

2016 National Pavement Preservation Conference

Implementation of National Performance Measures and Asset Management Plan

Stephen Gaj

Leader, Asset Management Team

Federal Highway Administration

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U.S. Department of Transportation
Federal Highway Administration



Presentation Outline



▶ Rulemaking Status

▶ Implementation Needs

▶ Capacity Building



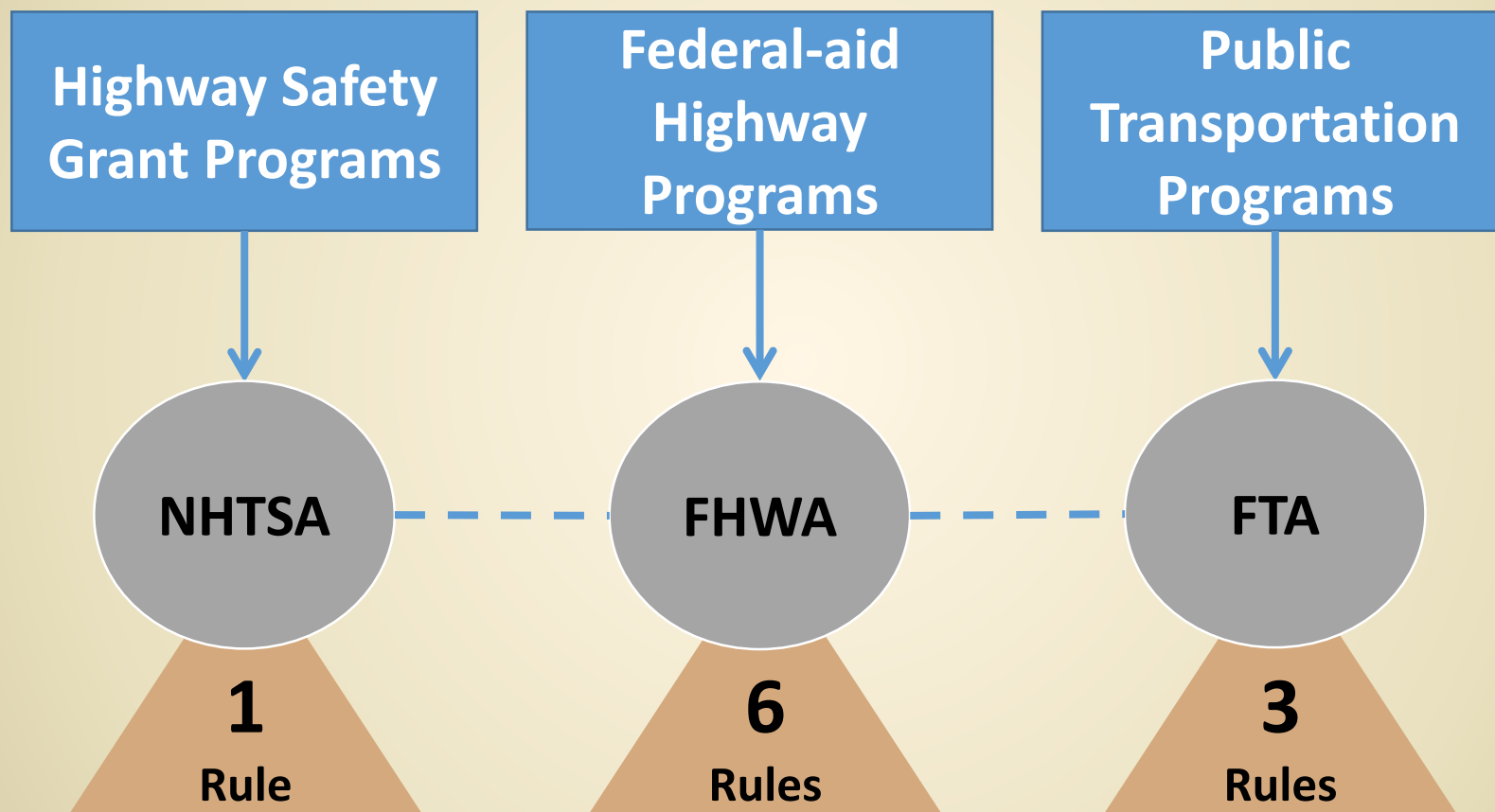
Rulemaking Status



U.S. Department of Transportation
Federal Highway Administration



10 Inter-related Rulemakings



Implementation Status



Highway Safety Improvement Program → **Final Rule: Published**

PM1 - Safety Performance Measures → **Final Rule: Published**

State and Metro Planning → **Final Rule: Published**

PM2 - Pavement/Bridge Cond. Measures → **Final Rule: December, 2016**

Asset Management Plan → **Final Rule: October, 2016**

PM3 - System Performance+ Measures → **Reviewing Comments**

MPO Coordination → **Comments Period Closes October 24th**



Safety Performance Final Rules



▶ 5 Measures*

- ▶ Fatalities
- ▶ Serious Injuries
- ▶ Non-motorized safety



- ▶ Annual State and MPO targets
- ▶ One common definition for serious injuries
- ▶ Annual reporting on performance
- ▶ Annual assessment of progress

*5 year rolling average



Infrastructure Proposal



- ▶ Measures
 - ▷ Bridge condition
 - ▷ Pavement condition
- ▶ New pavement measure
- ▶ 4 year performance periods
- ▶ State and MPO target setting requirements
- ▶ 2 year progress reviews of States
- ▶ NHS Asset Management Plan



Infrastructure Comment Summary



Commenters

- ▷ 127 letters (many comments)
- ▷ 42 States and 19 local government agencies
- ▷ 27 industry/advocacy groups
- ▷ 14 planning organizations
- ▷ 16 individuals



Themes

- ▷ NHS Ownership
- ▷ Declining Conditions
- ▷ Implementation Timing
- ▷ Cost Burden
- ▷ Minimum Condition Provisions
- ▷ Pavement Measure
- ▷ Data Collection and Reporting



Pavements:



- ▶ FHWA is to set performance measure for pavements
- ▶ Comprehensive measure – indicator of condition
- ▶ State DOTs are to set targets for NHS pavements
- ▶ Need to address standardized data collection and submittal (how, when, how much, how good, outdated, etc.)



