



A PUBLICATION OF FP² INC.

FALL 2025

PAVEMENT PRESERVATION *JOURNAL*



INSIDE:

JIM MOULTHROP
1939-2025

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PAVEMENT PRESERVATION JOURNAL

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On the Cover: Hot in-place recycling (HIR) is executed in Winnebago County, Iowa. See article pp 12-17.

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James S. Moulthrop, P.E., 1939-2025

Long-time pavement preservation and recycling champion and former FP² executive director **James S. Moulthrop, P.E.**, passed away Friday, Aug. 15.

He retired in January 2022 after having served since 2009 as executive director of FP² Inc., formerly the Foundation for Pavement Preservation.

For decades he was a pioneer in promoting environmentally sustainable pavement preservation and recycling, and played a national role in developing, promoting and supporting initiatives that preserve America's pavements.

He is survived by his spouse, Martha "Marty" Moulthrop, and children Jamie, Meg and Molly.

"The industry lost a stalwart, and many of us lost a friend and mentor in the passing of Jim Moulthrop," said FP² president Dave Henderson, Asphalt Materials, Inc. "Jim's contributions to our industry have left a lasting mark and he will be deeply missed. Dani's and my thoughts and prayers are with Marty and the family during this difficult time."

BEGAN WITH PENN DOT

Mr. Moulthrop received his B.A. in geology from St. Joseph's College in 1960 and his M.S. in geology from Kansas State University in 1963. His interest in pavements and asphalt materials began in the Pennsylvania Department of Transportation in the 1970s where he rose to the positions of state maintenance and state materials engineer.

There he worked for two decades in various positions, including assistant district and regional geotechnical engineer, chief field materials control engineer, chief of the Materials and Testing Division, and director of highway maintenance, before moving to the private sector.

Over his long and distinguished career, Mr. Moulthrop held positions and/or served in some capacity with other agencies and associations, and private sector companies such as Lubrizol, Exxon Chemical Americas, Koch Materials, and Fugro Roadware, while volunteering much time to professional committees which promote better pavements. Over the course of his career he also served on FHWA and ASTM advisory committees.

Of most benefit to the pavement community, Mr. Moulthrop was a long-time advocate of the importance of environmentally sustainable pavement preservation and recycling, a founding principle of the FP² organization he led into the 21st century.

During his time serving the International Slurry Surfacing Association (ISSA) — during which Mr. Moulthrop was representing a materials supplier — he was instrumental in working with FHWA to develop broad-based agency support for pavement preservation.

FEDERAL FUNDING FOR PRESERVATION

He also was instrumental in clarifying federal surface transportation legislation to ensure the availability of federal funds



Marty and Jim Moulthrop

for chip seal, fog seal, micro surfacing, slurry seal, hot in-place recycling and cold in-place recycling research, and technological advancements.

Mr. Moulthrop was passionate about employing the pavement preservation concept — using the "right treatment to the right road at the right time" — to improve roads nationwide cost-effectively, as opposed to the "fix the worst roads first" concept. He worked to educate future generations on applying this important concept.

In 2012 Mr. Moulthrop was inducted into the FP² Hall of Fame. On the occasion of his retirement in January 2022, Mr. Moulthrop was inducted into the AEMA Hall of Fame and presented with ARRA's and ISSA's Special Recognition Awards.

A special moment at that meeting was a video of a tribute to Mr. Moulthrop, a native Pennsylvanian, that was presented on the floor of the U.S. House of Representatives by **Rep. Glenn Thompson (R-Pa.)**. A framed transcript of the tribute taken from the Congressional Record was presented to him at that time. You may view the tribute online by using the adjacent QR code. 



An expanded industry retrospective of Mr. Moulthrop and his impact on pavement preservation and recycling will appear in our Winter 2025 issue.



BY DAVE HENDERSON
President, FP² Inc.

Pavement Preservation Progresses Through Partnership and Policy

My last message was written as we were preparing for the May TCC Fly-in, which went well (see our report on page 18). Our team had very positive discussions about funding and the need to support small agencies to better understand and implement preservation and recycling technologies. The conversations were very engaging, and I believe our message was well received.

REACHING LOCAL AGENCIES

Our objective is to implement effective pavement preservation and recycling strategies at the local level. In support we are advocating inside the Beltway for federal appropriations that will support small and rural local agencies. For the first time, this funding would help these agencies implement pavement preservation or recycling treatments by providing matching funds (25 to 50 percent) to reduce perceived risk. It would also support training, increase exposure to new technologies and improve technical knowledge of alternative treatments by generating local case studies that can serve as valuable references for future projects.

Our message is gaining traction! **Sen. Jeanne Shaheen** (D-N.H.) included our pavement preservation funding request for small and rural communities in her list of priorities submitted to the Appropriations Committee. While she may not secure all her requested projects, if a funding bill is passed, she is likely to receive some support. This is a significant step forward and proof that our advocacy and technology efforts make an impact.

While this year may be difficult for appropriations bills — with many expecting a continuing resolution (which would likely mean no projects) — the next critical step will be the Senate Appropriations Committee mark-up, if it occurs. Regardless of the outcome, we remain optimistic and encouraged by the responses we are receiving. Many thanks to FP² vice president **Bobby Betsold** and legislative counsel **Tracy Taylor** for their tireless efforts in advancing this key strategy. We are fortunate to have such committed professionals on our team.

As mentioned earlier, the funding picture remains uncertain. President Trump's *One Big Beautiful Bill* was signed into law on July 4, 2025, by a narrow margin, even as the highway reauthorization is still "under construction."

If you receive our FP² *Washington Updates*, you know that the House-passed version of H.R. 1 included a **\$250 annual registration fee for EVs** and a **\$100 annual registration fee for**

hybrid vehicles. These fees were intended to be deposited into the Highway Trust Fund to create parity with gas-powered vehicles. Although there is broad congressional support in Congress for EVs contributing to the Highway Trust Fund, this provision was stripped from the bill in the Senate due to procedural — not policy — reasons. It's expected that the issue of funding the Highway Trust Fund will be revisited in the 2026 Surface Transportation Reauthorization legislation.

SUPPORT FOR NEW ADMINISTRATOR

In other developments, as of this writing, **Sean McMaster's** nomination to be the next FHWA administrator is widely expected to pass in the Senate, where he has received bipartisan support. At his Senate Environment and Public Works hearing, Chair **Sen. Shelley Moore Capito** (R-W.Va.) praised McMaster's relevant professional background in both the public and private sectors, stating that it makes him well-suited to be the FHWA administrator. Two Democrats, Ranking Member **Sen. Sheldon Whitehouse** (D-R.I.) and **Sen. Mark Kelly** (D-Ariz.), also voted in support. McMaster, a former DOT deputy chief of staff, has expressed his intent to simplify the permitting process and accelerate construction timelines.

As we collaborate to effect positive change in our industry, I hope you are planning to attend the ARRA Recycling Summit in Franklin, Tenn., this October (see article on page 10). Asphalt pavements consistently rank as one of the most recycled materials in the U.S., and FHWA continues to support and promote the use of RAP to increase its utilization in highway construction.

The goal is to maximize both the economic and practical use of recycled materials while ensuring equal or improved performance compared to virgin materials. With advancing technology, the future of asphalt recycling is bright. Ongoing R&D is enhancing the efficiency and sustainability of the process. The Recycling Summit will be an excellent opportunity to learn about these innovations and how they can extend the life of our infrastructure.

Please stay safe as you work and travel on our nation's roadways. If you are not already a member of FP², please consider joining us as we work together to advance pavement preservation and recycling.



It's Not Too Late to Register for the Recycling Event of the Year

There still is time to register for the pavement recycling event of the year, the 2025 *Pavement Recycling Summit*, hosted by the Asphalt Recycling & Reclaiming Association (ARRA) in suburban Nashville, Oct. 20–23.

This national gathering brings together engineers, contractors, DOTs, suppliers and industry innovators for a powerful exchange of ideas and advancements in sustainable pavement management. Registration is still open, and the summit promises to deliver practical insights, real-world strategies and connections that will help attendees take their pavement programs further than ever before.

