



Advancing preservation through Outreach, Research, and Education

Larry Galehouse, P. E.
Midwestern Pavement Preservation Partnership Meeting
Des Moines, Iowa
October 26-28, 2010

Overview of NCPP Activities

- NCPP Background
- The NCPP Team
- Strategic Direction
- Outreach, Research, and Education
- Focus for 2011 and beyond

NCPP Background

The National Center for Pavement Preservation:

- Established in 2003
- Affiliated with the MSU College of Engineering
- Quasi-Governmental, Non-Profit Enterprise
- Focused on Outreach, Education, and Research in the area of System Preservation
- Experienced Staff of Practitioners with extensive agency backgrounds
- Principal Partners and Clients include AASHTO, FHWA, NCHRP, State and Local Agencies, Industry

NCPP Team

- Director- Larry Galehouse
 - Overall Center Management, Education and Training, Outreach, Research and TSP-2
- Associate Director- Steve Varnedoe
 - Outreach, Research, AASHTO Programs
- Project Specialist- John O'Doherty
 - Education, Training, Research
- Administrative Manager- Patte Hahn
 - Budget, Office Manager, Meeting Logistics

NCPP Team

- Patricia Miller - Education Specialist
 - Outreach, Admin., Meeting Logistics
- Gregg Gaddy - Information Technologist
 - Website, Technology transfer
- Ed Welch - Bridge Specialist
 - TSP-2 Bridge Preservation Program
- Nick Bourland - Accounts Manager
 - Accounting, Contracts & Grants
- Gregg George - Production Specialist
 - Digital Recording and Editing

NCPP Team

- Doyt Bolling - Local Program Specialist
 - Local Government Outreach and Training
- Gib Peasley - Local Program Specialist
 - Florida local government outreach
- Students - Michigan State University
 - NCPP employs up to five students each year
- Contract Staff and Consultants
 - NCPP regularly partners with a number of consultants for specific projects

NCPP Strategic Direction

Strategic Plan Update

- Initial plan completed in 2006
- Updated plan developed by expanded NCPP team 2009-2010
- Reflects Center's growth and influence
- Includes goals and metrics
- Supported by NCPP's Advisory Board
- Companion Business Plan developed to facilitate implementation

NCPP Strategic Direction

- Vision Statement:

The NCPP shall serve as the National resource for sustainability through preservation and maintenance of the Nation's Transportation System

- Mission Statement:

The mission of the NCPP is to advance preservation and maintenance to achieve a sustainable transportation system

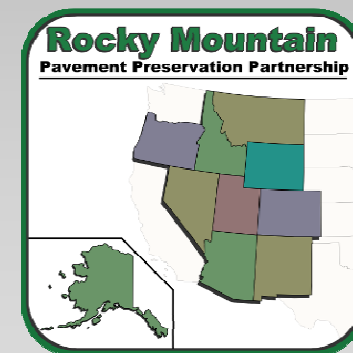
Outreach, Research, and Education

AASHTO Programs

Transportation System Preservation • Technical Services Program (TSP•2)

- Maintain a Help Desk for Pavement & Bridge Preservation
- Manage Website
- Facilitate Regional Pavement & Bridge Preservation Partnerships
- Digitally record and post Partnership meetings on TSP•2 Website

9 Regional Bridge & Pavement Preservation Partnerships



Outreach, Research, and Education

AASHTO Programs

Equipment Management Technical Services Program (EMTSP)

- Supported by AASHTO Subcommittee on Maintenance
- Targets DOT Fleet Management Executives
- Recognizes agency equipment fleet as a critical and valuable asset
- Focus on best practices, new technology, specifications
- Establishes new /supports existing Regional Equipment Partnerships

Construction Magazine Stories



Outreach, Research, and Education

FHWA Pavement Preservation Technical Appraisals

- Completed pavement preservation program appraisals in 41 states since 2005
- Completed appraisals of Federal Lands Highway Division, National Park Service, U.S. Fish & Wildlife, and major counties
- Completed development and refinement of database of appraisal findings



Quick Links

- [About](#)
- [Appraisal Status Map](#)
- [Contact Us](#)
- [Help & Support](#)

Introduction to the Appraisal System

The Technical Appraisal System is administered and hosted by the [National Center for Pavement Preservation \(NCPP\)](#), and is supported by the [Federal Highway Administration \(FHWA\)](#). Surveys of the individual state departments of transportation began in early August 2005 and are ongoing. New survey results are added as they become available, so check back frequently.

