



FHWA Pavement Preservation Activities

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Midwestern Pavement Preservation Partnership

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What is Pavement Preservation?

Applying the *right* treatment...

...to the *right* road...

...at the *right* time...

Checklist Series



- 1 Crack Seal Application >
- 2 Chip Seal Application >
- 3 Thin Hot-Mix Asphalt Overlay >
- 4 Fog Seal Application >
- 5 Microsurfacing Application >
- 6 Joint Sealing Portland Cement Concrete Pavements >
- 7 Diamond Grinding of Portland Cement Concrete Pavements >
- 8 Dowel-Bar Retrofit for Portland Cement Concrete Pavements >

[Home](#) Thin Hot-Mix Asphalt Overlay

1) Thin Hot-Mix Asphalt Overlay Checklist >

2) Preliminary Responsibilities >

3) Pre-overlay Inspection Responsibilities >

4) Project Operational Considerations >

5) Opening to Traffic >

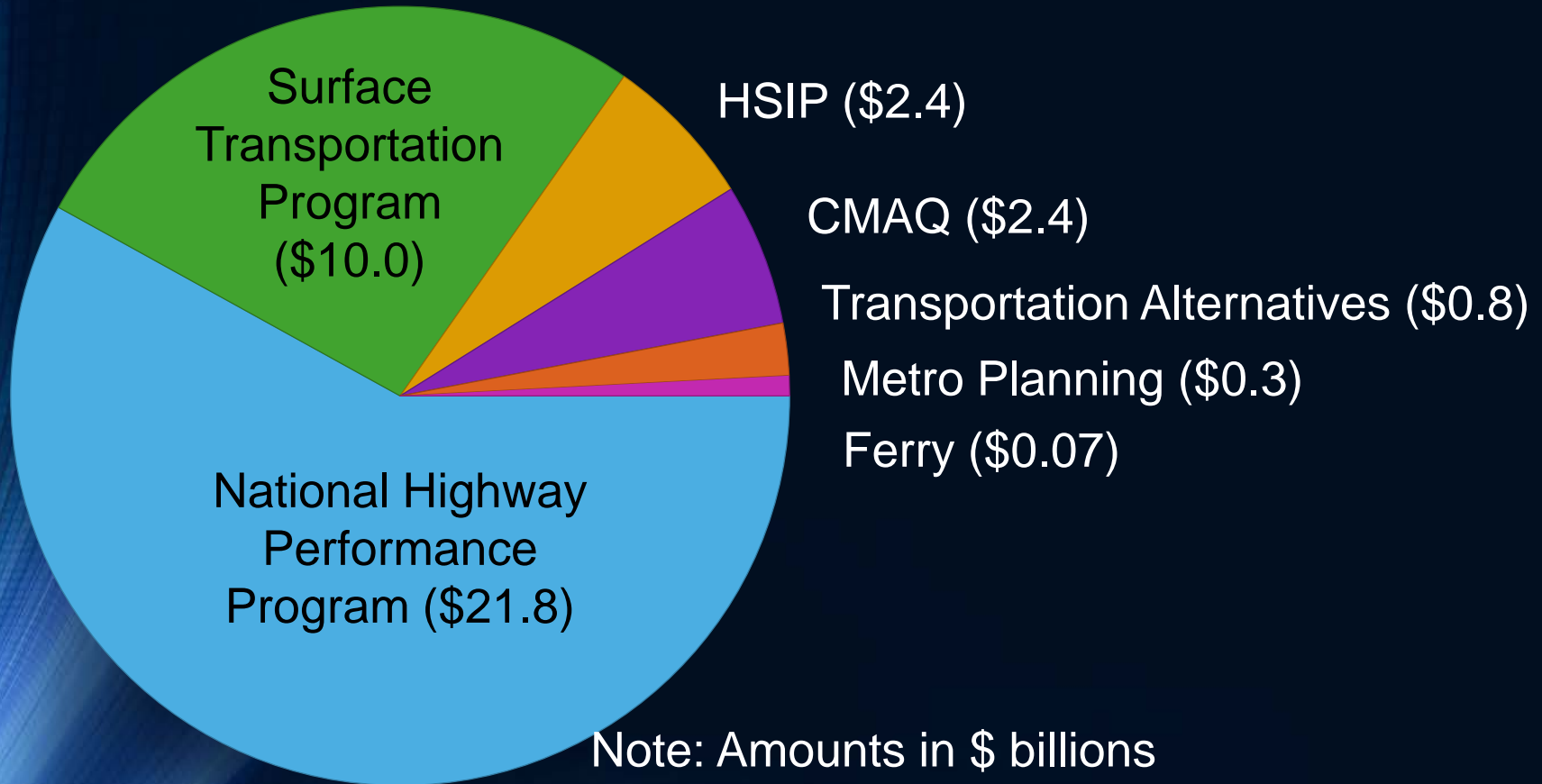
6) Common Problems and Solutions >

7) Sources >

MAP-21 Four "Core" Programs



\$37.7 Billion/Year in formula funding

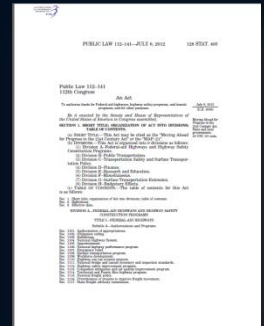




FHWA Pavement Preservation

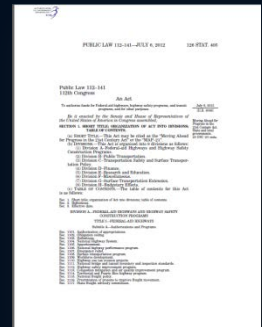
MAP-21

MAP-21 Preservation FAQ's



- § 1104. NATIONAL HIGHWAY SYSTEM
 - (a)(c) Interstate System. --
 - (a)(c)(5)(C)(ii) Construction... does not prohibit a State from carrying out construction, maintenance, **preservation**, restoration, or rehabilitation activities for a portion of the **Interstate System**...
- § 1106. NATIONAL HIGHWAY PERFORMANCE PROGRAM.
 - (a)(d) Eligible Projects. –
 - (a)(d)(2)(A)... preservation...

MAP-21 Preservation FAQ's



- § 1108. SURFACE TRANSPORTATION PROGRAM.
 - (a) **Eligible Projects.**--Section 133(b) of title 23, United States Code, is amended--
 - (a)(4)"(1) Construction... and (2) Replacement... **preservation included.**





SHRP 2

RENEWAL – R26





Four Focus Areas



Safety: fostering safer driving through analysis of driver, roadway, and vehicle factors in crashes, near crashes, and ordinary driving



Reliability: reducing congestion and creating more predictable travel times through better operations



Capacity: planning and designing a highway system that offers minimum disruption and meets the environmental and economic needs of the community



Renewal: rapid maintenance and repair of the deteriorating infrastructure using already-available resources, innovations, and technologies