TECHNOLOGY MEETS APPLICATION

The summit's exhibit hall will showcase the latest products, technologies and services that are driving the pavement recycling and reclamation industry forward.

These exhibits will highlight how innovations in materials, design and equipment are helping agencies and contractors achieve performance goals while maximizing resources and reducing environmental impact. Whether you are evaluating treatment options or managing field operations, the exhibit floor offers hands-on access to the tools that will elevate your work.

Industry sponsorships at the 2025 summit are an opportunity to place your brand in front of a focused and influential audience. Sponsorships are available to ARRA members, who benefit from visibility through signage, branded materials, networking events and session exposure. This is a chance to align your company with the future of sustainable infrastructure and show leadership in advancing cost-effective pavement strategies. Learn more about becoming a member and sponsorship packages at arra.org.

Franklin, Tenn., is a vibrant city just south of Nashville. The venue, Embassy Suites by Hilton Nashville South Cool Springs, offers a modern, professional setting with easy access to downtown Franklin's historic charm and Nashville's legendary live music scene. After a full day of learning and networking, attendees can unwind with local cuisine, music or a stroll through Franklin's scenic town center. The location adds personal enjoyment to the professional value of the event.

'GO THE DISTANCE'

The summit's 2025 theme, *Go the Distance*, speaks directly to the challenges pavement professionals face in extending the life and performance of infrastructure assets. As agencies confront aging roads, tight budgets and environmental requirements, the summit offers tools and training that make a difference.

Attendees will gain a deeper understanding of five leading treatment options — hot in-place (HIR), cold in-place (CIR), cold central plant recycling (CCPR), cold planing and full-depth reclamation (FDR). These techniques not only save time and money but also deliver structural strength equivalent to traditional methods. The program will feature case studies, interactive discussions and research-backed presentations that show how these recycling strategies are being applied successfully across North America. From local governments to state DOTs, real-world stories will demonstrate how innovative thinking is improving outcomes and reducing risk.

SPEAKER SESSIONS

Each day of the summit will feature a targeted speaker session designed to address current trends, share knowledge and drive best practices across the industry:

- **Tuesday Morning: The Tennessee Recycling Experience.** Learn how Tennessee agencies are leading the charge in applying recycling treatments to build resilient, high-performing roads.
- **Tuesday Afternoon: From FDR to PCR, and a Little Business, Too.** From a synthesis view on FDR to all things sustainability, this session will chart the path for the future of our industry.
- **Wednesday Morning: Research to Application.** Explore how research is being translated into field-ready solutions and performance specifications.
- **Wednesday Afternoon: Success! It's What We're Made Of.** A session highlighting success stories from around the country, showcasing what it takes to turn innovation into impact.

WHY YOU SHOULD ATTEND

The 2025 Pavement Recycling Summit is designed for professionals across every segment of the industry, from agency engineers and project managers to contractors, designers and suppliers.

Attendees will:

- **Learn directly** from experts and innovators
- **Discover new ways** to reduce costs and improve pavement performance
- **Gain continuing education** credits and professional recognition
- **Connect with peers** and potential partners
- **Gain access to new equipment,** tools and technologies in the exhibit hall.

The 2025 Summit is your opportunity to stay ahead of the curve and be part of a growing movement toward smarter, more sustainable pavement solutions. Join ARRA in Franklin this October and discover how to go the distance with innovation you can trust and performance you can count on! 

2025 PAVEMENT RECYCLING SUMMIT AGENDA

OCTOBER 20

AFTERNOON

ARRA Board of Directors Meeting	01:00 PM –05:00 PM	Azalea
Exhibitor's Setup	03:00 PM –05:00 PM	Chestnut-Popular-Redbud-Sycamore
Registration & Information Open	03:00 PM –07:00 PM	Birch-Chestnut Foyer
Exhibitor's Welcome Reception	06:00 PM –08:00 PM	Chestnut-Popular-Redbud-Sycamore

OCTOBER 21

MORNING

Registration & Information Open	07:30 AM –03:00 PM	Birch-Chestnut Foyer
Continental Breakfast	07:30 AM –09:00 AM	Chestnut-Popular-Redbud-Sycamore
Exhibits Open	07:30 AM –02:00 PM	Chestnut-Popular-Redbud-Sycamore
ARRA Welcome	09:00 AM –09:10 AM	Birch
General Session	09:10 AM –12:45 PM	Birch
Refreshment Break	10:30 AM –10:45 AM	Chestnut-Popular-Redbud-Sycamore

AFTERNOON

Lunch	12:45 PM –02:00 PM	Chestnut-Popular-Redbud-Sycamore
Agency Roundtable & Lunch	12:45 PM –02:45 PM	Hickory-Maple
ARRA Business Meeting	02:00 PM –02:45 PM	Birch
General Session –Cont.	02:45 PM –03:55 PM	Birch
Break & Load Buses	03:55 PM –04:30 PM	-
Transportation to Assembly Food Hall	04:30 PM –05:00 PM	Assembly Food Hall –Nashville
Eat at Assembly Food Hall	05:00 PM –06:30 PM	Assembly Food Hall –Nashville
Load Buses & Transportation to Hotel	06:30 PM –07:15 PM	-

OCTOBER 22

MORNING

Registration & Information Open	07:30 AM –01:30 PM	Birch-Chestnut Foyer
Continental Breakfast	07:30 AM –09:00 AM	Chestnut-Popular-Redbud-Sycamore
Exhibits Open	07:30 AM –03:30 PM	Chestnut-Popular-Redbud-Sycamore
General Session	09:00 AM –12:00 PM	Birch
Refreshment Break	10:20 AM –10:40 AM	Chestnut-Popular-Redbud-Sycamore

AFTERNOON

Lunch	12:00 PM –01:15 PM	Chestnut-Popular-Redbud-Sycamore
General Session –Cont.	01:20 PM –04:40 PM	Birch
Break	03:00 PM –03:20 PM	Chestnut-Popular-Redbud-Sycamore
Cocktail Reception	05:00 PM –06:30 PM	Atrium

OCTOBER 23

MORNING

Continental Breakfast	07:30 AM –09:00 AM	Chestnut-Popular-Redbud-Sycamore
Marketing & Membership Committee Meeting	07:45 AM –08:45 AM	Hickory-Maple
Cold Planing Committee Meeting	08:50 AM –09:50 AM	Hickory-Maple
Hot In-Place Recycling Committee Meeting	09:55 AM –10:55 AM	Hickory-Maple
Cold In-Place Recycling Committee Meeting	11:00 AM –12:00 PM	Hickory-Maple
Full Depth Reclamation Committee Meeting	12:05 PM –01:05 PM	Hickory-Maple



VISIT [ARRA.ORG](https://arra.org) OR SCAN THE QR CODE FOR DETAILS

Hot In-Place Recycling Keeps Good Roads Good in Winnebago County

In central Iowa just south of the Minnesota border, a rural county is finding hot in-place recycling (HIR) is the right choice for keeping a good road good.

On R20 south of Rake, Iowa, a hot in-place recycling project was preserving the two-lane blacktop, restoring ride and providing another two decades of service to taxpayers.

According to FP² Inc., HIR is a continuous process with self-contained train of equipment that heats the distressed surface to 250 to 300 deg F, mills or scarifies a depth of ¾ to 2 in., mixes it with new, rejuvenating asphalt emulsion or binder, places the recycled mix with a paver, and compacts the mat in readiness for potential new surfacing as dictated by the traffic and road conditions.

HIR should be used on structurally sound pavements with good drainage, but with distressed surfaces. HIR has been successfully done on all types of roads, from city streets to rural roads to interstate highways. Before HIR, the reasons for the distresses should be analyzed so they can be corrected by the HIR process. Usually an investigation by civil engineers will specify a process or mix design based on cores.

HIR levels deformations, removes surface cracking, re-establishes crowns, maintains clearances and curb heights and reuses existing materials. The construction is quick, with immediate traffic return. However, the road base must be strong enough to support the equipment. If the distresses go deeper than the recycling, they may reappear.

This \$2.0 million, 249,476-sq. yd. HIR project was undertaken by FP² supporting member Dustrol, Inc., Towanda, Kan.

R20 IN WINNEBAGO COUNTY

The R20 project was one of several pavement preservation projects in the area that were in progress.



