How are we doing on the National Scale?

Larry Galehouse, PE, Director
National Center for Pavement Preservation

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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.

The purpose of this system is to provide state and federal agencies with access to

www.pavementpreservation.org/survey

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

May 3, 2010, 9:44 am

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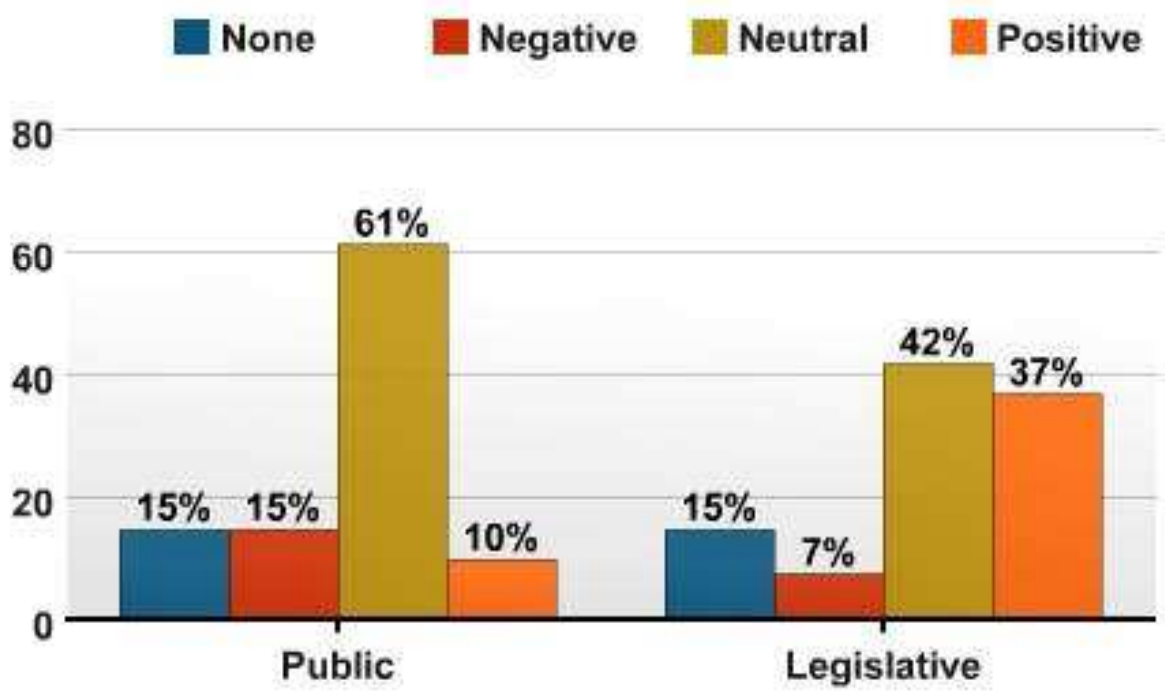
National

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.