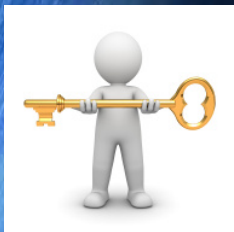
Framework



Challenge

Solutions

Benefits



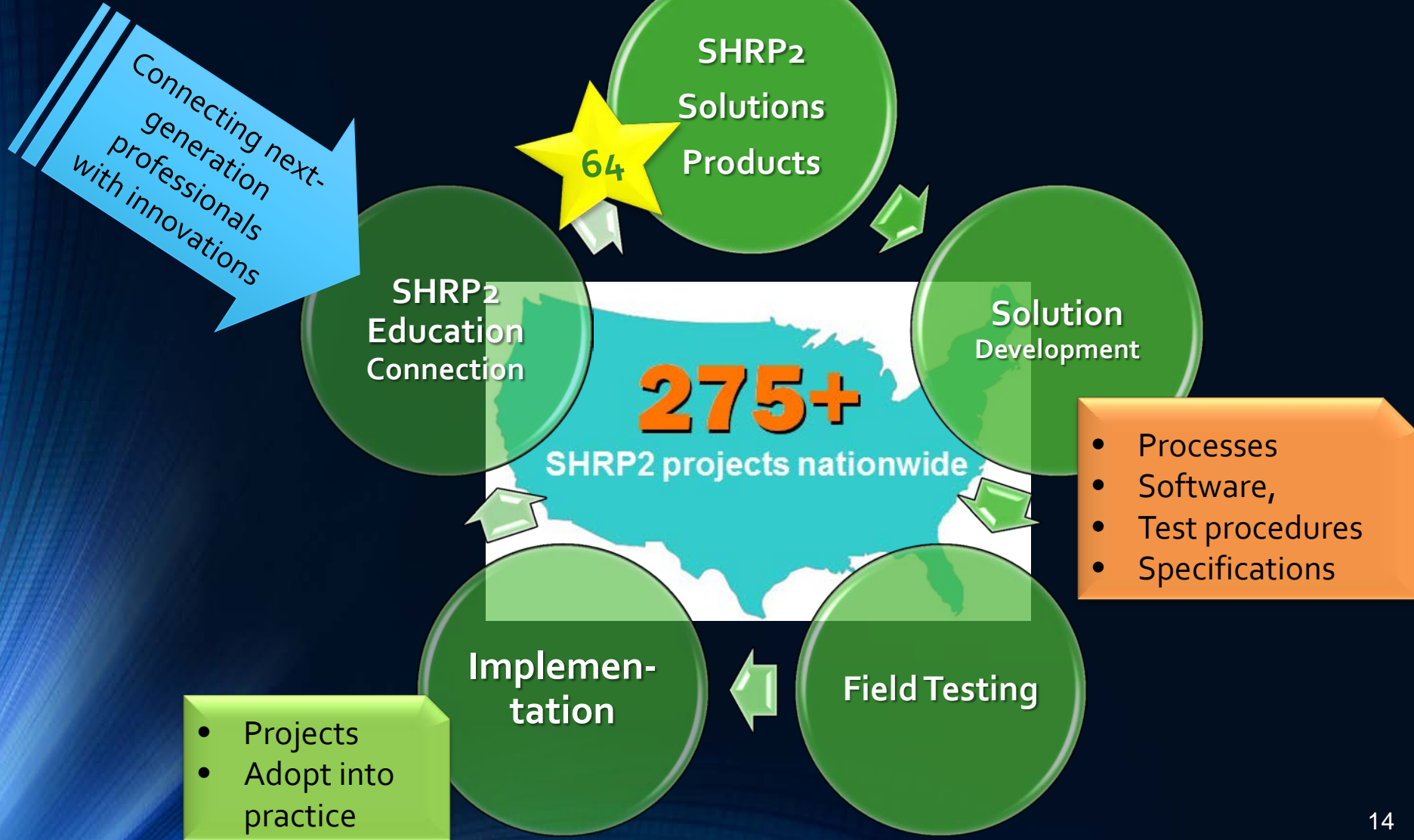
Partners



TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES



at a Glance





Outcomes → Impacts

- Three CORE Benefits...



Save LIVES



Save MONEY



Save TIME

SHRP2 Implementation Assistance Program (IAP)



Pavements

- Designed to help State DOTs, MPOs, local agencies, and other interested organizations deploy SHRP2 Solutions

Proof of Concept Pilot	Lead Adopter Incentive	User Incentive
...help evaluate the readiness of a particular product.	...help offset costs associated with product implementation and risk mitigation.	...accomplish a variety of implementation activities. Examples include conducting internal assessments, executing system process changes, and organizing peer exchanges.

- **30+ Products** have been offered in Rounds 1 thru 6 of the IAP
- Round 7 is the Last Announcement



Show me the Money!

Research

- SAFETEA-LU FY2005-FY2009
- *Future* SHRP - **\$205 million**

Implementation

- MAP-21
- Apportionment of State SPR funds
- **~\$169 million**

Partner Roles

- TRB– Administration of research phase
- AASHTO– Support by developing specifications, guidelines, training, and other technical support tools
- FHWA– Overall management, funding(MAP-21), collaboration(AASHTO)



Pavements

Proof of Concept Pilot

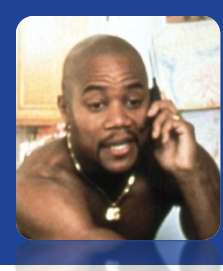
\$100k/pilot
In kind (TA/equip.loan)

**Lead Adopter
Incentive**

\$40k to \$300k/leader
In kind (TA/training)

User Incentive

\$75k/user
In kind (TA/training)



Funding Summary Rounds 1 thru 6

Proof of Concept
Lead Adopter
User Incentive

• \$6,737,000



Pavements

Value of In-kind Services
(Equip. Loan, TA, Training)

• \$1,600,000

Recipients

- 64 Projects
- 37 Agencies (DOTs, 1 Tollway Authority)
- 3 DOT's with 4 to 5 Projects

Proof of Concept Pilot

Lead Adopter
Incentive

User Incentive

The Resource

<http://www.fhwa.dot.gov/goshrp2/>



Implementation Assistance

Implementation Q&As

Implementation Assistance Program

The Implementation Assistance Program is available to help State departments of transportation (DOTs), metropolitan planning organizations (MPOs), and other interested organizations deploy SHRP2 Solutions. A range of opportunities is available to raise awareness of SHRP2 Solutions and to encourage early adoption of these products. There have been six implementation assistance offerings to date. A final application period will launch in 2016.

