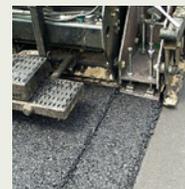




INTERVIEW WITH NAPA's TECHNICAL EXPERT page 3



PLAN FOR BIG LOADS ON RURAL ROADS page 5



BEST PRACTICES FOR LONGITUDINAL JOINTS page 9

WISCONSIN ASPHALT NEWS

ASPHALT. Wisconsin rides on us.

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Calendar of Events

- May 8-10 La Crosse
American Public Works Association (APWA) Wisconsin Chapter
2013 Spring Conference
- July 15-17 Boston
National Asphalt Pavement Association (NAPA) **2013 Midyear Meeting**
- August 15-16 Ames, Iowa
2013 Mid-Continent Transportation Research Symposium
- September 18 Middleton
Transportation Development Association (TDA) of Wisconsin
2013 Annual Meeting
- October 17 Middleton
Wisconsin Transportation Builders Association (WTBA)
2013 Fall Meeting
- December 3-4 Crowne Plaza Hotel, Madison
2013 Annual WAPA Conference

Need a Stormwater Plan? Look to Porous Pavement

That's precisely where Wisconsin state government is looking, too.

The Wisconsin Department of Natural Resources and the Wisconsin Standards Oversight Council are leading an effort to develop a state permeable pavement technical standard with a focus on water quality benefits.

"Wisconsin code has strong performance goals for new developments and redeveloped sites for mitigating stormwater runoff and pollutants," explains Gini Knight, Standards Oversight Council Coordinator for the Wisconsin Land and Water Conservation Association. These goals are all spelled out in **Chapter 151** [PDF] of the Wisconsin Natural Resources Administrative Code, which was born of the federal Clean Water Act.



Porous asphalt pavement can filter stormwater and mitigate runoff effects. (Image courtesy of Century West Engineering)

"The DNR is looking for ways to help developers meet performance standards," Knight continues. "Permeable pavement is a good option."

To that end, the **Permeable Pavement Work Team**, a cooperative effort among the state pavement industries and government, is working on a state standard for permeable pavements. The standard will be the first of its kind in Wisconsin and will address allowable infiltration rates, infiltration bed requirements, compaction mitigation, contributing source area limitations, treatment performance, groundwater protection, and maintenance requirements. The work team will examine the effectiveness of porous pavements in removing pollutants from stormwater runoff—and how to determine that effectiveness.

Knight notes that this will not be a construction specification. "What the work team is trying to determine is the impact that permeable pavements have on water quality," she says. "The state will leave *how* to build these pavements to industry, which already has the expertise in constructing these pavements."

A seal of approval

This should come as welcome news for any agency that has been considering porous

Continued on page 2.

NEW JOBS WEBSITE!



Exclusive information and Wisconsin job listings from WAPA members

ASPHALTCAREERS.ORG



Need a Stormwater Plan? Look to Porous Pavement

from page 1

asphalt pavement as a way to mitigate stormwater effects. Agencies that shied away from porous pavement in the past out of concern that the state might not accept it as an approved mitigation technique can look forward to this new technical standard. As Knight explains, “Once we have a DNR technical standard for permeable pavement, then developments using these systems will be able to receive credit toward infiltration requirements and pollutant reduction.”

It will be some time before a new standard is approved, though. “Typically the development of a technical standard like this takes a few years,” Knight says. “Our team members are all volunteers who work hard to meet on a regular basis. There is also a significant need for research, which requires time and funding.

“Right now, the team is reviewing the available literature and running models to address the potential infiltration rates of these systems over time and determine how much credit to provide for pollutant reduction,” she continues. “This work is really exciting and has a lot of potential for reducing the incredible amounts of stormwater runoff in our urban areas.”

The asphalt industry’s role

Wisconsin’s asphalt industry is playing a central role in the development of the Wisconsin technical standard. Among the participants on the Permeable Pavement Work Team are Bob Givens, Program Manager for OMNNI Associates, and Scot Schwandt, WAPA’s Executive Director.

“I think our team is making good progress,” Givens says. “Porous pavement has a strong track record

in other parts of the country, but we’ve only had a chance to observe it on a limited basis in Wisconsin.

“Part of what makes these kinds of pavements so appealing is that many of the other alternatives to meet the DNR requirements, such as standard detention ponds, biofilters or grass swales, can’t always be implemented,” he continues. “This is often the case for high-priced properties where there simply isn’t the real estate for a detention pond or biofilter.”

And beyond real estate issues, when it comes to detention ponds, the central concern can be safety. Givens pointed to the Federal Aviation Administration’s publication **Wildlife Hazard Management at Airports** [PDF]. “This manual discusses the significant hazards and costs of open water near airports,” Givens says, “which can attract waterfowl and lead to dangerous aircraft-bird strikes.” For open ponds and similar features that attract birds, the manual recommends a separation distance of at least 5,000 feet for all airports, and at least 10,000 feet for airports that service jet engines.

