

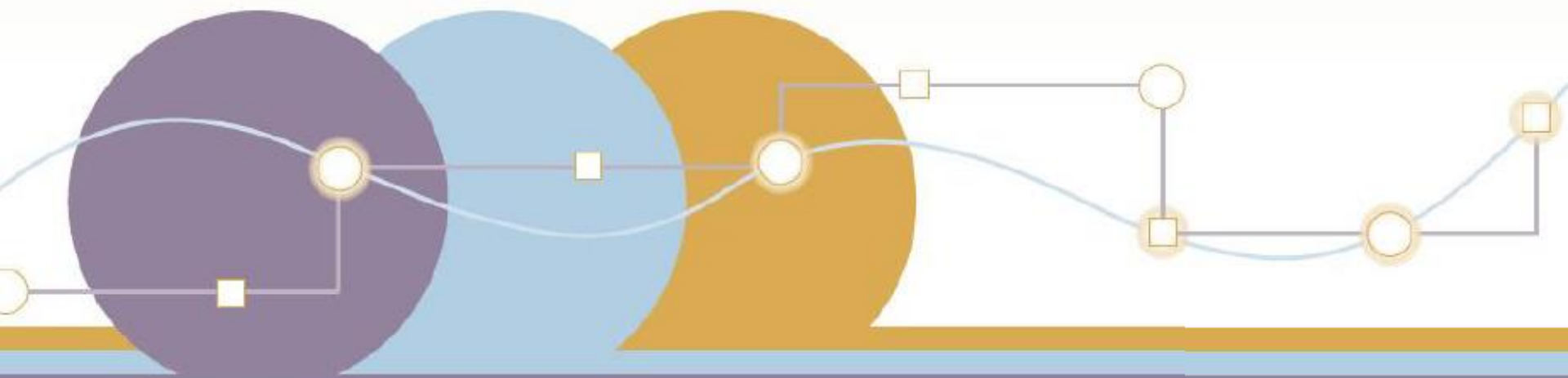
# Implementation of MAP-21 Performance Provisions

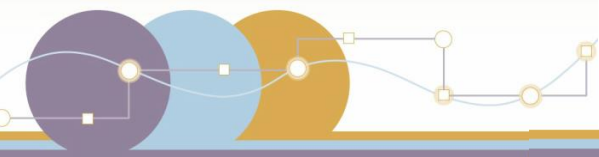
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*A Focus on Pavement Condition and Asset Management*

Pavement Evaluation 2014

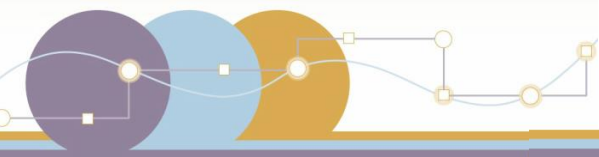
Federal Highway Administration  
September 15, 2014





***How is performance  
incorporated into MAP-21  
and how will regulations be  
implemented?***





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

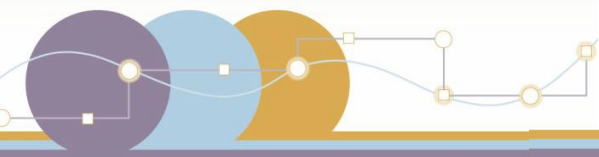
### **Performance Management**

#### **Will:**

- transform the Federal 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



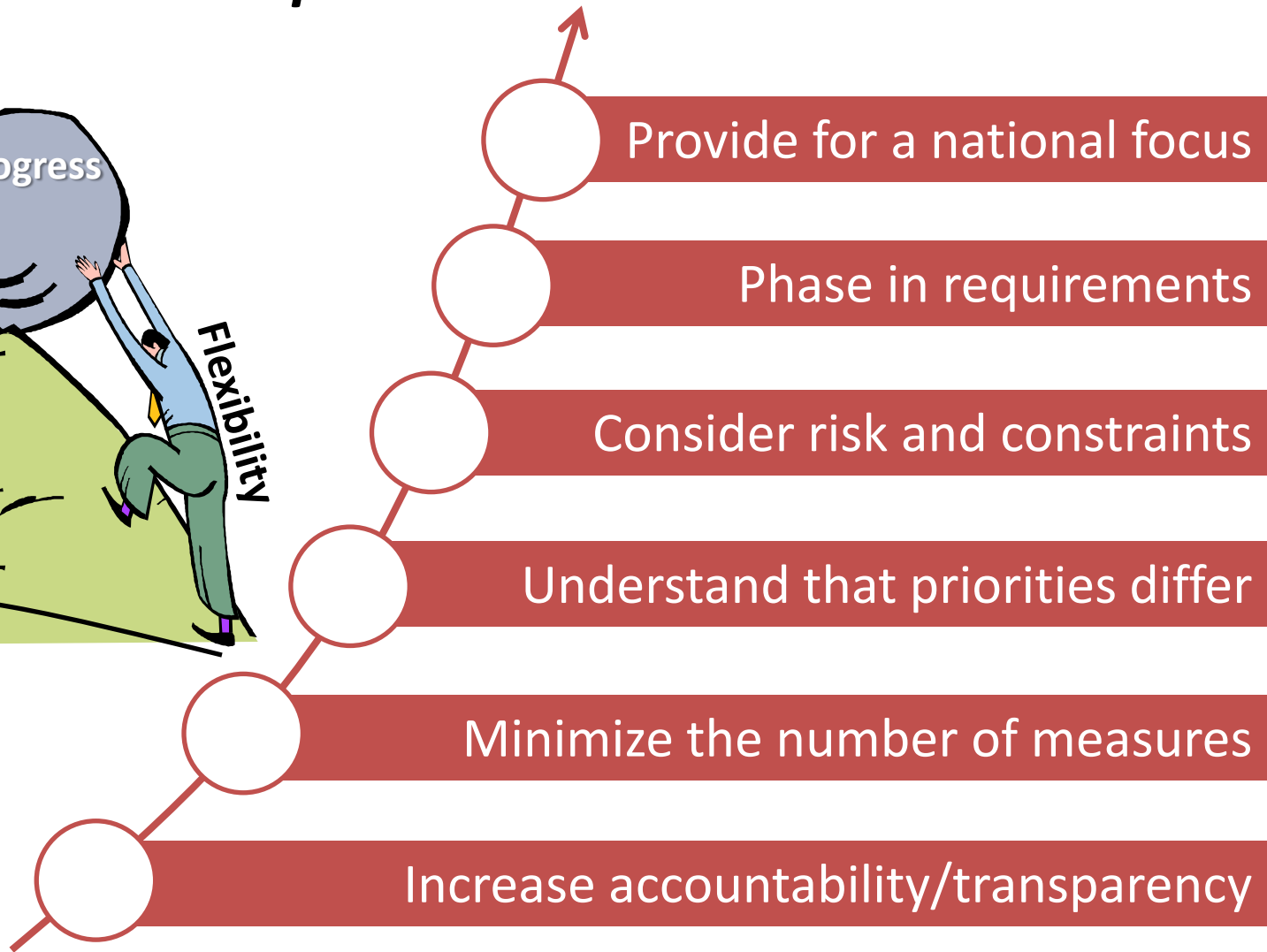
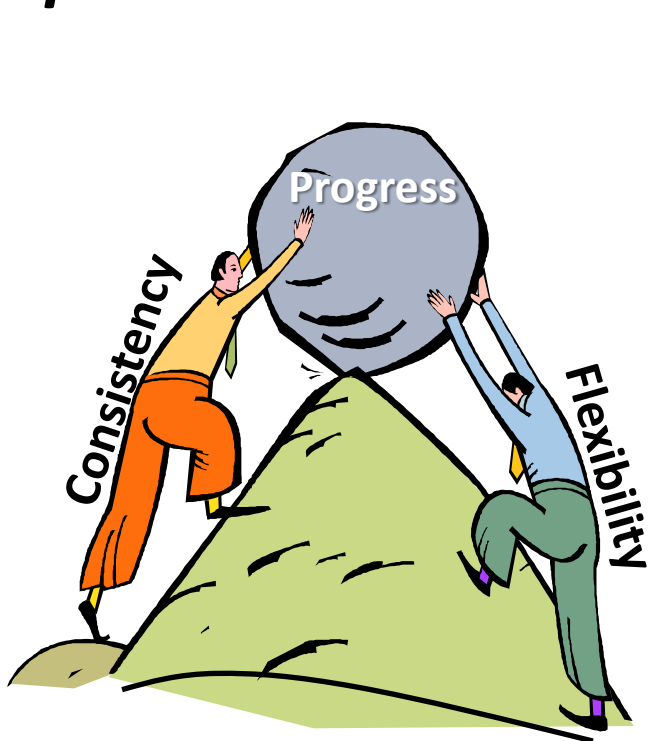
## MAP-21 Background-Performance Elements

