FHWA Federal Funding and Performance Measures Update

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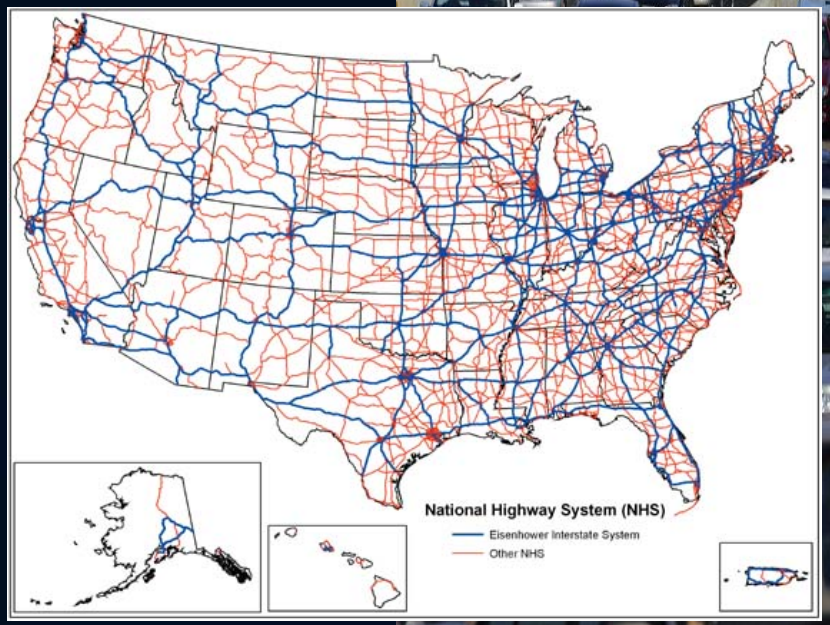
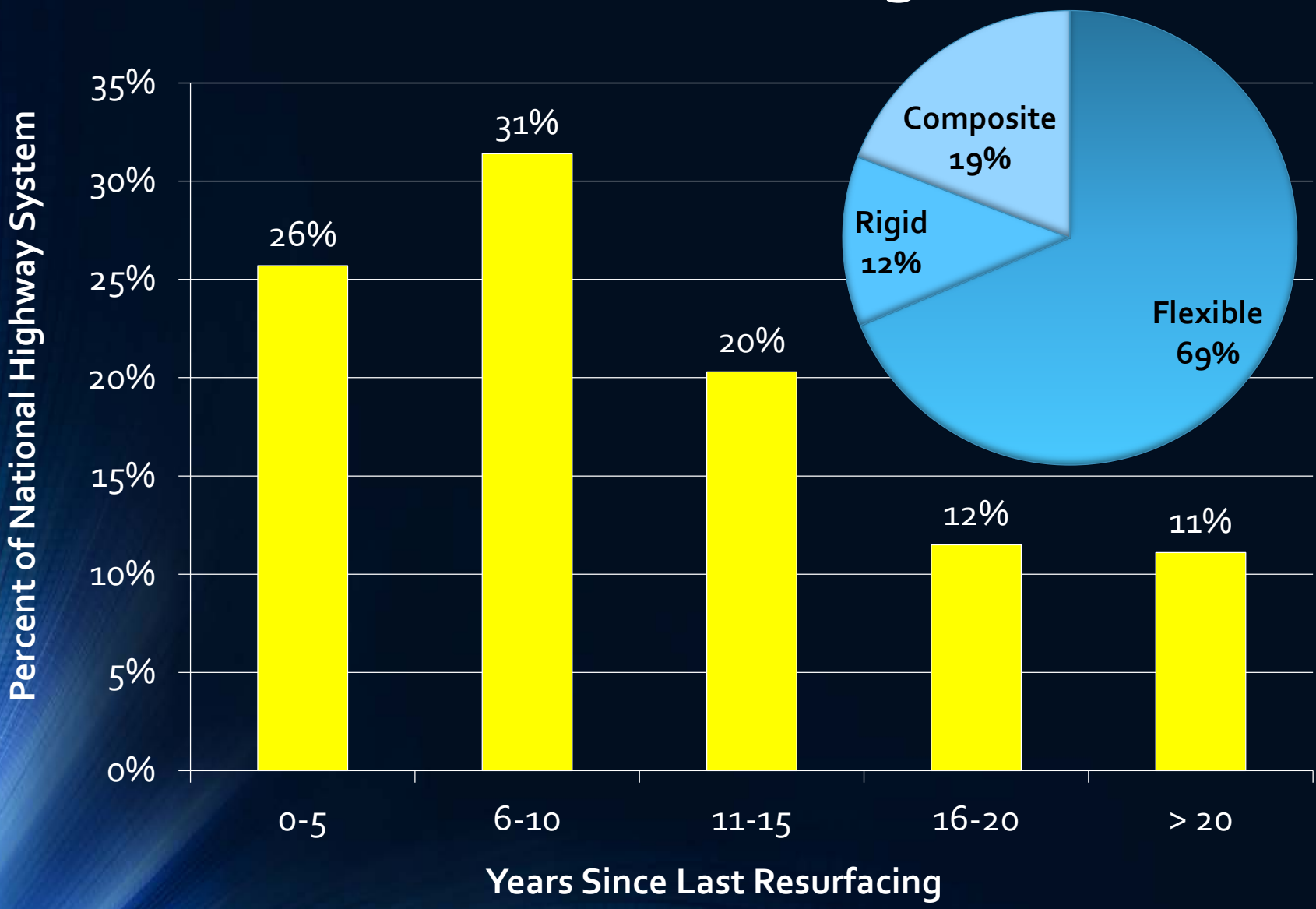
Rocky Mountain West
Pavement Preservation Partnership
Bozeman, MT – Oct. 19, 2015