The more cost-effective and safer alternative for handling stormwater runoff at airports is porous asphalt pavement. OMNNI Associates knows firsthand: The firm’s project using porous asphalt at Wittman Regional Airport in Oshkosh has proved to be a very successful application of this technology (read more about it in the **Summer 2009 issue** [PDF] of *Wisconsin Asphalt News*).



Strategically placed porous pavement at Wittman Airport in Oshkosh handles the stormwater runoff for the entire pavement. (Image courtesy of OMNNI Associates)

So why wait?

While the official standard may be a few years away, there’s no reason to wait to take advantage of porous asphalt pavement. From parking lots to city streets to airports, the technology is already at work in Wisconsin helping address the ongoing challenge of stormwater runoff.

WAPA IS DEVELOPING A GUIDE TO HELP GOVERNMENT AND COMMERCIAL PAVEMENT OWNERS ALIKE SPECIFY AND CONSTRUCT POROUS ASPHALT PAVEMENTS. PLEASE CHECK OUR WEBSITE AND NEWSLETTER FOR AN ANNOUNCEMENT ABOUT THE GUIDE LATER THIS YEAR, AND IF YOU NEED HELP NOW, JUST ASK. ■

NAPA's Chief Technical Expert on Asphalt Trends



Audrey Copeland, Vice President for Engineering, Research & Technology, National Asphalt Pavement Association

Audrey Copeland, Ph.D., P.E., is the National Asphalt Pavement Association's resident research and engineering expert, and we recently spoke with her about the latest technology trends in asphalt pavements. She shared her perspective on which innovations are making a difference today, and what technologies might be emerging in the months and years ahead.

WAPA: *Thanks for sitting down with us. You're relatively new at NAPA. Can you tell us a bit about your background?*

AUDREY COPELAND: Before joining NAPA's executive team more than a year ago, I served seven years at FHWA in a number of roles. This included working as a highway

engineer, managing research at Turner-Fairbank Highway Research Center, and leading the agency's recycled asphalt pavement program and national efforts to implement the Asphalt Mixture Performance Tester. My move to NAPA in early 2012 gave me a unique opportunity to work with industry and gain a broader perspective on asphalt—not just the technical aspects, but also business, legislative and communications issues.

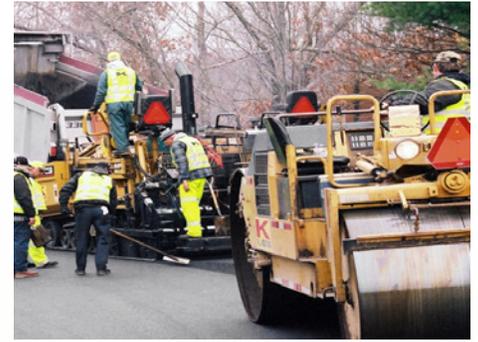
What are some of the technological advances that are making a difference for asphalt pavements?

One is Perpetual Pavement, a long-life pavement concept where asphalt pavements are constructed to last indefinitely with only periodic surface maintenance. Another is thin overlays, or Thinlays, which were a big topic at NAPA's last annual meeting. Thinlays have demonstrated high durability in states like Ohio and Mississippi as well as in field tests at the National Center for Asphalt Technology. NAPA addressed Thinlays at length in an April webinar, and we are leading a nationally coordinated effort to promote their use.

Those developments on thin overlays are particularly relevant here in Wisconsin given new executive priorities at WisDOT regarding preventive maintenance.

Right. Another way today's asphalt technology is making a difference—and I think this is not always properly recognized—is through the associated sustainability benefits. Recycled asphalt, warm mix asphalt and open-graded friction courses are used so routinely that they're taken for granted. However, all of these advances have major environmental advantages.

At the January North Central Asphalt User/Producer Group meeting, you talked about the findings of a recent survey of Midwestern asphalt



NAPA is promoting the use of thin overlays to extend the life of asphalt pavements. Thinlays protect pavements, restore ride and improve safety and structural capacity. (Image courtesy of NAPA)

contractors. [Note: See sidebar for more on this survey.] Were there any surprises in the survey results?

The survey gave us an in-depth look at contractors' concerns and provided some interesting results. Some of the technologies we focus on as an industry were not ranked quite as highly as we expected. For example, survey participants were asked to rank which technologies had the greatest potential to improve pavement performance, and we expected to hear about recycled asphalt and warm mix. These were included among the top five, but the top choice was material transfer vehicles. It was interesting to learn that MTVs are such a helpful tool in the Midwest from a contractor's standpoint.

Did anything else from the survey jump out at you?

The survey also highlighted the importance of collaboration with state DOTs, especially when it comes to developing specifications. It's critical for the asphalt pavement industry to have a seat at the table, and virtually all respondents said that they want to help.

This kind of feedback is in line with what we've heard from talking with NAPA members nationwide regarding the importance of working with transportation agencies. As a similar example, we have learned how

Continued on page 4.