System Performance, CMAQ, Freight Proposal



▶ Travel Time Measures

- ▶ Reliability
- ▶ Peak Hour Travel Time
- ▶ Delay

▶ Emissions

- ▶ Reduction in CMAQ Criteria Pollutants
- ▶ Reduction in CO₂ (greenhouse gas)

▶ National travel time database

▶ 4 year performance periods

▶ State and MPO target setting requirements

▶ Unique requirements – large urbanized areas

▶ 2 year progress reviews of States



System Performance+ Comment Summary



Commenters

- ▷ 8,888 comments
- ▷ 43 States and 33 local government agencies
- ▷ 92 industry/advocacy groups
- ▷ 28 planning organizations
- ▷ 8 universities
- ▷ Thousands of individuals
- ▷ US Congress



Themes

- ▷ Experience of all travelers
- ▷ Multimodal system performance
- ▷ Greenhouse gas emissions
- ▷ Complexity of measures
- ▷ Data processing burden
- ▷ Freight measures
- ▷ Speed based measures



Asset Management



U.S. Department of Transportation
Federal Highway Administration



Infrastructure Comment Summary



Commenters

Asset Management Plan NPRM
(Feb. 20, 2015– May 29, 2015)

- ▷ 59 individual comment letters
- ▷ 35 State DOTs, 7 trade, professional, and government associations, 2 MPO, 1 local government, 1 planning district commission, and several submissions from individuals and private industry



MAP-21 and FAST Act

- ▶ Require States to develop and implement a Risk-Based Asset Management Plan for the National Highway System to improve or preserve the condition and performance of the NHS.
- ▶ Require FHWA to establish minimum standards for States to use in developing and operating bridge and pavement management systems

Asset Management Definition



Asset management is a **strategic and systematic process** of operating, maintaining, and improving physical assets, with a focus on engineering and economic analysis based upon quality information, to identify **a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions** that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practicable cost. (23 U.S.C. 101(a)(2), MAP-21 § 1103)



Benefits of Asset Management



An Asset Management Plan addresses issues and challenges to answer critical questions. Like how will we:

...improve **investment strategies** for operations and capital improvement

...manage infrastructure performance **X years from now?**

...make sure infrastructure can endure **extreme weather events?**

...choose **priorities in funding?**

...make the **right decisions?**

...ensure **long-term funding** to sustain a state-of-good-repair?

...manage risks to system performance and condition of assets

...prevent **unwarranted debt for our children?**



Asset Management Plan Contents



A State DOT is responsible to include a summary listing of the pavement and bridge assets on the NHS including condition, and for developing a process for each of the following:

1. Performance gap analysis
2. Life-cycle cost (analysis) planning
3. Risk management analysis
4. Financial plan
5. Investment strategies



Scope and content of a asset management plan



- ▶ States must address pavements and bridges but are encouraged to include all infrastructure assets within the highway right-of-way in their risk-based asset management plan. (Also can include roads other than on the NHS.)
- ▶ **Includes strategies that lead to a program of projects that would make progress toward achievement of the State targets for asset condition and performance of the NHS**
- ▶ States are required to integrate their asset management plan, along with other State plans and processes, into the statewide transportation planning process.



Where does preservation tie in:



- ▶ Key element in all processes
- ▶ Preservation is a mainstream key element of asset management
- ▶ Necessary to have quality preservation activities and predictable results



- ▶ An asset management plan addresses both short term and long term needs relating to the goal of improving or preserving the condition and performance of the NHS.
- ▶ An asset management plan should serve as the analytical foundation for developing investment strategies that meet these needs.
- ▶ The Section 150 performance measures (PM2), and the related 2-year and 4-year targets, are indicators of interim condition and performance levels. They show how a State is progressing toward its longer term goals for the condition and performance of the NHS.



Requirements related to Asset Management



- ▶ Asset Management Plan related submittal due dates addressed in Final Rule
- ▶ Asset Management Plan to be updated at minimum once every 4 years
- ▶ Annual consistency determination



Management Systems



- ▶ Establish minimum standards for States to use in developing and operating:
 - ▷ Bridge management systems
 - ▷ Pavement management systems



Implementation Needs



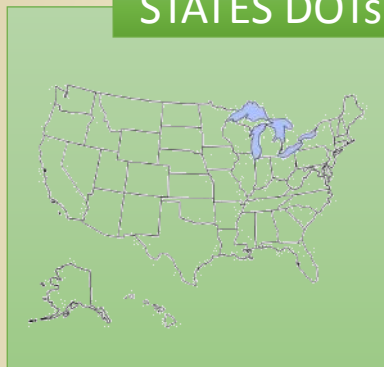
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Assessments and Reviews