Each product selected for implementation assistance has the potential to deliver more efficient, cost-effective programs to meet the

Round 6 Implementation Assistance Results Coming Soon

The application period for Round 6 of the Implementation Assistance Program has officially closed. Recipients will be announced in August 2015. To learn more about the products featured in this round, visit the product pages listed below.

[New Composite Pavement Systems \(R21\)](#)

[Precast Concrete Pavement \(R05\)](#)

[Utility Investigation Technologies \(R01B\)](#)

[WISE: Work Zone Impacts and Strategies Estimator Software \(R11\)](#)

[Identifying and Managing Utility Conflicts \(R15B\)](#)

[PlanWorks: Better planning. Better projects. \(C01\)](#)

2013 Round 1... rundown

6

Round

5

Round

4

Round

3

Round

2

Round

1

Round

Round 1 at a Glance

- 34 States and the District of Columbia selected
- 6 SHRP2 Solutions at work on 108 different transportation projects
- 2 proof of concept pilots
- 74 lead adopter incentives
- 24 user incentives
- Limited technical assistance to 8 States
- The Round 1 application period opened on February 20 and closed on March 22, 2013

Managing Risk in Rapid Renewal Projects (R09)

→ [View Recipients](#)

Project Management Strategies for Complex Projects (R10)

→ [View Recipients](#)

Organizing for Reliability Tools (L06/L01/L31/L34)

→ [View Recipients](#)

Implementing Eco-Logical (C06)

→ [View Recipients](#)

Innovative Bridge Designs for Rapid Renewal (R04)

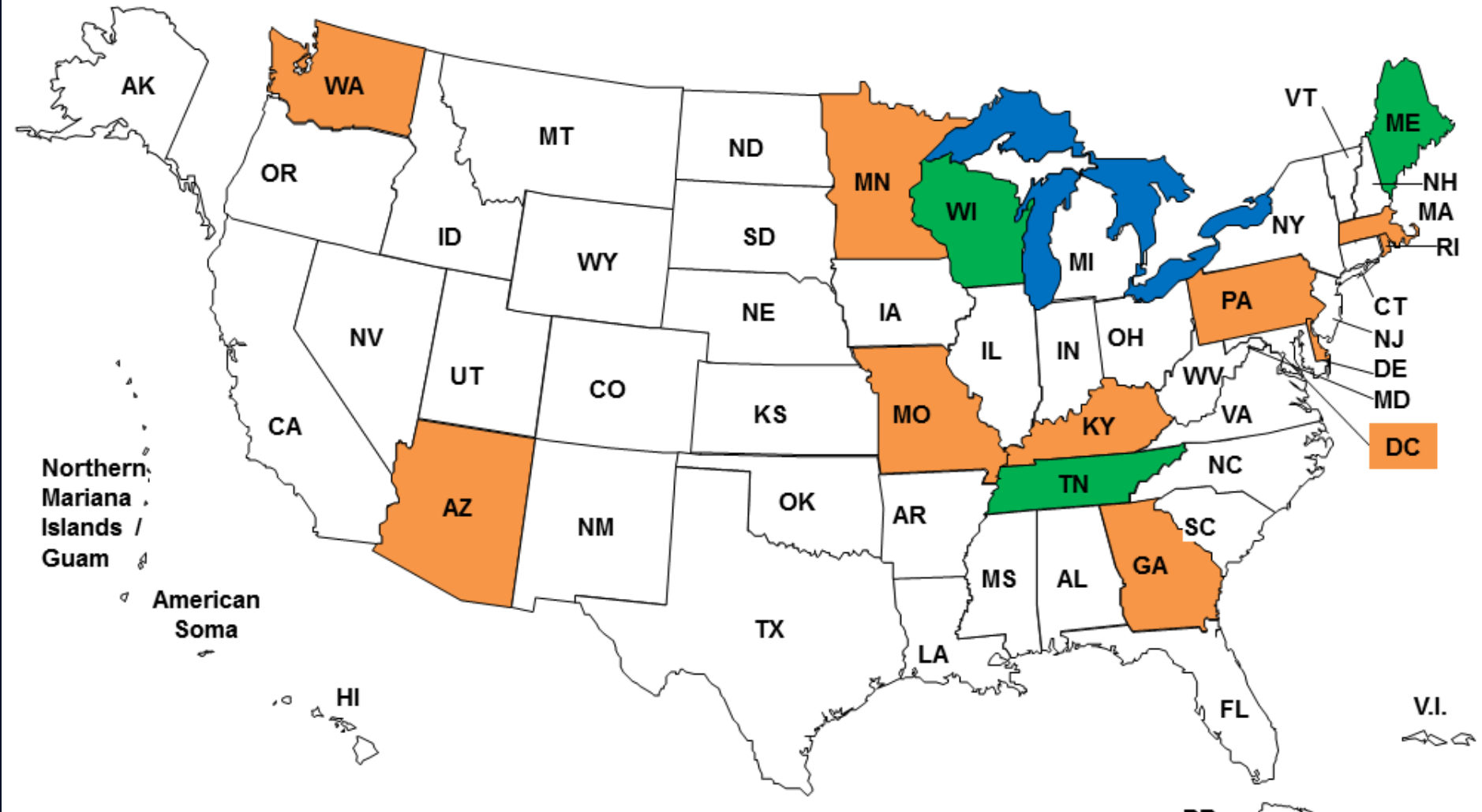
→ [View Recipients](#)

