

Implementation of MAP-21 Performance Provisions

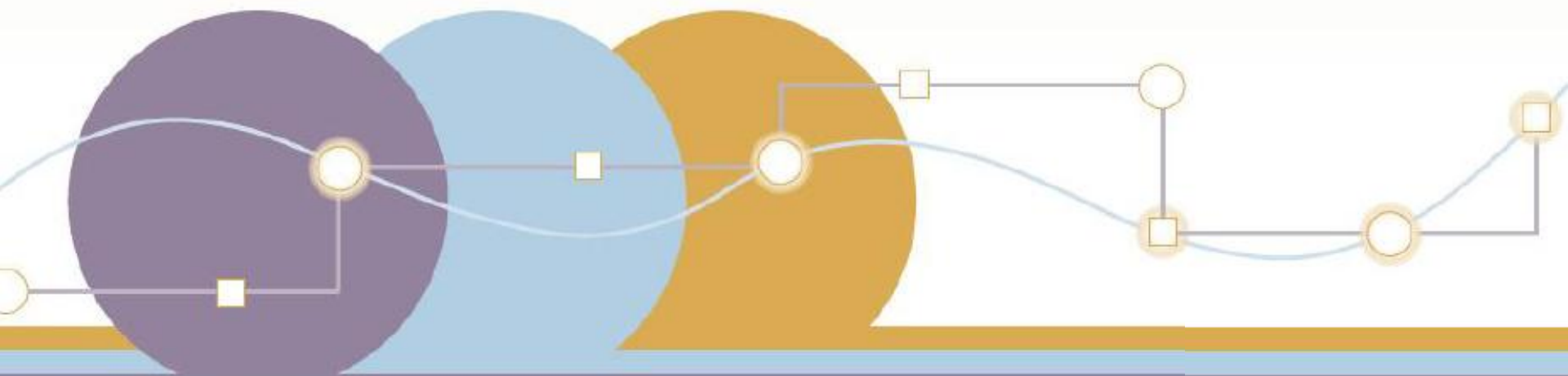
An Overview of the Pavement/Bridge Performance Measures NPRM and the Asset Management Plan NPRM

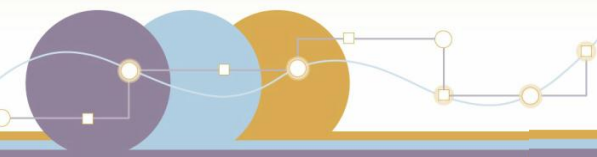
WASHTO Subcommittee on Materials & Construction

