

**2014 NWPMA  
PAVEMENT SURFACE CONDITION  
(PSC) RATING WORKSHOP  
&  
VisRate DATA COLLECTION  
SOFTWARE DEMO.**




**PAY ME NOW...**

**or**

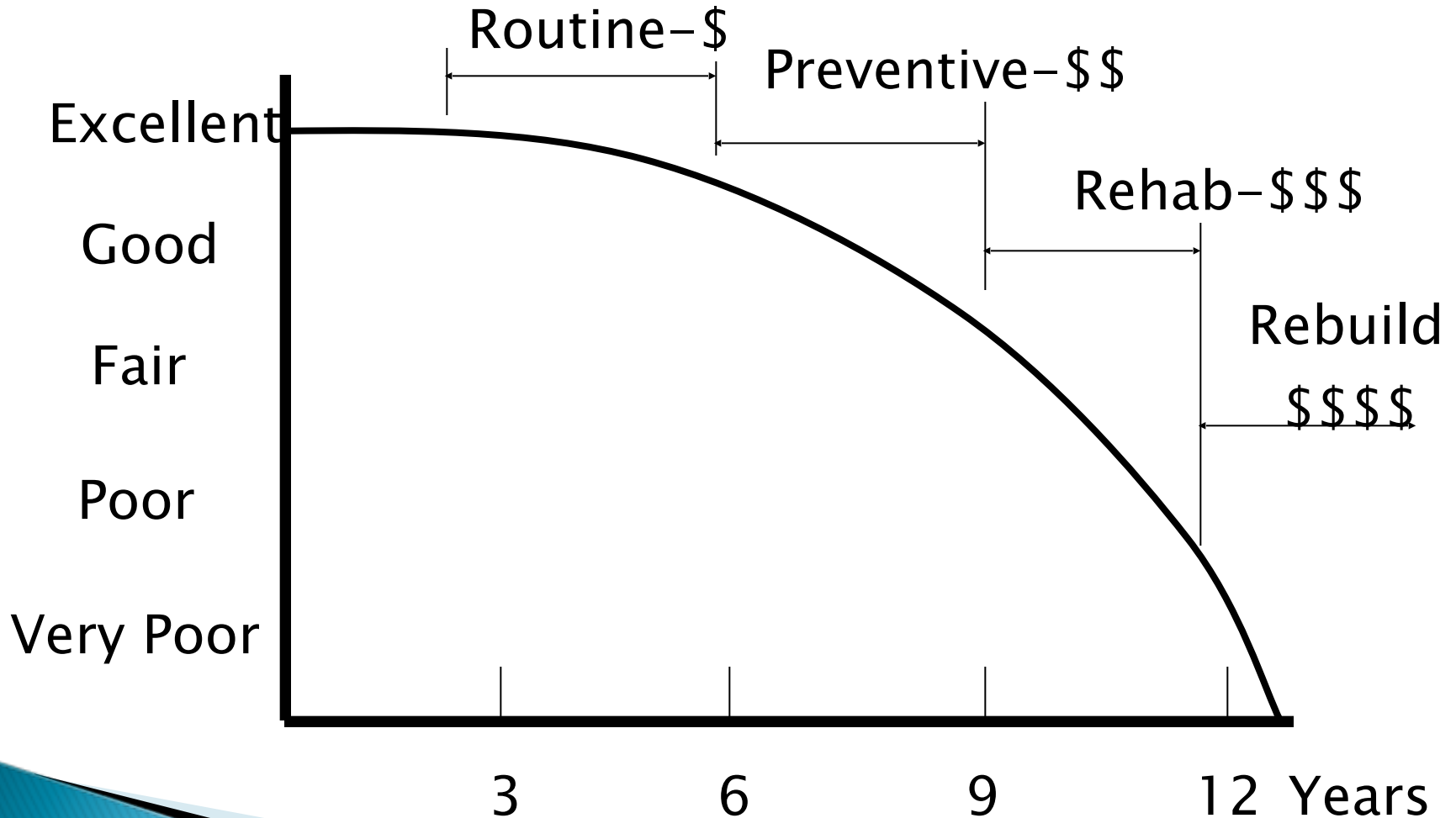
**PAY ME (much more) LATER**



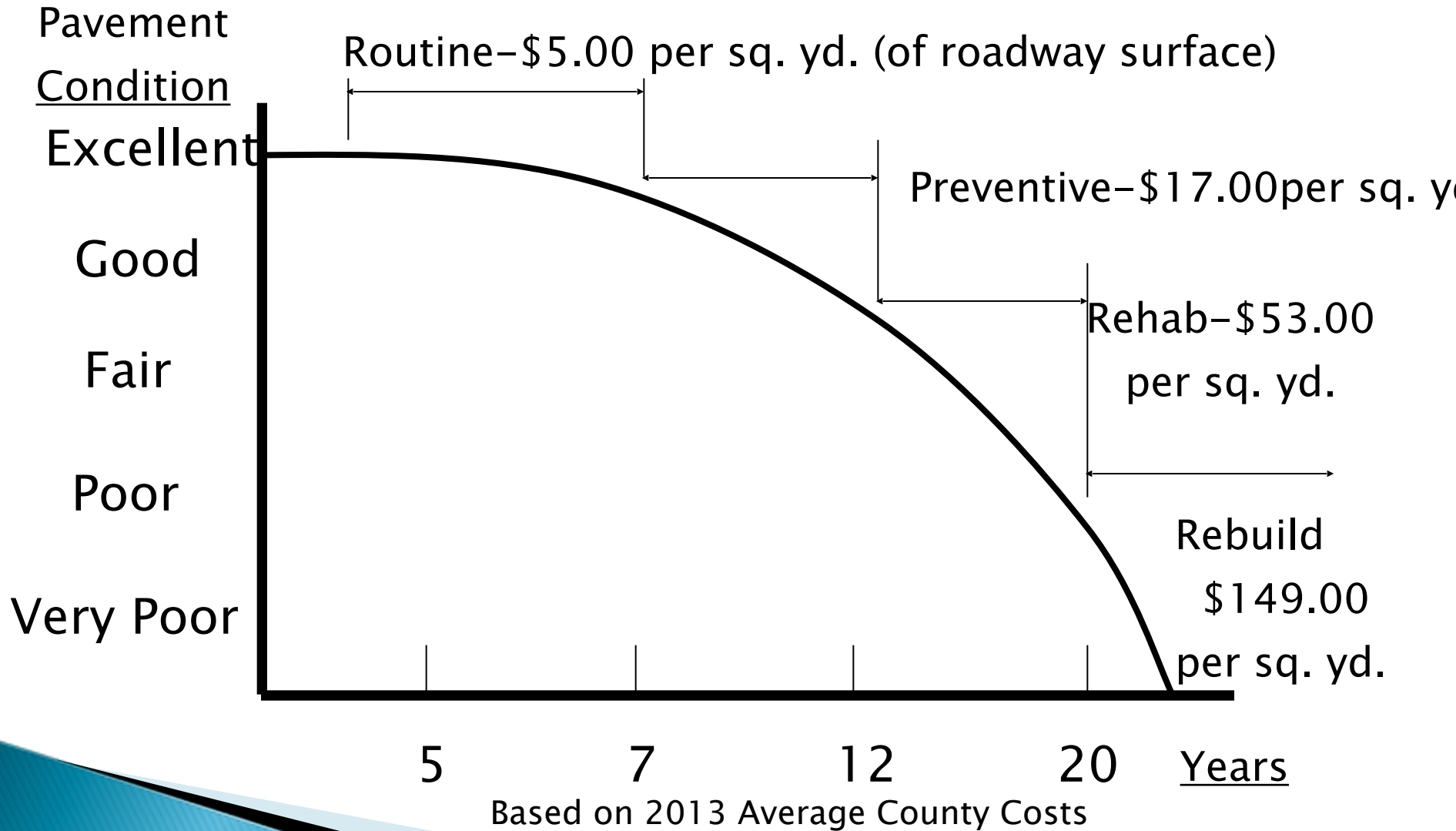
# Good Roads Cost Less Than Bad Roads

1. Over the Long Term
