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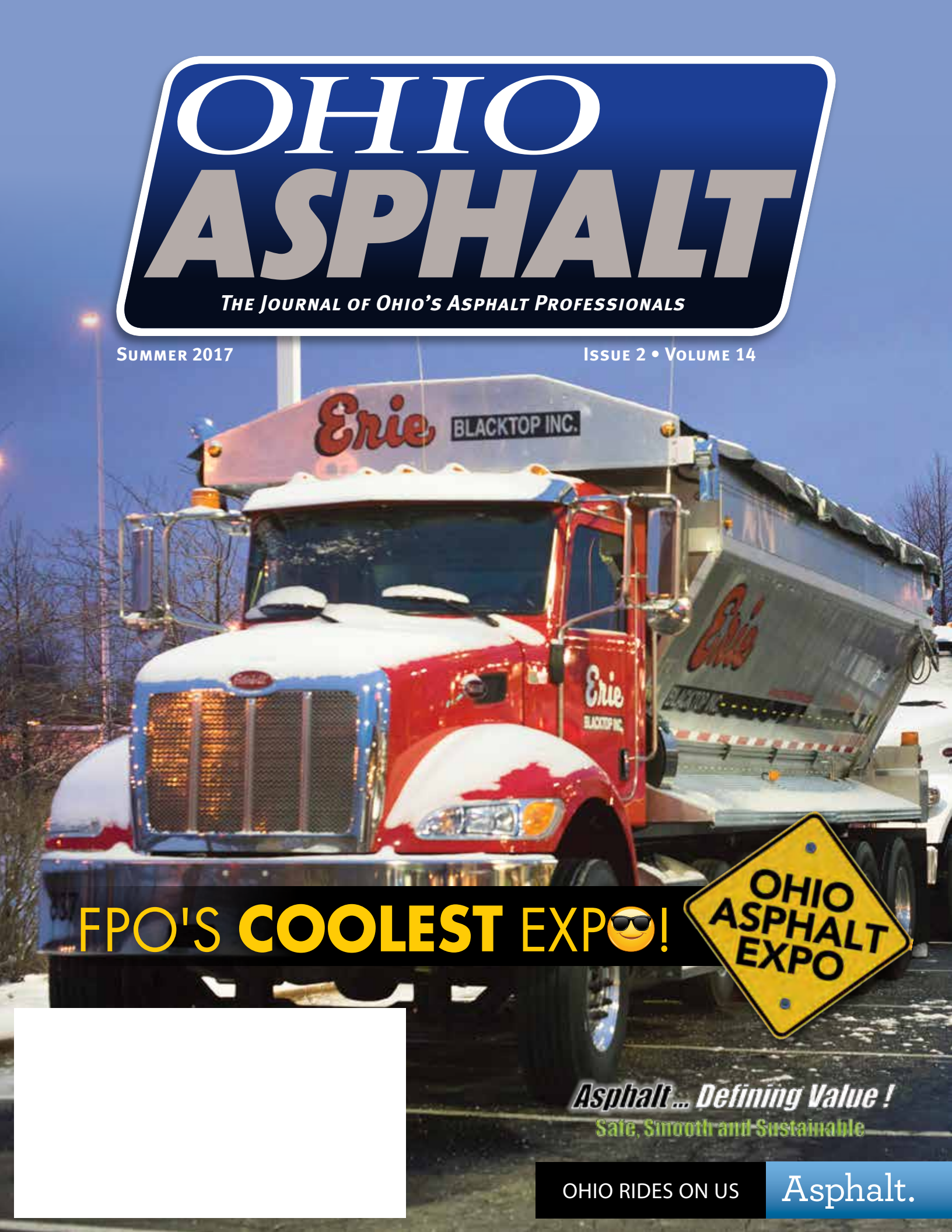

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Flexible Pavements of Ohio

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

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The President's Page

Clifford Ursich, P.E.
President & Executive Director

"The cost effectiveness of pavement preservation is well established. By preserving pavements in good condition, an owner can avoid costly reconstruction or rehabilitation ... Agencies need to look at their pavement management systems and see how each treatment performs under different distresses. Only then can they really know which is the right treatment for the right road at the right time."

Mike Acott
NAPA President

A Q&A with NAPA President on Thinlays

If you've ever had opportunity to see things from 30,000 feet – as it were – you can understand what it is to have the "long view." Such is true when you have opportunity to sit down with an industry leader. Recently, I had a Q&A session with Mike Acott, president of the National Asphalt Pavement Association (NAPA) to learn his viewpoint as to the future of the asphalt industry and the role of Thinlays.

First, about Mike . . .

Mike Acott is a past chairman of the Global Asphalt Pavement Alliance. His career activities involve nearly 35 years of experience in the pavement industry in Europe, South Africa and the United States, including experience with aggregate and bitumen suppliers and management of an asphalt construction company.

Mike Acott

He has been president of NAPA since 1992, and has helped develop partnerships with government and union partners that have resulted in an improved workplace environment. This has included successful national initiatives on engineering controls, warm mix and best practices that have resulted in reduction in workplace exposure.

Mike Acott has been active in the Transportation Research Board and is a former member of its executive committee and is a board member of the National Center for Asphalt Technology (NCAT), based at Auburn University.

He has a Bachelor of Science degree in Physics – with honors – and a Master of Science degree in Civil Engineering for his work on foamed asphalt.

Ursich: *Mike, thank you for taking time for this question-and answer-session. Readers of* Ohio Asphalt *will be very interested to learn of what's ahead from your viewpoint*

Acott: *You're very welcome. It's always a pleasure to talk about asphalt and the future of our industry.*

Ursich: *In recent years, NAPA has completed market research to better understand what's on the minds of roadway owners and motorists. Can you share about the findings of the research?*

Acott: *As part of our broad industry market research, we have conducted interviews and surveys of road owners, pavement designers and the driving public*

to best understand their needs and opinions. One thing that was clear from the interviews with leaders at departments of transportation and public works agencies is that they are severely constrained by their limited budgets. They recognize the problem we have across the country of deficient infrastructure, but they are not able to keep pace with current maintenance and improvement needs.

In our most recent survey of pavement designers, completed in November 2016, the top-three priorities when it comes to pavement assets are performance, cost and speed of construction. This has been a consistent theme across all our market research starting in 2013, driver and road owners alike want pavements that provide a high level of performance, which includes a smooth ride and long life; that are cost-effective to build and maintain; and that can be built, maintained and expanded with minimal delay for the driving public. Thinlay meets these needs and expectations.

Ursich: *Could you please describe to our readers what is a Thinlay?*

Acott: *Thinlays are thin-lift asphalt overlays designed for pavement preservation and that can successfully extend the life of structurally sound pavements. They can be placed as thin as 5/8 inch, but may be thicker when required to correct surface distresses, such as cracking, rutting or roughness. The mixes use the same materials as other asphalt mixtures — aggregates, binders and additives — and may be produced by any asphalt mix producer and placed by any asphalt laydown contractor.*

Ursich: *Does Thinlay replace conventional overlay materials?*

Acott: *No, Thinlays don't replace conventional overlays, which are more appropriate when more significant structural, roughness or drainage improvements need to be addressed. As with other pavement preservation tools, Thinlay mixes aim to extend the life of a structurally sound pavement that is in good condition with minor or no distress.*

Ursich: *How does the function of Thinlays differ from traditional asphalt strategies, such as overlays or inlays?*

Acott: *Overall, I don't believe many people would see a different function for Thinlays versus traditional strategies. Any time we place an asphalt mixture, its function is to provide a smooth, safe, long-lasting surface. The difference is that Thinlay mixes are designed for pavement preservation, which is often described as keeping good pavements good. They are designed to be durable and crack resistant, but like other pavement preservation strategies they will not correct structural distresses, such as fatigue cracking. This is why we stress the need to apply the right treatment at the right time to the right pavement.*

Ursich: *What types of roadways are good candidates for a Thinlay application?*

Acott: *Thinlays can address most pavement surface issues, if the severity of these issues is not excessive, which is why it is important to evaluate the extent and severity of any distresses to determine before any pavement preservation treatment is applied. In fact, a New Jersey Department of Transportation official recently commented that when a Thinlay is applied to a road in need of preservation but in otherwise good condition, the state is getting about 14 years of life from the thin overlay versus just seven years when applied on a pavement in poor condition.*

Thinlays are excellent for correcting raveling and restoring skid-resistance. They can correct minor rutting (less than a quarter inch), and they are also the only preservation treatment that can offer a significant improvement in ride quality. However, a Thinlay cannot be expected to make an excessively rough road smooth. Thinlays are also as good as or better than any other treatment for sealing longitudinal and transverse cracking. When a pavement has isolated alligator cracking, Thinlays can be used if these areas are patched before overlaying. Thinlays may also be used after milling to improve smoothness or profile, or when distressed surface layers have been removed.

Ursich: *What attributes of Thinlays make them well-suited for preserving pavement condition?*

Acott: *When it comes to performance, the data shows that Thinlays outperform other preservation treatments for most pavement conditions. Because Thinlays can correct surface defects, they are also better than other pavement preservation treatments at improving ride quality, reducing noise and improving surface drainage. They can also strengthen the pavement structure. Because no special equipment is needed to produce or place Thinlay mixes, a wide number of contractors are available to do Thinlay work. Thinlays can also be designed using polymer-modified binders for improved strength and cracking resistance. High-friction aggregates can be used for improved skid resistance.*

Ursich: *How is constructing a Thinlay different from other asphalt pavements?*

Acott: *Because Thinlays are placed in thin layers, there are a few differences from constructing thicker sections. First, they cool more quickly, so it is important to avoid placing them in cold temperatures and to keep rollers close behind to the paver. The MultiCool software and app are a good tool for determining how fast a mix, including a Thinlay mix, will cool under different environmental conditions. Warm-mix asphalt can also be beneficial for Thinlays, as it allows mixtures to be compacted at lower temperatures. When placed thinner than 1.5 inches, compaction testing will not be possible. A roller pattern should be established at the start of the job using non-destructive density gauges and periodically checked, especially if environmental conditions change.*

One of the most important steps in placing any type of overlay is the tack coat. Tack should be uniformly applied and allowed to break and set so that construction equipment does not pull up the tack during construction. NAPA has some good guidelines on the placement of tack coats. There is no difference in the paving equipment used to place a Thinlay. Contractors should balance the plant production, trucking, paving speed and compaction so that the paver moves at a steady pace for the best quality. Again, NAPA has some good guidance on how to balance production rates.

Ursich: *How are mix design and quality assurance provided in Thinlay manufacturing and paving?*

Acott: *Thinlays use the same quality-control procedures and tests used for other asphalt mixtures; for this reason, Thinlays likely have the most rigorous mix design and quality-control procedures in place of all preservation treatments. The only difference from other asphalt mixes in quality control is testing for compaction, which cannot be done on layers thinner than 1.5 inches.*

Ursich: *How can Thinlay reduce the lifecycle cost of pavement ownership?*

Acott: *The cost effectiveness of pavement preservation is well established. By preserving pavements in good condition, an owner can avoid costly reconstruction or rehabilitation. One thing often overlooked, however, is that we need to look beyond preserving just the surface of the road; the road structure needs preservation, too. We should not allow the structure to deteriorate from the bottom up and just hold the surface together. Agencies need to look at their pavement management systems and see how each treatment performs under different distresses. Only then can they really know which is the right treatment for the right road at the right time.*

In addition, because Thinlays can add structure to a road, so long as distresses have not started, they can be used to increase carrying capacity while also preserving the pavement. This can be important when changing growth patterns or traffic levels mean a road is expected to carry more traffic than it was originally designed to support. Being able to strengthen a road as needs increase while simultaneously extending pavement life is a very cost-effective strategy.

Ursich: *How does Thinlay contribute to the sustainability of the pavement?*

Acott: *Sustainability is about improving economic, social and environmental profiles of a product. Thinlays do this well by preserving a pavement's structure, which can extend pavement life and forestall the need for rehabilitation or reconstruction. As with other asphalt pavement mixtures, recycled materials and warm-mix asphalt may be used to improve the environmental profile of a mix. And by improving surface smoothness, drivers gain improved drivability and reduced rolling resistance, which improves fuel economy and reduces CO_2 generation. A benefit of small, stone-size Thinlays is that they have a negative surface texture compared to a positive surface texture for chip seals. This negative surface texture generates less noise and reduces rolling resistance.*

Ursich: *Do you see a future for Thinlays beyond pavement preservation? If so, what might that be?*

Acott: *Yes, several states are using small stone (3/8-inch maximum aggregate size) SMA for high-volume traffic. For heavily trafficked roads, Thinlays can be part of a staged construction approach, where the total depth required to develop a Perpetual Pavement is built over time. For example, a Perpetual Pavement design for a road may require 10 inches of asphalt. With staged construction, the pavement is constructed with 8 inches of asphalt and then overlaid with a Thinlay at set intervals to increase the structure before distresses begin. Because the structural increase happens in parallel with the preservation activity, the interruption for drivers can be minimized and agencies can plan for the expense.*

As the industry works to implement performance testing for asphalt mixtures, we expect to see additional innovations for Thinlays that optimize the use of RAP, polymers, crumb rubber and mix type. Adjusting mixes to optimize rolling resistance, noise and skid resistance will also occur.

Ursich: *What has been learned since the PEC market research that gives insight to Thinlay future applications?*

Acott: *The market research I mentioned earlier helps inform the research plans of the Pavement Economics Committee and the communication of research findings, as well as the deployment activities overseen by the Asphalt Pavement Alliance. For the pavement preservation marketplace, these needs of the public and road owners are met well by Thinlays, which can cost-effectively return a pavement to a high level of performance and drivability with minimal construction delay. Knowing the needs of today's road owners, and the budget stresses they face, I am certain that Thinlays will be used increasingly to preserve and maintain pavement assets and to ensure a smooth ride for drivers in a cost-effective manner.*

To assist in the deployment of Thinlays and the use of best practices, the National Center for Asphalt Technology is developing a Thinlay guidance document, which will be published later this year.

