

“The guidelines provide a comprehensive design guide to support decision making about pavement preservation treatments. While Texas already has its own pavement preservation decision process, there is always room for improvement, and the guidelines provide those options.”

—MAGDY MIKHAIL,  
TEXAS DEPARTMENT OF TRANSPORTATION



Photo courtesy PennDOT



Workshop in Alabama.  
Photo courtesy Stephen J. Cooper

“The guidelines provide a means of looking at preservation options to reconsider for high-volume roads because times have changed, the economy has changed, and the applications may be quite different now.”

—RICHARD MILLER,  
KANSAS DEPARTMENT OF TRANSPORTATION



# SHRP2 Solutions

preserving high-traffic roadways

Photo courtesy Kentucky DOT

## What the Guidelines Contain

### Factors Affecting Project and Treatment Selections for Pavement Preservation

- ▶ Traffic level
- ▶ Pavement condition
- ▶ Climate and environment
- ▶ Work zone duration restrictions
- ▶ Expected treatment performance
- ▶ Costs



### Treatment Selection Process

- ▶ Treatments for Hot Mix Asphalt (HMA)-surfaced pavements
- ▶ Treatments for Portland Cement Concrete (PCC)-surfaced pavements
- ▶ Preservation treatment selection
  - Preliminary identification of feasible preservation treatments
  - Final identification of feasible preservation treatments
  - Treatment cost-effectiveness analysis
  - Selection of the preferred preservation treatment

### Preservation Treatment Summaries

### Examples of Identifying Feasible Preservation Treatments

## What your colleagues are saying about Preservation Approaches and the Guidelines:

“This tool is about opportunity; this tool is giving the states a portfolio of options and choices. I think it will help us redefine how we do our decision making in terms of infrastructure management.”

—ANDREW WILLIAMS, OHIO DEPARTMENT OF TRANSPORTATION

“The Guidelines will help us move into using these techniques on higher-volume roads with a little more reassurance that there’s research and support behind that decision making.”

—CHRIS BAUSERMAN, DELAWARE COUNTY, OHIO

“If you can keep your treatment costs down for a longer period of time and push out those major rehabs, then you’ve saved real dollars.”

—JUDITH CORLEY-LAY, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

## Pavement Preservation Solutions in Action

- ▶ **Pennsylvania:** With an aging and underfunded road network, the Pennsylvania Department of Transportation (PennDOT) applied **flexible micro-surfacing products** on four test sections in Lancaster and completed a pilot using **polymer-modified thin overlay** and **asphalt rubber gap-grade** at two other locations. PennDOT officials say that the Lancaster site is already showing differences in pavement resilience.
- ▶ **Kentucky:** Facing sharply rising asphalt prices, the Kentucky Transportation Cabinet (KYTC) is using the guidelines to broaden use of pavement preservation, help them keep good roads in good condition longer, and “catch more miles for less money.” Using the guidelines, KYTC is testing **multiple treatments** on a four-lane rural arterial with average daily traffic of 12,800 vehicles. KYTC officials say the guidelines provide useful information that motivated the state to move toward newer approaches to extending the life of roads.
- ▶ **Rhode Island:** The Rhode Island Department of Transportation (RIDOT) already has considerable experience using preservation on its high-volume roads; however, it is using the guidelines to broaden the range of successful treatments being used. RIDOT is testing a **stress-absorbing membrane interlayer (SAMI) chip seal** on a five-lane rural collector with average daily traffic of 16,200 vehicles, including 2.8 percent truck traffic. The goal is to broaden the preservation options beyond the “usual suspects.”



Photo courtesy PennDOT



### Extending the life of the nation’s busiest roads

The *Guidelines for the Preservation of High-Traffic-Volume Roads* help transportation agencies save lives, money, and time.



### Saving Money

Applying the right pavement preservation techniques to a broad range of high-traffic roads helps agencies stretch transportation



### Saving Lives

Extending the life of pavement reduces the frequency of major

reconstruction projects. Fewer reconstruction projects reduce the risk and frequency of work-zone crashes.

dollars by reducing the frequency of major rehabilitation projects.

### Saving Time

The proven preservation strategies reduce lane closures and congestion that come with lengthy rehabilitation and reconstruction projects, saving time for the traveling public.

## Your guide to the best options for extending pavement life

### The Challenge — Knowing when, what, and how to apply smart pavement techniques

Stretching the time between major rehabilitation projects can save transportation agencies money, reduce congestion, and improve safety. For years, transportation agencies have successfully extended the life of lower-volume roadways by applying pavement preservation techniques. Achieving the same results on high-traffic roadways requires a systematic approach that considers a variety of road conditions and proper timing of treatments to reduce traffic impacts.

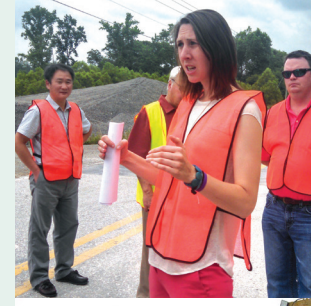
### The Solution — Strategies and techniques to make the right decision

Many conventional preservation techniques—and some new ones—can be used to extend the life of high-traffic roadways without major reconstruction and traffic disruption. A **new comprehensive guide** developed through the second Strategic Highway Research Program (SHRP2) offers the technical background and decision-making framework needed to bring preservation strategies widely into play for high-traffic roads.

### Preservation Approaches for High-Traffic-Volume Roadways, and its companion, Guidelines for the Preservation of High-Traffic-Volume Roadways,

(also referred to as R26) are the first systematic and comprehensive resources designed to expand the use of pavement preservation on high-traffic roads. The guidance is based on the findings from a comprehensive survey of 40 state highway agencies, seven Canadian provinces, and three cities, as well as a review of existing successful preservation techniques.