Freshly placed recycled pavement awaits breakdown compaction



Rejuvenating emulsion added from tanks into final windrow

"R20 has been cold-milled to the state line, and that's part of the overall scope of this project," said Winnebago County Engineer Scott Meinders, P.E. "We have several different locations, each with its own project number."

Milling on R20 was accomplished by a Dustrol subcontractor, Ulland Brothers, Inc., of Albert Lea, Minn., using a 12-ft drum in one pass at profile grade. "The plans call for an inch to be removed, but when we ran at 2 percent cross slope,

sometimes we were milling inch and a half down to nothing in some points." A total of 111,888 sq. yd. was milled.

If the essence of pavement preservation is keeping good roads good, R20 fit that theme. "The road was last paved in

2005, and here we are in 2025, some 20 years later, but still in good condition," Meinders said. "It had some cracking, and wear over time, but the ride was pretty good. Usually in our county, after 20 years, a road really needs to

have some major resurfacing or recycling done, but this one was in better shape than most."

With an ADT of 590-740 vpd, R20 gets both semi truck loads and heavy agricultural loads, especially during harvest time. "I'd say the majority of truck traffic, aside from agricultural traffic, serves hog confinements," Meinders said. "We have a feed mill here, not far away, so we get quite a bit of feed traffic and other ag commodities, for example, cattle feed and byproducts from ethanol plants. And this particular road leads to the only grain elevator nearby."

Winnabago County does not employ an asset management system to track road conditions. Instead it relies on its county five-year program, plus an additional tweak.

"We have a couple of different programs," Meinders said. "Our more formal system is our county five-year program, which every Iowa county must have, in which you program all of your major construction projects. But we also have a lot of maintenance projects that don't make it into that. Instead we keep them off to the side in a five-year plan spreadsheet that evolves as our budget allows.

"We try not to make it too complicated," he added. "We have 150 miles of road and it's split into 35 segments at most. So we don't need an asset management system for just 35 sets of data. We keep that in a spreadsheet, including the history of the pavement and maintenance, and we line that up with proper timing of pavement preservation and resurfacing, all the way down to complete recycling and full-depth reclamation."

HIR IMPORTANT TO COUNTY

Hot in-place recycling is a big part of the county's pavement preservation effort, and has become a very popular practice in the county's program.

"Dustrol's been a really good contractor to work with, and they've helped us through the development and scoping of projects," Meinders said. "We're experimenting with different surfacing types after they leave, including no overlay at all. We have a couple of projects this year which we're going to leave uncovered, that is, HIR with no overlay on top."



Windrow elevator places hot-recycled mix with rejuvenator into paver



At end of recycling train, finish roller operates in static mode



Intermediate heater continues to gently bring hot recycled mix up to optimal temperature

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Milling drum lifts softened asphalt mix off pavement and combines with material milled earlier in train



Windrow of hot recycled asphalt is maintained through the recycle train



Mixer following heater is an opportunity to add rejuvenating emulsion stored in black tanks

A few years ago Winnebago used Dustrol for about 14 miles of HIR, and micro surfaced all but 1,000 ft. of it. “We thought we would monitor how that pavement aged in comparison to the micro surface part,” he said. “And this year we put [asphalt rejuvenator] *Reclamite* on one lane of it, so we did a little test section there. To me, HIR is the best value for the money, so it has a unique spot in our treatment list.”

R20 itself was to get a 2-in. hot mix asphalt overlay after recycling this fall, and that will be applied to other HIR segments around Rake as well. R16, a project near adjacent Buffalo Center, Iowa, also will be hot in-place recycled, but that one will not be overlaid this year, Meinders said.

“Two other sections that they’ll be doing after that will also not be covered,” he said, “and we’ll be evaluating some surface treatments or rejuvenators or sealers next year or the year after that, depending on available funding.”

PERFORMS WITHOUT OVERLAY

Even without an overlay the HIR pavement will handle the heavy agricultural loads and local traffic of the area, the county has found. “The product we’re left with is nearly perfect in finish as new hot mix asphalt,” Meinders said. “The only question is how does it age, not how does it perform in the moment, but how does it oxidize and age over time? And that’ll be highly impacted by how we treat it after the fact with surface treatments or other preservation efforts.”

Approximately 6,100 tons of asphalt were milled off the R20 eight-mile project, some of which will go back into the 2-in. overlay. Ultimately some 12,000 tons of pavement were hot in-place recycled.

Dustrol’s *Mobile Asphalt Recycling System*, or MARS®, constitutes its newest method of rejuvenating asphalts of up to 2 inches or more.

This HIR process typically uses eight units, one after the other, slowly moving forward and gently heating the existing asphalt pavement to the optimum level without prematurely aging or oxidizing the material, caused by loss of lighter components of the residual asphalt due to high temperatures.

The process begins with two or more custom-made, propane-fueled preheaters. The next heater in the train is equipped



HIR process typically uses eight units, one after the other, slowly moving forward and gently heating the existing asphalt pavement to the optimum level



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with grade-controlled milling drums which windrow the top 1 in. of material. The milling heads are capable of milling 15 ft. wide and 1 in. deep.

Tunnel heaters heat the underlying pavement while maintaining the temperature of the windrow. The surface is then milled and heated by up to three more milling heaters followed by tunnel heaters depending on material and depth.

The last milling heater in the process has a metering system that injects and mixes a rejuvenating agent or asphalt emulsion into the milled asphalt and aggregate. No pug mill is used.

After adding and mixing the rejuvenating agent, the windrow is picked up with a conventional elevator. The paving process is performed with a conventional electronic grade control, electric screed paver. The material is compacted using conventional rollers in vibratory and static modes. The road can be opened to traffic after a cool-off period similar to an HMA paving operation, typically within an hour after the process is complete.

"Four units are preheaters, and four are heater/mills, and they're alternated in the train," said Donn Johnson, engineering consultant for Dustrol. "The first preheater unit heats the aged asphalt down to a half-inch and leaves it in place," Johnson said. "The next heater comes and heats that same surface, but at the back it has milling heads, and it mills the material again to about a half inch. At the end it has guardrails that create a windrow in the center of the pavement."

Heating the recycled material in stages precludes premature oxidation, providing relatively gentle heat, in one stage after the other, instead of an intense, single burst of heat. "We don't want to burn off any

residual asphalt that's in the pavement," Johnson said. "The customer has already paid for that oil and aggregates, so we re-use 100 percent of it." The paver places the resulting mix at a depth of two inches.

The rejuvenating emulsion used was an ARA2P product made by Flint Hills Resources of Stevens Point, Wis. It serves as a fresh binder for the hot recycle mix and adds black color, which is preferred by highway users. The pavement is not sealed or overlaid immediately as the seal will inhibit curing of the emulsion as water is released.

The process is not rushed and the contractor generally can recycle between two and three lane miles per day.

PRESERVATION WILL CONTINUE

Under Meinders' direction, in the last few years Winnebago County has embraced pavement preservation. "We have had a dramatic shift in the last five years from paving every 20 years to using a complete pavement preservation toolbox in our hands, all the way down to full-depth reclamation," he said. "I'm excited to see how we can extend the performance of our road system at the lowest cost possible. We're in the early stages to see how well that can be proven, but I'm confident that in five or 10 years we'll be able to tell a really good story.

"There were decades in which there was almost zero pavement preservation done in Winnebago County, outside of crack sealing," he continued. "I have really taken pavement preservation on as an interest, done some training and a lot of informed experimentation."

Meinders has two lists he uses to guide preservation work. "One is the list of preservation treatments, and one is the equivalent annual uniform cost of that treatment," he said. "And when possible, we try to use the treatment with the lowest equivalent annual cost, and we keep working up in value until we get the treatment that is correct for the road, maximizing the value of the treatment. Every treatment has an ideal road that it would be used on."

And that's the essence of pavement preservation mantra, *the right treatment for the right road at the right time.* 

Edited by Pavement Preservation Journal from material contributed by Dustrol, Inc.



