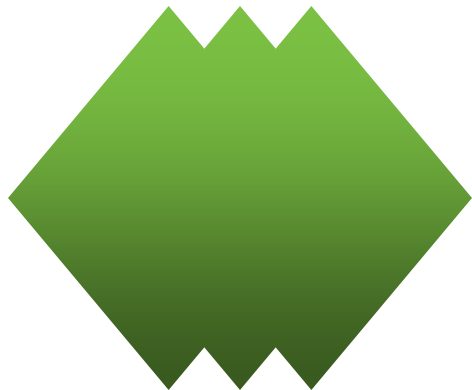




# An Overview of Pavement Preservation on Airfield Pavements



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Toronto, ON

# Presentation Overview

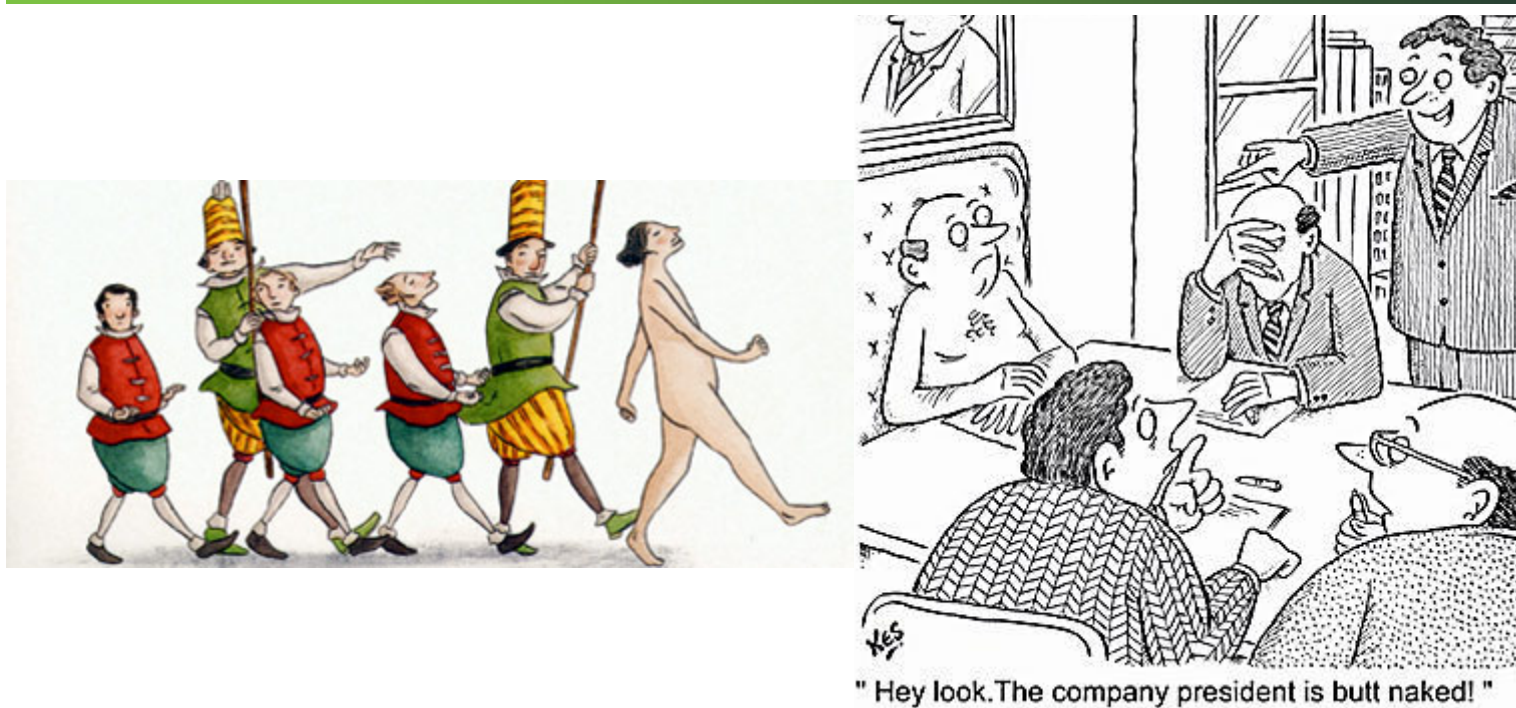
- What is preservation?
- Why do it?
- What defines a successful preservation program?
- I'm convinced: now what?