The *Guidelines* include a selection process and matrices that enable quick identification of treatment options by various categories, such as rural or urban roads, climate zones, work zone duration restrictions, traffic volumes, and relative costs.



Photos courtesy: Moba Corporation; MnDOT, David Peshkin; CH2M HILL

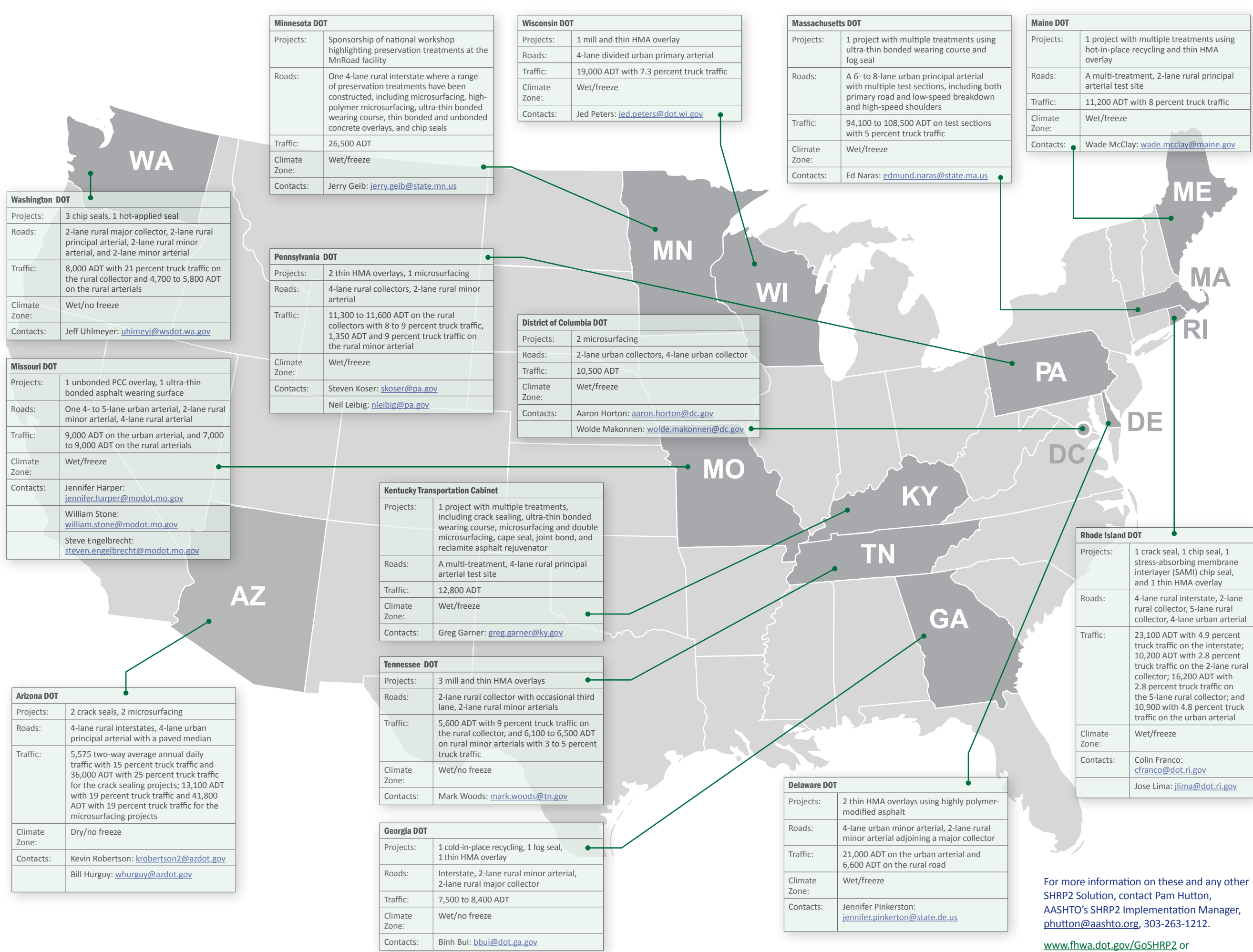
**A Vital Resource for Informed Decisions**

Transportation departments in 13 states and the District of Columbia are testing, implementing, and sharing their options for extending the life of heavily traveled roads using the *Guidelines for the Preservation of High-Traffic-Volume Roadways*. Collectively, 13 different preservation treatments are being tested on more than 30 roads with average daily traffic (ADT) ranging from 5,000 to more than 50,000 vehicles. The guidelines:

- Provide a portfolio of vital information on more than 20 treatments that have proven cost-effective.
- Consider diverse environmental and traffic conditions.
- Consolidate useful information in one place to save time on research and cost comparisons.
- Help engineers move quickly and confidently to select the right treatments at the right time.
- Make it easier to invest in preservation strategies on high-volume roads based on information that is tried and tested.
- Are useful to states with considerable experience in pavement preservation that are eager for new approaches to use on their higher-traffic roads as well as those states that are new to pavement preservation.

*“The long-term financial impact of investing in pavement preservation is very exciting. The guidelines provide useful information that motivated the state to move toward newer approaches to extend the life of our roads.”*

—GREG GARNER, KENTUCKY TRANSPORTATION CABINET.



For more information on these and any other SHRP2 Solution, contact Pam Hutton, AASHTO's SHRP2 Implementation Manager, [phutton@aahto.org](mailto:phutton@aahto.org), 303-263-1212.

[www.fhwa.dot.gov/GoSHRP2](http://www.fhwa.dot.gov/GoSHRP2) or <http://SHRP2.transportation.org>