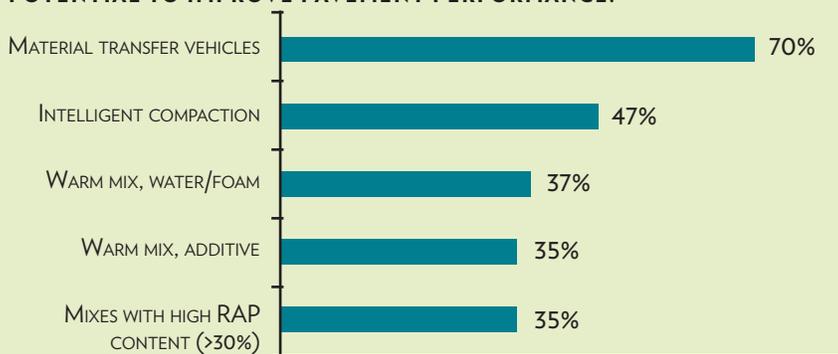
Asphalt Technology: Midwest Contractors Speak Out

The North Central Asphalt User/Producer Group, or **NCAUPG**, consists of representatives from government and the asphalt industry in 12 Midwestern states and two Canadian provinces. NCAUPG members work together to share technology solutions and collaborate on issues of common regional concern.

A recent survey of asphalt contractors in the 12 NCAUPG states yielded insights into technology and industry trends as viewed by the Midwestern asphalt industry. Here's a sampling of what the NCAUPG heard about trending topics in asphalt, with top responses shown.

PAVEMENT PERFORMANCE

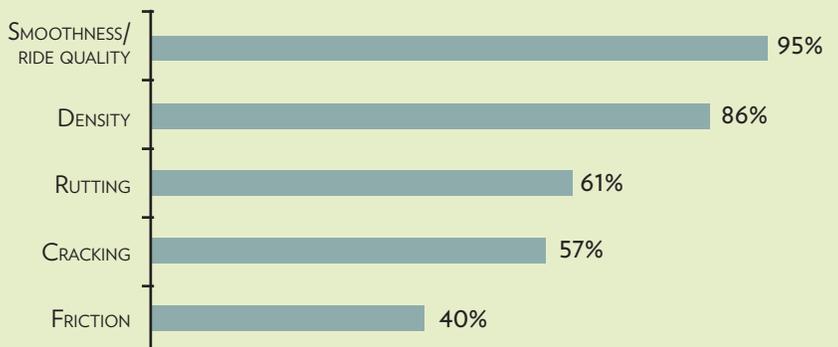
WHICH TECHNOLOGIES DO YOU THINK HAVE THE GREATEST POTENTIAL TO IMPROVE PAVEMENT PERFORMANCE?



ON A SCALE OF 1 TO 10 (WITH 10 BEING HIGHEST), WHICH ASPECT OF ASPHALT PAVING CONTRIBUTES MOST TO GOOD PAVEMENT PERFORMANCE?

ASPECT OF ASPHALT PAVING	OVERALL RANKING
Pavement design	10
Material transfer (plant to paver)	9
Material design selection	8
Paving foundation preparation	7
Asphalt mix design	6

WHAT ARE THE PROPER PERFORMANCE MEASURES FOR ASPHALT PAVEMENTS?



NAPA's Chief Technical Expert on Asphalt Trends

from page 3

important pre-planning meetings between contractors and DOTs are before the start of a new project. Early planning discussions can help facilitate the inclusion of new asphalt technologies like warm mix or high-percentage reclaimed asphalt pavement.

It seems that developing and promoting improved construction techniques to enhance quality is also a priority for the asphalt industry.

Yes, definitely. NAPA, FHWA and the Asphalt Institute are engaged in a significant national effort to help educate DOTs and contractors about best practices for longitudinal joint construction. [Note: See the article on page 9 of this issue.] Another construction method for improving asphalt pavement quality is the proper use of tack coats. NAPA is preparing to publish a best practices guide based on recent National Cooperative Highway Research Program findings—look for the NAPA guide in the next few months. Yet another construction advancement is intelligent compaction, which is a featured implementable technology in FHWA's Every Day Counts initiative. NAPA sees IC as a useful quality-control tool for contractors, although not necessarily as something that should be an agency pay item or part of a specification right now.

Are there any other emerging asphalt pavement technologies you'd like to mention besides the ones you've touched on already?

We're seeing a number of new developments in testing to address shortcomings in the traditional Superpave PG binder grade test methods. The Multiple Stress

Continued on page 5.

Putting Low-Volume Roads on High Alert

Don't let the name "low-volume road" fool you. The network of rural roads that cross our state's farmlands may see relatively few cars and trucks, but the heavy agricultural vehicles that travel these routes can cause extreme pavement damage.

In fact, a recent pooled fund research project found that all types of heavy agricultural vehicles studied—tankers, grain carts, chemical applicators and straight trucks—cause more road distress than a legally loaded 80,000-pound semi-truck.



◀ Design low-volume roads for intended loads, or this ...

... can lead to this. ▶
(Images courtesy of UW Transportation Information Center)



This was one of many facts presented by Ben Jordan of UW–Madison's Transportation Information Center at a WAPA regional seminar this April. He detailed the findings of the research study co-funded by the agriculture industry and Wisconsin, among other states.