# What is Pavement Preservation?



Just a fad?

# What is Pavement Preservation?



Nothing new, but almost everyone's afraid to say so?



# What is Pavement Preservation?



Defined by the treatment?

# So What is Pavement Preservation?



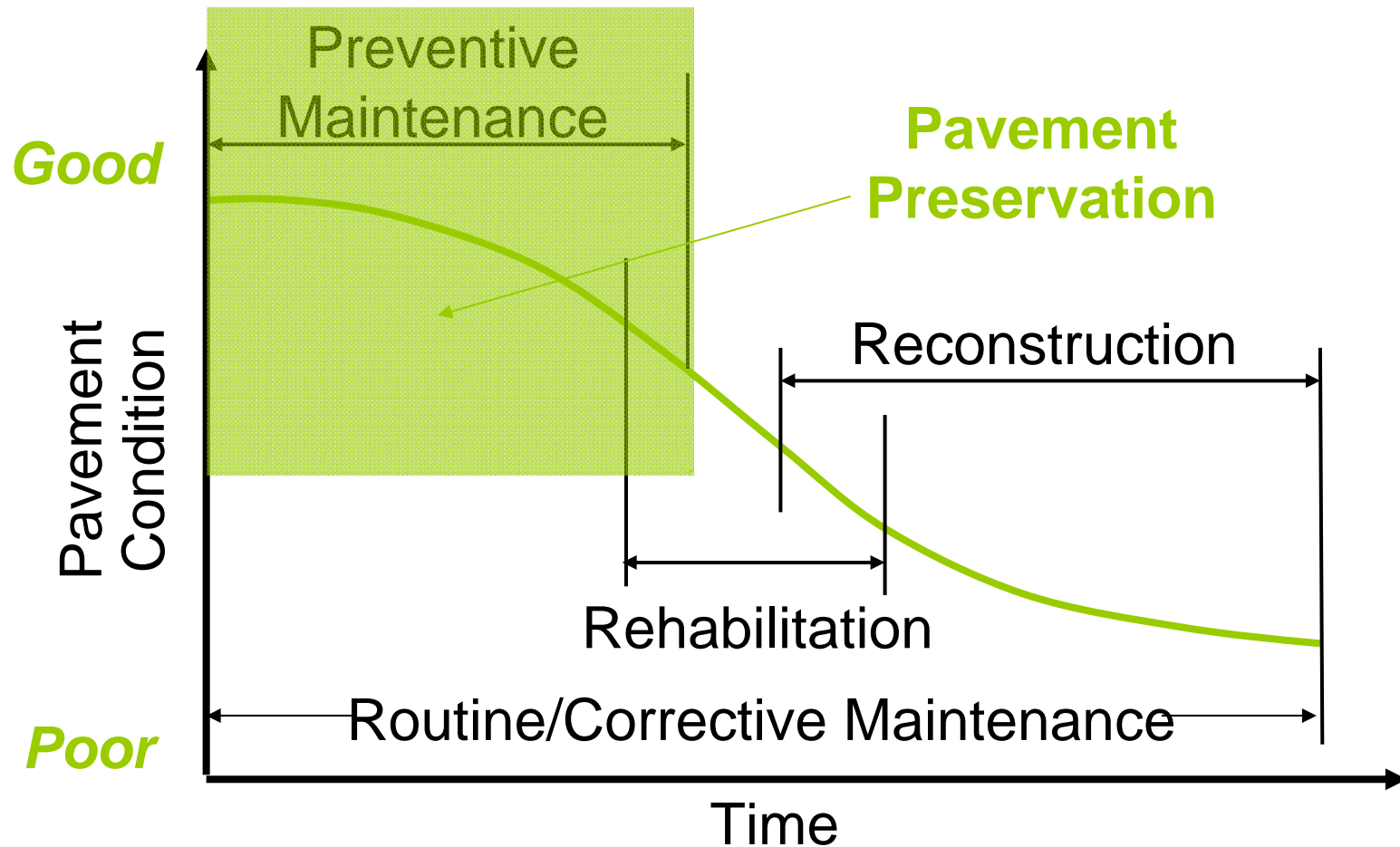
# Terms to Consider

- Routine or corrective maintenance
- Preventive maintenance
- Pavement preservation
- Rehabilitation
- Reconstruction