Level of Readiness

STATES DOTs



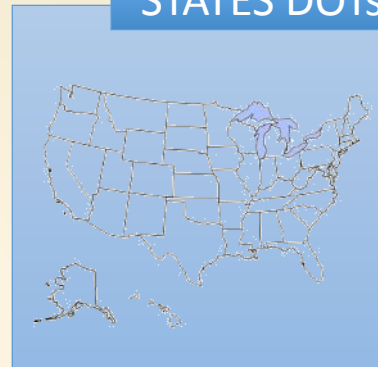
DIVISIONS



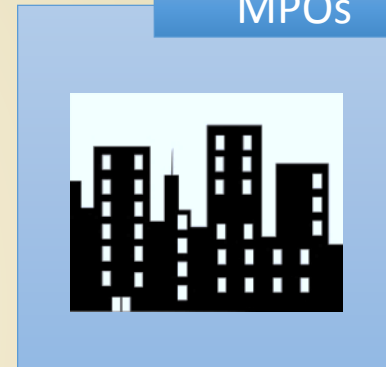
- Coordinating on performance
- Telling the performance story
- Investment decision-making
- Improving data-quality
- Target setting practices

Implementation Status

STATES DOTs



MPOs



➡ *Federal Assistance*

➡ *Best Practices*

➡ *Report to Congress*

Internal Assessment Top Readiness Needs



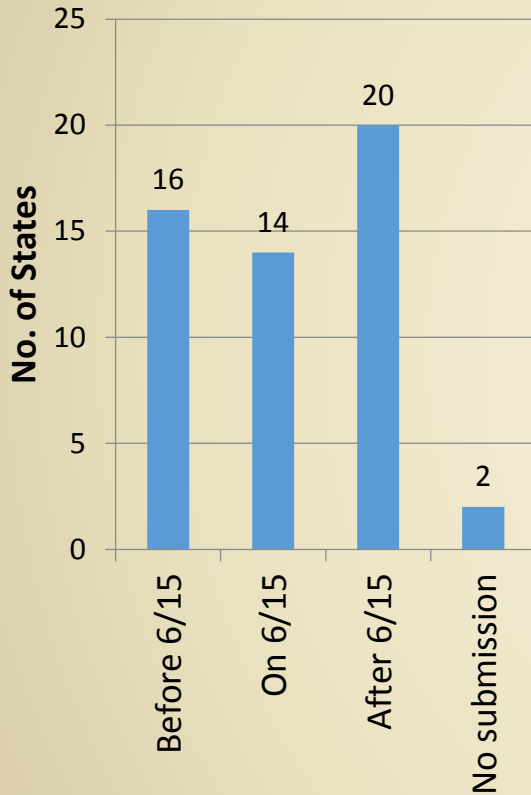
- ➡▶ Assuring Data Quality
- ➡▶ Supporting Target Setting
- ▶ Assisting in Plan Development
- ▶ Monitoring Progress
- ▶ Facilitating Coordination