  2. If Reasonable Level of Service is Provided at the Right Time
  3. If the Pavement will respond to Preventive Maintenance
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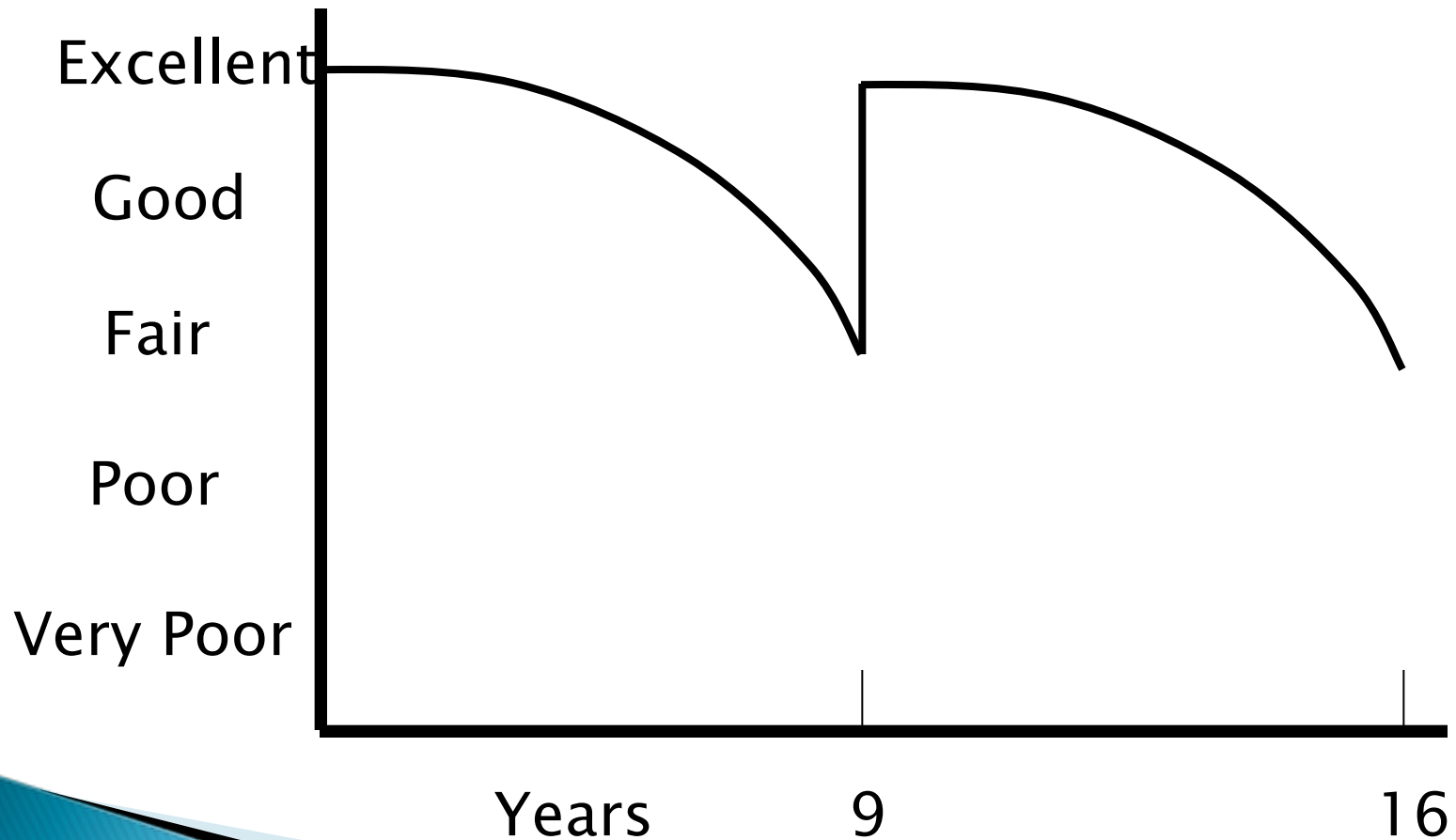
# Timing Of Treatments



# Maintenance Treatment Cost Comparison



# Effect Of Treatments



# Roads and Streets in the USA

## 2012 FHWA Data

1. 4,016,734 miles – Total C/L miles in USA
2. 3,043,533 miles Maintained by Local Agencies = 78%
3. 779,074 miles Maintained by States = 19%
4. 121,301 miles Maintained by Federal Govt. = 3%
5. 1,791,122 miles County Roads (59% of Local Agencies)


