

FHWA Initiatives and Roles

Pavement Preservation Conference and Technology Implementation

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Today's Agenda

- **Performance Management**
- **FHWA Reorganization**
- **Preservation Initiatives**



National Highway Program

- Will Include a Performance Management Process
- 2 Sub Programs
 - Highway Infrastructure Performance Program
 - Flexible Investment Program



Highway Infrastructure Performance

- Set targets in consultation with FHWA to support national goals
- FHWA certifies State Asset Management Plan for NHS+
- State must have an Asset Management Plan which:
 - is risk based
 - identifies existing performance
 - identifies performance gaps
 - includes analysis of life cycle costs, value for investment, risk management
 - includes a financial plan to fund plan
 - includes strategies to invest funds to achieve targets



Flexible Investment Program

- Funding to improve the conditions and performance of highways and bridges
- Any federal-aid highway or bridge is eligible
- System expansion is eligible
- Other eligible projects:
 - Fringe and corridor parking facilities
 - Highway R&D and T2
 - Congestion pricing
 - Transportation planning
- No Asset Management Plan required



Issues

- How is performance defined?
- How is performance monitored?
- Where is the source of data?
- How can we use the data to manage performance?



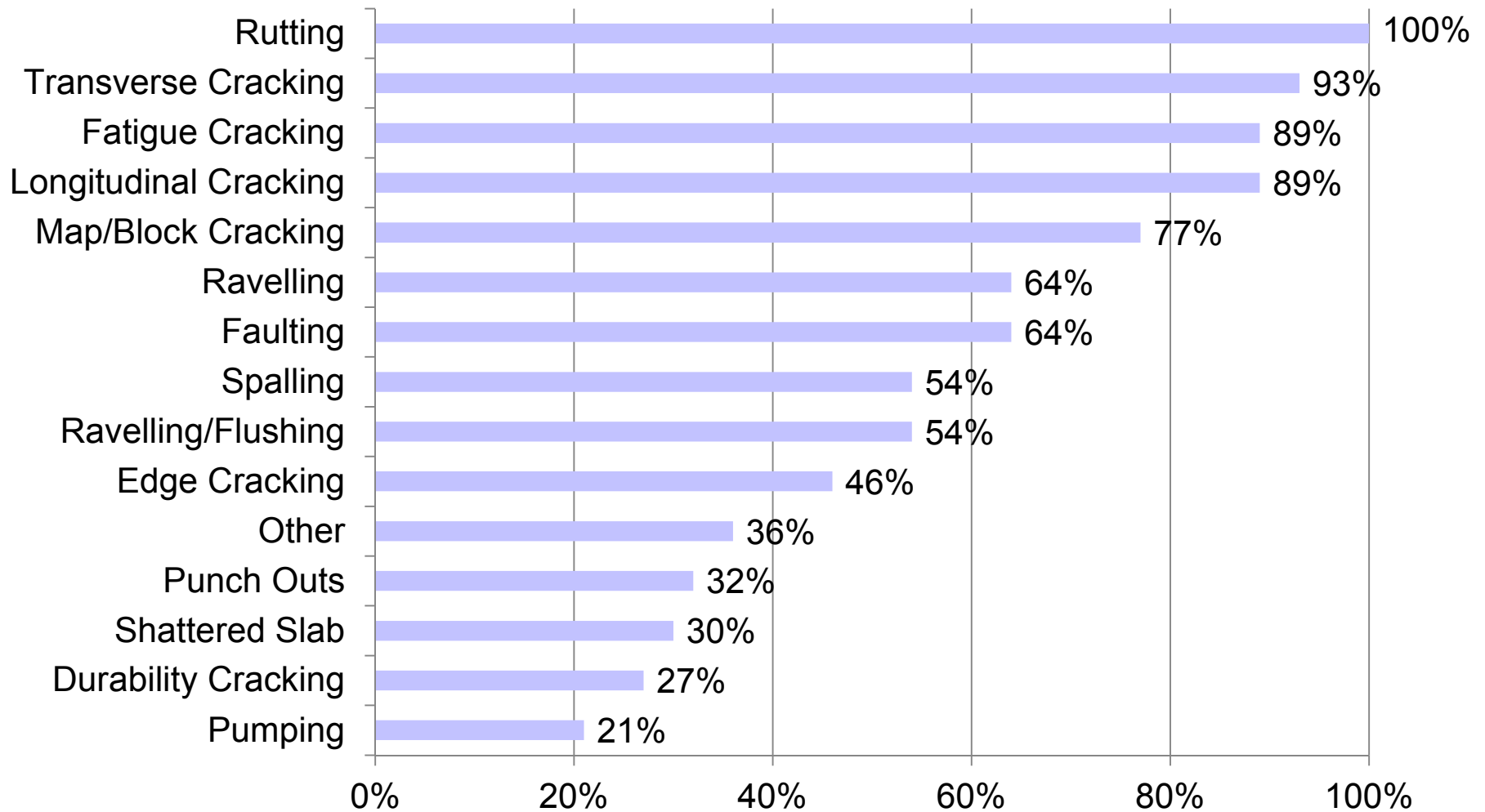
Performance Issues

- What to measure?
- What is “acceptable”?
- Consistent from State to State?
- Useful to manage performance?