To the extent practical, state appraisal responses have been quantified to obtain national, aggregate trends with respect to the implementation and acceptance of pavement preservation practices.



www.pavementpreservation.org/survey

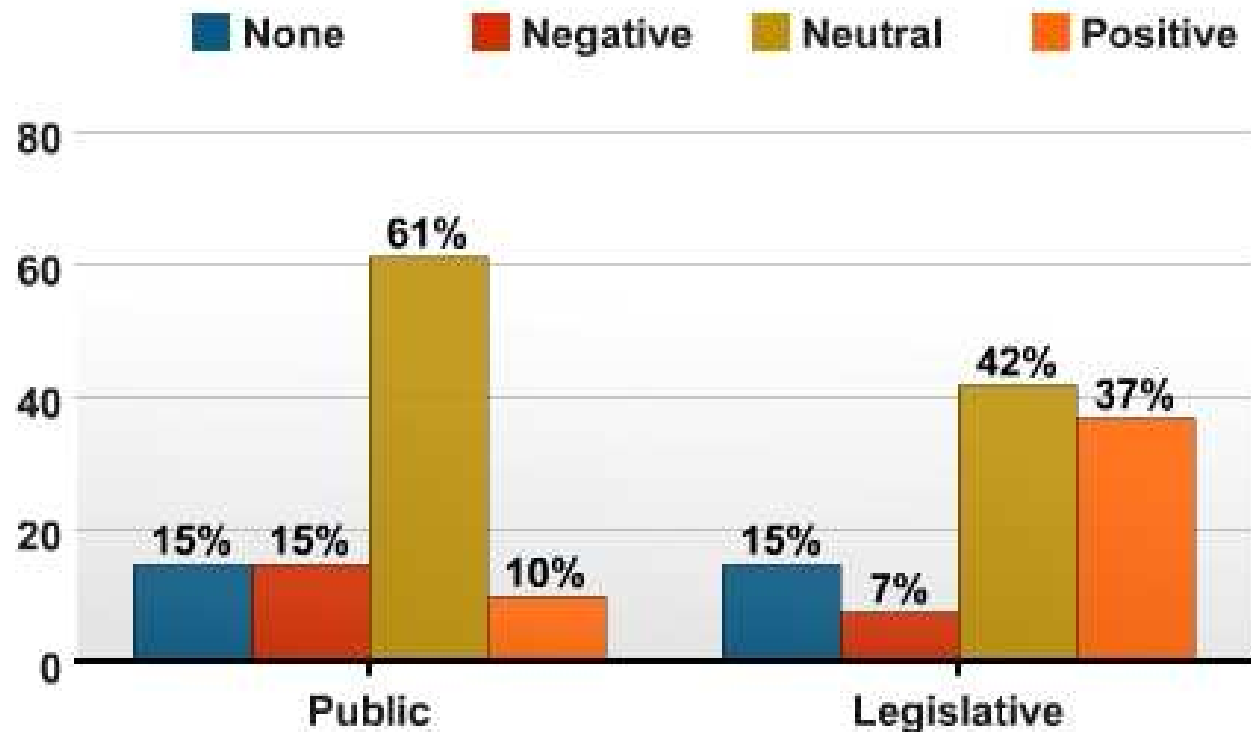
Select a survey section below to view the national average responses for that section.

Section	Part(s)	Title
1	I	General Information
2	II	Pre-Conference Self-Assessment (State)
3	III	Pavement Preservation Assistance (FHWA Division)
4	IV	Program Implementation
5	V	Public/Political Relations
6	VI	Pavement Management System
7	VII	Project Selection
8	VIII	Preservation Treatments
9	IX	Business Process
10	X & XI	Quality Assurance and Training
11	XII	Materials
12	XIII & XIV	Performance Monitoring and Research/Development

National

5.1

What are the public and legislative perceptions of implementing a pavement preservation program?

