Objectives

- Rule Making
- What is FHWA doing with Highway Construction
  - Program
    - Alternative Contracting Methods
    - e-Construction
    - 3D Engineered Models: Schedule, Cost, and Post-Construction
    - Smart Work Zones
    - MAP-21 and Emergency Relief
    - Other
  - Training
    - NHI
    - Other FHWA
    - Industry Partnered
  - Research (Richard Duval will share on Wednesday)
<table>
<thead>
<tr>
<th>Topic</th>
<th>Status</th>
<th>Final Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Engineering</td>
<td>Done</td>
<td>September 5, 2014</td>
</tr>
<tr>
<td>Major Project Financial Guidance</td>
<td>Done</td>
<td>December 18, 2014</td>
</tr>
<tr>
<td>Admin of Engineering and Design Related Services</td>
<td>Done</td>
<td>May 22, 2015</td>
</tr>
<tr>
<td>National Tunnel Inspection Standards</td>
<td>Done</td>
<td>July 14, 2015</td>
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<tr>
<td>Design Standards for Highways</td>
<td>NPRM Closed July 2, 2015</td>
<td>TBD</td>
</tr>
<tr>
<td>Construction Manager / General Contractor Contracting</td>
<td>NPRM Open Aug 28, 2105</td>
<td>TBD</td>
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http://www.regulations.gov/#!home
## Rule Makings 2 of 2

<table>
<thead>
<tr>
<th>Topic</th>
<th>Status</th>
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<tr>
<td>Safety Performance Measures</td>
<td>NPRM Closed June 9, 2014</td>
<td>Fall 2015</td>
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<td>Highway Safety Improvement Program</td>
<td>NPRM Closed May 27, 2014</td>
<td>Fall 2015</td>
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<tr>
<td>Statewide and Metro Planning; Non-Metro Planning</td>
<td>NPRM Closed September 2, 2014</td>
<td>Fall 2015</td>
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<tr>
<td>Pavement and Bridge Performance Measures</td>
<td>NPRM Closed May 8, 2015</td>
<td>TBD</td>
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<tr>
<td>Highway Asset Management Plan</td>
<td>NPRM Closed April 21, 2015</td>
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<tr>
<td>System Performance Measures</td>
<td>NPRM Planned September 2015</td>
<td>TBD</td>
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<tr>
<td>Major Project Management Plan Guide</td>
<td>NPRM Spring 2016</td>
<td>TBD</td>
</tr>
</tbody>
</table>

http://www.regulations.gov/#!home
FHWA’s Every Day Counts-2 initiative is coming to a close, but funds are still available for training, workshops, and peer exchanges.

State DOTs interested in pursuing design-build or construction manager / general contractor delivery or alternative technical concepts should contact:

Jeff Lewis
Office of Technical Services/Resource Center
916-498-5035
jeff.lewis@dot.gov
e-Construction is the collection, review, approval, and distribution of highway construction contract documents in a paperless environment

- Electronically capturing construction data
- Electronic submission of all construction documentation
- Increased use of mobile devices
- Increased automation of document review & approval
- Essential use of electronic signatures by all parties throughout the process
- Secure document and workflow management accessible to all stakeholders on any device
**e-Construction Performance Measure**

- **Definitions:**
  - **National Leader** - Has constructed 2 or more projects using technology
  - **Exploring** – Investigation and/or piloting EDC-3 technology
  - **Discussing** – Not taking part in national EDC-3 technology initiative

**Graph Details:**
- **1/1/2014**:
  - Discussing: 12
  - Exploring: 33
  - National Leader: 8
- **7/9/2015**:
  - Discussing: 6
  - Exploring: 37
  - National Leader: 10
- **Goal 12/31/2016**:
  - Discussing: 23
  - Exploring: 30
  - National Leader: 30

