

**Rocky Mountain
Pavement Preservation Partnership
Meeting**

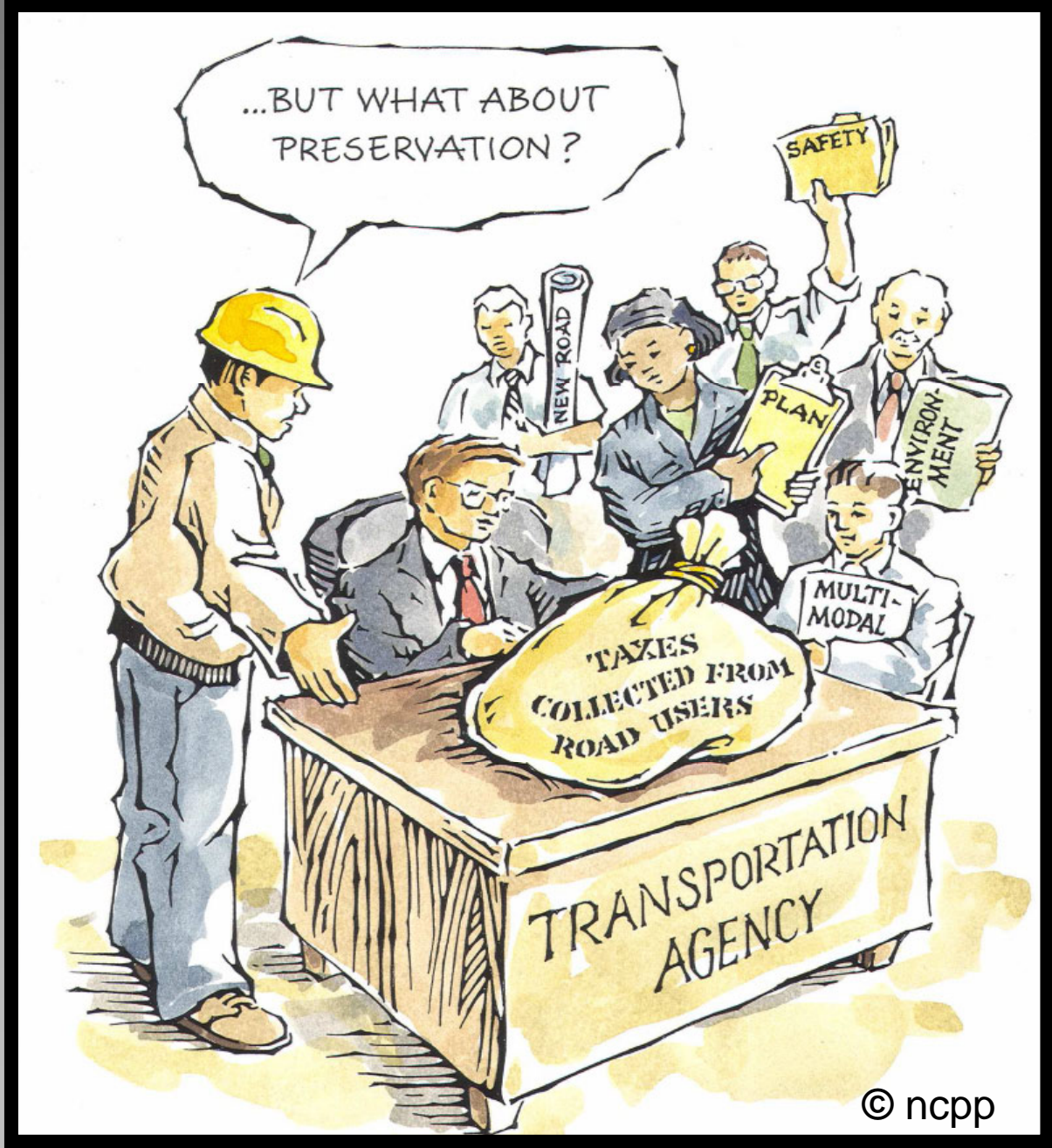
**AASHTO TSP-2
&
NCPP Update**

**Larry Galehouse, PE, PS
October 28, 2008
Albuquerque, NM**



Background
of the

AASHTO TSP-2



© ncpp

TSP · 2

an Acronym for -

**Transportation System Preservation
Technical Services Program**

TSP · 2

First Resolution Submitted by the Pavements Task Force

- July 14, 2003
- Duluth, Minnesota

“..to address the needs of Member Departments in the implementation of best practices for managing and preserving transportation infrastructure assets and to provide them technical guidance..”

TSP · 2

Resolution Submitted by Subcommittee on Maintenance

- July 1, 2004
- Bismarck, North Dakota

“..to address the needs of Member Departments in the implementation of best practices for managing and preserving transportation infrastructure assets and to provide them technical guidance..”

TSP · 2

Resolution Submitted to Standing Committee on Highways (SCOH) and Approved by the AASHTO Board of Directors

- May 7, 2005
- Galloway, New Jersey

Phases of TSP.2

1. Establish Pavement Preservation Technical Services Program
2. Form Regional Pavement Preservation Partnerships
3. Rollout Bridge Preservation Technical Services Program and Partnerships

Phase 1: Pavement Preservation Technical Services Program

- ✓ Help Desk Activities
- ✓ Website
- ✓ Speakers Bureau
- ✓ Technical Exchange

Phase 2: Pavement Preservation Regional Partnerships

- ✓ Develop sound preservation practices by sharing information on treatment and repair designs, construction practices, performance measures, and research needs.
- ✓ All partnership members, regardless of affiliation, will be invited to share information.

