

# FHWA SCOC 2015 Update

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# Objectives

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- ▶ 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)



# Rule Makings 1 of 2

Topic	Status	Final Rule
Value Engineering	Done	September 5, 2014
Major Project Financial Guidance	Done	December 18, 2014
Admin of Engineering and Design Related Services	Done	May 22, 2015
National Tunnel Inspection Standards	Done	July 14, 2015
Design Standards for Highways	NPRM Closed July 2, 2015	TBD
Construction Manager / General Contractor Contracting	NPRM Open Aug 28, 2015	TBD

<http://www.regulations.gov/#!home>

## Rule Makings 2 of 2

Topic	Status	Final Rule
Safety Performance Measures	NPRM Closed June 9, 2014	Fall 2015
Highway Safety Improvement Program	NPRM Closed May 27, 2014	Fall 2015
Statewide and Metro Planning; Non-Metro Planning	NPRM Closed September 2, 2014	Fall 2015
Pavement and Bridge Performance Measures	NPRM Closed May 8, 2015	TBD
Highway Asset Management Plan	NPRM Closed April 21, 2015	TBD
System Performance Measures	NPRM Planned September 2015	TBD
Major Project Management Plan Guide	NPRM Spring 2016	TBD

<http://www.regulations.gov/#!home>

# Program 1 of 6

## Alternative Contracting Methods Implementation

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- ▶ 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](mailto:jeff.lewis@dot.gov)



