

ISSUE 2 · VOLUME 9

SUMMER 2012

FLEXIBLE PAVEMENTS OF OHIO TURNS 50





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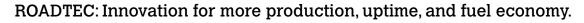
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ON THE COVER:

2012 MARKS THE 50TH ANNIVERSARY FOR FLEXIBLE PAVEMENTS OF OHIO. FROM A MERGER BETWEEN TWO ASSOCIATIONS IN 1962, TO ASPHALT TODAY BEING USED ON MORE THAN 98 PERCENT OF THE STATE'S PAVED ROADS, THE ASSOCIATION HAS ENJOYED A SUCCESSFUL FIRST HALF CENTURY OF EXISTENCE. SEE STORY ON PAGE 8.



Flexible Pavements of Ohio is an association for the development, improvement and advancement of quality asphalt pavement construction.

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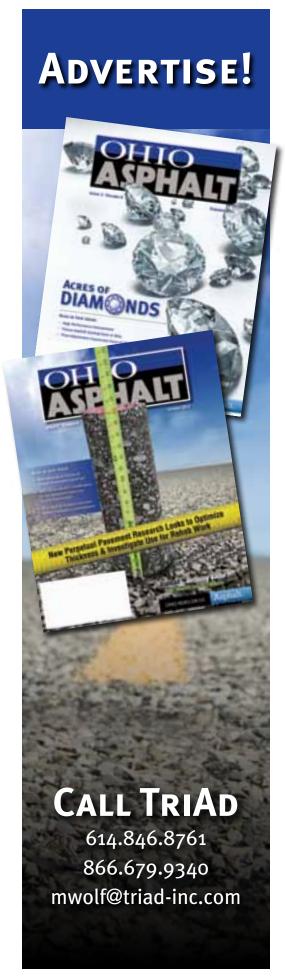
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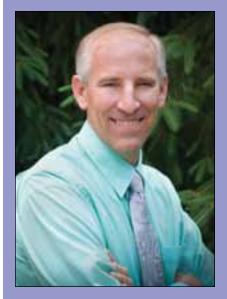
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THE PRESIDENT'S PAGE



CLIFFORD URSICH, P.E.
PRESIDENT & EXECUTIVE DIRECTOR

"We in the asphalt industry take to heart our competition's admonition to THINK HARDER. We do so because it is our burning desire to see our customers discover that asphalt provides the highest value of all paving materials. THINK HARDER? WE DO!"



Assuredly, most of you have seen in various civil engineering and transportation construction trade magazines the seemingly never-ending negative ad campaign directed at the asphalt paving industry. Once you get beyond the spin and half-truths you'll find at the end of the ad this admonition ... "THINK HARDER." Well, thinking hard has been something the asphalt paving industry has been doing for a long, long time; and it shows by the advancements both in asphalt technology and its use in most every facet of transportation.

Somewhat recently, I received an e-mail from a former municipal engineer who now heads up construction operations for a heavy-highway contractor in Ohio. His name is Vic Roberts, formerly with Englewood. He has a great civil engineering mind, understands pavement construction and maintenance and has courage to innovate. In some respects he's a bit like R.G. LeTourneau, author of Mover of Men & Mountains, referred to as "The Dean of Earthmoving" for his extraordinary inventiveness in the field

of earthmoving equipment. Vic's purpose for e-mailing me was to inform me of an article he recently read about HiMA1. HiMA is a term coined to describe a new modified asphalt that incorporates a large amount of polymer (7 ½ percent by weight of asphalt binder). Until the advent of HiMA, 5 percent had been about the maximum polymer load that could be placed without creating handling problems. Advancement in asphalt chemistry, the likes of HiMA, is now allowing for greater opportunity and even better asphalt performance. Though we haven't seen HiMA used in Ohio yet, keep posted, we have some ideas where its use would provide superior value.

The point of bringing up the matter of HiMA isn't necessarily to promote the next paving project; that's for another day. The point is this: The introduction of HiMA is just one more demonstration of how the asphalt paving industry is THINKING HARDER; thinking harder in order to provide to its customers – homeowners, local governments, counties, state and commercial real-

estate developers – the highest value of all road paving materials.

50 Years of THINKING HARDER

This year marks Flexible Pavements of Ohio's 50th anniversary. As you read deeper into this issue of *Ohio Asphalt*, you'll learn of the industry's challenges and accomplishments as documented in its history book, "50 Years of Service, Partnership and Value." It's a story of 50 years of Ohio's asphalt paving industry and partners THINKING HARDER.

In 1962, this association was formed with the sole purpose of advancing the use of asphalt pavement construction. In the early years, getting more tons of asphalt sold was a matter of lobbying to ensure money was made available for paving secondary roads, where the use of asphalt was relegated. That began to change as asphalt showed its versatility, and the interstate construction, and then reconstruction eras, progressed. Oh yes, down through time funding had always been an issue; nothing changed on that front, however, the ability to demonstrate technical competence began to take center stage. THINKING HARDER is what you might call that which the asphalt industry did as it promoted new technologies to meet the challenges of a new age.

And so the asphalt industry did indeed THINK HARDER. From the wellspring of industry knowledge came many breakthrough technologies. When faced with the OPEC Oil Embargo, the industry began recycling old pavement into new. A little known fact is that asphalt is the most widely recycled material in the United States. And with the recent upturn in crude oil prices, THINKING HARDER has resulted in the discovery of new energy and cost saving opportunities, like replacing virgin asphalt binder with binder from asphalt shingles, and Warm Mix Asphalt; technologies that lead the way in sustainable pavement construction.

The 1980s saw the introduction of what is now called "fractured-slab" technology. Crack-and-Seat, Break-and-Seat, and Rubblization of concrete pavement provided transportation engineers an economical strategy to rehabilitate concrete pavements that had reached the end of their serviceable lives. There were scoffers at the time, scoffers who dismissed it as a "crackpot" technology. History has been written, however, and what we read of it shows fractured slab to be a viable rehabilitation strategy that is being used even to this day.

With the '90s came Superpave and warranty asphalt construction.

Superpave provided better tools to identify the composition of asphalt materials needed to ensure superior performing asphalt pavements. That is to say, Superpave gave us the ability to maximize pavement life. Warranty construction was an initiative birthed from the 1994 FPO Strategic Plan that the industry promoted to ODOT. All of the hard thinking of the previous decades infused confidence that a warranty program could be successful – and it was.

Hard thinking of asphalt pavement engineers around the nation brought to us the Perpetual Pavement concept in the 2000s. Imagine never having to reconstruct a pavement again! That is the goal, and the evidence of new perpetual

pavement projects being built right here in Ohio is proof the goal is being accomplished. And how about porous asphalt? The thirsty pavement that absorbs water to eliminate stormwater runoff and the erosion and pollution that runoff creates. Porous asphalt is a new technology to Ohio that is taking root because of some hard

thinking people who believe strongly it is a technology with tremendous promise. That brings us to the present.

In 2002, Flexible Pavements of Ohio published an anniversary document to celebrate its 40-year history, "ASPHALT REVOLUTION." On the horizon we see a new revolution forming. It's a revolution led by engineers THINKING HARDER about how to make asphalt pavement even better than what it already is. HiMA is just the beginning.

We in the asphalt industry take to heart our competition's admonition to THINK HARDER. We do so because it is our burning desire to see our customers discover that asphalt provides the highest value of all paving materials. THINK HARDER? WE DO!

(**Note:** Additional information regarding HiMA can be found in the April 2012 issue of Better Roads magazine.)

References

1. Kuennen, T. (April 2012) "Asphalt ala Carte: Modifiers Control Mix Performance, Better Roads. Retrieved from http://www.digitalmagazinetechnology.com/a/?KEY=betterroads-12-04april#page=0.



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FLEXIBLE PAVEMENTS OF OHIO TURNS 50



Being the 50th anniversary of
Flexible Pavements of Ohio (FPO)
in 2012, the state's asphalt industry has a
storied past that can be enjoyed through a recently
completed written history of the industry's last 50 years
and the association's role as its respected advocate.

"Flexible Pavements of Ohio, 50 Years of Service, Partnership and Value 1962-2012," describes how Flexible Pavements Inc. was formed in 1962, as the result of a merger of the Bituminous Concrete Producers Association (BCPA) and the Macadam Pavements Association (MPA). The association was founded during the building of Ohio's interstate highway system and just before the era of automation and environmental protection. The written history chronicles the enormous changes in the asphalt paving business, from the improved quality of the product to industry consolidation to market domination.