**Legend:**
- **Discussing**
- **Exploring**
- **National Leader**
Definitions:
National Leader - Has constructed 2 or more projects using technology
Exploring – Investigation and piloting EDC-3 technology
Discussing – Not taking part in national EDC-3 technology initiative
# Implementation Plan Activities (AASHTO)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Responsibility</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Level transportation industry presentations</td>
<td>AASHTO and all</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Resource website (AASHTO users blog site)</td>
<td>AASHTO and FHWA</td>
<td>Ongoing</td>
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<tr>
<td>AASHTO-sponsored or proprietary solutions</td>
<td>AASHTO</td>
<td>Winter 2016</td>
</tr>
<tr>
<td>IT security awareness outreach</td>
<td>AASHTO and all</td>
<td>Spring 2016</td>
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## Implementation Plan Activities (FHWA)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Lead</th>
<th>Due</th>
<th>Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharing lessons learned</td>
<td>All</td>
<td>December 2016</td>
<td>3 State DOT Organized Regional Workshops</td>
</tr>
<tr>
<td>Peer exchanges (in-person and virtual)</td>
<td>FHWA and all</td>
<td>As soon as possible</td>
<td>FHWA Lead</td>
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<tr>
<td>with documentation for sharing</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Technology webinar series</td>
<td>Michigan DOT,</td>
<td>Fall and winter, 2015</td>
<td>Michigan DOT Lead Series</td>
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<tr>
<td></td>
<td>FHWA and all</td>
<td>Fall and winter, 2016</td>
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<tr>
<td>How-to guide, with chapter related to IT</td>
<td>Florida DOT,</td>
<td>Summer 2015</td>
<td>Florida DOT Lead</td>
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<tr>
<td>security</td>
<td>Michigan DOT,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and FHWA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e-Construction example specifications</td>
<td>States who have</td>
<td>Fall 2016</td>
<td>FHWA Lead</td>
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<tr>
<td></td>
<td>adopted e-Construction</td>
<td></td>
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<tr>
<td>Application and tool roadmap</td>
<td>FHWA and all</td>
<td>Fall 2015</td>
<td>Captured within Shared Lessons and Peer</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Exchanges</td>
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<tr>
<td>Return on investment</td>
<td>FHWA - TFHRC</td>
<td>Spring 2016</td>
<td>FHWA Lead</td>
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<tr>
<td>FHWA Federal Lands and Division Office Pilot</td>
<td>FHWA</td>
<td>Fall 2015</td>
<td>FHWA Lead</td>
</tr>
</tbody>
</table>
Program 3 of 6

3D Engineered Models; Schedule, Cost, and Post Construction

Image Sources: Walsh, Caltrans, FHWA
3D Deployment

Definitions:

- **National Leader** – Has implemented at least one practice area programmatically or has implemented at least two practice areas at the project level on two or more instances.

- **Exploring** – Investigating and/or piloting the EDC-3 technology practice areas. Has successfully conducted at least one pilot or demonstration project.

- **Discussing** – Not taking part in the national EDC-3 technology initiative
3D Demographics

January 1, 2015

Exploring - 28
Discussing - 17
National Leaders - 9
3D Implementation Plan Activities

- Workshops & Peer Exchanges
- Webinar Series
- Case Studies
- Guidance Manuals & Specifications
- Demonstration & Pilot Projects
  - Web-based Training
3D Modeling National Website

- Specs, Standards, Details, Tech Briefs, Case Studies, etc.

Web page viewable at [www.fhwa.dot.gov/3d](http://www.fhwa.dot.gov/3d) (search “fhwa 3D”)

Contact: Chris Schneider @ 202-493-0551 or christopher.schneider@dot.gov
Smarter Work Zones (SWZ)

Smarter Work Zones highlight innovative strategies designed to optimize work zone safety and mobility

- **Project Coordination** – Coordination within a single project and/or among multiple projects within a corridor, network, or region, and possibly across agency jurisdictions to minimize work zone traffic impacts

- **Technology Applications** – Deployment of Intelligent Transportation Systems (ITS) for dynamic management of work zone traffic impacts, such as queue and speed management

Contact: Paul Pisano at 202-366-1301 or paul.pisano@dot.gov
# Smarter Work Zones – Resources

## Project Coordination

**FHWA**
- FHWA Work Zone Mobility and Safety Program – Project Coordination  
- FHWA Work Zone Mobility and Safety Program – Peer-to-Peer Program  

