

# **Performance Management: NPRM Pavements**

**What you need to know....**

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# PM2 – Pavements: What and Why?

- Legislative Goals
- What's really happening





# PM2 – Pavements: What's Required?

- **Legislative**
  - **Set Targets**
  - **Report Performance**
  - **Maintain Minimum Standard for Interstate**



# PM2 – Pavements: More of What's Required?

- **NPRM**
  - **Target Procedures**
  - **Reporting Details**
  - **Performance Information**



# The Details...

## (Per NPRM)

# Disclaimer!!!

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# The Details...

## (Per NPRM)

### **NPRM Pavement Focus:**

- **Data**
- **Calculate and Report Performance**



# Walk through the NPRM for Pavements

**§ 490.301, 303, and 305:**

**Purpose, Applicability, Definitions**

# Walking through...

## § 490.307: Performance Measures

- Interstate
- Rest of NHS





# Walking through...

**§ 490.309:**

**Data Requirements**

**§ 490.311:**

**Pavement Metrics**

- **What data to collect**
- **Where to collect data**
- **How to collect the data**
- **How often to collect the data**
- **What to Report**

**IRI Measurement:**

**Pavement Roughness**

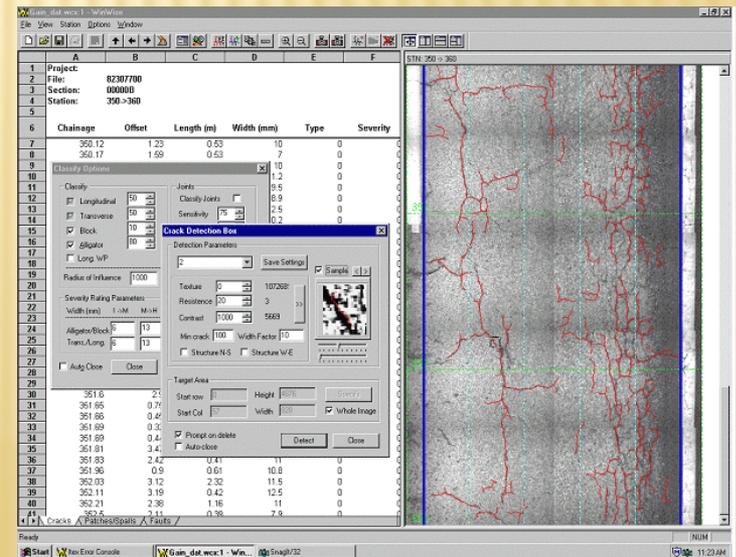
**HPMS Item 47**

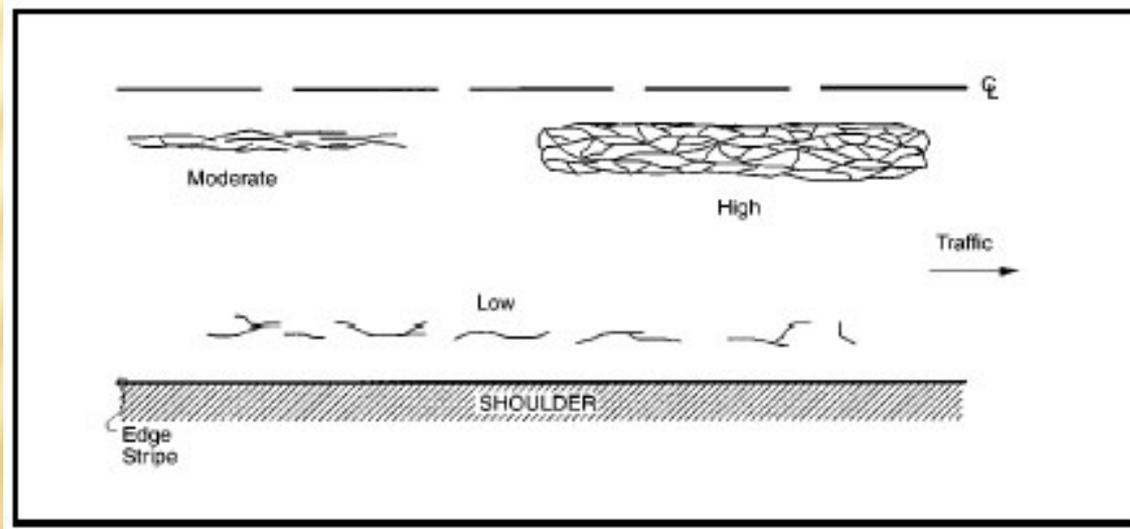
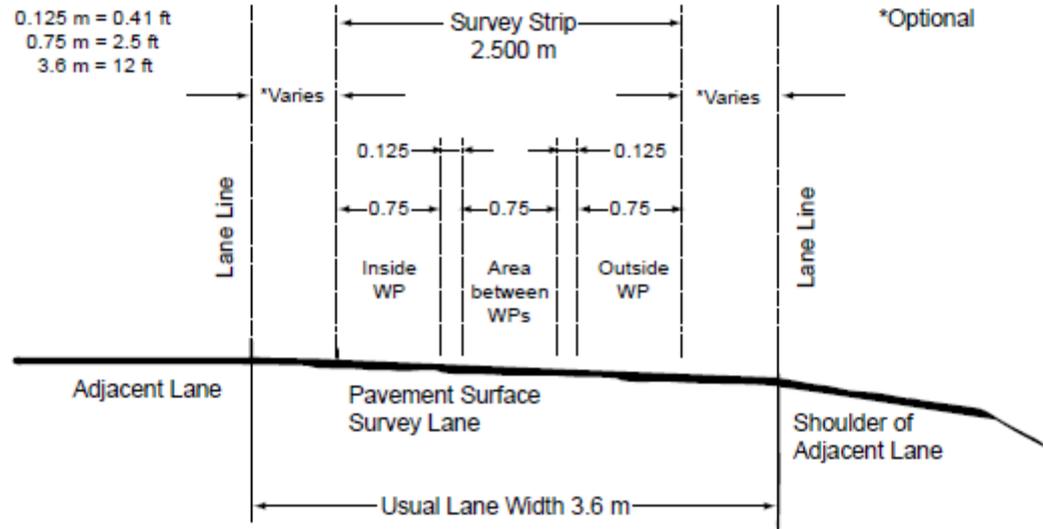