# Terminology Applied



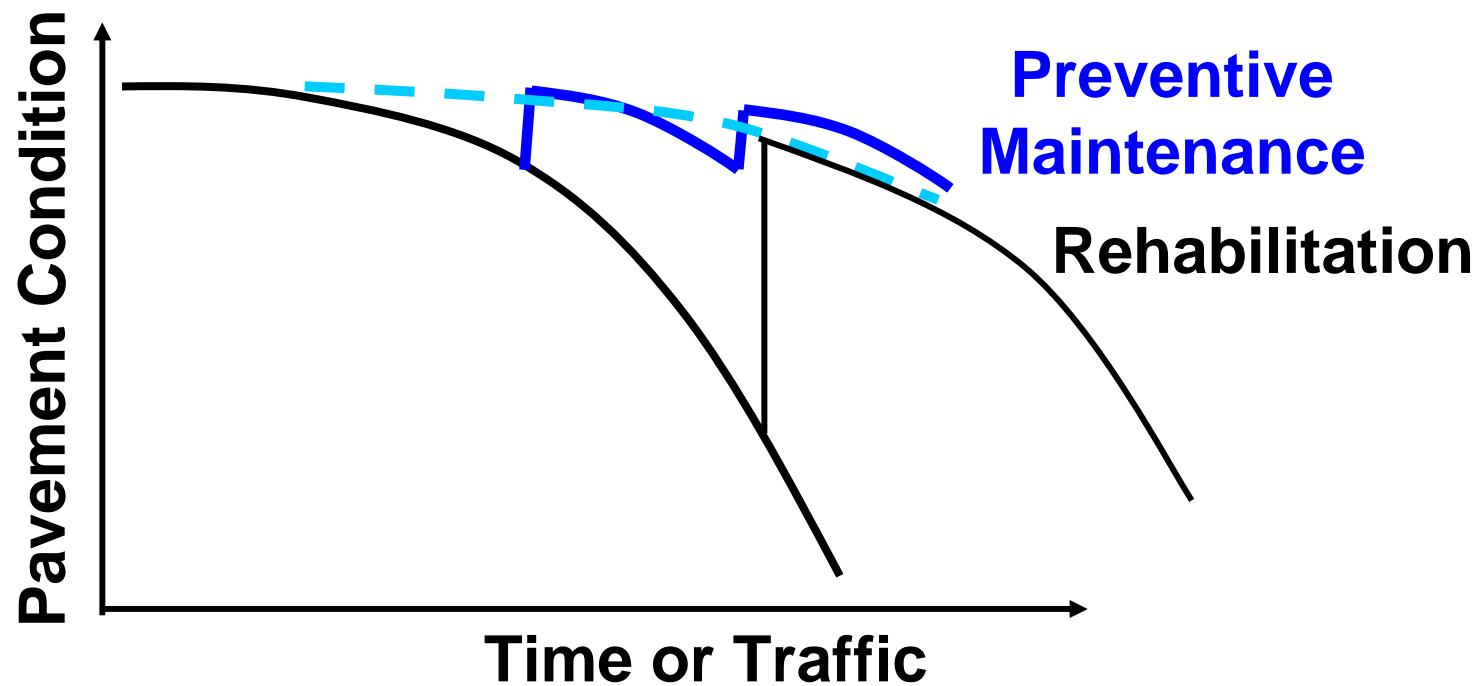


# Why do Preventive Maintenance?

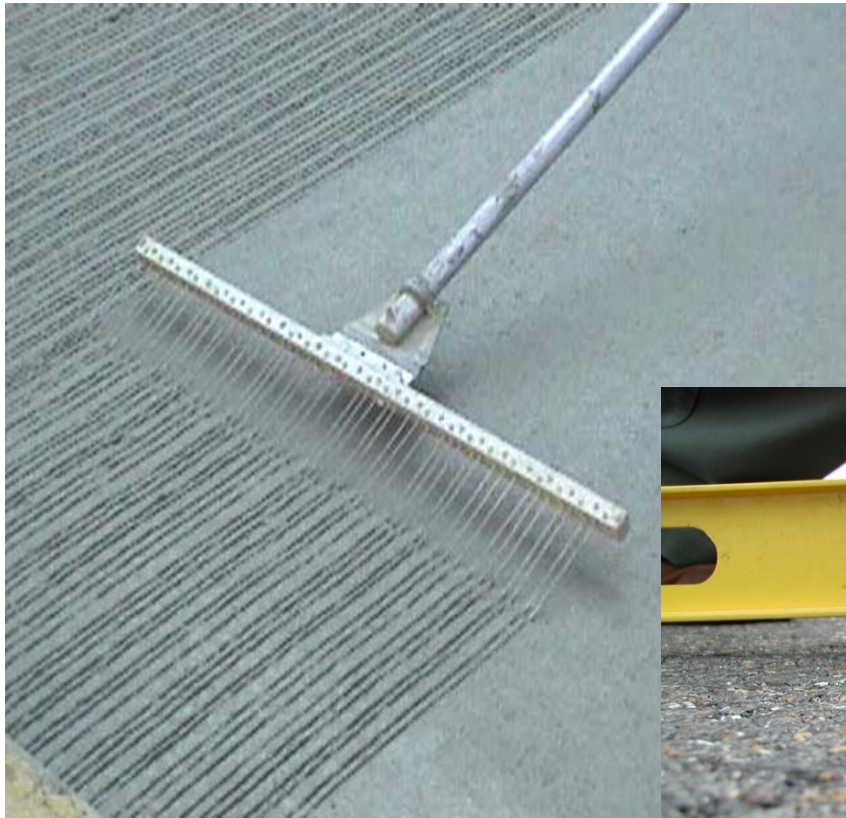
# Cost Savings



# Improved Performance



# Increased Safety





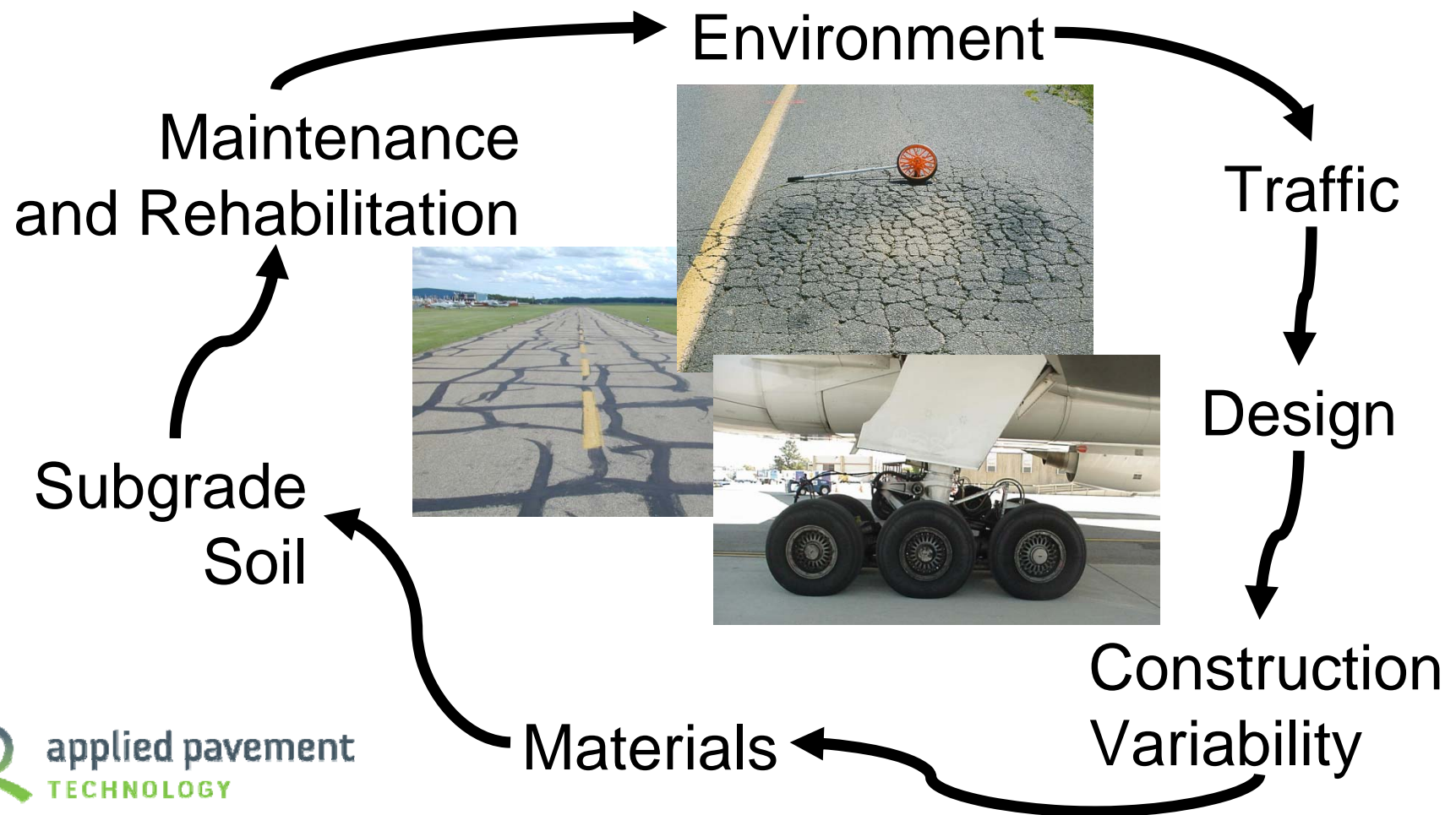
