Session 2: Preventive Maintenance and Pavement Preservation Concepts
What is *Pavement Preservation*?

- Network level, long-term strategy for enhancing pavement performance
- Focus on extending pavement life and restoring functional condition
- Goals accomplished with a collection of preventive maintenance treatments and a few minor rehabilitation and routine maintenance treatments
What is *Preventive Maintenance*?

- Cost effective treatments
- Applied to structurally sound pavements
- Maintain or improve functional condition
- Does not increase structural capacity
M&R Types vs. Condition/Time
Pavement Preservation Philosophy

Keeping good roads in good condition!
Favorable Characteristics for Preservation

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

- Higher customer satisfaction
- Improved pavement condition
- Cost savings
- Increased safety
Concrete Pavement Preservation Treatments

- Slab stabilization
- Slab jacking
- Partial-depth repairs
- Full-depth repairs
- Retrofitted edge drains
- Load transfer restoration
- Cross stitching
- Diamond grinding
- Diamond grooving
- Joint resealing
- Crack sealing
- Thin concrete overlay
Typical Performance of Selected Preservation Treatments

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Expected Performance (treatment life), years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete joint resealing</td>
<td>2 to 8</td>
</tr>
<tr>
<td>Concrete crack sealing</td>
<td>4 to 7</td>
</tr>
<tr>
<td>Diamond grinding</td>
<td>8 to 15</td>
</tr>
<tr>
<td>Diamond grooving</td>
<td>10 to 15</td>
</tr>
<tr>
<td>Partial-depth concrete patching</td>
<td>5 to 15</td>
</tr>
<tr>
<td>Full-depth concrete patching</td>
<td>5 to 15+</td>
</tr>
<tr>
<td>Dowel bar retrofit</td>
<td>10 to 15+</td>
</tr>
</tbody>
</table>

Table 2.5 on p. 2.9
Selection Factors for Pavement Preservation

- Existing pavement structure
- Existing pavement condition
- Current and future traffic
- Local climatic conditions
- Expected performance of the pavement
- Expected costs
- Construction considerations