



FHWA Report

Mark R. Kehrli, Director, FHWA Office of Transportation Operations
SCOTE Meeting – June 15, 2015



Operations Program Priorities

Office of Transportation Operations Programs

- MUTCD Update Progress/Status
- Traffic Incident Management Progress
- Road Weather Management Goals
- Smarter Work Zones (EDC3)

Other Office of Operations Programs

- Implementation of SHRP2 Reliability Products
- Performance Management Rulemaking
- Preparing for Implementation of Connected Vehicles
- National Operations Center of Excellence



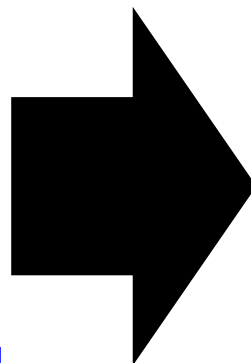
Office of Transportation Operations

Program Team Leaders

MUTCD
Chung Eng

**Work Zones &
Road Weather**
Paul Pisano

**Traffic Incident &
Emergency Management**
Kim Vasconez



MUTCD
Kevin Sylvester

**Work Zones &
Road Weather**
Paul Pisano

**Traffic Incident &
Emergency Management**
Kim Vasconez



Estimated Time Line for New MUTCD

Not Included in FHWA's Priority Rulemakings for 2015:

- Proposed content and preamble material drafted and continuing to be refined
- Draft Notice of Proposed Amendment (NPA) unlikely to be advanced to the Office of Management & Budget (OMB) for review during 2015
- Initial economic analysis of proposed changes will likely require expansion
- May 2016 – Current “Best Guess” date for publishing NPA in Federal Register
- November 2016 – End of the 6-month docket comment period
- October 2017 – Finalize the MUTCD and the Federal Register notice
- November 2017 – April 2018: Internal and OMB Reviews
- May/June 2018 – Publish the Final Rule for a new edition of the MUTCD



Proceeding with Request for Comments (RFC) on Vision & Strategic Plan (VSP) for MUTCD

- Seeking public comments on future direction for MUTCD rather than on VSP document
- Soliciting input on things over which FHWA has control, such as:
 - Target audience/intended user
 - Tort liability
 - Levels of mandate in the MUTCD
 - Process for introducing new devices/standards into the MUTCD
 - Relationship between MUTCD and State MUTCDs/Supplements
 - Organization and structure of MUTCD content
 - Time horizons or steps for implementing potential changes
- Not seeking input on the rulemaking process, changing the Code of Federal Regulations, or NCUTCD related items
- Targeting publication of RFC by September 2015.



National TIM Responder Training Program Implementation Progress As of May 31, 2015



Train-the-Trainer Sessions

- 169 sessions with 6,532 participants



In-Person Responder Training

- 4,221 sessions with 107,088 participants



Web-Based Training (WBT)