# Collecting Condition Data

1. Most Costly Part of
  - Implementing and Operating a Pavement Management System
2. Keep Costs Minimized
  - Collect Only the Data That is Needed




# Collection Methodologies

Select to Meet Needs and Match Resources Available

1. Windshield
  2. Walking
  3. Automated
- 


# To Define Pavement Distress

## You Must Determine


1. Type (What Kind)
  2. Severity (How Bad)
  3. Extent (How Much)
- 

# Standard Definitions

Must have Manual of Definitions for:

1. Types
  2. Severities
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# Severities

1. Low – Present but not Causing an Immediate Problem
  2. Medium – Needs Attention or will be a Problem Shortly
  3. High – Maintenance is Needed Immediately
- 

# Select and Use Distress Types

## 1. That Occur in Your Area

Studded Tire Damage / Load Related Damage

Environmental Effects: Freeze–Thaw and Heat

## 2. That Impact the Decisions Being Made

Don't Expend Resources Collecting Data that is NOT  
Used to Trigger Decisions

# Suggested for Asphalt Surfaces


## 1. Recommended

- Alligator Cracking
- Longitudinal Cracking
- Transverse Cracking
- Patching
- Rutting
- Raveling and Aging
- Distresses that cause Severe Distortions


## 2. In some Areas

- Block Cracking
- Bleeding and Flushing

# Distress Data Collection Methods

1. Manual: Walking or Windshield Method Used by Most Local Agencies
  2. Automated: Cost Prohibitive for Most Local Agencies
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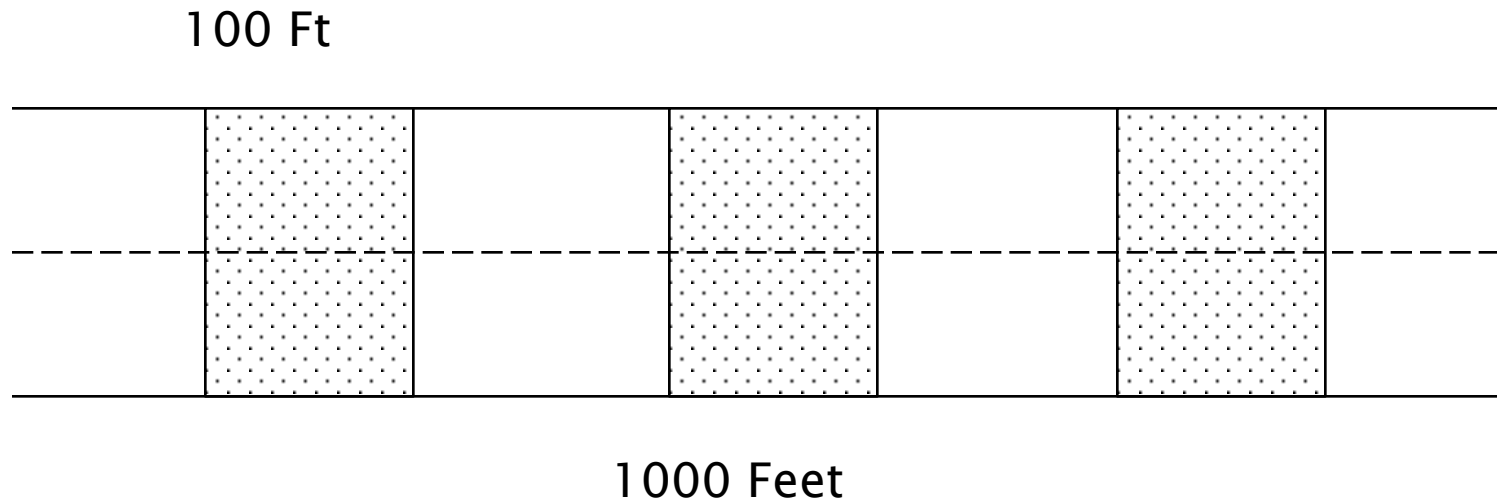
# Manual Distress Data Collection

1. Detailed Walking Survey
    - Most Precision
    - Greatest Cost
  2. Riding Survey at 3–6 Miles per Hour
    - Less Precision
    - Less Cost
  3. Rating Sample Areas
- 