"One of the key findings was that loads on the pavement edge were a significant source of damage," Jordan says. "It was also noteworthy to discover that



The edge of the road—where slower agricultural vehicles are commonly driven—is most susceptible to damage. (Image courtesy of UW Transportation Information Center)

Creep and Recovery test provides information about asphalt binder beyond temperature performance and addresses the presence of polymer additives. Missouri has already implemented the MSCR test, and Indiana is considering it too. For mix testing, there's the Asphalt Mixture Performance Tester, which more than 20 state DOTs have purchased. It's used in mechanistic-empirical pavement design and for testing mixes for rutting and fatigue potential. Much of this is spelled out in a recent [FHWA TechBrief on the AMPT \[PDF\]](#).

Warm mix is a good place to wrap up our conversation. A few years ago we spoke with NAPA



Executive Director Mike Acott about the growth of warm mix, and we'd appreciate an update.

We're making progress. A recent survey NAPA conducted with FHWA found that about 20 percent of asphalt tonnage is produced using warm mix technologies. Warm mix was originally conceived as a way to save energy through reduced

The Asphalt Mixture Performance Tester provides input data for mechanistic-empirical pavement design. (Image courtesy of NCAT)

heating requirements, but it turns out the warm mix techniques lead to improved compaction and a longer paving season. We're seeing the benefits of warm mix asphalt construction even when the temperature isn't brought down by a large degree. But I think that kind of use of warm mix is commonly underreported.

Thanks for sharing all this information. This is an exciting time for asphalt, and we look forward to hearing about new developments in the years ahead.

I'm glad I could help. ■

Continued on page 6.

Putting Low-Volume Roads on High Alert from page 5

the vehicles' flotation tires, which are designed to reduce rutting and compaction on soil, do not reduce pavement damage."

The upshot is extreme stress leading to premature failure on low-volume roads. It's a costly problem, one often borne by counties or municipalities with little room in their budgets for early reconstruction or rehabilitation. Fortunately, this is a problem that has a range of possible solutions.

The most direct approach to addressing this issue is investing in pavements with sufficient structural capacity for these loads. "Road owners should look into selective improvements to low-volume pavements used by heavy vehicles," Jordan says. "WAPA's guidance would be a good place to go for information on designing roads for the proper loads." WAPA's [Technical Bulletin on Pavement Structure Design](#) [PDF] presents step-by-step guidance for calculating lift thicknesses for long-lasting pavements. Full-depth reclamation and overlays can also add structural strength to asphalt pavements.

Beyond using appropriate pavement designs and improvements, changing how agricultural vehicles use low-volume roads can also help reduce damage. "For example, researchers found that higher afternoon temperatures led to increased pavement distress," Jordan says. "Encouraging early morning hauling when pavements are cooler could help counter this effect. Another strategy is to establish one-way hauling routes, with vehicles driving over the center line to minimize loading on the pavement edges." Temporary weight limits can also be used when spring thaws or rain events saturate the subgrade.

Regardless of the damage mitigation strategy, the message is clear: County and local road authorities need to think about and plan for the traffic on their roadways. Long-life pavement designs, overlays and full-depth reclamation techniques—together with alternative use options where appropriate—offer road agencies a full set of tools to stop premature damage in its tracks. ■

From Old Tires to New Pavements Asphalt Performs Better— and Is Greener—with Rubber

This year in Wisconsin, the equivalent of 6 million passenger tires will be discarded as scrap.

Given the state government's environmental policies, which include a ban on scrap rubber in landfills, some may view these tires as a headache—a problem that must be shipped out of the state at considerable cost.

Yet others, including some WAPA members and an increasing number of road agencies, see all this scrap rubber as an opportunity. That's because crumb rubber from old tires is proving to be a very promising modifier for asphalt pavements.

WAPA member Liberty Tire Recycling of Auburndale knows all about it. Liberty Tire specializes in tire recycling and reclamation, and along with other markets (such as turf, mulch and tire-derived fuel), the company recognizes the potential to incorporate used tires into high-performing roads in Wisconsin.



A small mountain of tires at a scrap facility in Green Bay. Asphalt modification can put them to work. (Image courtesy of Google Earth)

Why rubber-modified asphalt?

Rubber-modified asphalt offers a broad range of advantages:

- **Performance.** The engineering properties of rubber-modified asphalt mean a superior ride. Pavements made with this advanced material exhibit greater skid resistance, decreased splash and spray in wet conditions,

and reduced tire-pavement noise. Tests also show that rubber-modified asphalts exhibit increased resistance to rutting, which can mean longer pavement life.

- **Cost.** Improved performance leads directly to cost savings for road owners: Increased durability means more time before rehabilitation or reconstruction. Moreover, the price of recycled rubber fluctuates much less than other modifiers.

WAPA member Northeast Asphalt is an early adopter of rubber-modified asphalt in Wisconsin, and Corporate Technical Services Manager Brett Stanton explains, “The modifier styrene-butadiene-styrene is used in a number of other industrial processes, and the demand for it can cause price swings. On the other hand, the consistent feedstock of discarded tires assures availability and predictable cost.”

