State Pavement Management Practices for Concrete Pavement Preservation

Rick Miller – Pavement Management Engineer
Kansas Department of Transportation
October 3, 2018
Concrete in Kansas District 1
Concrete in Kansas District 2
Concrete in Kansas District 3
## Miles by Pavement Surface Type

<table>
<thead>
<tr>
<th>Pavement Surface Type</th>
<th>Miles</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>1402</td>
<td>12.4%</td>
</tr>
<tr>
<td>Composite</td>
<td>1441</td>
<td>12.7%</td>
</tr>
<tr>
<td>Other</td>
<td>8464</td>
<td>74.9%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>11307</strong></td>
<td></td>
</tr>
</tbody>
</table>
# Current Federal Distress State Distribution

<table>
<thead>
<tr>
<th></th>
<th>2018 Fed</th>
<th>PC</th>
<th>Asphalt</th>
<th>Total</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>690</td>
<td>41.8%</td>
<td>7117</td>
<td>67.3%</td>
<td>7807</td>
<td>63.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fair</td>
<td>923</td>
<td>55.9%</td>
<td>3430</td>
<td>32.4%</td>
<td>4353</td>
<td>35.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>37</td>
<td>2.3%</td>
<td>35</td>
<td>0.3%</td>
<td>72</td>
<td>0.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1650</td>
<td>10583</td>
<td>12233</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Good Fair Poor Components

- Combining Components
  - Smoothness/Rutting or Faulting/Cracking
  - Good Fair or Poor for each one
  - (Feeling pretty good again)
Current Federal Distress State Distribution

Fed PMS (Good/Fair/Poor) Roughness at bottom, cracking, faulting on top
Good Fair Poor Components

- Combining Components
  - Smoothness/Rutting or Faulting/Cracking
  - Good Fair or Poor for each one
  - (Feeling pretty good again)
<table>
<thead>
<tr>
<th>Action Options</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Slab Stabilization</td>
<td>Diamond Grind</td>
</tr>
<tr>
<td>Full Depth Repair</td>
<td>Joint/Crack Reseal</td>
</tr>
<tr>
<td>Partial Depth Repair</td>
<td>PC Overlays</td>
</tr>
<tr>
<td>Dowel Bar Retrofit</td>
<td>AC Overlays</td>
</tr>
<tr>
<td>Cross stitch</td>
<td></td>
</tr>
</tbody>
</table>

Which of these would you pick for Roughness, Cracking, Faulting, Combinations?
What is percent cracking on concrete?

• (sample images with no cracking, trans, and long)
Ooh! And these?
And these?

• (3” over 30’)

(3” over 30’)
Research to Reality
CPP in Reality
Reality in Kansas
Kansas Pavement Management
Inventory

• How much PC
  • How old
  • How covered
  • How CPPed
Condition

- Measured
- Predicted
Actions

• CPP Options in the Toolbox
Performance

• How have those options performed
What is next?