In the early years, the asphalt industry's market had been relegated to maintenance overlays of secondary routes. The interstate construction era had begun and the association was anxious to expand its market. Members from both the BCPA and MPA realized they couldn't go it alone and that future success would require a merger. The FPO history chronicles its early beginnings as a fledging industry that sought to



(Left) Rubblization became an effective rehabilitation method. (Top) Crews hard at work on Franklin County Stadium in 1977.

improve opportunity for its members. Over time, FPO has led the industry by its strong commitment to achieving the highest product standards through partnership at all levels of the paving industry. The goal: producing the best pavement for every job, big or small, every time.

The 1970s brought with it challenges like the industry had never experienced. The OPEC Oil Embargo raised the cost of everything oil related to heights beyond anyone's imagining. The National Asphalt Pavement Association reported of shortages and asphalt price volatility. Contractors were unable to secure quotes as asphalt binder costs soared. Bill Baker, FPI's executive director, rallied the association members and exhorted them to "begin getting it together," referring to marketing asphalt pavement. Concrete paving interests were gaining market share. The 1970s, however, would give birth to recycling asphalt back into new, a practice that would take firm hold in the 1980s. A new era of competitiveness and scientific advancement was about to be ushered in.

History records the 1980s as a time of increased acceptance of asphalt pavement as the material of choice for most highway construction. As older concrete highways reached the end of their useful lives, they were systematically being replaced with asphalt pavement. Pavement reconstruction strategies, the likes of "Breaking-and-Seating" and "Rubblization," were smart solutions to rehabilitating an aging pavement

infrastructure. The asphalt industry was maturing from small, seatof-the-pants operations that scrapped for work, to one that had grown into a group of smart, focused and highly technical companies interested in the science and engineering of their products.

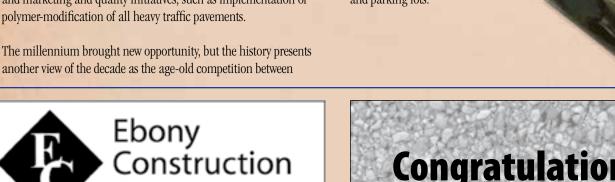
By the 1990s, the maturing asphalt paving industry now dominated its field. But significant challenges remained. The FPO history records quality-enhancement initiatives; efforts to secure funding for Ohio's roads; the industry's efforts to deal with ever-increasing government and environmental regulations; and the implementation of new technologies like Stone Mastic Asphalt and SUPERPAVE. FPI's first-ever strategic plan published in 1994 became the blueprint that would carry the industry forward into the new millennium as an industry pledged to ensuring customer satisfaction. The '90s were characterized by education; education on subjects ranging from quality asphalt construction and production, asphalt plant operations, to metrication. Asphalt warranties became a reality when FPI and ODOT worked jointly to see their incorporation into asphalt construction. The history goes on to chronicle legislative activity and marketing and quality initiatives, such as implementation of polymer-modification of all heavy traffic pavements.

another view of the decade as the age-old competition between

asphalt and concrete flares to new heights. History records that the episode would lead Flexible Pavements to new growth under the strain of increased competition. The industry would undergo strain again in 2008, when the escalating price of crude oil would impact the paving markets. Recycling would be invigorated, as new sources for asphalt binder would be discovered in recycled asphalt shingles, and improvements in processing recycled asphalt pavement would allow for its greater use. The history would not be complete without the mention of Perpetual Pavement and Warm Mix Asphalt, and how those technologies will shape the future of pavement NO MATCH ASPHALTI

construction.

The Flexible Pavements history is an enjoyable read. You can obtain a free copy by contacting the Flexible Pavements office. By the time you have finished it you'll understand why there is no match for asphalt on Ohio's roads and parking lots.





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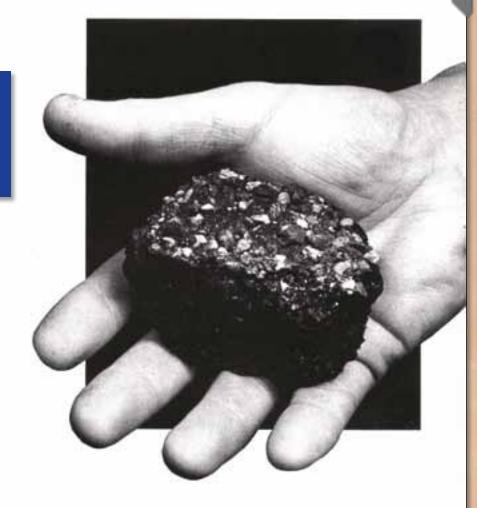
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(Editor's note: Just as Flexible Pavements of Ohio does today, FPI was touting the qualities of asphalt pavement being a recyclable material in the early 1980s. This advertisement appeared in the Summer 1980 issue of *Flexible Pavements*.)



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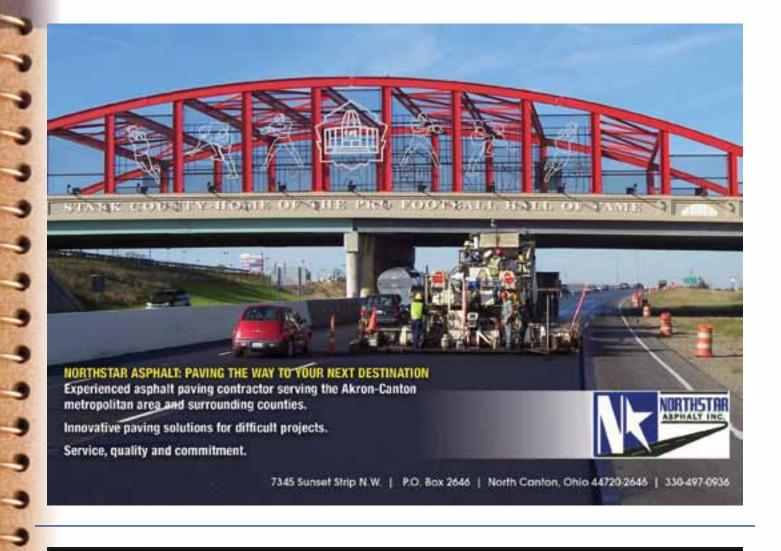


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O A





EVENT CELEBRATES PAST 50 YEARS & CURRENT SUCCESSES



What's in a name? Well, when it comes to the Ohio Asphalt Expo, how 'bout bigger, better and better weather too?

Under the moniker of 2012 Ohio Asphalt Expo, the Flexible Pavements of Ohio's (FPO) 50th Annual Meeting. Equipment Expo & Trade Show was held March 6-7 at the Hilton Columbus/Polaris. The name was changed to make it more inviting and inclusive to others who

traditionally viewed the Annual Meeting as a "membership only" event. The Expo program was structured with an expanded educational and technical program to ensure the latest information to ensure quality asphalt pavement construction was made available.

As in past FPO Annual Meetings, the two-day event offered participants forums, educational sessions, membership and prayer breakfasts, an award luncheon, a chairman's reception and equipment expo and trade show – not to mention great weather. Early March temperatures in central Ohio were nearly 20 degrees warmer than normal.

More than 350 attendees/registrants started off the more than 24.5 hours of events over the two days with Tuesday's Public Agency Forum. The forum centered on the discussion of

where to turn when asphalt's renewable and sustainable qualities don't seem to be enough. Moderated by Wayne Jones of the Asphalt Institute (AI), representatives from Ohio's asphalt industry and public agencies participated in a roundtable discussion on "Ideas for Pinching Pennies, Stretching the Dollar and Sustainable Construction." The topic produced a lively discussion, as the asphalt industry continues to work with local governments dealing with shrinking budgets and needing to find ways to stretch paving dollars.

Coinciding with the Public Agency Forum was the FPO Membership Breakfast, which allowed members to not only converse with each other but also receive a state of the association as well as discuss other issues facing Ohio's asphalt industry.

The first of three Concurrent Educational Sessions followed. Each 90-minute session - held Tuesday morning and afternoon and Wednesday morning – provided attendees a choice to attend one of several concurrently held seminars.

THE FIRST CONCURRENT SEMINARS INCLUDED:

• The Business of Asphalt

Led by Gardner Asphalt Supply's Austin Miller and National Asphalt Pavement Association's (NAPA) Jay Hanson, the seminar included Miller's talk on commodity pricing for asphalt materials and Hanson's discussion on national topics and regulations impacting the industry.

• Marketing 101: Successful Selling Techniques

The Asphalt Pavement Association's (APA) Mike Kvach talked about how to tell asphalt's story, while AI's Kendal Butler, FPO's Andrew Gall and Plantmix Asphalt Industry of Kentucky's Nick Rogers provided an overview of social media and how this form of communication can be utilized to market products and gain new customers.