Tunnel heaters heat the underlying pavement while maintaining the temperature of the windrow



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'Back to Basics' for Next Transportation Bill as 'Big Beautiful Bill' is Implemented

BY TRACY TAYLOR
AND TOM KUENNEN

In the wake of the wide-ranging national infrastructure funding bill passed in the previous administration, it will be 'back to basics' for its replacement surface transportation legislation due by Sept. 30, 2026, FP² delegates learned during the May Transportation Construction Coalition (TCC) Fly-In in Washington, D.C.

"We need to get back to building, and that starts with legislation focused specifically on improving our roads, bridges and other surface transportation infrastructure," said House Transportation & Infrastructure Chair **Rep. Sam Graves** (R-Mo.) at a presentation to the TCC, which

brings in advocates from all transportation sectors to promote issues on Capitol Hill the same week.

Graves was dissatisfied with the broad reach of the existing *Inflation Reduction and Jobs Act* (IIJA), which brought welcome higher levels of funding, but with investment in priorities beyond surface transportation.

With the existing IIJA, "efforts to address infrastructure needs were diluted in favor of progressive political wants and initiatives," Graves said. "Money designated for infrastructure improvements was coupled with a hefty list of

unrelated mandates. These types of additional requirements can increase project costs and lead to delays.

"In the next surface transportation reauthorization bill, we're going back to basics," Graves added. "After recent years of expanding and creating more programs, spending money we don't have and losing money to project approval inefficiencies, we must focus on our most fundamental infrastructure needs."

FIXING HIGHWAY TRUST FUND

Graves also warned of the need to **fix funding streams to the Highway Trust Fund**



FP² Inc. delegates include Dave Henderson, Rick Church, Jeff Wertkin, Jessie Boone, Bill Coleman, Bobby Betsold, Jennifer Sasser and Tracy Taylor



Week following the Fly-In, the Associated Equipment Manufacturers (AEM) sponsored a static equipment display on the Mall; Wirtgen America Inc. exhibited its W 150Fi cold mill



House Transportation & Infrastructure Chair Rep. Sam Graves (R-Mo.) speaks on program reauthorization to the TCC Fly-In delegates



Heather Painter (foreground), office of Rep. Maggie Goodlander, hears about pavement preservation



At right, Noah Hooton, office of Rep. Tim Burchett, asks questions of FP2 delegates



Top center, Bridget Henne, office of Rep. David P. Joyce, hears of environment benefits of pavement preservation and recycling from Dave Henderson

(HTF) to ensure its future viability. “The HTF is based on a user-pays principle, the main driver of which is federal fuel taxes that if you use the roads, you help pay for the roads,” he said. “Yet the gas tax is no longer a sufficient source of funding for the HTF.”

In H.R. 1, the ‘Big Beautiful Bill’ signed by President Trump on July 4, the House already had approved **a federal \$250 annual registration fee on electric vehicles, and \$100 annual fee on hybrids**. But this provision was stripped from the Senate version. This decision was less about the substantive policy behind EVs paying into the fund and more about the process, and it is widely expected that the issue of such fees funding the HTF fund will be addressed in the 2026 highway reauthorization bill.

FP² has provided input into the 2026 reauthorization, submitting a proposal for providing **technical assistance for pavement preservation and recycling with a special emphasis on small and rural agencies**. Additionally, FP²’s proposal supports:

- A **long-term, robust funding solution** to the Highway Trust Fund
- **Maintaining the current IIJA Buy America Section 70917 (c) exclusion** of certain materials from the BABAA expansion of construction materials (“construction materials shall not include cement and cementitious materials, aggregates such as stone, sand, gravel or aggregate binding agents or additives”)
- Expansion of **eligibility in the carbon reduction grant program** to include actual road construction, preservation and maintenance, and
- Policies in support of **roadside construction safety**.

IN-PERSON ADVOCACY

At least twice yearly, FP² members travel as delegates to D.C. to undertake personal outreach to their legislators, educating them about what pavement preservation and recycling is, the need to keep preservation eligible for federal funding and to provide input in the bullet points just above.

Advocacy for pavement preservation to national, state and local policy makers is a prime mission of FP² Inc.

This year FP² advocates included FP² president **Dave Henderson**, executive vice president, Asphalt Materials Inc.; FP² director **Bobby Betsold**, All States Materials Group;



Rebecca Navarro, office of Sen. Jeanne Shaheen, goes one-on-one with Bobby Betsold



Noah Barger, deputy chief of staff for Rep. Mike Bost, takes notes during meeting



Savannah Rogers, office of Rep. Chris Pappas, makes point with Bobby Betsold

Bill Coleman, vice president, operations, Barrett Industries; **Jessie Boone**, asphalt recycling market development manager, Wirtgen America, Inc.; and **Jeff Wertkin**, compliance director and risk management strategist, Asphalt Systems, Inc.

Participating as part of AEMA’s *Leadership Education for Asphalt Preservation (LEAP)* program was **Jennifer Sasser**, Ergon Asphalt & Materials Inc. Also on board was FP² executive director **Rick Church**; **Tom Kuennen**, editor,



At far right, Sean Higgins, office of Rep. Val Hoyle, speaks with FP² legislative counsel Tracy Taylor



Sen. Shelley Moore Capito (R-W.Va.), chair of Senate Environment and Public Works Committee, speaks on program reauthorization



At morning orientation, American Highway Users Alliance president Andrew Stasiowski informs FP² delegates on future of gas tax

Pavement Preservation Journal; and FP² legislative counsel **Tracy Taylor**, Alignment Government Strategies.

They visited the offices of **Rep. Glenn Grothman** (R-Wis.); **Rep. Tim Burchett** (R-Tenn.); **Rep. Dave Joyce** (R-Ohio), co-chair of the bipartisan House Recycling Caucus; **Rep. Val Hoyle** (D-Ore.); **Rep. Maggie Goodlander** (D-N.H.); **Rep. Warren Davidson** (R-Ohio); **Sen. Jeanne Shaheen** (D-N.H.); **Rep. Mike Bost** (R-Ill.); **Rep. Chris Pappas** (D-N.H.); and **Rep. Celeste Maloy** (R-Utah).

They also discussed program reauthorization with staff of the **Senate Environment and Public Works Committee**.

OPPORTUNITY FOR YOU NOW

You can join FP² in expanding its advocacy and outreach, either inside the Beltway on our advocacy visits, or in your own state or district. While our Capitol Hill visits are essential, you can make an even bigger impact by inviting your representative or senators to your manufacturing plant, a field preservation project or just scheduling an in-district meeting to discuss your work, its value to the community and the good jobs being created by pavement preservation.

Preservation-tailored materials for hosting a visit can be found at <https://fp2.org/advocacy-tools-talk->

ing-points-for-pavement-preservation/ or by using the QR code below.

For more specific information please contact Rick Church or Tracy Taylor and we can discuss the process in more detail. 



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Pavement Preservation and Recycling Adapts to Urban Areas in Northeast

BY BOBBY BETSOLD

*Adapted by Pavement Preservation Journal from a June live webinar, Pavement Preservation in Urban Settings, conducted by **Travis Walbeck, P.E.**, assistant director, training and outreach, National Center for Asphalt Technology (NCAT); with **Dr. Adriana Vargas**, associate research director, NCAT; **Nathan Moore, P.E.**, assistant director for test track research, NCAT; and **Bobby Betsold**, FP² vice president and director of marketing, All States Materials Group. This article is based on Betsold's presentation. Part II of this webinar adaptation will feature Dr. Vargas' presentation in our Winter 2025 issue. View the entire webinar by utilizing the QR code at the end of this article.*

The Greater Boston urban area, with a total population of over 4.3 million people, covers a large area stretching well outside the confines of the city into central Massachusetts, down south of the city, and up into New Hampshire, with a lot of very urban areas overall.

Within this area, the communities of Newton, Mass. and Arlington, Mass. are two municipal pavement preservation programs that have grown significantly in the last seven to eight years. Both are great examples of building success with preservation in urban areas.

Newton, Mass., with a population of just under 90,000, is located just outside the city, while Arlington, Mass., located just north of the city, has a lower population of about 46,000 but is still very much an urban setting with a lot of the same factors and challenges that impact urban pavement

preservation compared to a rural setting or an interstate.