Southeast

5.1

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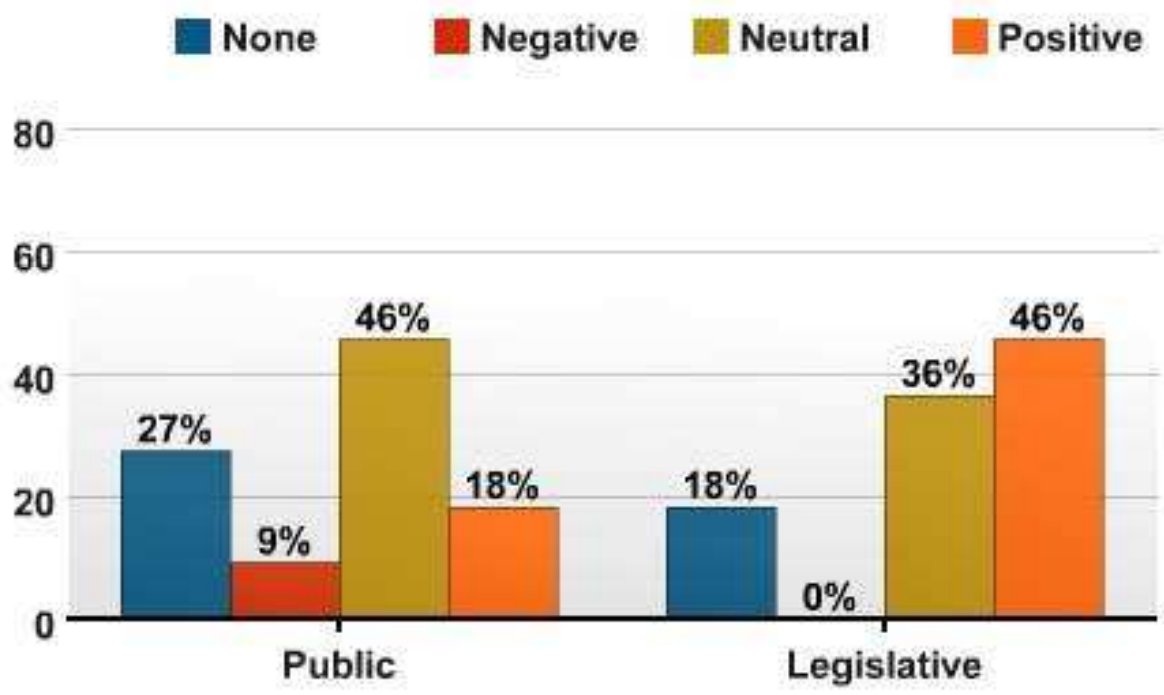

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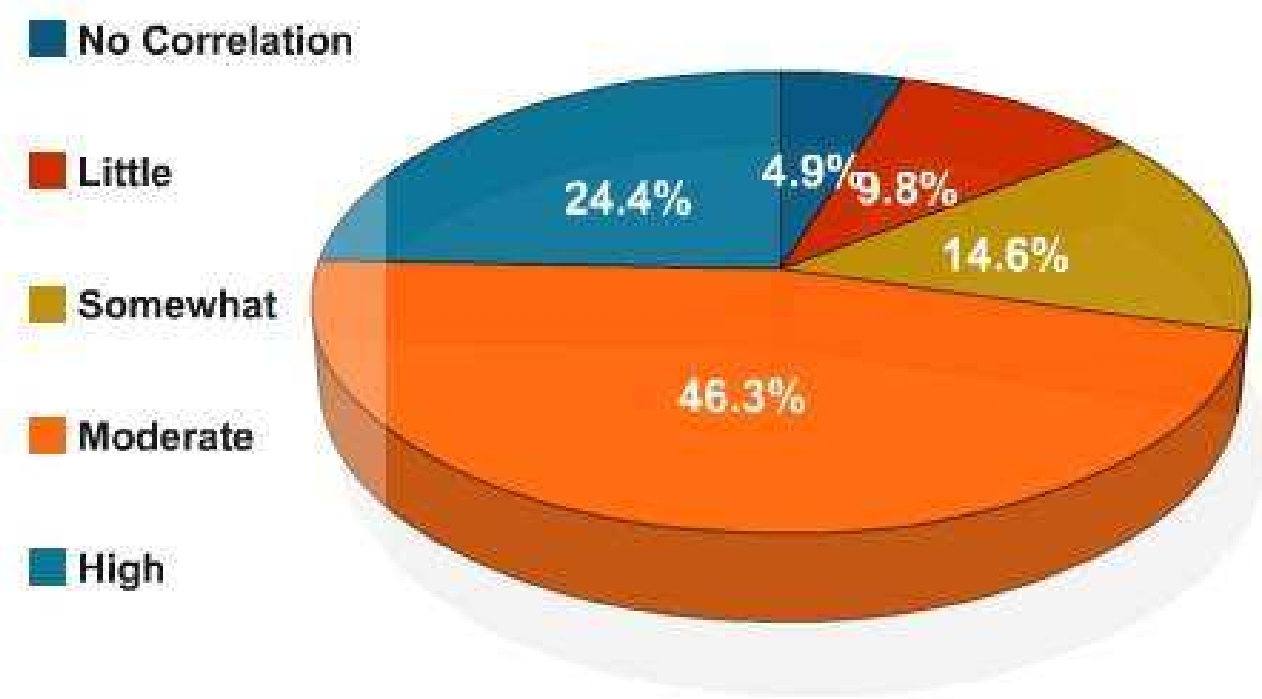
National