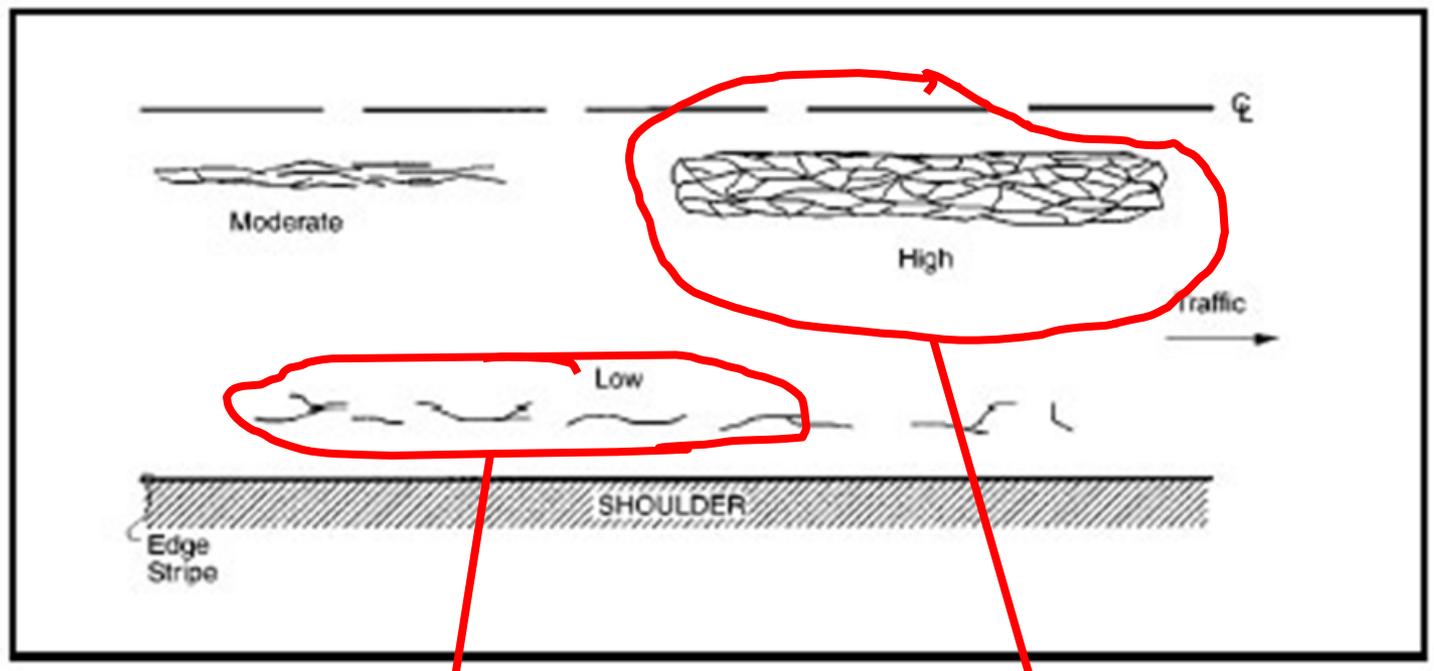
# Cracking Measurement: HPMS Item 52

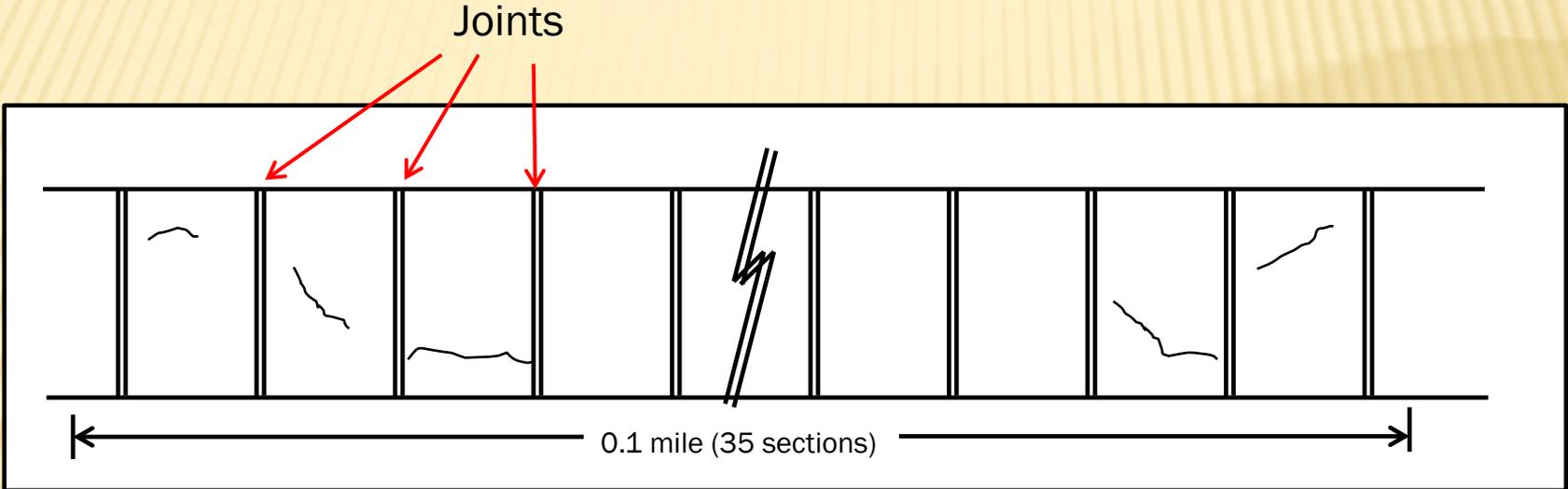
Asphalt: % of 0.1 mile  
Section that has cracks in  
wheelpaths to nearest 1%