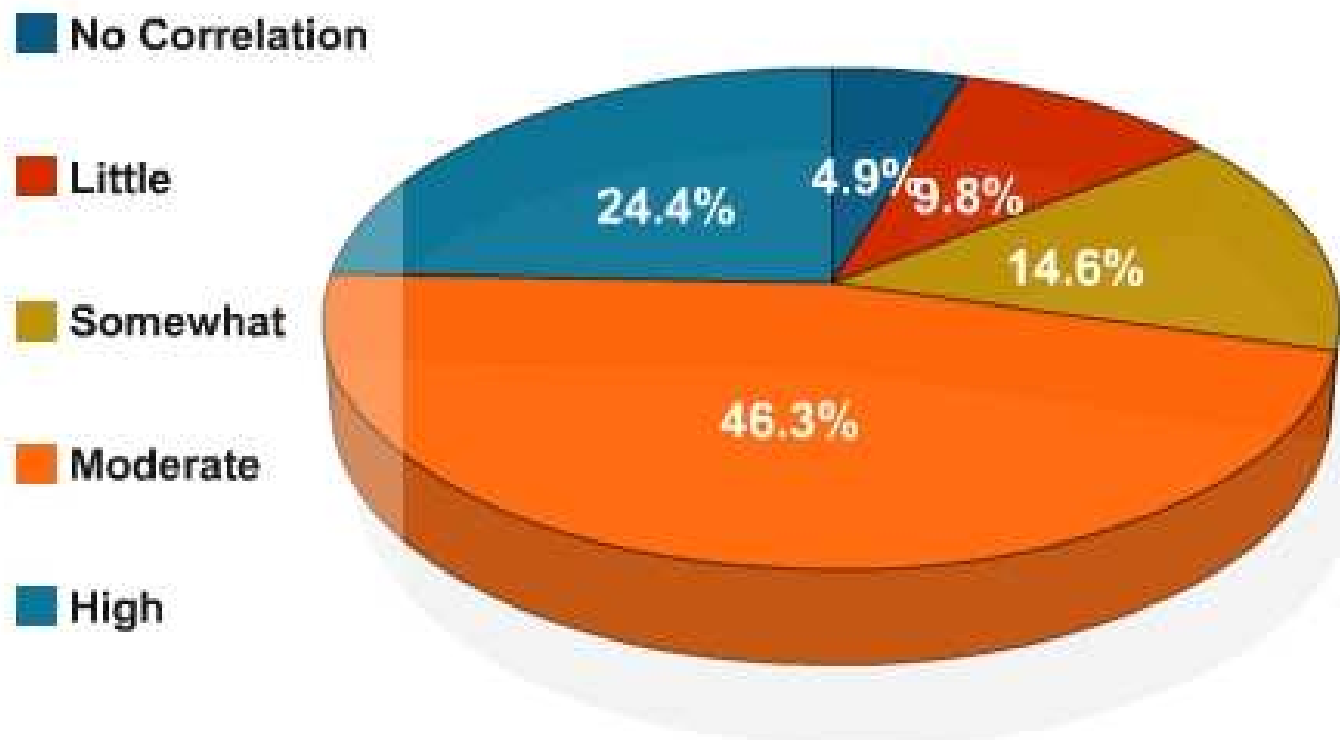


View the [long description](#) of this bar chart showing perceptions of Pavement Preservation.

National

6.6

How reliable is the pavement condition rating (PCR)?:



View the [long description](#) of this pie chart showing percentages of reported PCR reliability/accuracy.