Regional Pavement Preservation Partnerships



**Pavement Preservation Partnership
Map - May 2008**

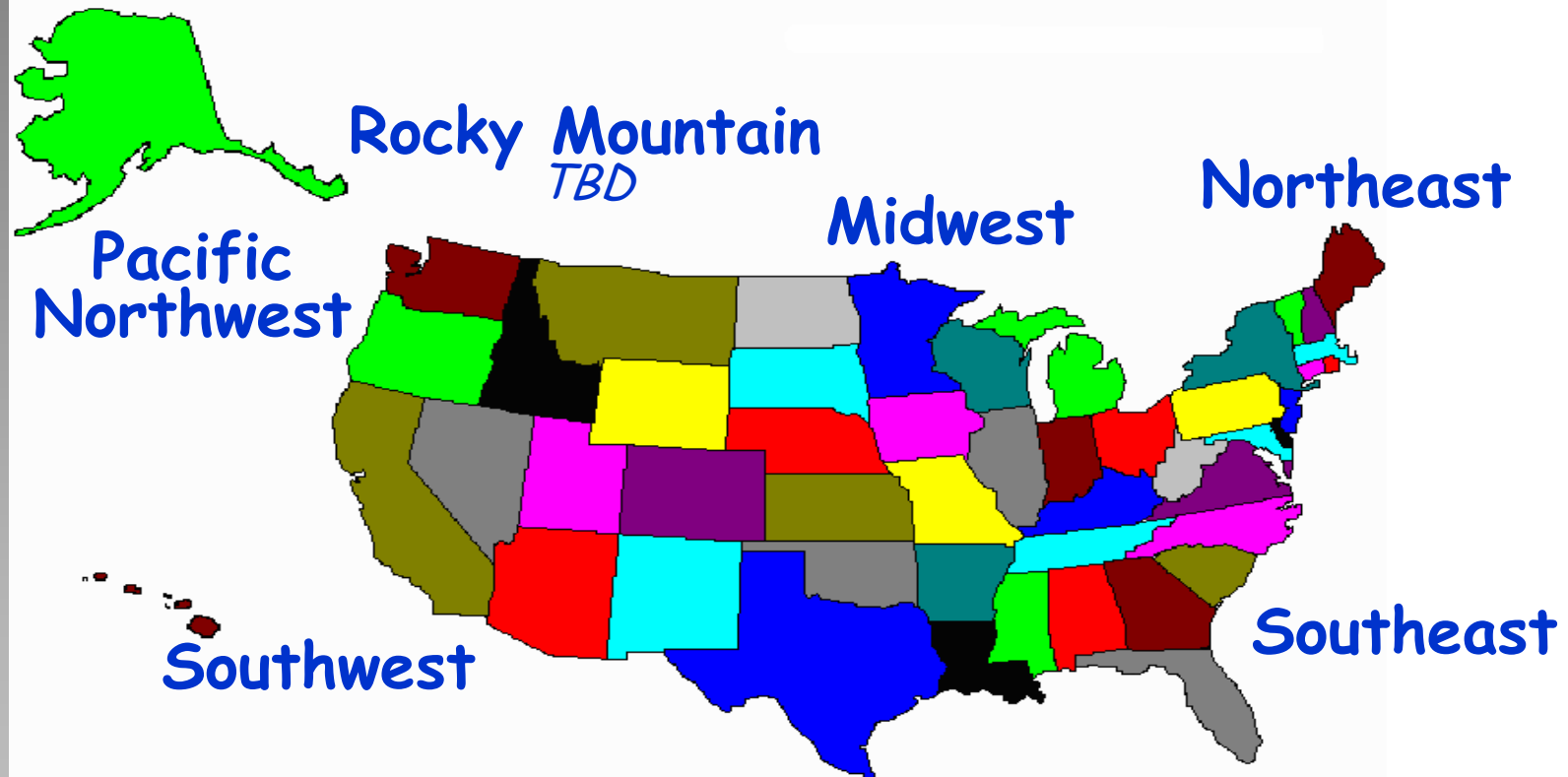
Phase 3: Bridge Preservation Technical Services Program and Partnerships

- ✓ Help Desk
- ✓ Website
- ✓ Technical Exchange

October 18, 2008 Approval by SCOH

October 20, 2008 Approved by BOD

Regional Bridge Preservation Partnerships



TSP · 2 Oversight Panel

- ✓ Steve Varnedoe, NCDOT, Chair
- ✓ Roy Risky, KDOT, Mississippi Valley Rep.
- ✓ Peter Weykamp, NYSDOT, NASHTO - Rep.
- ✓ John Vance, MDOT, SASHTO - Rep.
- ✓ Vacant, WASHTO Rep.
- ✓ Bruce Johnson, ODOT, Subcommittee on Bridges & Structures
- ✓ Judith Corley-Lay, NCDOT, Subcommittee on Design,
Joint Technical Committee on Pavements
- ✓ Colin Franco, RIDOT, Subcommittee on Materials
- ✓ Leonard Evans, ODOT, Subcommittee on Transportation
Asset Management
- ✓ Jim Sorenson, FHWA Liaison
- ✓ Ken Kobetsky, AASHTO Contact

TSP-2 Strategic Plan

Mission

To serve as the leading resource to the SHA members of AASHTO for advancing and improving highway preservation practices.

Vision

Use highway preservation techniques to achieve sustainable network condition levels that satisfy user needs cost-effectively.