National Highway System

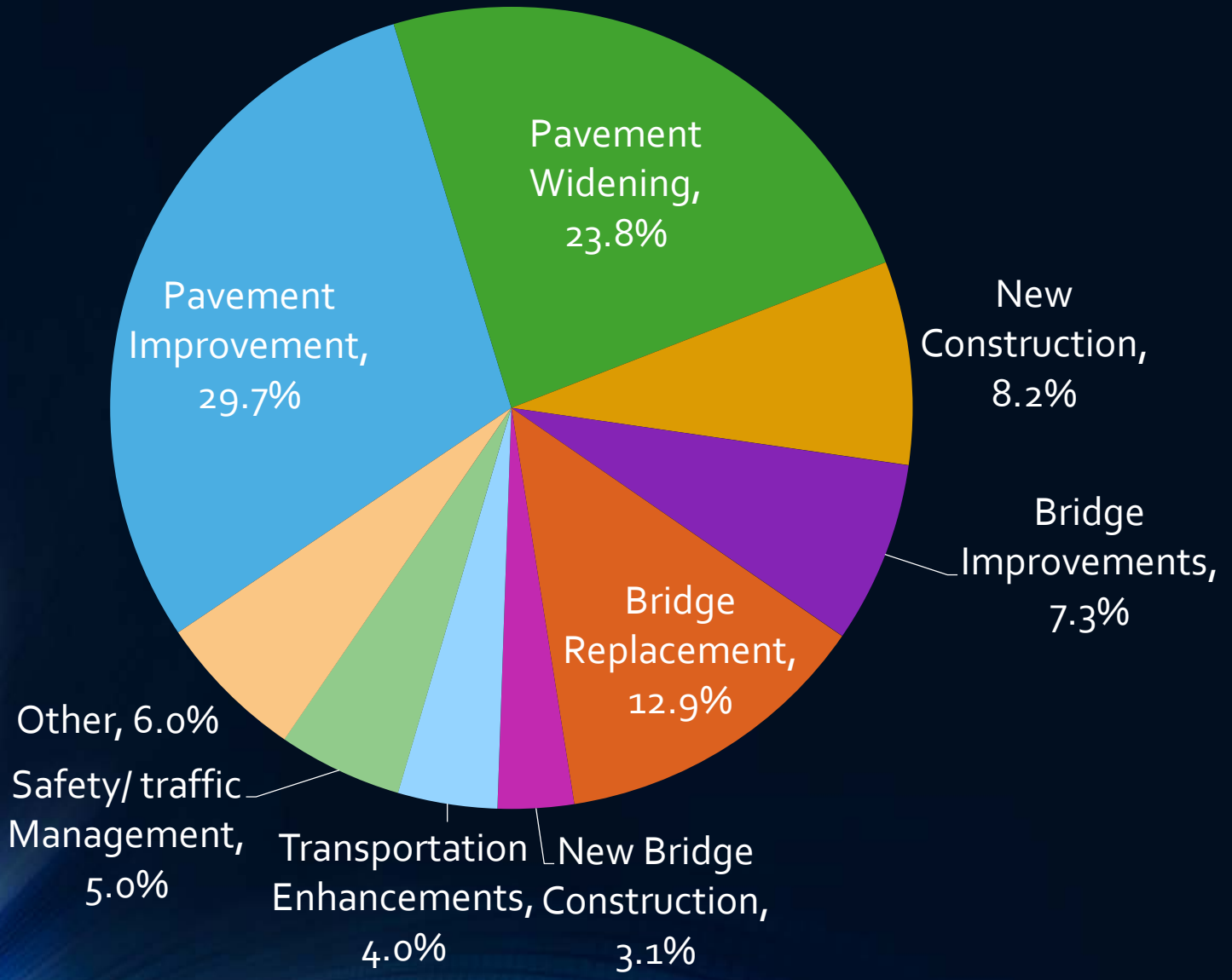
- Expanded by MAP-21
  - Interstate System and Other Principle Arterials
  - Strategic Highway Network and Major Connectors
  - Intermodal Connectors
- Facts
  - 223,000 miles
  - 771,000 lane-miles
  - 88% State owned
  - 5.4% US mileage
  - 55.0% total travel



Most Recent Resurfacing



2014 NHS Improvement Types by Federal Funding



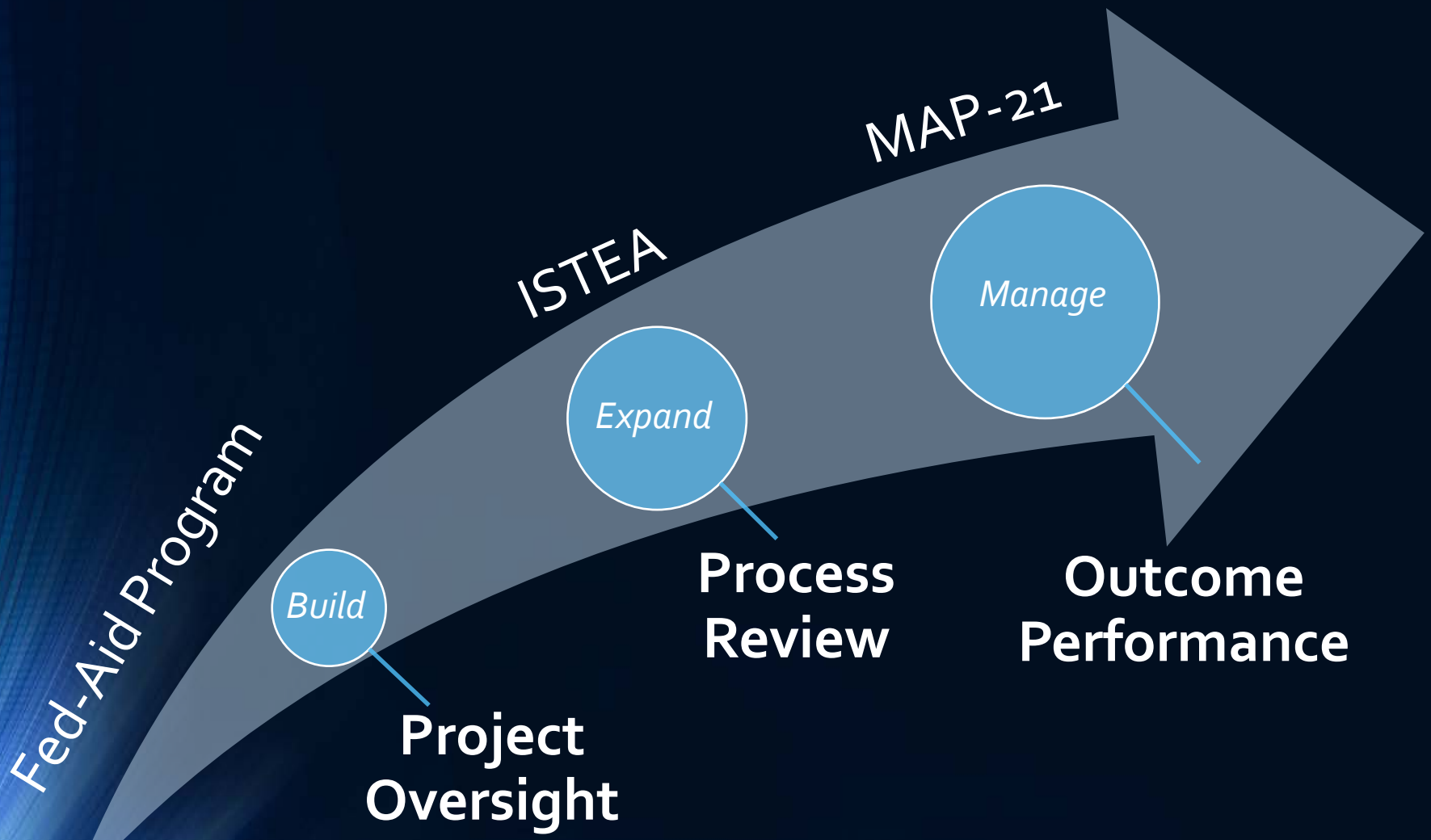
Importance of Preservation and Improvement of the NHS

- Preserving and improving the NHS's pavements and bridges through a risk based asset management approach keeps America's infrastructure safer, increases mobility, improves the U.S. economy and improves U.S. competitiveness in world trade.
- The implementation of MAP-21 performance measures will focus federal transportation investments on the NHS leading to improved pavement conditions and bridges.

