

INLAND EMPIRE PAVEMENT COMMITTEE

NWPMA 2012 Fall Conference

Chris Sneider, PE - URS Corporation



INLAND EMPIRE ASCE SECTION

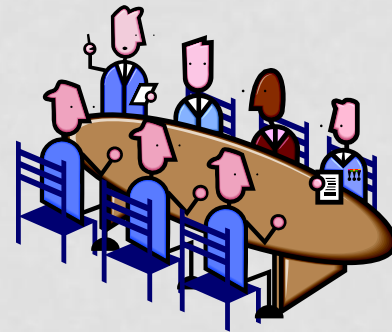


OVERVIEW

- Committee
- Questionnaires
- ACP Report
- Future

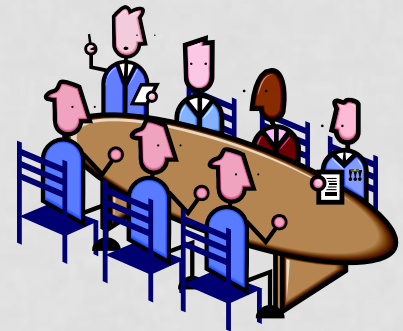
CREATING A COMMITTEE

- Beginning
- Concerns
- Proposal



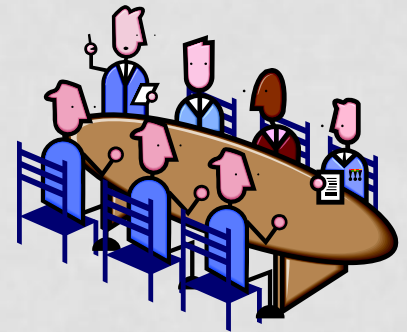
WHO IS ON COMMITTEE?

- **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



REFINED GOAL

- 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

<http://www.nhi.fhwa.dot.gov/default.aspx>



3.0 PAVEMENT MANAGEMENT SYSTEMS

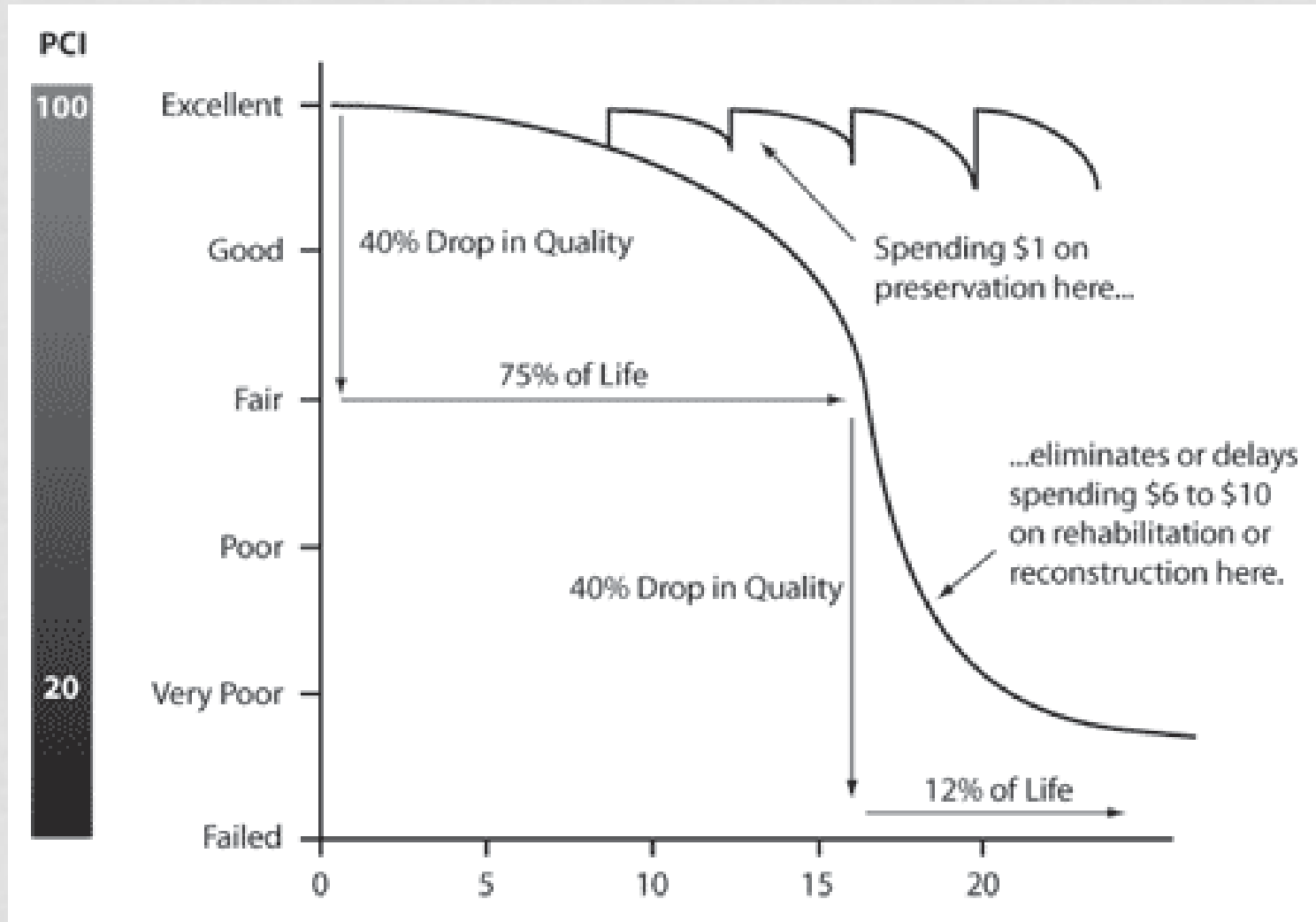
- Best first vs. worst first



4.0 PRESERVATION

PAVEMENT INDEX CURVE

[HTTP://WWW.FHWA.DOT.GOV/PAVEMENT/PRESERVATION/PPC0621.CFM](http://www.fhwa.dot.gov/pavement/preservation/ppc0621.cfm)



PRESERVATION

- No single treatment option
- Addresses deficiencies early
- Benefits accrue overtime



PRESERVATION METHODS

Method	Approx. Cost	Frequency	Inland Empire
Crack Seals			Yes
Fog Seals	\$0.15/sy	2 to 5 years	Yes
Chip Seal	\$3.70/sy	7 to 11 years	Yes
Slurry Seal	\$2 to \$5/sy	7 to 11 years	Occ.
Cape Seal	\$6.50 to \$11.50/sy	7 to 11 years	Occ.
Overlay	varies	varies	Yes

PAVEMENT CONDITION INDEX STRATEGIES

<u>PCI</u>	<u>SURFACE</u> <u>CONDITION</u>	<u>PRESERVATION STRATEGY</u>
<u>100 To 85</u>	<u>Excellent</u>	<u>Crack Sealing, Fog Sealing</u>
<u>84 To 70</u>	<u>Good</u>	<u>Minor Spot Repairs, Surface Seal</u>
<u>69 To 55</u>	<u>Fair</u>	<u>Minor to Heavy Spot Repairs, Surface Seals, Thin Overlays</u>
<u>54 To 40</u>	<u>Poor</u>	<u>Heavy Spot Repairs, Thick Overlays</u>
<u>39 to 0</u>	<u>Failed</u>	<u>Reconstruct or Heavy Repairs & Thick Overlays</u>

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???

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