TSP-2 Strategic Plan

Major Elements

- I. Improve Highway Preservation Effectiveness
- II. Facilitate the Exchange of Preservation Information
- III. Assist States with Implementation of Preservation Practices
- IV. Support Improvements to the Knowledge of Highway Preservation

AASHTO
THE VOICE OF TRANSPORTATION

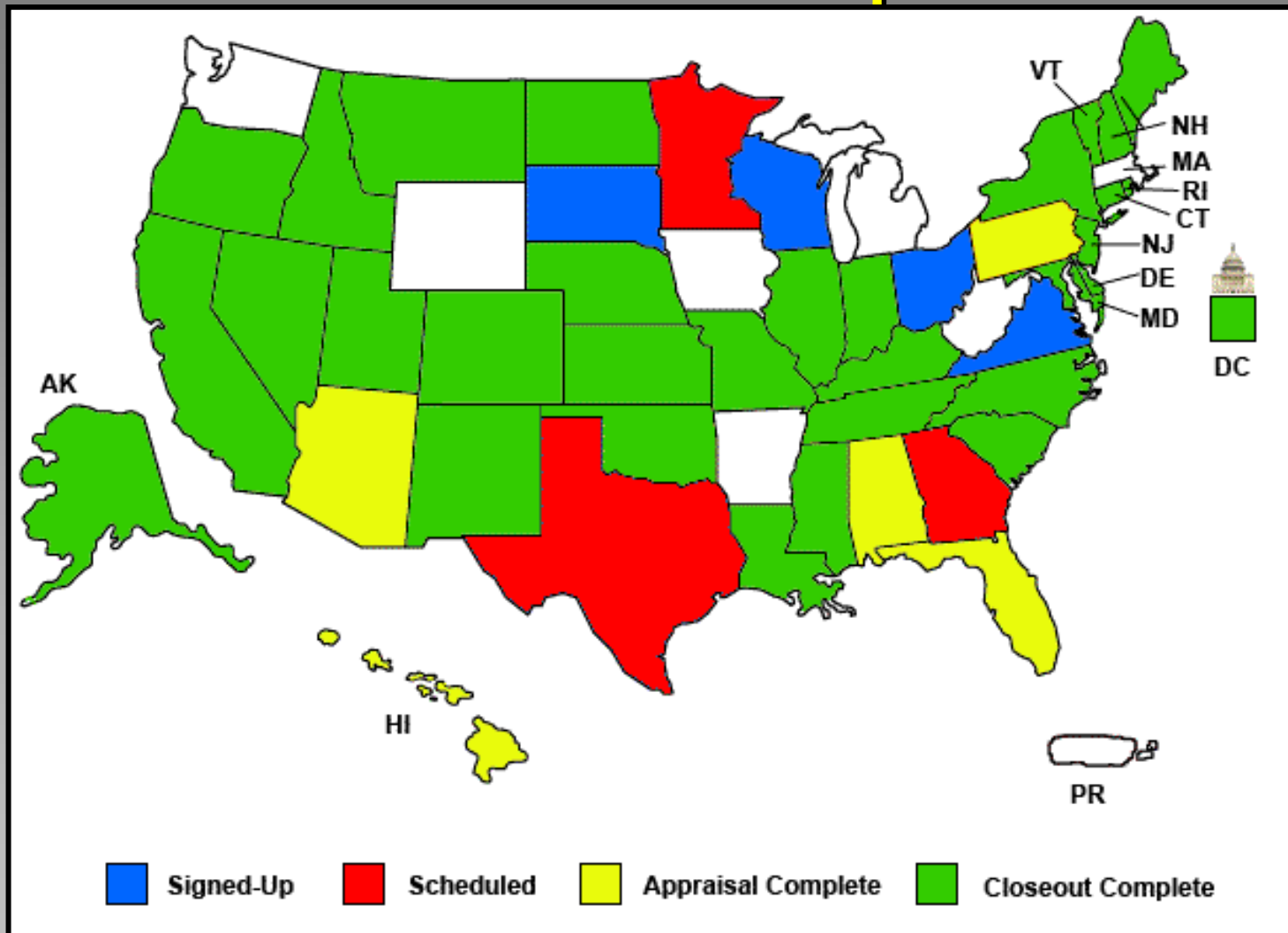