- National Highway Institute: 535



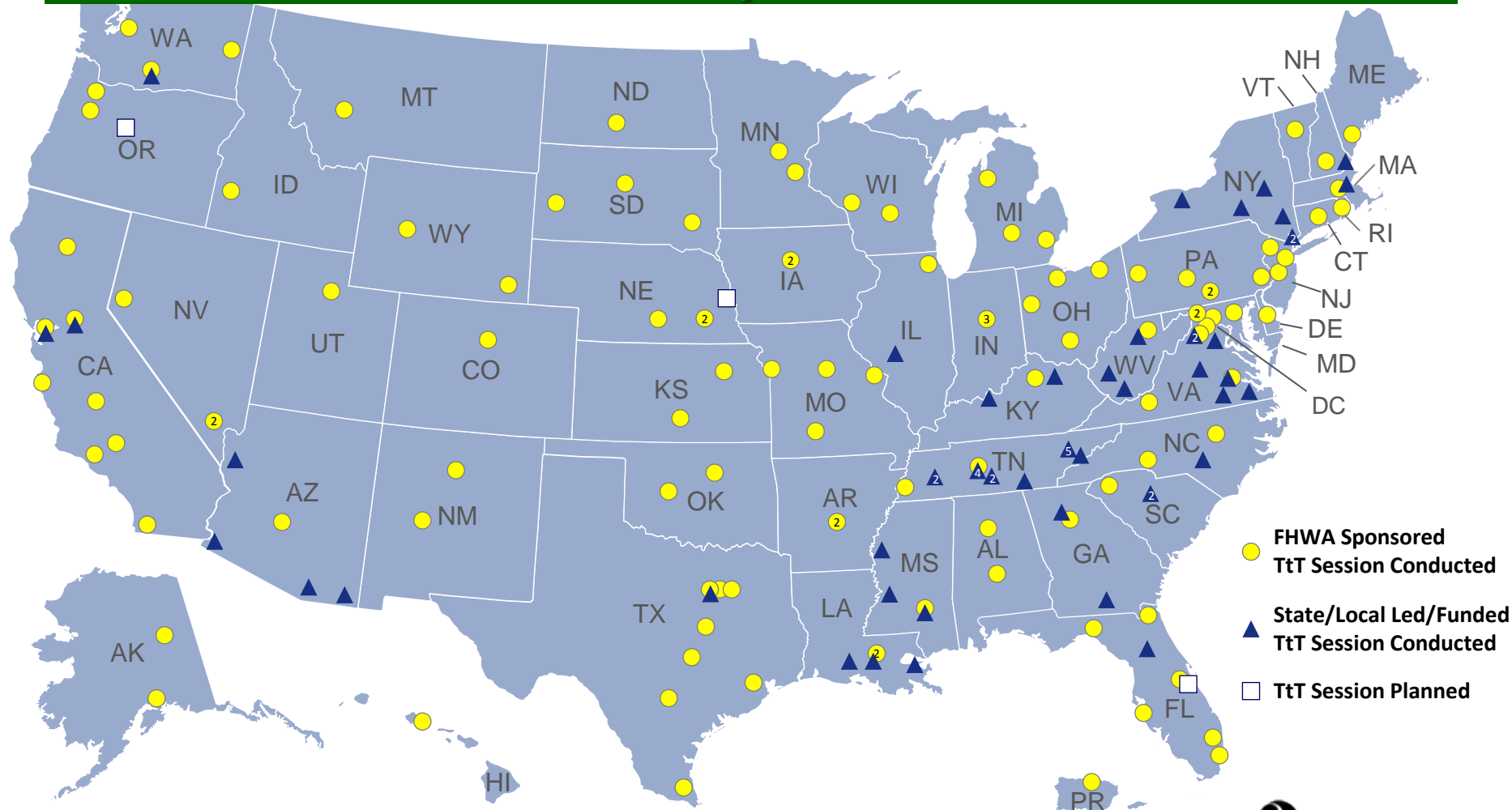
Total Trained: 114,155



TIM Training Program Implementation Progress

Train-the-Trainer (TtT) Sessions

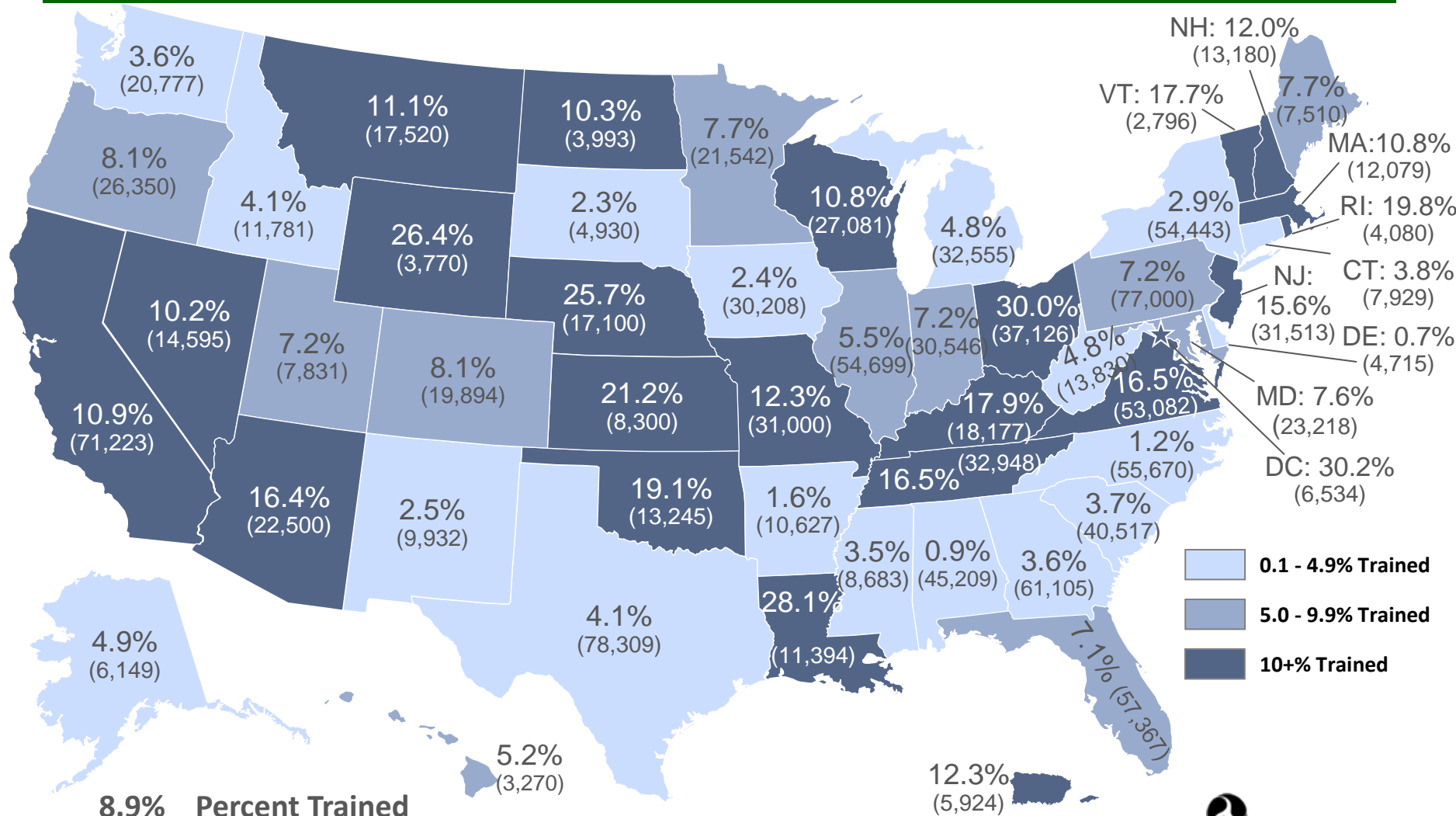
As of May 31, 2015



114,155 Total Trained



Total Responders to be Trained As of May 31, 2015



8.9% Percent Trained

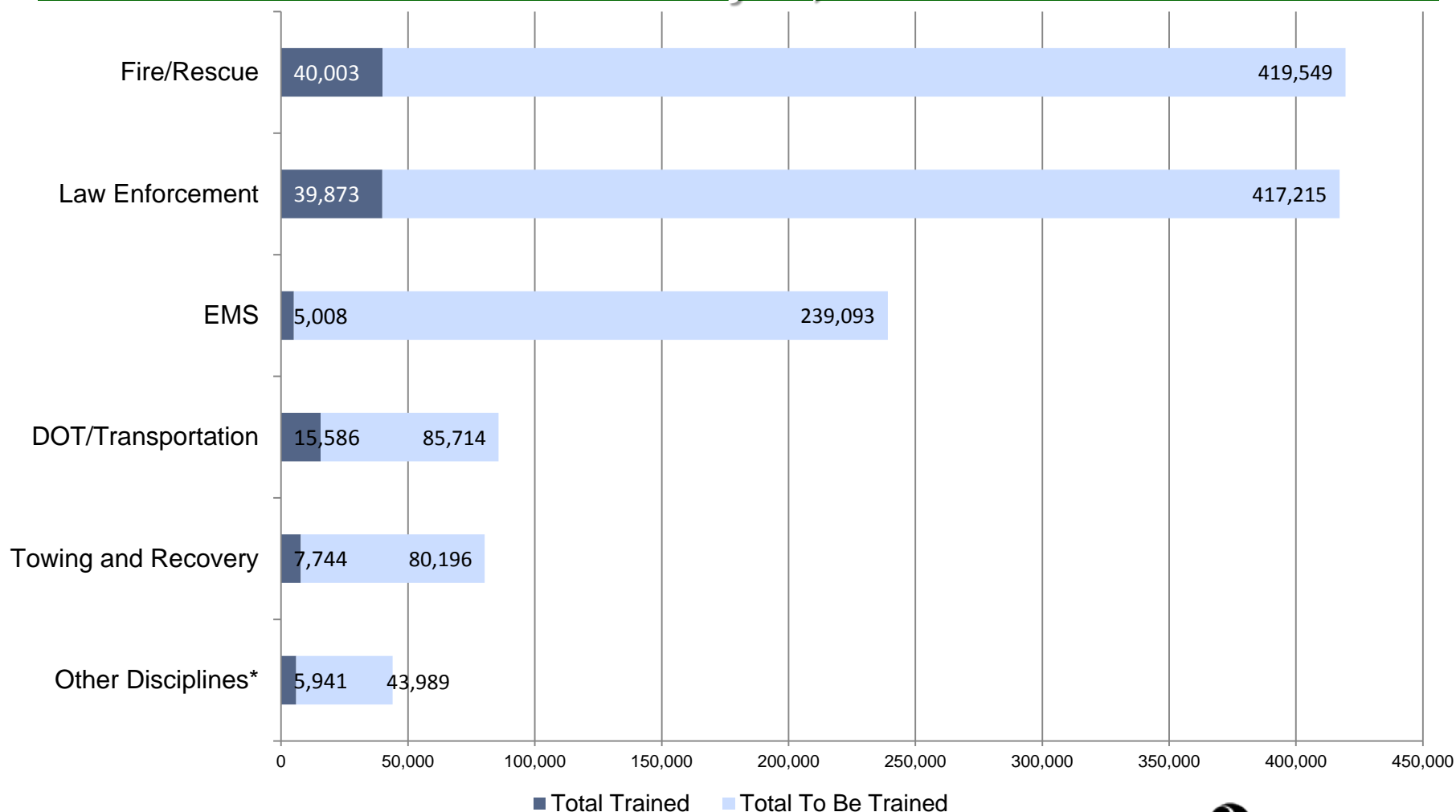