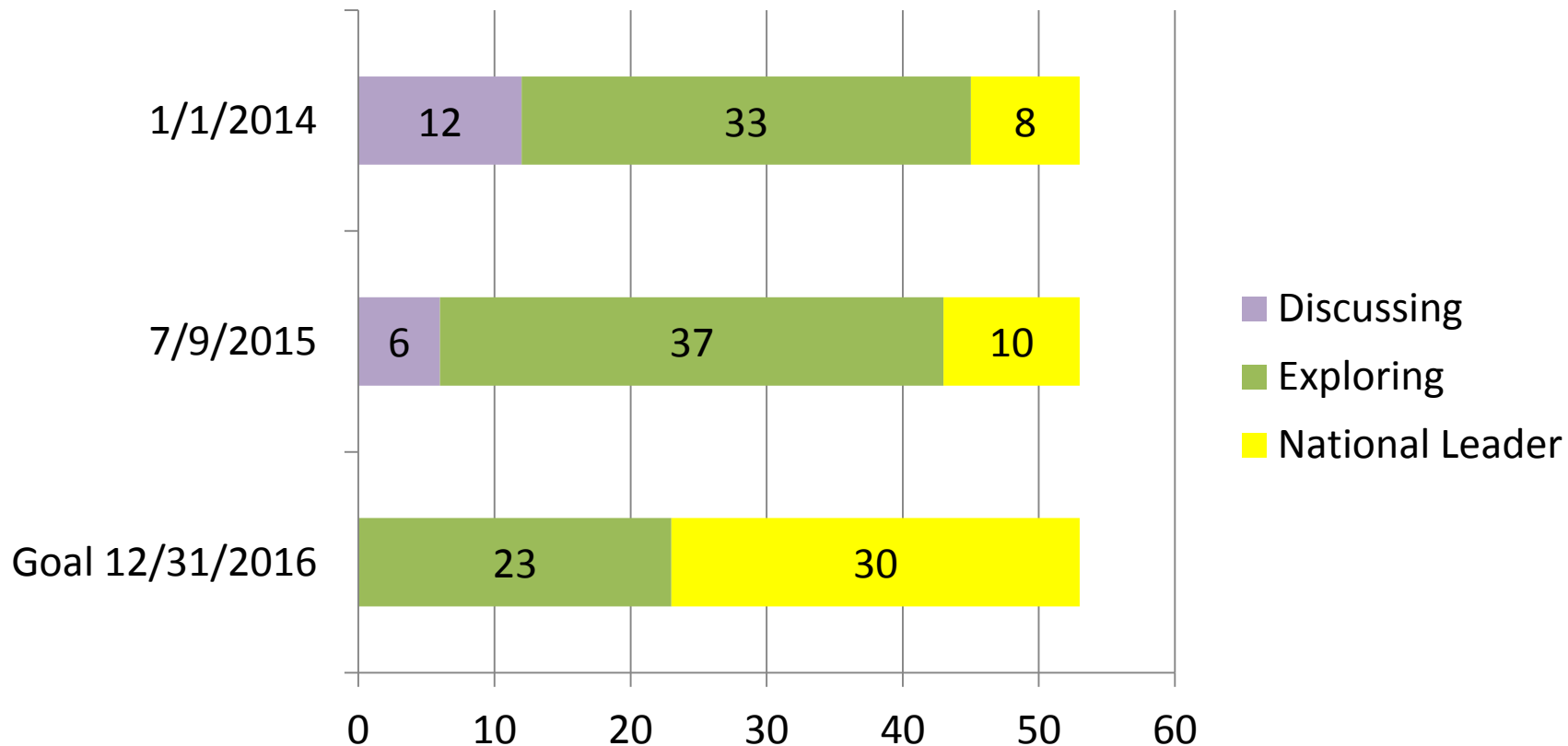
# Program 2 of 6

## **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:

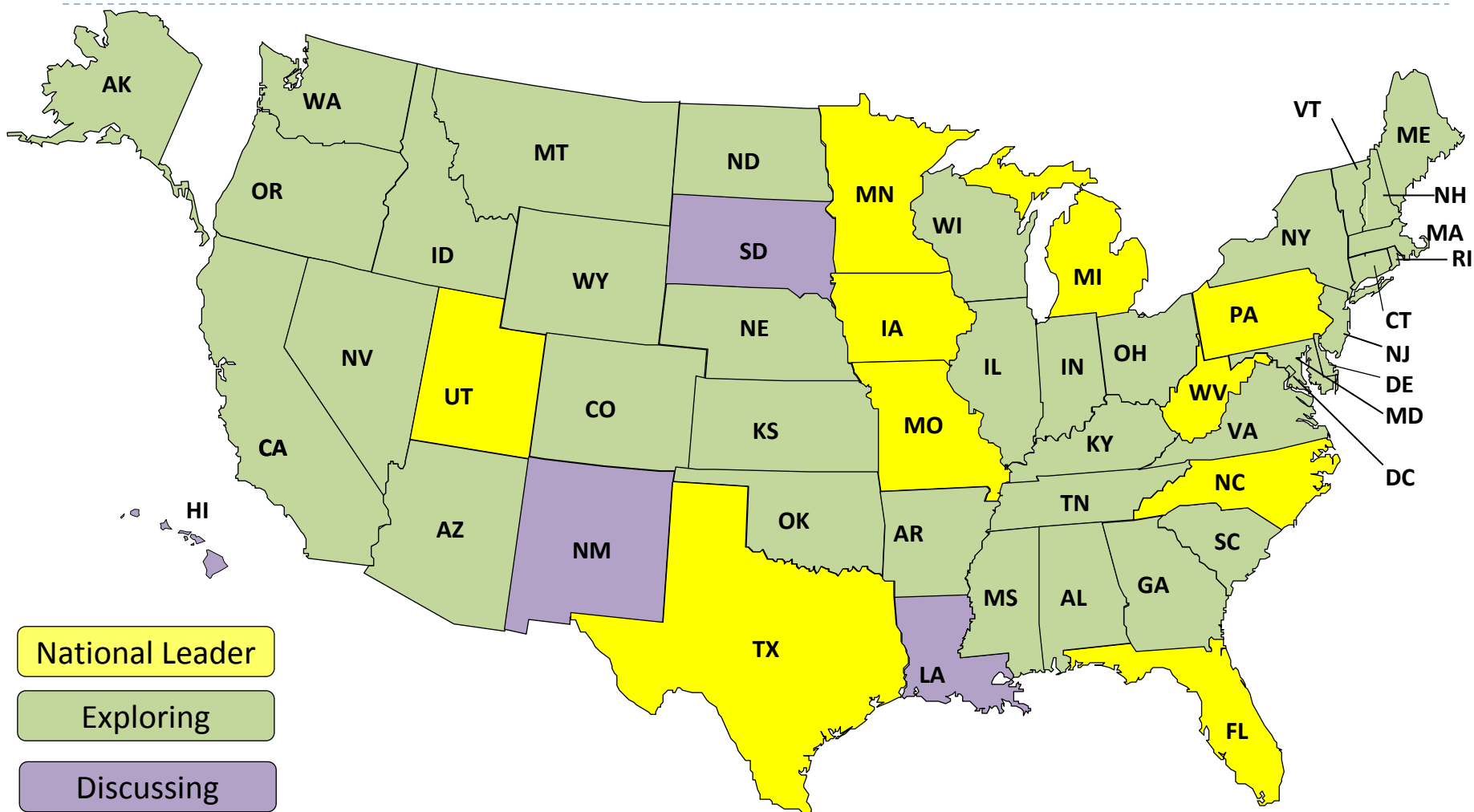
National Leader - Has constructed 2 or more projects using technology