TSP.2

*Is Needed to Improve
the Practice of Preservation*

The FHWA Pavement Preservation Technical Appraisal Project

Preliminary Findings

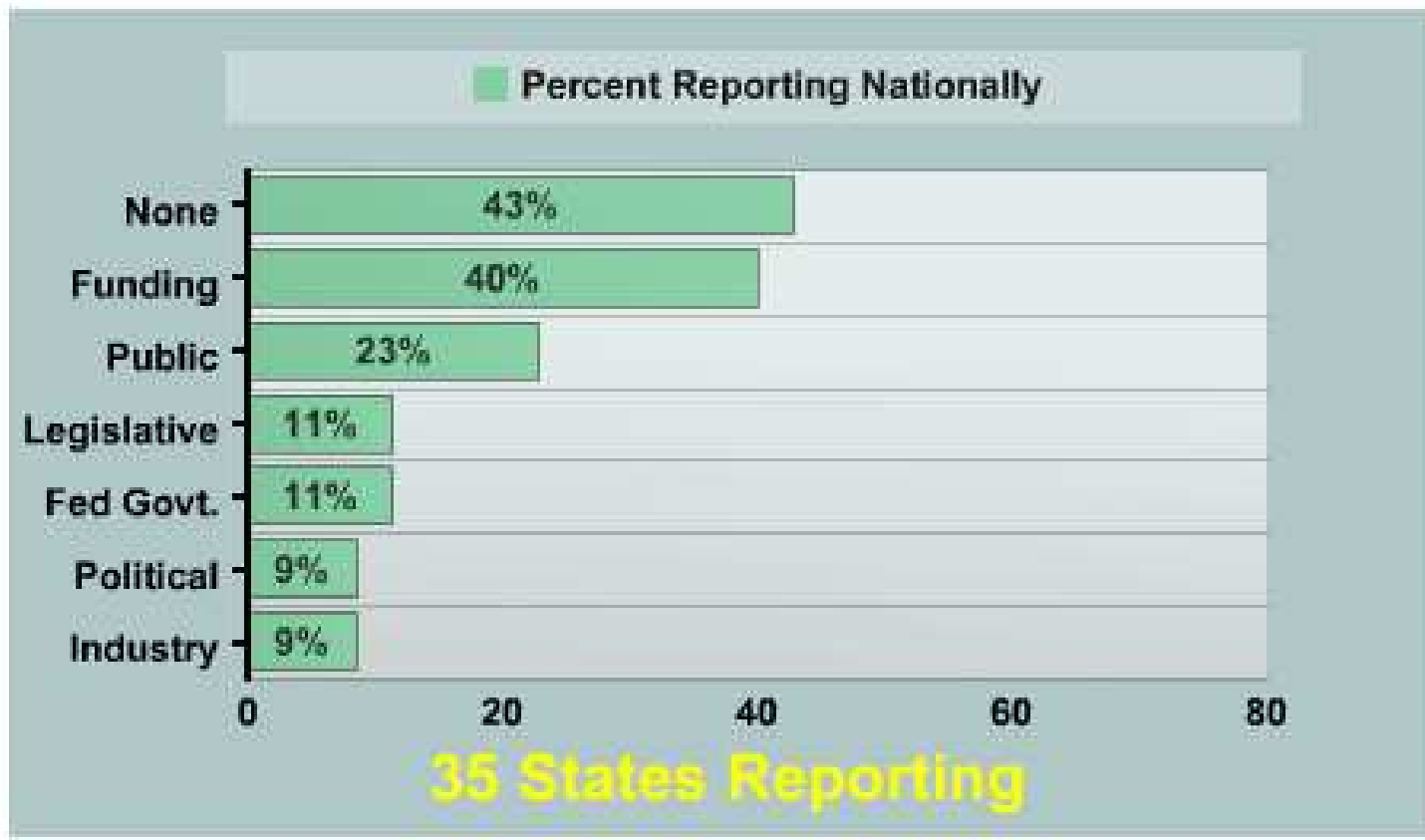
Status Map



Influences

What factors influenced your agency's decision to create a pavement preservation program?:

[View the Comments for this Chart](#)