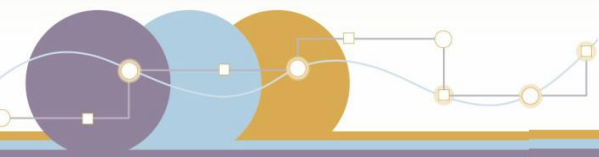
- ***National Goals***
- ***Measures***
- ***Targets***
- ***Plans***
- ***Reports***
- ***Accountability and Transparency***



[www.fhwa.dot/map21](http://www.fhwa.dot/map21)

## Implementation Principles

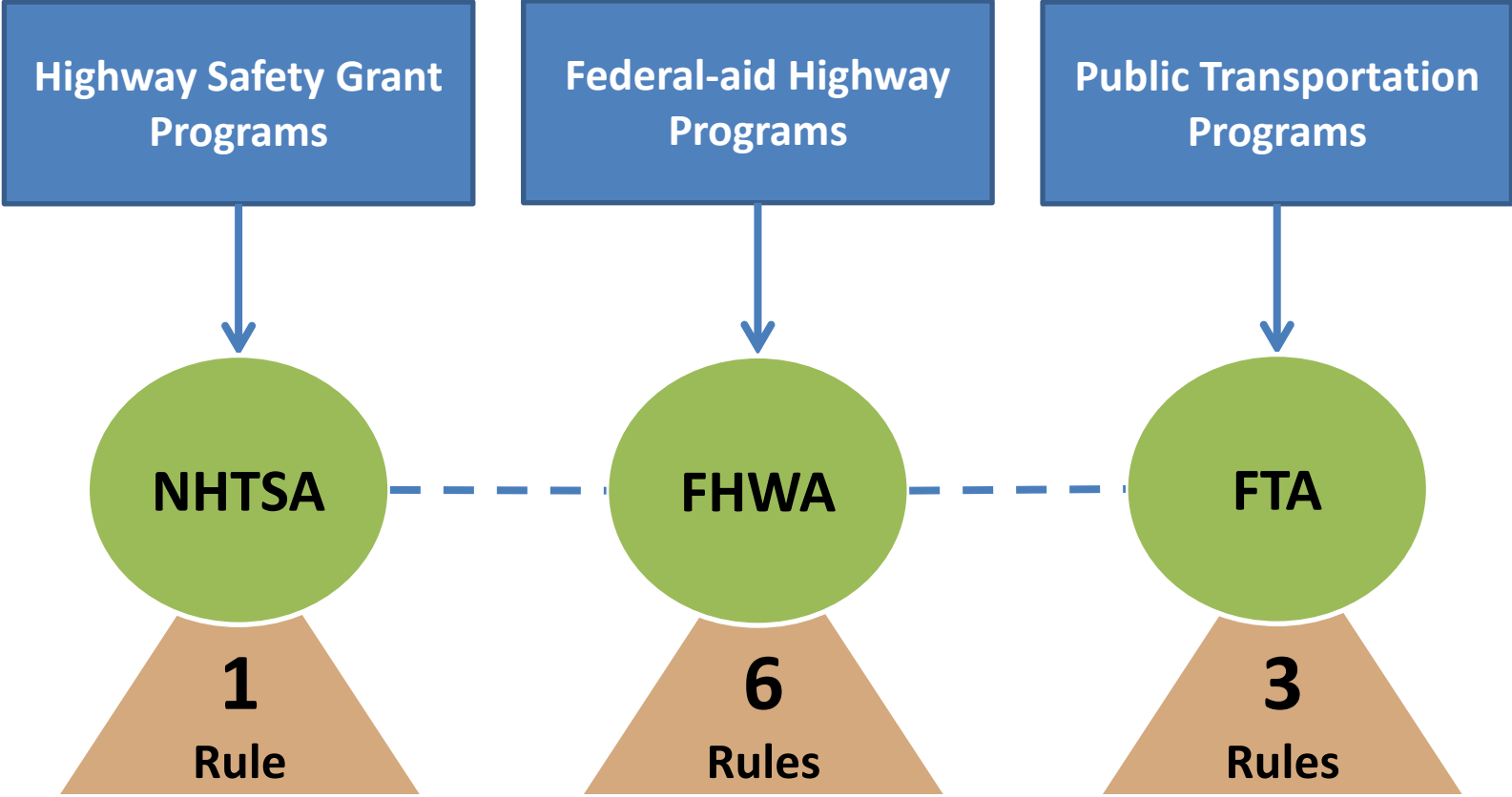


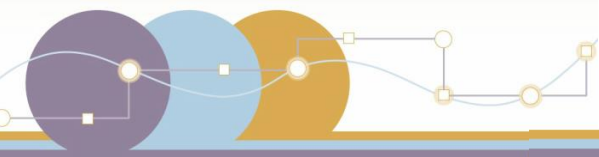


## *USDOT Performance Measure Areas*

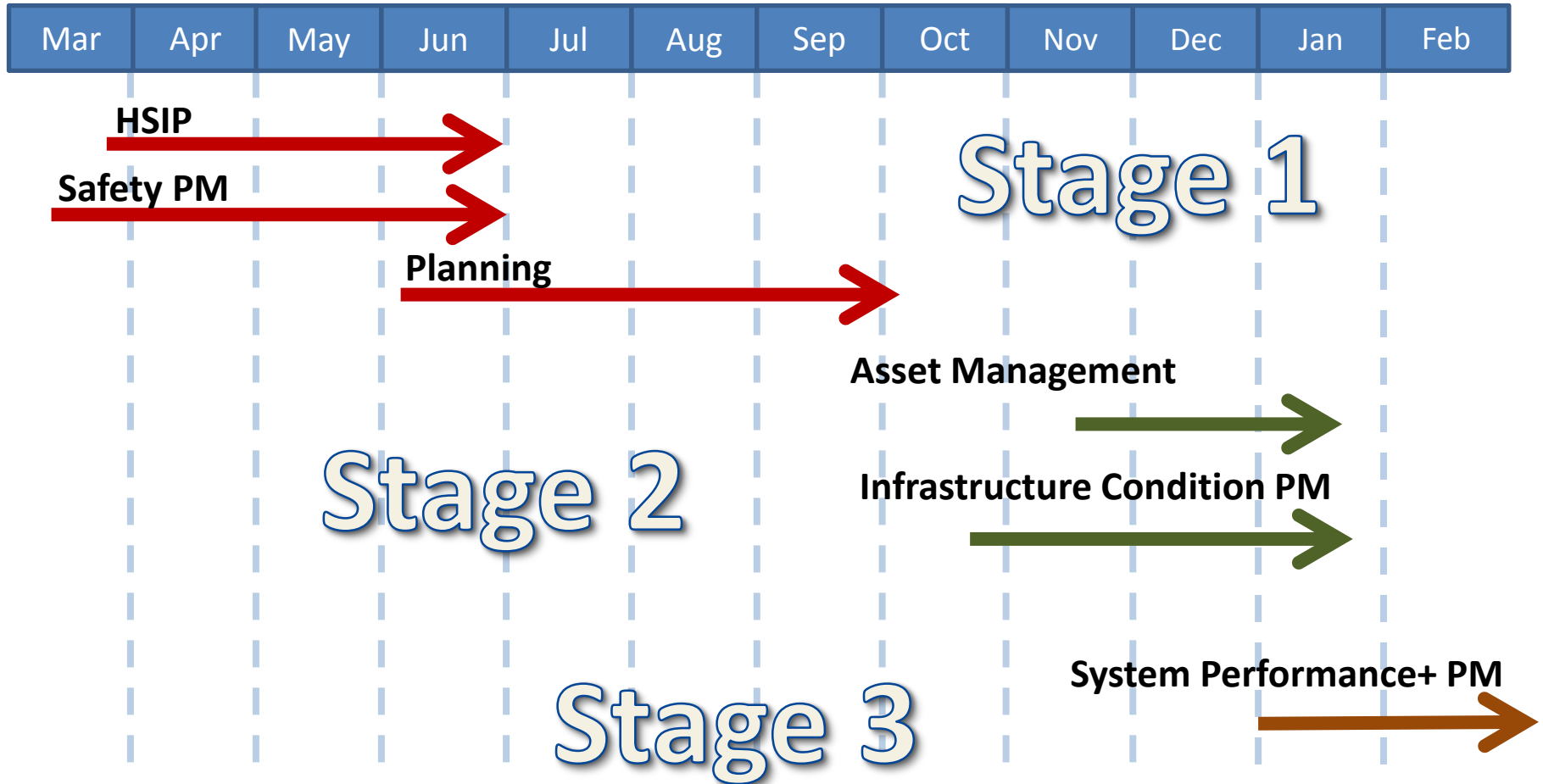
- Highway Safety
- Pavement Condition
- Bridge Condition
- System Performance
- Traffic Congestion
- On-road Mobile Source Emissions
- Freight Movement on the Interstate
- Transit State of Good Repair
- Transit Safety Criteria