Ursich: *Thank you very much Mike for your valued insight.*

Acott: *My pleasure.*

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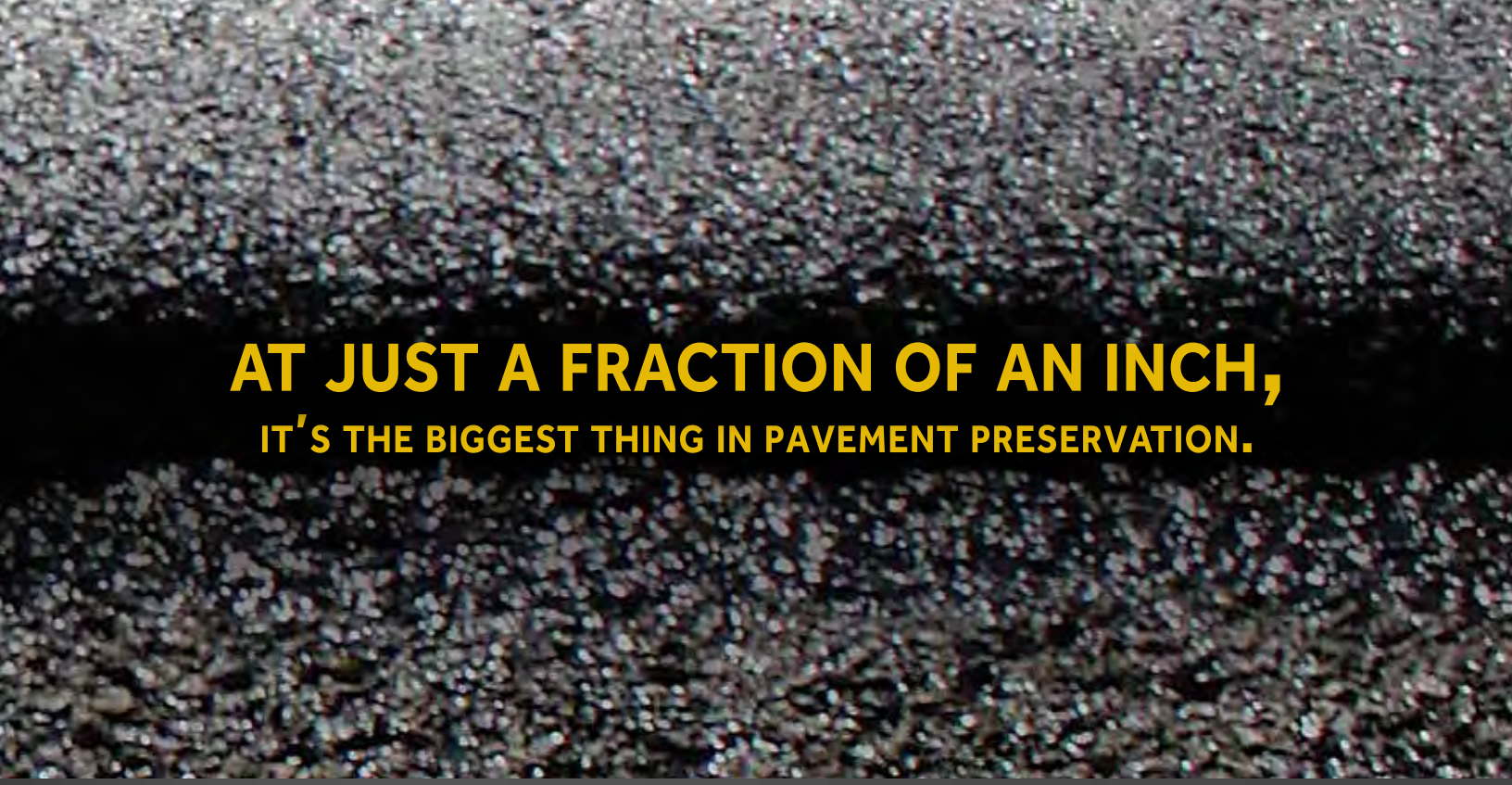

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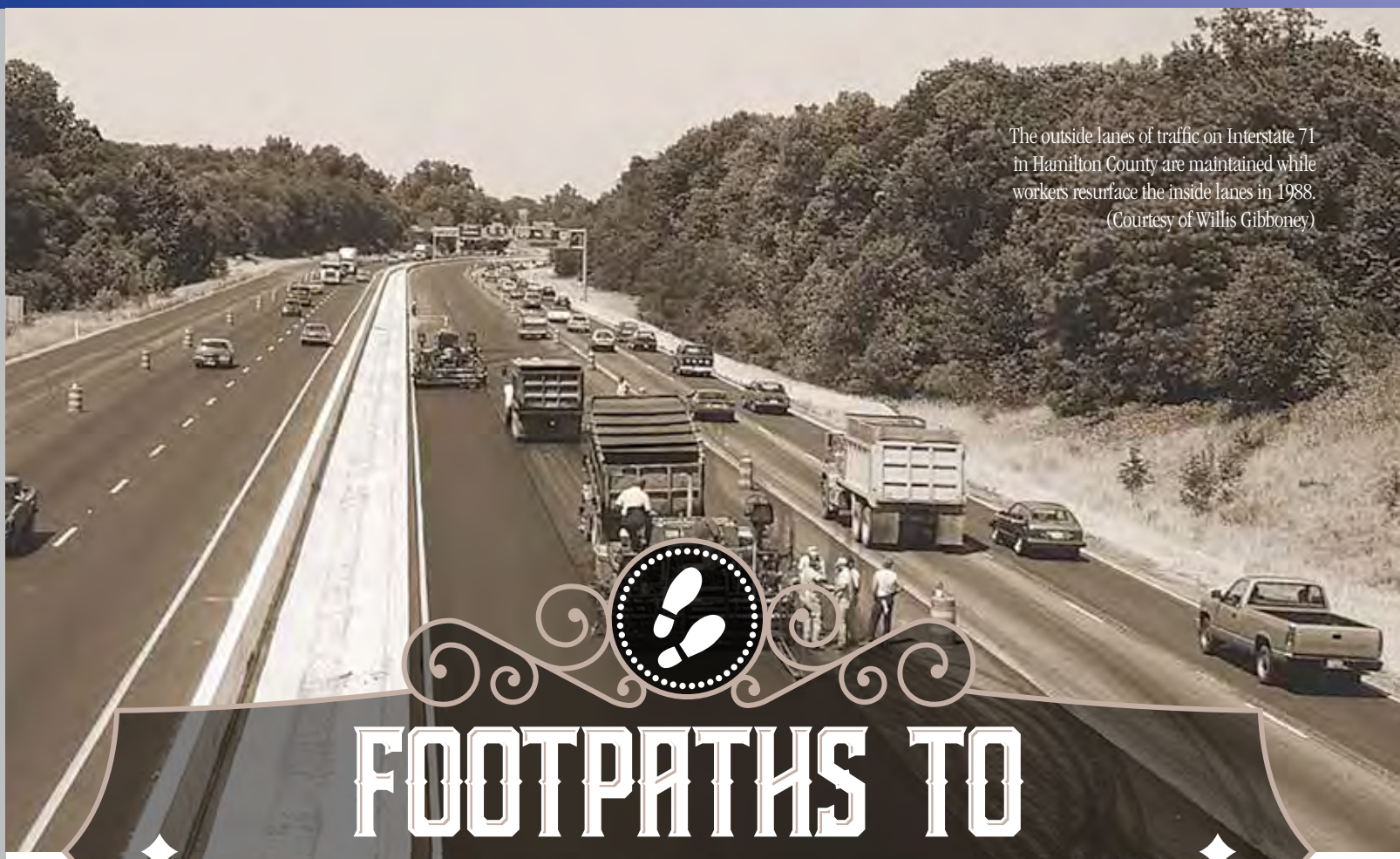

The outside lanes of traffic on Interstate 71 in Hamilton County are maintained while workers resurface the inside lanes in 1988. (Courtesy of Willis Gibboney)

FOOTPATHS TO FREEWAYS, PART II

By Emily Foster

OHIO'S LOVE AFFAIR WITH FLEXIBLE PAVEMENTS, FROM TARMACADAM TO PERPETUAL PAVEMENT & BEYOND

This is the second of a four-part series of articles on the history of roadway construction in Ohio, how asphalt pavement became the dominant roadway building material and what challenges the industry may face in the decades to come. The first part of the series appeared in the spring 2017 issue of Ohio Asphalt. *We hope you enjoy this look at where our industry came from and how together we can use our hard-earned expertise to meet Ohio's future highway needs.*

Asphalt paving is called flexible because of its characteristic of conforming to imperfections in the subgrade while maintaining a smooth surface. Unlike a rigid pavement, which has to be strong to bridge those subgrade imperfections, HMA maintains contact with the subgrade, transferring the traffic load to the dry earth foundation that John McAdam identified as the basis of every good road.

The superiority of deep-strength asphalt was discovered only over time, although people used bituminous products in paving when the McAdam principles were still fresh. To keep the dust down on early roads and bind the stones together more firmly, road builders used "tarmacadam," or tar poured over the top course of stones. The word "tarmac," if not the process, is used to this day.

Some of the earliest bituminous pavement projects used coal tar as a binder. Others used sheet asphalt made from natural asphalt mined in Venezuela. Over time, manufacturers learned how to create asphalt from refined petroleum, and by early in the 20th century man-made asphalt had nearly replaced natural. When oil was first discovered in Ohio there was an attempt to use it to make asphalt, but Mideast crude, which was readily available, produced a superior product. While the development of better mixes depended largely on trial and error, progress was quick.

A stretch of experimental pavement in 1912 included 16 different kinds of brick, one segment of asphalt block and pavement mixtures known as petrifalt and Hassam. However, none was proof against rutting of the underlying soil. Rutting became such a headache to highway engineers that transportation authorities erected signs warning drivers not to follow the tracks of the vehicle in front of them.

Crews in 1985 maintain traffic while milling and recycling of surface materials is performed on I-70 in Licking County. (Courtesy of Willis Gibboney)

Rural roads were least likely to have paved surfaces, so they stood up least well to motor vehicle traffic. They needed dust-free, water-repellent surfaces. According to ODOT mix design records, asphalt was laid on thoroughfares in Lorain and Wood counties in 1916, and it may have been used on rural roads in Pike and Harrison counties even earlier. In the first half of the 1920s, the state's rural road improvement program called for bituminous surface treatments. This was the period during which Ohio farmers were raised out of the mud. And it was the beginning of a long-range trend toward asphalt paving.

During the Great Depression, the search for low-cost products led to the widespread use of chip seals. A film of cutback, an asphalt cement thinned with naphtha or fuel oil, was sprayed on the road surface to make a sticky surface coat, then covered with a single layer of stone chips. For environmental reasons, cutback eventually was replaced by a water-based asphalt emulsion.

The most common top course in the 1930s was the hot mix, hot-laid, dense-graded bituminous concrete called T-50. It had two drawbacks, however. The specified compaction rate for it (150 to 200 square yards per hour per roller) was slow, which caused contractors to complain about the low annual tonnage that could be laid. It required a relatively high mixing temperature, too, so it took longer to be traffic-ready, and construction detours had already become a common complaint of motorists.

The industry started to switch to an asphalt mix called T-35 that used an 85 to 100 penetration asphalt cement, allowing lower temperature mixing, better compaction and earlier access to motorists. Within 10 years it had almost completely replaced T-50. T-35 was renamed 404 in the mid-1960s, when the Ohio Highway Department rewrote its entire specifications book, adopting the format and numbering system of the American Association of State Highway Officials (AASHO).

During the 1940s, the Highway Department noted a trait that would help make asphalt more than just a top course. In 1943, the Highway Department wrote, "This type of construction has proven to be popular because the improvement can be made without closing the road to traffic and the new pavement is ready for use soon after its compaction is completed and also because it is possible to complete an extensive mileage during the normal construction season."

The quality of asphalt pavement also improved as the result of wartime needs. Pre-1940s pavements carried maximum loads of 12,500 pounds. Military airfields required runways that would carry 37,000 pounds per wheel of rolling loads. Asphalt technology rushed to meet the demand. This was a theme throughout the history of the product, as quality improvements drove asphalt to industry leadership.

Short of men, equipment, gasoline and road contracts, the asphalt paving business in Ohio hunkered down during the war years. Many companies stayed in business by bidding minor street work and slimming their operations while their employees served in the armed forces. Dick Stander said his father's business, Mansfield Asphalt Paving Co., cut back to one asphalt plant, scrapped its three-wheel Buffalo Springfield roller and sold its earth-moving equipment while he was away in the service.

It was only when road tests were conducted in 1956 to 1960 in Illinois that the benefits of deep-strength asphalt pavement started to become widely appreciated. When the 241-mile-long Ohio Turnpike was constructed between 1952 and 1955, all four lanes were made of rigid pavement, as was the vast preponderance of Ohio's interstate system.

Asphalt's place at the center of highway construction in Ohio was ensured when, in the 1960s, the Ohio Highway Department adopted an asphalt base material. The first, modern, deep-strength asphalt pavement in Ohio to be completed was State Route 279 in Jackson County in 1969.

In the same decade, then-Staff Flexible Pavement Engineer, Bureau of Construction Willis Gibboney directed a study of sections of old flexible pavement in Ohio, including a high-traffic corridor between Bowling Green and Perrysburg, which had been used for heavy military traffic during World War II. The original northbound lanes, which opened to traffic in 1940, had a 12-inch water-bound macadam base course and a 4-inch surface course of bituminous macadam.

A Shelly & Sands paving crew places and compacts a fatigue-resistant base on the ODOT Perpetual Pavement Demonstration project. (Courtesy of ODOT)

Applying a bituminous surface treatment in 1935 to S.R. 161, then a macadam road, in Franklin County. (Courtesy ODOT)

Mixing cutback at the junction of S.R. 4 and S.R. 54 in Champaign County. (Courtesy ODOT)

The results of the study, released in 1968, were eye-opening. On the 23 highway samples, the average length of time between construction and the first overlay was 15.3 years. Two of the projects had only one overlay in 39 and 41 years of service. Ten years later the study was updated. "The findings held up big-time," Gibboney said.

In 1993-94, Gibboney did a study for Flexible Pavements Inc. comparing all adjacent stretches of rigid and flexible pavement that were completed on Ohio's interstate system and opened to traffic at approximately the same time. He found that both original construction costs and maintenance costs over the life of the pavement were cheaper for flexible pavement. Attitudes toward the use of asphalt shifted so much that when increasing traffic volume on the turnpike required additional lanes to be added, they were made of deep-strength asphalt in almost all cases.

The ODOT laboratory made yet another leap forward in the early 1970s when it implemented viscosity grading of asphalt cement, which gave contractors a better idea of the consistency of their mix, how well it would roll and how soon it would set up. With viscosity grading, two contractors could be doing different jobs with different asphalts but they would work the same.

During that decade, with the large amount of work being done on interstates, ODOT no longer had enough inspectors. So it changed its specifications to shift responsibility for the way the job mix formula was designed and quality control and quality assurance (QC/QA) were performed. It required contractors to do the mix design and perform quality control under a plan approved and monitored by ODOT under Supplemental Specification 848. Quality assurance continues to be done by ODOT from samples taken from the mix at the plant.