Guidelines for the Preservation of High-Traffic-Volume Roadways (R26)

→ [View Recipients](#)



R26 Guidelines for the Preservation for high-volume-traffic roadways



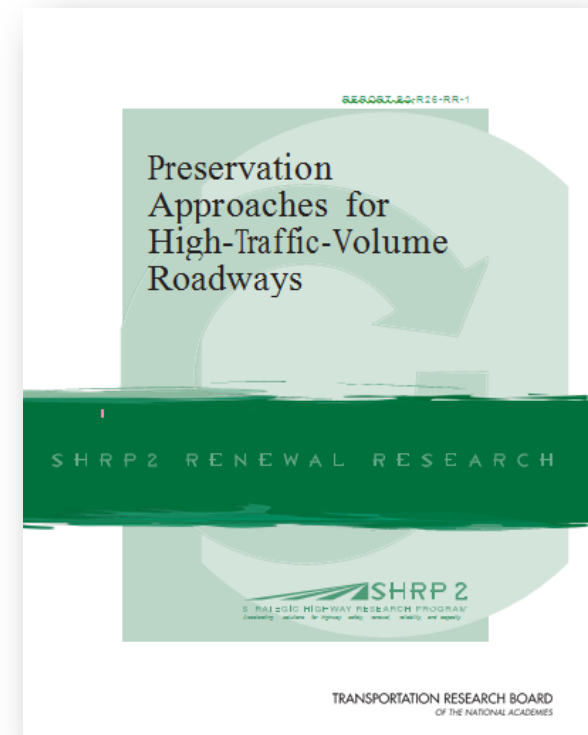
Proof of Concept Pilot (0)

Lead Adopter Incentive (11)
\$120k/ea.

User Incentive (3)
\$75k/ea.

Primary Goals

1. **Apply the Guidelines** to expand State use of selected pavement preservation techniques on high-traffic-volume roads.
2. **Document the process.**



R26 Activities...

Mass DOT Showcase

- Conducted 23 July 2015
- US-Route 3
- 63 in attendance to include 8 agencies
- **Highlights:**
 - 22.5 miles in length
 - Traffic volume: 95k to 105k AADT
- **Preservation Treatments Applied:**
 - **Mainline:**
 - ✓ UTBO-Control
 - ✓ UTBO-Asphalt Rubber
 - ✓ UTBO-Polymer
 - **Shoulders**
 - ✓ Fog seal control
 - ✓ Shot Lasting (Skidebrader)
 - ✓ Fog seal – Maltene (Reclamite)
 - ✓ Fog seal – Gilsonite (SDB-88)
 - ✓ Fog seal – Polymer (CRS2P-d)



R26 Activities...