## 10 Inter-related Rulemakings

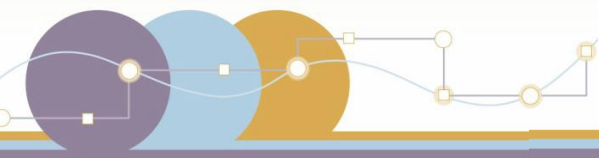




## FHWA Proposal Comment Periods – 2014 & 2015





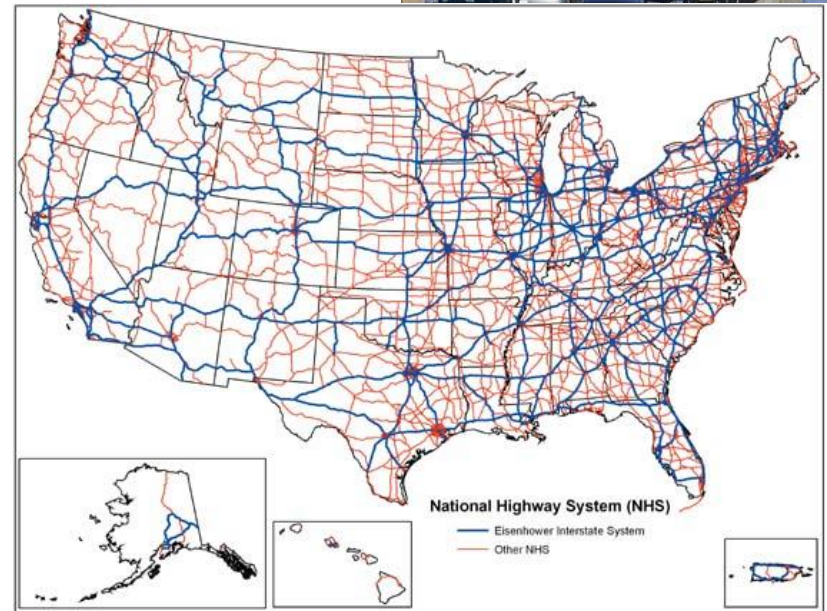


***What is the current state of pavements on the National Highway System?***

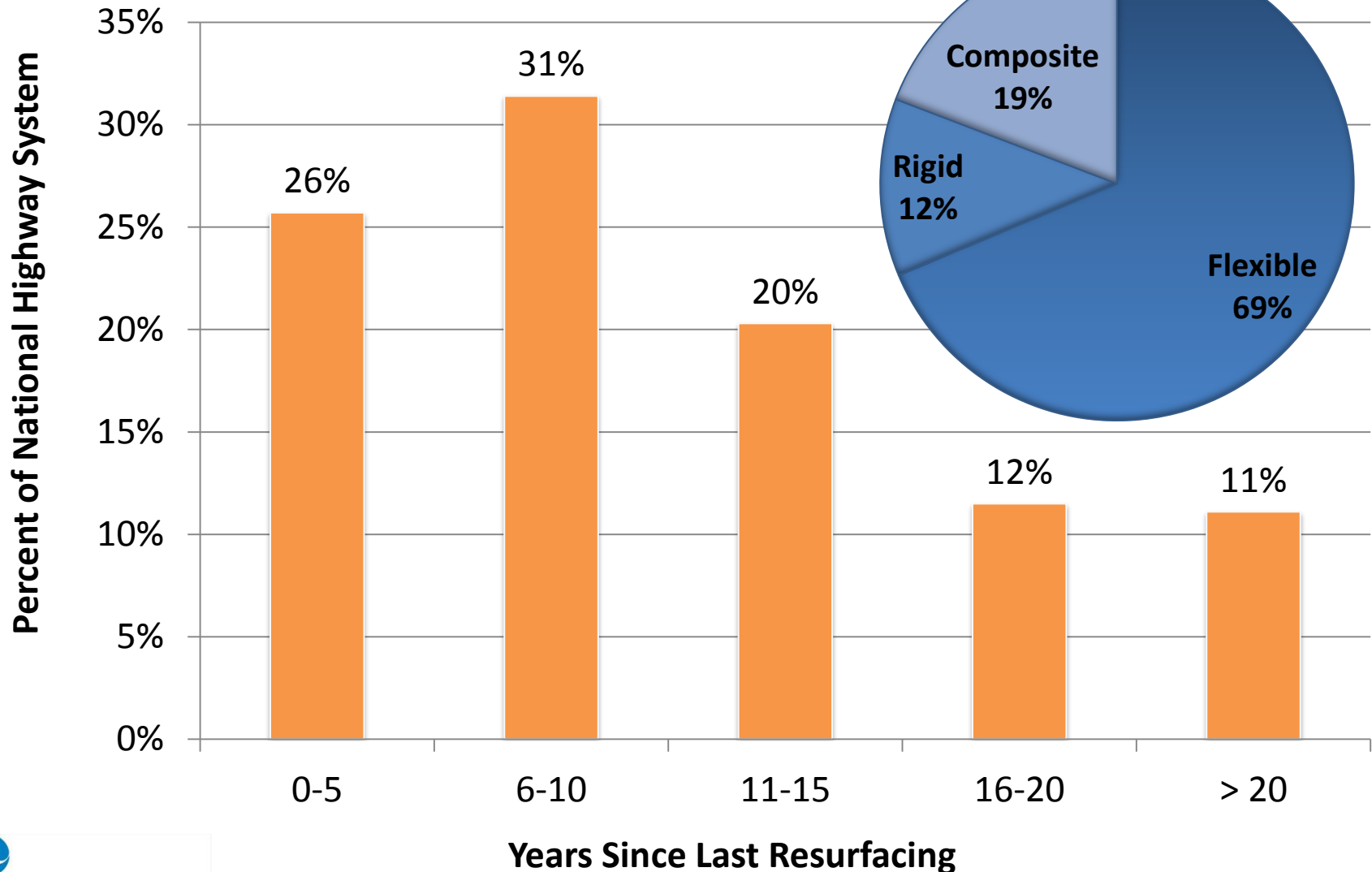


## *National Highway System*

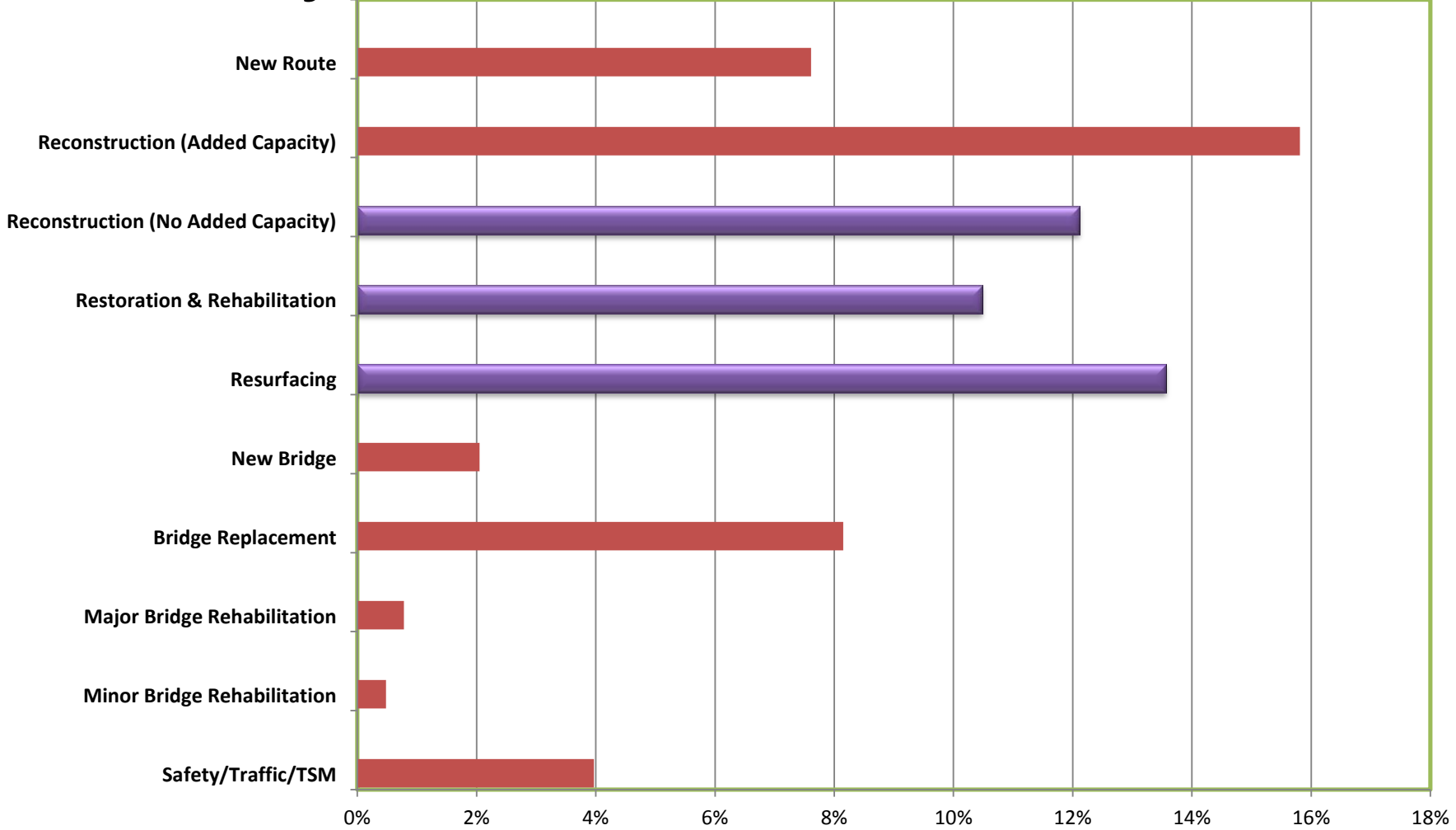
- Expanded by MAP-21
  - Interstate System and Other Principle Arterials
  - Strategic Highway Network and Major Connectors
  - Intermodal Connectors
- Facts
  - 223,000 miles
  - 771,000 lane-miles
  - 88% State owned
  - 5.4% US mileage
  - 55.0% total travel