Presentation Outline

- Implementing MAP-21 National performance management program.
  - ✓Evolving Federal Program, NPRM schedule
  - ✓Core Programs and funding
  - ✓Performance elements
  - ✓Challenges and opportunities
  - ✓National Goals
  - ✓Measures for assessing

Evolution of the Federal Program

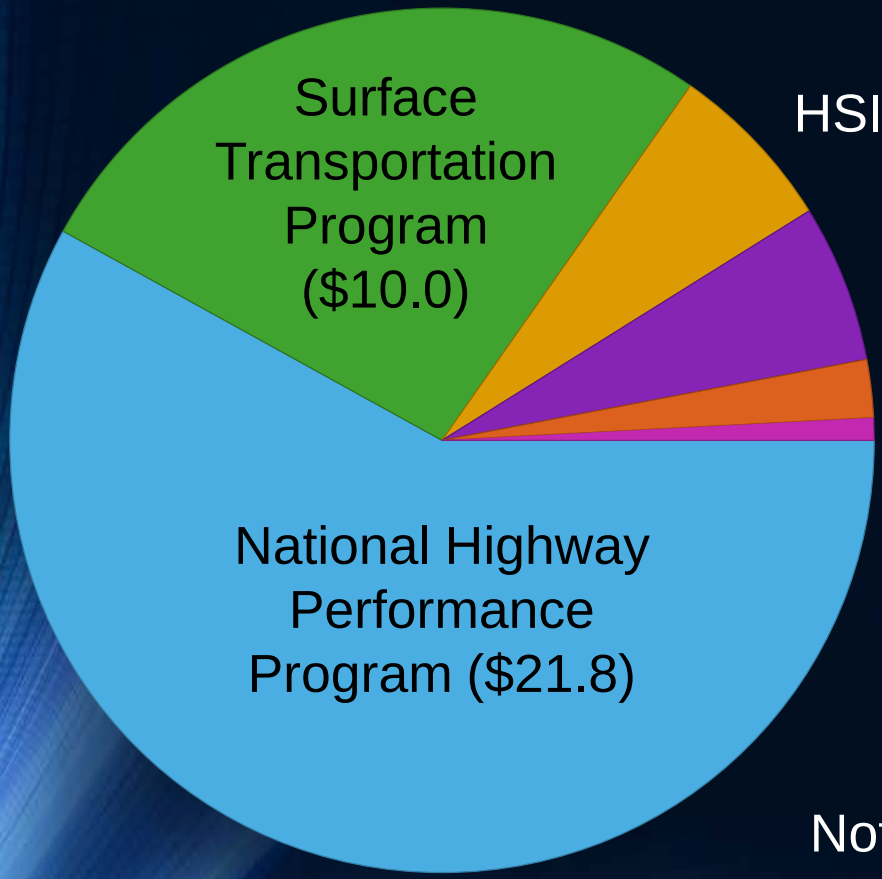


Past USDOT Performance Reporting

Performance Measure	2010	2011	2012	2013	2014 Target	2014 Actual	Met?
Percent NHS Good Pavements	55.0	54.3	57.1	57.6	58.4	59.0	Met
Percent NHS Structurally Deficient Bridges	8.3	7.8	7.1	6.7	6.6	6.0	Met

MAP-21
Four "Core" Programs

$37.7 Billion/Year in formula funding



HSIP ($2.4)

CMAQ ($2.4)

Transportation Alternatives ($0.8)

Metro Planning ($0.3)

Ferry ($0.07)

Note: Amounts in $ billions

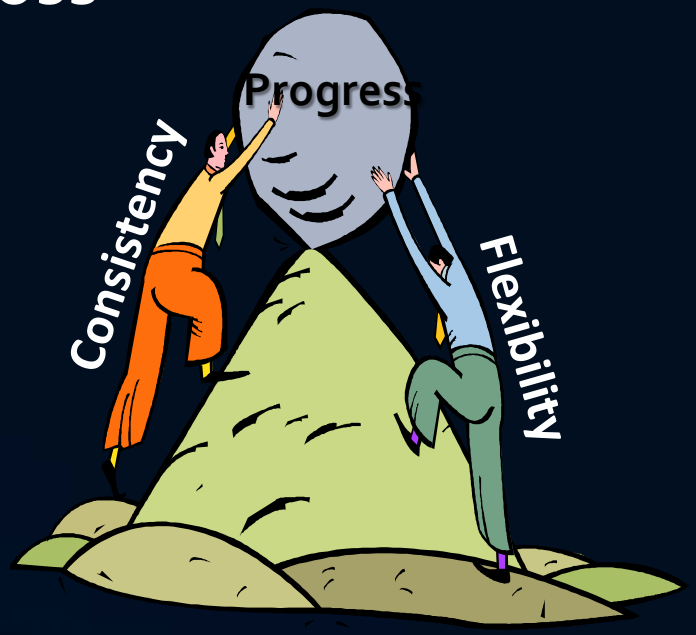
Performance Elements

- National Goals
- Measures
- Targets
- Plans
- Reports
- Accountability and Transparency

http://www.fhwa.dot.gov/map21

Challenges and Opportunities

- Providing both consistency and flexibility
- Finding the right balance of national measures
- Managing performance across jurisdictions
- Data requirements and management
- Linking performance measures to investments
- Advancing technologies



Principles Behind Proposals

- Minimize the Number of Measures
- Phase in Requirements
- Increase Accountability and Transparency
- Consider Risk
- Understand that Priorities Differ
- Recognize Fiscal Constraints

MAP-21 National Goals

Goal Area	National Goal
Safety	Reduce fatalities & serious injuries on all public roads
Infrastructure condition	Maintain a state of good repair
Congestion reduction	Significantly reduce congestion on the NHS
System reliability	Improve the efficiency of the surface system
Freight movement & economic vitality	Improve the national freight network, access of rural communities to markets, & economic development
Environmental sustainability	Enhance system performance while protecting and enhancing the environment
Reduced project delivery delays	Accelerate project completion by eliminating delays in the project delivery process