# Other Benefits

- Reduce FOD potential
- Improve operational effects of pavement works

# What Defines Successful Preventive Maintenance?

- Understanding of pavement performance
- Accurate assessment of pavement conditions
- Access to treatments that can be used for timely intervention
- Monitoring and follow up

# Understanding Performance



# HMA Distress *Corrected* with Preventive Maintenance

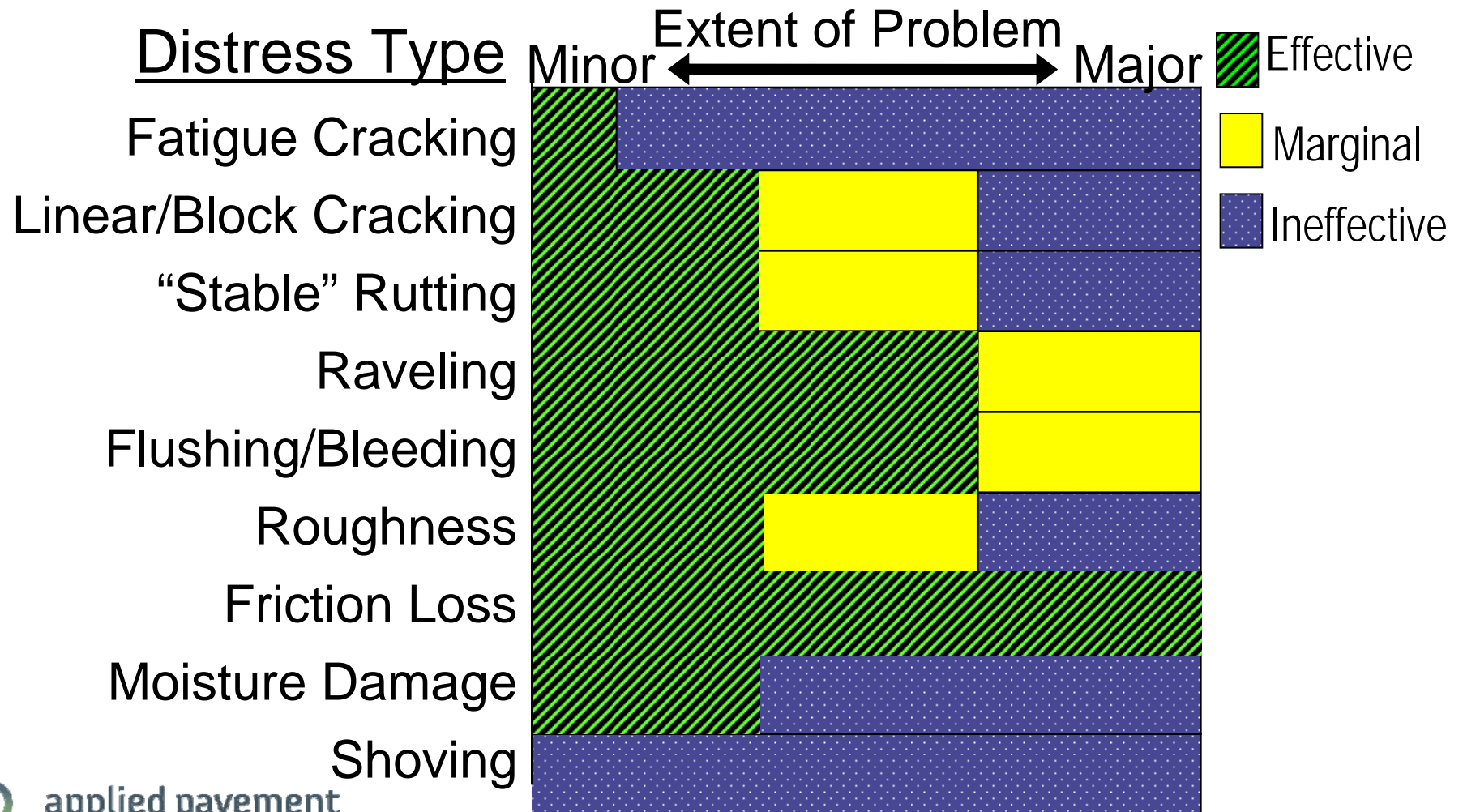
- Minor rutting
- Raveling/oxidation
- Bleeding/flushing
- Surface friction loss
- Roughness



