PAVEMENT COLLABORATION IN THE INLAND NORTHWEST

Idaho Asphalt Conference 2012
Chris Sneider, PE - URS Corporation

INLAND EMPIRE ASCE SECTION
OVERVIEW

- Committee
- Questionnaires
- ACP Report
- Future

CREATING A COMMITTEE

- Beginning
- Concerns
- Proposal
WHO IS ON COMMITTEE?

- Chris Sneider, PE, M. ASCE (Chairperson-URS),
- Phil Barto, PE, M. ASCE (Fleet Services),
- Dr. Fouad Bayomy, PE, M. ASCE (University of Idaho),
- Chad Coles, PE (Spokane County),
- Kelvin Daratha, EIT, Student M. ASCE (Washington State University),
- Rebecca Derby, (BWA),
- John Finnegan, PE, M. ASCE (Budinger and Associates),
- Howard Hamby, Pavement Manager (Spokane County),
- Steve King, PE, M. ASCE (Wenatchee),
- Paul Lennemann, PE, M. ASCE (Spokane County),
- Bill Melvin, PE, M. ASCE (Post Falls),
- Gary Nelson, PE, M. ASCE (City of Spokane),
- Mark Serbousek, PE (City of Spokane),
- Dr. Shihue Shen, M. ASCE (Washington State University),
- Laura Sliger, PE, M. ASCE
- Hank Swift, PE, GE, M. ASCE (HKS Engineers),
- Jim Whitbread, PE, M. ASCE (Stevens County)

GOAL

Improve Pavements
QUESTIONNAIRES

- Inland Empire Local Agencies
- 2011 NWPMA Conference

INLAND EMPIRE QUESTIONNAIRE

- No. 1 Issue: Funding
- Interest in alternative technologies
- PCI 60 to 80
- $1,200 to $16,000/mile
NWPMA QUESTIONNAIRE

• No. 1 Issue: Funding
• Alternative technologies

CONTRACTOR INPUT

• Warm Mix
• Current designs are better
• Increase percentage of RAP
• You design it, we will build it.
RECAP

• Asphalt pavements
• City and county roads
• Provide starting point for alternatives
TOPICS

- Pavement Section Design
  - Subgrade Improvement Methods
- Construction Best Practices
- Pavement Management Systems
- Preservation
- Alternative Methods

ACP REPORT

- Numerous Drafts
- Audience
- Publish - http://www.asce-ie.org
1.0 PAVEMENT SECTION DESIGN

- AASHTO
- ITD materials manual
- Matrix methods
- Mechanistic Method

1.1 SUBGRADE IMPROVEMENT METHODS

- Over-excavation
- Increase base thickness
- Cement Treatment
- Geogrids
- Drainage

- Lime Treatment
- Asphalt Treated Base
2.0 CONSTRUCTION BEST PRACTICES

- Timing
- Joints
- Weather

Resource:
National Highway Institute

3.0 PAVEMENT MANAGEMENT SYSTEMS

- Best first vs. worst first
4.0 PRESERVATION

PAVEMENT INDEX CURVE

HTTP://WWW.FHWA.DOT.GOV/PAVEMENT/PRESERVATION/PPC0621.CFM

PRESERVATION

- No single treatment option
- Addresses deficiencies early
- Benefits accrue overtime
### PRESERVATION METHODS

<table>
<thead>
<tr>
<th>Method</th>
<th>Approx. Cost</th>
<th>Frequency</th>
<th>Inland Empire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crack Seals</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Fog Seals</td>
<td>$0.15/sy</td>
<td>2 to 5 years</td>
<td>Yes</td>
</tr>
<tr>
<td>Chip Seal</td>
<td>$3.70/sy</td>
<td>7 to 11 years</td>
<td>Yes</td>
</tr>
<tr>
<td>Slurry Seal</td>
<td>$2 to $5/sy</td>
<td>7 to 11 years</td>
<td>Occ.</td>
</tr>
<tr>
<td>Cape Seal</td>
<td>$6.50 to $11.50/sy</td>
<td>7 to 11 years</td>
<td>Occ.</td>
</tr>
<tr>
<td>Overlay</td>
<td>varies</td>
<td>varies</td>
<td>Yes</td>
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</table>

### PAVEMENT CONDITION INDEX STRATEGIES

<table>
<thead>
<tr>
<th>PCI</th>
<th>SURFACE CONDITION</th>
<th>PRESERVATION STRATEGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 To 85</td>
<td>Excellent</td>
<td>Crack Sealing, Fog Sealing</td>
</tr>
<tr>
<td>84 To 70</td>
<td>Good</td>
<td>Minor Spot Repairs, Surface Seal</td>
</tr>
<tr>
<td>69 To 55</td>
<td>Fair</td>
<td>Minor to Heavy Spot Repairs, Surface Seals, Thin Overlays</td>
</tr>
<tr>
<td>54 To 40</td>
<td>Poor</td>
<td>Heavy Spot Repairs, Thick Overlays</td>
</tr>
<tr>
<td>39 to 0</td>
<td>Failed</td>
<td>Reconstruct or Heavy Repairs &amp; Thick Overlays</td>
</tr>
</tbody>
</table>
5.0 ALTERNATIVE METHODS

**USED**
- Full Depth Reclamation
- Warm Mix Asphalt
- Reclaimed Asphalt Product RAP

**OCCASIONALLY**
- Crack Retardant Fabrics
- Micro Thin Overlays
- Ultra Thin White Topping
- Hot in Place Recycling
- Cold in Place Recycling
- Polymer Modified HMA
- Perpetual Pavements

ACP REPORT CONCLUSION

- Best first management
- Preservation
- Pavement technologies
- Pilot projects
COMMITTEE RECOMMENDATIONS

- Questionnaires
- Define goals early
- Round robin discussions
- Meeting minutes with tasks and due dates
- Delegate

COMMITTEE FUTURE

- Preservation and alternative methods
- Best first practices
- Better engage the contractors
- More cities and counties
QUESTIONS???

- Chris Sneider, PE 509-435-2076
- Chris.Sneider@urs.com
- http://www.asce-ie.org