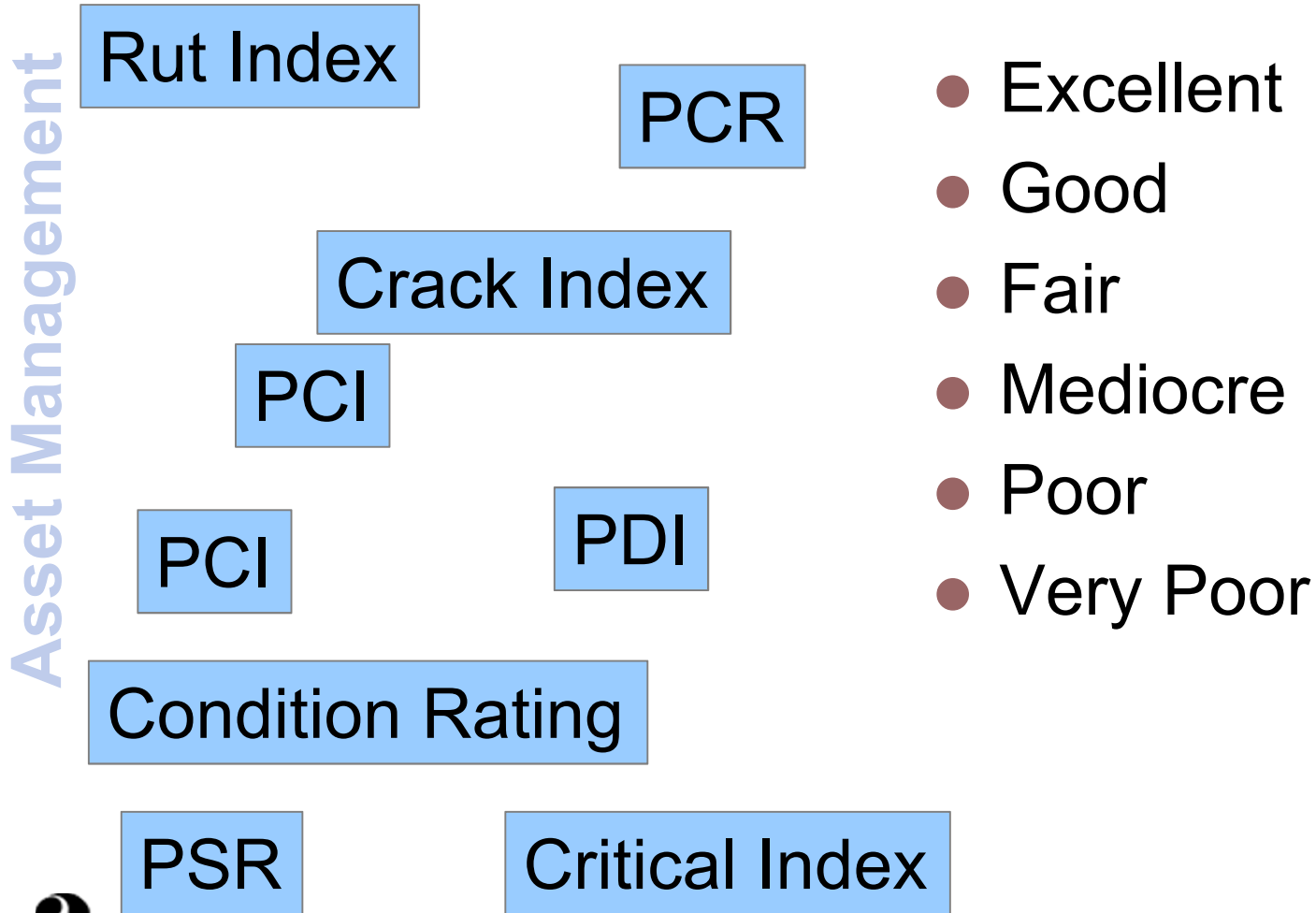


Surface Distress Types

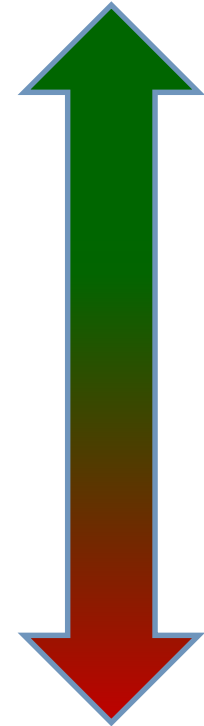
Asset Management



Condition Indices



- Excellent
- Good
- Fair
- Mediocre
- Poor
- Very Poor



Acceptable Level?



TXDOT Report

State	Thresholds
Georgia	75–100 is good to excellent
Iowa	60–80 is good, 80–100 is excellent
Montana	63–100 is good
Nebraska	70–89 is good; 90–100 is very good
New Hampshire	40–100 is acceptable
North Carolina	Greater than 80 is good
Ohio	75–90 is good; 90–100 is very good
Oregon	75.1–98 is good; 98.1–100 is very good for NHS
Vermont	40–100 is acceptable
Virginia	70–89 is good; greater is excellent
Washington	50–100 is good



Initiatives

- Performance Management Framework
 - Assessing Infrastructure Health
 - Asset Management Plan Prototype/Trials
 - Support Tier 2 Measure Development
 - Pavement Monitoring Guide
- Tools
 - HERS-ST Enhancements
 - Pavement Health Track Tool – RSL
 - Develop Health Monitoring Tool



Initiatives

- Training
 - Awareness, Analysis, Management
- Internal FHWA Efforts
 - HPMS Quality Assurance Process
 - Assessment of HERS
 - NHS Pavement Report Template



Improving FHWA's Ability to Assess Infrastructure Health

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Project Objectives

- To define a consistent and reliable method to document infrastructure health with a focus on pavements and bridges on the Interstate System (that can be expanded to the National Highway System)
- To develop tools to provide FHWA and State DOTs ready access to key information



Project Approach

- Develop an approach for categorizing pavement and bridges as **Good/Fair/Poor**, that can be used consistently across the country
 - Good/Fair/Poor will be based on condition data
 - Recommend improvements to HPMS and NBI
- Develop an approach for assessing the overall **Health** of a highway corridor
 - Looking for a “visit to the Doctor” outcome
 - Will go beyond condition



Defining Good, Fair, Poor

- General, consistent definition
- Two Options:
 - IRI approach
 - Composite index approach



Option 1. IRI

- There is momentum for IRI to be the initial basis for a national pavement performance measure
- Recent FHWA and NCHRP 20-24(37) G reports propose Good/Fair/Poor thresholds, consistent with C&P Report thresholds