 Emerging Technologies in Asphalt Pavement Construction

Exemplifying the asphalt industry's quest for continual innovation and quality improvements, AI's Mark Buncher talked about ways to improve longitudinal joint performance, Blacklidge Emulsion Inc.'s

Johnny Blankenship discussed tack and bond coats and Wirtgen America Inc.'s Tim Kowalski spoke about compaction.

CONCURRENT SEMINARS 4-5-6:

- Strategies for Efficient Asphalt Plant Operations
 Technical Training and Advisory Services' T.J. Young discussed how to
 efficiently operate asphalt plants so companies can win the bid and
 provide a quality product.
- Best Practices for Residential & Commercial Parking
 While geometric and grade constraints make residential and
 commercial paving projects more difficult, The McLean Company's
 Scott McLean discussed how good paving can occur on small projects.
- Emerging Markets for Asphalt Pavements

FPO's Bill Fair, Cuyahoga Valley National Park's Kim Norley and Texas Transportation Institute's Dave Newcomb provided insight on how paving techniques such as porous asphalt and thin overlays are just two examples of the industry fulfilling the regulations calling for environmental friendly technology.



CONCURRENT SEMINARS 7-8:

• Overview and Implementation of WMA

AI's Jones and Technical Training and Advisory Service's Young and Scotty's Contracting & Stone's Mike Law discussed Warm Mix Asphalt's (WMA) benefits of reduced fuel consumption, decreased greenhouse gases and better constructability.

DOT's Perspectives on WMA, RAP and RAS

ODOT's Dave Powers shared information on the department's utilization of WMA as well as an update on the state's use of Recycled Asphalt Pavement. Robert E. Lee from the Texas Department of Transportation presented his state's use of Recycled Asphalt Shingles.

• Building a Corporate Quality Culture

Jeff Lamb of Barrett Paving Materials and The Shelly Company's Larry Shively discussed their companies' approach to building a corporate quality culture through proper planning and continuous improvement.

The 2012 Ohio Asphalt Expo's opening day was highlighted by the Quality Asphalt Paving Awards Luncheon, which honored the top ODOT, Local Road or Street, Commercial Parking Facility, Special Use, Airport and Master Craftsman projects for 2011 (see page 16). "That's a pile of work that is really a statement to the commitment to quality

that this industry has," said FPO President/
Executive Director Cliff
Ursich following the announcement of the 41 paving awards.

In his address to the luncheon crowd, Ursich challenged the industry to strive to define asphalt as the paving material



that provides the highest in value. Introducing the association's newly released history book, "Flexible Pavements of Ohio, 50 Years of Service, Partnership and Value 1962-2012," Ursich noted the challenges of the past and the industry's response to those challenges; "always they have been met and overcome by a renewed commitment to providing better value to the industry's customers, be it an OPEC oil embargo, or a 2008 spike in asphalt prices brought on by crude oil speculation. With each ton of asphalt mix placed we define the quality of our product. From top to bottom, from pavement designer to roller operator every ton must be designed, manufactured, placed and compacted with an eye toward defining asphalt as being the highest in quality.



"Value will win the day," said Ursich, pointing to the FPO tagline. "Those who have received awards have defined asphalt's

value as being high. We must all strive to define asphalt in this same way," Ursich said.

Commemorating FPO's golden anniversary continued with Tuesday evening's reception. The FPO 50th Anniversary Celebration & Chairman's Reception provided a time to not only meet with current and perhaps future asphalt customers and association members, but also enjoy the camaraderie developed in the past half century. Meredith Brothers Inc. provided the lively music and photos from FPO's first 50 years provided an entertaining background to the event.

Wednesday's activities began with the Prayer Breakfast, which was presided by 2012 FPO Chairman Bob Bailey of Kokosing Materials Inc. The morning's event featured a message by Minister Lloyd Markley; the presenting of the 2012 Hot Mix Asphalt (HMA) Scholarships and Ohio Asphalt Industry Service and William Baker awards; and a keynote address by AI President Pete Grass.

Markley, of Christian Bible Fellowship, spoke about the Pennsylvania Dutch saying: "Too soon old, too late smart," which translates in mankind's life being a blur filled with hard knocks. As a hospice chaplain, Markley talked about discussions he has with people nearing death and helping them as they sought the path to eternal salvation and peace.

FPO Director of Engineering Services Bill Fair followed Markley in announcing the 2012-13 recipients of HMA Scholarships. In all, 12 undergraduate and three graduate students will benefit from the association's scholarship program this fall. Since beginning in 1995, the FPO Hot Mix Scholarship Program has awarded 355 scholarships totaling more than \$430,000.

The announcement of FPO's individual awards was next, as Ursich named Kokosing Construction's Wayne Brassell as the recipient of this year's Industry Service Award, and Gerken Paving Inc.'s Julian Gerken was honored with the William "Bill" Baker Award. (See page 28 for more information on this year's individual award recipients.) In acknowledging this year's honorees, Bailey said of Brassell and Gerken, "It is people like that who leave their company hat at the door and selflessly serve the membership of Flexible Pavements. What they do is look at what is best for the industry and in doing so they make the industry better. Once again, I want to congratulate both of them for that type of dedication ..."

In his keynote address, Grass congratulated the morning's scholarship and award recipients as well as FPO for its 50th anniversary celebration.

In looking at the past 50 years, Grass acknowledged the many changes the asphalt industry has seen, but he said recent trends in the nation's infrastructure aren't as noteworthy. According to Grass, it's easy for a husband and wife to have discussions about the ailing conditions

of their house, however, it seems to be a tougher subject at the national level when it comes to infrastructure investment.

"Our challenge for the next 50 years," Grass said, looking over the crowd, "is that we know how to build quality. We know how to build quality pavements. We recognized many of those projects in this state yesterday. We're learning how to do it better," he said in reference to Tuesday's session on tack coating and other asphalt paving techniques. "Let's make the owners of our infrastructure demand asphalt because it's safe, it's smooth and we can build it perpetually. Let's make them demand asphalt because of its performance, its quality and it delivers on value. Let's start to work a little on our industry's legacy, that's to fix the funding issue. We have to do that, we have got to deliver a transportation system instead of just build roads — and we can connect them all with high-performance quality asphalt pavements and create a demand because they are the best available . . .

"Flexible Pavements of Ohio," Grass concluded, "you are up to that challenge. Your history shows it."

What's in a legacy? The Ohio Asphalt Expo not only celebrated FPO's first 50 years, it set the groundwork for the next.

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OA

Quality Asphalt Paving Awards Ceremony

For the past 50 years, Flexible Pavements of Ohio (FPO) has worked toward the development, improvement and advancement of quality asphalt pavement construction. So honoring quality workmanship and asphalt was even more meaningful for the recipients of the 2011 Quality Awards during FPO's 50th Annual Meeting & Ohio Asphalt Expo. Also making this "quality" celebration meaningful was the diverse spectrum of pavements that were acknowledged – from Ohio's interstate system, to rural roadways, to local streets, to airport runways, to commercial facilities, to special-use pavements.

The Quality and Master Craftsman awards were announced by FPO Director of Customer Relations Andrew Gall.

Recipients were presented with a plaque and "Q" medallions so companies could display the symbol for their dedication to quality on pavers and their individual crews' hardhats.

Of the 41 Quality Asphalt Paving Awards, 16 recognized Ohio Department of Transportation (ODOT) projects; 10 featured Local Road or Street projects; seven were for Commercial Parking Facility projects; five projects were recognized for Special Use Pavement; two airport pavement projects were spotlighted; and one project was recognized as a Master Craftsman Award winner.

ODOT PAVEMENTS

Resurfacing of U.S. Route 23 from the Marion County Line to Wyandot County Road 62, ODOT District 1 Paving Contractor: Kokosing Construction Co.

Noted for the strong quality effort as evidenced by the project's workmanship, Kokosing Construction performed four-lane pavement removal and resurfacing in heavy traffic conditions. Work was done within an extremely tight paving schedule and traffic conditions, but Kokosing was still able to earn ODOT's full-density bonus on the project.

Kokosing Construction's Kenny Saunders and ODOT's Ryan Bair



New Construction of U.S. 24 from Turkeyfoot Creek to Bad Creek in Henry County, ODOT District 2 Paving Contractor: Gerken Paving Inc.

In completing the three-year project's construction of 4.35 miles of four-lane divided highway, featuring six super-elevated curves, Gerken Paving provided a surface mat with zero transverse joints. More than 180,000 tons of asphalt were used on the Stone Matrix Asphalt surface, in which Gerken Paving received maximum smoothness and density bonuses.

Gerken Paving's Jason Baden and ODOT District 2's Mike Benton



Upgrade and Improvement of Salisbury Road and Dussel Drive in the City of Maumee, ODOT District 2 Paving Contractor: The Shelly Co.