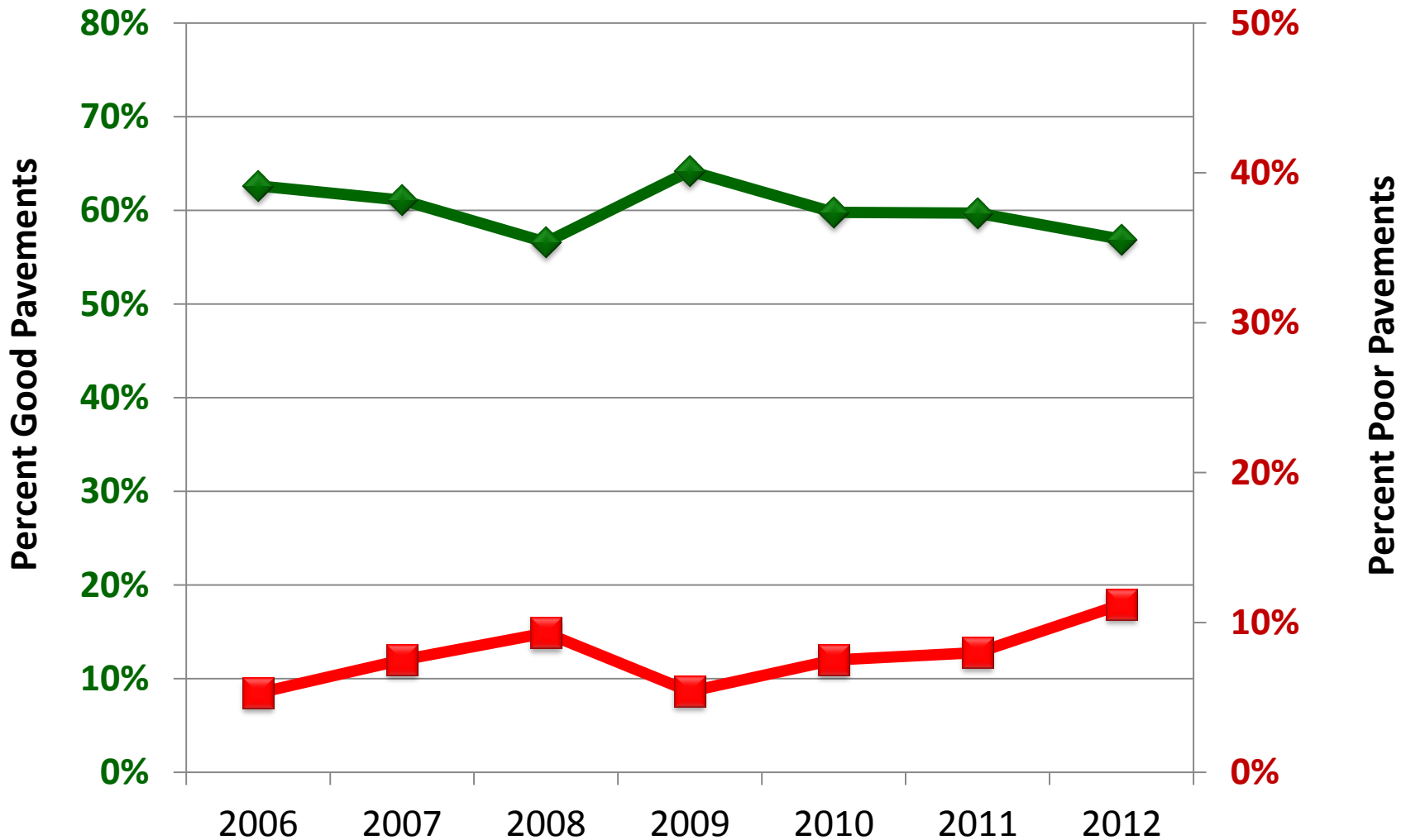
## Most Recent Resurfacing



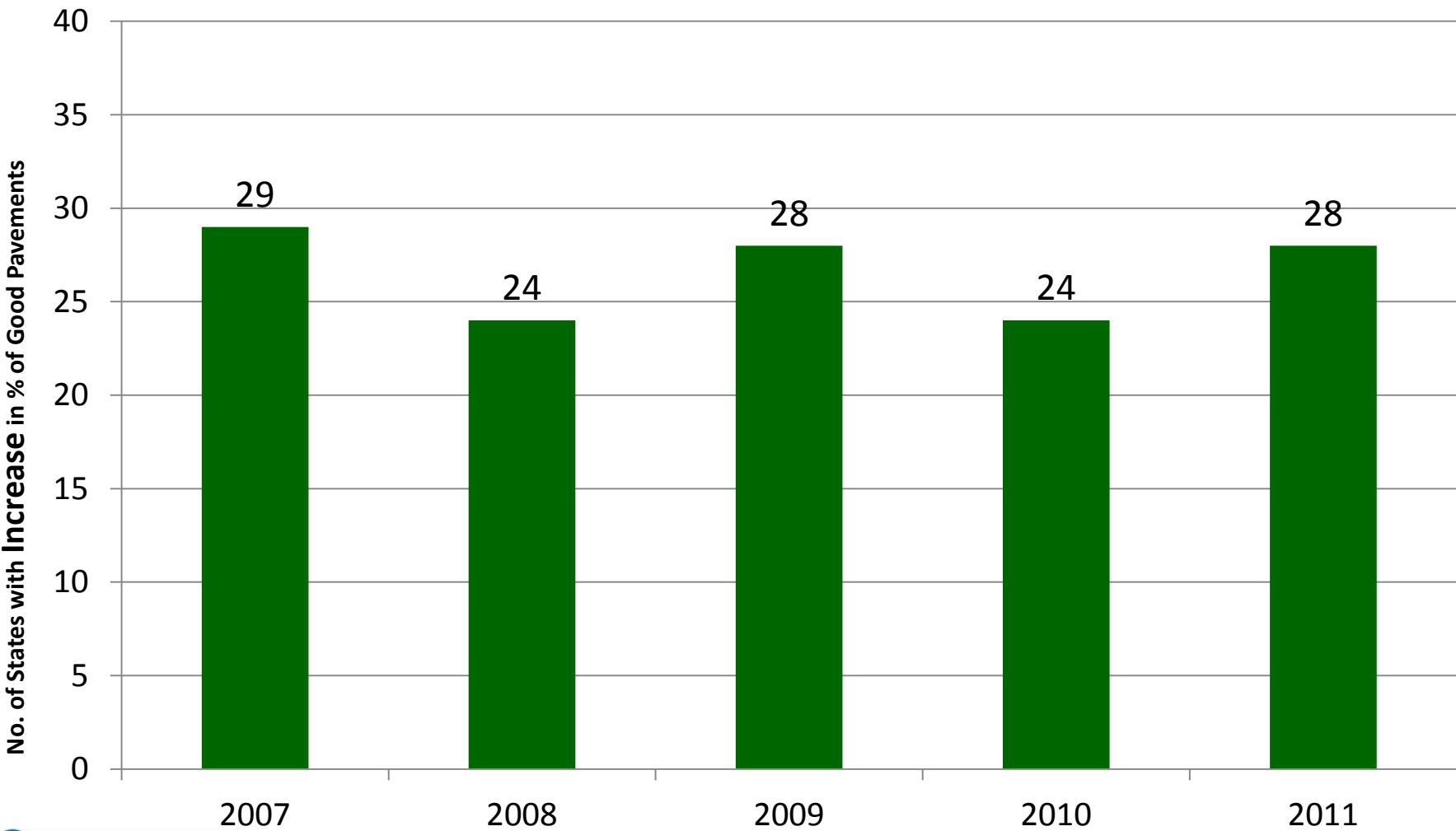
## Allocation of Federal Funds on NHS



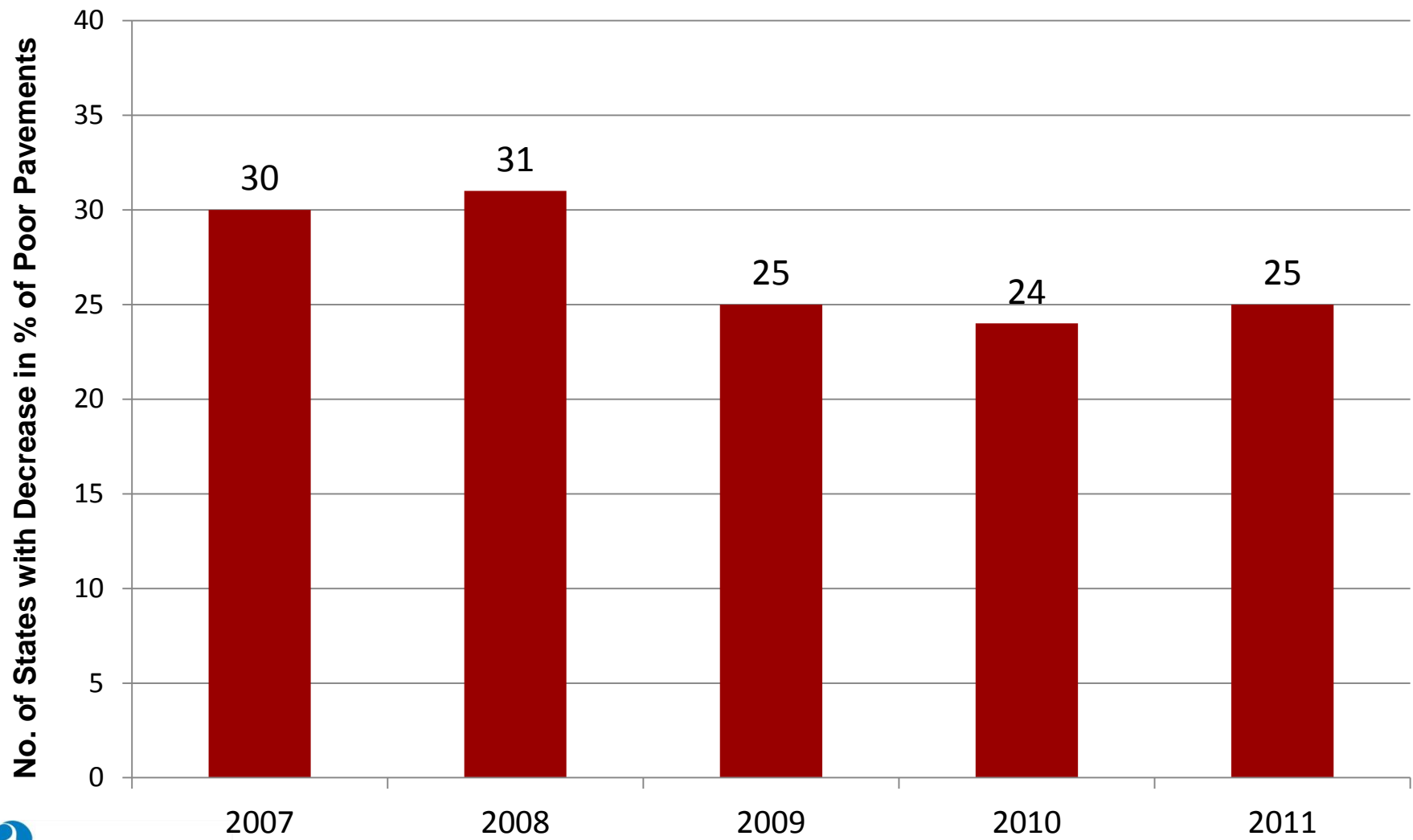
## NHS Performance Trends

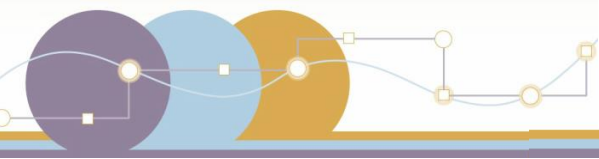


## Annual Improvement – Good Pavements



## Annual Decrease in Poor Condition

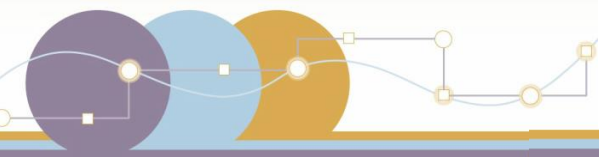




***How are we addressing the challenges in establishing a national pavement measure?***







## *Pavement/Bridge Performance Elements*

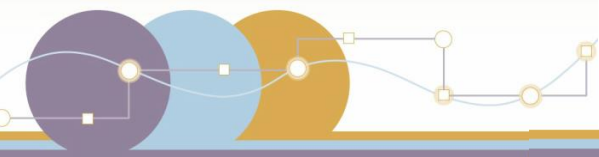
Interstate and NHS

Focus on Condition

State and MPO Targets

NHS Asset Management Plan

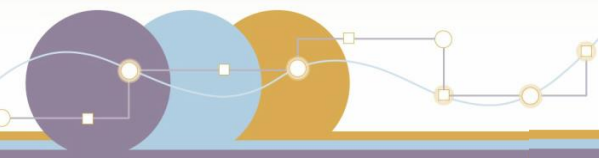
Target Achievement and Minimum Condition Req,



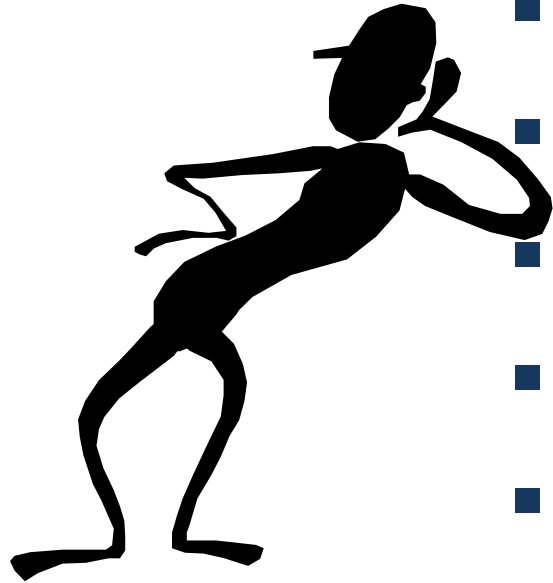