Exploring – Investigation and/or piloting EDC-3 technology

Discussing – Not taking part in national EDC-3 technology initiative



# e-Construction Demographics



### 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)

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Activity	Responsibility	Due
High-Level transportation industry presentations	AASHTO and all	Ongoing
Resource website (AASHTO users blog site)	AASHTO and FHWA	Ongoing
AASHTO-sponsored or proprietary solutions	AASHTO	Winter 2016
IT security awareness outreach	AASHTO and all	Spring 2016



# Implementation Plan Activities (FHWA)

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

# Program 3 of 6

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

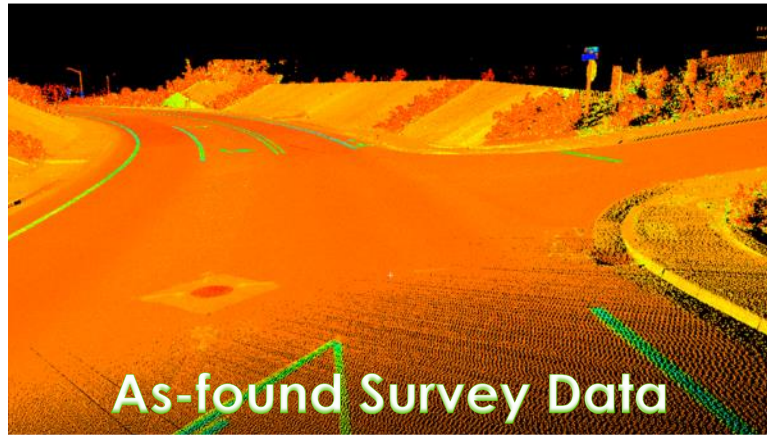
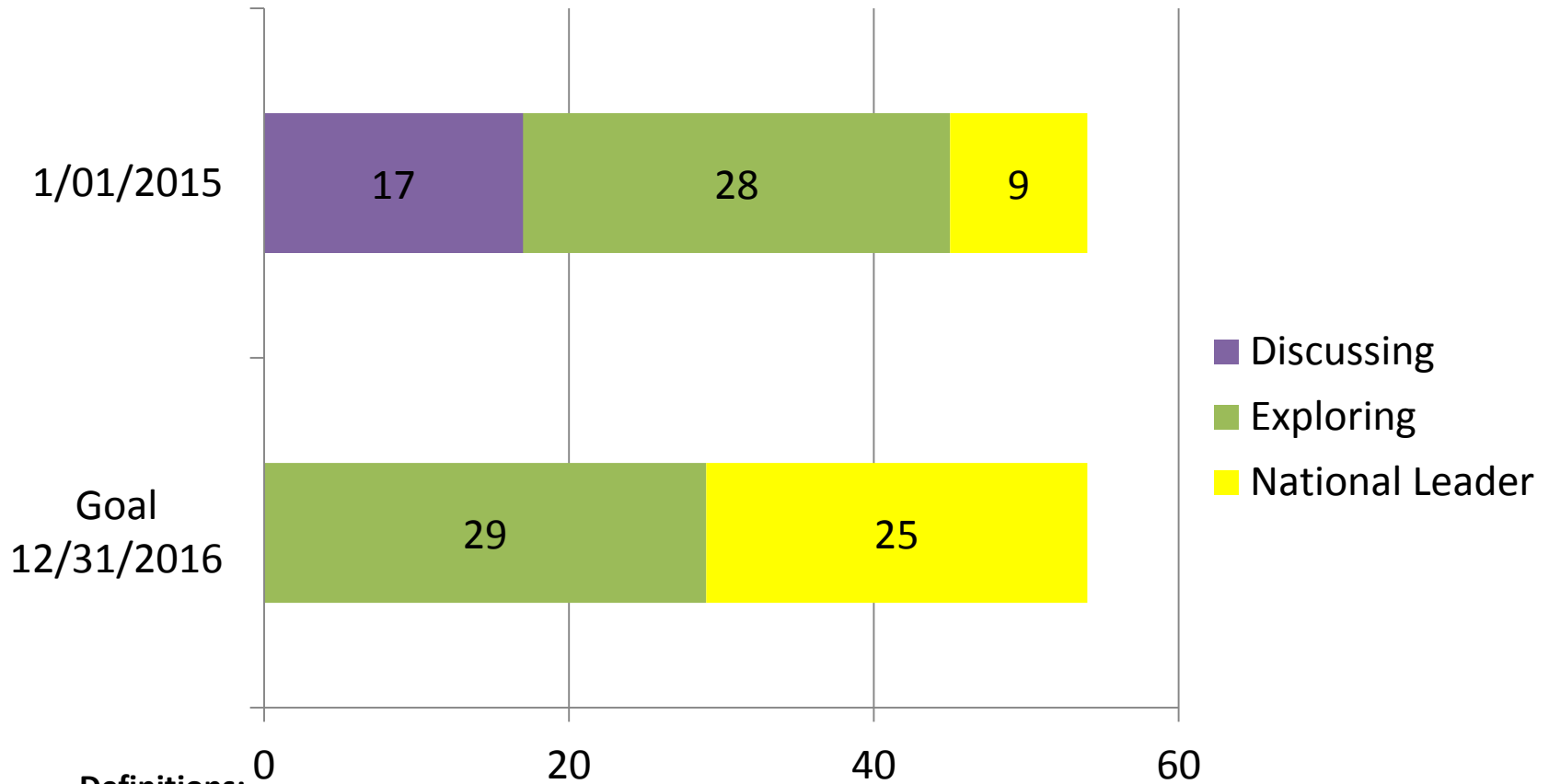