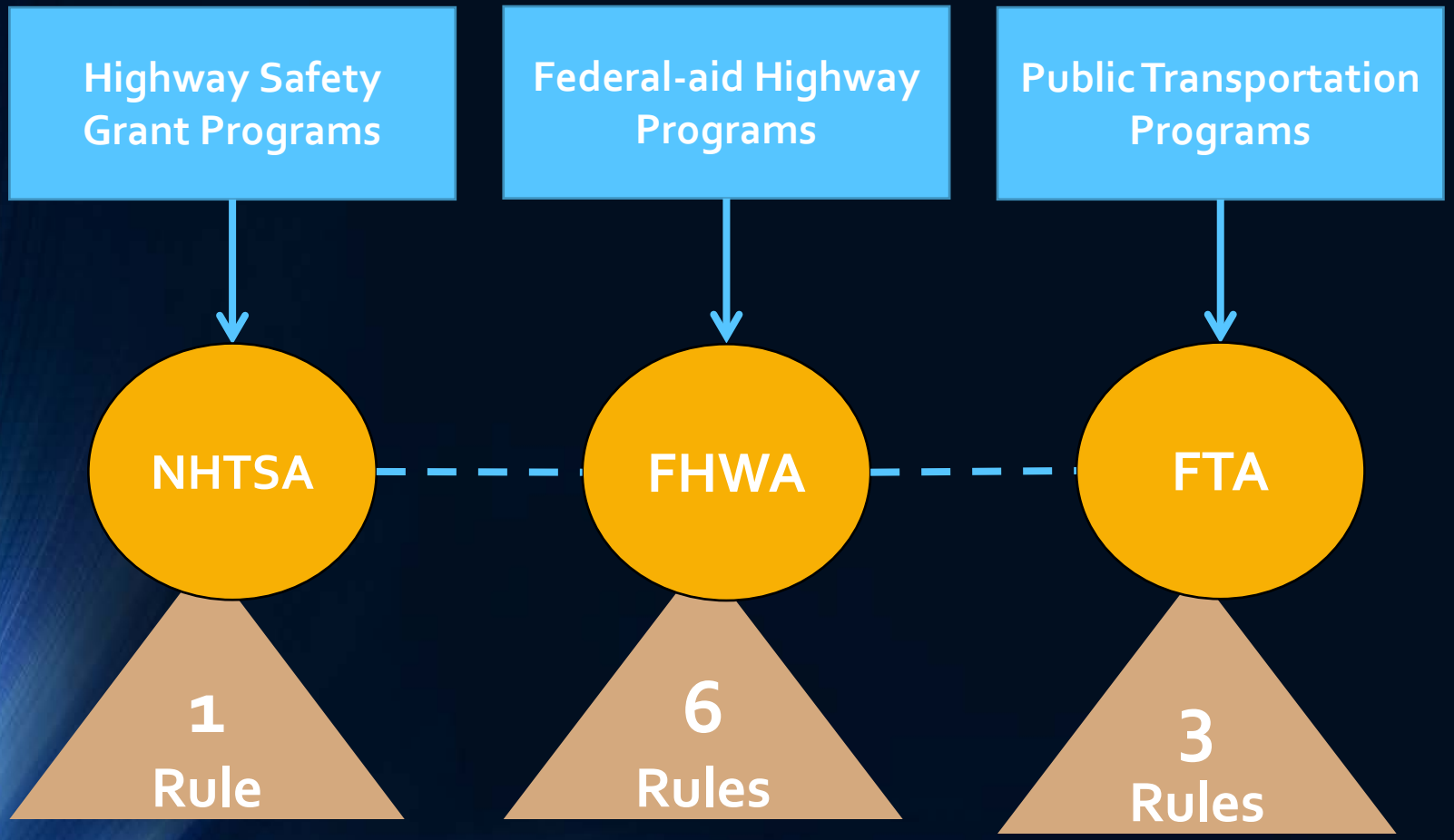
USDOT Performance Measure Areas

- Highway Safety
- Pavement Condition
- Bridge Condition
- System Performance
- Traffic Congestion
- On-road Mobile Source Emissions
- Freight Movement on the Interstate
- Transit State of Good Repair
- Transit Safety Criteria

Changing Circumstances Required Us to Embrace Performance Management

- Infrastructure condition and resource constraints
- Public expectations
- Performance management has been proven in other industries

10 Inter-related Rulemakings



Performance Areas	NPRM	Comments Due	Anticipated Final Rule
Safety Performance Measures	March 11, 2014	Closed June 30, 2014	September 2015
Highway Safety Improvement Program	March 28, 2014	Closed June 30, 2014	August 2015
Statewide and Metro Planning; Non-Metro Planning	June 2, 2014	Closed October 2, 2014	September 2015
Pavement and Bridge Performance Measures	January 5, 2015	Closed May 8, 2015	n/a
Highway Asset Management Plan	February 20, 2015	Closed May 29, 2015	n/a
System Performance Measures	***Projected*** October, 2015	120 days	n/a

System Performance - Input from Stakeholders

- Measure movement of people or vehicles?
- Performance perspective of the user or the planner/designer/operator?
- Speed vs. travel time
- Capturing impact of increased transportation choices
- Ability to tell a local, regional, and national story
- Data availability and technology advancements
- Impact of NHS expansion to arterials

Proposed Pavement Measures (490.307)

Pavement Condition Measures	
Interstate System	Non-Interstate NHS System
Percentage of pavements in "Good" condition	Percentage of pavements in "Good" condition
Percentage of pavements in "Poor" condition	Percentage of pavements in "Poor" condition

Proposed Pavement Reporting Req.

- Baseline Performance Period Report – two- & four-year targets, baseline conditions, relationship with other performance expectations
- Mid Performance Period Progress Report – two-year condition/ performance, investment strategy effectiveness, progress discussion, target adjustment*, extenuating circumstances*, target achievement discussion if fail to demonstrate significant progress (* = optional)
- Full Performance Period Report – Same content as Mid Period report but reporting on four year targets
- MPOs report targets and progress to State DOTs per the Metropolitan Planning Agreement

Proposed Pavement Target Setting

- All State DOTs and MPOs establish targets for each performance measure, aligned with biennial reports
- Targets to be established for the entire NHS network, regardless of ownership
- State DOTs may adjust four-year targets at the performance period midpoint
- State targets are statewide
- State DOTs have the option to set additional urbanized/non-urbanized targets
- MPOs establish four-year targets by committing to support the State target or by setting a quantifiable target when applicable
- If State adjusts target, any MPO adjustments must occur within 180 days
- If MPO changes a quantifiable target, must be done in a manner agreed upon and documented in Metropolitan Planning Agreement

Proposed Pavement Data Requirements

- Pavement data provided to the Highway Performance Monitoring System (HPMS), 0.1 mile uniform pavement sections
- Pavement metrics are IRI, cracking, rutting and faulting with thresholds corresponding to "Good/Fair/Poor"
- Measures are % lane miles "Good/Poor"

Better Outcomes!

- Improved communication of the link between investments and results
  - ✓Depict future scenarios under varying funding levels
- Increased consistency across the country
- Increased coordination across agencies and jurisdictions
- Greater understanding of what works