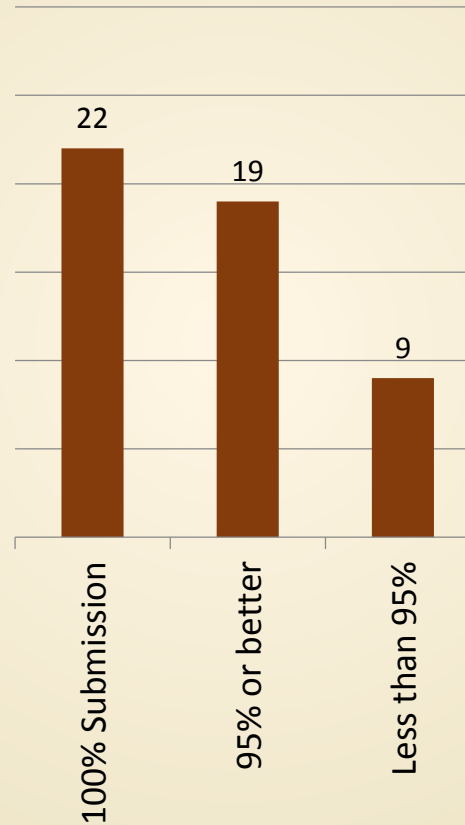
HPMS Report Cards



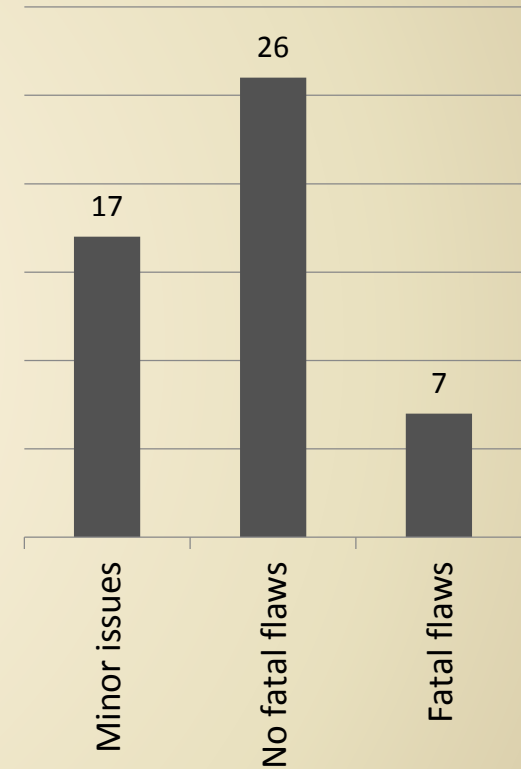
Timeliness



Completeness



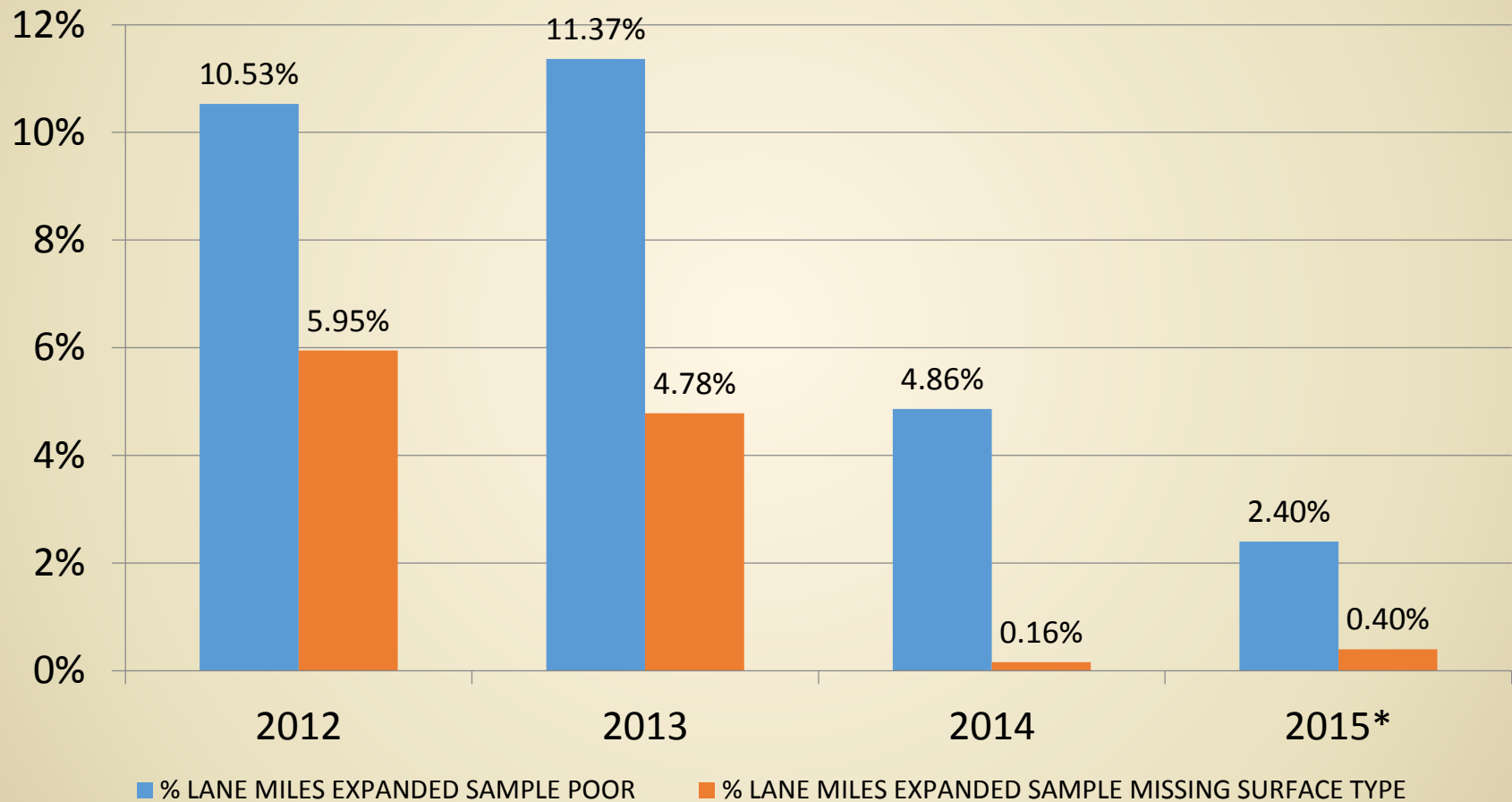
Quality



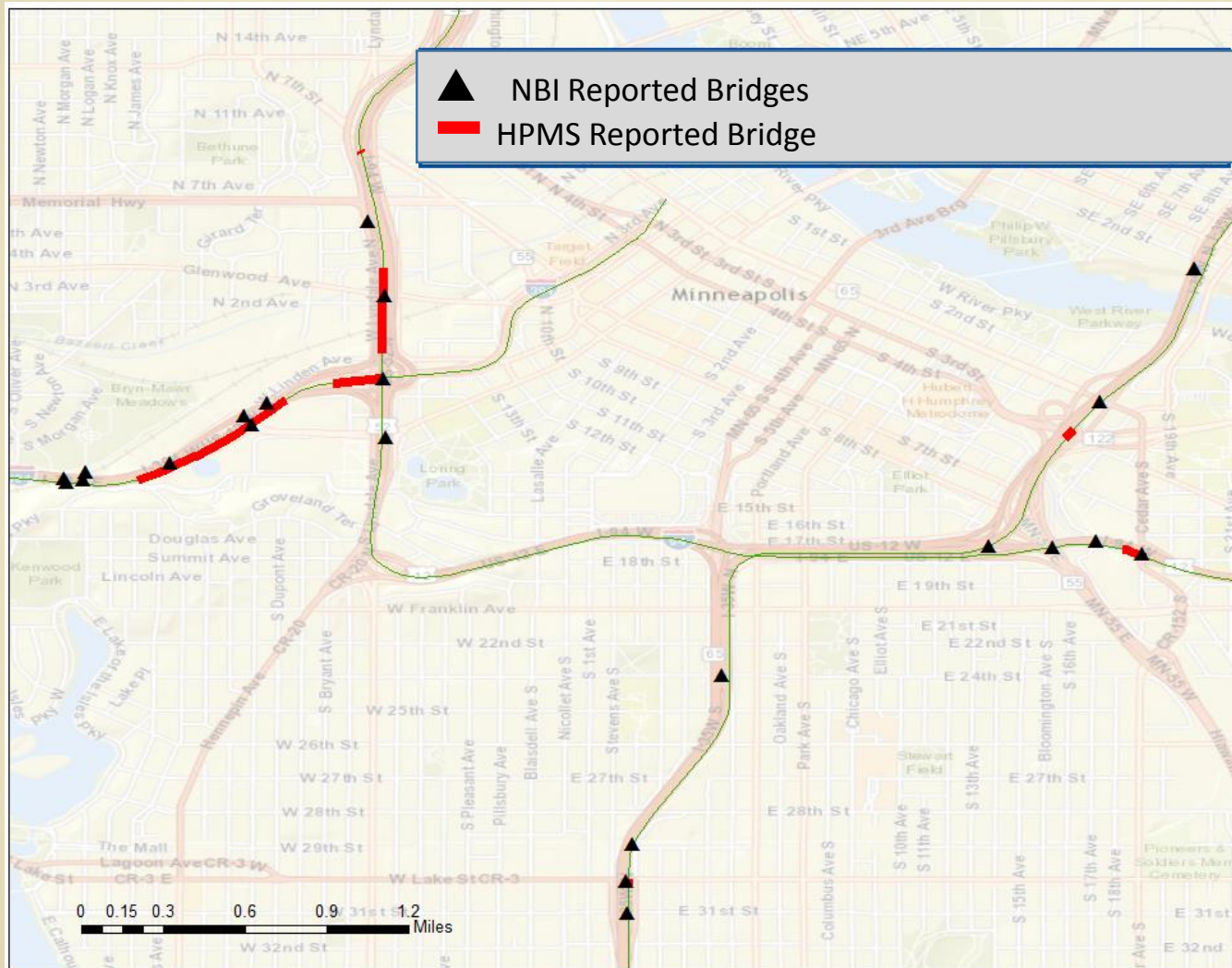
Improvement in Data Quality



% POOR AND MISSING SURFACE TYPE



Finding Bridges

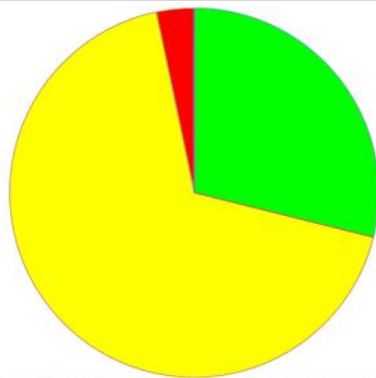


HPMS Pavement Report Card



HPMS 8.0.1 EXPANDED SAMPLE LANE MILES RATING (INTERSTATE)