## *Challenges and Considerations*

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

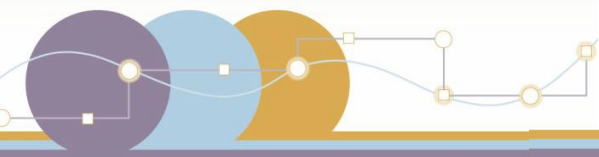




## *What Did We Hear?*

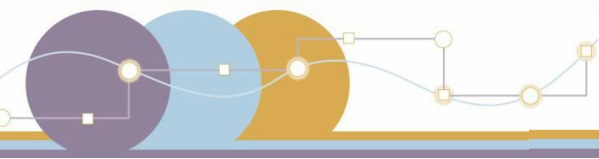


- Burden on States and MPOs
- Avoid a “Worst-First” Approach
- Consistency and Flexibility
- Pavement Condition Suggestions
- Bridge Condition Suggestions
- NHS Expansion
- Existing Data Sources



## *Pilot Studies Conducted*

- **1<sup>st</sup> Pilot Study - 2010**
  - Objective – Evaluate how 3 states report pavement and bridge performance for the same corridor
  - Corridor – I-95 in DE, MD, and VA
- **2<sup>nd</sup> Pilot Study - 2011**
  - Objective – Test out Tier 1 and 2 approaches to report pavement and bridge condition for the same corridor
  - Corridor – I-90 in WI, MN, and SD