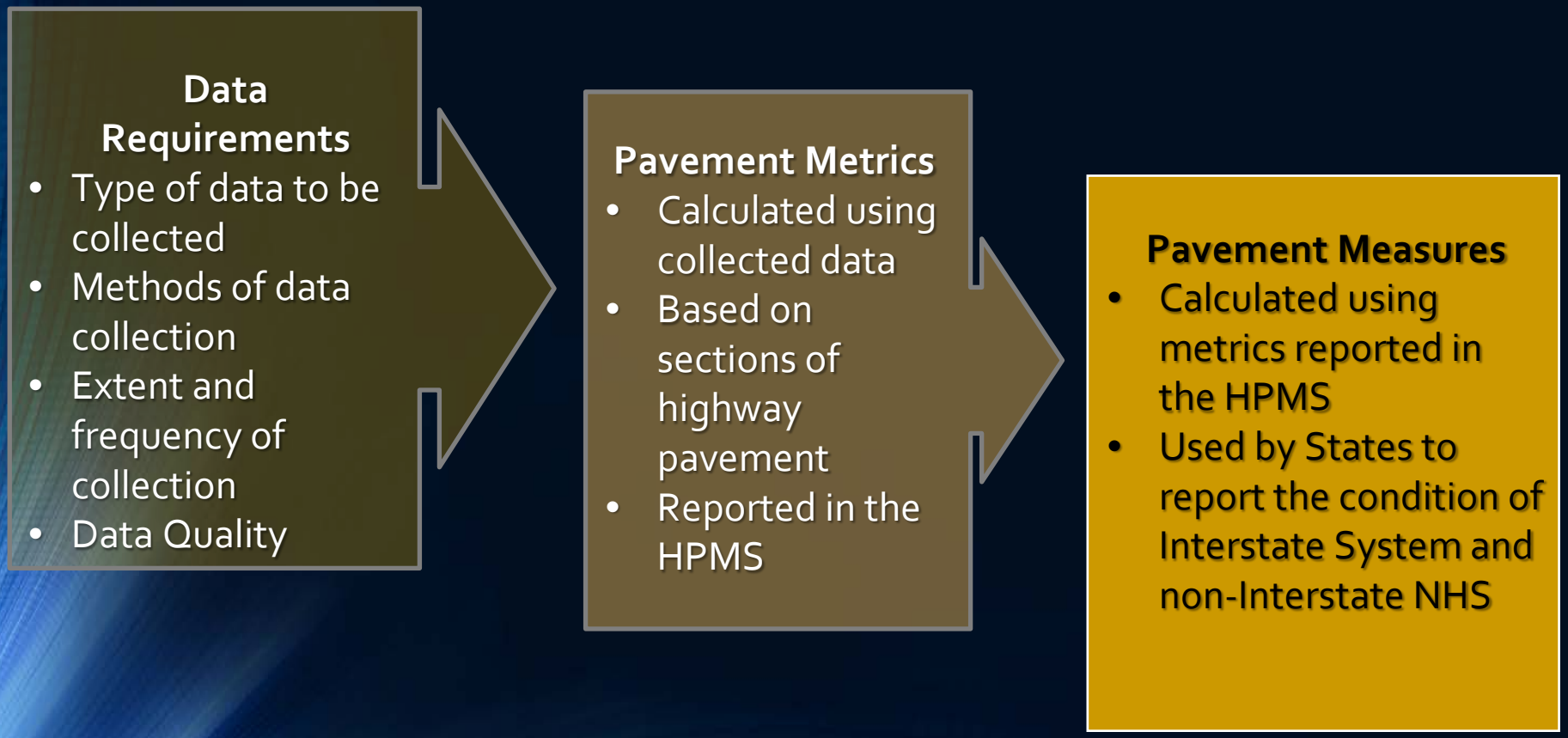
Improved Measures of Performance

- Synergies between National and other measures used by agencies
- Further refinement of the National measures
- Spur discussions on the value of future areas for performance management
- Improved data collection, integration, mining, reporting, and visualization

Challenges and Considerations

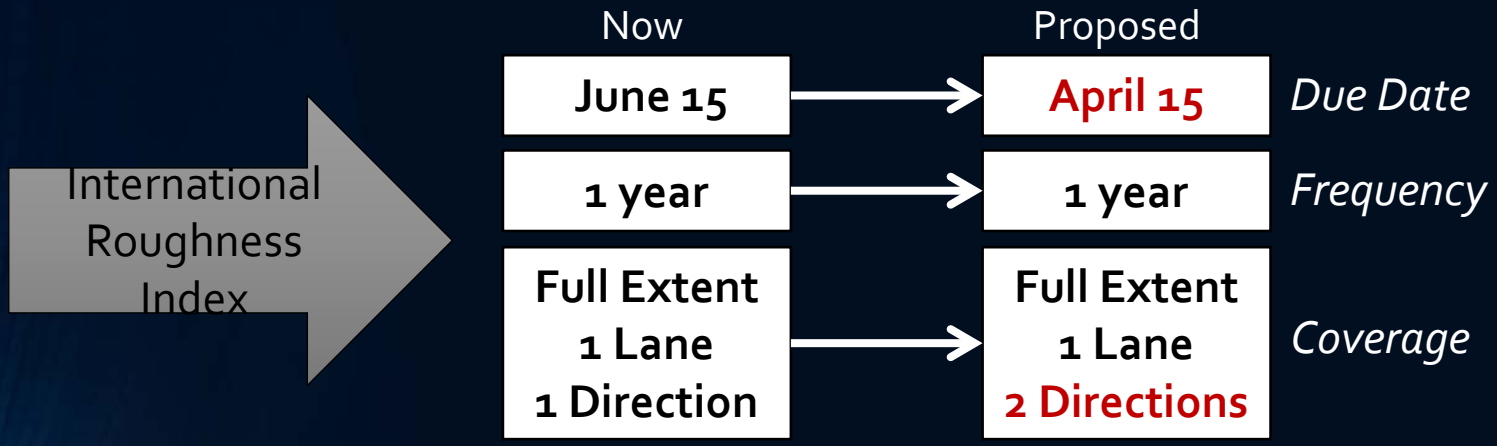
- National Data Source
- Consistency in Collection
- Link to Decisions
- Element Level Data
- Advancing Technologies
- Target Setting

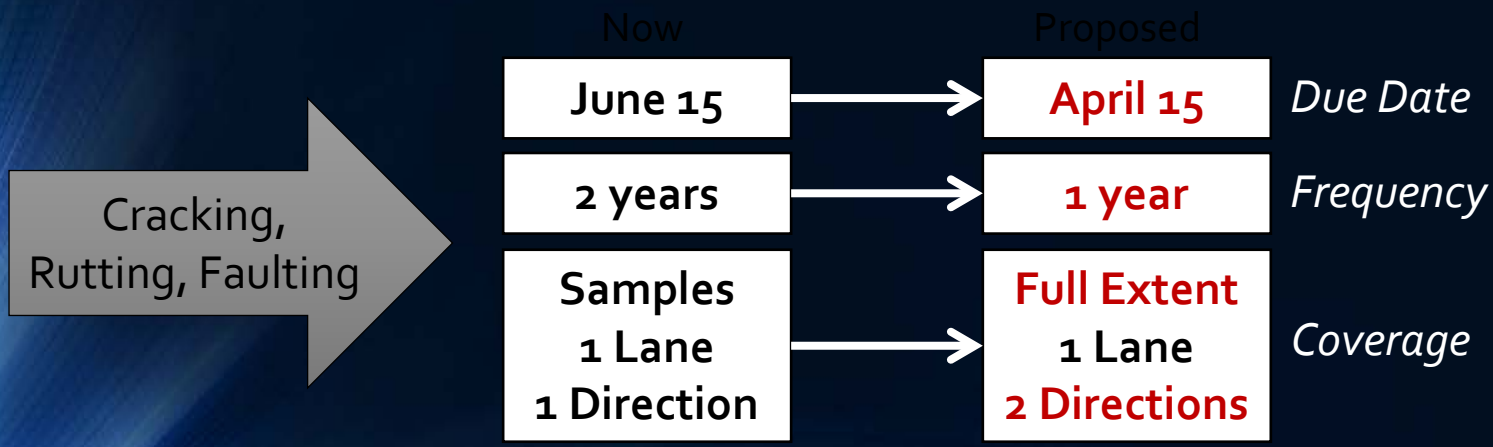
Relationship between Data Requirements, Pavement Metrics, and Performance Measures



