in June (2017)

- Mapping & Ratings (Harvey Ball/Numeric) were reviewed and revised as necessary.
### Comparison of Alternatives

Note that Build Alternative cost estimates include component improvements.

<table>
<thead>
<tr>
<th>Mobility and Connectivity</th>
<th>Sunken Highway Following Current Alignment</th>
<th>Sunken Highway Following Modified Alignment</th>
<th>Reconstructed Elevated Highway</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Some reduction in number of merge, diverge, and weave locations</td>
<td>Highest reduction in number of merge, diverge, and weave locations</td>
<td>Some reduction in number of merge, diverge, and weave locations</td>
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<tr>
<td></td>
<td>Improvement in vehicular travel time along I-91 and study area</td>
<td>Minimal change in vehicular travel time along I-91 and decline in study area</td>
<td>Improvement in vehicular travel time along I-91 and smaller improvement in study area</td>
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<tr>
<td>Safety</td>
<td>Reduction of on-ramps/off-ramps improves bike/ped conditions</td>
<td>Reduction of on-ramps/off-ramps improves bike/ped conditions</td>
<td>Reduction of on-ramps/off-ramps improves bike/ped conditions</td>
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<tr>
<td></td>
<td>Redesign of 15 crash clusters</td>
<td>Redesign of 15 crash clusters</td>
<td>Redesign of 15 crash clusters</td>
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<tr>
<td>Environmental Effects</td>
<td>Slight increase in VMT and decrease of air quality</td>
<td>Slight increase in VMT and decrease of air quality</td>
<td>Virtually no change in VMT or air quality</td>
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<tr>
<td></td>
<td>27,000 square feet of wetlands impacts</td>
<td>27,000 square feet of wetlands impacts</td>
<td>27,000 square feet of wetlands impacts</td>
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<tr>
<td></td>
<td>Reduced noise impacts</td>
<td>Reduced noise impacts</td>
<td>Similar noise impacts</td>
</tr>
<tr>
<td>Land Use and Economic Development</td>
<td>468,800 square feet of space over highway created</td>
<td>553,800 square feet of space over highway created</td>
<td>13,800 square feet of space over highway created</td>
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<td></td>
<td>Potential for $2.2 million in annual tax revenue at full build-out</td>
<td>Potential for $3.5 million in annual tax revenue at full build-out</td>
<td>Potential for $300,000 in annual tax revenue at full build-out</td>
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<tr>
<td>Community Effects</td>
<td>Potential for greenspace and better connection to Riverfront</td>
<td>Potential for greenspace and better connection to Riverfront</td>
<td>Potential for activation of space underneath viaduct</td>
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<tr>
<td></td>
<td>10-15 year construction duration</td>
<td>10-15 year construction duration</td>
<td>8-12 year construction duration</td>
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<tr>
<td>Cost (in 2040 dollars)</td>
<td>$3.78 billion</td>
<td>$3.74 billion</td>
<td>$3.14 billion</td>
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</tbody>
</table>

**All alternatives compared against Rehab Option**
Rehabilitation of viaduct under current alignment at existing elevation

Cost - $695 million
Cost Estimates

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Rehab</th>
<th>Alt. 1</th>
<th>Alt. 2</th>
<th>Alt. 3</th>
<th>Associated Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order of Magnitude Construction Cost (in 2040 dollars)</td>
<td>$695 M</td>
<td>$3.78 B</td>
<td>$3.74 B</td>
<td>$3.14 B</td>
<td>$826 M</td>
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</tbody>
</table>

Alt. 1 – Sunken in Current Alignment  Alt. 2 – Sunken in New Alignment  Alt. 3 – Reconstructed Elevated

All Alternative costs include I-91 SB/I-291 NB and I-291 SB/I-91 NB ramp systems, which may require replacement prior to expected lifespan of viaduct