Image Sources: Walsh, Caltrans, FHWA

# 3D Deployment

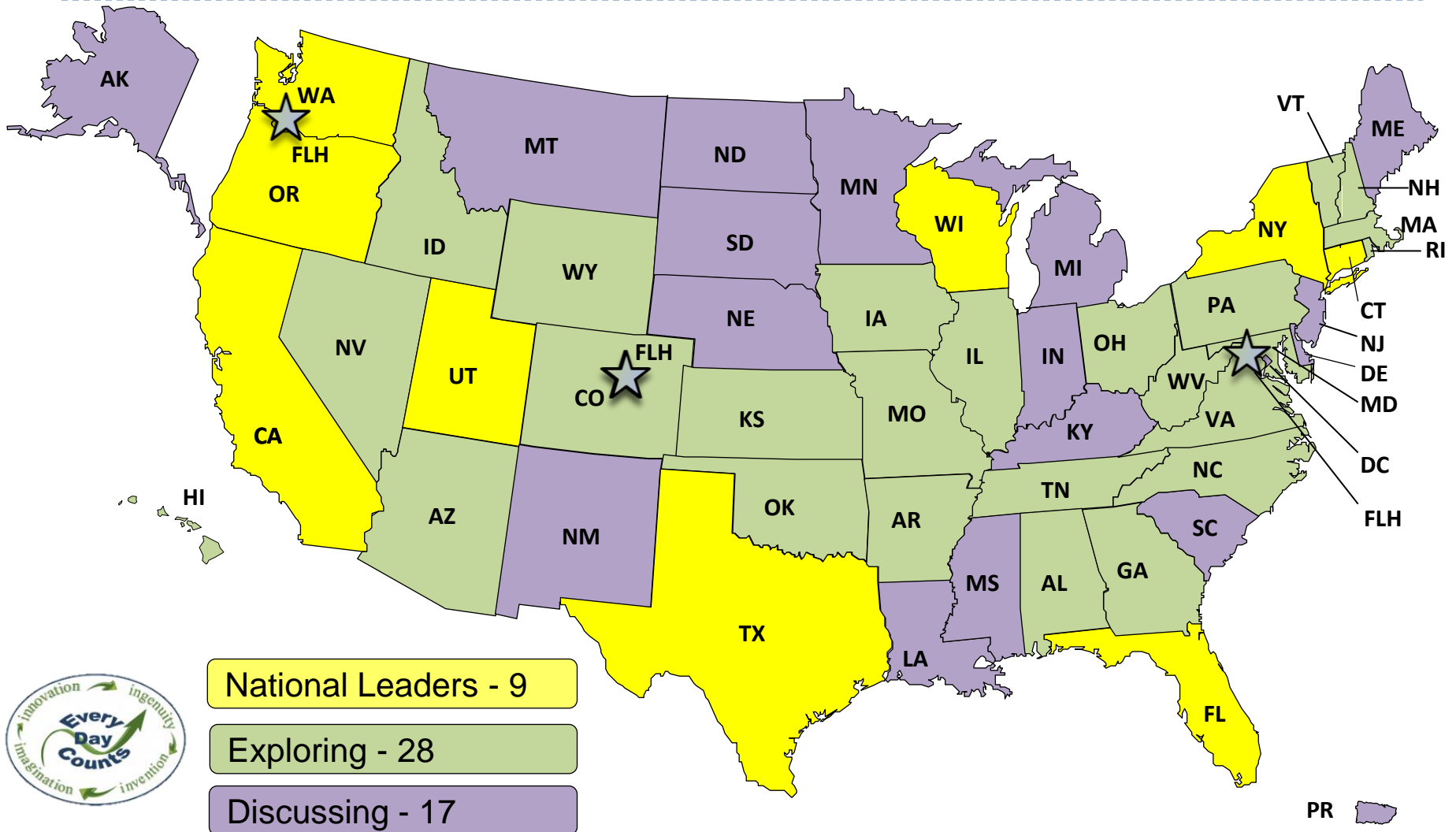


## Definitions:

- 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

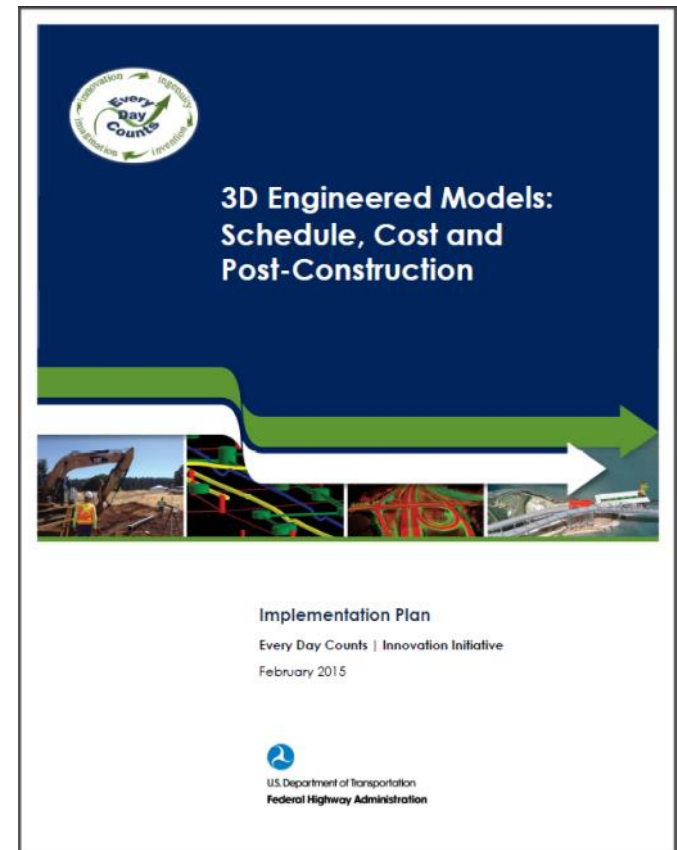


January 1, 2015

# 3D Implementation Plan Activities

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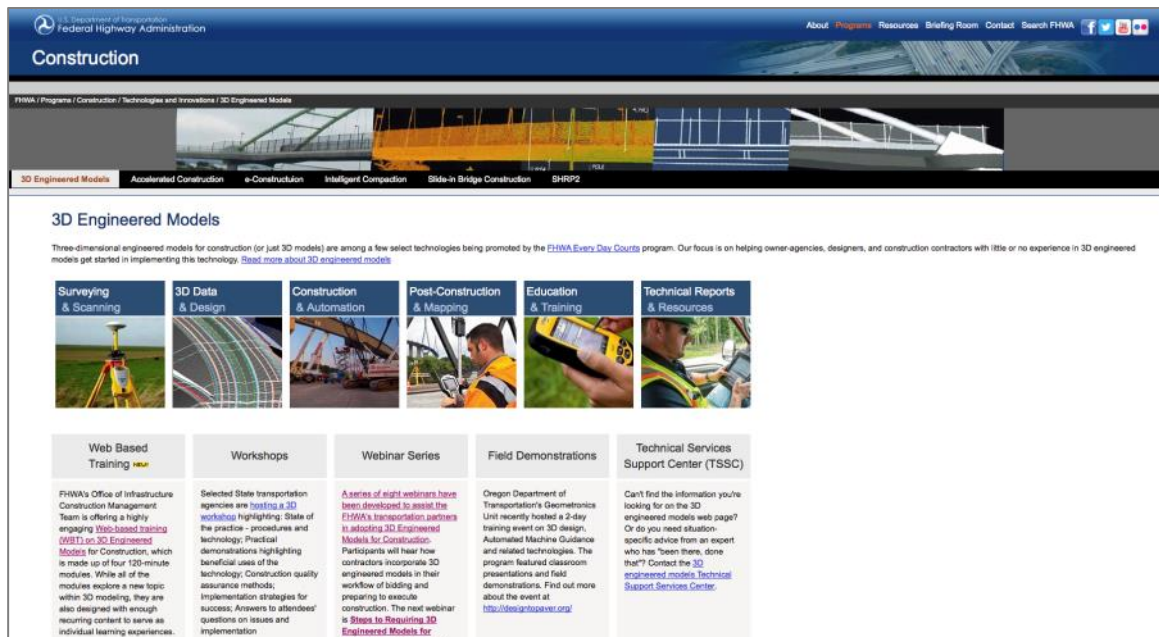
- ✓ Workshops & Peer Exchanges
- ✓ Webinar Series
- ✓ Case Studies
- ✓ Guidance Manuals & Specifications
- ✓ Demonstration & Pilot Projects
- Web-based Training





# 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](mailto:christopher.schneider@dot.gov)

# Program 4 of 6

## Smarter Work Zones (SWZ)

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**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](mailto:paul.pisano@dot.gov)