(1,285,756) Total Responders To Be Trained



TIM Training Program Implementation Progress

Total To Be Trained By Discipline

As of May 31, 2015

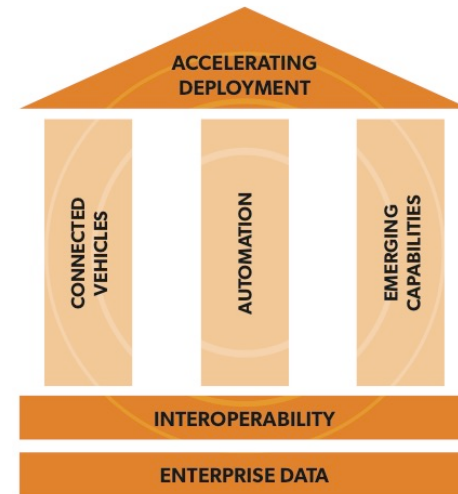


* Web-Based Training totals are included in Other



Road Weather Management Program Aligns With ITS Strategic Plan

- Program Goal
 - To reduce the safety and mobility impacts of adverse weather on the transportation system
- Success defined
 - Weather and traffic models are integrated for effective operations
 - “Road Weather Information” Versus “Weather Information”
 - Weather challenges with respect to Automation are addressed
 - Private sector is growing and deploying Connected Vehicle Road Weather solutions



Road Weather Management

Key program activities:

- Advancing the use of ITS (especially connected vehicles) to address the safety and mobility impacts of weather
 - Developing multiple applications for improved winter maintenance, traffic management, and traveler information
 - Collecting weather and road conditions data from 650 vehicles (State DOT fleets; available via the Weather Data Environment: <http://www.its-wxde.net>)
- Developing guidance to promote coordination between the National Weather Service and State DOTs to improve the content and consistency of road weather information
- Promoting the implementation of the SHRP2 Capability Maturity Model for Road Weather Management



Weather-Responsive Traffic Management Applications

Oregon DOT

- Developed and implemented Weather-Responsive Active Traffic Mgmt System
- Implemented Weather-related Variable Speed Limits and Dynamic Message Signs (DMS)

Michigan DOT

- Developed and implemented Weather-Responsive Traveler Information System using Fixed and Mobile Road Weather Observations
- Road weather information provided on MiDrive Website and DMS

South Dakota DOT

- Used mobile observations from maintenance vehicles to improve traffic and maintenance operations during weather events
- Road weather forecasts on website, 511 and mobile applications

Wyoming DOT

- Used observations from WyDOT plow vehicles to improve condition reporting and traveler information systems
- Road weather information provided on website and DMS



Work Zone (WZ) Management

Key program activities:

- Improving the consideration of Work Zones throughout the transportation life cycle
 - Ensure State DOTs conduct WZ Process Reviews
 - Support development of effective Transportation Management Plans (TMPs)
- Promoting the implementation of the SHRP2 Capability Maturity Framework for WZ Management
- Addressing the challenges of WZ and Large Trucks
 - Conducted a national symposium in April, currently building on those results
- Executing the Work Zone Safety Grants and the National WZ Safety Information Clearinghouse



Work Zone (WZ) Management

Smarter Work Zones:

- Part of the FHWA Every Day Counts initiative
- Promoting the deployment of two WZ solutions:
 - Project Coordination
 - Technology Application
- Goals – by December, 2016:
 - **20 State DOTs** have incorporated work zone project coordination strategies into agency documentation and business processes
 - **5 State DOTs** have volunteered to pilot the WISE (Work Zone Impact & Strategy Estimator) software application.
 - **35 State DOTs** have either implemented business processes for planning, design, procurement, operation, and evaluation of Work Zone ITS technologies, and/or deployed at least one technology application such as speed or queue management



SHRP2 Reliability Implementation Status

Product	Implementation
Traffic Incident Management Training (L12/32)	Nationwide deployment
Organizational Capability Assessments for TSM&O (L01/06)	IAP Round 1
CEO Outreach on Operations & Reliability (L31)	Available nationwide
Enhanced Knowledge Transfer System (L17)	Nationwide deployment
Reliability Data Archive (L13A)	Available nationwide
Reliability Data & Analysis Tools Bundle (L02/05/07/08 with C11)	IAP Round 4 IAP Round 7 (planned)
Reliability in Simulation & Planning Models (L04)	Limited pilots IAP Round 7 (planned)
Communicating Reliability Traveler Info (L14)	Limited pilots, guidance
Business process support & e-Tool to improve travel-time reliability (L01/34)	To be available nationwide
Regional Operations Forums (L36)	Available nationwide IAP Round 7 (possibly)
Work Zone Impact Estimation/Coordination Tool (R11)	IAP Round 6



The MAP-21 Charge (23 USC 150(a) - Declaration of Policy)

Performance Management

Will:

- transform the Federal-aid highway program
- provide a means to the most efficient investment of funds

By:

- refocusing on national transportation goals,
- increasing accountability & transparency, and
- improving project decision making



MAP-21 FHWA TPM Rulemaking Schedule

Performance Area	NPRM	Comments due	Anticipated Final Rule
Safety Performance Measures	March 11, 2014	<u>Closed</u> June 30, 2014	September 2015
Highway Safety Improvement Program	March 28, 2014	<u>Closed</u> June 30, 2014	August 2015
Statewide and Metro Planning; Non-Metro Planning	June 2, 2014	<u>Closed</u> October 2, 2014	September 2015
Pavement and Bridge Performance Measures	January 5, 2015	<u>Closed</u> May 8, 2015	n/a
Highway Asset Management Plan	February 20, 2015	<u>Closed</u> May 29, 2015	n/a
System Performance Measures	<i>Projected</i> September 2015	90 days	n/a