6.6

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

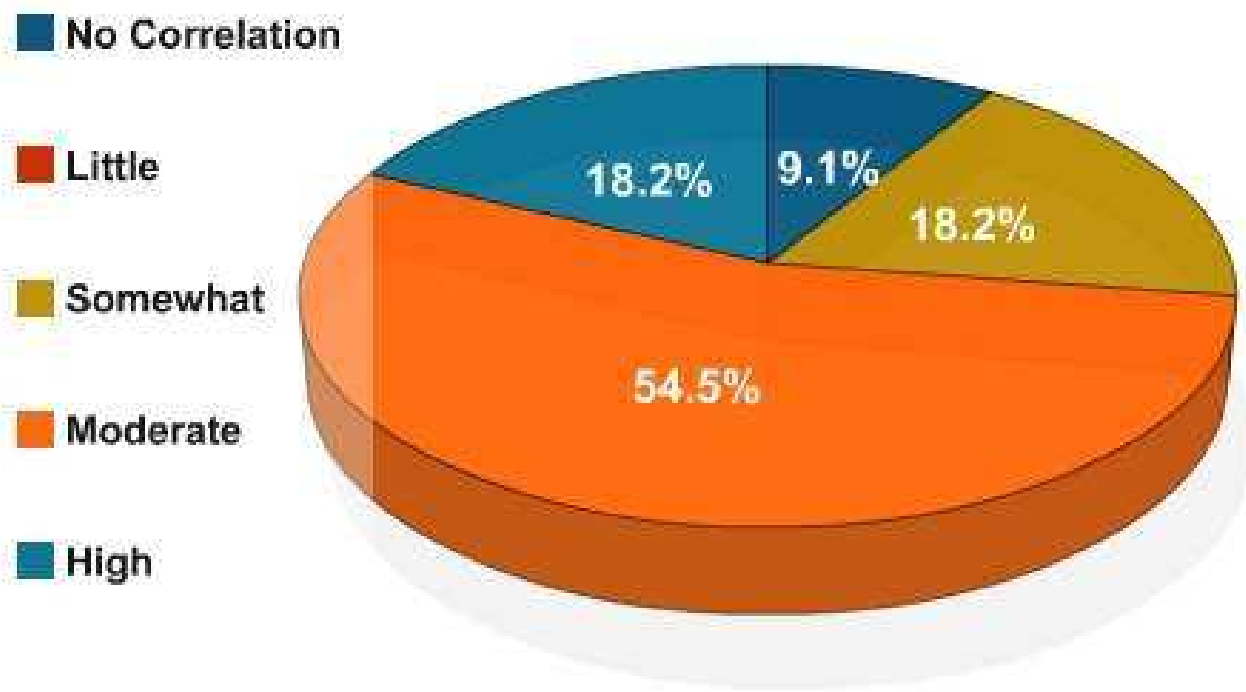


View the long description of this pie chart showing percentages of reported PCR reliability/accuracy.

Southeast

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

8.1

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%	Rejuvinators	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%				