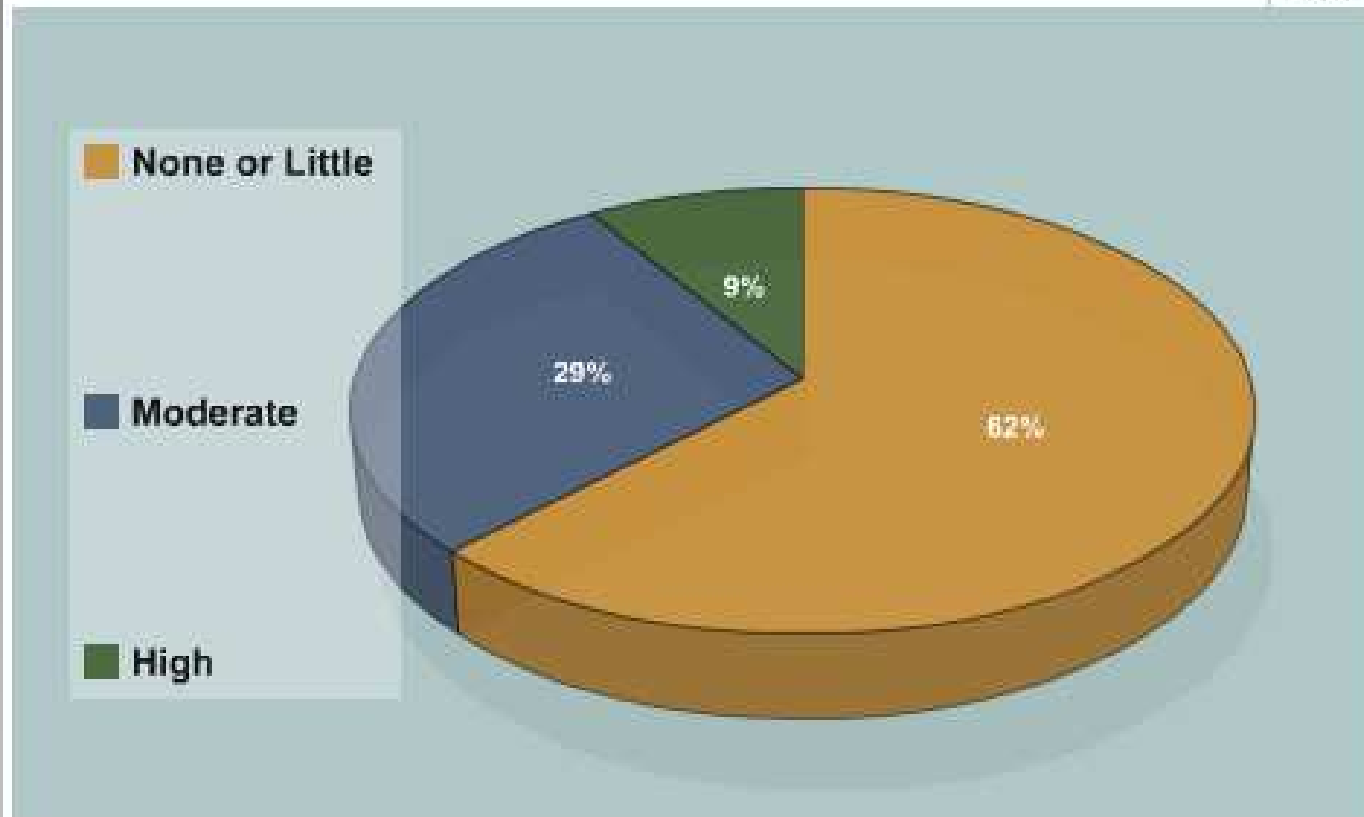


Pavement Management Systems

To what extent is the pavement preservation program integrated with the agency's pavement management system?:

[View the Comments for this Question](#)

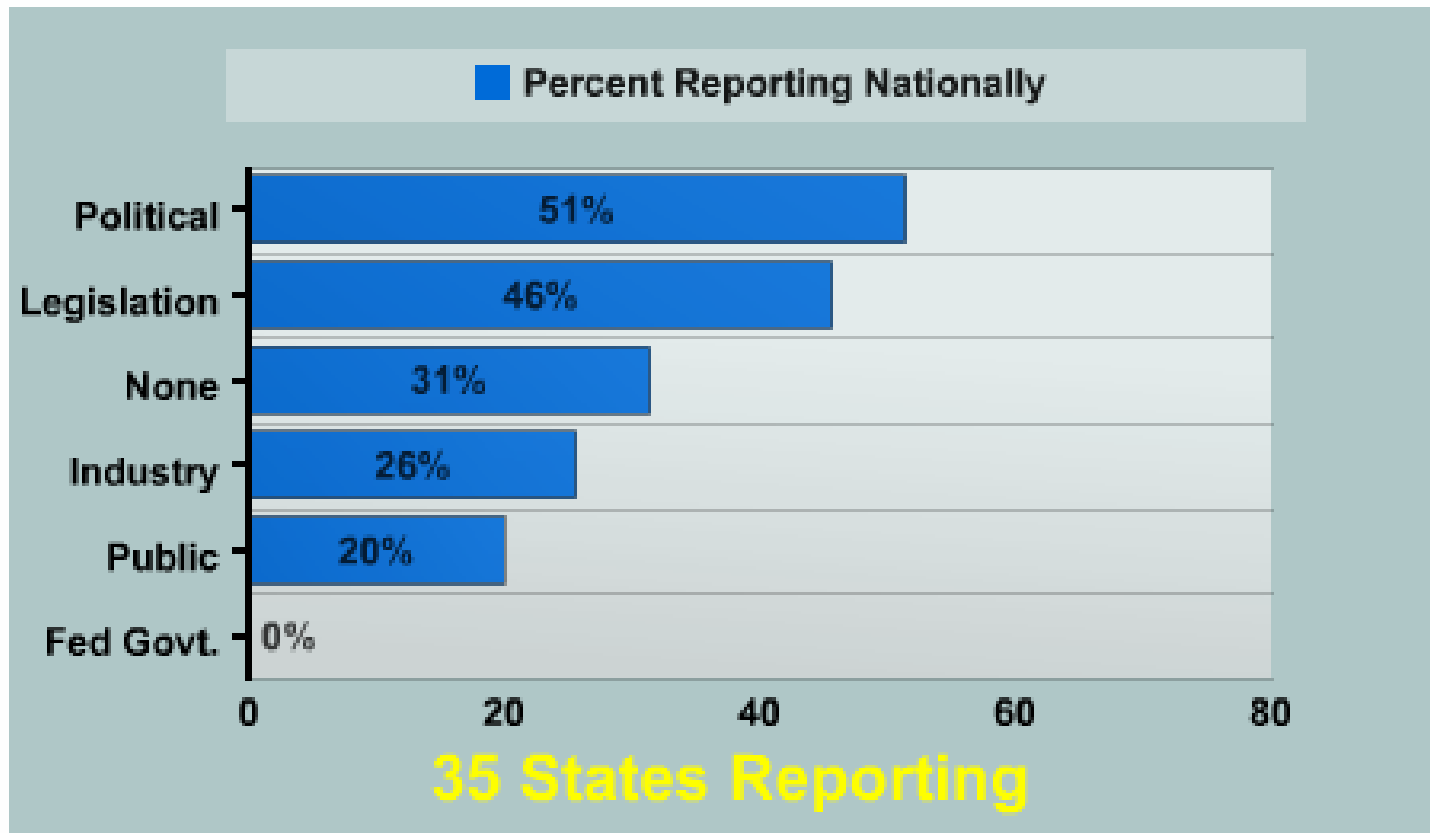
Block



Resistance

What pressures were encountered or are anticipated to forestall the adoption of pavement preservation technologies by your agency?:

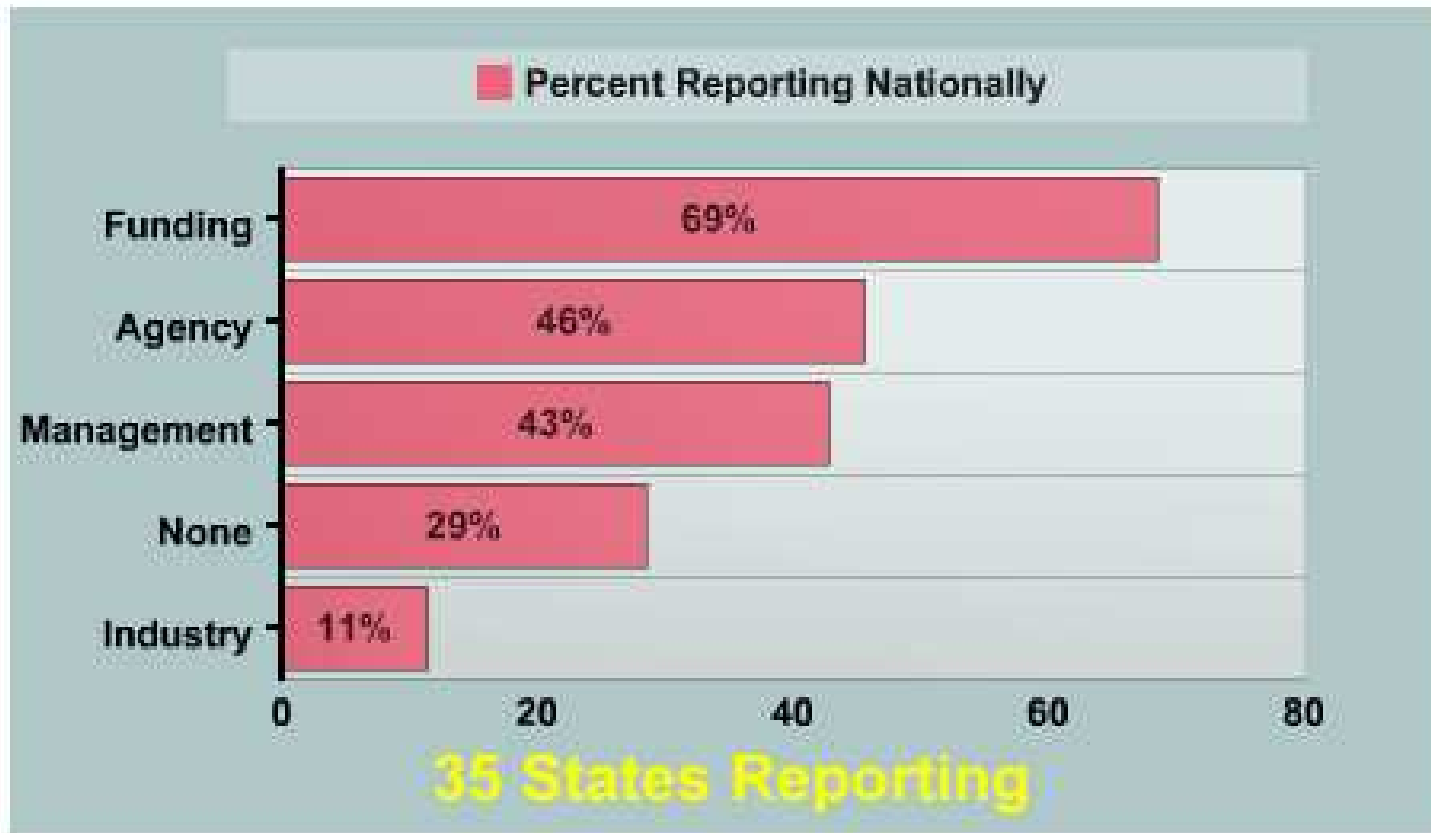
[View the Comments for this Chart](#)



Obstacles

What is the most significant obstacle to implementing a pavement preservation program in your state?:

[View the Comments for this Chart](#)



Treatment Toolbox

What treatments are currently used in the agency's preservation "toolbox"?:

(Agencies may choose more than one)

[View the Comments for this Question](#)

Treatment	Percent	Treatment	Percent	Treatment	Percent
None	0	Full Depth Repair	43	Rejuvenators	17
Cape Seals	6	Joint Re/Sealing	43	Scrub Seals	3
Chip Seals	86	Microsurfacing	77	Slab Replacement	6
Crack Filling	69	Mill & Resurfacing	54	Slurry Seals	40
Crack Sealing	63	Novachip®	34	Spall Repair	14
Diamond Grinding	54	Other	37	Recycling - Cold In-place	23
Dowel Bar Retrofits	40	Overlays - HMA	97	Recycling - Hot In-place	34
Flush Seals	3	Partial Depth Repair	23		
Fog Seals	31	Polymer Surface Treatments	9		

Greatest Potential for Success

What pavement preservation treatment has the greatest potential for success?:

[View the Comments for this Question](#)

Treatment	Percent	Treatment	Percent	Treatment	Percent
None	29	Flush Seals	0	Polymer Surface Treatments	3
Cape Seals	0	Fog Seals	3	Rejuvenators	0
Chip Seals	37	Full Depth Repair	0	Scrub Seals	0
Corner Break Repair	0	Joint Sealing	0	Slab Replacement	0
Crack Filling	11	Microsurfacing	0	Slurry Seals	0
Crack Sealing	3	Mill & Resurfacing	3	Spall Repair	0
Diamond Grinding	0	HMA Overlays	6	Surface CIR Recycling	0
Dowel Bar Retrofits	0	Partial Depth Repair	3	Surface HIR Recycling	11
Other	0	Novachip	0		

Chip Seal - 5 months old



Greatest Potential for Failure

What pavement preservation treatment has the greatest potential for failure?:

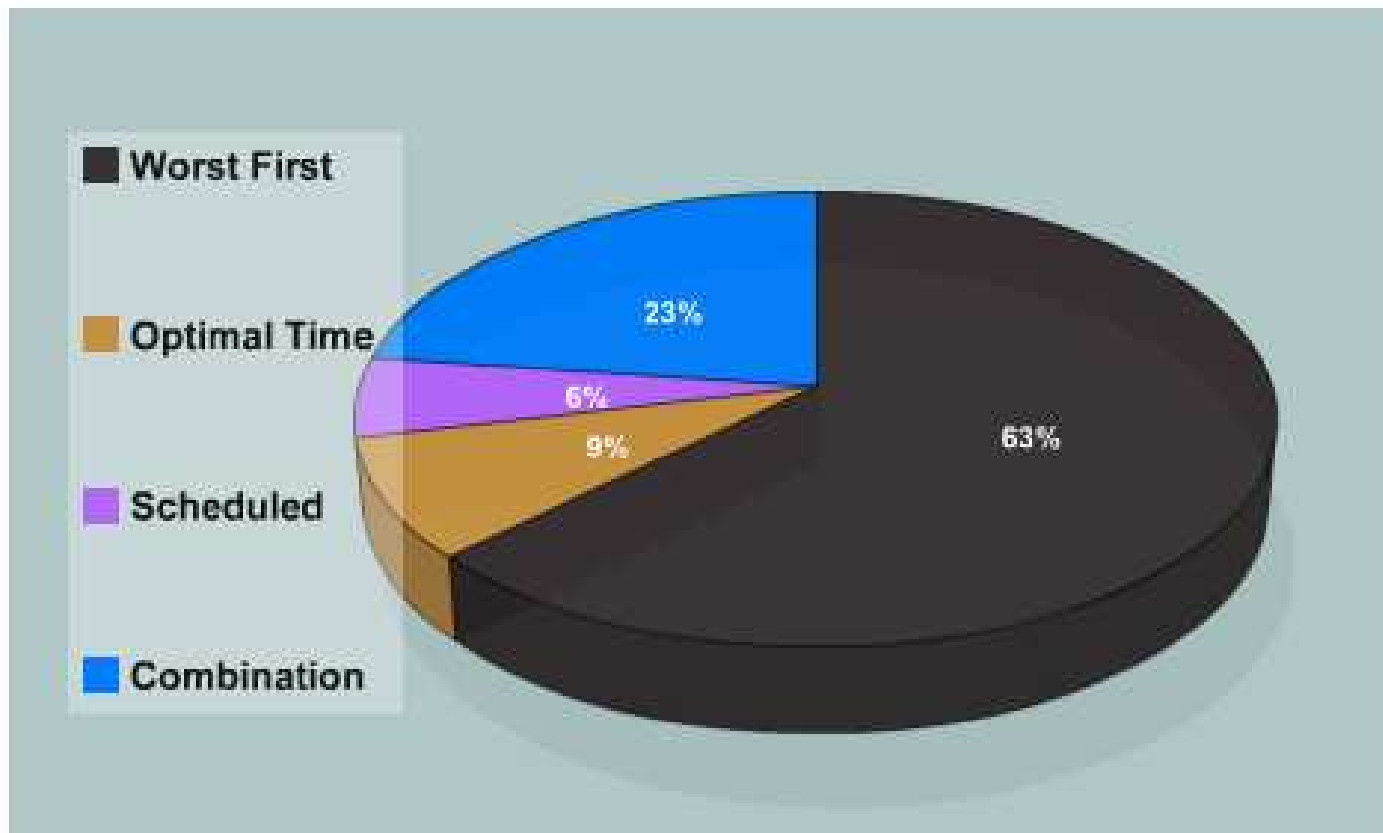
[View the Comments for this Question](#)

Treatment	Percent	Treatment	Percent	Treatment	Percent
None	11	Flush Seals	0	Polymer Surface Treatments	0
Cape Seals	0	Fog Seals	3	Rejuvenators	0
Chip Seals	43	Full Depth Repair	0	Scrub Seals	3
Corner Break Repair	0	Joint Sealing	0	Slab Replacement	0
Crack Filling	6	Microsurfacing	20	Slurry Seals	3
Crack Sealing	0	Mill & Resurfacing	0	Spall Repair	0
Diamond Grinding	0	HMA Overlays	0	Surface CIR Recycling	0
Dowel Bar Retrofits	0	Partial Depth Repair	3	Surface HIR Recycling	6
Other	3	Novachip	0		

Project Selection

How does the agency prioritize the projects for the pavement preservation program?:

[View the Comments for this Question](#)