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With the energy crisis of the 1970s and sky-high oil prices, recycling became a trend in the asphalt business as it did in suburban neighborhoods. In 1980, the state's first major asphalt recycling project took place: 6 ¼ miles of Cleveland Avenue in Stark County was replaced with a 50/50 recycled-to-virgin material. Since then recycling has come to be a real asset to the asphalt industry, as asphalt is now the most recycled material in America.

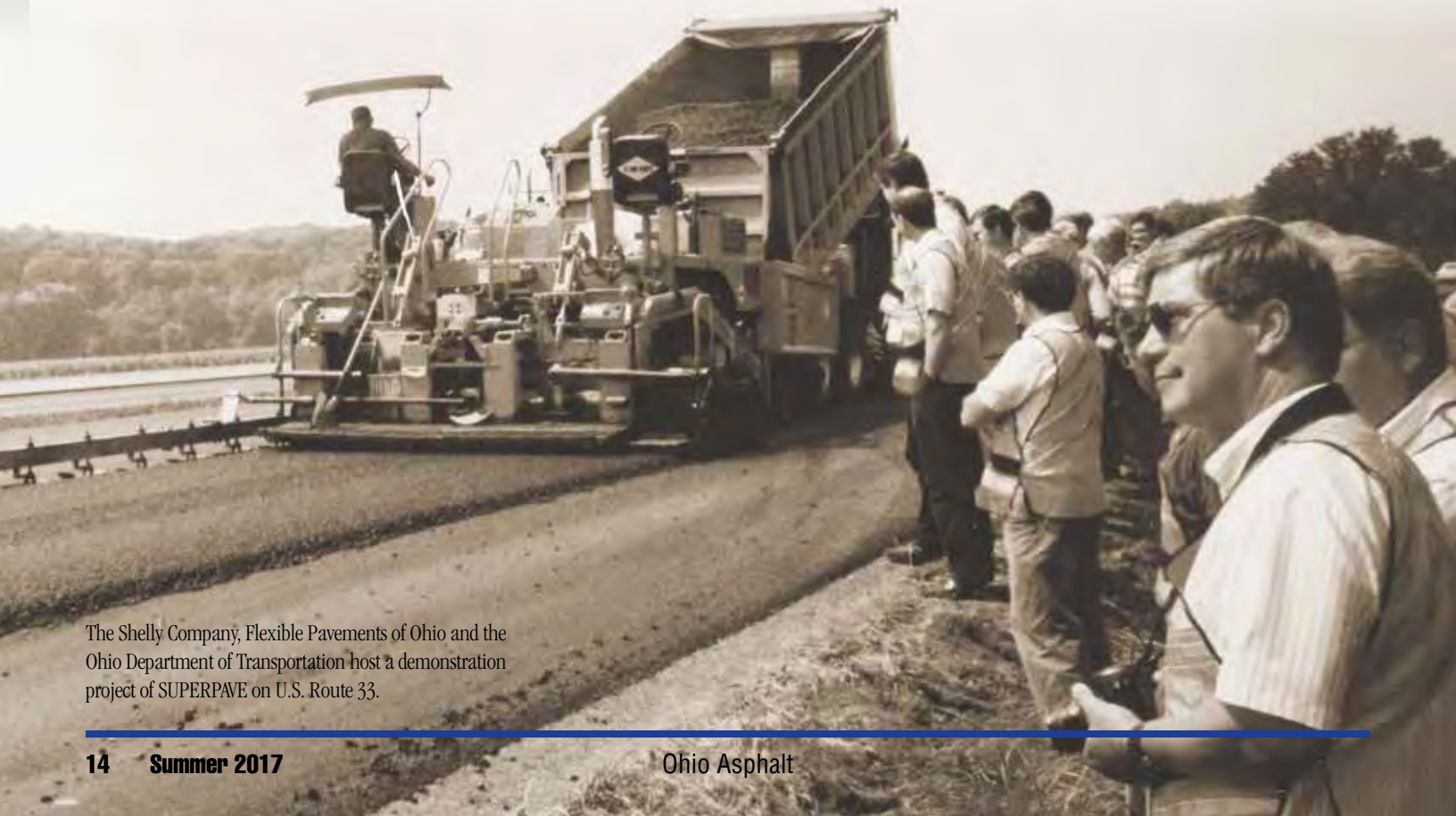
The Strategic Highway Research Program (SHRP), created in 1987, stimulated a surge of interest in asphalt paving research in universities across the country that continues to this day. It led to the development of the breakthrough Superpave mix design method, incorporating performance-grade binders and using a Superpave gyratory compactor to simulate compaction and to eliminate deformation of mixes under heavy traffic.

Forms are in place, which are supported by tamped binder material, and ready for laying of T-50 in Ross County. (Courtesy ODOT)

Today, asphalt additives improve the performance of the pavement under wide temperature variations. Advances such as large stone bases, stone matrix asphalt (SMA) and Superpave extend the life of asphalt pavements. In the testing field, the gyratory compactor allows testing labs to simulate real-world traffic. The Performance Grade asphalt binder grading system can now account for seasonal change and traffic volume.

Perpetual Pavement, a three-layer HMA pavement design introduced in 2001, makes the biggest promise of all. A rut-resistant layer lies on top of a crack-resistant layer, both covered with a top course that takes all the wear and tear of highway use. Only the surface of the pavement ever has to be milled and replaced, saving money, materials and immeasurable traffic delay time. It lasts perpetually with minimal periodic maintenance. Since it was introduced, engineers have learned to maintain its effectiveness with less paving depth and it is the most-sustainable pavement by virtue of its long life with no reconstruction.

Emily Foster retired as an associate vice president at The Ohio State University. She earlier worked as a public relations specialist and served as editor of Cincinnati Magazine *and as senior editor of* Columbus Monthly. *She has published three books about Ohio history.*



The Shelly Company, Flexible Pavements of Ohio and the Ohio Department of Transportation host a demonstration project of SUPERPAVE on U.S. Route 33.

Variety of Sessions, Opportunities Attract Many to

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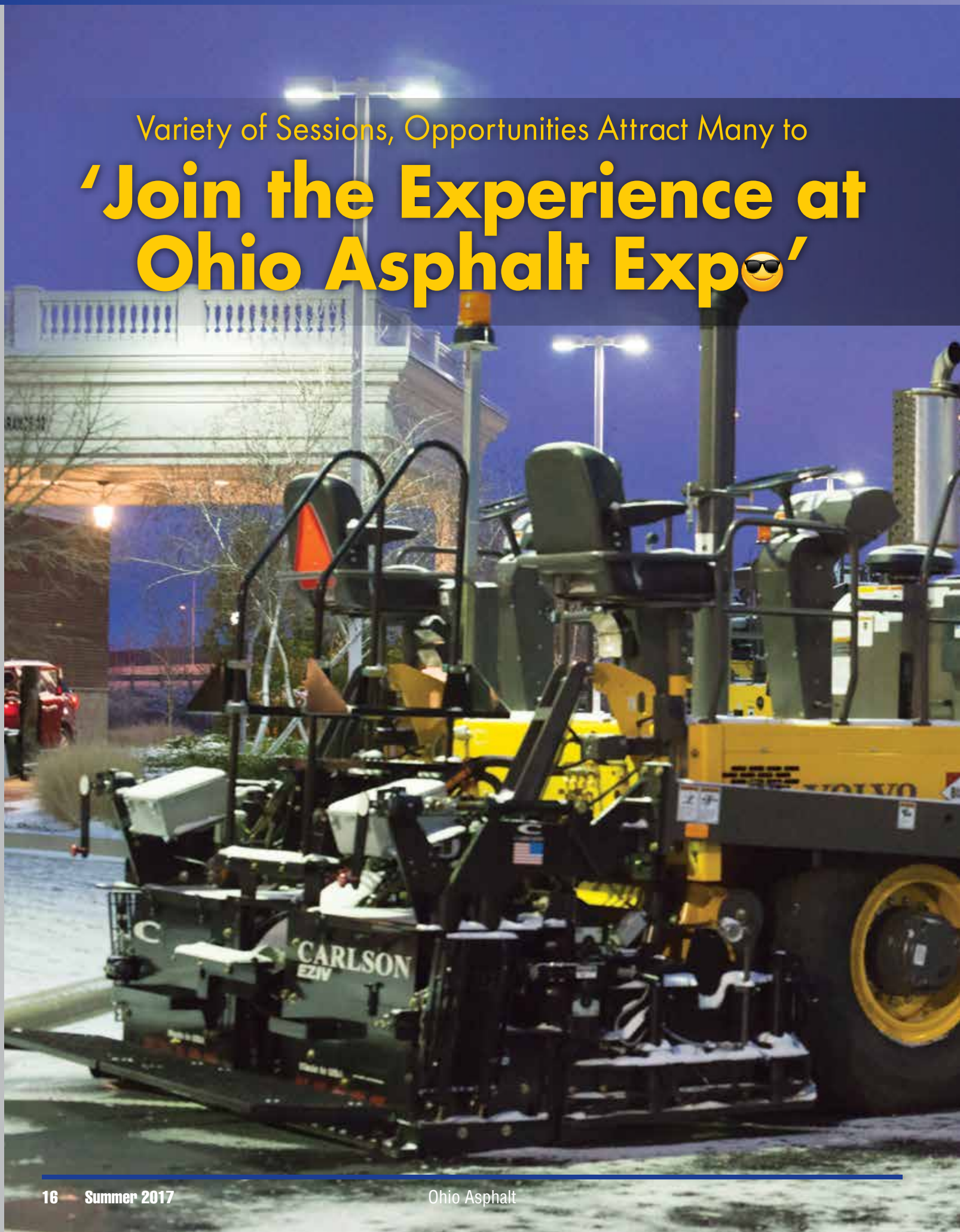

Like the weather – which varied during the two days from partly sunny, to clear, to snow showers, to overcast, to light rain, to passing clouds, to mild, to mostly sunny conditions – there was a vast range of things to see, learn and experience at the 2017 Ohio Asphalt Expo.

Held March 14 & 15 at the Hilton Columbus/Polaris, this year's expo attracted more than 400 attendees who had the opportunity to participate in 14 education sessions, the inaugural EXPO**EXCEL** program, the annual paving awards luncheon, "Quality Paving Awards Celebration," a prayer breakfast, student scholarship awards, and the Equipment Exhibition and Trade Show – featuring what was heralded as the area's largest collection of asphalt paving equipment and innovations.

2017's annual expo once again drew a variety of professionals – as the event traditionally attracts contractors, producers, specifiers, suppliers, plant operators and public officials. This year's program offerings also provided extra incentive to "Join the Experience at Ohio Asphalt Expo."

Coming off a successful construction year – based on 2016's record number of projects honored at this year's Quality Asphalt Pavement Paving Awards Luncheon – enthusiasm was clear despite the morning's flurries, as even the weather couldn't dampen an exhibitor's mid-morning cookout. Inside the expo area things were heating up, as Tuesday morning marked the opening of The Equipment Exhibition and Trade Show, the FPO Member Breakfast & 55th Annual Business Meeting and Public Agency Forum.

Coinciding with the opening morning's 7:30 a.m. schedule was the inaugural EXPO**EXCEL**, the two, full-day education tracks devoted to quality asphalt paving techniques and plant operations. EXPO**EXCEL's** Top Quality Paving track provided training to a "full house" of eager paving foremen and mid-managers on proper paving techniques. This track was led by John Ball, an international speaker on the topic, presented "A View From the Road," "Nighttime Paving," and "Putting Together the Puzzle." The topics were as unique as his video training methods. The EXPO**EXCEL** Plant track presentations were led by familiar Ohio Asphalt Expo speaker TJ Young of T2ASCO LLC. Young presented sessions on "7 Best Practices Critical for Mix Success," "Troubleshooting Mix Problems" and "A Simplified Approach to Plant Maintenance." Survey of attendees gave a sure sign the EXPO**EXCEL** tracks were a success.

Other morning sessions were a "National Health & Safety Issues Update," "Ohio Department of Transportation Low Volume Test Road Roundtable" and "Segregation: Where it Starts, Identifying the Cause & How to Eliminate It."

National Asphalt Pavement Association (NAPA) Vice President of Environment, Health & Safety Howard Marks presented on the impacts from the recently issued OSHA Silica Rules. Marks laid out the timeline for implementation, new permissible exposure limits and what actions contractors must take to be in compliance with the regulations.

Ohio's first low-volume test road project, dubbed "SOLVER," was the topic of a panel discussion, which featured ODOT District 10's Steve Williams, who outlined the project scope, Ohio University's Dr. Shad Sargand and Shelly & Sands Inc. Quality Assurance Manager Ed Morrison, who discussed the construction of trial asphalt mixtures and evaluations. SOLVER evaluates eight strategies for low-volume roads.

The topic, "Segregation: Where it Starts, Identifying the Cause & How to Eliminate It," presented by Wirtgen America's Laikram "Nars" Narsingh, drew many attendees who work in the area of field operations. Eliminating segregation is an industry priority.

At the conclusion of the morning's seven education sessions, attendees convened for the 2017 Quality Asphalt Pavement Paving Awards Luncheon, which recognized the top projects of 2016 in the categories of ODOT & Ohio Turnpike and Infrastructure, Local Road or Street, Commercial Parking Facility, Special Use Pavement, Airport Pavement and Master Craftsman. (For more information on these projects, visit pages 24-42.) The luncheon honored the record-number 70 Quality Award projects, the four Master Craftsman projects that have exhibited quality and uninterrupted service for more than 15 years, as well as the Ohio projects recognized in the NAPA Quality in Construction Awards program.

Tuesday's afternoon program included four more education sessions. The EXPO education tracks included presentations to educate asphalt contractors in the business of being in the asphalt business. Risk is a big factor. Frantz Ward LLP's "Andy" Natale, presented "Understanding & Managing Construction Bond and Insurance Risks."

Always of interest to EXPO attendees is the funding forecast for road construction, and other politics affecting the asphalt business. On hand to speak about Ohio's funding picture was ODOT Office of Planning's Jennifer Townley. She reviewed ODOT's capital program and presented the future direction of the Department, which includes developing a roadway infrastructure to facilitate smart car technology. NAPA's Marks provided a "Capitol Hill Report." On everyone's mind was President Trump's billion dollar infrastructure plan and what it might mean for the asphalt industry. Clear from

Marks' presentation was the fact that much enthusiasm exists among contractor groups in Washington, D.C. NAPA's Government Affairs staff, Jay Hansen and Ashley Jackson, have engaged with the Trump Administration for the asphalt industry, advocating for sustainable highway funding, asphalt research and opposing anti-competitive mandates.

The first-day's more than 40 hours of scheduled events concluded with the evening's Quality Paving Celebration, which provided an opportunity to converse, meet and network with fellow attendees.