In general, in urban areas one of the biggest factors is that **you see traffic and mobility** beyond just typical passenger vehicles, including extensive public transit and multimodal traffic with bicycles and pedestrians. This presents the challenge of managing the variability that comes with them. Additionally, congestion and how work hours are impacted also come into play. You will have high congestion in the morning with people going to work and school, then it may let up midday, but the afternoon can spread back out where there is a longer period of congestion. As a result, there's a need to look at how that impacts work hours and what has to be done from a traffic and pedestrian management viewpoint to maintain safety.

Another consideration are the spatial constraints, where you will have a high

concentration of not just people, but activities with businesses, residences, schools and emergency services. Trash pickup also can be a challenge that many people don't think of, as it always seems to be trash day wherever work is being completed.

Additional to spatial constraints is locating staging locations, places to park vehicles and equipment overnight, where materials can be stockpiled and where to dispose of excess materials. Space for all of these where it's safe and out of the way, and not going to create a hazard, is important.

Urban areas also typically will have a high concentration of utilities, and with that comes extensive coordination and potentially a lot of different ownership of utilities.

ARLINGTON REDISCOVERS PRESERVATION

Arlington is located just north of Boston and is home to a high concentration of neighborhoods. Many people who work in or around the city live in that area and commute to the city. Arlington is an interesting preservation example as they had done a tremendous amount of conventional chip seals with cutback asphalts decades ago and were one of the largest chip-seal communities in the region. Unfortunately, changes in the materials that were being used, specifically related to some of the early asphalt emulsions in chip seals and the aggregates that were being used, led to issues with loose stone, broken windshields and stones in driveways and yards.

As a result, their program ended and for decades, chip seal was not an option as the community shifted toward a *worst-first* approach. Rehabilitation, repair and overlays were the major portion of their program, with some usage of crack seal. In 2015, they started looking at preservation and used bonded wearing course initially in neighborhoods.

Then in 2016, the chip seal treatment came back into conversation for them because of a cemetery that had been done



Spray paver used to efficiently place bonded wearing course in Newton, Mass

over 20 years ago with chip seal and had not had any work done to it since. The thought was, this has lasted for 20-plus years... why don't we do the same thing again? That project reopened the door to chip seal, and they completed a trial of the asphalt rubber stress absorbing membrane (ARSAM) also in 2016. That served as the springboard to where they have built an annual program.

Over the course of a three- to five-year period, they shifted a larger portion of their maintenance dollars from worst-first to a preservation focus, with lessons learned each year. They focused on the bonded wearing course application on their arterials, main roads and higher volume roadways. They also concentrated the hot-applied chip seal in their neighborhoods and worked neighborhood to neighborhood.

The biggest part of their success has been making continuous modifications and changes to improve the program through a feedback loop. From day one, there have been many lessons learned each year. This included upfront coordination and meetings between the agency and industry, discussing what's working and how applications can be improved and bringing all stakeholders from agency departments, the community, the business community and more, together.

Communication with residents has been critical. Considerations such as parking, making sure cars were out of the road and that sprinkler systems were turned off were all significant issues early on. Additionally, with neighborhoods, there were many portable basketball hoops that were in roads, moving or delivery vans and trucks or even roll-off dumpsters. All of these were emphasized via communications to the residents to improve the process.

Since Arlington started to shift towards the **asphalt rubber membrane/bonded wearing course program, with a level-funded budget, they've been able to address more miles, treat more roadways and cause a significant bump in the overall condition of their network.** They've seen that program develop and flourish as they moved forward. This is a great example of an integrated program with a valuable feedback loop, and a community that had gone away from preservation, but was able to navigate its way back through planning, communication and coordination.

NEWTON MANAGES ASSETS

Newton is closer to Boston and has significantly heavier traffic in areas where their road program was working. Its program historically was similar to Arlington, in which they emphasized repair, rehab and overlays with some crack seal.

In 2017, the city did a survey of their road network and started to come up with a plan for improving their network. This included not only how they could dedicate more funds to the roadways but also understanding that just spending more money wasn't the whole solution. They wanted to find ways to more effectively spend their dollars and look at alternative treatments to try to keep their good roads good.

Over a three-year span, they tried almost all the tools in the **pavement preservation and recycling toolbox** to determine what was going to be most effective for them. This was a great approach for them to explore and see what was out there, how it would perform and how it would fit within their network and roadways. Similar to Arlington, it was essential to have that feedback loop, which is a key part for any program as they're trying new things and having to adjust and improve.

Starting in 2018, Newton turned to **bonded wearing courses** as the cornerstone of their pavement preservation program. Based upon early success as a preservation overlay, they looked at how they could utilize it in more ways and in conjunction with other applications.

One unique area they looked at was on the approximately 10 miles of **concrete roads** where they were facing an expensive challenge of rehabbing and repairing or removing and replacing the concrete, both of which are very time-consuming and costly. Instead, through the usage of **a combination of treatments including surface milling, mastic and/or crack seal, asphalt-rubber stress absorbing membrane interlayer (SAMI) and bonded wearing course.**

This process eliminated having to excavate the concrete, avoided getting deep into utilities and saved on many other logistical issues. This was a much quicker process and allowed them to address many more concrete roadways in a very short period of time and in a more cost-effective manner. The process

was even used on a section of the Boston Marathon route coming out of Wellesley.

The city has also used bonded wearing courses in conjunction with their hot in-place recycling (HIR) program as the final surface, and more recently used it on a multimodal path on an old carriageway that runs by city hall for several miles. They continue to use the treatment as a preservation overlay to minimize the overall profile impact, applying it to large stretches of road with minimal impact on the traveling public.

PRESERVATION SUCCESS IN THE REGION

Many other preservation treatments have been and continue to be utilized throughout the northeast and the Greater Boston area. These include **crack seal, fog seals, microsurfacing, cape seals (with both emulsion and asphalt rubber chip seals), thin HMA overlays, milling, hot in-place recycling, and cold in-place recycling.**

The town of Lexington, Mass, an urban community also just outside of the city of Boston, is a past recipient of the Sorenson Award (presented by FP²), recognizing their successful preservation program.

Similar to all areas, project selection is the key to success for preservation in an urban setting. **The right treatment, on the right road, at the right time** is the most important part, but in an urban area there are just more and different factors. It is not the same as working on a rural road or highway.

Clearly defining the scope of work, understanding responsibilities and expectations, communicating and coordinating with all impacted stakeholders, having experienced crews and most importantly supervising and managing traffic control are all critical to the performance and success of projects. 

Part II of this webinar adaptation will feature Dr. Adriana Vargas' presentation. See the entire webinar by accessing the adjacent QR code.



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'Molecular Makeover' Drives Rejuvenator Performance

BY ZACK HELM
AND KENNETH V. HOLTON, P.E.

We are all looking for ways to move the needle to make our pavements last longer. Many look for the silver bullet or a specific outcome with new materials. Often times, in the obsession with innovation, we make circular arguments to find what we are looking for. Maybe, what we are looking for has been in plain view for decades.

In 1950 French entrepreneur Baron Bich wanted to improve the ball point pen for the consumer. He changed the grip to a honeycomb design to make it easier to handle, improved the flow of the ink and designed the pen to be transparent in order to monitor ink supply. If that wasn't enough, the visionary also made it disposable. The Bic was launched in 1955 and to this day is still the world's No. 1 selling pen. Not much has changed since 1955, in fact, the iconic design looks virtually the same and can be seen in households across the country.

MISSING MALTENES

Similarly, in 1959, Fitz Rostler and Richard White identified a way to improve the

asphalt pavement binder for *in situ* asphalt roadways. They identified the components (maltenes) that were lost due to age hardening, thereby causing asphalt pavements to deteriorate.

The method they developed re-introduces maltene components and effectively reverses aging by re-plasticizing the binder. The process can be accomplished with minimal disruption and is translucent, so as not to obliterate existing pavement markings. *Maltenes Replacement Technology* (MRT), a settled science, has become an early preventive maintenance approach for asphalt and is widely accepted and in use around the world.

In recent years, alternate methods to chemical restoration have developed that take a different approach from natural maltene replacement. Though not new chemistries, some non-maltene-based products have been re-purposed for pavement preservation. Almost all of these products are agriculturally derived.