LANE MILES EXPANDED SAMPLE GOOD
LANE MILES EXPANDED SAMPLE FAIR
LANE MILES EXPANDED SAMPLE POOR
LANE MILES EXPANDED SAMPLE MISSING SURFACE TYPE
TOTAL
SAMPLE SIZE



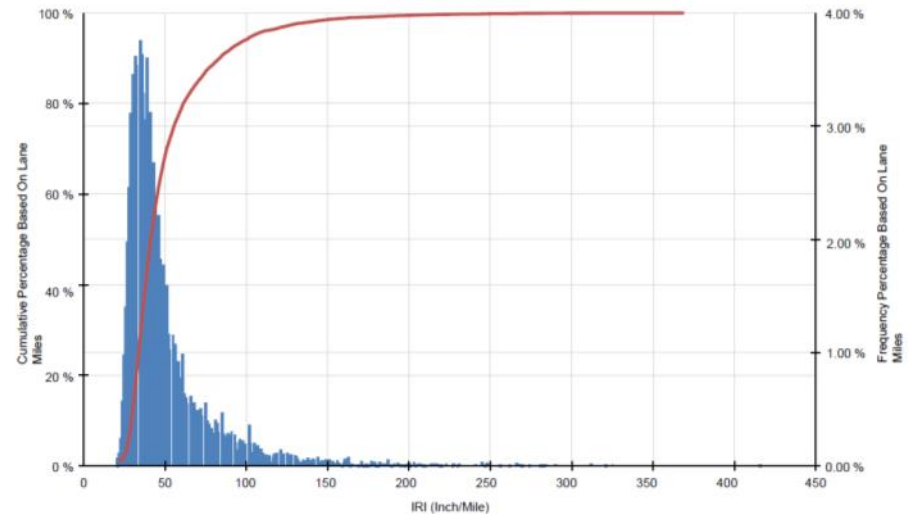
ITEMS SHADED ORANGE ARE HPMS PAVEMENT PERFORMANCE DATA IMPROVEMENT ZONES WHERE DATA SHOULD BE VERIFIED OR CORRECTED

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HPMS 8.0.1 CUMULATIVE AND FREQUENCY DISTRIBUTION - IRI (INTERSTATE)