JCP: % of slabs in 0.1 mile  
Section that have cracks  
to nearest 1%









# Jointed Concrete Pavements

Photo of Rutting,  
Measurement equipment  
Drawing

# Rutting in Asphalt Pavement HPMS Item 50



# Rutting in Asphalt Pavement HPMS Item 50





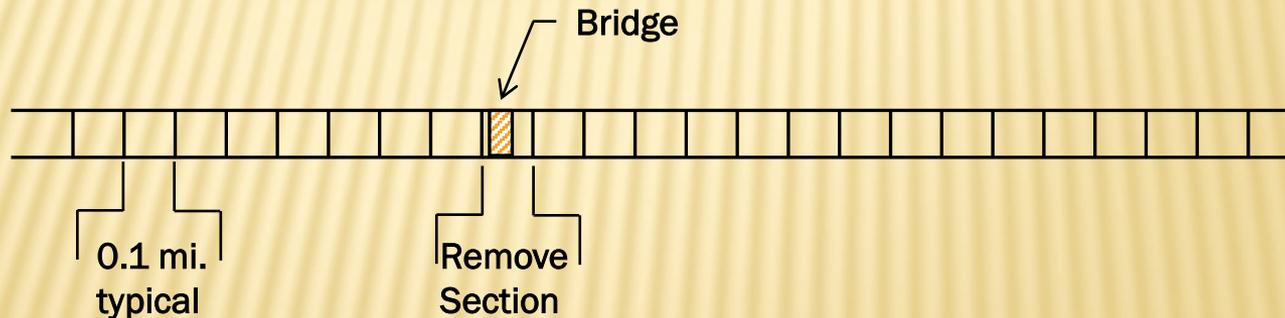
# Faulting in Concrete Pavement

## HPMS Item 51



# What else?

Through Lanes, HPMS Item 7  
Surface Type, HPMS Item 49  
Structure Type, HPMS Item 4



# What else?

## Metadata:

- Date data collected
- Type of equipment/method

## Schedule:

- Interstate – April 15
- Rest of NHS – June 15



## Missing Data:

- NPRM – Missing = “Poor”



# Still Walking...

**§ 490.313:**

**Calculation of Performance  
Management Measures**

**- Or -**

**How good is “Good”?**

**How poor is “Poor”?**

**What about everything else?**

# Pavement Metrics...

Metric	Pavement	Good?	Poor?
IRI	All	<95	>170*
Cracking	All	<5%	>10%
Rutting	Asphalt	<.20	>.40
Faulting	Concrete	<.05	>.15

\*IRI>220 in “Urbanized Areas”

**CRCP has different standards!!**



# Pavement Metrics...

**Overall for 3 metrics:**

**3 “Good” = “Good”**

**2 “Poor” = “Poor”**

**Everything else = “Fair”**

**Note: Different Measure for CRCP**

# Pavement Measures

In NPRM:

$$100 \times \frac{\sum_{p=1}^{Poor} \{ (End\_Point - Begin\_Point) \times Through\_lanes \}_{section\ p}}{\sum_{t=1}^{Total} \{ (End\_Point - Begin\_Point) \times Through\_lanes \}_{section\ t}}$$

This means:

$$\% \text{ Good} = 100 \times \frac{\text{Total amount of "Good" pavement}}{\text{Total amount of pavement}}$$



# Still Walking...

**§ 490.315:**

**Minimum Standard for Pavement  
Conditions on Interstate Highways**

- **Required by Legislation**
- **NPRM proposed no more than 5% “Poor”**



# Still Walking...

## § 490.317:

### Penalty for not maintaining Minimum Standard for Pavement Conditions on Interstate Highways

- Set by Legislation
- Applies if States exceeds 5% Poor for two consecutive years
- Re-establishes former Interstate Maintenance Program + some STP funds



# And Lastly...

## § 490.319: Other Requirements

- Formalizes Reporting Dates to HPMS
- Requires State to have Data Quality Management Program



# Data Quality Management Program

**Contains Processes for:**

- 1. Calibrate/Certify equipment**
- 2. Certify People doing data collection**
- 3. QC measures**
- 4. Data sampling, review, checking**
- 5. Resolving errors and acceptance**



# NPRM Comments

## Major issues:

- **Ownership of NHS & Reporting Requirements**
- **Schedules**
- **Continuous Measurement of Distresses**
- **Minimum Condition for Interstate Pavements**
- **Cracking, Rutting and Faulting Metrics**
- **Missing Data**



# **NPRM Key Items**

## **Lessons from MAP-21:**

- 1. Transparency and Accountability**
- 2. Pavement Data increasing in importance**
- 3. Timeliness Critical**
- 4. Program Scrutiny is increasing**



**Help!!!**



## Available Assistance:

- **FHWA Contacts**
- **TPM Courses**
- **TPM Website**
- **Official Guidance**
- **Reference Materials**
- **HPMS Tools**
- **NHPP Funding eligibility**
- **Technology**



# Contacts:

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