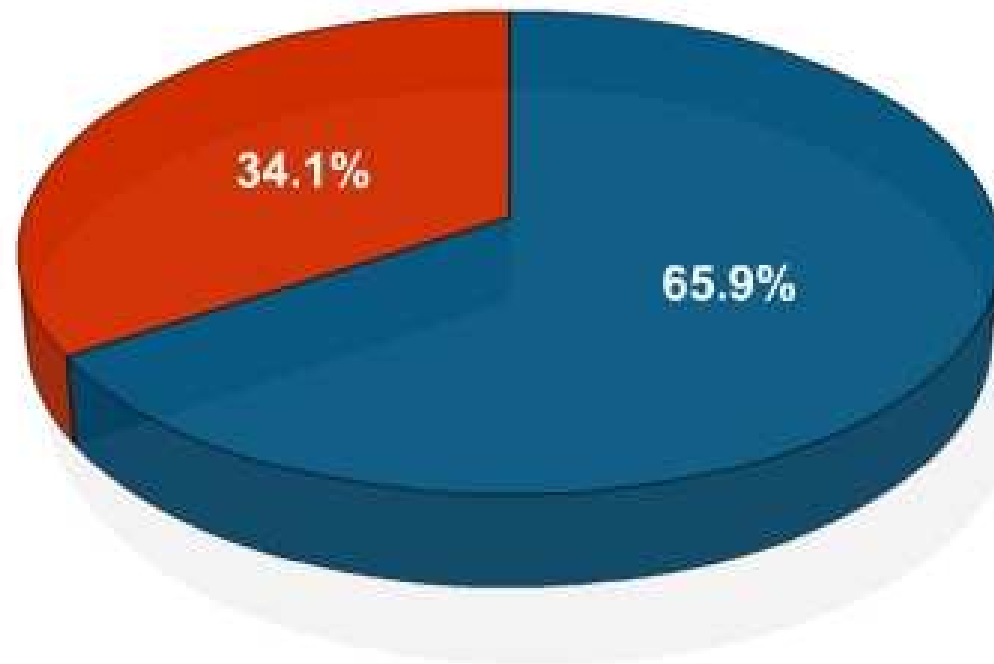
National

8.5

Has the agency experienced difficulty attracting quality contractors for preservation work?:

■ Yes

■ No



View the [long description](#) of this pie chart showing percentages saying it is difficult to attract quality pavement preservation contractors.

National

8.1

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

* Agencies may choose more than one

* 'Not Applicable' means these agencies do not use any pavement preservation treatments

Treatment	Percent	Treatment	Percent	Treatment	Percent
Not Applicable	0%	HMA Inlays	4.9%	Scrub Seals	7.3%
Armor Coats	7.3%	HMA Overlays	97.6%	Slab Replacement	19.5%
Cape Seals	12.2%	HMA Patching	14.6%	Slurry Seals	41.5%
Chip Seals (Inc. Pass Oil)	85.4%	Joint Sealing	65.9%	Spall Repair / PCC Patching	39%
Concrete Pavement Restoration (CPR)	7.3%	Micro-surfacing	75.6%	Surface CIR Recycling	24.4%
Crack Filling	78%	Mill and HMA Overlay	65.9%	Surface HIR Recycling	41.5%
Crack Sealing	73.2%	NovaChip ®	61%	Surface Patching	7.3%
Cross Stitching	12.2%	Open Graded Friction Course	12.2%	Thin HMA Overlay	51.2%
Diamond Grinding	63.4%	Partial Depth Repair	48.8%	Ultrathin HMA Overlay	7.3%
Dowel Bar Retrofits	46.3%	Profile Milling	7.3%	Ultrathin Whitetopping	9.8%
Flush Seals (Inc. Pass Oil)	4.9%	Rejuvenators	14.6%	Under-Drain / Drain Cleanout	7.3%
Fog Seals (Inc. Pass Oil)	31.7%	Sand Seals	7.3%	Under-sealing	22%
Full Depth Repair	56.1%				

Outreach, Research, and Education

Polymer Modified Emulsion Study

Using Polymer Modified Asphalt Emulsions in Surface Treatments

Conducted for
FHWA Federal Lands Highway Division
&
FHWA Office of Asset Management



Administered by TRB under Memo of Understanding
with FHWA & AASHTO

\$230 Million over 9 years

4 Focus Areas

- Capacity
- Safety
- Renewal
- Reliability

Renewal

- Project Number R-26: Preservation approaches for high traffic roadways
- Develop a draft implementation plan
 - Includes training, demo pilots in geographic regions

Chip Seal - 5 months old



Outreach, Research, and Education

Other NCPP Activities

- FHWA Pavement Management Roadmap
- NHI Maintenance Academy
- ISSA Slurry/Micro Inspector's Manual
- Engineering review of innovative prototype pavement preservation equipment, New Zealand
- Asset Sustainability Index- FHWA
- FHWA Pavement Preservation ETG
- FHWA Bridge Preservation ETG

Outreach, Research, and Education

Training is a critical, on-going need

- FHWA state pavement preservation appraisals found that 41 of 41 state DOT's are in need of training
- Declining DOT budgets have resulted in reduction or elimination of training and travel- "low hanging fruit"
- Many agencies are expanding preservation programs and treatments
- Treatment failures unacceptable- quality training is essential for agencies and industry!