Wednesday's traditionally scheduled Prayer Breakfast was once again well attended by members and guests who gathered to celebrate accomplishments of scholarship recipients, Baker and Service Award honorees and hear from an industry leader.

Pastor Lloyd Markley, Christian Bible Fellowship, provided the morning's message. Markley spoke of the quality and excellence demonstrated every day by the asphalt industry and that was being celebrated at the Ohio Asphalt Expo. Markley said the human motivation to do quality work is inherit of God, as he reminded the audience that on day six of Creation, God created man in God's own image. Said Pastor Markley "… He did quality work, He does quality work. And you know, because we are created in His image we have that desire too … That's how we're made, that's how we're gifted … That's the ultimate motivation for quality."

Following Pastor Markley's message was the announcement of the 2017-2018 FPO Asphalt Pavement Industry Scholarship recipients. According to current FPO Chairman Cole Graham of Shelly & Sands Inc., "The scholarship program is very important to this industry. It creates the opportunity to help young engineers and construction managers learn about our product and the value it provides to society." Graham then introduced FPO Director of Engineering Services Bill Fair to announce this year's scholarship winners.

In his announcing of the 21 students that will receive

FPO Education Committee Chairman Howard Wenger presents scholarship to Ohio University's Mary Murray

FPO Scholarship recipients and sponsors celebrate their accomplishment.

2017-2018 academic scholarships, Fair explained the importance of the FPO program, now in its 22nd year. "…It is one of the important good works of this association of which the members can be rightfully proud." Since its inception, the FPO program has awarded 448 scholarships totaling $599,000. More about the 2017-2018 class of FPO scholarship recipients will be featured in the fall 2017 issue of *Ohio Asphalt*.

While the scholarship announcements provided an opportunity to celebrate the future, the next portion of the morning's program celebrated individuals who have already made an indelible mark on the industry. FPO President/Executive Director Cliff Ursich introduced the 2017 Industry Service and William "Bill" Baker awards.

This year's recipient of the Industry Service Award, which is given to those who have made significant contributions to the asphalt industry and whose selfless service has advanced FPO's mission, was Asphalt Institute Senior Regional Engineer H. Wayne Jones, P.E. The William "Bill" Baker Award, which is FPO's highest esteemed honor was awarded to ODOT Office of Materials Management David Powers, P.E. (See pages 43 and 44 for more information about this year's honorees.)

Concluding the breakfast event was the keynote address by National Center for Asphalt Technology (NCAT) Director Emeritus Ray Brown. Brown has been a part of NCAT since its inception in the mid-1980s. The former NCAT director is not only responsible for the physical growth of the center, but the education of a generation of asphalt technologists.

Brown provided highlights of NCAT's accomplishments and issues that the center has been involved in over the past 30 years. Established in 1986, as a partnership between Auburn University and the NAPA Research and Education Foundation, NCAT is revered for its research and development in meeting the needs of maintaining America's highway infrastructure.

Following the breakfast festivities, the Expo's final three education sessions featured the topics, "Asphalt Mixture & Binder Type Selection," "Improving Longitudinal Joint Performance Using VRAM," "Achieving Smoothness with Milling," "Thinlay for Pavement Preservation," and "Thinlays … What the Research Says."

Just like the variety of weather surrounding this year's two-day event, the variety of educational sessions and opportunities to participate attracted attendees to "Join the Experience" of the 2017 Ohio Asphalt Expo.

Flexible Pavements of Ohio would like to extend a special thank you for the support of the 2017 Ohio Asphalt Expo's sponsors. The two-day event was made possible by the following companies:

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Exhibitors
The Expo showcased the industry's newest services and technology, as 38 companies were featured. The 2017 Ohio Asphalt Expo exhibitors included:

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'Highest Quality in Asphalt Paving'

Record number of Winning Pavement Projects Earn Top Billing

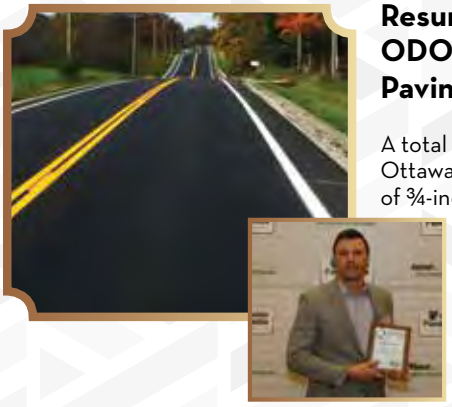
Billed as the "highest quality in asphalt paving," the Quality Asphalt Pavement Paving Awards Luncheon at this year's Ohio Asphalt Expo honored a record 70 projects from the 2016 construction season.

While the Flexible Pavements of Ohio's Quality Awards recognized the best of the best in materials and pavement in the state, more than one in four of these Ohio projects were recognized at the national level by the National Asphalt Pavement Association's (NAPA) 2016 Quality in Construction Awards Program.

Winning projects, their owners and crews were honored in five divisions: Ohio Department of Transportation (ODOT) & Ohio Turnpike Infrastructure Commission (OTIC) Pavements, Local Roads or Streets, Commercial Parking Facilities, Special-Use Pavement and Airport Pavements. Projects were also honored for their long-time service and quality by earning Master Craftsman recognition.

Here is a look at the top asphalt pavement projects in Ohio – as well at the national level – from the 2016 construction season:

ODOT & OTIC PAVEMENTS



Resurfacing of State Route 15 & S.R. 634 in Putnam County
ODOT District 1
Paving Contractor: Gerken Paving Inc.

A total of 19 miles of resurfacing was performed on S.R. 15, from the Putnam County line to the Village of Ottawa, and S.R. 634, from S.R. 15 to the Village of Continental. The two-course overlay was comprised of ¾-inch, 448 Type 1 intermediate and 1¼-inch Type 1 surface courses. Gerken Paving was noted for overcoming the challenge of taking the existing severely cracked, patched and significantly bumpy surface and achieving excellent pavement smoothness.

Gerken Paving Inc.'s Kyle Borstelman

Reconstruction of Interstate 75 in Wood County
ODOT District 2
Paving Contractor: The Shelly Co.

Recognized by the National Asphalt Pavement Association as a 2016 Quality in Construction Award winner for projects more than 50,000 tons, this project featured 8 miles of widening, rehabilitation and reconstruction of I-75 from Wood County's Oil Center to Portage roads. The multi-phased, multi-year project included removal and widening of four sets of bridges and full pavement removal/replacement and addition of a third-lane with full-depth asphalt pavement.

(From left) ODOT District 2's Eric Heckert and The Shelly Company's Gary Fisher and Dan Cassel

Resurfacing of S.R. 162 in Huron County
ODOT District 3
Paving Contractor: Erie Blacktop Inc.

The 6 miles of resurfacing of S.R. 162 from the Village of North Fairfield to U.S. Route 250 in Huron County utilized more than 6,300 tons of material used in a single Smoothseal overlay. The project's exceptional longitudinal joint construction, alignment, smoothness and overall quality were noted.

ODOT District 3's Brian Hickey (left) and Erie Blacktop Inc.'s Tyler Wasserman

Resurfacing of I-270 in Franklin County
ODOT District 6
Paving Contractor: Kokosing Construction Co. Inc.

This resurfacing of I-270 from I-71 to S.R. 3 on the north side of Columbus was completed over two years. Consisting of pavement milling and resurfacing using a 19-millimeter intermediate course and a 12.5-mm surface course, the project was one of the first to include incentives/disincentives for longitudinal joint density. Kokosing Construction crews tested numerous methods to improve joint density and completed the work in heavy-traffic conditions with limited nighttime closures.

ODOT District 6's Charles Kiner (left) and Kokosing Construction Company Inc.'s Rick Kessler

Resurfacing of S.R. 50 in Highland County
ODOT District 9
Paving Contractor: The Shelly Co.

A NAPA 2016 Quality in Construction Award winner for projects less than 50,000 tons, this resurfacing project is located on S.R. 50 from the Ross County line to the City of Hillsboro. The two-lane overlay consisted of a ½-inch intermediate course and 1½-inch surface course. Shelly also made pavement repairs and waterproofed bridge decks to prolong the service life of the structures.

The Shelly Company's Cary Schrader (left) and ODOT District 9's Eric Smith

Resurfacing of S.R. 4 and S.R. 4D in Butler County
ODOT District 8
Paving Contractor: Barrett Paving Materials Inc.

Barrett Paving Materials overcame the complexity of the project being located in downtown Middletown and including numerous utility structures within the roadway to successfully resurface S.R. 4 from Girard Avenue to Titus Avenue and S.R. 4D from S.R. 4 to S.R. 4. Noted for its overall completeness and ride quality, the project featured a 3-inch milling with a 1¾-inch Type 1 intermediate course and 1¼-inch Type 1 surface course overlay.

Barrett Paving Materials Inc.'s Ralph F. James II

Resurfacing of S.R. 800 in Stark County
ODOT District 4
Paving Contractor: Northstar Asphalt Inc.

This 1-mile resurfacing project included the addition of turn lanes on S.R. 800 from 33rd Street S.E. to Ridge Avenue S.E. in Stark County, as well as pavement repair, new curb and sidewalk and installation of underground utilities. The pavement buildup for the project included 8 inches of a 302 base course, 1¾ inches of a Type 2 intermediate course and 1¼ inches of a Type 1 surface course.

Northstar Asphalt Inc.'s Bill Dempsey (left) and ODOT District 4's David J. Reich

Resurfacing of S.R. 503 in Preble County
ODOT District 8
Paving Contractor: Barrett Paving Materials Inc.

The resurfacing of S.R. 503 in Preble County from U.S. Route 35 to the Darke County line earned Barrett Paving Materials recognition from NAPA as a 2016 Quality in Construction Award winner for projects less than 50,000 tons. The project included 3-inch-deep pavement milling; repair and bridge slab improvement; a three-course, 3-inch asphalt overlay; and improvements to two intersections in the Village of Lewisburg.

Barrett Paving Materials Inc.'s Mark Hartrum

Resurfacing of I-475 in Lucas County
ODOT District 2
Paving Contractor: Gerken Paving Inc.

This night work project included nearly five miles of resurfacing of I-475 from U.S. 23 to Douglas Road in Lucas County. The project called for variable-depth pavement milling and repair, and nearly 40,000 tons of asphalt used in a 2-inch-thick, 19-mm Type A intermediate course and a 1½-inch-thick, 12.5-mm Type A surface course.

(From left) ODOT District 2's Rodney Crouch and Greg Sopher and Gerken Paving Inc.'s Rob Jankowski

Resurfacing of S.R. 603 and S.R. 96 in Richland County
ODOT District 3
Paving Contractor: Shelly & Sands Inc.

This nearly 17½-mile resurfacing project was located on S.R. 603 from S.R. 96 to S.R. 61 and S.R. 96 from the Ashland County line to S.R. 13 in Richland County. The project included Shelly & Sands performing 3-inch milling of existing pavement, 4- to 8-inch-depth pavement repairs and placements of 1¾-inch, 9.5-mm intermediate and 1¼-inch, 9.5-mm surface courses.

Shelly & Sands Inc.'s Jason Johnson (left) and ODOT District 3's Brian Hickey

Resurfacing of S.R. 222 in Clermont County
ODOT District 8
Paving Contractor: Barrett Paving Materials

Also recognized as a NAPA 2016 Quality in Construction award winner for projects less than 50,000 tons, this two-lane project required 1½ inches of milling and 1 ½ inches of 448 Type 1 surface course repaving. Barret Paving crews not only achieved smooth pavement with a uniform appearance, but also was able to meet the requirement of having the day's section fully completed by the end of the workday.

Barrett Paving Materials' Charles Woodruff

Resurfacing of S.R. 606 in Medina County
ODOT District 3
Paving Contractor: The Shelly Co.

Complimented for providing overall completeness and ride quality on a high-speed, hilly section of S.R. 606 from S.R. 3 to S.R. 303, The Shelly Company performed pavement milling, variable depth pavement repair and resurfacing by using a 1½-inch, 9.5-mm surface mix.

ODOT District 3's Brian Hickey (left) and The Shelly Company's Brian Zele

Resurfacing of S.R. 11 in Ashtabula County
ODOT District 4
Paving Contractor: Shelly & Sands Inc.

Another NAPA 2016 Quality in Construction Award winner for projects utilizing less than 50,000 tons of asphalt, the nearly six-mile-long project of S.R. 11 from U.S. Route 6 to S.R. 207 called for Shelly & Sands to provide milling, resurfacing and full-depth pavement replacement at four overhead bridges and repairs to five structures. The project was completed in two pavement courses, which included 1¾-inch, 19-mm intermediate and 1½-inch, 12.5-mm surface courses.

ODOT District 4's Jonathan Dudt (left) and Shelly & Sands Inc.'s Jim Bronstrup and Jon Schoonover

Resurfacing of S.R. 41 & S.R. 235 in Clark County
ODOT District 7
Paving Contractor: John R. Jurgensen Co.

Clark County's S.R. 41, from Penny Pike East to Ballentine Pike, and S.R. 235, from Dille Road to the City of New Carlisle, received a ¾-inch intermediate course of 448 Type 1 and 1¼-inches of 448 Type 1 surface course. John R. Jurgensen's resurfacing work on the project earned a NAPA 2016 Larry H. Lemmon Award for top asphalt pavements under 50,000 tons.

ODOT District 7's Tricia Funderburgh (left) and John R. Jurgensen Company's Brian Jones.

Resurfacing of U.S. Route 224, S.R. 46 & U.S. 62 in Mahoning County
ODOT District 4
Paving Contractor: Shelly & Sands Inc.

In all, Shelly & Sands provided 3½ miles of milling, ADA curb ramp repair and installation and paving on the project that stretched from U.S. Route 224 from Palmyra Road to S.R. 46, S.R. 46 from Leffingwell Road to Court Street and U.S. Route 62 from S.R. 446 to S.R. 46 in the City of Canfield. Resurfacing included a 1¼-inch 441 Type 1 intermediate course and a ¾-inch Smoothseal surface course.

ODOT District 4's Mike Duda (left) and Shelly & Sands Inc.'s Matthew Full

Resurfacing of S.R. 514 in Knox County
ODOT District 5
Paving Contractor: Kokosing Construction Co. Inc.

Kokosing Construction's resurfacing of S.R. 514 in Knox County from S.R. 205 to the Holmes County line included a single-layer chip seal, a 1-inch-thick 441 Type 1 intermediate course and 1¼-inch 441 Type 1 surface course. Kokosing Construction also placed more than 1,000 cubic yards of recycled asphalt pavement (RAP) on the berm with an asphalt emulsion cover.