- **Component breakdowns for Build Alternatives:**
  - I-91 through downtown core (Alts. 1/2) - $2.475-2.5 billion
  - I-91 through downtown core (Alt. 3) - $1.875 billion
  - I-91/I-291 interchange (all) - $407-424 million
  - I-91 northern touchdown (all) - $33 million
  - E/W Columbus Avenue frontage road improvements - $155-160 million

- **Components which can be constructed regardless of Alternative:**
  - Longmeadow Curve - $213 million
  - South End Bridge - $206 million
  - I-291 SB to I-91 SB entrance - $152 million
  - Plainfield Street improvements (north of I-291) - $76 million
  - CT Riverwalk/Bikeway improvements - $20 million
  - Under viaduct improvements – (approx.) $2 million
Viaduct Rehabilitation emerged as the most sensible option for a long-term repair project

Several options for short and mid-term improvements
- Longmeadow Curve improvements
- I-291 SB to I-91 SB ramp relocation
- Route 20 improvements in Springfield
- Short-term alternatives in and around viaduct

Municipal (local cities and towns) and regional parties (PVPC) should work with MassDOT to initiate the project development process
  - For locally-owned infrastructure, municipalities and PVPC pursue with support from MassDOT
  - For MassDOT infrastructure, MassDOT District 2 pursue with local support
• Related projects outside of the Viaduct which serve study goals and objectives

• Can be implemented as stand-alone projects or in logical groups

• Dependent upon current project needs and available or programmed funding opportunities
Longmeadow Curve Improvements

- Construction of collector-distributor roads along I-91 mainline and roundabouts at South End Bridge and U.S. Route 5
  - Ability to access I-91 southbound from US-5 in Longmeadow

- Elimination of weaving hazards along I-91 mainline

- Elimination of US-5/MA-57 rotary in Agawam for operational and safety improvements

- Creation of pedestrian access from Forest Park to Connecticut Riverwalk and Bikeway in Springfield across South End Bridge to Agawam

Estimated 2040 costs:

- Longmeadow Curve - $213 million
- South End Bridge - $206 million
- Bicycle/pedestrian bridge - $20 million
I-291 Southbound to I-91 Southbound On-Ramp Relocation

- Shifts on-ramp from left-hand entrance onto I-91 to right-hand entrance
- Eliminates weaving movements from on-ramp to Exit 7 towards Memorial Bridge
- Restriping with deck replacement project to discourage weaving movements
- Estimated 2040 cost - $152 million
Route 20 Improvements in Springfield

- New bridges over I-91 and railroad tracks
- Third lane of westbound vehicular travel
- Bicycle and pedestrian improvements
- Intersection reconstruction at Main Street and Avocado Street
- Initiate the project development process
Short Term Improvements

- Safety and aesthetic improvements underneath viaduct
- Improvements or relocation of pedestrian bridge behind former Luxe Burger/BHOF
- Improvements to walkway underneath railroad to riverfront north of State Street
- Improve at-grade pedestrian crossing to riverfront south of State Street (active crossing)
- Add sidewalk to west side of US-5 in Springfield - link Forest Park with Longmeadow
- All cost estimates for improvements at less than $2 million in 2018 dollars
## Project Schedule

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<tr>
<th>Task</th>
<th>Description</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
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<td>Task 1</td>
<td>Study Area, Goals &amp; Objectives, Evaluation Criteria, and Public Involvement Plan</td>
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<td>Existing Conditions, Future/No Build Conditions and Issues Evaluation</td>
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<td>Alternatives Development</td>
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<td>Final Report</td>
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<td>Public Comment Period</td>
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- **W**orking **G**roup **M**eeting
- **P**ublic **M**eeting
Next Steps

- Final Public Informational Meeting
- Draft Report Published for Public Comment
- Final Report issued after 30 day public comment period
Questions & Comments

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Study Website Link:
www.mass.gov/i-91-viaduct-study
Thank you for your continued participation and commitment to the project.