HPMS Data Collection and Reporting Requirements (490.309)

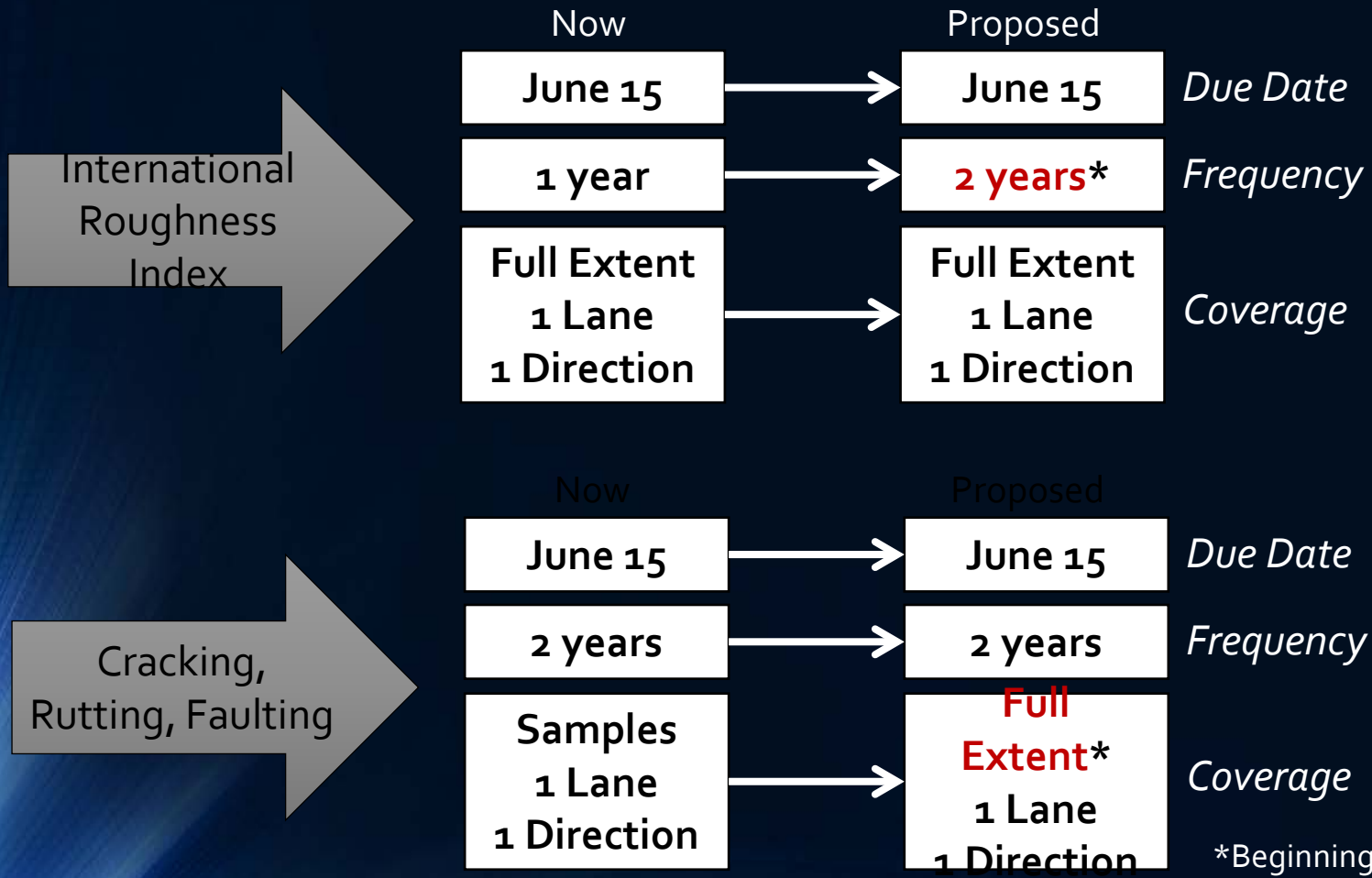
Interstate Pavements





HPMS Data Collection and Reporting Requirements (490.309)

Non-Interstate NHS Pavements



*Beginning 2018/2019

Data Quality Management

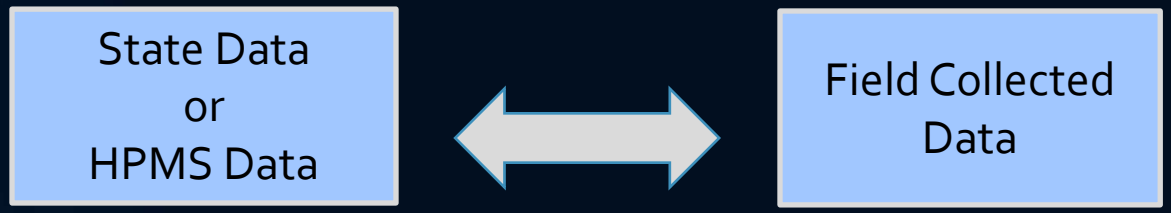
- In § 490.319(c), FHWA proposes Data Quality Management program requirements to implement 23 U.S.C. 150(c)(3)(A)(iv) for pavement condition data.
- The FHWA proposes that each State DOT must have a data quality management program for the data required to assess pavement conditions. This proposal would require State DOTs to submit their Data Quality Management Programs to FHWA for approval.
- The design of the data quality management program is left to discretion of State DOTs, as long as it includes the following items:
  - Data Collection equipment, calibration, and certification;
  - Certification process for persons performing manual data collection, if used;
  - Data quality control measures conducted both before data collection begins and periodically during the data collection program;
  - Data sampling, review, and checking processes; and
  - Error resolution procedures and data acceptance criteria.

http://www.fhwa.dot.gov/pavement/management/qm/data_qm_guide.pdf

Pavement Condition Thresholds

* Urban Areas with population >1 million

Composite Data Element Comparison



Element	Confidence in Data
IRI	High
Cracking %	Low/Med
Cracking Length	Low
Rutting	High
Faulting	Low

Calculation of Pavement Measures (490.313)