(From left) Kokosing Construction Company Inc.'s Christian Langerand ODOT District 5's Steve Miller and Jason Lutz

Resurfacing of U.S. Route 442 in Mahoning County
ODOT District 4
Paving Contractor: Shelly & Sands Inc.

Along with the resurfacing of a 2½-mile stretch of U.S. Route 422 between Oak Street and S.R. 616 in the City of Campbell, Shelly & Sands performed minor bridge repair. In the resurfacing process, Shelly & Sands provided pavement milling, full-depth pavement repair and 2-inch 441 Type 2 intermediate and 1-inch Smoothseal surface courses.

(From left) ODOT District 4's Ahmad Kassim and Shelly & Sands Inc.'s Jim Brunstrup and Edward Duncan

Resurfacing of U.S. Route 20A, S.R. 2 & S.R. 15 in Williams County
ODOT District 2
Paving Contractor: Gerken Paving Inc.

This 11-mile resurfacing project included U.S. Route 20A from S.R. 15 to S.R. 107, S.R. 2 from the Defiance County line to U.S. Route 6 and S.R. 15 from U.S. Route 20A to U.S. Route 127 in Williams County. Gerken Paving was able to achieve good ride quality and excellent smoothness by performing 3¼ inches of milling and repairs before resurfacing with 1¾ inches of 19-mm and 1½ inches of 9.5-mm asphalt mix courses.

Gerken Paving Inc.'s Andrew Hill (left) and ODOT District 2's Nicole Dibble

Resurfacing of S.R. 39 in Tuscarawas County
ODOT District 11
Paving Contractor: Shelly & Sands Inc.

This more than 4-mile resurfacing of S.R. 39 east of the Village of Sugarcreek was performed at night by Shelly & Sands so as to not inconvenience tourists on this two-lane road in the heart of Amish Country. The project, in which Shelly & Sands earned a 2016 NAPA Quality in Construction Award for projects less than 50,000 tons, included a 4-inch asphalt overlay executed in three lifts for a total of more than 22,500 tons of asphalt.

Shelly & Sands Inc.'s Jim Hamm (left) and ODOT District 11's Preston Kress

Rehabilitation of U.S. Route 22 in Clinton County
ODOT District 8
Paving Contractor: John R. Jurgensen Co.

For this more than 5-mile project on U.S. Route 22 from S.R. 72 to the Fayette County line, John R. Jurgensen performed pavement milling and repair and replaced two box culverts. This 2016 NAPA Quality in Construction Award winner for projects utilizing less than 50,000 tons was topped with a two-course asphalt overlay consisting of 1¾ inches of 448 Type 2 intermediate and 1¼ inches of 448 Type 1 courses.

John R. Jurgensen Company's Ben Fist (left) and Sean Davis

Resurfacing of S.R. 22 in Muskingum County
ODOT District 5
Paving Contractor: Shelly & Sands Inc.

Along with providing a smooth pavement, Shelly & Sands provided a smooth maintenance of traffic. The 9-mile-long resurfacing of S.R. 22 from the City of Zanesville to Sonora Road included more than 50 side roads and intersections, numerous driveways and pedestrian crossings. Shelly & Sands performed variable depth pavement milling and repair, and finished with 1¾-inch intermediate and 1¼-inch surface courses of 448 asphalt.

ODOT District 5's Jason Lutz (left) and Shelly & Sands Inc.'s Derrick Treadway

Resurfacing of U.S. Route 23 in Ross County
ODOT District 9
Paving Contractor: Shelly & Sands Inc.

The nearly 6 miles of resurfacing of U.S. Route 23 from the Pickaway County line to S.R. 159 called for Shelly & Sands to perform a ¾-inch milling, minor repairs to three structures and a 1-inch overlay of Smoothseal.

Shelly & Sands Inc.'s Billy Schever (left) and ODOT District 9's Matthew Miller

Resurfacing of I-271 in Summit County
ODOT District 4
Paving Contractor: The Shelly Co.

The Shelly Company provided reconstruction, widening and resurfacing of I-271 from the Cuyahoga County line to S.R. 8 in Summit County. Performed in phases to accommodate work on new bridges along the project route, The Shelly Company milled 9 inches of existing pavement, removed the concrete base and stabilized the subgrade before placing a 6-inch aggregate base, a 10-inch 302 base, a 1¾-inch 19-mm intermediate course and a 1½-inch 12.5-mm surface course. The project was recognized as a 2016 NAPA Quality in Construction winner for projects utilizing more than 50,000 tons.

ODOT District 4's Brian Dell Jr. (left) and The Shelly Company's Alex Ploetz

Reconstruction of the U.S. Route 50 and S.R. 93 Intersection in Vinton County
ODOT District 10
Paving Contractor: Shelly & Sands Inc.

Shelly & Sands' work in the Village of McArthur not only improved traffic flow but also provided an aesthetically pleasing addition. The project included minor reconstruction of the intersection that increased the turn radii, signalization work, improved pedestrian facilities and parking improvements. Shelly & Sands placed 5½ inches of 301 base material topped with a 1½-inch 448 Type 1 surface course.

Shelly & Sands Inc.'s Billy Shever

Reconstruction of the Ohio Turnpike in Lorain County
Ohio Turnpike & Infrastructure Commission
Paving Contractor: Kokosing Construction Co. Inc.

Kokosing Construction's work on this multi-year total reconstruction of the Ohio Turnpike, from Milepost 144.1 to Milepost 149.24, in Lorain County and the S.R. 57/Ohio Turnpike interchange was noted for exceptional smoothness and overall completeness. Work included the pavement removal and full-depth replacement with 15¾ inches of asphalt pavement on the right, two lanes and shoulder of the eastbound and westbound directions. Kokosing Construction placed more than 180,000 tons of asphalt on the project.

Kokosing Construction Company Inc.'s Matt Culler and Ohio Turnpike & Infrastructure Commission's Julius Szahlender

Resurfacing of S.R. 122 in Butler County
ODOT District 8
Paving Contractor: Barrett Paving Materials Inc.

This nearly 5½-mile resurfacing of S.R. 122 from the Village of Gratis to Michael Road was noted for its good mat texture and overall aesthetics. Barrett Paving Materials performed 1½-inches of pavement milling, maintenance and upgrades of two structures and a 1½-inch overlay with 448 Type 1 asphalt.

Barrett Paving Materials Inc.'s Charles Woodruff

Resurfacing of S.R. 93 in Hocking County.
ODOT District 10
Paving Contractor: Shelly & Sands Inc.

Shelly & Sands resurfaced nearly 10½ miles of S.R. 93 from the City of Logan to the Perry County line. Noted for its fine texture and overall smoothness, the project featured 1 inch of Smoothseal asphalt pavement.

Shelly & Sands Inc.'s Tim Fletcher

Reconstruction of the Ohio Turnpike in Fulton County
Ohio Turnpike & Infrastructure Commission
Paving Contractor: Gerken Paving Inc.

Also recognized as a 2016 NAPA Quality in Construction Award winner for projects utilizing less than 50,000 tons of asphalt, Gerken Paving reconstructed both the eastbound and westbound lanes of the Ohio Turnpike from Milepost 38.9 to Milepost 43.3. Reconstruction included milling, repair and overlay of the existing pavement. It performed all operations by working in multiple, single-lane phases and placed more than 33,000 tons of asphalt.

Gerken Paving Inc.'s Michael Zwyer (left) and Ohio Turnpike & Infrastructure Commission's Julius Szahlender

Resurfacing of S.R. 45 in Columbiana County
ODOT District 11
Paving Contractor Shelly & Sands Inc.

The nearly 9-mile-long resurfacing project of S.R. 45 from S.R. 7 to U.S. 30 in the Village of Wellsville also called for a unique pavement edge build-up because of the route's regular handling of heavy oil and gas truck traffic. Shelly & Sands used more than 24,000 tons of asphalt in placing a 1-inch intermediate leveling course and a 1½-inch polymer-modified surface course. The project was noted for smoothness and overall completeness.

ODOT District 11's Preston Kress (left) and Shelly & Sands Inc.'s Charles Taylor

Resurfacing I-75 in Shelby County
ODOT District 7
Paving Contractor: Barrett Paving Materials Inc.

In order to maintain interstate traffic during minor rehabilitation and resurfacing along I-75 from County Road 25A in Miami County to S.R. 29 in Shelby County, Barrett Paving utilized contraflow traffic control. This method was used along the nearly 10-mile-long project because a 7-inch milling caused concerns about drop-offs between lanes. An 8-inch-thick overlay finished the project, which Barrett Paving earned recognition by winning a 2016 NAPA Quality in Construction Award for projects using more than 50,000 tons.

Barrett Paving Materials Inc.'s Dannie Stevens (left) and ODOT District 7's Scott Maxson

Resurfacing of I-77 in Tuscarawas County
ODOT District 11
Paving Contractor: The Shelly Co.

The Shelly Company's attention to good density, which was achieved during night work through the use of a material transfer vehicle and double drum rollers, earned a NAPA 2016 Quality in Construction Award for projects under 50,000 tons. The resurfacing and repair if I-77 from the Stark County line to S.R. 250 in Tuscarawas County involved 1½ inches of milling and full-depth pavement repairs and an overlay of 1½ inches of 12.5-mm surface asphalt mix.

The Shelly Company's Mike Watson

LOCAL ROADS & STREETS

Resurfacing of Reynolds Road in the City of Toledo
City of Toledo/ODOT District 2
Paving Contractor: The Shelly Co.

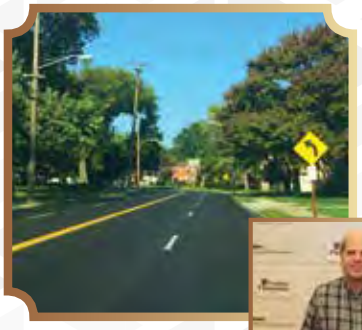
Along with the resurfacing of U.S. Route 20 (Reynolds Road) from Glendale Avenue to the Ohio Turnpike, The Shelly Company provided aesthetic enhancements in the form of decorative plantings, lighting and other enhancements. For the resurfacing portion of the project, Shelly performed a 3¼-inch planing and resurfaced it with 1¾ inches of 19-mm intermediate course and 1¾ inches of 12.5-mm surface course.

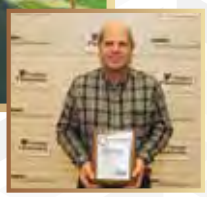
The Shelly Company's Byron Clymer

Resurfacing of Bradley Road and Mastick Road in Cuyahoga County
Cuyahoga County
Paving Contractor: Kokosing Construction Co. Inc.

Despite the challenges of poor subgrade conditions and varying pavement widths, Kokosing Construction was noted for its overall craftsmanship on the resurfacing of Bradley Road in the City of North Olmsted from Center Ridge and Mastick roads to Columbia Road. The project, which was part of Cuyahoga County's 2016 Operations Resurfacing Program Group 4, called for the milling of 3 inches of pavement and the widening by 4 feet of the shoulder using 6 inches of 301 base and a two-course overlay of 1¾-inch intermediate and 1¼-inch surface courses of 448 Type 1.

Kokosing Construction Company Inc.'s Dean Kimble (left) and Cuyahoga County Engineers' Mike Twoczydlo





Resurfacing of Warren Road in the City of Cleveland.
City of Cleveland, ODOT District 12
Paving Contractor: The Shelly Co.

A proposed change to the Maintenance of Traffic (MOT) plan not only allowed the project to be completed safer and one month ahead of schedule, it also helped The Shelly Company to provide award-winning results for its resurfacing of Warren Road from I-90 to Munn Road in the City of Cleveland. Because the project site was on a high-volume area, Shelly offered an MOT solution where one-way detours provided a safer option for workers and the traveling public. The project featured a 3-inch asphalt base course, variable thickness leveling course and 1¾-inch intermediate and 1¼-inch surface courses. This project was a NAPA 2016 Quality in Construction Award winner for projects under 50,000 tons.

The Shelly Company's Rob Myers

Widening of Home Road in Delaware County
Delaware County Engineer
Paving Contractor: Shelly & Sands Inc.

The widening of Home Road to three lanes, which included construction of turn lanes and minor widening of Steitz Road, called for Shelly & Sands to place a variable base course of 3 to 6 inches and intermediate and surface courses of 2 inches and 1½ inches of 448 Type 2 and 448 Type 1, respectively.

Delaware County Engineers' Mike Mitzgin (left) and Shelly & Sands Inc.'s Dana Mills

Reconstruction of Caldwell Street in the City of Sandusky
City of Sandusky
Paving Contractor: Erie Blacktop Inc.

The reconstruction of Caldwell Street from Parish Street to Follett Street in the City of Sandusky called for the removal of concrete pavement and replacing it with full-depth asphalt pavement. Erie Blacktop's work on the project, which included placing three courses of asphalt requiring more than 18,000 tons of asphalt, was noted for exceptional uniformity, joint construction and overall quality, as well as the maintaining of traffic in this busy residential and commercial area.

Erie Blacktop Inc.'s Tyler Wasserman (left) and City of Sandusky's Jeff Keefe, P.E.

Resurfacing of Bowen Road in the City of Columbus
City of Columbus
Paving Contractor: Kokosing Construction Co. Inc.

While this portion of Bowen Road from Wright Road to Lehman Road was part of the City of Columbus' 170 street paving program, it was also an integral portion of the 2016 Pelotonia bike race – which meant Kokosing Construction needed to expedite the project in order to meet the tight completion date. Kokosing Construction met the deadline and more, as its pavement planing, repairs and resurfacing with a 1½-inch asphalt surface course was noted by NAPA as a 2016 Quality in Construction Award winner for projects more than 50,000 tons.

Kokosing Construction Company Inc.'s Adam McGomery (left) and City of Columbus' Richie Dimmerling

Resurfacing of Kerr Road in Gallia County
Gallia County Engineer
Paving Contractor: The Shelly Co.

The Shelly Company took a deteriorated, narrow portion of Kerr Road, from County Road 850 to C.R. 554, in Gallia County and turned it into a NAPA 2016 Quality in Construction Award for projects less than 50,000 tons. Shelly performed pre-leveling work and placed a 1½-inch-thick asphalt overlay. The project was made more complicated due to a large amount of truck traffic from a nearby industrial park.

The Shelly Company's Jeff Barnes (left) and Gallia County Engineers' Brett A. Boothe

Resurfacing of Boudinot Avenue in the City of Cincinnati
City of Cincinnati
Paving Contractor: Barrett Paving Materials Inc.