- **The environment.** Put simply, used tires need to go somewhere. What better place than back into Wisconsin’s roads?

Significant strides in Wisconsin

Liberty Tire representatives have presented the concepts involved in rubber-modified asphalt to different Wisconsin stakeholders within the past year: at a meeting of Wisconsin DOT and industry representatives in August and at a workshop with the Wisconsin Department of Natural Resources and the Wisconsin Council on Recycling in December. Dick Gust, Liberty Tire’s Director of Government Affairs, says these meetings generated a lot of interest and excitement about rubber-modified asphalt in the state.

“It’s clear that there’s real potential for the rubber-modified asphalt market in Wisconsin,” Gust says. “After our August meeting with state government staff and asphalt contractors, we were pleased to see that Northeast Asphalt moved forward with a rubber-modified asphalt paving project in Calumet County.”

Stanton at Northeast Asphalt filled in the details. “We wanted to gain more experience in working with this product,” he says, “and we approached county officials



Northeast Asphalt repaved Calumet County Park’s roads with rubber-modified asphalt. (Image courtesy of Northeast Asphalt)

to see if they’d consider using rubber-modified asphalt in the Calumet County Park repaving project.

“The green aspects were a real selling point for the county, and we received the go-ahead to use rubber-modified asphalt for the lower asphalt layer of the park last year,” he says. “We received the binder pre-modified with rubber, and we didn’t notice any construction issues at all—the modified pavement mixed and compacted just like standard asphalt.

“The county was happy with the results,” he concludes. Stanton noted that the specifics on the remainder of the paving, to be completed this year, are yet to be determined.

Getting the rubber into the road

The method Stanton described—receiving pre-modified asphalt cement—represents one option for rubberizing asphalt. “Crumb rubber can be added by the binder producers, who can store, handle and deliver the modified binder as they do with other binders,” explains Doug Carlson, Liberty Tire’s Vice President of Asphalt Products. “A chemical additive is typically used as a suspension agent to prevent the rubber from separating out of the binder.”

Alternatively, the addition of rubber can be left to the mix producers. “In that case, mix producers can keep equipment on-site and are able to modify binder on demand,” Carlson says.

In either case, tests would be used to assure expected performance and quality. Carlson explained that AASHTO committee members are working to revise existing binder tests to allow for the presence of recycled rubber. “There are some minor changes to make rubber fit into the PG spec,” Carlson says, “but the committee is using the opportunity to make some other necessary changes to the specification unrelated to rubber.

“The specification changes could be approved with a provisional specification next year,” he says. “In addition, given that the FHWA Expert Task Group on this topic has endorsed these revisions, Wisconsin or any other state could confidently move forward with rubber-modified asphalt before the AASHTO revisions are finalized.”

Continued on page 8.

Asphalt Performs Better— and Is Greener—with Rubber *from page 7*

Novel applications

Carlson noted that an exciting application of rubber-modified asphalt is its use in rehabilitating concrete pavements. “We can create an asphalt mix with up to 20 percent rubber in the binder that can be placed as a thin layer on top of concrete,” he says. “The layer can be just 1 or 2 inches, but it can very successfully improve ride, particularly with old concrete that typically has terrible [International Roughness Index] values.

“This solution is very quick and cost-effective,” he continues. “Compared with traditional concrete rehabilitation that involves time-intensive diamond grinding and detours, a contractor can easily place 10 lane-miles of thin rubber-modified asphalt overlay in a day while keeping other lanes of traffic open. And because it’s rubber-modified, the new asphalt pavement layer is particularly durable. This has proven to be a very successful technique in locations where it’s been tried.”

Growing the local market

Right here in Wisconsin, paving contractors keep finding applications for rubber-modified asphalt. Carl Johnson, Technical Manager with Northwest Asphalt, said that Northwest plans to use rubber-modified asphalt for paving at Waukesha County Airport later this year. “This is a project for WisDOT’s Bureau of Aeronautics,” Johnson



Waukesha County Airport, the third-busiest airport in the state, will benefit from rubber-modified asphalt this year. (Image courtesy of Waukesha County Business Alliance)

explains, “but the pavement design is based on the state’s highway specifications.

“Given the binder specified for this work, we had different options for modifiers,” he says. “Based on how rubber has been used in other parts of the country to improve rutting resistance, we proposed using rubber modifier to bump a performance grade 58-28 binder to PG 64-28, and the DOT agreed. We look forward to seeing the end results.”

Johnson sees other possible applications for rubber-modified asphalt in the future. “Stone matrix asphalt commonly uses fiber to prevent binder draindown, but I could see using recycled tire rubber instead to keep the binder from running off the aggregate,” he says. “At the same time, it could improve other pavement properties as well.”

Carlson said that Liberty Tire is also working with WisDOT and other agencies in Wisconsin to identify projects where rubber-modified asphalt can be used. “It would be great to see Wisconsin move forward the way other states have,” Carlson says. “For example, we reached out to build similar partnerships with government and industry in Georgia, and we expect 2 million pounds of rubber to go into new pavements there this year.”