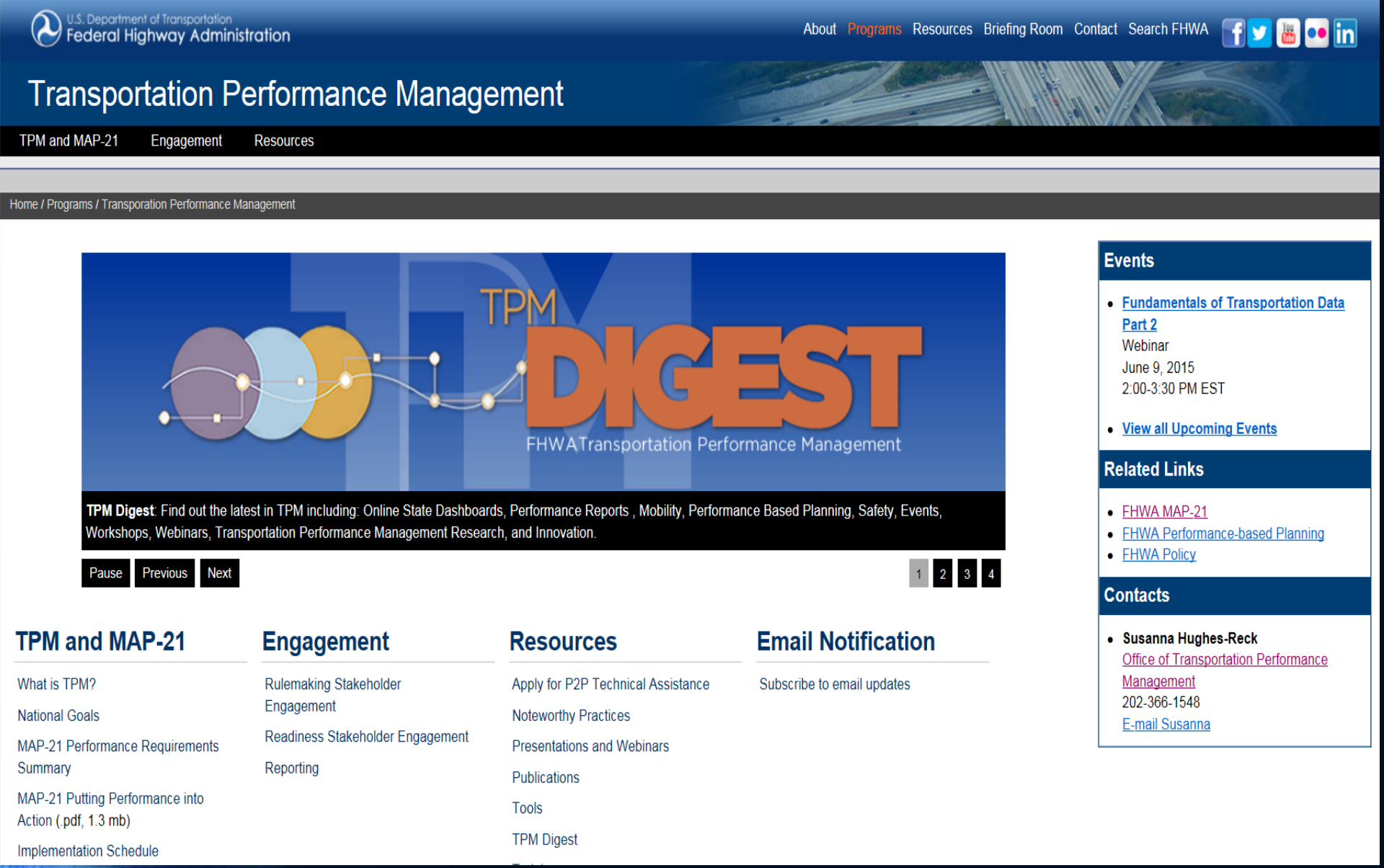
	Pavement Type			
	Asphalt and Jointed Concrete	Continuous Concrete		
Overall Section Condition Rating	3 metric ratings (IRI, cracking and rutting/faulting)	2 metric ratings (IRI and cracking)		Measures
Good	All three metrics rated "Good"	Both metrics rated "Good"	→	percentage of lane-miles in "Good" condition
Poor	≥ 2 metrics rated "Poor"	Both metrics rated "Poor"	→	percentage of lane-miles in "Poor" condition
Fair	All other combinations	All other combinations		

Minimum Condition and Penalties for Pavements (490.315 and 490.317)

Minimum Condition Level: **Percentage of lane-miles of Interstate System in Poor condition would not exceed 5.0%**

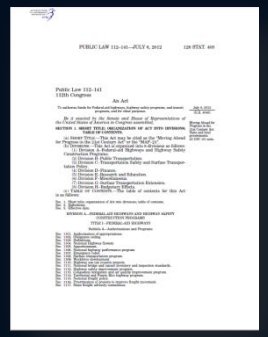
FHWA is committed to reassessing the minimum condition level after completion of the first full performance period

Penalty: **If minimum not met for two consecutive years, State must obligate NHPP & transfer STP funds**



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

MAP-21
Preservation FAQ's



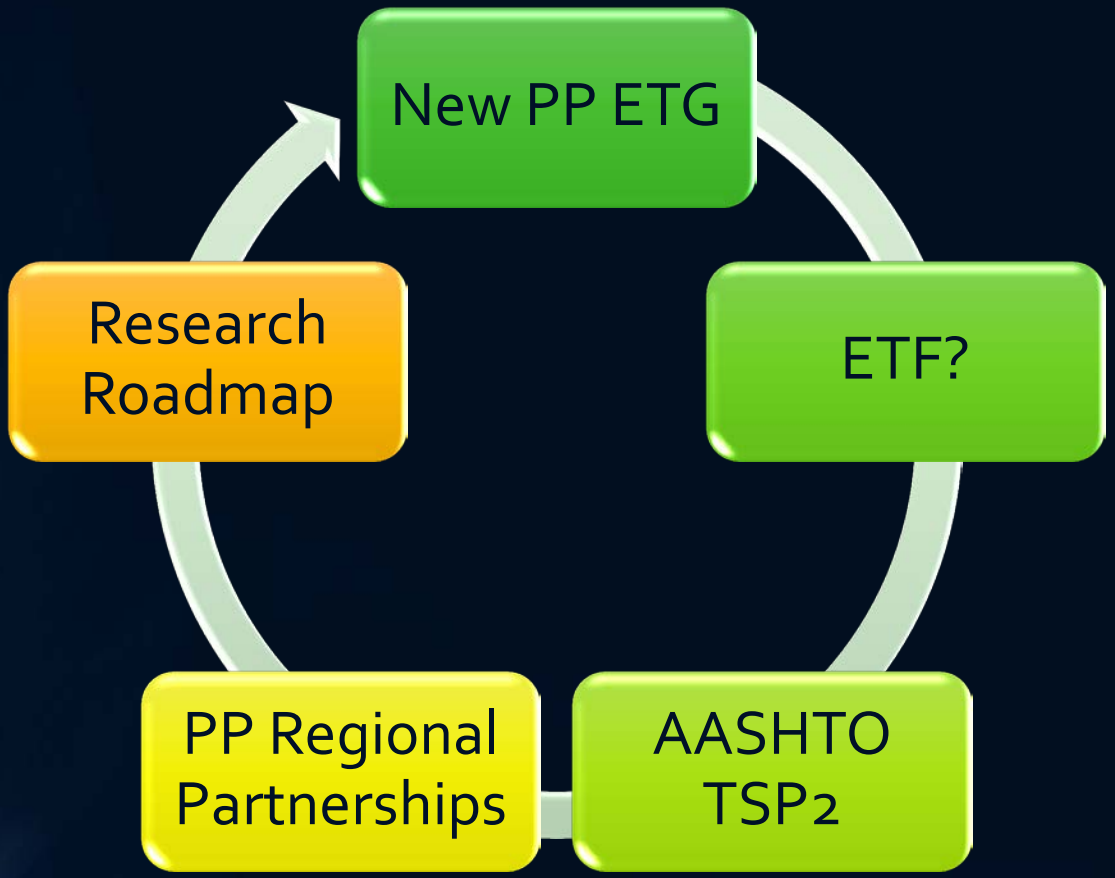
- § 1108. SURFACE TRANSPORTATION PROGRAM.
  - (a) Eligible Projects.--Section 133(b) of title 23, United States Code, is amended–
  - (a)(4)"(1) Construction… and (2) Replacement… preservation included.