San Antonio, Texas

March 23, 2015

Thomas Van, FHWA



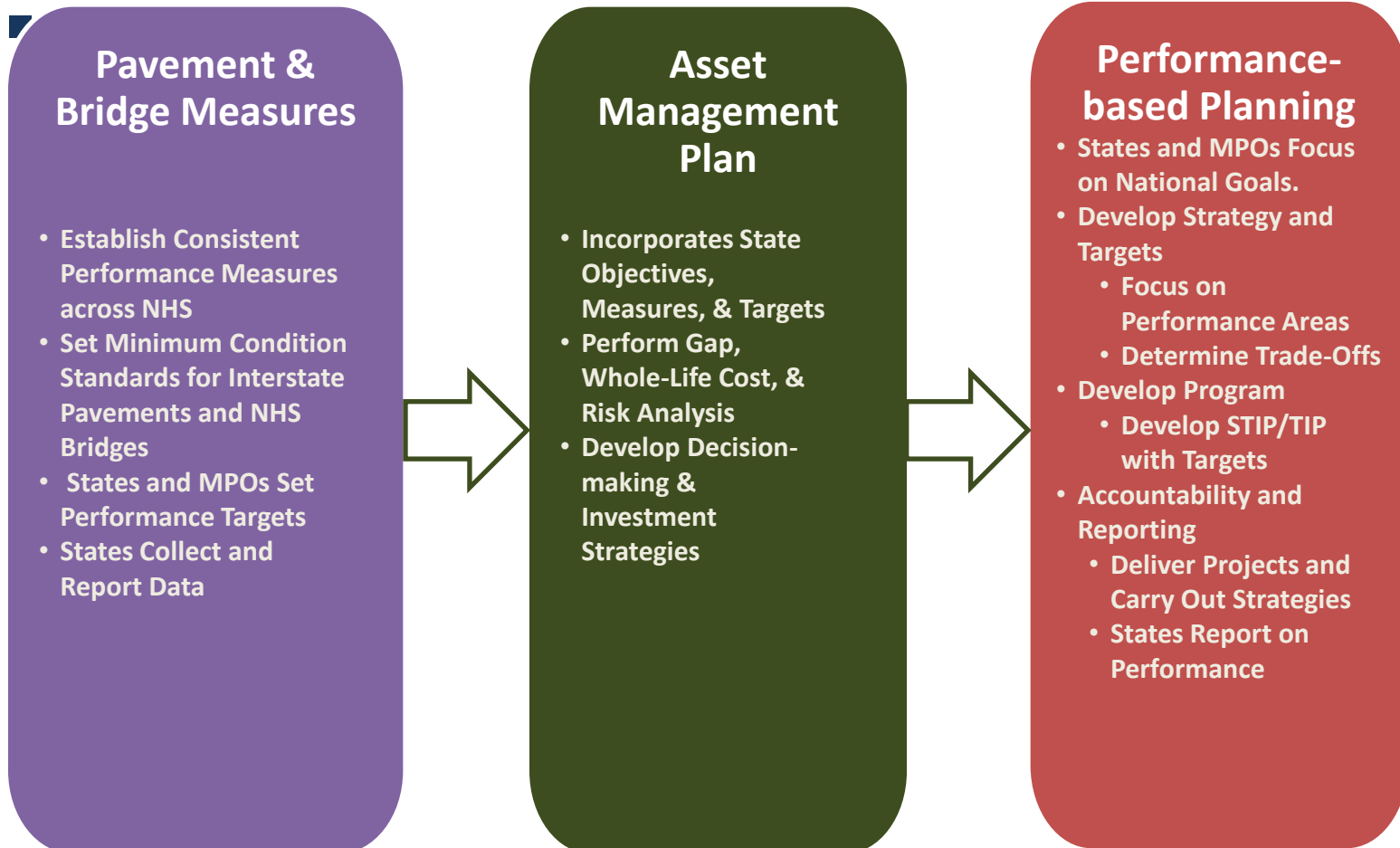


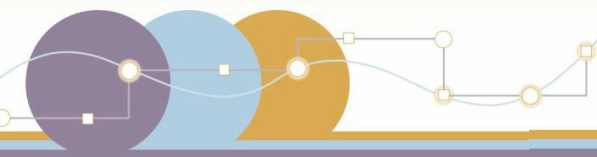
MAP-21 FHWA Performance Rulemaking Schedule

Performance Area	NPRM	Comments due
FHWA:		
Safety Performance Measures	March 11, 2014	<u>Closed</u> June 30, 2014
Highway Safety Improvement Program	March 28, 2014	<u>Closed</u> June 30, 2014
Statewide and Metro Planning; Non-Metro Planning	June 2, 2014	<u>Closed</u> October 2, 2014
Infrastructure Condition Performance Measures	January 5, 2015	<u>Open</u> until May 8, 2015
Highway Asset Management Plan	February 20, 2015	<u>Open</u> until April 21, 2015
System Performance Measures	Projected July 2015	90 days



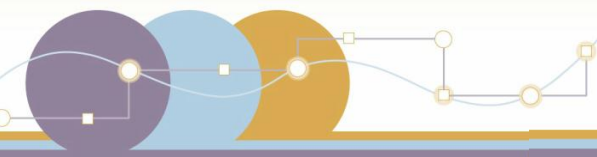
Putting It All Together





National Performance Management Measures for Assessing Pavement Condition (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



Relationship between Data Requirements, Pavement Metrics, and Performance Measures

Data Requirements

- Type of data to be collected
- Methods of data collection
- Extent and frequency of collection

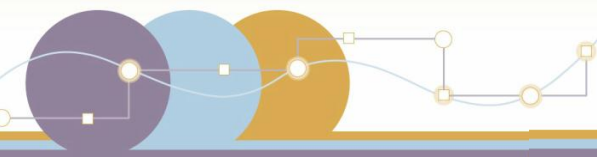
Pavement Metrics

- Calculated using collected data
- Based on sections of highway pavement
- Reported in the HPMS

Pavement Measures

- Calculated using metrics reported in the HPMS
- Used by States to report the condition of Interstate System and non-Interstate NHS