Tracking

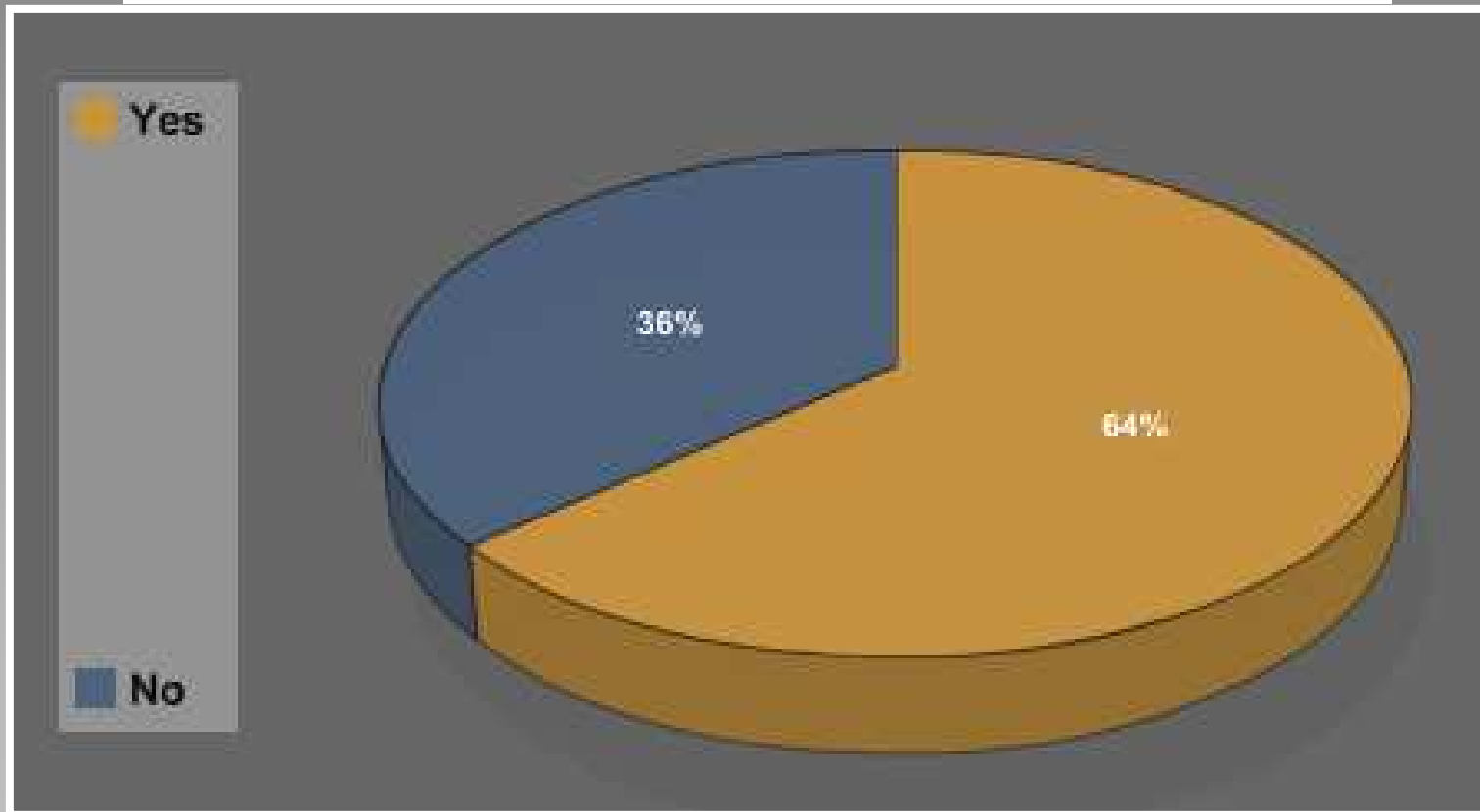
To what extent are the following Pavement Preservation factors tracked?:

To View the Comments for this Question Click the Factor Below

National Results	Not Tracked	Little	Somewhat	Moderate	Extensively
<u>Life Extending Benefits</u>	71%	17%	3%	6%	3%
<u>Performance</u>	51%	29%	11%	6%	3%
<u>Treatment Costs</u>	29%	29%	29%	9%	6%
<u>Cost Effectiveness</u>	77%	17%	3%	3%	0%

Quality Contractor Availability

Has the agency experience difficulty attracting quality contractors for preservation work?



Interim Findings

- A recognized need for pavement preservation
- Many agencies in early stage of a preservation program
- Poor experiences with many treatments
- Limited contractor base
- Limited suite of treatments in "toolbox"
- Great need for training and certification.

Interim Findings

(continued)

- Lack preservation program funding
- Internal resistance to change
- Need to expand public education/awareness
- Better tracking and PMS integration needed
- Need for greater FHWA Division support
- "Worst First" project selection paradigm

Purpose

Currently, no national standards to help guide pavement practitioners on the use of Polymer Modified Emulsions (PME).

Background

- ✓ Sponsored by FHWA Central Federal Lands Highway Division and FHWA Office of Asset Management
- ✓ NCPP contracted to develop best practice guide and model specifications
- ✓ NCPP actively working with a consortium of industry experts

Issues

- ✓ Emulsion physical & chemical properties do not always correlate with performance
- ✓ High distillation temperatures can alter physical properties of asphalt emulsion residue, including polymer structure
- ✓ New testing methods may delay shipping and application of emulsions
- ✓ Superpave PG specs do not address failure mechanisms of emulsion applications

Industry Experts

- ✓ GHK, Inc.
Dr. Gayle King
- ✓ BASF Corporation
Dr. Koichi Takamura & Chris Lubbers
- ✓ PRI Asphalt Technologies
Dr. Laurand Lewandowski
- ✓ Colorado State University
Dr. Scott Schuler

Goal #1

- ✓ **Develop performance-related specifications for polymer modified:**
 - **Chip Seals**
 - **Slurry Systems**
(includes Microsurfacing)
 - **Cape Seals**

Goal #2

- ✓ Create a framework for performance-based asphalt emulsion specifications that address problematic issues.
 - New Residue Recovery Method
 - New Tests to Measure Polymer Modification
 - Longer Time Necessary for Testing
 - Specifications that Reflect Actual Field Performance

TSP-2 Staff



Questions ?

MICHIGAN STATE
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Thank You !



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