Despite high-traffic volumes from a nearby school and numerous utility structures on the project route, Barrett Paving Materials successfully resurfaced Boudinot Avenue from Glenway Avenue to Westwood Northern Boulevard in the City of Cincinnati. The project's scope included a 2½-inch pavement milling topped with a 1-inch-thick 448 Type 1 intermediate course and a 1½-inch, 12.5-mm surface course.

Barrett Paving Materials Inc.'s Paul E. Walter

Resurfacing of Main Street in the City of Moraine
City of Moraine
Paving Contractor: Barrett Paving Materials Inc.

As part of the Main Street Improvement Project in Montgomery County's City of Moraine, Barrett Paving Materials resurfaced Main Street from the bridge over the Great Miami River to Heatherstone Drive. Performing night work throughout the project, Barrett Paving performed a 2-inch pavement milling, installed a stress absorbing membrane interlayer (SAMI) course to reduce reflective cracking, and a 1¾-inch surface course overlay of 448 Type 1.

Barrett Paving Inc.'s Nick Brooks

Resurfacing of Ronald Reagan Highway in Hamilton County
Hamilton County Engineer/ODOT District 8
John R. Jurgensen Co.

The four-lane resurfacing of Ronald Reagan Highway from Springdale Road to Colerain Avenue in Hamilton County also included bridge deck overlays, pavement planing, repair and other associated work. On this NAPA 2016 Quality in Construction Award for projects less than 50,000 tons, John R. Jurgensen placed a 1¾-inch, 19-mm intermediate course and a 12.5-mm surface course.

John R. Jurgensen Company's Mike Ruark (left) and Nick Berry

Resurfacing & Improvement of Hobart-Carl Smith Drive from U.S. 62 to S.R. 73 in Highland County
Highland County Engineer/ODOT District 9
Paving Contractor: John R. Jurgensen Co.

Along with the construction of a new, two-lane roadway linking S.R. 73 to S.R. 62 on the north side of the City of Hillsboro, the project included what was originally designed as three projects: (1) the improvements to existing S.R. 73, (2) new construction of Careytown Road and Carl Smith Road and (3) the widening of S.R. 62 and improvements to Hobart Drive. Along with the aforementioned, John R. Jurgensen constructed a roundabout in place of the four-way intersection at Careytown and Carl Smith. All new construction on the project, which received a bonus for pavement smoothness, utilized full-depth asphalt on an aggregate base and included curb and gutter.

(From left) ODOT District 9's Eric Smith, Highland County Engineer Dean Otworth and John R. Jurgensen Company's Brian Jones and Sean Davis

Resurfacing of Lovers Lane & Market Street in the City of Steubenville
City of Steubenville
Paving Contractor: Shelly & Sands Inc.

As part of the City of Steubenville's 2016 City Street Hot-Mix Resurfacing Improvements Program, Shelly & Sands resurfaced Lovers Lane from Fort Steuben Drive to Fernwood Road and Market Street from Sunset Boulevard to Third Street. Work consisted of pavement milling, full-depth pavement repair, adjustment of utilities and placement of 1¾-inch, 448 Type 2 intermediate and 1½-inch, 448 Type surface courses.

Shelly & Sands Inc.'s Brian Medley (left) and City of Steubenville's Michael Dolak

Resurfacing of Race Street in the City of Troy
City of Troy
Paving Contractor: John R. Jurgensen Co.

Thanks to the John R. Jurgensen Company, as part of its 2016 Paving Program, the City of Troy received a nice looking project that was free of defects and exhibited good uniformity and joint construction. The project included the 1½-mile resurfacing of Race Street from South Walnut Street to Lake Street. Race Street received a 1½-inch 448 Type 1 surface course.

John R. Jurgensen Company's Brad Beam

Resurfacing of Norquest Boulevard in Mahoning County
Mahoning County Engineer
Paving Contractor: Shelly & Sands Inc.

As part of the resurfacing of Norquest Boulevard from Mahoning Avenue to Ohltown Road in Mahoning County, Shelly & Sands provided pavement milling, adjustments of 16 manholes and 9 water boxes and a 2½-inch, single-course overlay of 448 Type 1 surface mix.

Shelly & Sands Inc.'s Jim Bronstrup and Jon Schoonover and Mahoning County Engineers' Tony Gorvet (center)

Resurfacing of Portage Street in the City of North Canton
Stark County Engineer
Paving Contractor: Northstar Asphalt Inc.

On a project noted for its complexity, Northstar Asphalt received superior craftsmanship marks for the 1-mile resurfacing of Portage Street from Wise Avenue Northwest to Frank Avenue Northwest in the City of North Canton. Performed at night, this resurfacing project called for varied asphalt mix types. In all, Northstar Asphalt placed more than 8,000 tons of materials that ranged from heavy-duty pavement comprised of a 1¾-inch 19-mm intermediate course and 1½-inch 12.5-mm surface course, to a pavement comprised of a 1¾-inch, Type 2 intermediate course and a 1½-inch Type 1 surface mix.

Northstar Asphalt Inc.'s Mike Wrather

Resurfacing of Garber Road in the City of Clayton
City of Clayton
Paving Contractor: John R. Jurgensen Co.

Part of the City of Clayton's 2016 Paving Program, John R. Jurgensen Company resurfaced Garber Road from North Main Street to East Westbrook Road with a 1½-inch overlay of 448 Type 1 surface course.

John R. Jurgensen Company's Brad Beam (left) and City of Clayton's Randy Sanders

Resurfacing of Wyandot County Road in Wyandot County
Wyandot County Engineer
Paving Contractor: Kokosing Construction Co. Inc.

In order to eliminate a longitudinal joint on this 4-mile resurfacing project of Wyandot County Road from S.R. 67 to S.R. 294 in Wyandot County, Kokosing Construction performed a full-width paving that varied from 20 to 22 feet in width. Pavement build-up included a ½-inch 448 Type 1 intermediate course and a 1¼-inch, 448 Type 1 surface course.

Kokosing Construction Company Inc.'s Kyle Parker (left) and Kenny Saunders

Improvement of Irwin-Simpson Road in Deerfield Township
Deerfield Township
Paving Contractor: Barrett Paving Materials Inc.

On this second phase of the widening and realignment of Irwin-Simpson Road from Butler-Warren Road to Charleston View Drive in Deerfield Township, Barrett Paving Materials widened the road to three lanes by constructing a 12-inch-deep cement stabilized subgrade to support the new full-depth pavement. Pavement build-up included 5 inches of 304 aggregate base, 6 inches of 302 asphalt concrete base and a 1½-inch 448 Type 1 intermediate course topped by a 1½-inch 448 Type 1 surface course.

Barrett Paving Materials Inc.'s James Jebsen

COMMERCIAL PARKING FACILITIES

Resurfacing of UAW Local 1219 Parking, City of Lima
UAW Local 1219
Paving Contractor: The Shelly Co.

The Shelly Company worked with UAW staff in developing an economical plan to rehabilitate the Local 1219's parking lot. The project included pavement milling and partial-depth pavement repairs, as well as a two-course resurfacing of 2½ inches of 441 Type 1 intermediate and 1½ inches of 441 Type 1 surface courses. Discussions with the project owner allowed for no disruptions to UAW operations and its event rental schedule.

The Shelly Company's Neal Orshon

Reconstruction of the Ohio Turnpike's Castilia Maintenance Building Parking Lot in Erie County
Ohio Turnpike & Infrastructure Commission
Paving Contractor: Erie Blacktop Inc.

Erie Blacktop provided excellent pavement texture and uniformity in its total site construction of the Ohio Turnpike's Castilia Maintenance Building parking facility. Along with the replacement of aggregate base and full-depth pavement placement of more than 5,900 tons of asphalt in a three-course resurfacing, Erie Blacktop provided pavement milling and drainage repair. The project was completed while the maintenance facility maintained operations.

Erie Blacktop Inc.'s Tyler Wasserman (left) and Ohio Turnpike & Infrastructure Commission's Julius Szahlender

Construction of Parking Lot at Hollywood City Center in the City of Steubenville
Hollywood Center Inc.
Paving Contractor: Shelly & Sands Inc.

Shelly & Sands constructed a parking facility for the Hollywood City Center in the City of Steubenville. Complicating the project was the use of a polymer-modified asphalt that paving crews had to place around numerous parking islands and light poles while maintaining access to the shopping facility. The project included milling and the placement of a ½-inch leveling course and a 1½-inch surface course.

Shelly & Sands Inc.'s Frank Simon

Resurfacing of the Entrance Roadway & Parking Lots at Battelle Darby Creek Metro Park
Columbus & Franklin County Metro Parks
Paving Contractor: Kokosing Construction Co. Inc.

The project included the paving of a mile-long section of entrance roadway and three adjacent parking lots in the Battelle Darby Creek Metro Park in Franklin County. Following profile milling and grading of stone parking lots, Kokosing Construction paved the roadway with ¾-inch and 1½-inch 448 Type 1 intermediate and surface courses, respectively. For the parking lots, a 2-inch 448 Type 2 intermediate course was followed by a 1½-inch 448 Type 1 surface course.

Kokosing Construction Company Inc.'s J.C. Sharp

Construction of Parking Lot at Amazon Fulfillment Center in Licking County
Amazon/Clayco Design Build Contractors
Paving Contractor: The Shelly Co.

Serving as the parking facility for the new 800,000 square-foot Amazon Fulfillment Center in Licking County's Etna Township, The Shelly Company constructed multiple pavement sections designed for an array of heavy, medium and light traffic. Along with providing a NAPA 2016 Quality in Construction Award-winning project for sites using less than 50,000 tons, Shelly coordinated work and project schedules with other building trades by performing its work in multiple phases.

The *Shelly Company's Kenny Untied (left) and Joe Bice*

Construction of Cabela's Parking Lot in the City of Avon Cabela's
Paving Contractor: Erie Blacktop Inc.

Working within a tight project schedule in unison with other contractors working on the construction and site improvements of a new Cabela's in the City of Avon, Erie Blacktop constructed the parking facility in phases. The scope of work for the parking lot included placement of an 8-inch layer of 304, a 4-inch layer of Type 2 intermediate course and a 1½-inch Type 1 surface course layer.

Erie Blacktop Inc.'s Tyler Wasserman

Resurfacing & Expansion of Parking Lot at the Venue at Belden, City of North Canton
Deville Developments
Paving Contractor: Northstar Asphalt Inc.

Northstar Asphalt provided resurfacing of an existing parking lot as well as expanded the parking facility at the shopping plaza Venue at Belden in the City of North Canton. The resurfacing portion of the project included pavement milling and a 2-inch overlay, while construction of the new 13,500 square-yard parking facility included a 6-inch 301 base course, 2 1/5-inch Type 2 intermediate course and 2-inch Type 1 surface course.

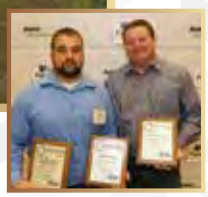
Northstar Asphalt Inc.'s Jon Linton

Resurfacing of Main Parking Lot at Barnes Preserve
Wayne County Park District
Paving Contractor: Kokosing Construction Co. Inc.

Kokosing Construction performed repairs and resurfacing of an access road and designed and constructed a new parking facility for Barnes Preserve in Wayne County. The new main parking lot was constructed on an existing green space and was comprised of 6 inches of limestone aggregate and 2½ inches of 301 base and topped with 1½ inches of 448 Type 1 surface course. Improvements to the preserve's access roadway included repairs and a resurfacing with 2½ inches of 301 base and 1½ inches of 448 Type 1 surface course.

Kokosing Construction Company Inc.'s Todd Ingram

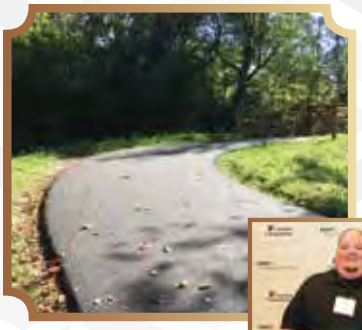
SPECIAL-USE PAVEMENT

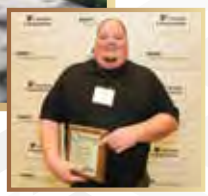


Resurfacing of Rickenbacker Intermodal Yard
Columbus Regional Airport Authority/Norfolk Southern Railroad
Paving Contractor: The Shelly Co.

Faced with severely deteriorated Roller Compacted Concrete (RCC) at the Rickenbacker Intermodal Yard, The Shelly Company used a 2-inch layer of 12.5 mm asphalt surface mix for resurfacing. It opted for a trackless tack coat to eliminate pick-up of the RCC by project vehicles. The project was recognized as a NAPA 2016 Quality in Construction Award winner for projects utilizing less than 50,000 tons of asphalt.

The Shelly Company's John Shank (left) and Adam Prince





Construction of Rock Creek Trail in the City of Tiffin
City of Tiffin
Paving Contractor: Gerken Paving Inc.

The new, nearly 1-mile Rock Creek Trail connects Heidelberg University to Hedges-Boyer Park in the City of Tiffin. Gerken Paving's two-course paving of the multi-use recreation trail included 1¾-inch 448 Type 2 and 1¼-inch 448 Type 1 mixes.

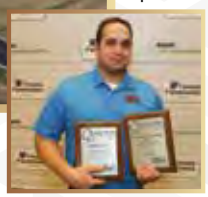
Gerken Paving Inc.'s Zach Smith

Resurfacing of the Winding Road Course at the Transportation Research Center in East Liberty
Transportation Research Center
Paving Contractor: The Shelly Co.

The Shelly Company resurfaced the 1½-mile winding road course at the Transportation Research Center in East Liberty. The project was constructed with a combination of specifications from the Ohio and Michigan departments of transportation. This specialized course is used to test vehicle capabilities for both wet and dry pavement conditions, as well as driver training and collision avoidance studies.

The Shelly Company's Dan Rettig

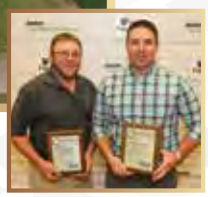
AIRPORT PAVEMENTS



Rehabilitation of Taxiway at Erie-Ottawa International Airport
Erie-Ottawa International Airport
Paving Contractor: Erie Blacktop Inc.

Using two pavers in echelon so as to pave a single, 35-foot width to eliminate a longitudinal joint, Erie Blacktop successfully rehabilitated Taxiway C at the Erie-Ottawa International Airport. In all, Erie Blacktop placed nearly 2,000 tons of asphalt in two courses, which included Type 2 intermediate and Type 1 heavy-traffic surface courses.

Erie Blacktop Inc.'s Tyler Wasserman



Runway Resurfacing at Fairfield County Airport
Fairfield County Airport Authority
Paving Contractor: The Shelly Co.