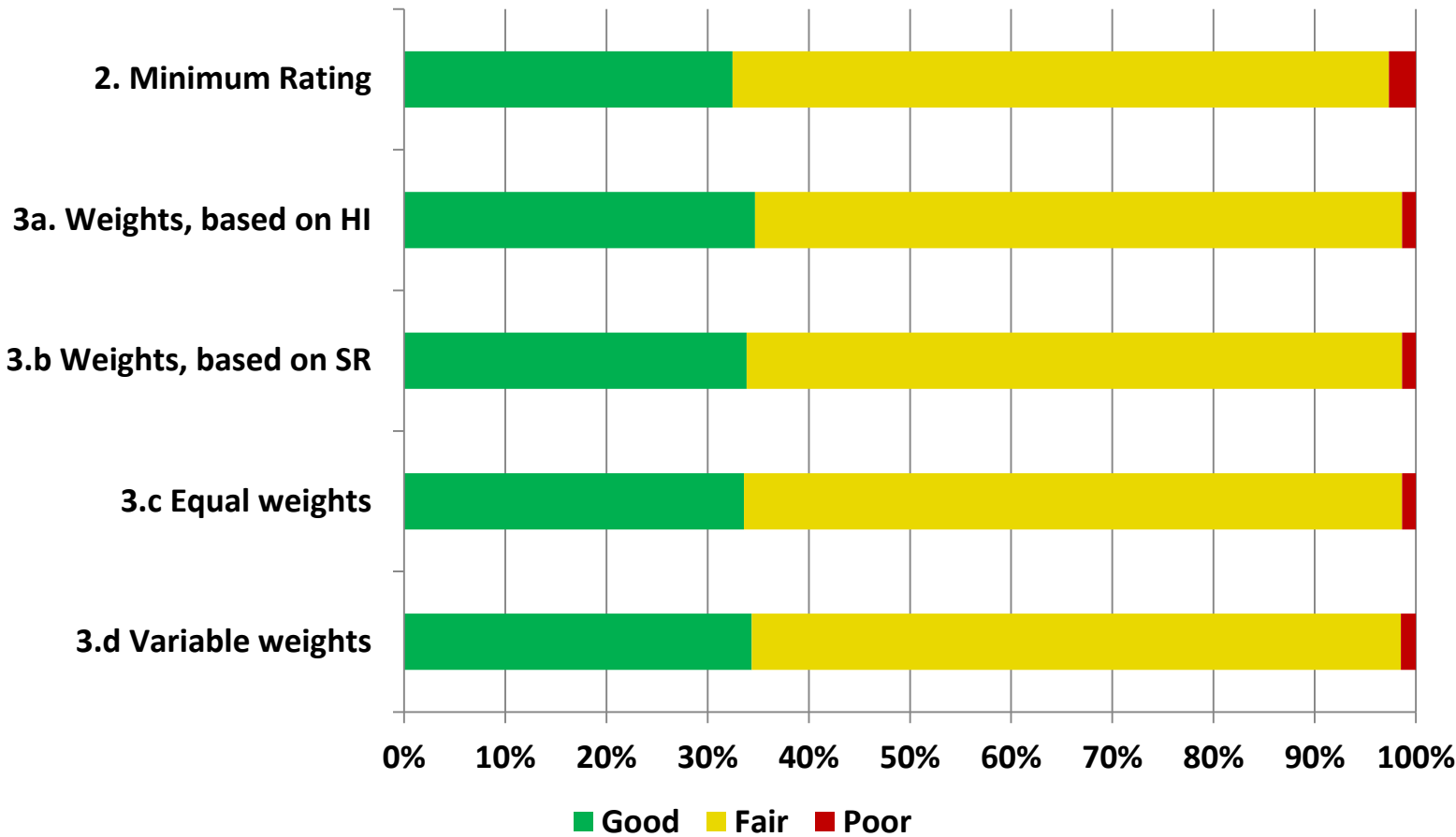
## *I-90 Study - Approach*

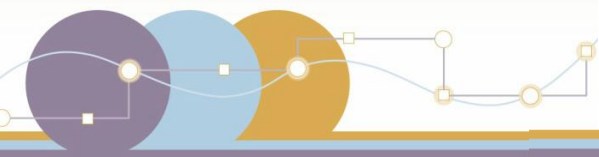
- Select a three-state pilot corridor
- Collect data sets
  - Federal data for pavements and bridges
  - State pavement data
  - Field collection for pavement data
- Compare data and measures
- Identify issues and recommend improvements



## I-90 Bridge Conditions - Metrics

- Structurally deficient – 3%

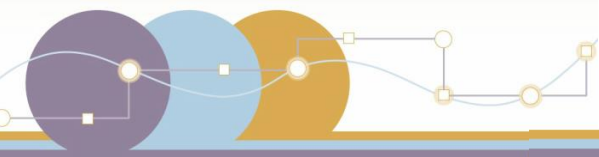




## *Pavement Measure Evaluation*

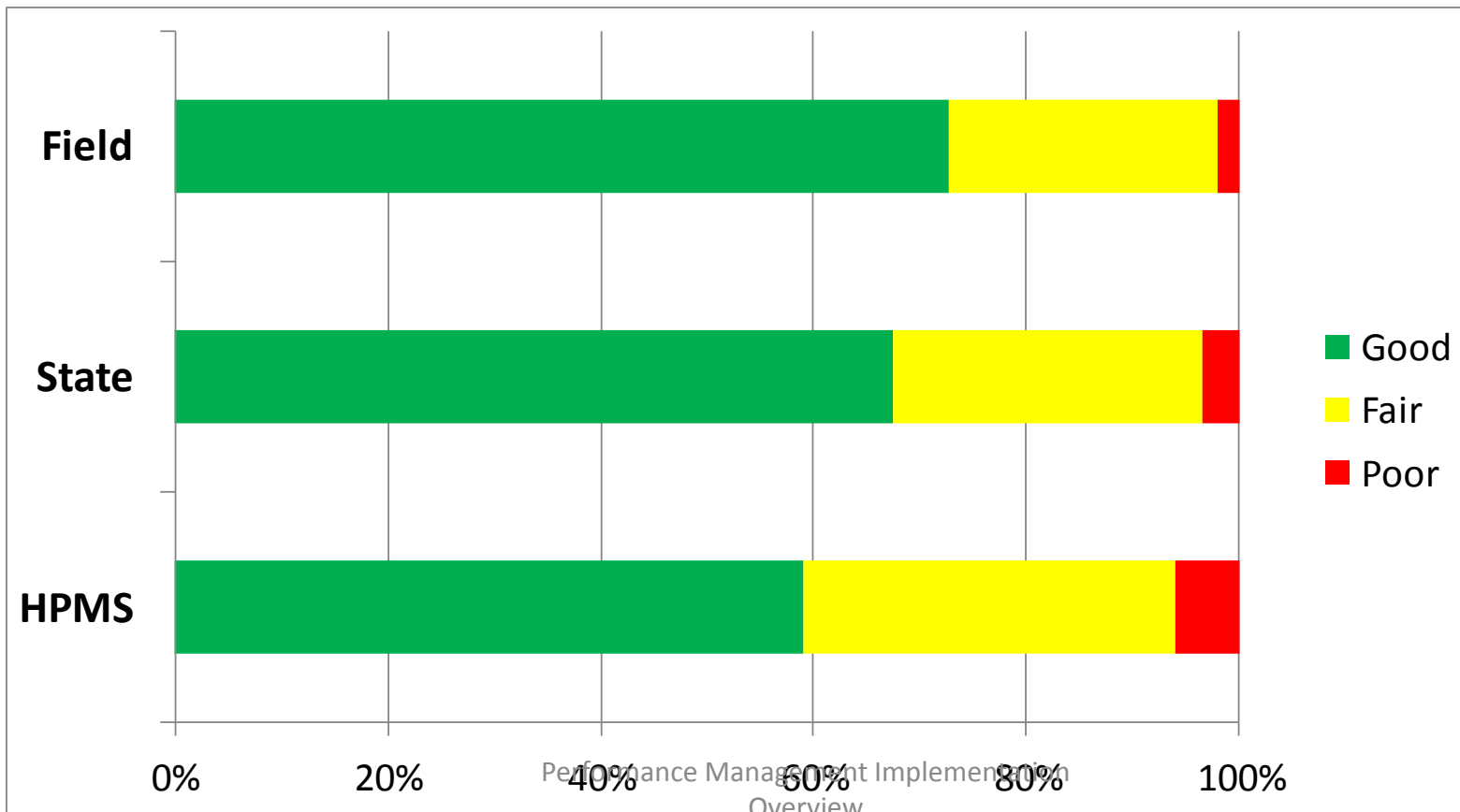
- Evaluate Different Data Sources
  - State Database
  - HPMS Database
  - Field Collected Data
- Evaluate Different Methods
  - Tier 1 – IRI based approach
  - Tier 2 – Composite Condition approach
  - Tier 3 – Structural Measurement approach



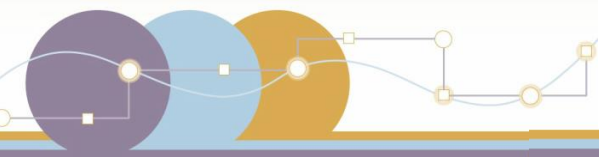


## IRI Comparison – Summary

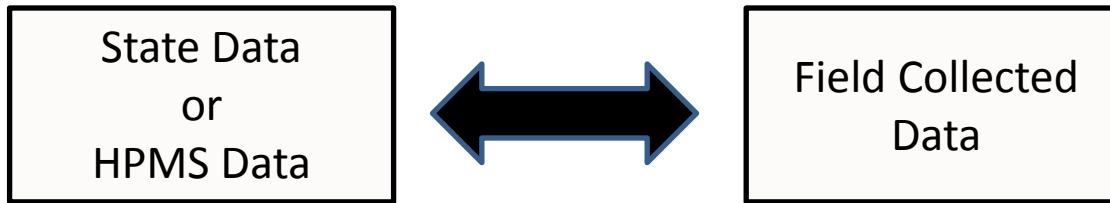
Do HPMS, state, and field data collection methods tell us the same thing?