# Rating Sample Areas


1. Need Homogeneous Segments
2. Select Representative Areas to Rate




# Recording Methods

1. Can be Impacted by Survey Method
2. All can use Computers of Various Types
  - Laptop Computers
  - Handhelds: PDA's


# Accuracy is a Function of:

1. Training of Inspectors
  2. Clarity of Distress Identification Manuals
  3. Quality Control Practiced
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# Typical Walking Survey

1. Conducted on Selected Segments
  2. Inspector Walks the Inspection Unit
    - Identifies Each Distress Type and Severity
    - Estimates Amount Present
    - Record Data
- 

# Typical Windshield Survey

1. Conducted from a Moving Vehicle at 3 – 6 Miles Per Hour
  2. Conducted on Selected Segments
  3. Distresses Identified by Severity Level
  4. Area Affected Estimated by Percentage or Lineal Feet
  5. Record Data
- 

# Precision and Accuracy

## 1. Functions of:

- Interpretation of Distresses
  - Lighting Conditions
  - Placement During Repeat Runs
  - Training of Inspectors
  - Quality Control Practiced
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- Review of: Pavement Surface Condition Manual

# Pavement Surface Condition Field Rating Manual **Rutting and Wear**



# Alligator Cracking

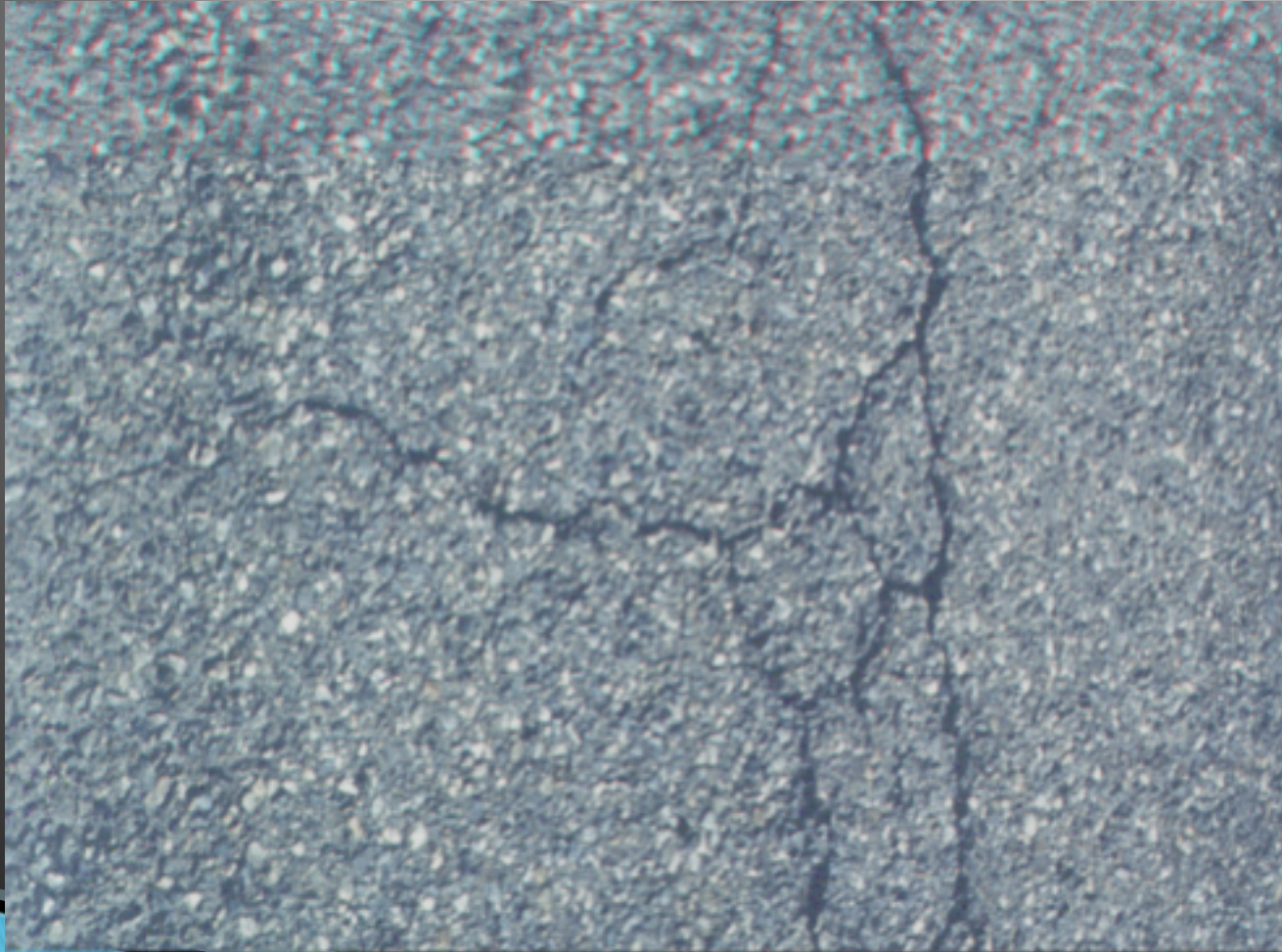




# Alligator Cracking – Low



# Alligator Cracking – Medium



# Alligator Cracking – High



# Longitudinal Cracking



# Longitudinal Cracking – Low



# Longitudinal Cracking – Medium



# Longitudinal Cracking – High



# NonWheel Path Longitudinal Cracking





# Transverse Cracking



# Transverse Cracking – Low



# Transverse Cracking – Medium



# Transverse Cracking – High



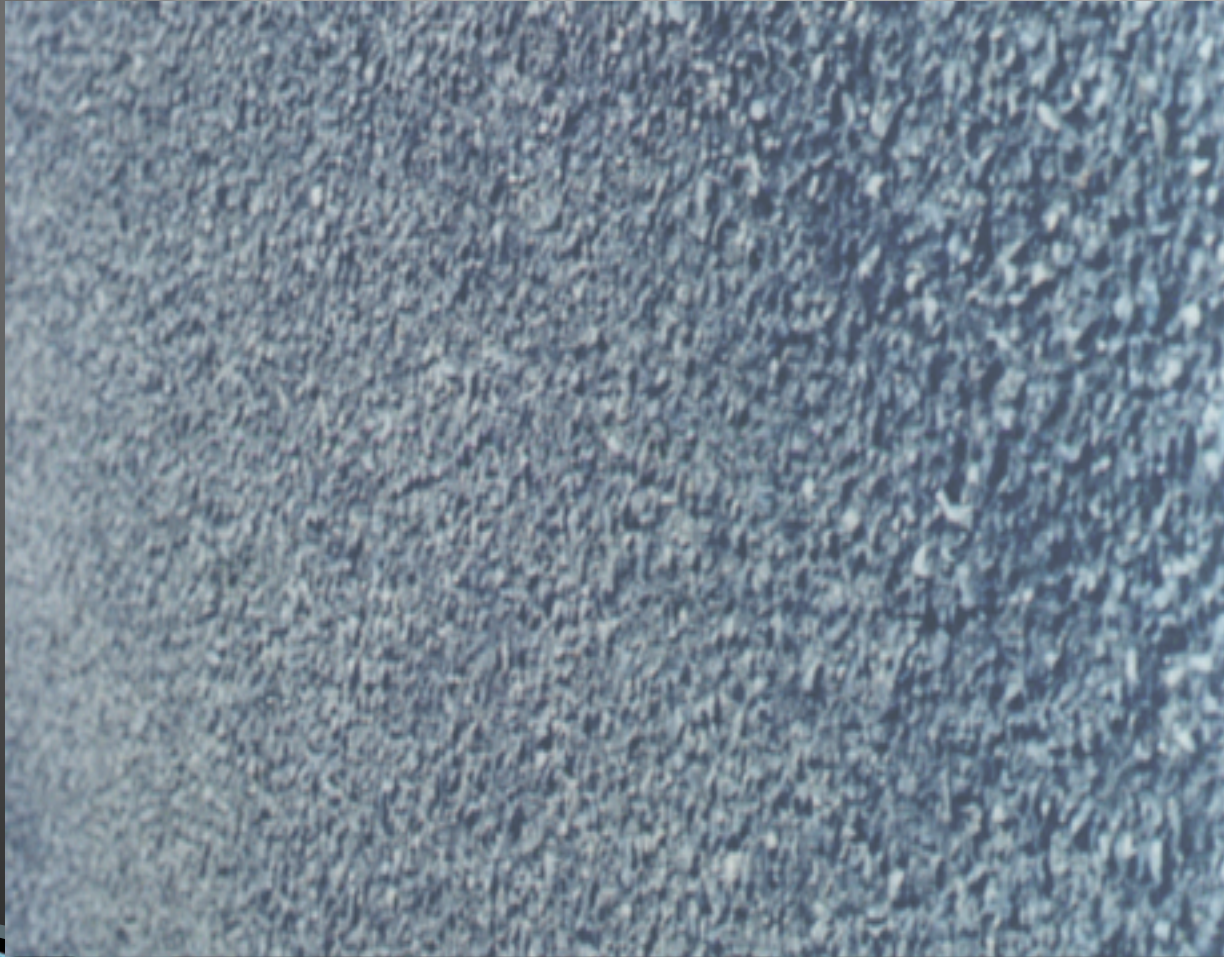