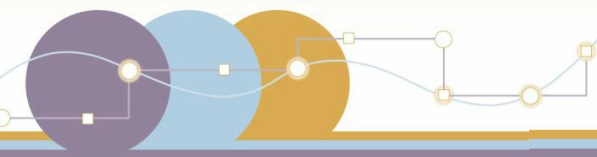
HPMS Data Collection and Reporting Requirements (490.309)

Proposed Changes to HPMS



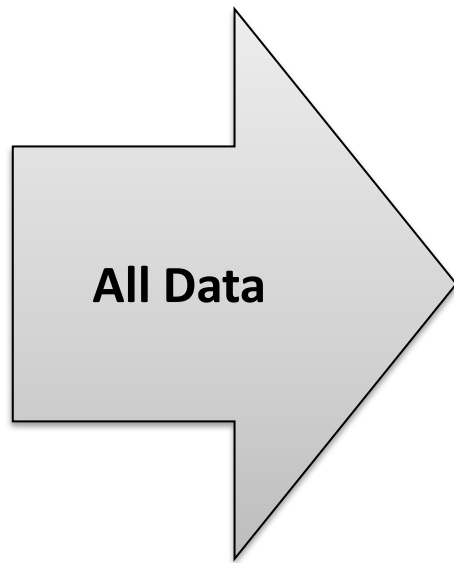
IRI, Cracking,
Rutting,
Faulting

- **Full Extent (All Measurements)**
- **2 Directions on Interstate**
- **Requires 0.1 Mile Uniform Sections**

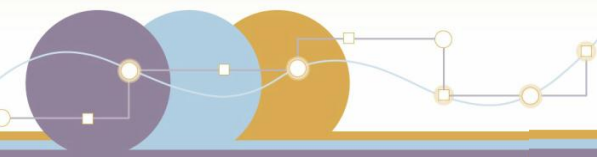


HPMS Data Collection and Reporting Requirements (490.309)

Proposed Changes to HPMS (continued)



- **Interstate due April 15,
Annually**
- **Non-Interstate NHS due June 15
Every 2 years**

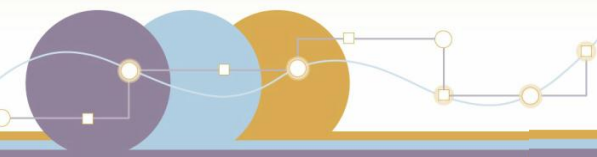


HPMS Data Collection and Reporting Requirements (490.309)

Challenge!! Missing data...

Proposal:

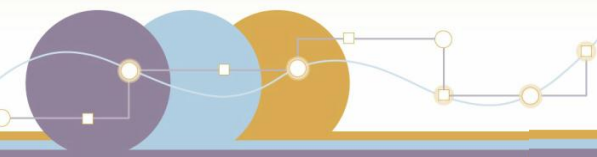
Missing Data = “Poor” Condition



Pavement Condition Thresholds

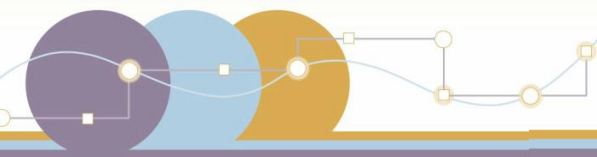
	Good	Fair	Poor
IRI (inches/mile)	<95	95-170 95-220*	>170 >220*
Cracking (%)	<5	5-10	>10
Rutting (inches)	<0.20	0.20-0.40	>0.40
Faulting (inches)	<0.05	0.05-0.15	>0.15