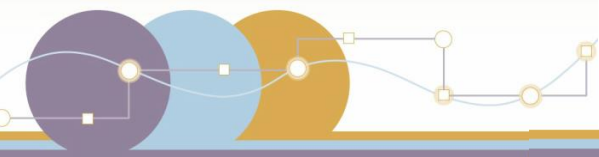




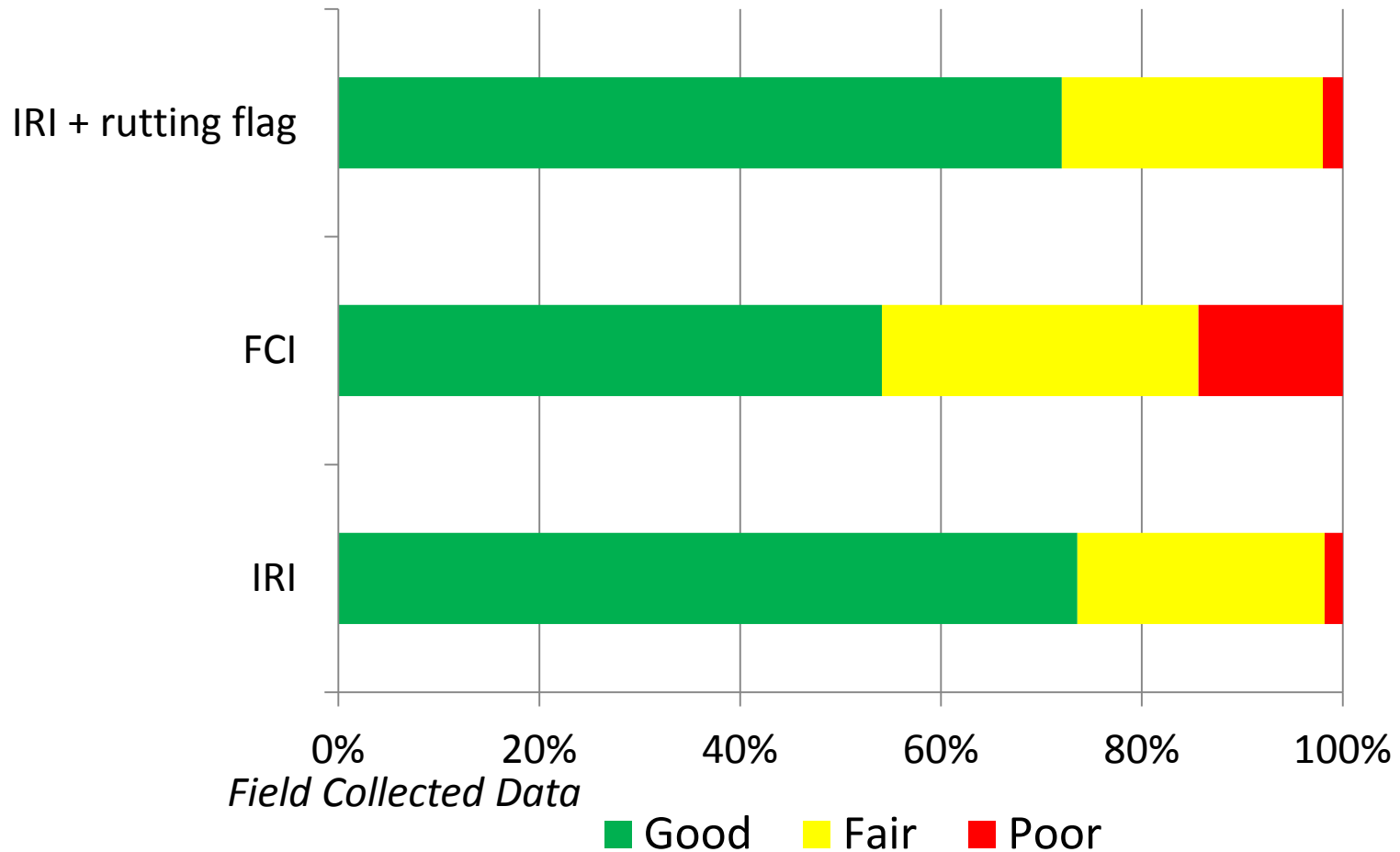
## *Composite Data Element Comparison*

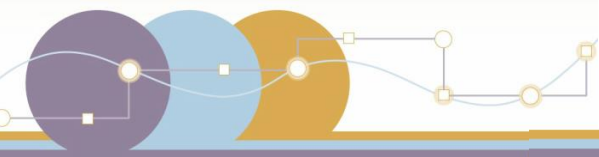


Element	Confidence in Data
IRI	High
Cracking %	Low/Med
Cracking Length	Low
Rutting	High
Faulting	Low