Southeast

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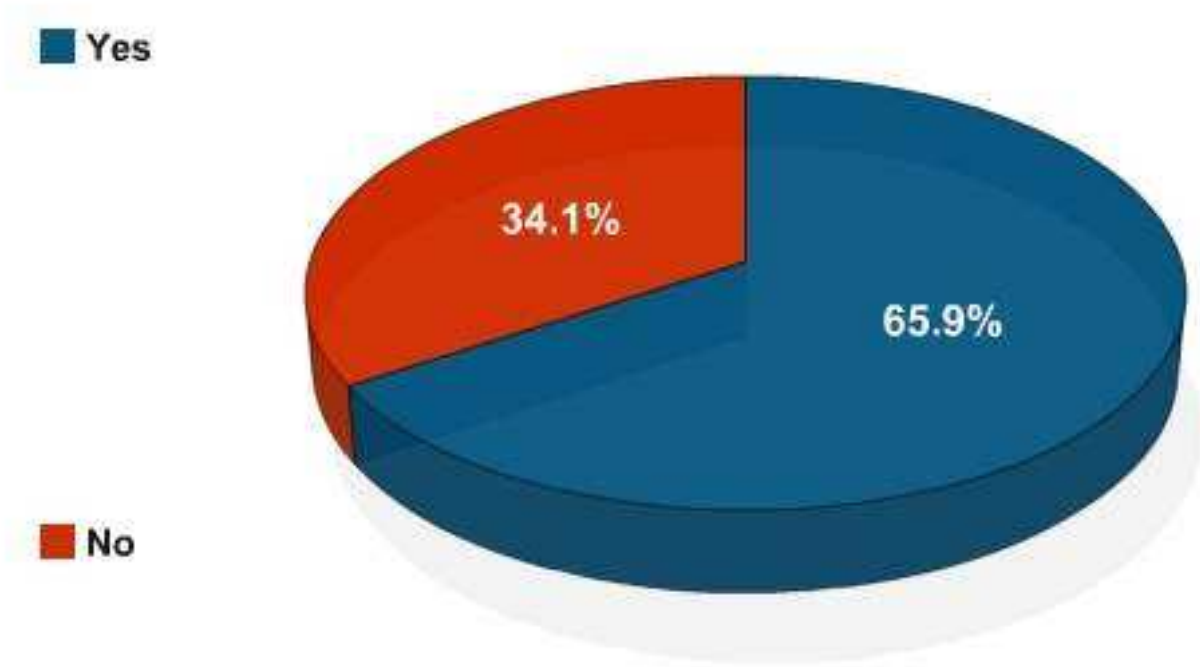
Treatment	Percent	Treatment	Percent	Treatment	Percent
Not Applicable	0%	HMA Inlays	0%	Scrub Seals	9.1%
Armor Coats	18.2%	HMA Overlays	100%	Slab Replacement	18.2%
Cape Seals	9.1%	HMA Patching	0%	Slurry Seals	54.5%
Chip Seals (Inc. Pass Oil)	81.8%	Joint Sealing	63.6%	Spall Repair / PCC Patching	36.4%
Concrete Pavement Restoration (CPR)	9.1%	Micro-surfacing	63.6%	Surface CIR Recycling	9.1%
Crack Filling	81.8%	Mill and HMA Overlay	81.8%	Surface HIR Recycling	45.5%
Crack Sealing	63.6%	NovaChip ®	81.8%	Surface Patching	9.1%
Cross Stitching	9.1%	Open Graded Friction Course	27.3%	Thin HMA Overlay	54.5%
Diamond Grinding	81.8%	Partial Depth Repair	27.3%	Ultrathin HMA Overlay	18.2%
Dowel Bar Retrofits	27.3%	Profile Milling	0%	Ultrathin Whitetopping	9.1%
Flush Seals (Inc. Pass Oil)	0%	Rejuvinators	9.1%	Under-Drain / Drain Cleanout	0%
Fog Seals (Inc. Pass Oil)	27.3%	Sand Seals	0%	Under-sealing	27.3%
Full Depth Repair	45.5%				