Threshold in C&P Report	Category	Proposed Thresholds	Category
< 95	Good	< 95	Good
≤ 170	Acceptable	95 ≤ IRI ≤ 170	Fair
> 170	Not Acceptable	> 170	Poor

- A TXDOT study found that less than 10 States use IRI threshold of ~170 to trigger “Poor” condition



Option 2. New Composite Measure

- Based on HPMS 2010+
- Potential approach - use HPMS 2010+ data elements to develop new composite measure
 - IRI
 - Rutting
 - Faulting
 - Cracking (fatigue, transverse, cracked slabs, punchouts)
- Develop modified PCI using HPMS 2010+ data
- Consistent with Tier 2 measure addressed in NCHRP 20-24(37) G



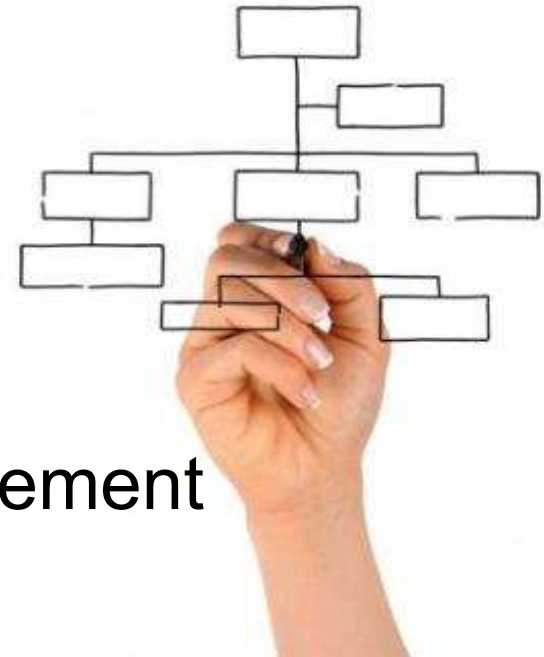
FHWA Reorganization

- New Focus on Performance Management
- New Office within Infrastructure
 - Policy, Analysis, Data Collection, Assistance
- Re-format Pavement and Asset Management Offices
 - Asset Management, Pavement and Construction



Office of Asset Management, Pavement and Construction

- Structure
 - Design and Analysis
 - Materials
 - Asset and Pavement Management
 - Construction



Office of Asset Management, Pavement and Construction

- Current initiatives
 - Health Assessment
 - ETG on Automated Cracking / Rutting Detection
 - Pavement Monitoring Guide
 - Pavement Data Quality
 - Peer Exchanges



Pavement Preservation Initiatives

Preservation Reviews / Outreach

Expert Task Group

MEPDG – Preservation Approach

Support PPPs

Legislative updates

Guidance on Preservation Approaches



Preservation and the Federal-Aid Program

- **Eligible if agreement made
with Division Office**
- **Preservation Only**
- **Must have systematic selection
criteria**



“Consideration of Pavement Preservation in Mechanistic-Empirical Design and Analysis of Pavement Structures”



NCHRP Project 20-07, Task 251

- “Consideration of Pavement Preservation in Mechanistic-Empirical Design and Analysis of Pavement Structures”
- March 2009, Applied Pavement Technology
- States the case for considering the contributions of preventive maintenance activities in the MEPDG process, and describes both short-term and long-term approaches to accomplish that.



Preventive Maintenance in Design

- Preventive maintenance is part of most agencies' pavements program – should influence the decisions made in pavement design.
- Treatments are being performed to prevent moisture infiltration or to restore surface characteristics – these will have some effect over time on the structural performance of the pavements



Next Steps?

- Report describes how to incorporate preventive maintenance treatments into pavement design – adjustment or modification of performance models.
- Provides seven recommendations for additional research or improved tracking of treatment application and performance.
- What can FHWA and AASHTO consider in upcoming activities to incorporate the observations and recommendations of the report into the MEPDG?



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