

Session 2: Preventive Maintenance and Pavement Preservation Concepts

Learning Outcomes

1. Define pavement preservation and preventive maintenance.
2. Describe characteristics of suitable pavements for preventive maintenance
3. Describe the importance of selecting and placing the “right” treatment and placing it at the “right” time
4. List the benefits of pavement preservation

Common Questions

- What is pavement preservation?
- What is the difference between “pavement preservation” and “preventive maintenance?”
- How does “preventive maintenance” differ from “corrective maintenance?”
- What characteristics make a treatment fit into the “preventive” category?

What is *Pavement Preservation*?

- Network level, long-term strategy
- Focus on extending pavement life and restoring functional condition
- Goals accomplished with preventive maintenance, minor rehabilitation, and routine maintenance

What is *Preventive Maintenance*?

- Cost effective treatments
- Applied to structurally sound pavements
- Maintain or improve functional condition
- Does not increase structural capacity

Pavement Preservation Philosophy



Evaluating Pavements for Pavement Preservation

- Condition
- Friction
- Roughness
- Ability to carry loads

What you don't see may be more important than what you do see!

Favorable Characteristics

- Few or limited structural problems
- No materials-related distress
- Pavements in overall relatively good condition (minimal distress)

Concrete Pavement Preservation Treatments

- Slab stabilization
- Partial-depth repairs
- Full-depth repairs
- Retrofitted edge drains
- Load transfer restoration
- Diamond grinding and grooving
- Joint resealing

How do these treatments differ from routine/reactive treatments?



*Similar treatments...
different TIMING!*

M&R Types vs. Condition/Time

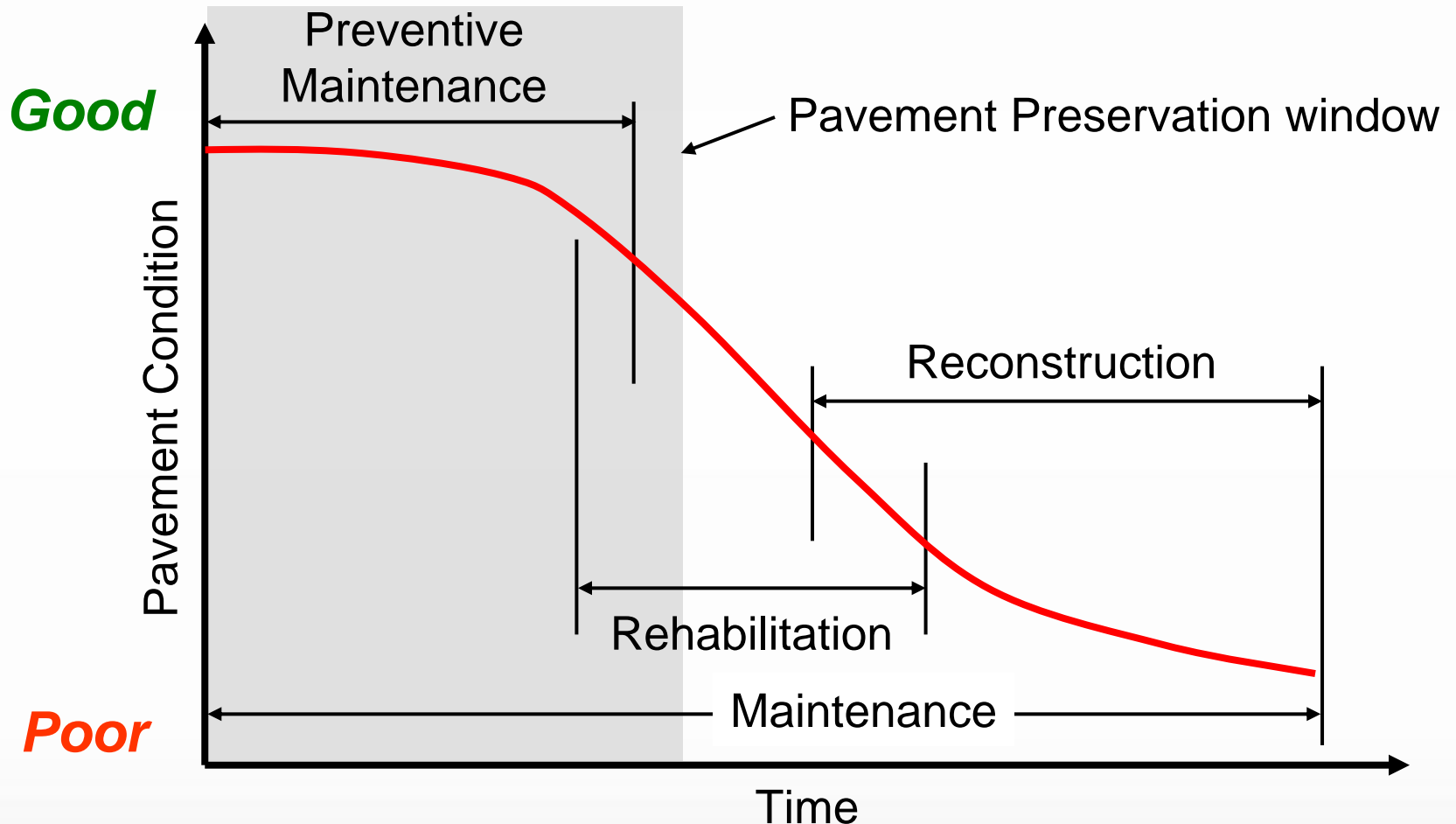


Fig. 2.1 on p. 2.3

PCC Problems *Reduced/Slowed* with Preventive Maintenance

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

PCC Problems *Corrected* with Preventive Maintenance

- Joint seal damage
- Isolated spalling or cracked slabs
- Faulting
- Surface friction loss
- Roughness

When Is It Too Late for Preventive Maintenance?

- Blow-ups
- Corner breaks
- Severely deteriorated cracks
- Materials-related distress
- Punchouts (CRCP)

Benefits of Pavement Preservation

- Better informed decisions
- Higher customer satisfaction
- Improved strategies and techniques
- Improved pavement condition
- Cost savings
- Increased safety

State DOT PM Initiatives

- Preservation Engineer
- Manuals of Practice
- Test sections
- Research and training
- Links between preventive maintenance and pavement management
- Dedicated funding

Review: Learning Outcomes

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