The Shelly Co. used more than 85,000 tons of Warm Mix Asphalt with a Stone Matrix Asphalt surface course for various pavement buildups ranging from full-depth asphalt pavements to resurfacing of existing concrete base on this upgrade of the Interstate 475/Salisbury Road/ Dussel Drive Interchange in the City of Maumee. Throughout the multi-year project, The Shelly Co. scheduled its work through numerous staging sequences and challenging maintenance of traffic issues.

The Shelly Company's Byron Clymer and ODOT's Rodney Crouch



Resurfacing of S.R. 61 in Erie County, ODOT District 3 Paving Contractor: Erie Blacktop

In its pavement removal, repair and resurfacing of S.R. 61 from S.R. 113 to U.S. 6 in the Village of Berlin Heights, Erie Blacktop earned good reviews for the project's uniformity and excellent joint construction.

Randy Wikel of Erie Blacktop Inc.



Smoothsealing of U.S. 30 from S.R. 314 to the City of Mansfield in Richland County, ODOT District 3 Paving Contractor: Kokosing Construction Co.

Kokosing Construction provided "a very uniform and nice looking project" in this more than four-mile-long project that included a one-inch overlay, pavement repairs and resurfacing of ramps.

Todd Lynn of Kokosing Construction and Brian Hickey of ODOT District 3



Resurfacing of S.R. 45 from the Village of Lordstown to the City of Warren, ODOT District 4 Paving Contractor: Shelly & Sands Inc.

Along with the resurfacing of nearly eight miles of S.R. 45, Shelly & Sands performed guardrail, structure and traffic signalization work on this \$4.4 million project.

Shelly & Sands' Edward Duncan and ODOT District 4's Jim Murray



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Resurfacing S.R. 668 from Junction City in Perry County to the Hocking County line, ODOT District 5 Paving Contractor: Kokosing Construction Co.

Despite numerous grade and elevation changes and access points throughout the project, Kokosing Construction performed quality resurfacing and other related work on this \$3.3 million, two-lane project.

ODOT District 5's Dan Morgan and Kokosing Construction's Jerry Hite



Resurfacing of S.R. 60 from Main Street to Millers Lane in Muskingum County, ODOT District 5 Paving Contractor: Shelly & Sands Inc.

This \$5 million four-lane and two-lane resurfacing project of S.R. 60 and Wayne Avenue in Zanesville, respectively, also included significant pavement repairs and other associated work for Shelly & Sands. When finished, the company was noted for providing a "very nice looking and complete" project.

ODOT District 5's Ken Williams and Jim Hamm of Shelly & Sands



Resurfacing of I-70 in Muskingum County, ODOT District 5 Paving Contractor: Shelly & Sands Inc.

This project consisted of the resurfacing of I-70 from the U.S. 22/U.S. 40 interchange in Norwich to the Guernsey County line.

ODOT District 5's Toni Andrews and Shelly & Sands' Shane Nivaria





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Resurfacing of I-70 in Licking & Fairfield Counties, ODOT District 5

Paving Contractor: The Shelly Co.

Restricted to night work on this busy, 11-mile-long, four-lane interstate route, The Shelly Co. used an MS4 transfer device to help it achieve the density and smoothness it needed to complete this quality project and make it worthy of bonus pay.

Nasseem Ahmad of ODOT District 5 and Richie Boring of The Shelly Co.



Full-depth Reconstruction of U.S. Route 127/Main Street in the City of Celina, ODOT District 7 Paving Contractor: The Shelly Co.

Along with curb and gutter, new storm water drainage and streetscape work from Lake Shore Drive to Livingston Drive on U.S. 127 in Celina, this project also included StreetPrint® crosswalks pressed into the Main Street pavement's surface. The overall attractiveness and excellent joint construction by The Shelly Co. earned special mention.

Terry Miehlenkamp of The Shelly Co.



Paving of U.S. 36 between Scot Drive & Looney Road in the City of Piqua, ODOT District 7 Paving Contractor: Barrett Paving Materials Inc.

This two-year, multi-phase project required Barrett Paving Materials to perform nighttime resurfacing operations due to maintenance of traffic requirements from the U.S. 36/I-75 interchange along the major Piqua artery.



S.R. 741 Improvement Project, Phase I, Montgomery County Transportation Improvement District Paving Contractor: Southern Ohio Paving

Southern Ohio Paving performed 4-inch-depth paving along S.R. 741 in Montgomery County.

Southern Ohio Paving's Mike Maggard



Quality Awards Ceremony

Widening of the S.R. 4 Bypass in Butler County between Tylersville Road and Hamilton Mason Road, ODOT District 8 Paving Contractor: John R. Jurgensen Co.

The John R. Jurgensen Co. provided widening and pavement work on the S.R. 4 Bypass in its construction of three "superstreet" intersections along this corridor.

ODOT District 8's Chris Tuminello (second left) and John R. Jurgensen Co.'s Mike Davis, Brian Trainer and Troy Morrison



Widening of the S.R. 4 Bypass in Butler County, ODOT District 8

Paving Contractor: Barrett Paving Materials

Barrett Paving Materials performed widening and pavement work for another section of the S.R. 4 Bypass, which included another "superstreet" intersection located at Symmes Road and the bypass.

ODOT District 8's Chris Tuminello and Wess Kroll of Barrett Paving



Resurfacing of S.R. 7 in Belmont County, ODOT District 11 Paving Contractor: Shelly & Sands Inc.

For this \$1.5 million project, Shelly & Sands performed four-lane resurfacing of S.R. 7 from I-470 near Bellaire to Bridgeport.

Brian Medley of Shelly & Sands and Doug Schafer of ODOT District 11





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SPECIAL USE PAVEMENT

Paving of Tennis Courts at The Ohio State University Outdoor Sports Complex, The Ohio State University Paving Contractor: Decker Construction Co.

Utilizing a 9-inch depth of asphalt, Decker Construction paved two tennis courts at The Ohio State University Outdoor Sports Complex, ensuring a strict grade control was met.

Jonathan Apple of Decker Construction



Construction of the Jamestown Connector Bike Path from Washington Road to Jasper Road, City of Xenia Paving Contractor: Barrett Paving Materials

Barrett Paving Materials cleared, graded and paved an existing railroad bed to transform it into a 17-mile-long, multi-use bike path trail in Greene County.

Chris Hughes of Barrett Paving



Construction of the Heart of Ohio Trail, Phase 1, Knox County Park District Paving Contractor: Kokosing Construction Co.

Kokosing Construction converted nearly four miles of existing railroad bed from Bishop to Graham roads in Knox County into a multi-use trail by grading, installing a drainage system and placing a 3-inch depth of asphalt.

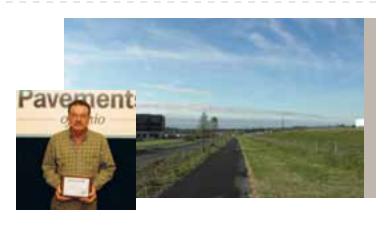
Kokosing Construction's John A. Bryant



Construction of Bike Path at Austin Pike & S.R. 741 in Montgomery County, RG Properties Paving Contractor: Southern Ohio Paving

Southern Ohio Paving earned quality marks in its construction of a multi-use path in Miamisburg.

SOP's Mike Maggard





Resurfacing of Park Roads in Oak Point State Park in Ottawa County, ODOT District 2
Paving Contractor: Erie Blacktop Inc.

Erie Blacktop performed pavement removal, repair and resurfacing of park roads and the parking lot at Oak Point State Park on South Bass Island.

ODOT District 2's Jan Materni and Erie Blacktop's Ned Wikel



LOCAL ROAD OR STREET

Widening of Watson Road from Harding Road to Karnes Road in Defiance County, Defiance County Engineer Paving Contractor: Gerken Paving Inc.

The construction specifications for the widening of Watson Road by four feet required Gerken Paving to perform full-width paving. Concerned about smoothness quality, Gerken Paving utilized dual pavers — each fitted with 12-foot-wide screeds. The utilization of dual pavers and Safety Edge, which is designed to reduce pavement-edge related crashes, resulted in increased pavement quality and safety of this roadway.

Gerken Paving's Kyle Borstelman and Defiance County Engineer's Warren Schlatter



Resurfacing of Atkinson Drive from Colorado Drive to Texas Drive, City of Xenia Paving Contractor: John R. Jurgensen Co.

With this resurfacing project including multiple roadways throughout Xenia's city limits, coordination and maintenance of traffic in residential areas was a major part of the project. John R. Jurgensen was noted for providing an excellent example of subdivision paving for its work on Atkinson Drive.