# HMA Distress *Reduced/Slowed* with Preventive Maintenance

- Oxidation/raveling
- Block cracking
- Edge cracking
- Crack deterioration
- Roughness

# Maximum Allowable Distresses-- HMA Pavements



# PCC Distress *Corrected* with Preventive Maintenance

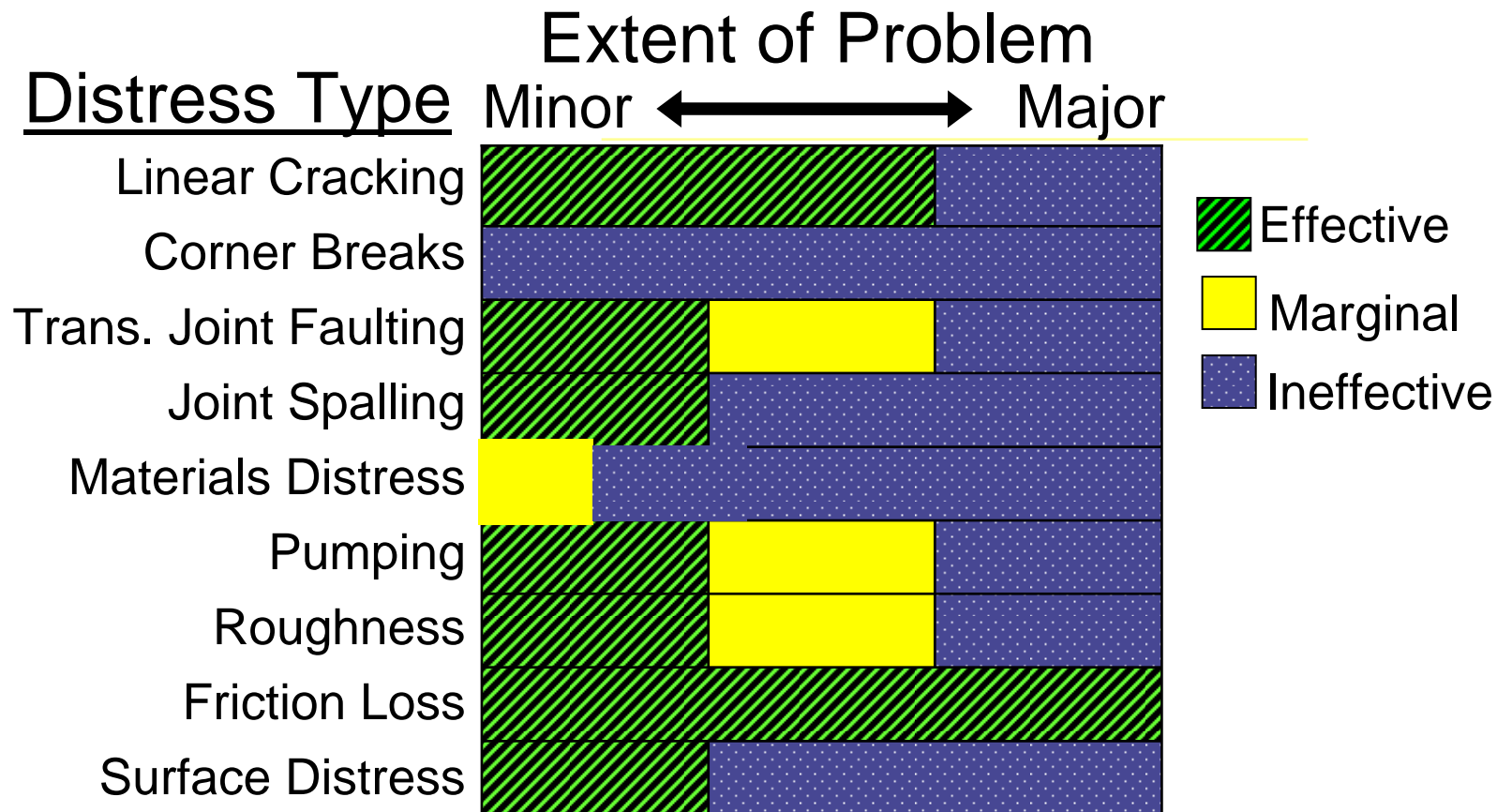
- Joint seal damage
- Map cracking and scaling
- Surface friction loss
- Roughness