Stage: Review
Year: 2015
State:
Date: 05/31/2016



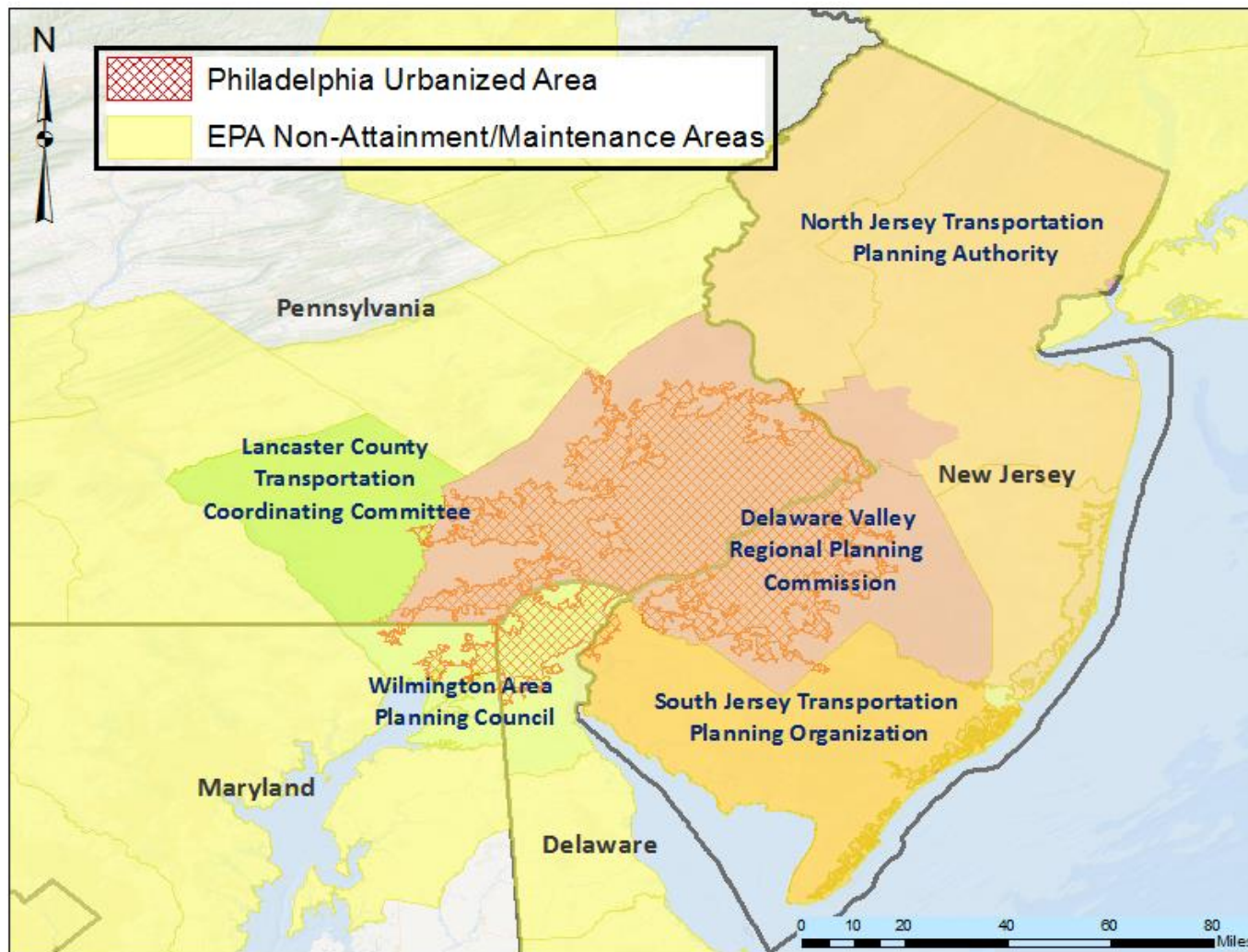
(Frequency of Missing IRI = 1.100%, missing data is included in the cumulative distribution graph.)

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Coordination Challenges



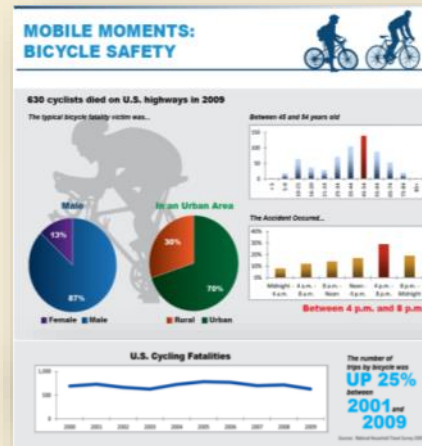
Performance Reporting



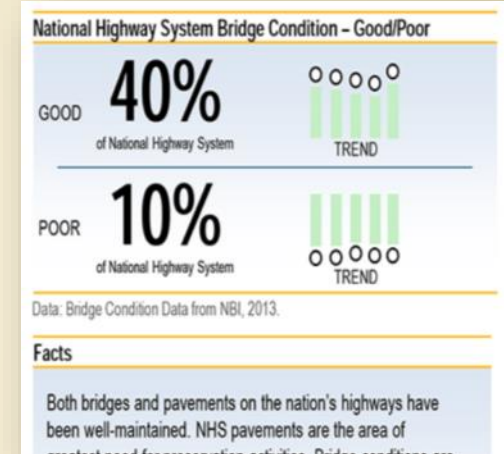
State DOT Progress Reporting Portal



Performance Storytelling



System Performance



Put the Pieces Together

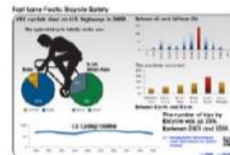
Cast a Wide Net but Draw Audiences to a Central Location