Pete Flora of John R. Jurgensen Co.



Resurfacing of Cleveland Road West, City of Huron Paving Contractor: Erie Blacktop Inc.

Erie Blacktop's work in pavement removal and resurfacing for the City of Huron was acknowledged for the final product's "good uniformity," "joint construction" and providing of "a superior smooth ride."

Erie Blacktop's Justin Walters



Resurfacing of Hague Avenue and Trabue Road in Franklin County, Franklin County Engineer Paving Contractor: The Shelly Co.

The Shelly Co. performed pavement milling and resurfacing using a surface course of Ground Tire Rubber and a trackless tack. Despite paving being performed "under traffic," The Shelly Co. successfully completed this intersection project.

Dave Scott of The Shelly Co.



Resurfacing of Tuttle Crossing Blvd. at I-270, City of Columbus Paving Contractor: The Shelly Co.

Despite the small size of the project, The Shelly Co. overcame many obstacles, such as performing nighttime paving; maintenance of traffic concerns; and limited plant production because of the nighttime schedule, which made material sampling difficult and thus increasing the need for stringent quality control.

The Shelly Co.'s Dave Scott and City of Columbus' Dan Johnson



Resurfacing of Lancaster Drive and Maureen Drive, City of Heath

Paving Contractor: Kokosing Construction Co.

Within a four-week timeframe, Kokosing Construction successfully utilized a Stress Absorbing Membrane Interlayer in resurfacing the project's deteriorated roadway, as well as replaced curb and access points.

Kokosing Construction's Jason Pike, City of Heath's Bob Geller and Jobes Henderson & Associate's Scott Haines



Quality Awards Ceremony

Resurfacing of North County Line Road, City of Clayton Paving Contractor: John R. Jurgensen Co.

Along with the resurfacing and spot repair of North County Line Road, John R. Jurgensen successfully exhibited one of asphalt's many attributes, the ability to efficiently maintain traffic throughout project construction.

Pete Flora of John R. Jurgensen Co.



Widening and Upgrade of Byers Road from Technical Drive to Austin Boulevard, Montgomery County Transportation Improvement District

Paving Contractor: Barrett Paving Materials Inc.

Barrett Paving Materials implemented full-depth asphalt construction in constructing a new roadway and widening Byers Road to five lanes in the City of Miamisburg.

Barrett Paving's Brian Fultz and Montgomery County TID's Robert Hoag



Resurfacing of Wilmington Pike, City of Kettering Paving Contractor: John R. Jurgensen Co.

An important part of John R. Jurgensen's resurfacing and spot repair work of this multi-lane roadway, which included several high-traffic intersections, was maintaining traffic along Wilmington Pike, which is utilized daily by Dayton-area commuters.

Steve Bergstresser of City of Kettering and Hutch Rogge of John R. Jurgensen Co.



Resurfacing of Wyandot County Road 97 from Wyandot County Road 330 to U.S. 23, Wyandot County Engineer Paving Contractor: Kokosing Construction Co.

Although the roadway varied in width from 16 to 21 feet in three areas along the project's seven-mile stretch, requiring Kokosing Construction to adjust the paver throughout the project, the company provided exceptional smoothness in this pavement removal and resurfacing project.

Kokosing Construction's Kenny Saunders



COMMERCIAL PARKING FACILITIES

Reconstruction of Truck Entrance Using Deep-Strength Asphalt at the General Motors Defiance Powertrain Plant, Defiance County, General Motors Paving Contractor: Gerken Paving Inc.

Gerken Paving's reconstruction of the General Motors Powertrain Plant's truck entrance was within the project's time requirements and was less than the cost of the original design, which called for reinforced concrete pavement. Gerken Paving removed the existing concrete pavement and installed a depth of 15.75 inches of deep-strength asphalt. The project was completed within the original time limit as paving operations began on a Wednesday and heavy truck deliveries resumed the following Saturday.



Kyle Borstelman of Gerken Paving

New Construction of Parking Lot at Kalahari Resort in the City of Sandusky, Kalahari Resorts Paving Contractor: Erie Blacktop Inc.

Erie Blacktop provided quality work in the construction of new parking areas as part of the resort's \$22-million convention center expansion.

Erie Blacktop's Tyler Wasserman



Reconstruction of The Ohio State University's Carmack Drive Parking Lot #2, The Ohio State University Paving Contractor: Decker Construction Co.

In its reconstruction of the existing parking facility, Decker Construction performed pulverization and cement stabilization.

Jonathan Apple of Decker Construction



Ohio Asphalt Summer 2012

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Quality Awards Ceremony

Paving of the Human Performance Wing Parking Lot at the Wright Patterson Air Force Base, The United States Air Force Paving Contractor: Barrett Paving Materials Inc.

Barrett Paving performed paving and striping in this two-year project, which featured challenging schedule changes and complex construction phasing.

Barrett Paving's Chris Hughes



Construction of a New Parking Lot for the Northmor K-12 School Building, Northmor Local School District Paving Contractor: Kokosing Construction Co.

Project size and challenging geometrics required Kokosing Construction to use an innovative planning approach to successfully complete this two-year project. The new parking facility's base and intermediate courses were placed in 2010, and the final surface course was placed in 2011.

Kokosing Construction's Curtis Sebendler and Rick Baker



New Construction and Resurfacing of Zanesville High School Parking Lot & Basketball Court, Zanesville City School District Paving Contractor: Shelly & Sands Inc.

Shelly & Sands performed overlay work for the school's existing parking area and constructed new parking lots, bus and service roads and fire lanes.

The Quandel Group's Andy Bensman, Shelly & Sands' Todd Young and Zanesville School's Terry Martin



Resurfacing of the Honda of America Marysville Auto Plant parking lot, Honda of America Paving Contractor: The Shelly Co.

The Shelly Co.'s work earned comments from the project owner for its excellent service, workmanship and overall satisfaction with the high quality of pavement. The project called for Shelly to remove the auto plant's parking area pavement and place a Stress Absorbing Membrane Layer as well as resurface the new vehicle staging area and parking lot.

The Shelly Co.'s Gary Fisher



AIRPORT PAVEMENTS

Runways 5R-23L and 1R-19L, Taxiways and Safety Area Improvements, Phases 5 & 6, Akron-Canton Airport, Akron-Canton Airport Authority Paving Contractor: Northstar Asphalt Inc.

Northstar Asphalt placed 132,900 tons of asphalt in the removal and replacement of an existing runway and the new construction and expansion of runways, taxiways and shoulders. The project was made more difficult as Northstar Asphalt had to operate within tight guidelines of working at night and with limited closures so that the airport facility could continue services.

avernents Ohio

CAK's Kevin Ripple and Northstar Asphalt's Walt Neff

2010 Airfield Pavement Improvements at the Dayton International Airport, City of Dayton, Department of Aviation

Paving Contractor: Barrett Paving Materials Inc.

Barrett Paving met strict Federal Aviation Administration guidelines for stringent gradation, density and smoothness tolerance in rehabilitating and making improvements to the airport facility's Runway 18-36, taxiway and terminal apron.

Barrett Paving's Brian Fultz



MASTER CRAFTSMAN AWARD

The Master Craftsman Award recognizes projects withstanding the tests of time, heavy use and the environment. Pavements chosen for this recognition must have provided a minimum of a 15-year service life with only light maintenance. This honor demonstrates the durability of asphalt paving and low maintenance costs over the life of the pavement.

Dock Facility & Trailer Storage Lot at ABF Freight Systems, ABF Freight Systems

Paving Contractor: Barrett Paving Materials Inc.

Providing 16 Years of Exemplary Pavement Performance

A National Asphalt Pavement Association (NAPA) Quality in Construction Award recipient for a Commercial Parking Facility, this project, when originally constructed in 1996, was the nation's longest land dock. The ABF Freight Systems facility called for Barrett Paving to cover nearly 35 acres in asphalt in the construction of parking lots, truck storage and associated roadways. Project pavement thickness consists of a 15.5-inch



depth of asphalt constructed on a drainage layer consisting of an Asphalt Free Drainage Base. Since its construction, the project has received virtually no maintenance and continues to perform exceptionally well.

Jeff Sebring accepts the Master Craftsman Award on behalf of Barrett Paving.

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INDUSTRY SERVICE AWARD



"What goes around comes around," was proven true with the honoring of Wayne Brassell as this year's recipient of FPO's Industry Service Award.

It was Brassell who approached FPO's board of directors in the early 2000s with the idea of honoring those who selflessly serve the association; thus the FPO Industry Service Award was established in 2003.