# PCC Distress *Reduced/Slowed* with Preventive Maintenance

- Loss of fines (pumping)
- Corner breaks
- Joint faulting
- Joint spalling
- Crack deterioration
- Roughness
- Blow-ups



# Maximum Allowable Distresses-- PCC Pavements



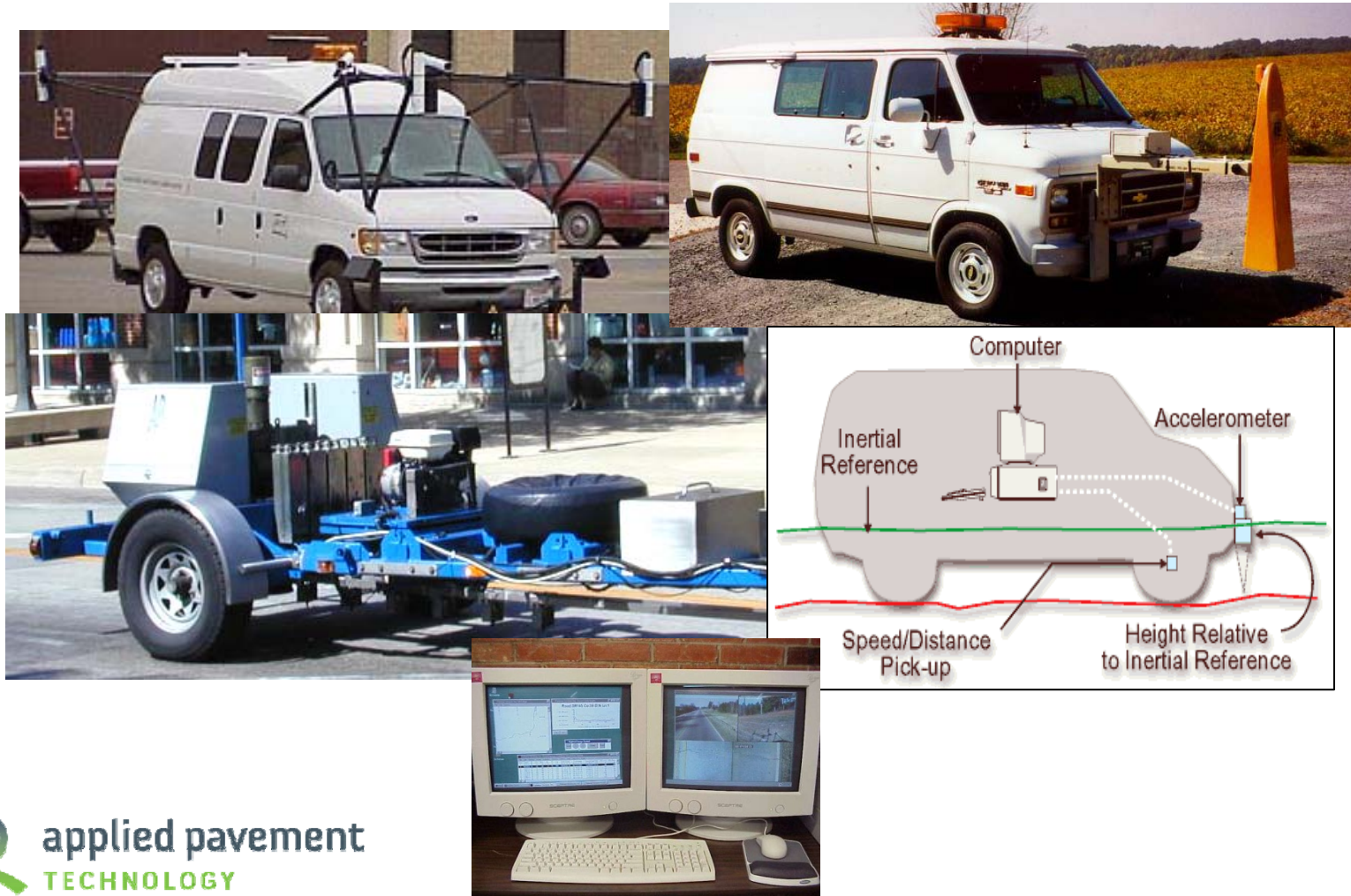
# Not Effectively Addressed by Preventive Maintenance

