• Welcoming Remarks
• EDC 4 Initiative Updates
• EDC 5 Initiatives and Team Introductions
• FHWA Updates, Funding, and STIC Membership
• READi Committee and Innovation Conference
• Closing Remarks
Welcoming Remarks
EDC 4
Automated Traffic Signal Performance Measures (ATSPMs)

CO-CHAIRS PROMISE OTALUKA, FHWA AND COREY O’CONNOR, MASSDOT
Accomplishments

- Gaining knowledge on the uses and implementations of ATSPMs
- Workshops with industry professionals
  - Consultants, Vendors
- Hardware and Software Product Demonstrations
- D2, D3 and D4’s ATSPM trials
- Research from other States and Universities
Obstacles

- Difficult to implement
  - Robust communications requirements
  - Large data storage requirements
  - Training for employees on how to use and interpret ATSPMs

- Proprietary products offer services to address the above difficulties; however,
  - Monthly fee
  - Incompatibility between different companies products
Looking Forward

- Route 9 SPaT Pilot, Project # 609003
- Around 35 (+/-) State owned signals on Route 9 from Lake Ave in Worcester (Burns Bridge) to the I-95/Rte. 128 Ramps in Wellesley will be equipped with SPaT capabilities
- MassDOT will include SPMs in the bid requirements
Collaborative Hydraulics:
Advancing to the Next Generation of Engineering (CHANGE)

CO-CHAIRS MICHAEL ARPINO, FHWA AND HANAN FOUAD, MASSDOT
Accomplishments

- The latest version of the Surface-water Modeling System (SMS) Software and SRH-2D installed into our new machines.

- **Trainings**
  - Attended FHWA-NHI-135095A “SRH-2D Model Data Files, Diagnostics and Verifying 2D Model Results Web Conference Training” on May 7, 9, 10, 2018
  - Attended FHWA-NHI-135095B “SRH-2D Model Terrain Development with Various Data Sources Web Conference Training” on June 11, 13, 14, 2018
  - Attend the bi-monthly “Two-Dimensional Hydraulic Modeling User’s Forum” webinars.

- Completed one (1) Hydraulic Study report, in-house, using 2-D hydraulic modeling and compared the results with 1-D.
Obstacles

- Assistance is needed to schedule FHWA-NHI course related to highways in coastal environment, which would be helpful in the hydraulic analysis of tidal projects.
- The need for a QA/QC engineer to review our 2D Hydraulic Modeling, for the complex projects.
- More training/technical support is needed for bridge scour and sediments transport evaluations.
<table>
<thead>
<tr>
<th>Upcoming Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Completing</strong></td>
</tr>
<tr>
<td><strong>Developing</strong></td>
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<tr>
<td><strong>Learning</strong></td>
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<tr>
<td><strong>Adapting</strong></td>
</tr>
<tr>
<td><strong>Incorporating</strong></td>
</tr>
</tbody>
</table>
e-Construction

CO-CHAIRS GREG DOYLE, FHWA AND DAN CASALETTO, MASSDOT
Surface Pro Devices 1 of 2

- 200 devices deployed in 2 separate deployments
- Cellular network connection
- 2 in 1 device – laptop/tablet
- Durable otter box case and screen protector
- Also reimaged older devices deployed to maintenance staff in D2
- Need an additional 150 devices to get up to full demand plus a maintenance plan of 50 devices a year for replacement and for new field staff. Working with IT budgeting.
Surface Pro Devices 2 of 2

Detach screen and becomes tablet good for Field Inspection Reports

- Configured for field personnel
- Favorite links to internal and external resources
- Field Ops Home Page
- Links to VPN included
- Great for doing field inspection reports in the field
- Access to SAM application for pay estimates, including new integration between SAM/FIR so pay slips can be generated from daily report
- Subcommittee of REs set up to evaluate field inspection report module for enhancements/improvements
Over 30 projects both DB/DBB using SharePoint

eApproval of forms including RFIs, NCRs, other Info Path forms. Tracking of submittal packages, Dashboard, Quick Access, One location for all team members to find documents
SharePoint for Project Collaboration 2 of 2

- Single point of data for all submissions
- Great for facilitating Project Meetings
- Full integration with Blue Beam

Submittal Library

Dashboard

Nonconformance Reports 7-
new document or drag here
Nonconformance Reports 1-8
new document or drag here

Dashboard

Nonconformance Reports 7-
new document or drag here
Nonconformance Reports 1-8
new document or drag here

Dashboard

Nonconformance Reports 7-
new document or drag here
Nonconformance Reports 1-8
new document or drag here
Go Live for EWOs August 2, 2017

938 EWOs approved as of 12/31/18 (250,000 pieces of paper saved)

Two projects currently on-going to support this effort

eApproval of 683 form (District/FHWA approval of EWOs and Time Extensions)
eApproval Boston of Fund Increases, Time Extensions, all Miscellaneous items, and Construction Financial Transactions (681s CTs)

To increase performance speed system will be sending out reminders twice a week to all in approval chain

Reports automatically sent out every Monday morning of all items approved in previous month