*Urbanized Population >1M



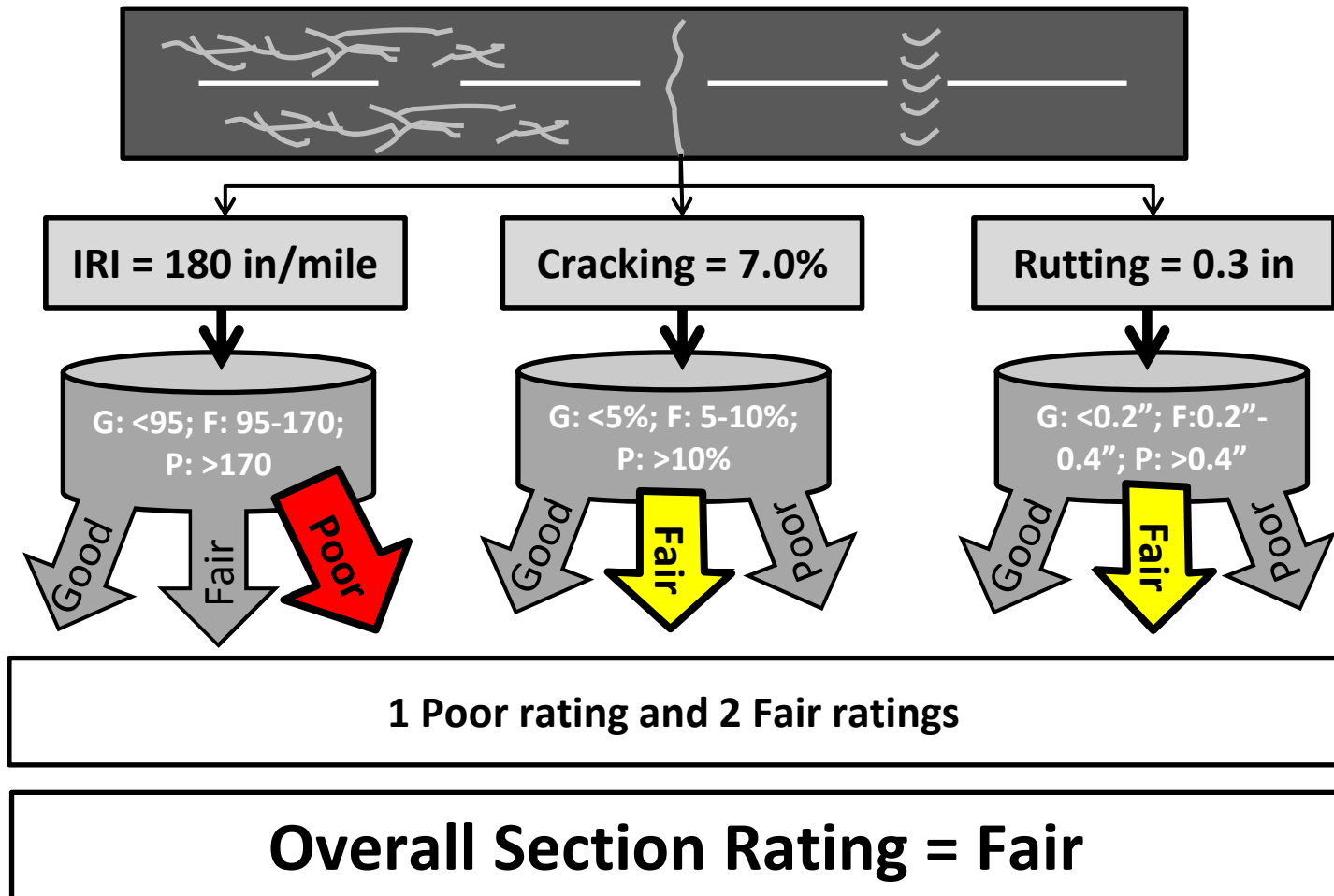
Calculation of Pavement Measures (490.313)

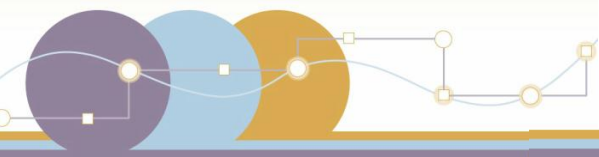
Overall Section Condition Rating	3 metric ratings (IRI, cracking and rutting/faulting)	Measures
Good	All three metrics rated "Good"	percentage of lane-miles in "Good" condition
Poor	≥ 2 metrics rated "Poor"	percentage of lane-miles in "Poor" condition



Pavement Metric Rating Example

Example for an asphalt surfaced Interstate section located in a rural area





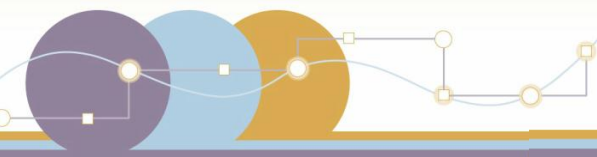
Minimum Condition and Penalties for Pavements (490.315 and 490.317)

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



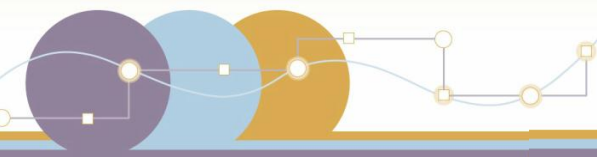


NHS Bridge Condition Performance Measures (490.407)