National

8.5

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



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

Southeast

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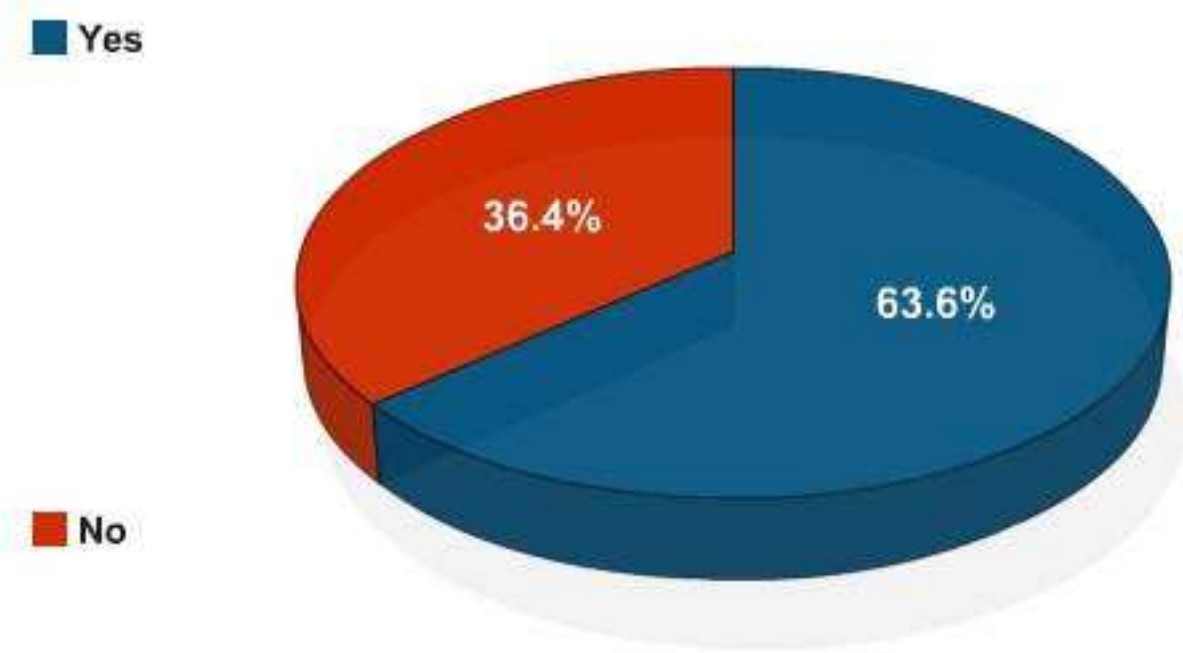

View the long description of this pie chart showing percentages saying it is difficult to attract quality pavement preservation contractors.

9 Regional Bridge & Pavement Preservation Partnerships

AASHTO
THE VOICE OF TRANSPORTATION

TSP·2
Transportation System Preservation
Technical Services Program

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SHRP2

STRATEGIC HIGHWAY RESEARCH PROGRAM

Administered by TRB under Memo of Understanding with FHWA & AASHTO

$230 Million over 9 years

4 Focus Areas

- Capacity
- Safety
- Renewal
- Reliability

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Renewal

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

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Language is needed
to identify and fund
Highway System Preservation
in the
Transportation Reauthorization Bill

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Mike Acott

Pavement Preservation – Let's Use All the Tools in the Tool Box

In these times of dwindling budgets, maximizing every single dollar has become a priority. But, keeping roads safe and smooth is only part of the equation. It is also important to preserve the pavement structure -- to not let the pavement condition deteriorate to a point where expensive rehabilitation or reconstruction is necessary.

For our roads to perform as intended, it is critical that an effective pavement preservation strategy is employed. Pavement preservation advocates say it's all about using the right treatment on the right pavement at the right time.

However, pavement preservation has been wrongly associated with activities typically associated only with surface maintenance. It goes much deeper than that.

The FHWA's Pavement Preservation Expert Task Group recently proposed the following definition: "a program employing a network level, long-term strategy that enhances pavement performance by using an integrated, cost-effective set of practices that extend pavement life, improve safety and meet motorist expectations."

We believe that there are some important phrases in this definition that need to be considered. For example, the extension of the life of the pavement must be long enough to offset the costs of the preservation treatments. NAPA believes that both the benefits and costs must be included in the life-cycle assessment for all new pavements. Unfortunately, we often see these costs included in the life-cycle assessment but we get no credit for the extended life of the asphalt pavement.

Going back to this particular definition you may also note that it does not restrict what is considered pavement preservation. It only requires that treatments enhance pavement performance and be cost effective. We fully support this definition because this provides a full range of options for the owner.

We agree that increasing capacity is not a function of pavement preservation, but restoring the strength must be included as a pavement preservation strategy. After all, what is it that we are trying to be preserve -- the complete pavement structure or just the surface? Remember that the surface is only part of our investment in pavements. If an overlay or mill and fill preserves the structure, shouldn't this be an option as a pavement preservation strategy?