Wayne Brassell

Brassell, vice president of Operations with Kokosing Construction Co. Inc., has emulated the traits of an Industry Service Award recipient since his involvement with FPO began in 1987. In announcing the honoree, FPO President/Executive Director Cliff Ursich said Brassell "has shown the same passion of those that have been honored before him. He has been a strong advocate for quality asphalt construction, an innovator, and someone with a dogged determination to see things done right!"

A school teacher prior to his involvement in the industry, Brassell, appropriately, began serving on the association's Education & Technology

Transfer Committee. Also in 1987, he joined the Technical Committee, and later became involved on the Environmental Committee when it was formed in 1993. Brassell served in each of the committees until 2000, when he was asked to serve on FPO's Board of Directors. He filled the board position upon the retirement of Kokosing Construction founder Bill Burgett from the board.

As an FPO Board of Directors member, Brassell, who most recently served as the association's 2011 co-chair, has provided an eyes-and-ears-in-the-field perspective. He wholeheartedly supported warranting asphalt construction, and saw the vision to continuously put forth effort to improve quality and innovate. When it came to innovation, Brassell was quick to test new technology. Be it an asphalt plant innovation, full-width paving, material transfer systems for asphalt mix placed on warranty projects, notched-wedge joint construction, and most recently thermal imaging equipment to ensure uniform matt placement, he has pushed the envelope.

"Wayne," Ursich said in his announcement of the honor, "your passion and advocacy for quality asphalt construction, your love for this industry, your gift of knowledge given to this association is reason why our industry enjoys a market where we can say over 98 percent of Ohio's paved roadways are paved with asphalt surfaces."



WILLIAM W. "BILL" BAKER AWARD



Brent Gerken accepts the honor on behalf of his father, Julian Gerken.

In a way, the prowess that asphalt pavement currently enjoys is due in part to the 2012 recipient of the William W. "Bill" Baker Award — Julian Gerken of Gerken Paving Inc.

The Baker Award is regarded as the highest honor to be bestowed by Flexible Pavements of Ohio. It honors the association's former president who served from 1976-1991.

Willis Gibboney's 1995 milestone study, "Flexible and Rigid Pavement Costs on

the Ohio Interstate Highway System," demonstrated how deep-strength asphalt pavement was a more economical way to construct and maintain Ohio's Interstate System. An integral part of that study was the evaluation of an asphalt pavement constructed by Gerken.

Just as the projects built by this year's Baker Award recipient helped develop asphalt's legacy, so has quality asphalt helped build Gerken's

legacy. "This legacy serves us all," said Ursich in announcing the honor. "... It is a legacy for which we say 'thank you."

Gerken is a second-generation member of the family company — which has since been passed down to a third generation. Julian handled the production and paving operations, where he formed the reputation as "an industry leader and progressive thinker." Those traits were borne from the competitiveness of the industry. Julian helped set Gerken Paving apart, as it was one of the first companies known to strategically locate asphalt plants to facilitate the use of aggregate resources, and acquire resources to ensure customers received the highest quality materials and most competitive prices for asphalt pavement.

Ursich said testament to Julian Gerken's insight and progressive thinking are the numerous quality asphalt paving awards bestowed on Gerken Paving, and the commendation from one of its most-demanding customers — ODOT District 2.

The honor was accepted by his son, Brent Gerken, who is the company's current president and is a FPO Board of Directors member. Brent said his dad is a very humble person and that he would be shocked to learn he was the award's recipient. However, he quickly added that his father was "very, very, well deserving" of the honor. "He has poured his life into this industry, and raising us kids to follow in his footsteps — and we love doing it."



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Summer 2012

Ohio Asphalt

FHWA AND AI PARTNER TO IDENTIFY BEST PRACTICES FOR LONGITUDINAL JOINTS

By Mark Buncher, Ph.D., P.E., Asphalt Institute

A long-standing challenge in keeping an asphalt pavement from reaching its potential life is its longitudinal joints. Debate, research, opinion and innovation have all had their place in getting us to where we are today.

A longitudinal joint is the interface between two adjacent and parallel asphalt mats. Premature joint failures are the result of a combination of low density, permeability, segregation and lack of adhesion at the interface.

Over the last 25 years there has been numerous university, state department of transportation and industry research efforts. The results show the performance of longitudinal joints is mixed. We continue to see joint deterioration as one of the highest-listed reasons for premature failure of an asphalt pavement. In 2009, the Federal Highway Administration (FHWA) surveyed its Divisional Offices and found that about 50 percent reported dissatisfaction with the performance of their longitudinal joints. Improving this component of our flexible pavement systems is probably the single-most important thing we can do to improve performance.

Partnering effort

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With the overall goal being to improve joint performance, the FHWA and the Asphalt Institute (AI) recently completed an effort to review past studies and research on longitudinal joints and to examine current state-of-the-practice for both specifying and constructing joints. The purpose was not to do additional research, but rather evaluate what had already been done and search for consensus on best practices in order to develop recommendations. Steps included:

- Analyze FHWA survey to its state Division Offices on specs, methods and performance.
- Review existing literature and research.
- Identify areas where there is consensus and areas where there is not.
- Conduct focused interviews with 19 recognized paving experts and contractors.
- Visit the state DOTs and their contractors that have implemented a longitudinal joint spec.

The project has been completed and a draft report has been widely circulated among industry groups for comment. The final report, "Best

Practices for Constructing and Specifying Longitudinal Joints," will be available soon through the AI or FHWA. In addition, a half-day workshop has been developed to share the findings with personnel involved in constructing and specifying asphalt pavement. These workshops are available free of charge to state agencies by contacting the FHWA Resource Center through their FHWA Division Office pavement engineer. A number of other marketing and communication materials are also planned in the upcoming year.

Finding and recommendations

This project revealed there is a wide disparity among states with respect to their joint construction and specification requirements, and in many cases there are significant opportunities for improvement. The recommendations from this project cover many facets, from construction best practices to agency considerations. Improving joint performance needs to be a team effort between the agency and contractors.

Construction best practices

While best practices are desired, they are not always followed, even though they generally do not require an extensive amount of additional expense or elaborate equipment. The following list summarizes the necessary field paving and compaction procedures to best construct a traditional (cold) longitudinal joint to optimize long-term performance:

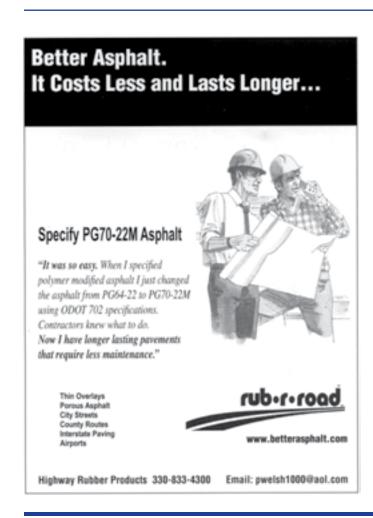
- Follow best practices to avoid mix segregation.
- Use a string-line guide for paver operator to make straight pass on first pull.
- Apply tack coat uniformly to full width of paving lane.
- Ensure vibrator screed is turned on all the time.
- Extend augers and tunnels to within 12 to 18 inches of the end gate to ensure a continual supply of fresh material is carried (not pushed) to the joint.
- Set end gate properly to firmly seat on existing pavement surface.
- Coordinate paver and auger speed to allow for a uniform head of material across the entire width of the paver. Maintain paver and auger speed.
- Use paver automation. A critical element to getting joint density is having sufficient depth of material at the longitudinal joint. A joint matcher, set immediately adjacent to the end gate, provides the best opportunity to get that sufficient depth. The use of a ski, versus the

- joint matcher, will normally result in a smoother pavement, but not necessarily the optimum depth of mix for the best joint. Multiple lifts offer opportunity to use ski on intermediate lifts for smoothness and a joint matcher on surface lift for good joint.
- Compact unsupported edge of mat with the first pass of vibratory roller drum extended out over the edge of the mat approximately 6 inches. An alternative method is to make the first pass of vibratory roller back 6 inches from the unsupported edge and then extend the drum over the unsupported edge on the second pass. With this method, watch for stress cracks that may develop parallel to the joint. This alternate method should only be used if the paving crew has experience with the specific mix and has not had a problem.
- Monitor relative density of unsupported joint using a density gauge.
- Tack the existing face of the joint with the same material (emulsion
 or asphalt cement) being used to tack the mat. If using an emulsion,
 double tack the joint face. Alternatively, consider using a proprietary
 joint adhesive as research indicates it improves joint performance.
- Overlap the existing lane (of a butt joint constructed with the paver, or a notched wedge joint) 1 inch +/- 0.5 inch. When the butt joint is constructed by milling or cutting back the existing lane, the overlap should be approximately ½ inch.
- Avoid luting (pushing back) the overlapped material, assuming the proper overlap was placed (see previous bullet). If the overlap exceeds

- 1.5 inches, carefully remove the excess with a flat-end shovel.
- Compact the supported edge of joint with the first pass of vibratory roller drum on the hot mat, but staying back from the joint 6 to 8 inches on first pass. The second pass should then overlap onto the cold mat 4 to 6 inches. With this method, watch for any stress cracks developing in the mat that are parallel and 6 to 8 inches off the joint. An alternative method is to have the first pass of the vibratory roller on the hot mat overlapping 4 to 6 inches onto the cold mat. A major concern with this method is that if an insufficient depth of HMA is placed next to the cold mat, the roller will bridge over and not compact the hot material completely.
- Encourage the use of rubber tire rollers at the confined joint. Rubbertired rollers should not be operated close to the unsupported edge to avoid excessive lateral movement.
- Ensure when the joint is completed, that the overlap is 0.1 inch higher to ensure no bridging of the roller ever occurred.
- Monitor the relative density of the supported joint using a density gauge.
- Cut a 6-inch quality control core(s) and measure density prior to next paving day.