Workshops:

- AL/NCAT (well attended by SEPPP) – Jun 14
- MN/MinnRoad w/ Mid-West PP – Sept 14
- AZ w/ Rocky Mountain PPP – Oct 14
- DE w/ NEPPP – Apr 15

MnROAD [Safer, Smarter, Sustainable Pavements through Innovative Research]

August 2014

R26 Pavement Preservation Workshop MnROAD TOUR (SEPTEMBER 4, 2014)



Agenda:

11:30	Load Buses and Leave Hotel
12:30	Arrive at MnROAD
12:30	MnROAD Bus Tour of the facility
2:30	Equipment Demo/Presentation
3:30	Leave MnROAD
4:30	Arrive at Hotel


MnROAD Bus Tour Details
The MnROAD guided tour consists of reviewing the 55 test cells (500'/cell) on both the 3.5-mile mainline Interstate I-94 roadway and the 2.5-mile Low Volume Roadway. Expected stops include:

- Mainline Interstate I-94
 - Cell 1 (Micro surfacing)/Cell 2 (NovaChip on FDR emulsion)
 - Cell 163 (New Whitetopping) / Cell 96 (1997 Whitetopping with pavement preservation)
 - Cell 8-9 (Comparison of Concrete Diamond Grinding Techniques)
 - Cell 12 (20-Year PCC with patching)
 - Cell 15 (2008 WMA Overlay on HMA)/Cell 16 (2008 WMA with granular base)
 - Cell 18-19 (High Volume Chip Seal on 2008 WMA pavement)
- Low Volume Road
 - Cell 32 (Thin Concrete DBR, innovative full-depth repairs, and Diamond Grinding)
 - Cell 88-89 (Pervious Concrete and Pervious HMA Study)
 - Cell 140-240 (Thin 3" Concrete Overlay over concrete using a fabric bond breaker)

MnROAD Pavement Preservation Equipment Demo + Project Poster Sessions
MnROAD staff will be on hand to describe the equipment used to monitor the performance of the test cells and some project posters highlighting some of the important research efforts.

Pavement Preservation Contractor Equipment
Equipment will be displayed with a technical presentation during the day at MnROAD.

Thank you for your interest in MnROAD, and for your other interests, visit our website at www.mndot.gov/mnroad



MnROAD is a state of the art weather pavement and transportation testing facility located in Minnesota



R26 Activities

- **Quarterly User group Conference Calls**
- **Peer Exchange:**
 - Hosted by RI DOT
 - Dec 2-3, 2014
 - 17 in Attendance (6 DOTs)
 - Highlights:
 - Focused on:
 - ✓ Project Selection
 - ✓ Design/Contracting
 - ✓ Construction
 - ✓ Quality Assurance
 - ✓ Performance
 - ✓ Program Issues
 - Included Site Visit of RI Preservation Treatments





FHWA Pavement Preservation

LONG TERM PAVEMENT PERFORMANCE
(LTPP) EXPERIMENT

LTPP Pavement Preservation Experiment

- Experiment to look at both flexible & rigid pavement preservation treatments.
- A contract has been awarded to design the experiment, including treatments types, materials testing, performance monitoring and construction reporting.
- An Expert Task Group (ETG) was been establish for this experiment to provide input in experiment design and materials testing. There are 4 state representatives, 2 industry reps and one University.
- The goal is to build 48 test sites.