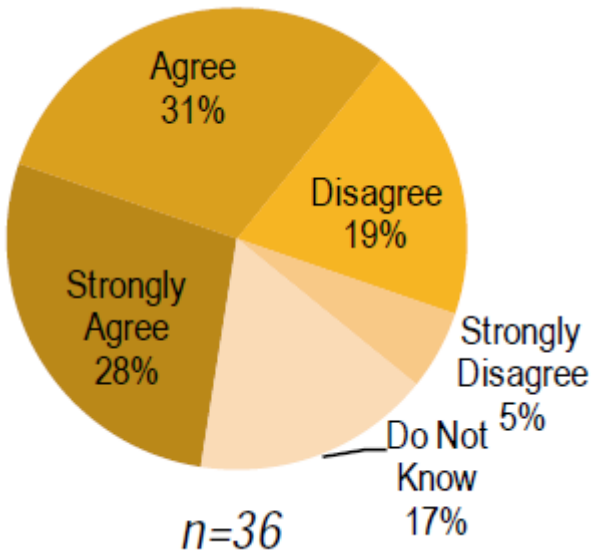
## Comparing Good/Fair/Poor Options



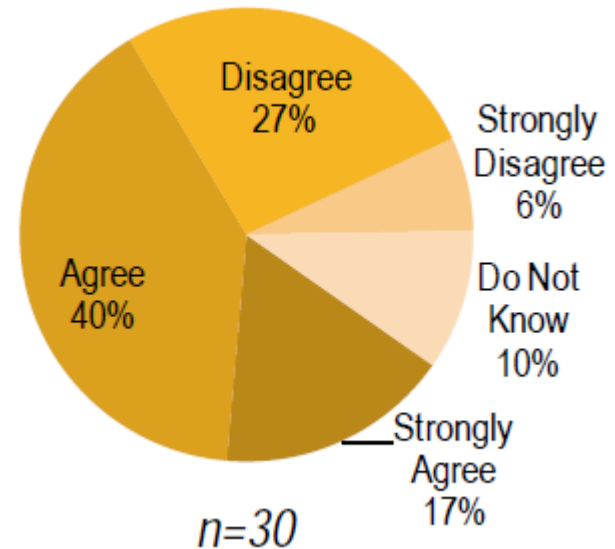


## NCHRP 20-24(82)

HPMS represents data used to make project selection decisions

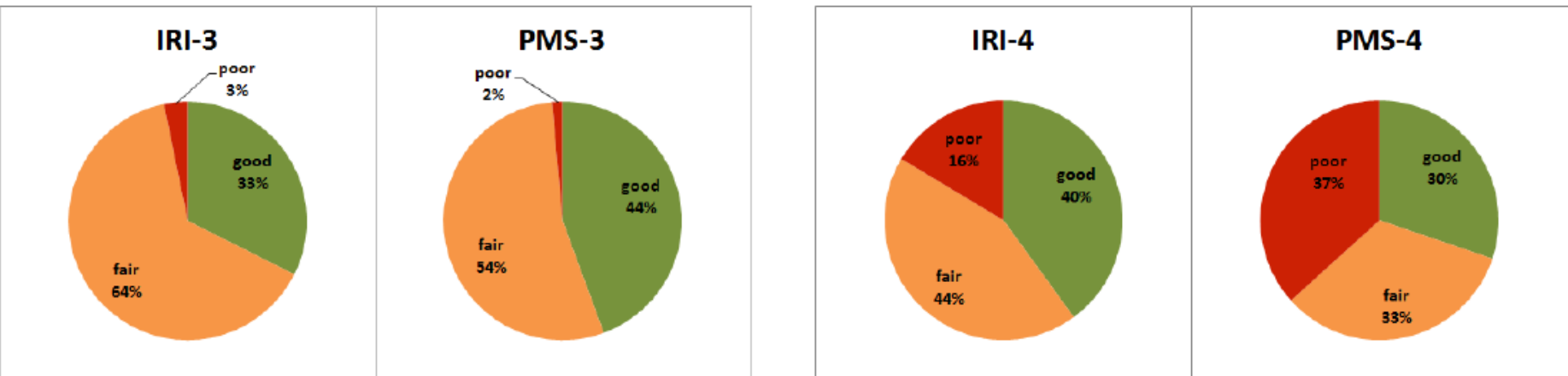
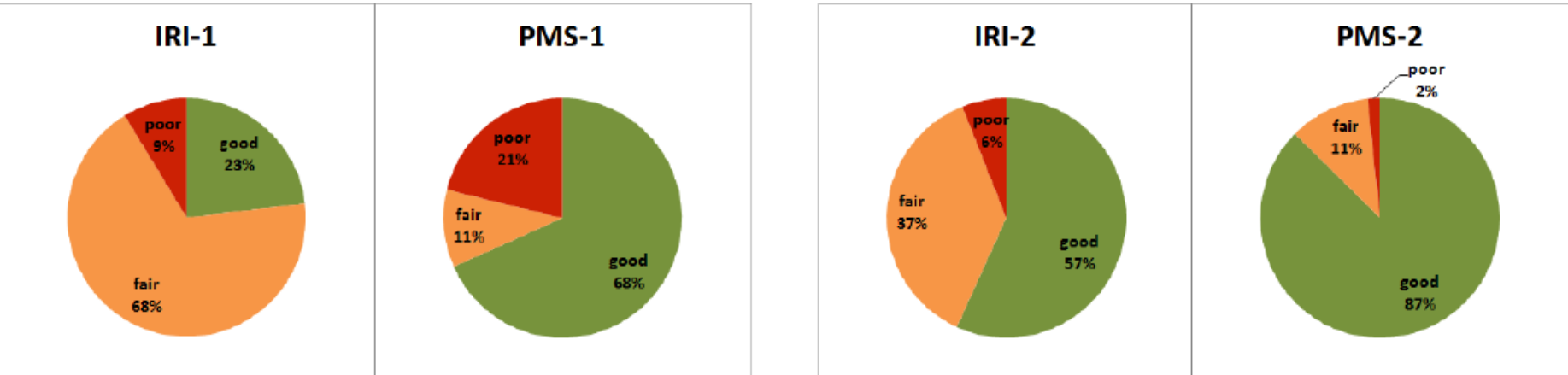


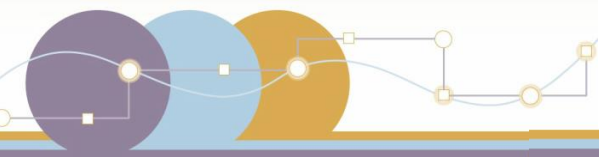
HPMS Staff



PMS Staff

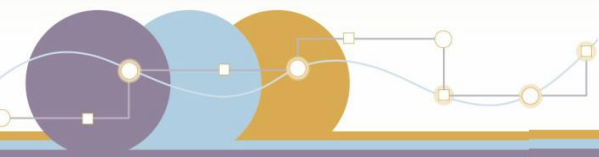
## NCHRP 20-24(82) Comparison of Metrics





***How are we addressing the  
Asset Management  
requirements in MAP-21?***



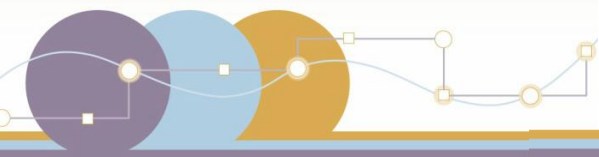


## ***What Is Asset Management?***

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.... (23 U.S.C. 101(a)(2), MAP-21 § 1103)

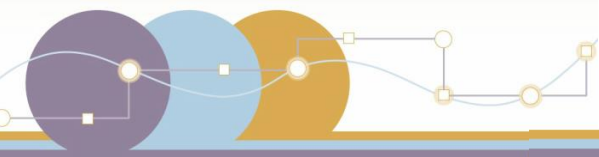
### **NHS Plan**

- Inventory, condition, risk, financial plan, investment strategies
- Leads to a program of projects
- Process certified every 4 years



## ***FHWA Initiatives***

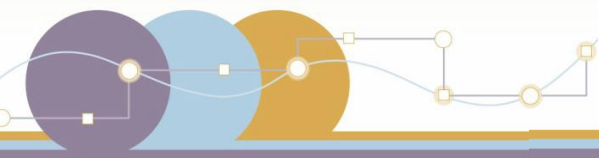
- Pilot Project: Development of Risk-based Transportation Asset Management Plans
  - Louisiana, Minnesota, New York State DOTs
- Transportation Asset Management Expert Task Group
  - a forum to discuss changes in the way highway agencies are managing assets



## *Resources Are Available*

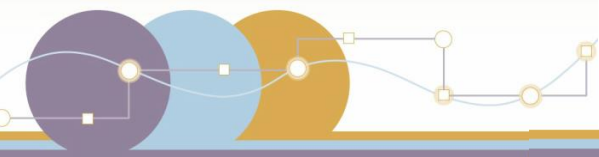
- FHWA Asset Management Website  
<http://www.fhwa.dot.gov/asset/index.cfm>
- NHI Transportation Asset Management Training Course
- AASHTO Asset Management Guide – A Focus on Implementation
- AASHTO Asset Management Subcommittee
- TRB Asset Management Committee





***What other resources are available now?***





## *TPM Related Initiatives*

- Surface Distress & Pavement Profiler Pooled Funds
- Pavement Data Quality Project
- Let's Talk Performance Webinars
- Performance-based Planning Workshops/Guides
- Travel Time Dataset
- Safety Target Setting
- Improving Transportation Operations
- Technical Assistance Program and Training

[www.fhwa.dot.gov/tpm](http://www.fhwa.dot.gov/tpm)

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TPM and MAP-21 | Engagement | Resources | Events

## Transportation Performance Management

FHWA > Transportation Performance Management

**Delaware Valley Regional Planning Commission:  
Utilizing Investment Scenarios  
to Enhance Transportation Performance**

DVRPC Utilizing Investment Scenarios  
The DVRPC has found that tracking their performance progress is vital to maintaining a strong transportation system. (.pdf, 0.5 mb)

- MAP-21 Putting Performance into Action
- Notice of Proposed Rulemaking (NPRM)
- DVRPC Utilizing Investment Scenarios
- TPM Digest

### TPM and MAP-21

- What is TPM?
- National Goals
- MAP-21 Performance Requirements Summary
- MAP-21 Putting Performance into Action (.pdf, 1.3 mb)
- Implementation Schedule
- Notices of Proposed Rulemaking

### Engagement

- Rulemaking Stakeholder Engagement
- Readiness Stakeholder Engagement
- Reporting
- TPM Community of Practice

### Resources

- Apply for P2P Technical Assistance
- Noteworthy Practices
- Presentations and Webinars
- Publications
- Tools
- TPM Digest April 2014 **NEW!**

### Email Notification

- Subscribe to email updates

### News and Events

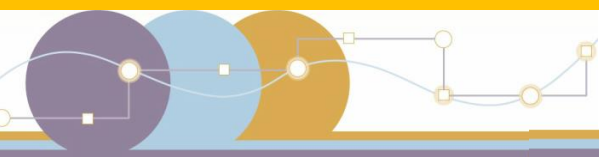
- 2014 Rail Conference June 15 - 18, 2014
- Data Palooza Session Recordings (May 9, 2013)
- View all TPM Events

PDF files can be viewed with the [Acrobat® Reader®](#)

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Federal Highway Administration

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***Submit comments to:***

**www.regulations.gov**

*Safety PM Docket Number:*

**FHWA-2013-0020**

<http://www.regulations.gov/#!docketDetail;D=FHWA-2013-0020>

*HSIP Docket Number:*

**FHWA-2013-0019**

<http://www.regulations.gov/#!docketDetail;D=FHWA-2013-0019>

*Planning Docket Number:*

**FHWA-2013-0037**

<http://www.regulations.gov/#!docketDetail;D=FHWA-2013-0037>