Goal to have everyone in the Amendment process be able to review and approve Amendments remotely
## eApproval of Contract Amendments

### Packages Sent To Construction Lead Financial - eSign But Not Yet Received

<table>
<thead>
<tr>
<th>e-Sign Project Manager/Package Creator</th>
<th>View Package</th>
<th>Contract District</th>
<th>Sent By</th>
<th>Sent Date</th>
<th>Sent By Days</th>
<th>Source Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Name]</td>
<td>[Link]</td>
<td>[Department]</td>
<td>[Name]</td>
<td>[Date]</td>
<td>[Days]</td>
<td>[Department]</td>
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</table>

### Package Inserted View

**Description:**
- **Date:** [Date]
- **Contract:** [Contract Number]
- **Location:** [Location]
- **Amount:** [Amount]

### Package Details:

- **Contract:** [Contract Number]
- **Vendor:** [Vendor Name]
- **Amount:** [Amount]

### Notes:
- [Any additional notes or comments]

### Approval Status:

- **Approval Date:** [Date]
- **Status:** [Status]
- **Approver:** [Approver Name]

---

**eApproval of Contract Amendments**

**Search:**

**Back to Reminders**

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**Approval Report**

**Approval Date From:** 01/01/2019 **To:** 08/31/2019

**District:** [District]

<table>
<thead>
<tr>
<th>District</th>
<th>Contract</th>
<th>Amount</th>
<th>Approval Date</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>[District]</td>
<td>[Contract Number]</td>
<td>[Amount]</td>
<td>[Date]</td>
<td>[Status]</td>
</tr>
</tbody>
</table>

**Notes:**
- [Any additional notes or comments]

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2/26/2019
Lessons Learned

- Don’t bite off more than you can chew
- Group the work into no more than three sub-areas, and assign sub Committee Chair to work offline from larger group
- Do not leave out industry or District Staff
- Schedule a monthly meeting so that sub Committee chairs can report their work to overall group
- Elevate Blockers and Required Management Decisions right away. MassDOT has determined your committee is very important, come out of your comfort zone and ask the tough questions.
- Have fun!
PAVEMENT PRESERVATION

CO-CHAIRS GREG DOYLE, FHWA AND ED NARAS, MASSDOT
Pavement Preservation – “When & Where”

Pavement Preservation – “When & Where”

- Prepared Final Pavement Preservation Treatment Matrix.
Pavement Preservation – “When & Where”

- Evaluated Communication Plan objectives and approach.
- In light of resource limitations, it was determined that best approach for communication will be through the Policy Directive and Treatment Matrix (when they are issued), along with Training.
Pavement Preservation – “How”

- Developed, updated & reviewed new Draft MassDOT Pavement Preservation Specifications.
- Updates to existing Pavement Preservation Specifications are ongoing.
  - Prepared / updated Cold-in-Place Recycling Specifications for Municipal use.
Pavement Preservation – “How”

- Developed, updated & reviewed new Draft MassDOT Pavement Preservation Specifications.
- Updates to existing Pavement Preservation Specifications are ongoing.
  - Eg. Prepared / updated Cold-in-Place Recycling Specifications for Municipal use.
Pavement Preservation – “How”

- Several MassDOT Pavement Preservation projects were completed prior to and during EDC-4.
- Additional projects have been identified and are being advanced annually statewide through the STIP, including Interstate and other high traffic volume highways.
Safe Transportation for Every Pedestrian (STEP)

CO-CHAIRS TBD, FHWA AND CONNOR KEATING, MASSDOT
STEP

Selection Guidance
Policy Recommendations
Outreach and Funding Tips
Transit Corridor Improvements
Table 1. Application of pedestrian crash countermeasures by roadway feature.

<table>
<thead>
<tr>
<th>Roadway Configuration</th>
<th>≤30 mph</th>
<th>35 mph</th>
<th>≥40 mph</th>
<th>≤30 mph</th>
<th>35 mph</th>
<th>≥40 mph</th>
<th>≤30 mph</th>
<th>35 mph</th>
<th>≥40 mph</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 lanes**</td>
<td>2 3 4 4</td>
<td>4 5 6 5</td>
<td>6 7 5 6</td>
<td>4 5 6 5</td>
<td>5 6 7 5</td>
<td>6 7 5 6</td>
<td>4 5 6 5</td>
<td>5 6 7 5</td>
<td>6 7 5 6</td>
</tr>
<tr>
<td>3 lanes w/ raised median</td>
<td>2 3 4 4</td>
<td>4 5 6 5</td>
<td>6 7 5 6</td>
<td>4 5 6 5</td>
<td>5 6 7 5</td>
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<tr>
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<td>2 3 4 4</td>
<td>4 5 6 5</td>
<td>6 7 5 6</td>
<td>4 5 6 5</td>
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<td>5 6 7 5</td>
<td>6 7 5 6</td>
</tr>
</tbody>
</table>

*One lane in each direction. One lane in each direction with two-way left-turn lane. Two or more lanes in each direction.