Safety Performance Measures

- ☐ Number of fatalities
- ☐ Rate of fatalities
- ☐ Number of serious injuries
- ☐ Rate of serious injuries



Proposed Pavement/Bridge Performance Measures

☐ Pavement Condition

- Percentage of pavements of the Interstate System in Good condition
- Percentage of pavements of the Interstate System in Poor condition
- Percentage of pavements of the non-Interstate NHS in Good condition
- Percentage of pavements of the non-Interstate NHS in Poor condition.

☐ Bridge Condition

- Percentage of NHS bridges classified as in Good condition
- Percentage of NHS bridges classified as in Poor condition.



Performance Measure Areas to be Addressed by PM3

- ☐ Performance of the Interstate System
- ☐ Performance of the non-Interstate NHS
- ☐ Freight Movement
- ☐ Traffic Congestion
- ☐ On-Road Mobile Source Emissions



Connected Vehicles

- Connected vehicle efforts within USDOT, transportation agencies, and vehicle manufacturers continue to grow toward implementing a connected vehicle environment with secure, reliable communications as its core.
- Three main things to highlight:
 - Vehicle-to-Infrastructure (V2I) Deployment Guidance
 - V2I Deployment Coalition
 - Connected Vehicle Pilot Deployments
 - 5.9 GHz Spectrum Sharing



V2I Deployment Guidance

- FHWA is on target to issue V2I Deployment Guidance this summer.
 - Will be updated over time as more is learned
- Guidance is intended to provide information & tools to assist public agencies with initial deployment related to connected vehicles.
 - Associated tools & products to be released in winter 2015; will address transportation planning, systems engineering, radio licensing
 - Will include a V2I reference implementation for deploying connected vehicle infrastructure that is integrated and works seamlessly with roadside equipment for transportation management systems
- USDOT is establishing connected vehicle certification services to be available for V2I equipment in early 2016.



V2I Deployment Coalition

- V2I Deployment Coalition has been formed
 - Led by AASHTO, along with ITS America and the Institute of Transportation Engineers
- The V2I Deployment Coalition will:
 - Help convene & provide stakeholder input to the V2I Deployment Guidance, and
 - Help inform the transportation community of the Guidance and its related training and tools.



CV Pilot Deployments

- Connected vehicle pilot deployments will serve as initial implementations of CV technology installed & operating in real world settings to deliver near-term safety, mobility & environmental benefits.
- The CV pilot deployments seek to develop operational systems that will remain in operation beyond the conclusion of the pilots program.
- Solicitation for CV pilots closed in March and proposals are under review
 - Expect to award selected projects in September
 - Plan to solicit for a second wave of pilot deployments in about two years.
- USDOT will provide support to CV pilot deployments for secure communications, equipment certification processes, technical evaluation, coordination with other CV activities, etc.



5.9 GHz Spectrum Sharing

- FCC is assessing the ability to share 5.9 GHz spectrum (Dedicated Short Range Communication, or DSRC) with unlicensed devices.
 - Due to a very small footprint of active DSRC device deployment and a growing consumer demand for spectrum for other uses, e.g., WiFi.
- USDOT is supportive of sharing, as long as there is no interference with the connected vehicle safety-critical messages.
- Highlights a critical aspect of the CV pilot deployments, i.e., the early deployment of connected vehicle strategies using DSRC.



National Operations Center of Excellence

www.transportationops.org

- **THE** place to go for Transportation Systems Management & Operations (TSM&O) information and peer exchange
- Launched January 2015
 - Collaboration of AASHTO, ITE, ITSA with support from FHWA
- Website and Technical Services Program
 - Technical resources
 - Calendar of events from many sources
 - Discussion forums
 - Peer exchanges
 - Webinars
 - Case studies, and much more



Thank You!