Other Pavement Preservation

NCAT AND MNROAD PARTNERSHIP

Pavement Preservation Partnership Objectives

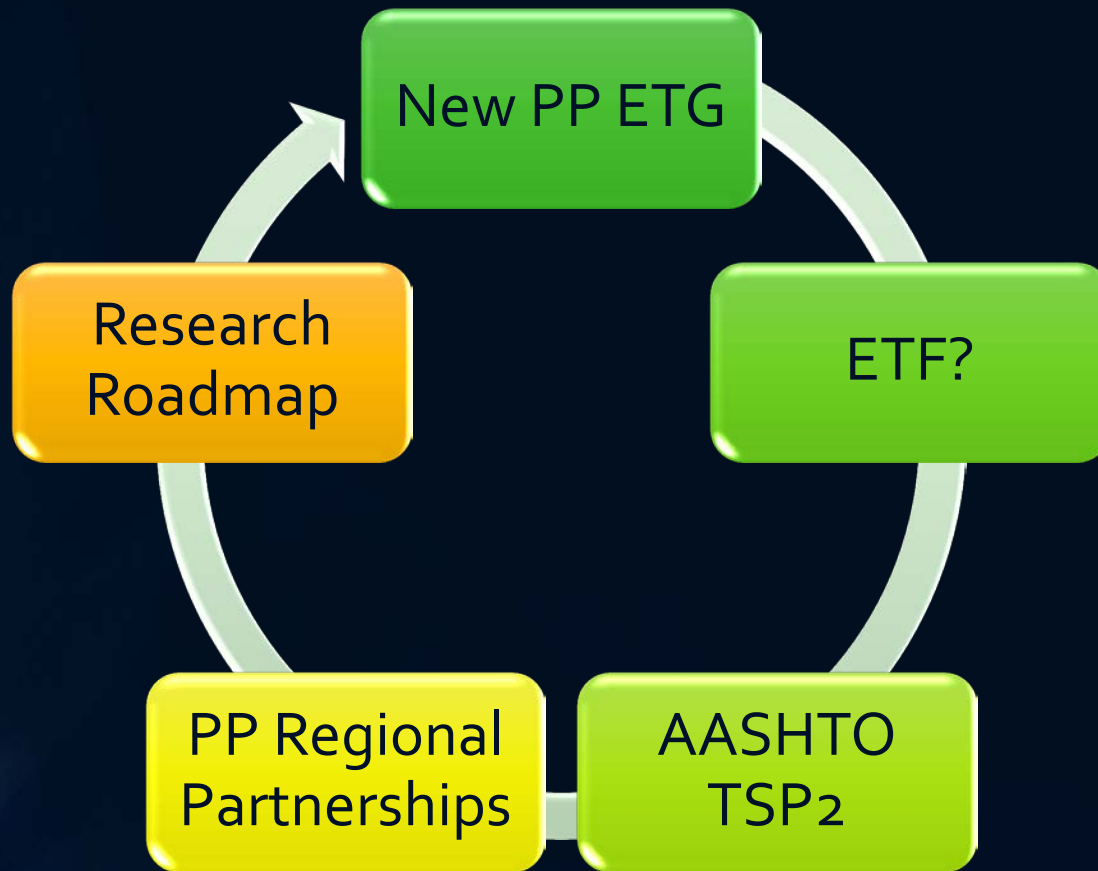
- Accelerated testing at MnROAD and NCAT will provide unique opportunities to determine the field performance of breakthrough materials and pavement preservation treatments.
- Each facility has history of evaluating the performance of pavement preservation treatments, including chip sealing, micro surfacing, crack sealing and thin overlays.
- Similar test sections are being developed at each facility to address needs in both northern and southern climates.
- Recognizing the long-term nature of measuring the impact of some pavement preservation treatments, both MnROAD and NCAT are pursuing off -site test locations on existing roads and highways that can be easily monitored.



FHWA Pavement Preservation Program...

EMERGING ACTIVITIES

Pavement Preservation Direction



TACK COAT

Best Practices WORKSHOP



CALENDAR YEAR Starting in 2014
LENGTH ½- Day
CEU Potentially Offered
FEE FREE
CLASS SIZE: Minimum: 20; Maximum: 140

DESCRIPTION

The Federal Highway Administration (FHWA) and Asphalt Institute present *Tack Coat Best Practices Workshop*. The workshop offers owners and contractors the opportunity to find out more about the latest in tack coat technologies and best practices. The workshop provides the most current information on tack coats and emphasizes the importance of providing a long lasting bond between asphalt layers.



TOPICS INCLUDE

- The importance of tack coats
- Common Tack coat grades
- New materials
- Application rate and temperatures
- Field testing
- Tack coat specifications
- Construction best practices
- Surface preparation and traffic control

OUTCOMES

At the conclusion of the workshop, participants will be able to:

- Identify best practices for constructing tack coats.
- List strategies that could be employed by agency decision-makers to improve the usage of tack coats.
- Identify resources for implementing best practices into standard practice.

Who Can Benefit?