Photo source: http://www.artfire.com/

FHWA Pavement Preservation Program…

Emerging Activities

Pavement Preservation Direction



NHI Pavement Preservation Training Series

- FHWA-NHI-131110 TCCC Pavement Preservation Treatments Web-based Series
- FHWA-NHI-131127 TCCC Concrete Pavement Preservation and Rehabilitation Web-based Series
- Web-based Training Still Available free-of-charge @ http://www.nhi.fhwa.dot.gov/default.aspx

PAVEMENT PRESERVATION

Checklist Series

1. Crack Seal Application
2. Chip Seal Application
3. Thin Hot-Mix Asphalt Overlay
4. Fog Seal Application
5. Microsurfacing Application
6. Joint Sealing Portland Cement Concrete Pavements
7. Diamond Grinding of Portland Cement Concrete Pavements
8. Dowel-Bar Retrofit for Portland Cement Concrete Pavements

Home Thin Hot-Mix Asphalt Overlay

U.S. Department of Transportation
Federal Highway Administration

Office of Technical Services

TACK COAT
Best Practices WORKSHOP

RESOURCE CENTER

ASPHALT INSTITUTE

CALENDAR YEAR	LENGTH	CEU	FEE
Starting in 2014	½- Day	Potentially Offered	FREE

CLASS SIZE: Minimum: 20; Maximum: 140

DESCRIPTION

The Federal Highway Administration (FHWA) and Asphalt Institute present *Tack Coat Best Practices Workshop*. The workshop offers owners and contractors the opportunity to find out more about the latest in tack coat technologies and best practices. The workshop provides the most current information on tack coats and emphasizes the importance of providing a long lasting bond between asphalt layers.

TOPICS INCLUDE

- The importance of tack coats
- Common Tack coat grades
- New materials
- Application rate and temperatures
- Field testing
- Tack coat specifications
- Construction best practices
- Surface preparation and traffic control

OUTCOMES

At the conclusion of the workshop, participants will be able to:

- Identify best practices for constructing tack coats.
- List strategies that could be employed by agency decision-makers to improve the usage of tack coats.
- Identify resources for implementing best practices into standard practice.

Who Can Benefit?

- *Specification writers*
- *Project inspectors*
- *Contractors & Staff*
- *Material Suppliers*

The successful adoption of these improvements will need to be a team effort; therefore both agencies and contractors are the target audience.

For more information about the workshop in your area, please contact:

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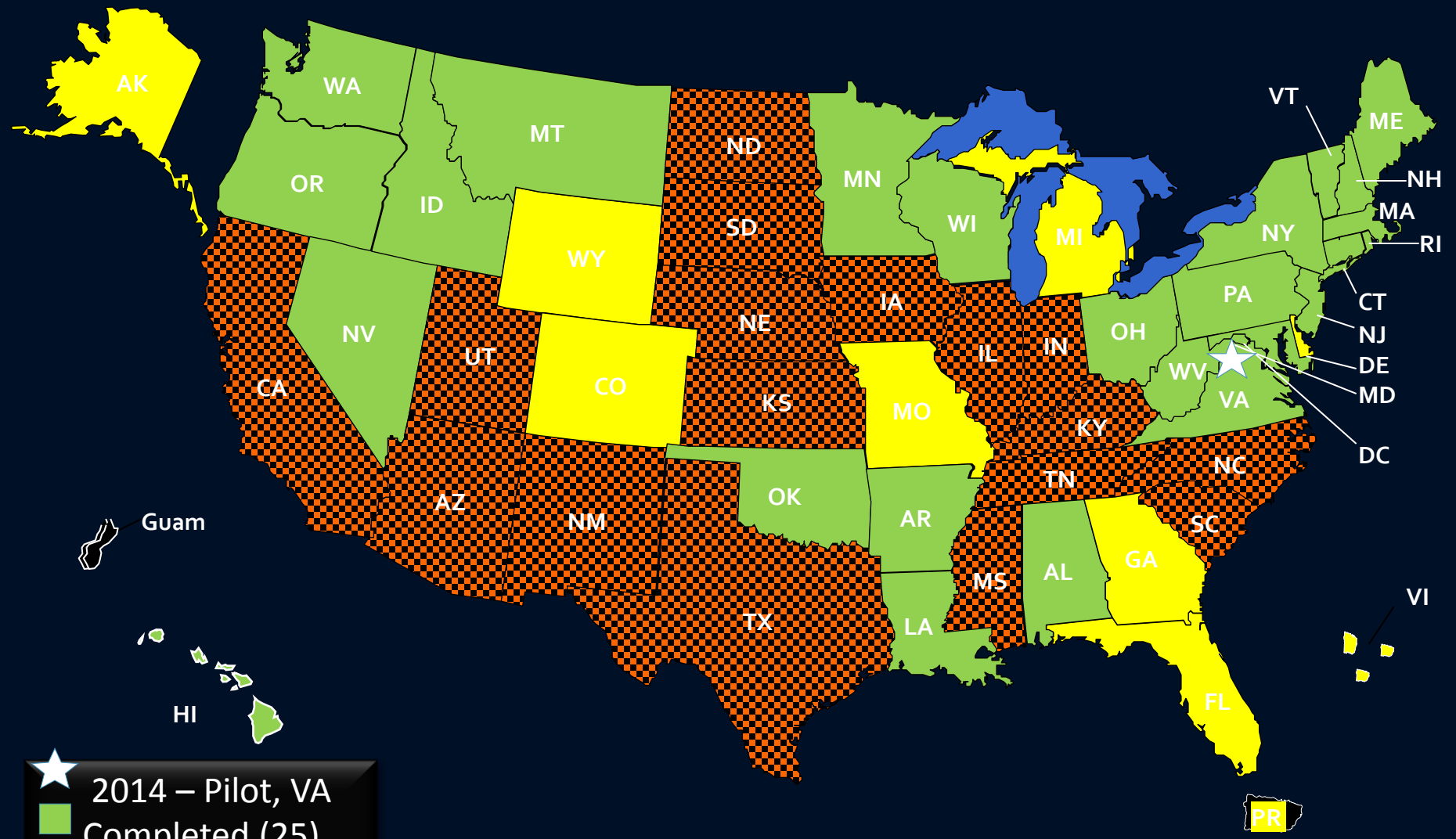
Pavement & Materials

Tack Coat Workshops



Questions?

Thank You