Notifying the project owner of worse-than-expected pavement conditions, and coordinating with the airport to enable important flights to land, The Shelly Company's work for the Fairfield County Airport was recognized by NAPA at a 2016 Quality in Construction Award for airport pavements. Upon seeing unexpected issues with existing pavement conditions when beginning the milling and resurfacing of Runway 10/28, Shelly resolved the problem by paving in two lifts – a ½-inch intermediate course and a 1½-inch surface course. The result was excellent smoothness. Shelly also coordinated with the airport to allow landings before lane striping was completed.

The Shelly Company's Kenny Untied (left) and Joe Bice

Runway Rehabilitation at John Glenn Columbus International Airport, Franklin County
Port Columbus Regional Airport Authority
Paving Contractor: Shelly & Sands Inc.

Because John Glenn Columbus International Airport was restricting flight operations to a single runway during the rehabilitation of Runway 10L/28R, Shelly & Sands worked within tight construction restraints. In successfully completing the project, Shelly & Sands placed more than 87,000 tons of asphalt in rehabilitating and resurfacing the 8,000-foot-by-150-foot runway, 25-foot shoulders and three taxiways.

Shelly & Sands Inc.'s Ned Pouty (left) and Columbus Regional Airport Authority's David Gotschall

Runway Rehabilitation at Lewis A. Jackson Regional Airport in Greene County
Lewis A. Jackson Regional Airport
Paving Contractor: John R. Jurgensen Co.

High-quality asphalt pavement on Runway 7/25 at the Lewis A. Jackson Regional Airport was achieved through the use of a robotics system by John R. Jurgensen Company to control milled and paved surface elevations. Recognized as a NAPA 2016 Quality in Construction Award winner for airport pavements, John R. Jurgensen performed full-depth repairs and mill and overlay of the runway, replaced a taxi crossover and constructed a new holding apron – all within a tight, 30-day schedule.

John R. Jurgensen Company's Brian Trainer (left) and Ben Fist

Runway Rehabilitation at Cambridge Regional Airport
Cambridge Area Regional Airport Authority
Paving Contractor: Shelly & Sands Inc.

In rehabilitating Runway 4-22 at the Cambridge Regional Airport, Shelly & Sands milled a ½ inch of existing runway surface and placed a nominal leveling course before installing a paving fabric over the entire runway and taxiway, and finishing by applying a 2-inch asphalt surface course. Following paving, the runway was grooved to meet FFA and airport safety guidance for jet aircraft operation.

Shelly & Sands Inc.'s Jim Hamm (left) and Cambridge Area Regional Airport Authority's Brenda Dolweck

Runway Rehabilitation at the Wadsworth Municipal Airport
City of Wadsworth
Paving Contractor: The Shelly Co.

The rehabilitation of Runway 2-20 at the Wadsworth Municipal Airport called for a fast-paced, three-phase project needing completed in 38 calendar days. The Shelly Company completed the October project within 30 days to the satisfaction of airport officials. Along with completing a 2-inch milling, pavement repairs and installing underdrains, Shelly finished the rehabilitation by using P-401 in both the variable thickness leveling and 2-inch surface courses.

The Shelly Company's Rob Myers (left) and City of Wadsworth's Jim Bozigar

The Master Craftsman Award is presented to a contractor whose work has stood the test of time when it comes to quality asphalt pavement construction. To be eligible for this award, a pavement surface has had to have exhibited a minimum service life of 15 years, is still in service, or has been resurfaced in 2016 and maintains an acceptable level of service. This year, four pavement surfaces are being honored for their master craftsmanship and service.

MASTER CRAFTSMAN AWARDS

S.R. 582 & S.R. 590 from Wood County to Sandusky County and S.R. 105 from the Village of Lindsey to Ottawa County
ODOT District 2
Paving Contractor: Gerken Paving Inc.

Originally constructed in 2001, by Gerken Paving Inc., the paving of state routes 582 and 590 from Wood County through Sandusky County and S.R. 105 from the Village of Lindsey to the Ottawa County line have had no significant treatments in their more than 15 years of service.

Gerken Paving Inc.'s Jeff Giesler (left) and ODOT District 2's Eric Heckert

Fort Washington Way (I-71/U.S. Route 50) in the City of Cincinnati
ODOT District 8
Paving Contractor: John R. Jurgensen Co.

Also known as the "trench project," the Fort Washington Way Project in downtown was the major reconstruction of I-71. Completed in 2001 by the John R. Jurgensen Company, the project was originally designed as a stone matrix asphalt surface. This pavement has exhibited exceptional service in an extreme high-traffic environment.

John R. Jurgensen Company's Brian Trainer

Woerner Temple Road, Phase 1 & 2 from Parkwood Place to Avery Road in the City of Dublin
City of Dublin
Paving Contractor: The Shelly Co./Northwood

Opened to traffic in the summer of 1999, these pavements remain in very good condition and provide exceptional service 17 years later. These projects are located in the City of Dublin and were constructed by Northwood Paving.

The Shelly Company's Ben Koehler (left) and City of Dublin's Ken Richardson

Eiterman Road & Woerner Temple Road from Shier Rings Road to Avery Road in the City of Dublin
City of Dublin
Paving Contractor: Decker Construction Co.

Completed in 2001 by Decker Construction Company, Eiterman and Woerner Temple roads in the City of Dublin, from Shier Rings to Avery roads, are still performing well and exhibiting minimal wear.

Decker Construction Company's Jonathan Apple (left) and City of Dublin's Ken Richardson

INDIVIDUAL AWARDS

Presented during the Ohio Asphalt Expo's Prayer Breakfast, the 2017 individual awards were announced by FPO President/Executive Director Cliff Ursich. Marking his 10th year leading FPO, Ursich introduced and awarded the Industry Service and William W. "Bill" Baker awards.

INDUSTRY SERVICE AWARD

Since 2003, Flexible Pavements of Ohio has been honoring individuals with the Industry Service Award. The award is presented to those who have made significant contributions to the asphalt industry and whose selfless service has advanced the association's mission.

Ironically, the 2017 recipient of the Industry Service Award is H. Wayne Jones, P.E., a senior regional engineer for the Asphalt Institute, a group that fulfills many of the same missions on the national level as FPO does for the state. Jones has been based in central Ohio with the Asphalt Institute since 2001. During that time, he has helped the Institute promote safe use, benefits and the quality performance of petroleum asphalts

While Jones has made his mark at the Asphalt Institute, his work was well known prior to his arrival to the organization. A nearly 30-year veteran of the highway construction industry, Jones has worked as a paving contractor for project owners such as NASA, NASCAR, Disney World and Universal Studios. He is a recipient of numerous honors at the state and national level as a paving contractor. "You can see," FPO President/Executive Director Cliff Ursich said, "that Wayne brings to the Asphalt Institute a wealth of knowledge; and by virtue of the fact that he participates in our committees FPO members are benefited."

Jones serves on FPO's Technical Committee, where his perspective is backed by his paving experience and understanding of asphalt producer issues on the national level. His knowledge is also a valued resource for FPO and the industry as an instructor at asphalt technical seminars throughout the state and region.

FPO's Industry Service Award recipient has also greatly helped the industry in the areas of marketing and advocating. When the amount of asphalt tonnage dropped in the mid-2000s, Jones assisted FPO's efforts in "troop training" to educate members about available sales tools that would promote the use of asphalt pavements. He also has been a true advocate for asphalt performance, working to dispel misleading information and mischaracterizations by competing groups.

"Wayne is a respected spokesman for the asphalt industry," Ursich said. "He represents us to Federal Highways, ODOT and as a member of the North Central Producers Group … The members of Flexible Pavements have enjoyed the tremendous benefit of having Wayne Jones serving our industry."

WILLIAM W. "BILL " BAKER AWARD

In his nearly 30 years with the Ohio Department of Transportation, David Powers has led the Central Laboratory Asphalt Materials Section. So it's a very good chance you are driving and benefitting every day on some of the more than 183.6 million tons of asphalt of which he has overseen the materials testing, assurance and acceptance.

Since the late 1980s, much has changed and improved as far as asphalt materials. According to FPO President/Executive Director Cliff Ursich, all through these industry-sweeping initiatives there is one thing that was consistent: "The methodical, level-headed, rational approach to successful implementation that was provided through Dave Powers."

Dave Powers was introduced by Ursich as the 2017 recipient of the William "Bill" Baker Award, which is esteemed highest among all of the awards presented by FPO. The award is named in honor of the former Flexible Pavements Inc. president who directed the association from 1976-1991. Of Baker and this year's recipient, Ursich said, "Bill Baker was known for his effectiveness as an industry advocate. He was a man who encouraged high quality and innovation ... Effective, Innovative, a commitment to high quality, and a broad impact to the industry, these are the qualities sought in a candidate for the Baker Award. These qualities are indeed seen in this year's recipient."

A civil engineering graduate of Ohio State University, Powers initially was involved in the private sector doing mechanical engineering and quality assurance. Upon joining ODOT in 1988 as the Bituminous Materials Engineer, Powers has served as the section chief of what is now known as Asphalt Materials.

The Asphalt Materials Office not only performs testing on asphalt binders and mixes, but also oversees a statewide asphalt binder certification program that ensures Ohio roads are sufficiently supplied with high-quality binder.

Powers joined ODOT when the state was ramping up its asphalt program. Ursich said, "Wise and professional leadership at the ODOT asphalt lab was an absolute necessity." Powers fit that role, as two years into his position ODOT let an 8.5-million ton asphalt program. To give some perspective on that 1990 amount, ODOT let a 4.4-million ton asphalt program in 2016.

Over his nearly three decades with ODOT, Powers has been on the forefront of "sweeping changes in production, materials and acceptance methods of asphalt concrete," said Ursich. During Powers' tenure, the range of asphalt mixtures and designs that he has played a major role include stone mastic asphalt to polymer modifications, to Type 1-Heavy (Type 1-H) to Superpave – among others. His evaluation and economic analysis of polymer modification played a role in this technology, earning recognition by the Ohio Society of Professional Engineers as its "New Product of the Year." His career has also seen the Superpave asphalt binder classification system adopted in Ohio, the Advanced Quality Control Process become the norm, and most recently the deployment of Smoothseal and Thinlay Asphalt Concrete.

"Dave," Ursich said in his announcement of the 2017 William Baker Award, "we thank you for your leadership and professionalism. We're a better industry for it."

SHELLY & SANDS AMONG FINALISTS OF SHELDON G. HAYES AWARD COMPETITION

From left, 2016 NAPA Chairmen Kevin Kelly, of Walsh & Kelly, Inc., and Shelly and Sands' Ed Morrison, Todd Young and Harold Walton.

Shelly & Sands Inc. was recently announced as one of the top finalists for the 2016 Sheldon G. Hayes Award, the National Asphalt Pavement Association's (NAPA) most-esteemed honor for quality asphalt paving.

The Sheldon G. Hayes Award, which was announced this spring, honors the nation's best highway pavements exhibiting exemplary quality.

Shelly & Sands' project on Interstate 77 in Noble County was one of five projects honored among the nation's best 2015 projects. Work on I-77 featured more than 64,000 tons of asphalt used in two lifts, which included a 1.75-inch 19mm binder and a 1.5-inch 12.5mm surface course. The ODOT project, which was the first for Shelly & Sands under Ohio's new joint testing requirements, required the company to submit 6-inch cores on the pavement joint that met the minimum 90 percent within limits (PWL) guideline. Shelly & Sands achieved maximum density on the project by trimming the existing joint by four inches prior to paving the adjacent lane.

To determine the winner and finalists in the Sheldon G. Hayes Award program, asphalt pavement projects undergo three rounds of rigorous evaluations over a two-year period. The first step is submitting the project for a NAPA Quality in Construction (QIC) Award. Projects meeting the set criteria that utilize more than 50,000 tons of asphalt pavement mixture are considered for the Sheldon G. Hayes Award. One year after receiving a QIC, the pavements are tested for smoothness following a minimum of one year under traffic conditions. After additional evaluation and examination, the highest scoring project is announced.

This year's announcement as a Sheldon G. Hayes Award finalist was the first for Shelly & Sands, and the eighth time an Ohio paving contractor was among the award's finalists. Ohio has had two overall winners in the competition's 45-year history – John R. Jurgensen Company (1983) and The Shelly Company (2012).

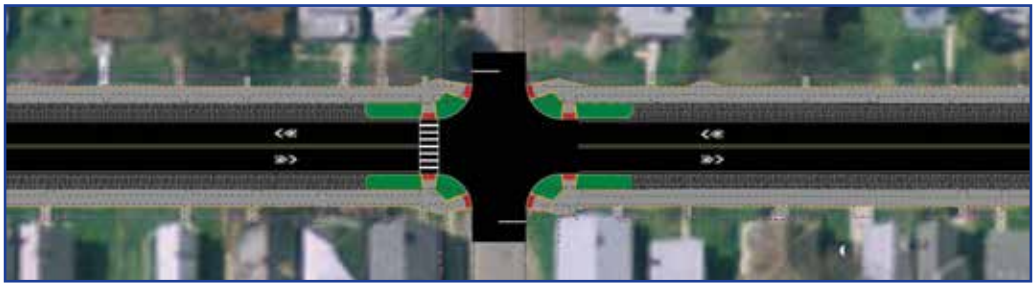
Josh Lockhart, P.E.

Pervious Pavement Use for Cost-Effective Drainage Solutions

By Josh Lockhart, P.E.

Hague Avenue – from Broad Street to Sullivant Avenue on the City of Columbus' west side – was in desperate need of rehabilitation. The existing roadway had been overlaid repeatedly over the years, resulting in minimal curb reveal, limited drainage conveyance and roadway delineation. To make matters worse, the existing pavement had begun to deteriorate, with significant reflective cracking.

Crawford, Murphy & Tilly Inc. (CMT), a consulting engineering firm headquartered in Illinois but has Ohio offices in Columbus and Springboro, began working with the City of Columbus in 2013, examining alternatives and opportunities for roadway improvements. At completion of the preliminary engineering analysis, it was determined that full-depth reconstruction would be the appropriate remediation.



CMT worked closely with the City of Columbus to implement user-based design improvements – such as curb extensions, which calm traffic, help protect parked vehicles, and increase safety for motorists, pedestrians and bicyclists.