Agency considerations

Agencies should consider the following in terms of mix selection, project design/planning, and alternative techniques/materials to be evaluated.





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More details are in the report:

- Use the smallest Nominal Maximum Aggregate Size (NMAS) mix that is appropriate for the application (will not rut). Smaller size mixes are less permeable at a given in-place air void level.
- Use a gradation that favors the fine side of the .45 power curve, as finer mixes are generally easier to compact.
- Use a lift thickness that is at least four times the NMAS for coarse gradations and three times the NMAS for fine gradations. Adequate lift thickness will facilitate compaction and maximize density.
- Consider using warm mix asphalt as a compaction aid, especially in late season paving.
- Consider use of the notch wedge joint (versus butt) for lift thicknesses

- equal to or between 1 and 3 inches. Several agencies have found the notch wedge joint tends to provide higher densities than the butt joint.
- Pay for tack as a separate bid item (as opposed to being an incidental requirement) to facilitate using the proper application rate.
- Include longitudinal joint construction as a topic for the pre-paving meeting. Plan construction sequence so that any overlap of material at the joint does not impede the flow of water.
- Offset the longitudinal joints horizontally between layers by at least 6 inches, when placing multiple lifts.
- Consider the use of infrared joint heaters, especially in cold weather
 paving. Recent studies have shown a marked improvement with
 joint density. Equipment improvements include longer and more
 efficient infrared heaters and automation with paver speed to minimize

overheating or under-heating.

- Evaluate traffic-control requirements to see if echelon paving could be utilized in any facet of project to minimize the number of traditional cold joints.
- For mill and fill jobs, evaluate traffic-control requirements to require the contractor to mill and fill one lane at a time, eliminating unconfined edges.
- Assess project, traffic control and safety requirements for the practicality of evaluating the method of cutting back the joint. This method is routine on airfield projects in the U.S., and is done on roadways in the United Kingdom, with much success.
- Evaluate the use of joint adhesives (JAs), which are hot-applied rubberized asphalt, to seal the face of all open unconfined joints. While not commonplace yet, use of this material appears to improve the adhesion and sealing of the joint.
- Evaluate the use of surface sealers after the joint has been constructed. Another "joint enrichment" approach is to overband the completed joint with PG binder at a width of 4 inches.

Specifications

Research has shown there is a definite relationship between density, permeability and pavement performance. Improper compaction, and the resulting high air void content, leads to premature pavement failure due to increased permeability and an increased rate of oxidation. Numerous studies have shown that permeability for most surface courses starts when in-place air voids reach 7 to 8 percent.

Current construction practices have a difficult, some say impossible, time achieving this desired air void content at the longitudinal joint. While in-place air



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voids for the mat typically range between 4 and 8 percent, longitudinal joint air voids tend to range between 10 to 12 percent. The inability to compact the longitudinal joint to 8 percent or less voids provides the explanation for why there is a significant difference in the performance of the mat versus the longitudinal joint. The saying goes: "A chain is only as strong as the weakest link." Paraphrasing that: "The performance period (and ultimately the lifecycle) of an asphalt pavement is controlled by the longitudinal joint."

States that have implemented joint density specifications have seen marked improvements. Connecticut and Pennsylvania are two recent examples of states that researched the issue, made incremental improvements in their methods and specifications over a number of years, and reported average joint densities in 2011 slightly above 91 percent theoretical maximum density (TMD) (slightly below 9 percent voids). Pennsylvania went from averaging 87.8 percent density (by cores taken directly over the joint) in 2007, to averaging 91.1 percent density in 2011 (cores over joint). Incremental steps were taken to reach such a marked improvement, from incorporating a prescriptive method spec in 2008-2009, to implementing joint density testing with an incentive/disincentive approach in 2011. Of the 131 lots sampled by PennDOT in 2011, 94 lots were paid a bonus. Colorado implemented a minimum

density joint specification in 2003, and reported average joint densities in the 90 percent range over the next five years. While this was a marked improvement, it still does not reach the necessary 8 percent or less air void level to avoid premature oxidation and permeability. That is why overbanding the joint at a width of 4 inches (or possibly some other type of joint enrichment) is recommended when the joint density falls below 92 percent. Alaska and Pennsylvania are examples of states where the practice of overbanding longitudinal joints is used. Tennessee uses joint surface sealers on joints that do not meet a minimum density.

Conclusion

Longitudinal joint performance is a high priority for the FHWA and many state highway agencies. Contractors, equipment manufacturers and material suppliers continue to explore new methods and materials. Ultimately, the goal is to approach the same level of compaction in the joint as in the mat. The recommendations from this effort and the subsequent training efforts will hopefully be an important step in that journey.

Mark Buncher is the director of Engineering for the Asphalt Institute.



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Ohio Asphalt Summer 2012



TAKES ANOTHER STEP FORWARD IN SUSTAINABILITY

Photos courtesy of Susan Helterbran, Program Coordinator Champaign-Shelby Counties, North Central Ohio Solid Waste District

ASPHALT PAVEMENT CONTINUES TO BE A LEADER IN INNOVATIONS THAT INCREASE SUSTAINABILITY.

After several successful evaluation projects, ODOT is currently considering allowing the expanded future use of scrap tire rubber modified asphalt, specifically Seneca Petroleum's GTR product, in its specifications as an alternative to polymer modified asphalt. This news coincides with recent reports that the Georgia Department of



Transportation has amended the state's road construction specifications to include recycled tire rubber as an alternative to conventional petroleum-based polymers for road asphalt production.

The use of recycled tire rubber modified asphalt has been recognized as being a beneficial use of recycled scrap tire rubber that improves the performance of asphalt pavement and has been demonstrated and proven on various Ohio projects (see previous articles in *Ohio Asphalt*, Winter 2006, Lucas Co. and Fall 2007,



A trip to the 2011 Farm Science Review found the tire rubber modified asphalt in good working order and holding up well.

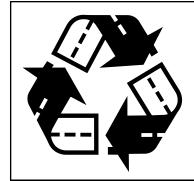
Franklin Co.). Its use was showcased at the Farm Science Review in 2008.

In 2008, the Ohio Department of Natural Recourses awarded the North Central Ohio Solid Waste District (NCOSWD) with a Scrap Tire Grant for civil engineering paving. The project consisted of paving roads and parking areas within the OSU Extension, Molly Caren Agricultural Center (the site where the "Farm Science Review" is located) near London, Ohio, with Ground Tire Rubber modified asphalt.

The mix for the project was produced by The Shelly Company. The mix was basically a 448 design with 20 percent recycled asphalt pavement (RAP) and 5.8 percent virgin binder using Seneca Petroleum Company's Ground Tire Rubber modified asphalt - GTR 76-22.

Larry Palmer with Seneca Petroleum reports that the GTR liquid was chosen for paving at the Farm Science Review project for several reasons. Rubber-modified asphalt helps to extend pavement life by addressing rutting, thermal and fatigue cracking and helps the environment by reducing hydrocarbon pollution and to rid Ohio of unwanted scrap tires that pollute land and waters. There were approximately 590 tons of GTR hot mix placed on the roads within the grounds and approximately 645 tires were recycled in the process. The GTR 76-22 is a heavy-duty liquid asphalt that is easy to pave with and to perform the hand work that is necessary for working in tight areas. Compaction of the GTR mix is possible at lower temperatures and with much greater ease than with other liquid asphalts of the same comparable grade, and with a very smooth finished pavement. Palmer said the paving crew was pleased with the workability of the GTR, and felt that the GTR was much easier to work with than the other polymer-modified asphalts that they usually work with.