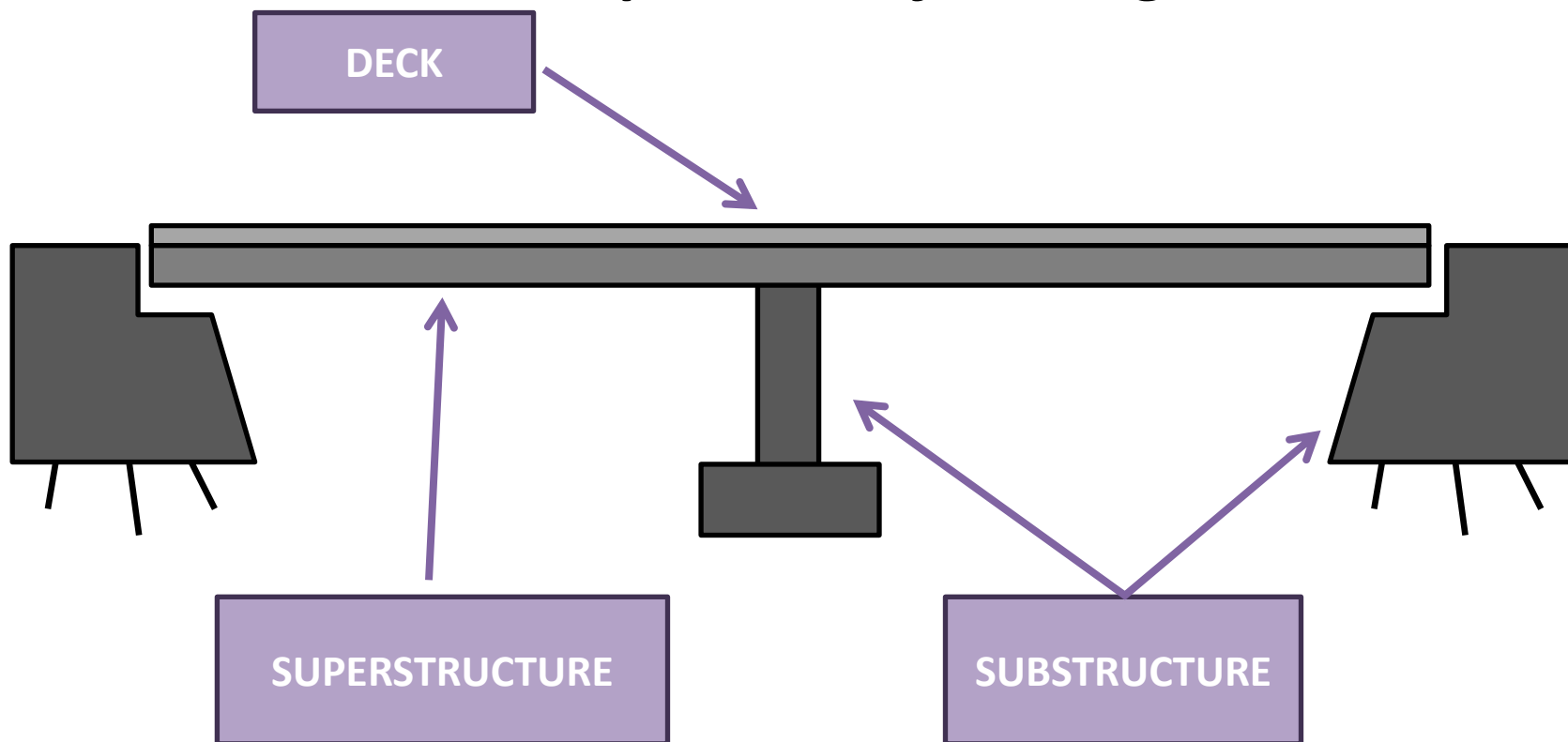
Bridge Condition Performance Measures

Percentage of NHS Bridges Classified
as in “Good” Condition

Percentage of NHS Bridges Classified
as in “Poor” Condition



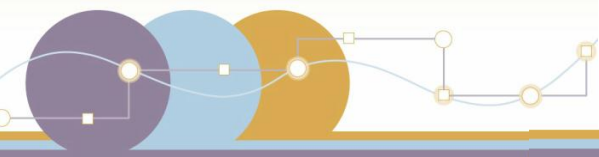
Data Sources and Components of a Bridge



Bridge NBI Items		
Item 58- Deck	Item 59- Superstructure	Item 60- Substructure

Culvert NBI Item
Item 62- Culverts





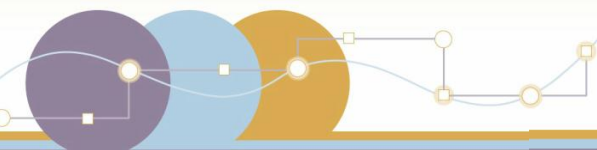
NBI Bridge Condition Rating Thresholds for NHS Bridges

