How Easy can it Get?
WSDOT’s Early Implementation Efforts Using Project R-23

Pavement Renewal Webinar
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Washington State Department Transportation
I-5 Joe Leary Slough to Nulle Road

MP 231.79 to MP 243.39
I-5 Project Requirements

- Spend money fast - get the project to contract within four months
- Fix the problem – provide long life cost effective solution
- Keep the project within the $25 million dollar budget
- Identify practices and techniques to reconstruct the pavement
- Provide a pavement design on the fly – an immediate pavement solution was needed to meet the project schedule
- Provide technical documents for contract specifications
- Convince the Region WSDOT was making the right choice – overcome WSDOT’s CSOL inexperience
R-23 - Repave
(Interactive Program)

- A user-friendly means of walking through the decision making process (multiple tables)
- A user-friendly means of navigating a large amount of information (required to produce long-life pavements)
Repave Objectives

- Identify approaches for using existing pavements in-place for rapid renewal project (and achieve long life – 50 years).
- Determine advantages and disadvantages for each approach.
- Develop detailed criteria on when an existing pavement can be used in-place, with or without significant modification.
- Identify practices and techniques to construct these types of pavements in a rapid renewal environment.
- Determine the optimal way to integrate the renewal pavement with adjacent pavements and structures.
R23 - Guidelines for Long Life Pavement Renewal

- Decision Matrix and design tables
- Pavement Assessment Manual
- Best Renewal Practices
  - Rigid
  - Flexible
- Guide Specifications
- Traffic Considerations
- Life Cycle Cost Analysis
- Life Cycle Assessment
- Emerging Technology
I-5 Flexible and Rigid Results

• Flexible
  – Pulverize Pavement Structure in Place and place a 10.5 inch AC overlay
  – Crack and seat the existing concrete and place a 7.5 inch AC overlay

• Rigid
  – Unbonded 10.5 inch concrete overlay
## Flexible and Rigid Agency Costs

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>CSOL (Base case)</th>
<th>HMA Rebuild</th>
<th>PCCP Rebuild</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Cost</strong></td>
<td>$1,000</td>
<td>19,006</td>
<td>23,403</td>
</tr>
<tr>
<td><strong>Saving</strong></td>
<td>0</td>
<td>4,397</td>
<td>+23</td>
</tr>
<tr>
<td><strong>%</strong></td>
<td>0</td>
<td>+23</td>
<td>+58</td>
</tr>
</tbody>
</table>
## Traffic Consideration

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>CSOL (Base Case)</th>
<th>HMA Rebuild</th>
<th>PCCP Rebuild</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # of closure</td>
<td>46</td>
<td>81</td>
<td>115</td>
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<tr>
<td>Savings %</td>
<td>0</td>
<td>+35</td>
<td>+69</td>
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<tr>
<td></td>
<td>0</td>
<td>+75</td>
<td>+150</td>
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</table>
## Flexible and Rigid - User Costs

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>CSOL (Base case)</th>
<th>HMA Rebuild</th>
<th>PCCP Rebuild</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>User PV</strong></td>
<td>$1,000</td>
<td>4,120</td>
<td>5,701</td>
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<tr>
<td><strong>Saving PV</strong></td>
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<td>1,581</td>
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<tr>
<td></td>
<td>%</td>
<td>+0</td>
<td>+38</td>
</tr>
</tbody>
</table>
Other Projects

- I-5 Federal Way SB - CSOL
- I-5 Federal Way NB - CSOL
- I-90 Cle Elum – Unbonded Concrete Overlay
- I-90 Spokane - HMA Widening
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