# Smarter Work Zones – Resources

## Project Coordination

<b>FHWA</b>	<ul style="list-style-type: none"> <li>FHWA Work Zone Mobility and Safety Program – Project Coordination <a href="http://www.ops.fhwa.dot.gov/wz/construction/crp/index.htm">http://www.ops.fhwa.dot.gov/wz/construction/crp/index.htm</a></li> <li>FHWA Work Zone Mobility and Safety Program – Peer-to-Peer Program <a href="http://www.ops.fhwa.dot.gov/wz/p2p/index.htm">http://www.ops.fhwa.dot.gov/wz/p2p/index.htm</a></li> </ul>
<b>TRB SHRP2</b>	<ul style="list-style-type: none"> <li>WISE Software Users Guide <a href="http://onlinepubs.trb.org/onlinepubs/shrp2/SHRP2_S2-R11-RW-2.pdf">http://onlinepubs.trb.org/onlinepubs/shrp2/SHRP2_S2-R11-RW-2.pdf</a></li> </ul>
<b>NCHRP</b>	<ul style="list-style-type: none"> <li>NCHRP Synthesis 413: Techniques for Effective Highway Construction Projects in Congested Urban Areas <a href="http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_413.pdf">http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_413.pdf</a></li> </ul>
<b>Others</b>	<ul style="list-style-type: none"> <li>Highway Construction Coordination to Minimize Traffic Impacts <a href="http://planning.transportation.org/Documents/8-36/NCHRP8-36(56)FinalReport.pdf">http://planning.transportation.org/Documents/8-36/NCHRP8-36(56)FinalReport.pdf</a></li> </ul>

## Technology Applications

<b>FHWA</b>	<ul style="list-style-type: none"> <li>FHWA Every Day Counts Website <a href="http://www.fhwa.dot.gov/everydaycounts/">http://www.fhwa.dot.gov/everydaycounts/</a></li> <li>FHWA Work Zone Mobility and Safety Program – Work Zone ITS &amp; Technology <a href="http://www.ops.fhwa.dot.gov/wz/its/index.htm">http://www.ops.fhwa.dot.gov/wz/its/index.htm</a></li> <li>FHWA Work Zone ITS Implementation Guide <a href="http://ops.fhwa.dot.gov/publications/fhwahop14008/fhwahop14008.pdf">http://ops.fhwa.dot.gov/publications/fhwahop14008/fhwahop14008.pdf</a></li> <li>FHWA Work Zone ITS Implementation Case Studies <a href="http://ops.fhwa.dot.gov/publications/fhwahop14007/fhwahop14007.pdf">http://ops.fhwa.dot.gov/publications/fhwahop14007/fhwahop14007.pdf</a></li> <li>Intelligent Transportation Systems Joint Program Office <a href="http://www.its.dot.gov/index.htm">http://www.its.dot.gov/index.htm</a></li> </ul>
<b>NCHRP</b>	<ul style="list-style-type: none"> <li>NCHRP Report 560: Guide to Contracting ITS Projects <a href="http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_560.pdf">http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_560.pdf</a></li> </ul>
<b>Others</b>	<ul style="list-style-type: none"> <li>National Work Zone Safety Information Clearinghouse <a href="http://www.workzonesafety.org/search-results?query=its">http://www.workzonesafety.org/search-results?query=its</a></li> </ul>



Contact: Paul Pisano at 202-366-1301 or [paul.pisano@dot.gov](mailto:paul.pisano@dot.gov)

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## MAP-21 and Emergency Relief

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- ▶ 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
    - ▶ <http://www.fhwa.dot.gov/programadmin/erelief.cfm>
  - ▶ ERFO – Emergency Relief of Federally Owned Roads
    - ▶ <http://flh.fhwa.dot.gov/programs/erfo/>
  - ▶ FEMA and FHWA Emergency Relief Funds Reimbursements to State Departments of Transportation
    - ▶ <http://www.trb.org/Main/Blurbs/172458.aspx>



# Program 6 of 6

## Other Items

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- ▶ Best Practices in Partnering

- ▶ 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

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- ▶ Contract Core Curriculum (NHI 134077)

<https://www.nhi.fhwa.dot.gov/home.aspx>

- ▶ 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.
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# Training 2 of 5

## Other FHWA

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- ▶ 3D Engineered Models for Construction
  - ▶ <https://www.fhwa.dot.gov/construction/3d/training.cfm>
- ▶ Intelligent Compaction
  - ▶ [http://ctis.utep.edu/ic\\_trainingcourse/](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/](http://www.fhwa.dot.gov/ipd/project_delivery/training/)



# Training 3 of 5

## SSPC Partnered Construction Training

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- ▶ 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/>



# Training 4 of 5

## ISSA Partnered Construction Training

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- ▶ 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/>

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# Training 5 of 5

## ACPA Partnered Construction Training

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### ■ 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





# Conclusion

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- ▶ 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
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