# Raveling and Aging



# Raveling and Aging – Low



# Raveling and Aging – Medium



# Raveling and Aging – High





# Raveling and Aging – High



# Flushing / Bleeding



# Flushing/Bleeding – Low



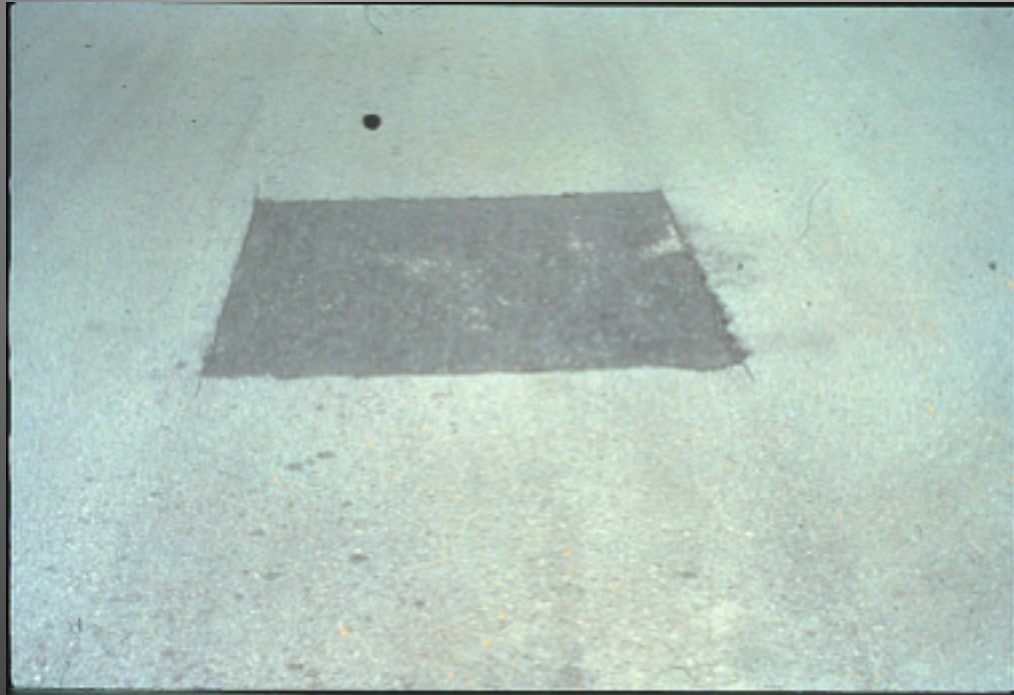
# Flushing/Bleeding – Medium



# Flushing/Bleeding – High



# Patching - Low



# Patching - Low



# Patching – Medium





# Patching - Medium



# Patching - High



# Original WSDOT Patching – Low



# Original WSDOT Patching – Med



# Original WSDOT Patching – High



# Corrugations and Waves



# Sags and Humps



# Block Cracking





# Pavement Edge Condition – Edge Raveling



# Pavement Edge Condition – Edge Patching



# Crack Seal Condition – Low



# Crack Seal Condition – Medium



# Crack Seal Condition – High



# QUESTIONS???

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