Carlson also pointed out that with Liberty Tire’s facilities in Wisconsin, growing the demand for used tires means more local jobs. “Building pavements with rubberized asphalt is good for the economy, good for the pavements, good for motorists, and good for the environment,” he says. ■

More bounce for the buck. Save money. Save the world.

Rubberized asphalt is a low-cost, high-performance alternative to traditional paving mixes that reduces dependency on oil and limits CO₂ emissions.

Rides quieter. Lasts longer. Ruts less.

Added to a traditional asphalt mix, crumb rubber comprises 15- to 22-percent in some cases. But the result is anything but traditional.

Enhances nighttime visibility. Improves resistance to cracking. Decreases splash and spray when wet.

In use for more than 40 years, rubberized asphalt is proven to diminish maintenance costs and provide a smoother, safer ride. Plus, with crumb rubber, there is a reliable and consistent supply of material.

Liberty Tire Recycling is the top recycler of scrap tires in North America. With a coast-to-coast network of production facilities, Liberty Tire recycles more than 110 million scrap tires each year – producing about 1.5 billion pounds of recycled rubber.

Liberty Tire is engineering the road to a greener future.



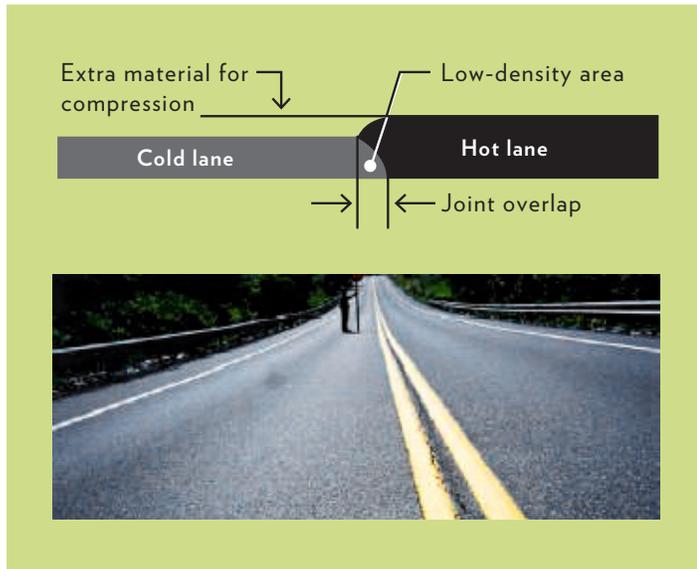
412-697-2418 • www.libertytire.com



Liberty Tire Recycling helps turn old tires green.

Expert Advice on Longitudinal Joints

The longitudinal joint is among the trickiest parts of an asphalt pavement to construct. At the site where two paved lanes meet and overlap, cold joints and unconfined edges can naturally lead to weak spots in a pavement.



Top: A cross-section of a longitudinal joint reveals the potential for low density and weak spots. Bottom: Poor performance along a longitudinal joint. (Images courtesy of Steve Muench [top], NCAT [bottom])

The innate construction challenges don't stop stakeholders in Wisconsin's asphalt industry from looking for solutions. Recently WisDOT took part in an FHWA-led effort to help share national best practices for longitudinal joint construction. The agency hosted a workshop in February, bringing in experts from the Asphalt Institute.

Many of the recommendations presented at the workshop are compiled on the institute's resource page on [best practices for longitudinal joints](#). The institute suggests strategies for all phases of longitudinal joint construction: planning and design, laydown, and rolling and compaction (read the [workshop summary](#) [PDF]).

Although many of the recommendations are geared to road agencies, they can serve as guidance for contractors as well. Here's a sampling.

Planning and design

- Determine if echelon paving is feasible to minimize cold joints
- Mill-and-fill one lane at a time if possible to eliminate unconfined edges
- Plan joint locations to avoid wheel paths, recessed pavement markings, and striping

- Consider the use of less permeable mixes, or the use of warm mix as a compaction aid
- Use a notched wedge joint instead of a butt joint for lifts from 1½ to 3 inches

Pavement laydown

- Avoid mix segregation as well as stops and starts in paving
- Apply a uniform tack coat across the full width of the paving line
- Use the right technology, such as a joint matcher or ski, to get sufficient depth at the joint
- Coordinate the paver and auger to maintain a uniform head of material, and always keep the vibratory screed turned on
- Avoid luting the overlapped material, and don't broadcast excess material across the mat

Special treatment of the cold side

- Consider the use of joint heaters, particularly in cold weather
- Consider the use of joint adhesives
- At a minimum, tack the existing face of the joint



The notched wedge joint prevents the slope of a joint from tapering to thin, low-density material. (Image courtesy of the Asphalt Institute)

Pavement rolling and compaction

- Follow the Asphalt Institute's detailed strategies for first and second passes of the drum roller over the supported and unsupported edges—see the institute's guidance for details
- Use pneumatic rubber tires for intermediate rolling

The Asphalt Institute also recommends that road agencies provide well-defined specifications for placement and for quality assurance testing. The guidance should provide specific guidelines for both quality assurance and quality control.