- Specification writers
- Project inspectors
- Contractors & Staff
- Material Suppliers

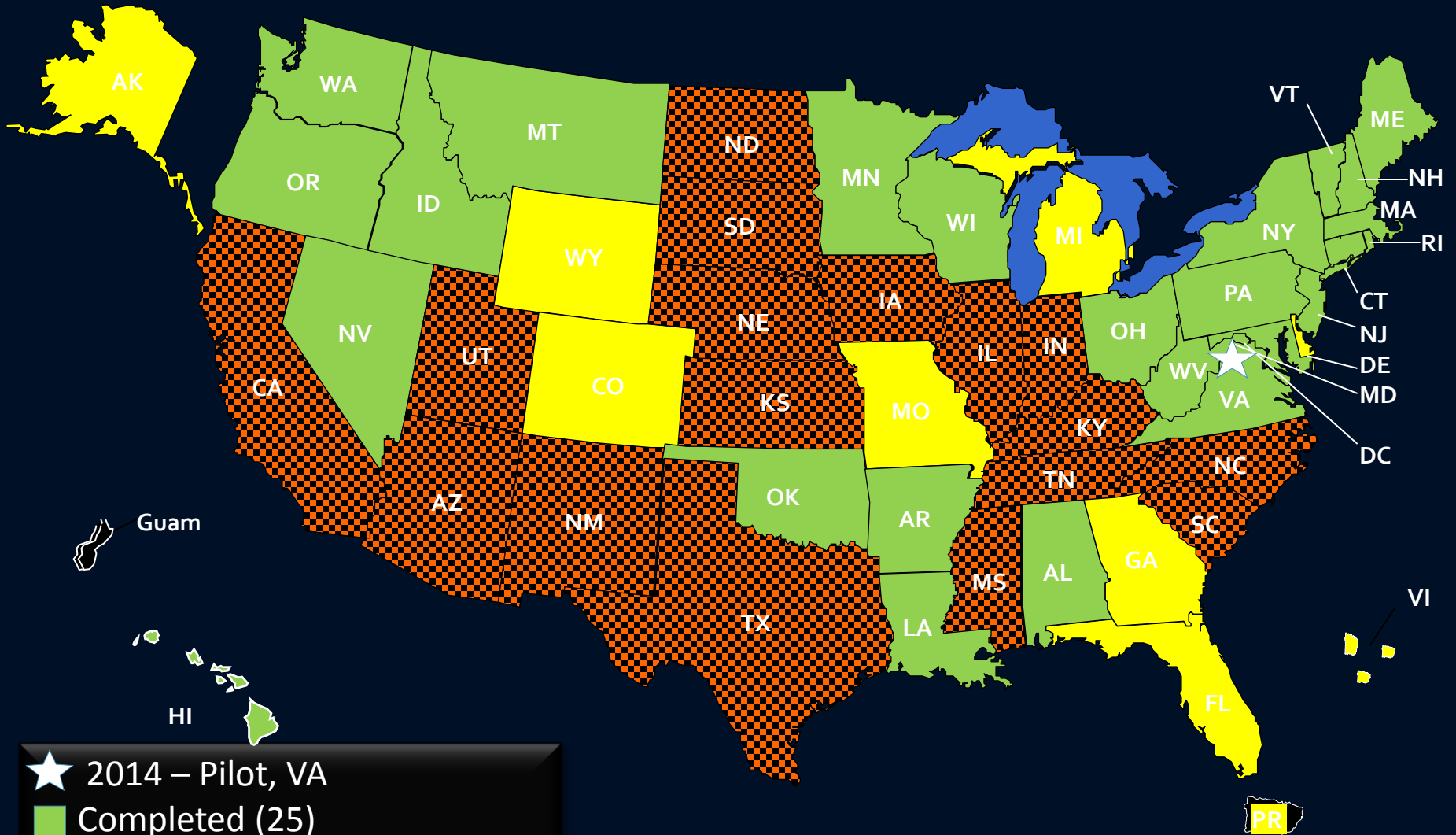
The successful adoption of these improvements will need to be a team effort; therefore both agencies and contractors are the target audience.

For more information about the workshop in your area, please contact:

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 Asphalt Institute
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Tack Coat Workshops



- ★ 2014 – Pilot, VA
- Completed (25)
- Scheduled (15)
- Requested (12)
- Have not Requested (1)

Upcoming Tack Coat Workshops

- Nov. 5 Kansas
- Dec. 1 North Dakota
- Dec. 8 Indiana
- Dec. 14 Illinois
- Jan. 7 South Dakota
- Feb 16 Nebraska
- Mar 2 Iowa

Questions?



Thank You