NBI Rating Scale
(from 0 – 9)

9	8	7	6	5	4	3	2	1	0
Good			Fair		Poor				

Bridge	Deck (Item 58)	≥ 7	5 or 6	≤ 4
	Superstructure (Item 59)	≥ 7	5 or 6	≤ 4
	Substructure (Item 60)	≥ 7	5 or 6	≤ 4
	Culvert (Item 62)	≥ 7	5 or 6	≤ 4

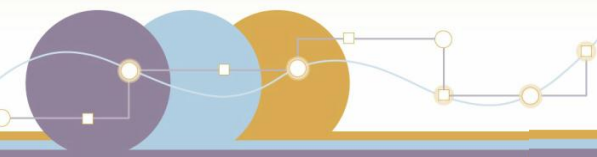




Calculating NHS Bridge Condition Performance Measures (490.409)

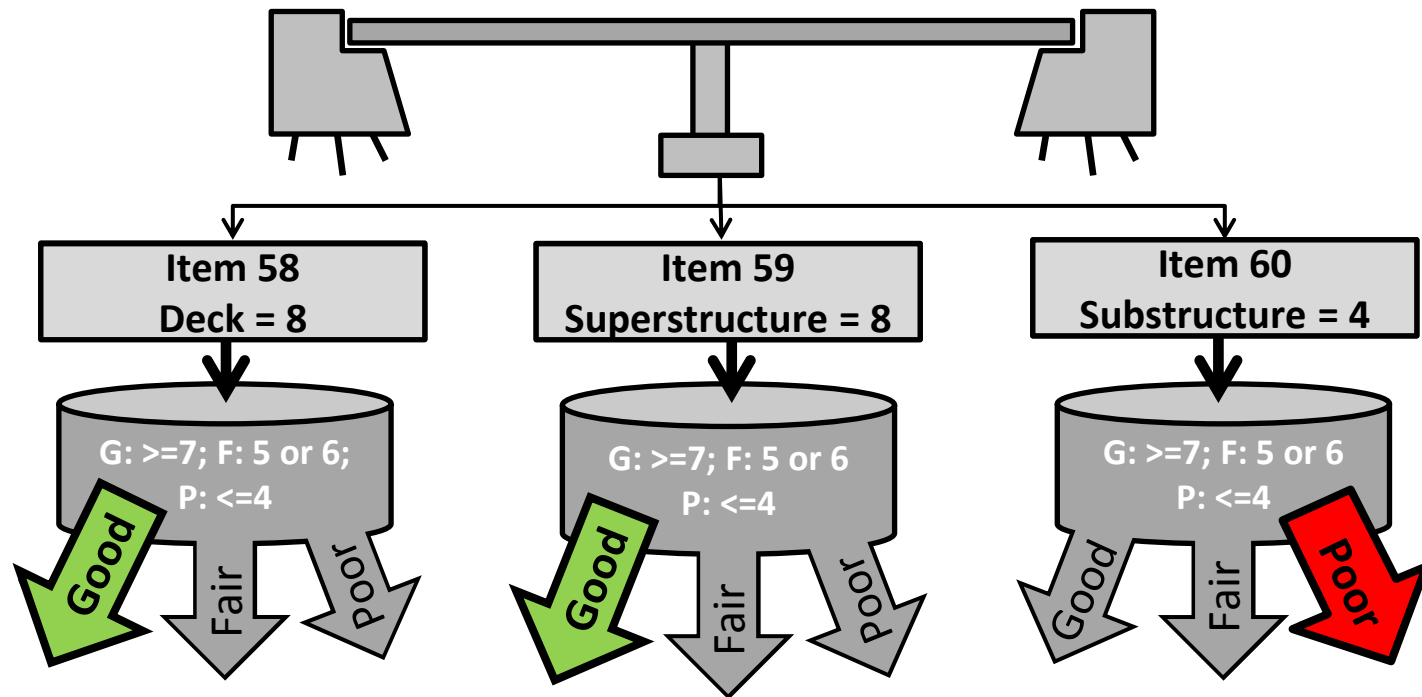
Structure Type				Measures
	Bridges	Culverts		
Overall Bridge Condition Rating	3 metric classification (58-Deck, 59-Superstructure, 60-Substructure)	1 metric classification (62-Culverts)		
Good	All metrics rated "Good"	Metric rated "Good"	→	percentage of deck area classified as in "Good" condition
Poor	Any metric rated "Poor"	Metric rated "Poor"	→	percentage of deck area classified as in "Poor" condition
Fair	Minimum rated metric "Fair"	Metric rated "Fair"		