HMA Problems	PCC Problems
<ul style="list-style-type: none"><li>• Severe potholes</li><li>• Severely deteriorated cracks</li><li>• Delamination</li><li>• Unstable rutting</li><li>• Others?</li></ul>	<ul style="list-style-type: none"><li>• Blow-ups</li><li>• Corner breaks</li><li>• Severely deteriorated cracks</li><li>• Others?</li></ul>

# Assessment of Conditions

- Automated and rapid
- Manual methods

# Automated Assessment








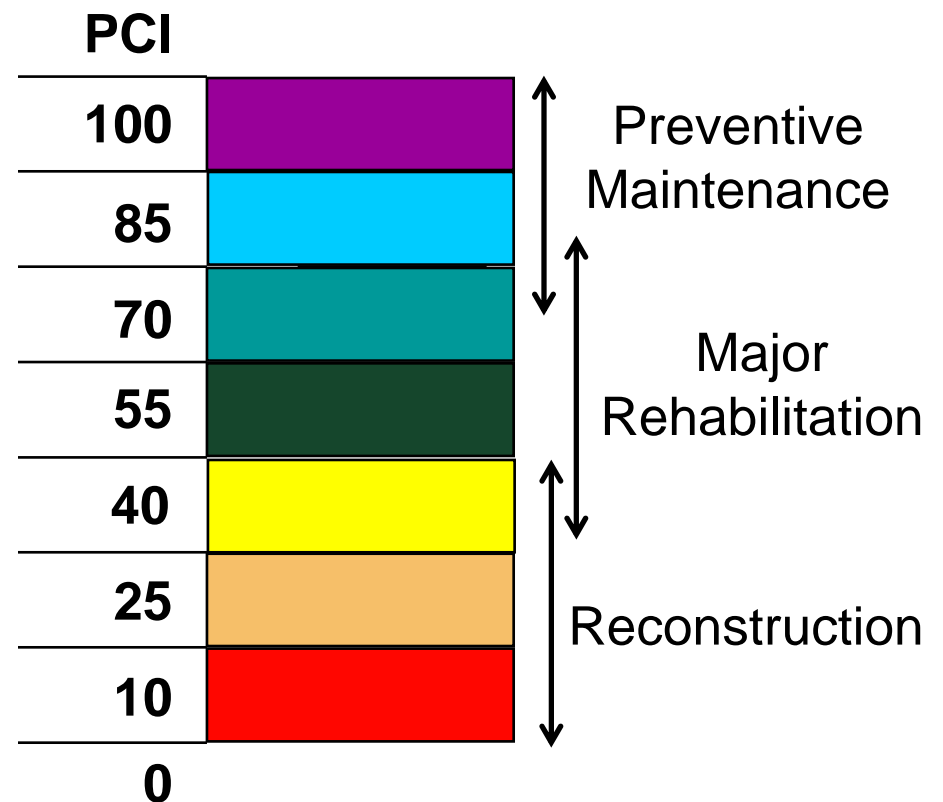
# Visual Inspection Using Pavement Condition Index (PCI) Procedure



- Visual signs of distress are identified and measured.
- Documented in AC 150/5380-6A and ASTM D5340.

# General Relations Between Condition and Action

Typical Pavement Surface	PCI
	100
	75
	20



# Questions to Resolve During Assessment

- Is pavement structurally adequate?
- Is pavement functionally adequate?
- Is the rate of deterioration normal?
- Are the materials durable?
- Is drainage adequate?
- Has previous maintenance been normal?
- Do other features require upgrading?

# Available Treatments

- Pavement types and typical performance
- Available materials
- Contractor capabilities
- Desired outcomes/objectives
- Manual of Practice to summarize and provide guidance

# Monitoring

- What was done?
- Where was it done?
- What was the effect?
  - What was the condition before?
  - How has it been since?

Those who cannot learn from history  
are doomed to repeat it



# Now What?

- Candidate pavements
  - Location
  - Condition
- Candidate treatments
  - Materials, contractors, experience
- Determine desired outcomes
- Test sections, if necessary

# Questions?

Thank you!

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