Historically, agricultural or "bio-based" chemicals have been used to replace certain petroleum products, such as fuels and

solvents. Specific to asphalts, bio-based products are used as asphalt "cutbacks" or "asphalt releasers" to clean or reduce undesired asphalt residue.

By their nature, bio-based chemicals are dissimilar from asphalt, as they are not derived from petroleum. This class of materials may have a tendency to make asphaltic binder unstable through phase separation. They are generally based on pseudo-aromatic or paraffinic-based "biofuels," which are molecularly very different from petroleum naphthenic-based asphalt binder.

All do a good job softening the asphalt, but therein lies the problem. Softening asphalt does not equate to rejuvenating asphalt. Sustainable verified rejuvenation of an asphalt binder requires restoring the maltene fractions (the oily components) balance that have been depleted from the material.

MOLECULAR MATCHMAKING

Maltenes are one of only two core molecular components common to all asphalts. The other is asphaltenes, that constitute the stable filler component. As the resinous and oily fractions found in asphalt binder, maltenes are the components that give the asphalt its flexibility, fluidity and adhesion properties.

Rejuvenation of asphalt binder requires replenishing its depleted maltene content to restore functionality. Imagine having a Rice Krispies treat without enough marshmallow to retain a sticky matrix. The cereal would become more brittle and just fall off the bar. Similarly, as asphalt ages, the pavement becomes brittle and aggregate loss begins.

Across the country there is test track research and ongoing studies regarding the efficacy of various pavement preservation treatments. Various companies have taken part in these studies, with valuable resulting data and are encouraged to continue participation. However, these various locations are rather small in sample and have been only located in specific parts of the country.



In East Tennessee in 1999 a test strip of MRT (Reclamite) on about 200 feet of pavement was placed in 1999. After more than 25 years the treated side has retained more aggregate and exhibits a denser surface matrix

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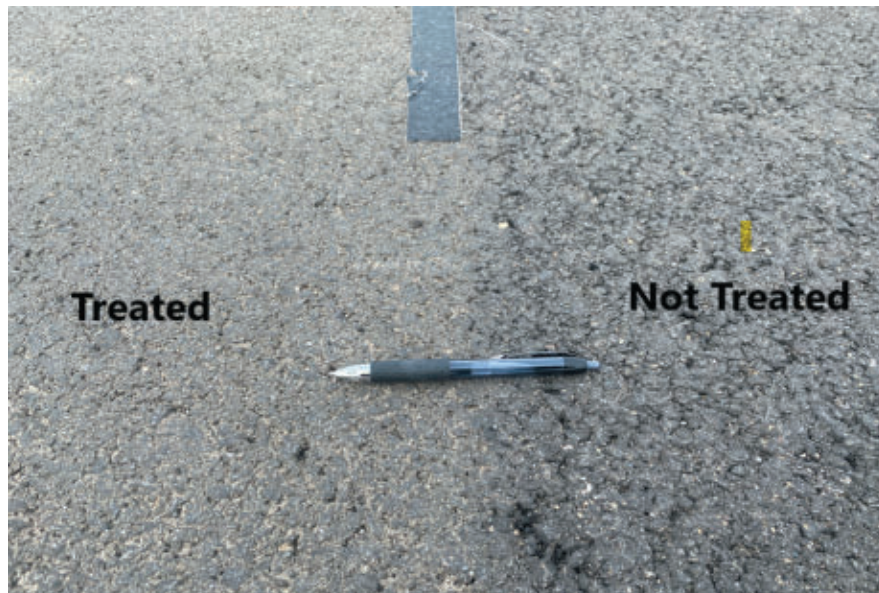
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After one year after application, pavement is weathering more slowly. Following rain, the treated area is virtually dry, while the untreated pavement is retaining moisture. The replacement of natural maltenes effectively creates an in-depth barrier to moisture intrusion

To truly gauge the efficacy of a pavement rejuvenator the attention needs to be more directed toward field tests placed recently and over the last decade. Numerous field tests throughout the country continue to prove that MRT is the most sustainable way to rejuvenate an asphalt pavement in our opinion.

A review of two representative examples underscores the value of field trials for evaluating performance. Provided is an image from East Tennessee in which a 200-ft. test strip of MRT (*Reclamite*) was placed in 1999. After more than 25 years, the treated side has retained more aggregate and exhibits a denser surface matrix.

But does it take 25 years to see if a rejuvenator is performing? An adjacent image was taken one year after application. The pavement is weathering slower, and following rain the treated area is virtually dry, while the untreated pavement is retaining moisture. The replacement of natural maltenes effectively creates an in-depth barrier to moisture intrusion.

CARY, N.C. REJUVENATES ROADS

Rob Holland, a senior project manager with civil engineering firm WithersRavenel has over a decade of working with maltene replacement technology to ensure his clients improve their pavement life.

"In 2015 we researched products to establish an asphalt rejuvenation program to stretch the life of our City of Cary, N.C.,

streets," Holland says. "We weren't interested in topical treatments that coat the asphalt surface, or products incompatible with natural asphalt binder. When I read about replacing the maltenes and balancing the maltene-asphaltene ratio, I was interested from a common-sense standpoint. Following our research we selected an MRT-based product [*Reclamite*]. We now have an annual rejuvenation program to go along with our resurfacing, reconstruction, patching and ADA compliance programs."

As we innovate in pavement preservation, it's crucial to recognize that not all solutions are created equal, nor are they truly restorative. Maltene Replacement Technology (MRT) not only adjusts asphalt binder viscosity, it also restores molecular integrity, prolonging service life.

Proven performance through real-world field applications offers a practical benchmark in selection of an asphalt pavement rejuvenation alternative. In an industry constantly seeking advancement, the answer may lie not in reinventing the wheel, but in remembering what made it roll so well in the first place. 

Edited by Pavement Preservation Journal from material submitted by Pavement Technology Inc. (PTI). Helm is technical sales representative, and Holton is technical consultant, PTI. Opinions expressed are those of Helm and Holton are not necessarily those of FP² Inc., its directors or staff.

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Learn from 2024 Horizon Award Winners

Bryan Dhume and Jorge Duran

BY LINDSAY MATUSH

The Horizon Award was newly launched in 2024 by the Pavement Preservation and Recycling Alliance and its flagship site: **RoadResource.org**. The award celebrates four individuals whose work exemplifies a shift toward proactive, long-term network improvement.

It acknowledges the leadership, strategy, execution and innovation required to drive positive change in road networks across America. Recipients are recognized for developing pavement management strategies that prioritize overall network health, introduce diverse treatments and challenge the status quo.

This article profiles two of the four standout professionals who have been honored: **Bryan Dhume**, Madison County, Ohio engineer; and **Dr. Jorge Duran, A.M. ASCE**, Pavement Management Program supervisor in Maricopa County, Ariz. Each of them has carved out meaningful change in two very different environments — rural Ohio and fast-growing suburban Arizona — using data, determination and innovation to drive results.

The Winter 2025 Pavement Preservation Journal will profile remaining Horizon Award winners **Tyler Lawrason**, chief administrative office, Municipal District of Provost, Alberta, and **Bradley Klinger**, assistant director of the Fayette County, Ga. Road Department.

BRYAN DHUME: CHAMPION OF PAVEMENT PRESERVATION IN OHIO

When Bryan Dhume took the reins as county engineer in Madison County, Ohio in 2016, he inherited a network in distress. The roads, 342 miles of county and 127 miles of township infrastructure, had Pavement Condition Index (PCI) scores mostly in the 50s and 60s. Preservation strategies were minimal, and deterioration trends were deeply embedded.

Rather than accept the status quo, Dhume made pavement preservation the centerpiece of his strategy. His vision was clear: stop the decline and proactively keep good roads in good condition. Today, Madison County boasts an average PCI of 75 — a testament to his consistent, long-term focus on sustainable roadway management.

Central to Dhume's success is his continually evolving pavement preservation and recycling toolbox of treatments. He

dramatically expanded **chip seal** operations from just 25 to 30 miles per year to between 50 to 115 centerline miles annually.