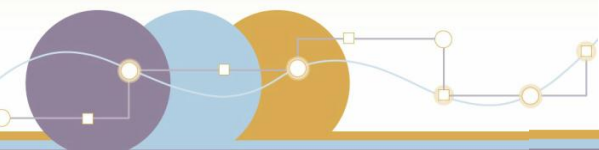
Bridge Classification Example

Example for bridge



Lowest Rating is Poor

Overall Condition Classification = Poor



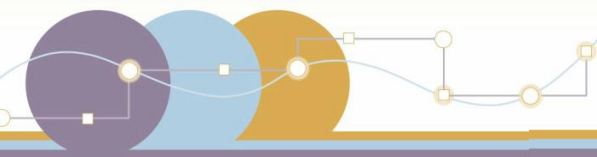
Minimum Condition and Penalty for Structurally Deficient Bridges (490.411 and 490.413)

Minimum condition level: $\leq 10\%$ of total deck area of NHS bridges classified as Structurally Deficient

Calculation:

$$100.0 \times \frac{\text{Total Deck Area of NHS Bridges Classified as Structurally Deficient}}{\text{Total Deck Area of NHS Bridges in a State}}$$

Penalty: If for 3 consecutive years the minimum condition level is not met, State must set aside and obligate NHPP funds for eligible projects on bridges on the NHS



Establishment of Performance Targets (490.105)

Who

- All States and MPOs establish targets

What

- Targets required for every measure

Where

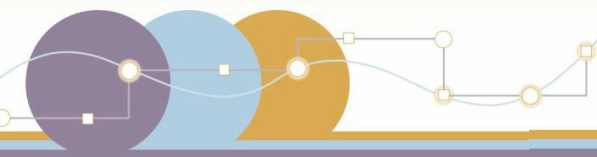
- Entire network or area regardless of ownership

When

- 4 year performance period to align with biennial reports

Target Reporting: Report 2-year and 4-year targets





Establishment of Performance Targets

State Targets

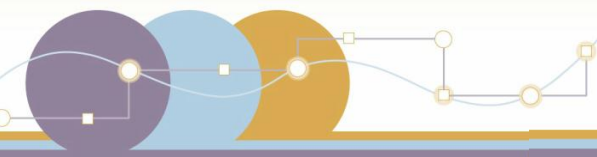
- Establish 2- & 4-year targets
- Target adjustment of 4-year target allowed at the midpoint of performance period
- Only Statewide targets are required
- Optional additional urbanized/non-urbanized targets

MPO Targets

- Establish 4-year targets by either committing to support the State target or setting a quantifiable target*
- If State adjusts target, any MPO adjustments must occur within 180 days
- If MPO changes target, must be agreed upon by State and documented in Metropolitan Planning Agreement

*When applicable





Assessing Significant Progress Towards Achieving the Performance Targets for the NHPP (490.109)

Who

- FHWA determines if a State has made significant progress

What

- Make determination for each NHPP target

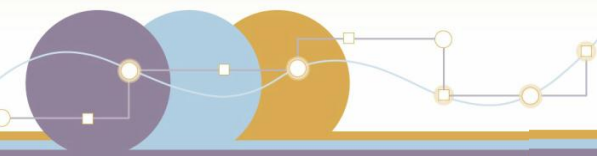
When

- Assess significant progress every 2 years*

* This will be phased in for Interstate pavement condition, which will not be considered in the first mid-year assessment

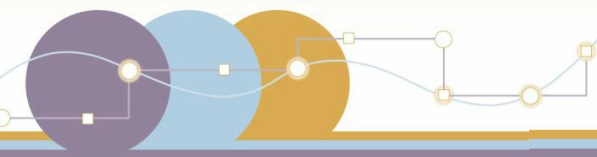
Consequence: If a State has not made significant progress in two consecutive determinations, then the State will document in its next Biennial Performance Report actions the State will undertake to achieve the target related to the measure in which significant progress was not achieved





Asset Management: Overview

- Asset management plans for pavements and bridges on the NHS required; States encouraged to include all infrastructure assets within the highway right-of-way as well as non-NHS roads.
- Recertification every four years; how certification review to be administered to be set forth in rulemaking.
- Webinars and regional calls focused on asset management have been held for the past two years or longer.
- Draft Asset Management Plans from a number of States can be found on the FHWA Asset Management website.