**TRB SHRP2**
- WISE Software Users Guide  

**NCHRP**
- NCHRP Synthesis 413: Techniques for Effective Highway Construction Projects in Congested Urban Areas  

**Others**
- Highway Construction Coordination to Minimize Traffic Impacts  

## Technology Applications

**FHWA**
- FHWA Every Day Counts Website  
- FHWA Work Zone Mobility and Safety Program – Work Zone ITS & Technology  
- FHWA Work Zone ITS Implementation Guide  
- FHWA Work Zone ITS Implementation Case Studies  
- Intelligent Transportation Systems Joint Program Office  

**NCHRP**
- NCHRP Report 560: Guide to Contracting ITS Projects  

**Others**
- National Work Zone Safety Information Clearinghouse  
  [http://www.workzonesafety.org/search-results?query=its](http://www.workzonesafety.org/search-results?query=its)

Contact: Paul Pisano at 202-366-1301 or paul.pisano@dot.gov
Program 5 of 6

MAP-21 and Emergency Relief

- Removed the $100,000,000 cap per event
- Added 2 year deadline to submit ER application
- Project cost limited to cost of comparable facility
- Permanent Repairs of Bridges in STIP are not eligible
- Governor’s Proclamation and Debris Removal
- Allows increase of 180-day limit
- Allows 90% Federal share
- Categorical Exclusion (CE) for similar projects

Resources:

- FHWA Emergency Relief Program
- ERFO – Emergency Relief of Federally Owned Roads
- FEMA and FHWA Emergency Relief Funds Reimbursements to State Departments of Transportation
  - http://www.trb.org/Main/Blurbs/172458.aspx
Other Items

- Best Practices inPartnering
  - Collection and presentation of partnering methods at workshop in Nevada
- Best Practices in Constructing Micro Surfacing, Slurry Seals, and Chip Seals
  - Technical briefs
- Validation of Index Based Cost Estimation Method
  - Validation of method and technology briefs
Training 1 of 5

NHI Construction Training

- Contract Core Curriculum (NHI 134077)
  - Revised 2014: Federal-aid requirements; promote awareness of FHWA policy; facilitate familiarity with the newly reorganized, revised, and expanded CACC manual; and allow supervised practice activities using the manual to find information.
  - FHWA is offering one free course for each state.
  - Kathryn Weisner, FHWA Resource Center, Construction and Project Management Team (410-962-2484; Kathryn.Weisner@dot.gov)

- Federal Aid Essentials website
  http://www.fhwa.dot.gov/federal-aidessentials/
  - Federal-aid Essentials offers a central online library of informational videos and resources, designed specifically for local public agencies. Each video addresses a single topic-condensing the complex regulations and requirements of the Federal-aid Highway Program into easy-to-understand concepts and illustrated examples.
Other FHWA

- 3D Engineered Models for Construction
  - https://www.fhwa.dot.gov/construction/3d/training.cfm
- Intelligent Compaction
  - http://ctis.utep.edu/ic_trainingcourse/
- Stringless Asphalt Paving
  - http://ctis.utep.edu/asphaltstring/
- Major Projects Webinar – October 27, 2015
  - http://www.fhwa.dot.gov/ipd/project_delivery/training/
SSPC Partnered Construction Training

In partnership with the Society for Protective Coatings

Available

- Safety During Bridge Preservation Activities
- Coating and Painting Bridge Superstructures
- Sealing and Waterproofing Bridge Decks

http://www.sspc.org/training/Training-Bridge-Preservation/
ISSA Partnered Construction Training

- **Available**
  - How to Construct High Quality Slurry Seal and Micro Surfacing Treatments
  - How to Construct High Quality Chip Seal Treatments

- **Under Development**
  - Best Construction Practices for Operating a Spreader Box used with Slurry/Micro Surfacing Materials (English and Spanish)
  - Best Construction Practices for Crack Sealing of Asphalt and Concrete Pavements (English and Spanish)

http://slurry.org/
ACPA Partnered Construction Training

- Best Practices for Constructing Smooth Concrete Pavements
- Best Practices for Handling Aggregates for Concrete Paving
- Safety on Concrete Pavement Construction Sites
- Proper Use of Stringless Paving Technology

http://www.acpa.org/self-paced-online-courses/
Conclusion

- Rule Making
- What is FHWA doing with Highway Construction
  - Program
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