But he hasn't stopped there. He's incorporated **fog seals**, **asphalt rejuvenators**, **cold central plant recycling**, and most recently, **scrub seals**, after being inspired by an ISSA social media post. His interest in strategies like **micro surfacing** and expanded use of **recycled asphalt pavement** (RAP) shows a forward-thinking approach that goes beyond his current successes.

Dhume isn't just deploying treatments — he's helping shape the industry's future. An early adopter of innovative materials and techniques, he shares what he learns with his peers and professional organizations. He is active in the County Engineers Association of Ohio (CEAO) and serves on the marketing committee for the National Association of County Engineers (NACE). In 2024, he also became a *Roadvocate* graduate, demonstrating his commitment to continued learning and advocacy for smarter network management.

What truly sets Dhume apart is his mindset. He approaches network improvement not just as a technical challenge, but as a public service, balancing engineering best practice with community impact and fiscal responsibility. He listens to residents, collaborates with townships, and educates others on the long-term value of preservation and recycling. This blend of technical skill, visionary leadership, and grassroots outreach has made him a trusted voice in his county and beyond.

Perhaps most impressive is the way Dhume has navigated political, fiscal and structural challenges with persistence and optimism. He's shown that meaningful change is possible even in resource-limited, rural environments, so long as there's strong leadership, a willingness to adopt new tools and a focus on long-term outcomes.



Dr. Jorge Duran A.M. ASCE, receives PPRA Horizon Award from PPRA's Lindsay Matush at Rancho Mirage meeting



Lindsay Matush presents Bryan Dhume with PPRA Horizon Award at California AEMA/ARRA/ISSA/PPRA joint meeting in March

Bryan Dhume is the embodiment of what the Horizon Award stands for: a change-maker who's reversed years of deterioration through leadership, innovation, and education.

JORGE DURAN: PAVEMENT MANAGEMENT IN FAST-GROWING COUNTY

Maricopa County, Ariz. — home to more than 4.5 million people — is the second fastest-growing county in the United States. It spans over 9,000 sq. mi., a footprint larger than Delaware, Connecticut and Rhode Island combined.

It's also a land of extremes, where temperatures range from 38 deg F in winter to 118 deg F in summer. In this immense, demanding landscape, **Dr. Jorge Duran** is transforming how roadways are preserved and maintained.

As Pavement Management Program supervisor for Maricopa County Department of Transportation, Duran was tasked with creating order from chaos. He inherited a fragmented, underdeveloped system — 4,400 lane miles broken into over 10,000 individual pavement segments — where recordkeeping, analysis and condition surveys were inconsistent.

His job? Streamline the data, conduct rigorous annual evaluations, and transform it into a strategic, data-driven plan that could guide surface treatment decisions

across the entire county. And that's exactly what he did.

In just three years, Duran has built a sophisticated pavement management system that evaluates distress types (cracking, bleeding, weathering, raveling and IRI), categorizes roadway needs and maps appropriate treatments accordingly. His strategy moved Maricopa away from a "one-size-fits-all" approach and toward an optimized, flexible system that aligns treatments with actual conditions, geography and usage patterns.

The result: better roadways, smarter spending, and a dramatic improvement in PCI across one of the largest — and most complex — networks in the country.

Duran's preservation and treatment toolbox includes **full-depth reclamation (FDR), overlays and mill and overlays, hot in-place recycling (HIR), slurry seals, chip seals, crack seals, preservative seals, thin overlays** and materials ranging from **hot mix asphalt and stone matrix asphalt, to crumb rubber tire asphalt binder and polymer-modified emulsions**.

But Duran's contribution extends beyond technical execution. He's widely recognized as an educator and thought leader, sharing his work at industry conferences across Arizona and beyond.

In the words of **Corinne Colon**, Asset Program supervisor at MCDOT, "In Jorge's

three years with MCDOT, he has developed a robust pavement management strategy that embraces new treatment options and seeks to improve the efficiency and cost-effectiveness of traditional treatments."

His ability to synthesize massive amounts of data, align treatments with network needs and continuously optimize the system is viewed as unparalleled. Most significantly, Duran's program doesn't just track treatment history; it evaluates treatment effectiveness using real-world performance metrics. In doing so, he's built what's arguably one of the most comprehensive "report cards" for pavement preservation anywhere in the country.

Jorge Duran exemplifies the Horizon Award by redefining what's possible in large-scale pavement management. He's not just keeping pace with growth. He's setting the standard for how complex networks should be managed in the 21st century. 

Matush is CEO of Vario Consulting, manager of the essential RoadResource.org for the Pavement Preservation & Recycling Alliance (PPRA).

LEARN MORE ABOUT HORIZON AWARD AT SEPTEMBER WEBINAR

These two professionals — working in very different environments — are united by a common purpose: using smart, sustainable strategies to improve the health of their road networks.

As recipients of the 2024 *Horizon Award*, **Bryan Dhume** and **Jorge Duran** remind us that real change is possible when leadership meets innovation, and vision meets action.

Join PPRA and your peers for a webinar featuring all of the Horizon Award cohort on Tuesday, Sept. 30, from 12 noon to 1:15 p.m. CDT. Register by scanning the adjacent QR code.





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Mississippi Boasts First PG3 State-Sponsored Project

BY ALEX MIDDLETON, P.E.
TODD SHIELDS, P.E.
AND MARK WAITS

The 2025 construction season is seeing the first state PG3 projects being built.

Phase 3 of the *National Partnership to Improve the Quality of Pavement Preservation Treatment Construction & Data Collection Practices*, commonly referred to as PG3, is a pooled fund of currently 19 state DOTs. The project provides technical assistance with specifications, training and on-site expertise during project construction.

Over the summer, the project held a virtual Technical Advisory Panel (TAP) meeting on July 23. An in-person TAP meeting was to be held on Sept. 18 in conjunction with the **Midwest Pavement Preservation Partnership** meeting in Omaha.

The first project to be constructed as part of the PG3 pooled fund was by **Mississippi DOT** (MDOT). MDOT was also a participant in the first two phases of the study.

SCRUB CAPE SEAL TESTED

The current phase of the study allows state DOTs the chance to construct and monitor



In Mississippi, contractor RJM-McQueen Contracting, Inc., Collins, Miss., places micro surfacing on top of rejuvenating scrub seal on S.R. 511 in Clarke County

a test section of their choice that receives a preservation treatment. MDOT's selected route, S.R. 511 in Clarke County, received a scrub cape seal (a rejuvenating scrub seal topped with a micro surfacing). The existing pavement had last been resurfaced with HMA in 2008. Traffic on this route is fairly light at less than 2,000 ADT.

Mark Waits of the National Center for Pavement Preservation (NCP) was on-site during construction of the scrub seal on the test cell on June 4, with the micro surfacing following on June 16.

This project has provided the DOT with a unique opportunity to collaborate with other DOT staff, the NCP, contractors and industry partners to ensure its success. Not only were they able to construct the section, but were also excited to be the first state DOT participating in the Pooled Fund study to get its test section on the ground. MDOT had nothing but praise for all parties involved and is very excited about monitoring this test section's performance in the future.

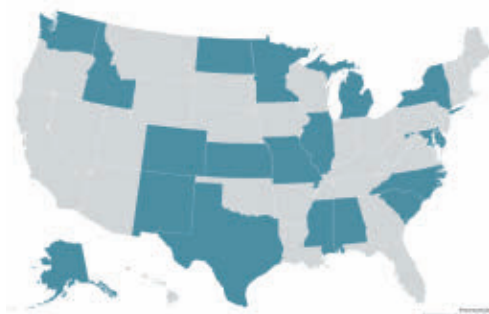
"Being part of the pooled fund gave us the confidence to expand our toolbox to a treatment we would be hesitant to do on our own," said Alex Middleton, MDOT's lead.

Mississippi DOT will provide pavement condition data annually, to be monitored as part of the project, which will conclude at the end of 2029.

At press time, three more state-nominated projects were to be constructed in 2025.

North Carolina DOT has nominated a spray-applied rejuvenator on a brand new HMA surface. Training for DOT and contractor personnel was held virtually on June 12 and led by Mark Waits. **Minnesota DOT** is constructing a scrub cape seal, similar to Mississippi's project. Rex Eberly with NCP conducted virtual training on July 9. **Idaho DOT** is doing a 100 percent RAP chip seal, for which virtual training was conducted by Eberly on July 11.