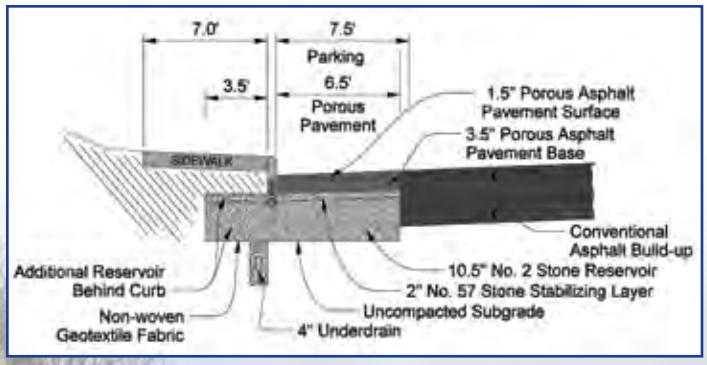
With these constraints, CMT used the proposed roadway layout to implement a solution that had never been constructed in the city before – porous asphalt pavement within the protected parking areas. When the analysis was complete, it was determined that the porous asphalt design would offset the lack of drainage, improve water quality and promote infiltration back into the groundwater system. As an added benefit, it could be constructed at a cost savings when compared to installing a new storm sewer main.

To provide an accurate cross section that would meet the traffic loading requirements for the parking lane, the design followed the same methods as shown in the ODOT Pavement Design Manual for flexible pavement. The National Asphalt Pavement Association, Informational Series 131 – Porous Asphalt Pavements for Stormwater Management guide was used for the structural number (SN) layer coefficients.

Recommended layer coefficients for porous pavements	
Material	Layer Coefficient
Porous Asphalt	0.40 – 0.42
Asphalt Treated Permeable Base (ATPB)	0.30 – 0.35
Porous Aggregate Base (Stone Recharge Bed)	0.10 – 0.14

NAPA IS 131

Design assumed that the parking lane would see 10 percent of the traffic that traveled the through lanes of Hague Avenue. Along with the same factors used in the flexible pavement design, this showed that a structural number (SN) of 2.7 was required. As a precaution – due to the limited documented use of porous asphalt in a parking lane and central Ohio's cold weather climate – a 20 percent safety factor was applied, raising the required SN to 3.24. The recommended layer coefficients are slightly lower than that of typical asphalt, and CMT conservatively chose to use the low end of each coefficient in the calculations, resulting in a total buildup of 17.5 inches – 5 inches of porous asphalt over 2 inches of a No. 57 stone stabilizing layer on 10.5 inches of a No. 2 stone reservoir.



Thickness (in)	Cost Sq Ft	Description
1.50	$1.32	Open Graded Asphalt Friction Course (Surface)
3.50	$2.38	Open Graded Asphalt Base Course
2.00	$0.49	Stabilizing Layer (No. 57 Stone)
10.50	$1.62	Stone Recharge Bed/Reservoir (No. 2 Stone)
-	$0.25	Geotextile Layer
17.50	$6.06	Total Buildup and Cost Per Square Foot

When comparing actual bid costs for the project, the cost of the conventional asphalt buildup was $4.45, compared to $6.06 per square foot for the porous asphalt. With 30,000 square feet of porous asphalt surface area, there was an added cost of approximately $50,000 for the use of the porous asphalt buildup in place of the conventional asphalt buildup in the parking lane. Even with the added cost, there was still an estimated $250,000 savings to the $3.127 million project when compared to having to install a new storm sewer main.

Hague Avenue is currently under construction. The south-bound lane shown was constructed during the 2016 season. The north-bound lane and remainder of the project are expected to be completed in early summer of 2017.

Once the project is completed, with proper maintenance, the porous asphalt will continue to provide significant drainage benefits:

- Delayed and decreased peak discharge into the stormwater system
- Reduced stormwater volume carried by the system
- Infiltration groundwater recharge
- Improved water quality by capturing pollutants

FPO Scholarship Recipient Relying on Knowledge of Asphalt as County Engineer

Monroe County's Zwick Helping O&G Industry, Residents Share the Road

By Emily Foster

A two-year recipient of Flexible Pavements of Ohio's Asphalt Industry Scholarships has been elected Ohio's second female county engineer. Amy Zwick took office in January in Monroe County in Eastern Ohio, where a booming oil and gas (O&G)industry with its enormous trucks hauling oil pad scaffolding and other heavy equipment presents challenges to the county's 372 miles of roadways and 180 bridges. Zwick's work is cut out for her as she works with contractors, attends public meetings and reviews and approves Road Use Maintenance Agreements (RUMAs).

She says her asphalt course at Ohio University recently came in handy. "I still have my book from that class. It's nice to have that reference. Oil and gas is huge here right now. On a daily basis if we don't say 'O&G' 100 times a day there must be something wrong. So it's good to know about the 442 asphalt surface course specification for heavy truck traffic," she says. Her FPO asphalt scholarships were sponsored by The Shelly Company in 2002, and Northstar Asphalt Inc./Kenmore Construction in 2003.

While the oil and gas business has largely changed from pads to pipelines (including the Rover pipeline, scheduled — fingers crossed — for completion in June or July of this year), the industry continues to be "on fire," as she puts it. There are about 70 active RUMAS now, and more than 150 in the past few years for both pads and pipelines.

So big a factor is O&G that the Monroe County Engineer's budget of $3.5 to $3.6 million is overshadowed by the industry's roadway contribution of $7.7 million. Zwick hopes to ensure that those investments are sustainable. "I'd like to focus on maintenance and let our investment last longer," she says. "So let's spend wisely and make it go as far as it can go. That $7.7 million, if they can invest that in full-depth reclamation, (it) really gives us a great foundation for the future."

To this end, Zwick brought together representatives of eight companies to work out cost-sharing agreements. The RUMAs have been revamped as well. In a new RUMA, trucks cannot use any road less than 14 feet wide, to ensure local traffic can be maintained around large vehicles. A small thing, perhaps, but even in rural Monroe County folks have to get to work on time.

In ongoing negotiations with contractors, Zwick says she tries to bring down-to-earth practicality. Access to well pads requires prior roadwork because the rigs are so heavy. The pipeline companies, whose loads are lighter, tend not to do road improvements before they use them. One company chose not to improve the road they used before starting work. Not a good move, as Ohio entered a warm winter. It turned out the road had to be shut down during work because of deep rutting. She used the shutdown to appeal to

the company's financial best interest. "They're coming around," she says. And on the whole, she concludes, "The companies are doing a real good job working with us."

Ever since her college years, Amy Zwick has reached for new challenges. During her freshman year at Ohio University she aimed at a degree in recreation and sports science. She found out almost immediately that it was "too easy." Her test scores had pointed in a different direction, and after a tour of the course catalog she settled on engineering. By the third quarter of her freshman year, her surveying professor suggested a summer job in that field. She loved it.

The asphalt scholarship introduced her to bituminous pavements and asphalt through the "very interactive" asphalt course that included participation in FPO's asphalt mixture competition. The winner of the competition among Ohio's universities competed nationally. Students developed different mix designs for rutting resistance and presented findings to a panel of experts. She still has the video of her presentation and her now-helpful memory of surfacing heavy-use pavements with 442.

After graduation with a degree in civil engineering, Zwick worked sequentially as a surveyor in training with Vernon Surveying and an engineer in training for Lock One (now Pickering Associates). She earned her professional engineer and professional surveyor certifications. She got a reputation as a team leader and a variety of engineering experience.

Then she became deputy engineer in Washington County. Former Washington County Engineer Bob Badger gave her a glimpse into the power of that office to improve life in places like her home county of Monroe. His successor, Robert Wright, "took me under his wing" for the two-and-a-half years before she ran for office. Meigs County Engineer Gene Triplett, who was also Zwick's surveying professor in the Russ College of Engineering, has long been a mentor and booster, too. Zwick says, "He was always asking me, 'When are you going to run?'"

When the opportunity arose in Monroe County, Zwick ran. She overcame shyness at speaking before audiences. She won. She's now behind the desk, putting out fires, facing large audiences of professionals and the public. She talks confidently of managing expectations. She says she learns more on the job in a week than by reading a book. And she faces her new job with characteristic determination: "How do you eat an elephant? One bite at a time."

The Ohio Asphalt Scholarship Program

Since 1996, Flexible Pavements of Ohio has offered scholarships to full-time college students in civil engineering, construction management or construction engineering. To date, 448 students have benefited from FPO scholarships totaling more than $599,000.

Students at 10 Ohio universities are eligible to apply. Recipients are selected competitively. To encourage interest and increase knowledge in asphalt paving technology, scholarship students must take at least one, two- or three-hour course in asphalt pavement technology.

The scholarships are sponsored by FPO member companies:

- Martin Marietta Aggregates
- Barrett Paving Materials Inc.
- Burgett Family/Kokosing Construction Company
- Erie Blacktop
- Gerken Paving Inc.
- John R. Jurgensen Company/Valley Asphalt
- Ohio CAT and Caterpillar Inc.
- Kenmore Construction Company/Northstar Asphalt Inc.
- Shelly and Sands Inc.
- The Shelly Company

Other individuals and companies also contribute to the scholarship fund.

Applications are open to students of sophomore and junior class standing who will be juniors, seniors or fifth-year undergraduate students in the following academic year and to graduate students in asphalt-related fields. Eligibility details and the application form can be found online at flexiblepavements.org.

The scholarships are administered by FPO through the National Research and Education Foundation of the National Asphalt Pavement Association. Recipients are announced at the Ohio Asphalt EXPO held in March of each year.

Looking for Past Ohio Asphalt Scholarship Recipients

Flexible Pavements of Ohio wants to know more about the contribution to the industry of participants in the Ohio Asphalt Scholarship Program. If you have previously received one of these scholarships, please contact us at (614) 791-3600 or info@flexiblepavements.org and update us on the status of your career in the industry.

Mark Your Calendars

Ohio Transportation Engineering Conference
October 10-11, 2017
Columbus Convention Center
400 North High Street
Columbus, Ohio 43215

The Ohio Transportation Engineering Conference (OTEC) is a two-day event attended by more than 3,000 transportation professionals from throughout the nation. OTEC is co-sponsored by the Ohio Department of Transportation and The Ohio State University.

Visit the OTEC website at www.otecohio.org for up-to-date conference information as well as archived material from previous conferences.

Ohio Asphalt Paving Conference
February 7, 2018
The Fawcett Center
The Ohio State University
2400 Olentangy River Road
Columbus, Ohio 43210

The Ohio Asphalt Paving Conference is a collaborative effort of state and local government, academia and the asphalt industry to present practical, usable technologies and strategies for the design and construction of asphalt pavements.

Visit FPO's website at www.flexiblepavements.org for more information regarding this event.

Ohio Asphalt Expo
March 20-21, 2018
Columbus/Polaris Hilton Hotel
8700 Lyra Drive
Columbus, Ohio 43240

The Asphalt Expo is Ohio's premier asphalt pavement event with multiple concurrent educational sessions and an indoor and outdoor trade show and exhibition. If you construct, inspect, manage or maintain local or private transportation infrastructure, the Ohio Asphalt Expo has the information you need to ensure a successful, long-lasting asphalt pavement.

Visit the Expo website at www.ohioasphaltexpo.org for more information regarding this event.

New Member Welcome

Flexible Pavements of Ohio would like to welcome the following companies as new members of the association.

Producer Members
Blackstone Asphalt Inc.
Brown County Asphalt Inc.

Contractor Members
Asphalt Fabrics & Specialties Inc.
Swank Construction Co.

Associate Members
AMG Peterbilt
Constellation
GeoStabilization International
Pavement Technology Inc.
Pine Test Equipment Inc.
Site Supply Inc.

Please join us in welcoming our new members.

Hank "Herk" Wolfe (standing) in his Hancock Asphalt office in 1998.

The late-Dean Miller (far left) at a 1998 FPI Board of Directors event.

A Tribute to Asphalt Industry Leaders

Dean Miller & Herk Wolfe

The first quarter of 2017 brought the passing of two men whose leadership was an essential element in the prospering of Ohio's Asphalt Paving Industry. Dean Miller, of Miller Bros. Construction, in Archbold, passed away January 27 at the age of 72 after a long and courageous battle with cancer. Harold "Herk" Wolfe, of Hancock Asphalt, in Upper Sandusky, passed on March 2nd at the age of 86.

Both men served the industry with distinction as Flexible Pavements of Ohio (FPO) board members.

The Miller family entered the asphalt paving business in 1972, when it opened its first asphalt plant. When asked of the family's entrance into the asphalt business, Dean was quoted as saying, "We wanted to get into the asphalt business because we feel it's a quality product and there's a lot of asphalt work to be done in Ohio. Asphalt is everywhere in Ohio because in most situations it makes sense." Under Dean's leadership, the company was recognized statewide for quality. Trophies of quality included Quality Paving Awards for smoothness on the Ohio Turnpike, paving of the Toledo Zoo and Owens Corning. Dean would say, "Quality is a must." It was that attitude that led FPO membership in 1993 to elect him to the association board of directors.

Harold "Herk" Wolfe, a man larger than life, also served FPO membership as a director. In his youth his passion was basketball, and as an athlete he led Findlay College to its first National Association of Intercollegiate Athletics (NAIA) appearance. He led the nation in scoring in 1952-53, and his single-game collegiate scoring record of 62 points was eclipsed by Wilt Chamberlain a decade later. This passion and competitive spirit of Herk's was lived out in his asphalt industry exploits as Hancock Asphalt's chairman of the board. Hancock Asphalt was established in 1960, when it bought a small hot mix plant in the Akron area so they could get a "little bit of that road business." The Akron plant supplied asphalt for one of the first nighttime paving jobs on Interstate 76, as well as a number of runways at the Canton Airport. From his early days in the asphalt business, Herk's collegiate competitive spirit shown through. He was a champion for quality materials and quality asphalt pavement construction. Taken note by his contemporaries, Herk was nominated and elected chairman of the Flexible Pavements Inc. Board of Directors in 1980.

We, the members of Flexible Pavements of Ohio cherish the legacies of Dean Miller and Harold "Herk" Wolfe. Their leadership has provided significant service to us and have fulfilled the mission of this association: "… To develop, improve, and advance quality asphalt pavement construction." To the families of Dean Miller and Herk Wolfe, we too mourn your loss and you have our sympathy. We rejoice in the goodness that has been accomplished through Dean and Herk's life endeavors to serve your families, employees, their asphalt business associates and the traveling public.

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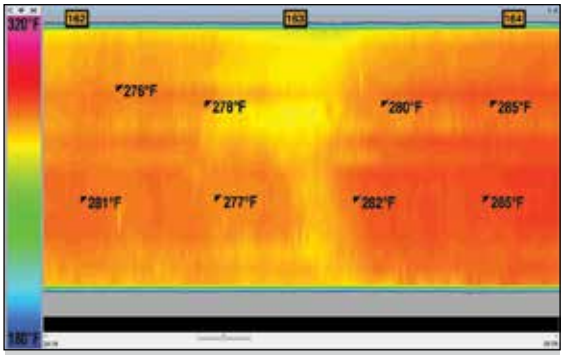

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