Outreach, Research, and Education

- NCPP offers Instructor led classes with CEU credit from Michigan State University
 - Asset Management: Applied Pavement Preservation
 - Chip Seals Best Practice
 - Slurry Seal & Micro Surfacing
 - Top of the Curve: Fog Seals, Rejuvenators, Crack Treatments

Outreach, Research, and Education

➤ NCPP Training Scholarship Program

Outreach to Industry Partners for financial underwriting of training -
(Similar to Public Television model)

Outreach, Research, and Education

- Other NCPP training activities
 - Participation and support of *Transportation Curriculum Coordination Council* (TCCC)
 - Training and presentations through industry sponsored classes and workshops
 - Florida Pavement Preservation Council - local government initiative
 - Pavement Preservation Partnerships such as MPPP

James B. Sorenson Scholarship



Outreach, Research, and Education

- James B. Sorenson Memorial Scholarship
 - Embraced by Jim Sorenson's family
 - Administered by the Michigan State University Department of Civil & Environmental Engineering
 - Preference given to engineering students with an interest in Pavement Preservation
 - Must be full time junior or senior CE student

Outreach, Research, and Education

- James B. Sorenson Memorial Scholarship
 - Students must have involvement in out-of classroom learning opportunities (e.g. research, internships, co-ops, preservation groups)
 - Recipient selected by Panel from College of Engineering
 - May be renewed with satisfactory academic progress

Outreach, Research, and Education

James B. Sorenson Memorial Pavement
Preservation Scholarship

Office of Development

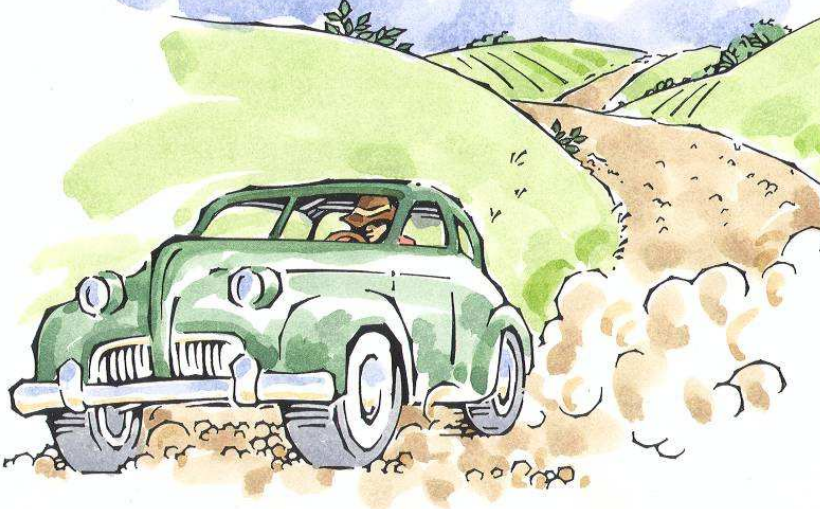
College of Engineering

Michigan State University

3536 Engineering Building

East Lansing, MI 48824

1940's



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1960's



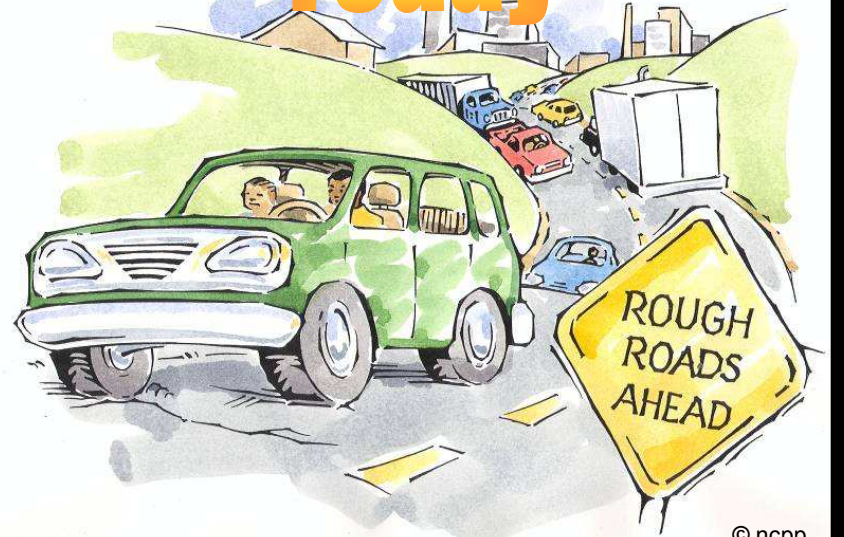
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1980's



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Today



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Questions?

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UNIVERSITY



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Please visit us on the web at www.pavementpreservation.org