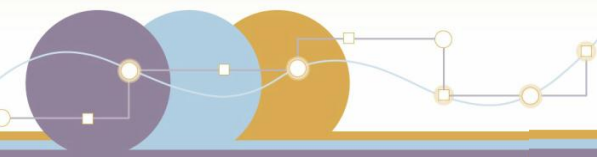


Minimum Content

§ 515.009 (d)

- 1) Asset management **objectives**
 - Align with the agency's mission
 - Consistent with the purpose of asset management
- 2) Asset management **measures and targets**, relating to:
 - Condition of pavements on Interstate System
 - Condition of pavements on the NHS
 - Condition of bridges on the NHS
- 3) Summary **listing of NHS pavement and bridges**, sorted by:
 - Pavements on the Interstate System
 - Pavements on the NHS (excluding the Interstate)
 - Bridges on the NHS

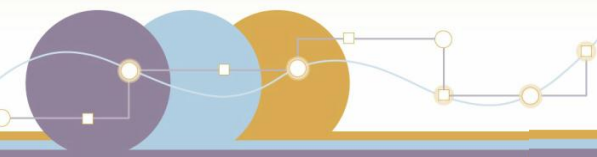




Minimum Content / Required Processes

§ 515.007(a) and § 515.009 (d)

- 4) **Performance gap** identification
- 5) **Life-cycle cost** analysis
- 6) **Risk management** analysis, including the results of the periodic evaluations under § 515.019
- 7) **Financial plan** covering, at a minimum, a 10-year period
- 8) **Investment strategies** – § 515.009(f)

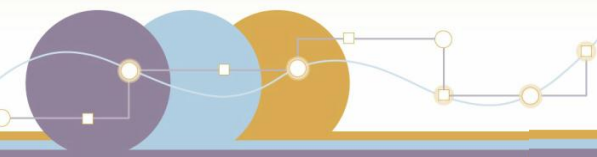


Penalties, § 515.015

If State DOT has not developed and implemented a TAMP consistent with the requirements of the AM final rule by:

Deadline	Penalty
18 months after the effective date of the pavement/bridge PM final rule (the TAMP must include the performance targets required in this rule).	<ul style="list-style-type: none">FHWA will not approve any further projects using NHPP fundsFHWA may extend the 18-month period if FHWA determines that State DOT has made a good faith effort
Start of the 2nd fiscal year after the effective date of the AM final rule and each fiscal year after	<ul style="list-style-type: none">The maximum Federal share for NHPP projects shall be reduced to 65 percent for that fiscal year





Resources

Transportation Performance Management

- FHWA TPM site: <http://www.fhwa.dot.gov/tpm/>
 - Recordings of all NPRM webinars

Asset Management

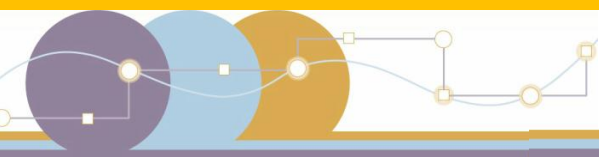
- FHWA Asset Management site:
<http://www.fhwa.dot.gov/asset/plans.cfm>
 - Examples of a number of State Asset Management Plans

For clarifying questions or more information, please contact:

Francine Shaw Whitson

FSWhitson@dot.gov

PerformanceMeasuresRulemaking@dot.gov



Submit comments to:

www.regulations.gov

Pavement and Bridge PM NPRM Docket Number:

FHWA-2013-0053

<https://federalregister.gov/a/2014-30085>

Asset Management NPRM Docket Number:

FHWA-2013-0052

**[http://www.regulations.gov/#!docketDetail;D=F
HWA-2013-0052](http://www.regulations.gov/#!docketDetail;D=FHWA-2013-0052)**



Thank you!

Infrastructure Condition Performance Measures Notice of Proposed Rulemaking

Asset Management Plan Notice of Proposed Rulemaking