Let me give you an example of why we need to keep the definitions for pavement preservation broader to optimize the cost effectiveness of our strategies. One of the major initiatives of the asphalt industry over the past decade has been the Perpetual Pavement or long-life pavement concept. In the past, these pavements were referred to as full-depth or deep-strength pavements. These pavements have thick asphalt pavement layers, typically over 8 inches. They minimize strains at the bottom of the pavement, eliminating structural rutting and bottom-up fatigue cracking that are the most expensive pavement distresses to correct. This confines distresses to the surface, where they can easily be corrected by a simple mill and fill operation to restore ride and friction. This can be done during off-peak traffic reducing user delay costs.

Mill and fill is a key component of Perpetual Pavements. The milling removes distressed pavement layers, which improves the performance of the overlay

continued on next page

and can also improve smoothness. It must be included as a pavement preservation technique because it preserves the structure and the desired surface characteristics.

Another important issue to note when we mill our pavement is that the material removed can be recycled back into new asphalt mixes. In this process we recover both the aggregates and asphalt binder from the millings. This saves both contractors and agencies money, while reducing the need for new materials and the associated environmental impacts.

One of NAPA's initiatives has been to develop information on thin asphalt overlays for pavement preservation. Over the years asphalt overlays have been the most used pavement preservation strategy. And, as with many products, there have been advances in materials and design of these mixes. A number of agencies have worked with contractors in their areas to develop mixes that may be placed thinner to stretch their paving dollar.

Asphalt overlays are one pavement preservation strategy that will restore ride quality and improve fuel efficiency. Reduction in tire-pavement noise is another benefit. A recent study in Maryland showed that tire-pavement noise could be reduced by more than 4 decibels by reducing the nominal maximum aggregate size from 19 mm to 9.5 mm. A reduction of 3 decibels has the same impact on noise as reducing the traffic by half. Many studies have also shown that open-graded friction courses will reduce tire/pavement noise effectively on high speed roads.

Using warm-mix asphalt to reduce production and paving temperatures is especially well-suited to pavement preservation. In addition to its sustainability and environmental benefits, warm mix offers advantages in improved compaction at cooler temperatures, longer haul distances, reduced aging, and the ability to increase recycling, all of which are important to preservation efforts. Furthermore, this technology has been successfully employed with all of our current surfacing materials – dense-graded mixtures, SMA, and OGFC. It has even been successful at eliminating bumps when used as an overlay on a surface that has been crack sealed.

In short, NAPA fully supports pavement preservation and believes that when funding is limited, a "fix it first" strategy should be the priority. We support the broad definition of pavement preservation developed by FHWA ETG. That is, "preservation must preserve the surface functional requirement and preserve the pavement structure."

We also need to understand what pavement, traffic and environmental conditions are best suited to each treatment. All treatments must have a proven track record demonstrating that they are able to extend the pavement life, as well as the most effective time for applying them.

A useful tool for evaluating the performance and cost effectiveness of these treatments is the pavement management systems most agencies already have. However, the data that goes into the pavement management system is too seldom used to evaluate the performance of individual treatments. We need to use tools such as this in order to make informed decisions. We also need to better characterize the condition of the pavement beyond smoothness or IRI.

As many of you know, Congressman Jim Oberstar, Chairman of the Transportation and Infrastructure Committee, has proposed a Surface Transportation Authorization bill with significant funding increases for a new Critical Asset Investment Program.

This program would focus significant federal dollars on preserving and upgrading America's highway, roads and bridges based – for the very first time - on national performance outcomes. NAPA strongly supports the Critical Asset Investment Program proposal.

Under the program, preservation activities would be explicitly eligible for Federal funding. That is why it is critical that preservation activities include all the available tools and technologies to preserve the pavement system.

The next surface transportation bill will direct significant funding into pavement renewal programs, including pavement preservation. A restrictive definition that excludes any "structural benefits" does not make engineering or economic sense. In our view, pavement preservation activities must include all the tools in the tool box. HMAT

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Thank You!