Website



Elements of report, blog, clearinghouse, data tool

Topical Infographics



"One page, one issue", stand-alone, widely shareable

Message-Oriented Infographics



Educational, shareable, ties transportation to performance

Performance Measure Reports



Aimed at transportation pros, simple but data-driven

Data Tool



For those interested in playing with data and researching comparisons

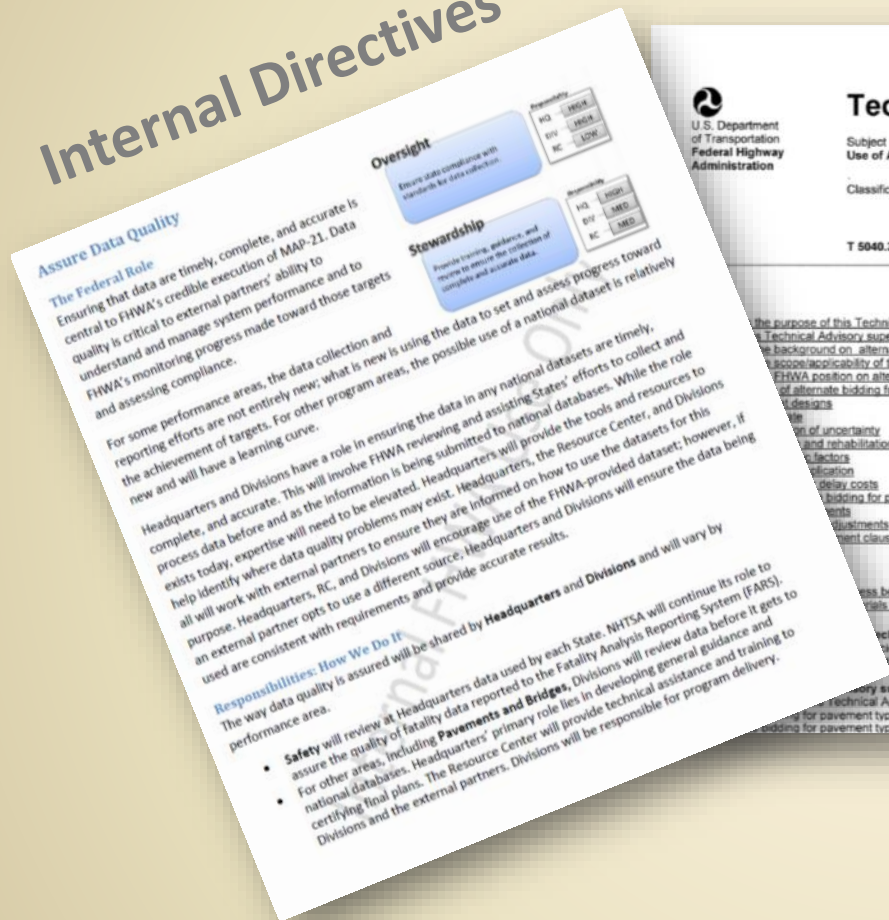
Related Content

Build on the performance work of others, make site a "one-stop shopping" experience

