FHWA Overview

15th Arizona Pavement/Materials Conference
Staying Ahead of the Performance Curve
Tempe, Arizona

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Outline

• FHWA Strategic Plan
• Transportation Performance Management (Update)
• Innovation & Technology
• Research
FHWA Strategic Plan

• Adopted new Mission and retained Values

• Adopted USDOT goals

• Developed 6 Strategic Objectives

https://www.fhwa.dot.gov/policy/fhwaplan.cfm
FHWA Strategic Goals

- Safety
- Infrastructure
- Innovation
- Accountability
Transportation Performance Management (TPM) Update

- Performance management
- Performance based planning and programming
- Asset management

Focusing on Performance for Safe, Reliable Journeys
Transportation Performance Management (TPM)

A strategic approach that uses system information to make investment and policy decisions to achieve transportation system performance goals.
Performance Based Planning

The application of performance management within the planning and programming processes of transportation agencies to achieve desired performance outcomes for the multimodal transportation system.
Asset Management
Federal Requirements

Each State is required to develop a risk-based asset management plan for the National Highway System (NHS) to improve or preserve the condition of the assets and the performance of the system. (23 USC 119(e)(1), MAP-21 § 1106).
Risk-based Asset Management Plan

Plan Contents:

- Pavement and bridge inventory and conditions on the NHS
- Objectives and measures
- Performance gap identification
- Lifecycle planning
- Risk management analysis
- Financial plan
- Investment strategies
Linking TPM to PBPP and AM

- National Goals
- National Measures
- Targets
- Plans
- Reporting
- Accountability

Performance Based Planning & Prog.

Trans. Performance Management

Asset Management Plan
Pavement TPM Regulations

• Address “State of Good Repair”
• Targets for good and poor lane miles
• Measure based on smoothness, cracking, and rutting/faulting
• States are assessed on significant progress toward targets
• Minimum condition on the Interstate
Data Quality Management Program Requirements

• Data collection equipment calibration and certification
• Certification process for persons performing manual data collection
• Data quality control measures to be conducted before data collection begins and periodically during the data collection program
• Data sampling, review and checking processes
• Error resolution procedures and data acceptance criteria
TPM Challenges

- Ownership
- Information gaps
- Resource inequities
- Local vs. State vs. national priorities
- Regional economies
- Political realities
- Statewide targets vs. local targets
Advance the maturity of Performance Management in the U.S. to more fully realize the benefits of performance based planning and programming, asset management and performance management principles.
Innovation and Technology

- National Dialogue on Highway Automation
- Every Day Counts
- And more...
Highway Automation

National Dialogue on Highway Automation

Desired outcomes for FHWA

• Assess national issues and priorities
• Develop guidance, best practices, standards
• Support necessary research
• Adapt program and policies
• Create a national community or coalition.
Early Themes:

• FHWA has a clear role as a facilitator

• A lack of consistence (i.e. traffic control devices, policies) can hinder adoption

• Information sharing is important for enabling automated vehicles

• There will be a transition period of a mixed-vehicle fleet, which will require interoperability

• Condition of system is important
State-based model to identify and rapidly deploy proven but underutilized innovations to:

- Shorten the project delivery process
- Enhance roadway safety
- Reduce congestion
- Improve environmental sustainability

EDC Rounds are on two-year cycles:

- Initiating 5th Round (2019-2020) with 10 innovations
- To date: 4 Rounds, over 40 innovations
EDC 5 Innovations

- Advanced Geotechnical Exploration Methods
- Collaborative Hydraulics: Advancing to the Next Generation of Engineering (CHANGE)
- Project Bundling
- Reducing Rural Roadway Departures
- Safe Transportation for Every Pedestrian (STEP)
- Unmanned Aerial Systems (UAS)
- Use of Crowdsourcing to Advance Operations
- Value Capture: Capitalizing on the Value Created by Transportation
- Virtual Public Involvement
- Weather-Responsive Management Strategies
FHWA Innovation Programs (in addition to EDC we have...)

- **STIC**: State Transportation Innovation Councils
  - TRL of 7 or above

- **AMR**: Accelerating Market Readiness
  - TRL of 5/6 to 7+ bridging the gap between Research & Practice

- **AID Demo**: Accelerated Innovation Deployment
  - TRL of 7 or above
  - Increased Federal-share for Project-level Innovation
  - TRL of 7 or above

- **Arizona AID Grants**
FHWA Infrastructure Materials Research

Laboratories
- Aggregate – Petrographic
- Asphalt Binder & Mixtures
- Chemistry Lab
- Coatings & Corrosion Lab
- Concrete Lab
- Geotech Lab
- Pavement Testing Facility

Research Activities
- Durability
- Sustainability
- Material Variability
- Forensic Studies
- Technical Assistance
- Congressional Studies
Long-Term Pavement Performance (LTPP Program)

• Data Collection (437 LTPP test sections, 40 in Arizona)

• Last month, installed two WIM systems in AZ on I-10 and I-40

• July 2018 marked the 32\textsuperscript{nd} LTPP data release: InfoPave

Please visit us at the 2019 TRB Annual Meeting (Session on Monday morning and Exhibit Booth Sunday to Tuesday)
Summary

• FHWA Strategic Plan
• Transportation Performance Management (Update)
• Innovation & Technology
• Research
• Safety Message
Questions