WAPA supports revisions to WisDOT's standards to reflect national best practices for longitudinal joint construction. We anticipate that WisDOT's HMA Tech Team—a joint effort of government and industry—will continue its work toward such revisions. Improved policies and practices for all parties involved in pavement construction will mean even better and more durable pavements in Wisconsin. ■

Mission

Promote quality hot mix asphalt pavements which are safe, efficient and in the best interest of the customer.

Vision

Professionals dedicated to making HMA the customer's preferred choice in pavement solutions through innovation, education and exceptional service.

Values

- * STEWARDSHIP
- * EXCELLENCE
- * INNOVATION
- * PROFESSIONALISM
- * ACCOUNTABILITY

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Training Opportunity: Asphalt Inspection

The National Center for Asphalt Technology is scheduled to offer training sessions on asphalt construction and inspection in June to WisDOT staff at the agency's Waukesha and Green Bay regional offices.

NCAT Instructional Manager Don Watson shared a preview of the course. "In order to obtain a durable, smooth, long-lasting asphalt pavement," Watson says, "it is essential to perform mix delivery, placement and compaction according to best practices. Attention to detail is a recurring theme during this course as participants understand the challenges involved in obtaining quality asphalt pavements. Course materials cover all aspects of the asphalt placement operation."

Watson noted that the course uses both a lecture format and problem-solving case studies to help participants understand the importance of surface preparation, placement and compaction in extending the performance life of asphalt pavements.

While these scheduled sessions in June are invitation-only, WAPA expects that a larger community of road agencies, contractors and consultants may be interested in learning more. **Are you interested in holding similar training in your area? If so, please contact WAPA (or a WAPA member that you work with).** We would be happy to arrange similar asphalt inspection training or black-bag lunch-and-learn sessions based on demand. ■

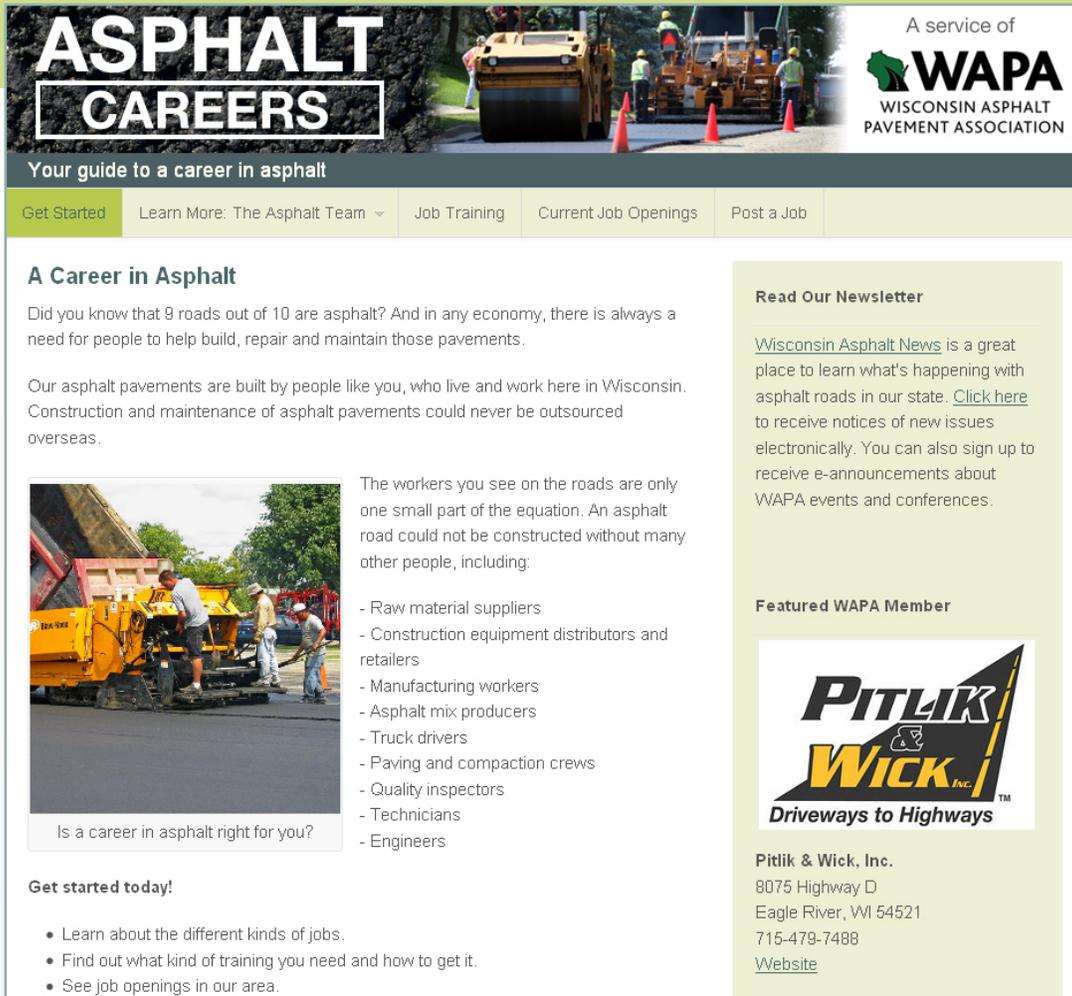


Need a refresher or update on best practices in asphalt inspection? Just let us know. (Image courtesy of NCAT)

New Website! AsphaltCareers.org

Do you know someone looking for a career building Wisconsin's roads? (Or are you looking yourself?) Then look no further!