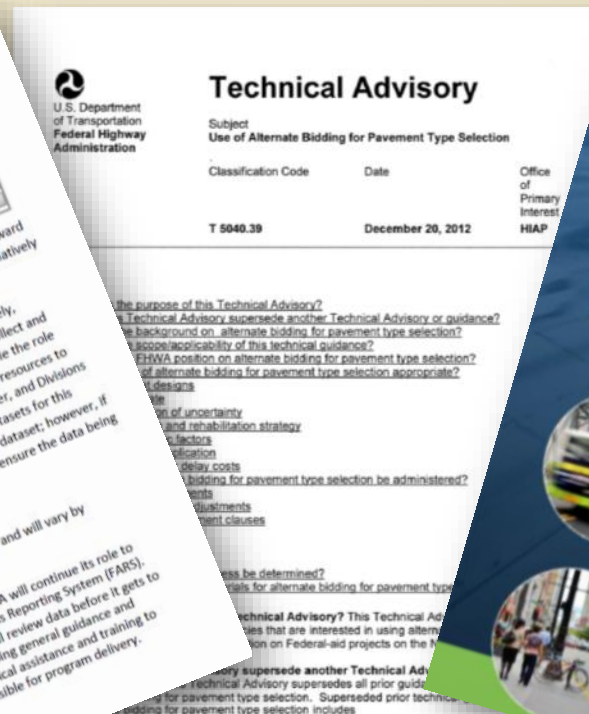
Implementation Guidance



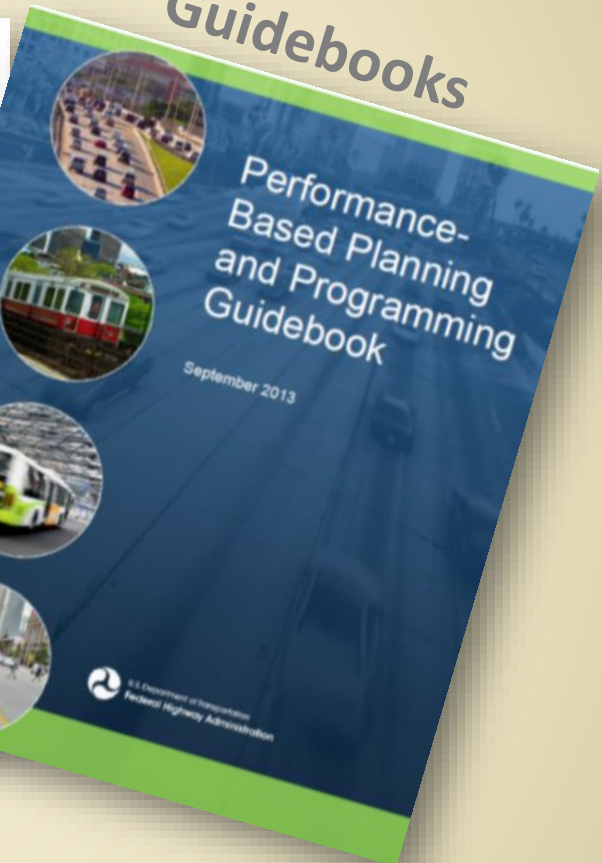
Internal Directives



Technical Advisories



Guidebooks



Forthcoming Guidance for Asset Management



▶ FHWA is developing guidance on the following:

- ▷ Life Cycle Planning
- ▷ Risk Management
- ▷ Financial plan

▶ FHWA had developed guidance on

- ▷ Certification/recertification of State's asset management processes; and
- ▷ Annual consistency determination



TPM Capacity Building Program



U.S. Department of Transportation
Federal Highway Administration



Toolbox Homepage



[TPM Tools](#) [Guidebook](#) [Assessment](#) [Resources](#) [About](#)

TPM Toolbox

Development site. Demo only.

This is a draft web site for the FHWA Transportation Performance Management (TPM) Technical Assistance Program.

[Learn more about the TPM tools](#)

TPM Guidebook

The TPM Implementation Guidebook provides clear practical actionable steps that state DOT leadership, management, and staff can implement to enhance performance management practices.

Self-Assessment

The TPM self-assessment helps to determine your organization's level of performance management maturity. You can customize the self-assessment using the tools on this site.

TPM Resources

The TPM Resources Library contains best practices, precedents, and other helpful resources. Browse the library or quickly navigate to a specific document using our search tools.

About the site

This is a preliminary draft of the web resource for the FHWA Transportation Performance Management (TPM) Technical Assistance Program. It contains the first pieces of the proposed outline and content of the TPM Implementation Guidebook. This document is intended to provide clear practical actionable steps that state DOT leadership, management, and staff can implement to enhance performance-management practices. The Guidebook will use case studies and illustrative examples to demonstrate how performance management results in improved decision-making through better-informed planning, programming, monitoring and reporting.



8 Training Courses



MAP-21 TPM 101 Course

MAP-21 TPM 201 Courses

Safety
Pavement
Bridge
Planning
Congestion/Air Quality/Freight



Target Setting

Data Quality



*Delivery Models
Pooled Fund Coordination
Other Training Needs*



Capacity Building Assistance Requests



About **Programs** Resources Briefing Room Contact Search FHWA



Transportation Performance Management

TPM and MAP-21

Engagement

Resources

Home / Programs / Transportation Performance Management / Resources / TPM Professional Capacity Building Assistance Request Form

TPM Professional Capacity Building Assistance Request Form

The overarching goal of the Federal Highway Administration (FHWA) Transportation Performance Management (TPM) Professional Capacity Building Program (PCB) is to ensure that federal, State departments of transportation (SDOT), metropolitan planning organizations (MPO), transit, and local partners are prepared to carry out performance-based transportation decision-making. Training and programmatic assistance is primarily provided through:

- [Training opportunities](#) (.pdf, 0.2 mb)
- [TPM Workshops and Peer-to-Peer assistance](#) (.pdf, 0.2 mb)
- Direct programmatic assistance from FHWA, other partner agencies, and other organizations via phone calls, web conferences, emails, general instruction, or site visits.

Eligibility

Any public authority or transportation entity may apply for programmatic assistance for the TPM PCB assistance.

TPM Request Form

Please complete the form below to request TPM programmatic assistance. FHWA will respond to all requests with recommendations on options for support and assistance.

* Required Fields

*First Name:

*Last Name:

*Organization:

City:

Email Notification

Sign up to receive general notices on TPM

Enter your E-mail

Submit

Events

- [Safety Performance Measures and the Serious Injury Reporting Requirement](#) Webinar
November 2, 2016
- [View all Upcoming Events](#)

Related Links

- [FHWA/DOT TPM-related Links](#)
- [TPM External links](#)

Contacts

- **Susanna Hughes-Reck**
[Office of Transportation Performance Management](#)
202-366-1548
[E-mail Susanna](#)



For More Information



- ▶ FHWA Office of Asset Management
<http://www.fhwa.dot.gov/asset/index.cfm>
 - ▷ Examples of asset management plans and templates
 - ▷ Generic work plan for developing an asset management plan.
 - ▷ Publications relative to risk management and financial planning.
 - ▷ Gap Analysis Implementation Reports



For More Information



▶ NHI Transportation Asset Management Training Courses

- ▶ Introduction to Asset Management
- ▶ Developing an Asset management Plan
- ▶ Financial Planning for Asset Management
- ▶ Risk

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

▶ AASHTO Asset Management Portal

<http://www.tam-portal.com/>

▶ Asset Management Expert Task Group

<http://www.tam-portal.com/tam-etg/>



2016 National Pavement Preservation Conference

Thank You

[Stephen Gaj@dot.gov](mailto:Stephen.Gaj@dot.gov)

<http://www.fhwa.dot.gov/asset/>

Peter.stephanos@dot.gov

<http://www.fhwa.dot.gov/tpm/>

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