The Public agencies involved in the project promoted the GTR project in a big way. It invited the media from various TV stations and newspapers, as well as representatives from ODNR, Central Ohio Solid Waste District, the Madison County commissioners and county engineer, ODOT, and other dignitaries, for an Aug. 25, 2008 media event to get the "GTR Story." Signs prepared by the Farm Science Review staff and the NCOSWD were displayed along the streets that were paved to inform attendees of the recycled rubber used on the project.



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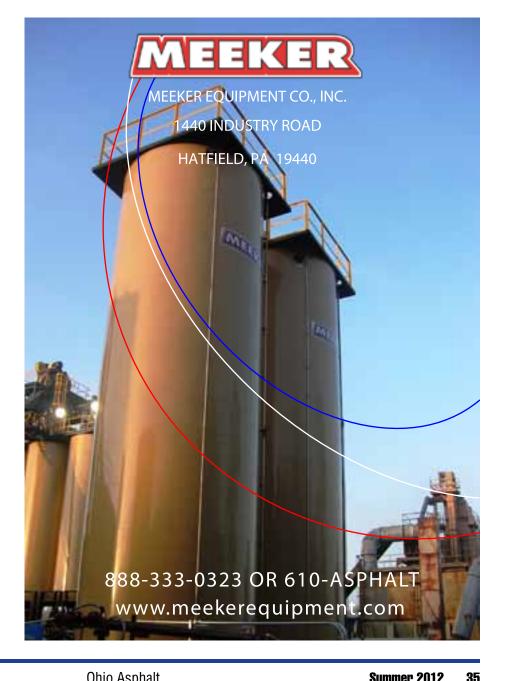
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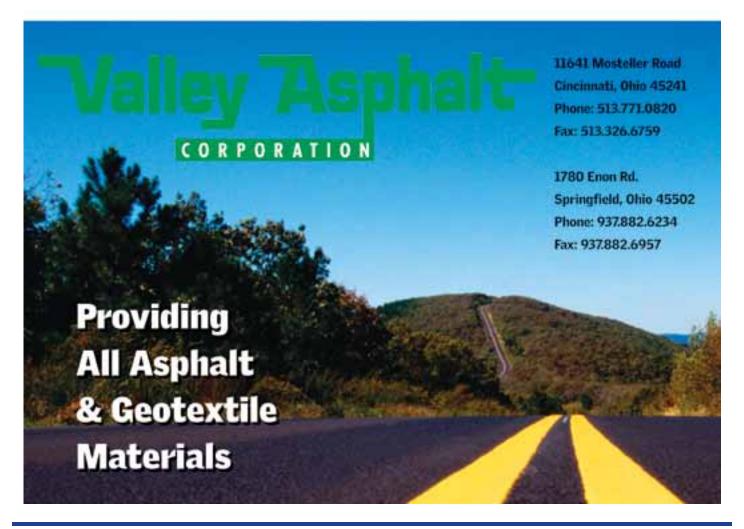
Summer 2012 Ohio Asphalt

Asphalt paving has long been recognized as the sustainable pavement because of its beneficial and high percentage reuse and recycling of various waste materials, including RAP and reclaimed asphalt shingles (RAS) and, now, asphalt pavement takes another step forward in sustainability with the beneficial incorporation of scrap tire rubber.

For more information on Seneca Petroleum's GTR, contact Hugh Chapman at 708-878-9074.

For more information on scrap tire rubber modified asphalt, visit http://www.rubberpavements.org/index.html.





Mark Your Calendars

Mid-Year Asphalt Pavement Technical Seminar, July 12

University Plaza Hotel and Conference Center 3110 Olentangy River Rd. • Columbus, Ohio 43202

FPO is pleased to present the Mid-Year Asphalt Pavement Technical Seminar on July 12. This seminar will provide practical information on specifying asphalt pavements for non-highway purposes, including local roads, streets, driveways and parking lots. If you construct, inspect, manage or maintain local or private transportation infrastructure, this seminar has the information you need to ensure a successful, long-lasting asphalt pavement.

Visit FPO's website at www.flexiblepavements.org for more information and to register for this event.



Ohio Transportation Engineering Conference, October 30-31

Columbus Convention Center 400 North High Street • Columbus, Ohio 43215

The 2012 Ohio Transportation Engineering Conference (OTEC) is scheduled for October 30-31 at the Columbus Convention Center. This year's theme: "Transportation - Revising the Blueprint" will focus on innovative funding solutions, enhanced delivery of products and services and a strategy for economic development.

FPO is organizing an Asphalt Technology session on Tuesday, October 30. Visit the OTEC website at http://www.dot.state.oh.us/engineering/OTEC/Pages/default.aspx for up-to-date registration and conference information as well as archived material from previous conferences.

NEWSMAKERS

Murphy Tractor Appoints Midwest Region Manager

Robert Allee was recently appointed as **Murphy Tractor & Equipment Company Inc.'s** Midwest Region major accounts manager.

Most recently the territory sales manager in the Cincinnati area for Murphy Tractor & Equipment, Allee will work from the Columbus location and be responsible for large customers in Ohio and Pennsylvania. He also has experience as a branch manager, field service supervisor and product support manager.

Murphy Tractor & Equipment is one of John Deere's largest North American construction equipment dealer organizations. Headquartered in Park City, Kan., the company has 28 locations throughout the midwestern states of Iowa, Kansas, Missouri, Ohio, Pennsylvania and Nebraska. For more information, visit www.murphytractor.com.

Columbus Equipment Celebrating 60th year in Business

Founded on the south side of Columbus in 1952, **Columbus Equipment Company** has grown to more than 190 employees in nine locations throughout the state. In 2012, the heavy equipment distributor is celebrating its 60th year in business.

Columbus Equipment President **Josh Stivison** calls the recent economic hard times and the recent passing of his father, and long-time company president, **Tom Stivison**, two of the most difficult challenges the company has faced. However, he notes, "I am both inspired and humbled by the legacy my father, the company's experienced management team and our dedicated personnel have created."

In celebration of its 60th year, Columbus Equipment is sharing a special anniversary publication with its customer base. For more information on Columbus Equipment, visit www.columbusequipment.com.

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FPO Moves to New Office



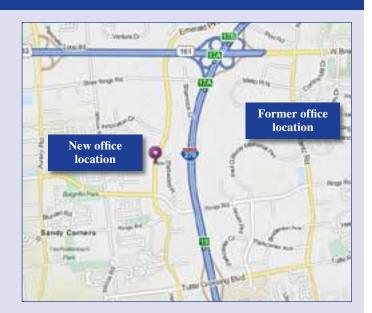
This spring, the office of Flexible Pavements of Ohio moved to a new location. The association's new headquarters is conveniently located near Interstate 270 in Dublin and

features ample free parking and a larger, more efficient space for FPO committee meetings and other association business. FPO's new office is located at:

6205 Emerald Parkway, Suite B • Dublin, Ohio 43016

FPO's phone numbers will remain the same. **Phone:** 614-791-3600 • **Fax:** 614-791-4800

Toll free: 888-4HOTMIX



You're welcome to stop by FPO's new office for a tour.

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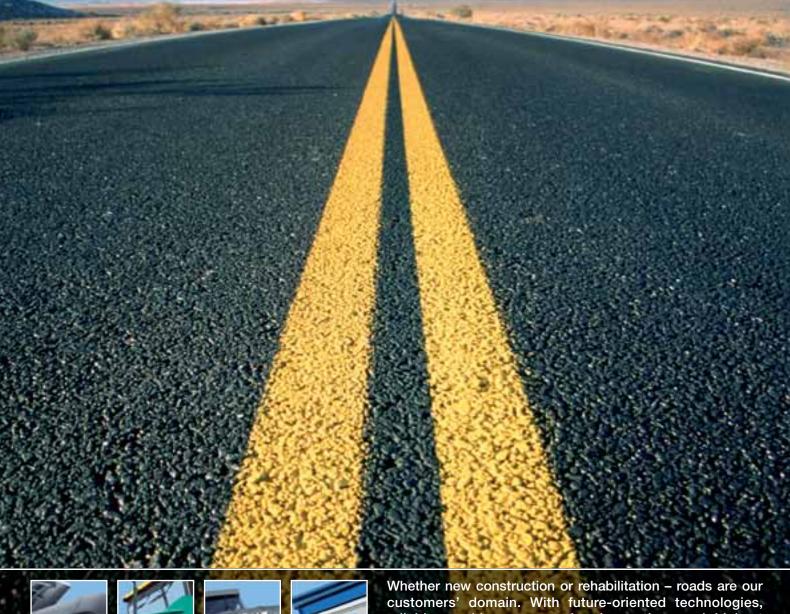




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