PG3 Participating States



In summer 2025 19 states had joined the PG3 project

More details on these projects will be included in future issues of *Pavement Preservation Journal*.

STATES JOINING STUDY

State DOT's are still open to join the PG3 study. The pooled fund welcomes **Kansas DOT** and **Missouri DOT**, the most recent to join. The project now includes 19 participating DOT's.

Each state that joins will strengthen the ability to have successful pavement preservation projects nationwide by sharing its history, knowledge and even specifications. Anyone interested in joining the study is welcome.

More information on joining the pooled funds may be found on the Transportation Pooled Fund website: <https://www.pooled-fund.org/Details/Study/754>

For more information on the PG3 Study itself use the adjacent QR code. 

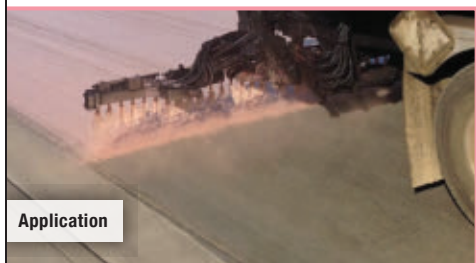


Middleton is assistant state research engineer, Mississippi DOT, and Shields and Waits are associated with the National Center for Asphalt Technology (NCAT).

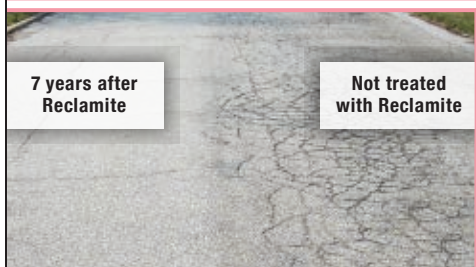
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Rubber-Modified Emulsions for Preservation

Editor's Note: This is the 32nd of a series of profiles of civil engineering students who are undertaking pavement preservation and recycling as a course of study. These students bring their own perspective of why a young civil engineer would pursue pavement preservation and recycling study. This issue, we profile **Lei Yin, Ph.D.**, candidate in civil engineering, Michigan Technological University, Houghton, Mich. Thanks to **Zhanping You, P.E.**, MTU, and **Dr. Andrew Braham, P.E.**, University of Arkansas, for their assistance with this article.

WHAT GOT YOU INTERESTED IN PAVEMENT PRESERVATION?

My interest in pavement preservation gradually developed throughout years of study and research in pavement engineering. When I was an undergraduate student, I remember one course introduced that pavement preservation is not randomly conducted; proper timing and strategy can help prevent structural failure and reduce overall costs.

That idea motivated me to further explore pavement preservation during my graduate studies. I had more opportunities to study different pavement preservation methods and material designs through research projects. I find it very interesting that theoretical designs and laboratory tests can be applied to actual construction projects and help promote pavement performance.

HOW IS YOUR RESEARCH RELATED TO PAVEMENT PRESERVATION?

I would like to introduce two research projects related to pavement preservation in which I participated in at Michigan Tech.

- The first project is about **the impact of wide-base tires on pavement distress**. In that project, we analyzed how wide-base truck tire loads contribute to the development of pavement distresses such as cracking and rutting. We proposed some strategies to mitigate these impacts by adjusting pavement designs.
- The second project is about the **performance analysis of chip seals using recycled tire rubber-modified asphalt, in comparison with those using conventional emulsified asphalt**. Laboratory tests and field evaluations were conducted in this project. These research experiences allowed me to explore practical methods for pavement preservation through structural and materials design.

HOW HAS YOUR PERSPECTIVE CHANGED ABOUT OUR ROAD INFRASTRUCTURE SINCE BEGINNING RESEARCH?

There have been many changes. Sometimes when I learn something new, I realize that my earlier views on road infrastructure were limited or incomplete.

At the beginning of my research, I didn't even know how to start pavement-related analysis, since it is such a complex system



Lei Yin field-tests hot rubber asphalt chip seal project

that involves many factors. Later, I learned to conduct research from different aspects such as climate, traffic, structural design and material design.

In addition, when I do more laboratory tests and field evaluations, I notice that laboratory test results don't always match field performance. Even asphalt binder-level tests do not always match the asphalt mixture-level test results. These findings taught me to evaluate pavement performance from multiple perspectives, not just rely on a single test result.

DO YOU HAVE PLANS TO CONTINUE IN THE FIELD OF PAVEMENT PRESERVATION UPON GRADUATION?

Yes, I would like to continue working in pavement preservation research after graduation. Currently, I've participated in many research projects on pavement materials design, such as using rubber-modified asphalt.

In addition, my Ph.D. research has focused on analyzing the impact of climate change and the increasing occurrences of extreme weather events, such as flooding and heat waves, on pavement performance. I believe it would be meaningful to expand my current research experience and continue related research in the future. 

Bergkamp Introduces Mobile CCPR Plant

This summer FP² supporter **Bergkamp Inc.** launched its *Journeyman Mobile Mix Plant*, its first entry into the cold central plant recycling (CCPR) market. This move marks a significant expansion of Bergkamp's innovation into cold recycling technologies, building on decades of expertise in slurry and micro surfacing solutions, the firm says, adding Journeyman represents a new standard for innovation, craftsmanship and operator-first design in CCPR.

"For us, it wasn't about being first — it was about getting it right," said Scott Bergkamp,

president of Bergkamp. "The Journeyman brings the Bergkamp commitment to quality and customer support into a category that's ready for a better experience. It's built to make CCPR more intuitive, more consistent and more reliable from day one."

The result is a machine engineered for precision, simplicity and uptime. Journeyman integrates proprietary automation and metering controls that reduce calibration time, while maintaining the rugged durability and thoughtful features that define Bergkamp equipment. It brings flexibility and precision to the jobsite, capable

of producing mixes with 100 percent RAP, 100 percent virgin aggregates, or any blend in-between, the maker says.



New Journeyman Mobile Mix Plant for CCPR from Bergkamp



MEAD NEW TRIP DIRECTOR OF MARKETING

Lisa Mead, Director of Marketing
North Carolina native **Lisa Mead** is the new TRIP director of marketing and partnerships, effective July 10. Mead will be responsible for TRIP's marketing and corporate fundraising. She succeeds industry icon **Lisa Templeton**, who has retired.

Mead has held leadership roles professionally and through civic involvement.

She served as president of the North Carolina Grant Professionals Association in 2022 and was honored as the 2023 Fundraiser of the Year by the Triangle Chapter of the Association of Fundraising Professionals (AFP).

Mead earned her undergraduate degree from Florida State University and completed graduate studies at Pfeiffer University. She is a licensed professional fundraiser and holds multiple credentials: Certified Fundraising Executive (CFRE), Certified Nonprofit Professional (CNP), and Grant Professionals Certified (GPC).

"We are pleased to welcome Lisa to the TRIP family," said TRIP chair **Bob Leonetti**, Lane | Webuild, Tampa). "Her background and professional accomplishments will be a great asset to TRIP and we look forward to a long partnership with her."



MIKE SKINNER TO HEAD ASPHALT PAVEMENT ALLIANCE

Mike Skinner, P.E., CAE, former director of pavement engineering of the Colorado Asphalt Pavement Association (CAPA), is the new executive director of the Asphalt Pavement Alliance (APA).

"It's an honor to lead an organization built on such a strong foundation of technical excellence and collaborative industry leadership," Skinner said.

The APA is a partnership between the National Asphalt Pavement Association (NAPA), Asphalt Institute (AI) and state asphalt pavement associations. The partners represent the asphalt pavement and binder industries in the United States, working together in the areas of asphalt pavement promotion and pavement type selection to ensure asphalt is the pavement of choice, foster market growth and safeguard the industry's longevity. 

UPDATED LITTLE BOOK OF PROFILING AVAILABLE FOR FREE DOWNLOAD

The *Little Book* contains basic information about measuring and interpreting road profiles, and was developed by Steven M. Karamihas, Ph.D., Michael W. Sayers, Ph.D., University of Michigan Transportation Research Institute and was sponsored by the South Dakota Department of Transportation, Office of Research.

Download the 114-page document by using this QR code.



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