AsphaltCareers.org is a new service from WAPA that connects our members with people in Wisconsin who want to work in the asphalt industry—a summer job, a lifelong career, or anything in between.



ASPHALT CAREERS

Your guide to a career in asphalt

Get Started | Learn More: The Asphalt Team | Job Training | Current Job Openings | Post a Job

A Career in Asphalt

Did you know that 9 roads out of 10 are asphalt? And in any economy, there is always a need for people to help build, repair and maintain those pavements.

Our asphalt pavements are built by people like you, who live and work here in Wisconsin. Construction and maintenance of asphalt pavements could never be outsourced overseas.



The workers you see on the roads are only one small part of the equation. An asphalt road could not be constructed without many other people, including:

- Raw material suppliers
- Construction equipment distributors and retailers
- Manufacturing workers
- Asphalt mix producers
- Truck drivers
- Paving and compaction crews
- Quality inspectors
- Technicians
- Engineers

Is a career in asphalt right for you?

Get started today!

- Learn about the different kinds of jobs.
- Find out what kind of training you need and how to get it.
- See job openings in our area.

Read Our Newsletter

[Wisconsin Asphalt News](#) is a great place to learn what's happening with asphalt roads in our state. [Click here](#) to receive notices of new issues electronically. You can also sign up to receive e-announcements about WAPA events and conferences.

Featured WAPA Member



Pitlik & Wick, Inc.
8075 Highway D
Eagle River, WI 54521
715-479-7488
[Website](#)

AsphaltCareers.org features:

- Exclusive job listings from WAPA members
- An overview of the different types of jobs involved in building asphalt pavements:
 - ASPHALT PLANT AND ROADWAY CONSTRUCTION CREWS, INCLUDING SPECIALTY EQUIPMENT OPERATORS
 - QUALITY CONTROL TECHNICIANS
 - SUPERVISORS
 - MANAGERS
 - ENGINEERS
- Typical pay for different jobs
- Typical education and training requirements—and resources to help you meet them

Spread the word,
and get clicking today!

WAPA Producer Members

AMERICAN ASPHALT OF WISCONSIN
FRANK BROTHERS INC.
D.L. GASSER CONSTRUCTION COMPANY
IVERSON CONSTRUCTION
MATHY CONSTRUCTION COMPANY
MONARCH PAVING COMPANY
MURPHY CONSTRUCTION COMPANY
NORTHEAST ASPHALT, INC.
NORTHWEST ASPHALT PRODUCTS, INC.
NORTHWOODS PAVING
PAYNE & DOLAN, INC.
PITLIK & WICK, INC.
ROCK ROAD COMPANIES, INC.
SENN BLACKTOP, INC.
SHERWIN INDUSTRIES, INC.
TRI COUNTY PAVING, INC.
WOLF PAVING

WAPA Liquid Asphalt Supplier Members

BP ASPHALT
CALUMET SPECIALTY PRODUCTS
FLINT HILLS RESOURCES
HENRY G. MEIGS

WAPA Associate Members

ANTIGO CONSTRUCTION
AON RISK SERVICES
ARING EQUIPMENT COMPANY
ASPHALT REHEAT SYSTEMS
ASPHALT TECHNOLOGIES GROUP
BAKER TILLY VIRCHOW KRAUSE, LLP
R.H. BATTERMAN & Co., INC.
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BECHER-HOPPE ASSOCIATES
BENCHMARK, INC.
CARBOLITE
CENTURY FENCE COMPANY
CGC
CHICAGO TESTING LABORATORY
CICCHINI ASPHALT PAVING
CUSTOM WELDING & METAL FAB, INC.
ENVIRONMENTAL TECHNOLOGY AND ENGINEERING
FABCO EQUIPMENT COMPANY
FAHRNER ASPHALT SEALERS
GKW, LLC
GRAEF
HEATEC, INC.
INSPEC
LIBERTY TIRE
MEIGS TRUCKING
MILESTONE MATERIALS
MILLER, BRADFORD & RISBERG
MOTION ENGINEERING
MSA PROFESSIONAL SERVICES
OMNNI ASSOCIATES
OSI ENVIRONMENTAL
JAMES PETERSON SONS
RIVER VALLEY TESTING
ROADTEC
ROLAND MACHINERY
RS USED OIL SERVICES
SPECIALTY ENGINEERING GROUP (S.E.G.)
STANSTEEL
S.T.A.T.E. TESTING, LLC
Troxler Electronic Labs
WEM AUTOMATION
W.K. CONSTRUCTION
YAHARA MATERIALS