Given the set of conditions in a cell:

- **Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

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</table>

Selection Guidance
<table>
<thead>
<tr>
<th>Consider</th>
<th>Use</th>
<th>Encourage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider STEP countermeasures on all resurfacing and reconstruction projects (higher visibility markings and low-cost crosswalk enhancements)</td>
<td>Use Complete Streets Program for funding and education of countermeasures</td>
<td>Encourage communities to use Municipal Resource Guide and FHWA technical assistance</td>
</tr>
</tbody>
</table>
Outreach & Funding
Transit Corridor Improvements
EDC 5
EDC Round 5 Initiatives & Team Introductions

→ Advanced Geotech Methods in Exploration (a-GaME)
  Co-Chairs Olu Adeyemi and Jennifer Rauch, MassDOT

→ Collaborative Hydraulics: Advancing to the Next Generation of Engineering (CHANGE)
  Co-Chairs Michael Arpino, FHWA and Hanan Fouad, MassDOT

→ Project Bundling

→ Reducing Rural Roadway Departures
  Co-Chairs Michael Pezzullo and Francisca Heming, MassDOT

→ Safe Transportation for Every Pedestrian (STEP)
  Co-Chairs TBD, FHWA and Connor Keating, MassDOT
EDC Round 5 Initiatives & Team Introductions

→ **UAS**  
  Brandon Wilcox, FHWA and Margo Souza (temp), MassDOT

→ **Crowdsourcing for Operations**  
  Promise Otaluka, FHWA and Michael Fitzpatrick, MassDOT

→ **Value Capture: Capitalizing on the Value Created by Transportation**  
  TBD

→ **Virtual Public Involvement**  
  Cassie Ostrander, FHWA and Derek Krevat, MassDOT

→ **Weather Responsive Management Strategies**  
  TBD, FHWA and Joe Foti, MassDOT
FHWA UPDATES, FUNDING AND STIC MEMBERSHIP
KEN MILLER, ASSISTANT DIVISION ADMINISTRATOR
Innovation Incentives

TO OFFSET RISK
A four-legged support stool

AID Project Grant

Innovative Project up to $1 million

Through GRANTS.GOV
STIC STATEWIDE PRACTICE Program
Grant

To implement statewide innovative practice
Up to $100,000 at 80%
Though FHWA CAI Office
PLUS Increase share

- Project incorporating EDC Innovation
- Up to 100%
- Additional 5% Federal Funds
AMR – Accelerated Market Readiness

Accelerate assessment/use of emerging/new technology

Including patented or proprietary products

$100,000 to $500,000 at 80%
Deadlines

Get your innovation grant request in before the limited funds are gone!

Open Season from October 1 till September 30.

More info; https://www.fhwa.dot.gov/innovation/
STIC Roster

**FHWA**
Jeffrey McEwen  
Ken Miller  
Michael Arpino

**State DOT**
Jonathan Gulliver  
Patricia Leavenworth  
David Mohler  
Michael McGrath  
John Bechard  
Rachel Bain  
Astrid Glynn  
Sam Sleiman  
Francisca Heming  
Peter Cavicchi  
Barry Lorion  
Paul Stedman  
Mary-Joe Perry  
John McInerney  
Lily Oliver  
Margo Souza

**Consultant Representatives**
Abbie Goodman – ACEC  
John Pourbaix – CIM

**Local Public Agencies**
Rich Benevento – APWA  
Tom Reynolds – MHA

**MPO Representative**
Charles Kilmer

**Federal Resource Agency**
Peter Butler – FTA  
Daniel Vasconcelos – U.S. Army Corps of Engineers  
Chris Bisignano – U.S. Coast Guard

**Private Sector**
Michael Allen – ATSSA
UAS AID Project Grant Application

MassDOT UAS Data Analytics & Cybersecurity Program Alpha for Surface Transportation
FUNDING REQUEST

Total cost $1,250,000

- FHWA $1,000,000
- MassDOT $250,000
READi Committee

**Piloting**
- RFID
- Dow Paint
- UAS for stormwater BMPs
- VueWorks
- Work zone safety
- AUTOstripe

**Technical Sessions**
- Effect of Binder Modification and Recycled Asphalt Pavement on the Performance of Permeable Friction Course
- SHAPS
- Climate Change Resiliency
- ASR
- UAS
- Linking Landscapes, Bringing Flood Resiliency into MassDOT Asset Management, and Rivers and Roads Training update
April 9\textsuperscript{th} and 10\textsuperscript{th}
Worcester DCU Center

Register here

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Highlights

$\rightarrow$ 40+ breakout sessions

$\rightarrow$ Keynote speakers

$\rightarrow$ 3M Transportation Safety Division Roadshow

$\rightarrow$ Networking events
MA STIC EDC Excellence Award

- MA STIC EDC Excellence Award will be presented at the MassDOT Transportation Innovation Conference to one of our EDC 4 teams.
- STIC to vote in March
- Recipients of this award have demonstrated outstanding performances and results due to group achievement.
Closing remarks

MASSDOT DEPUTY ADMINISTRATOR & CHIEF ENGINEER
PATRICIA LEAVENWORTH