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- THE PRESIDENT'S PAGE 6
- **GUEST COMMENTARY: MIKE ACOTT, NAPA PRESIDENT** 10
- 14 OHIO'S ASPHALT INDUSTRY MEETS WITH AUSTRALIAN DELEGATION
- 2015 Ohio Asphalt Expo set for March 3 & 4 16
- PAVEXPRESS EASES PAVEMENT DESIGN 18 BASED ON INDUSTRY STANDARDS, NEW WEB-BASED TOOL AIDS IN SPECIFYING TECHNICALLY SOUND PAVEMENTS
- **CITY OF SOUTH EUCLID CASE STUDY** 20
- 24 **ODOT DISTRICT 8 RECEIVES PERPETUAL PAVEMENT AWARD**
- MARK YOUR CALENDARS/NEWSMAKERS 26
- **OBITUARY** 28
- WHY ADVERTISE IN OHIO ASPHALT? 29
- 30 INDEX TO ADVERTISERS



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ON THE COVER: The season's first substantial snowfall truly MADE FOR "DRIVING IN A WINTER WONDERLAND." FLEXIBLE PAVEMENTS OF Ohio wishes you safe driving this season, Merry Christmas and HAPPY NEW YEAR!



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

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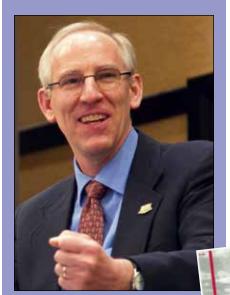
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THE PRESIDENT'S PAGE



CLIFFORD URSICH, P.E.
PRESIDENT & EXECUTIVE DIRECTOR

"The AASHO Road Test staff had it right when they wrote, 'Highways are for the comfort and convenience of the traveling public.' Today's transportation engineers need to pick up where **Road Test engineers** left off. When AASHO engineers embarked upon the Road Test in 1957, they couldn't in their wildest imagining ever have anticipated the growth of traffic and economic robustness that would ensue as a result of their pioneering work."

It's A Good Choice to Travel this Way

As a young pavements and materials engineer making my way in the asphalt pavement association business, I had the wonderful opportunity to be mentored by two elder statesmen who understood the importance of

pavement serviceability. The one would opine how revolutionary it was that engineers would measure the performance of a roadway based on the level of "service" it provided to the motorist. It pained them both to see agencies abandon

this measure of pavement performance for one focused solely on pavement condition (i.e. cracking, rutting, faulting, raveling, spalling, etc.). The customer factor (i.e. motorist's comfort) would be lost from the equation and the measure of performance relegated to crack lengths, ruts and number crunching.

The AASHO Road

The pavement serviceability concept came about as engineers and scientists at the famed American Association of State Highway Officials (AASHO) Road Test wrestled with finding a measure of pavement useful life. They could have relied solely upon a measure of observed pavement distresses - but they did not. They viewed pavement distress measurements as a needed element of the rating concept, but not the primary element. They acknowledged that highways were for the comfort and convenience of the traveling public, and as such any measure of pavement useful life should consider this element. This led to what many would say is an uncharacteristic approach for engineers. The AASHO Road Test staff melded objectivity and subjectivity into the pavement design methodology. Their premise was this: "There are physical characteristics of a pavement which can be measured objectively and which can be related to subjective evaluations. This procedure produces an objective serviceability index."1 As the story goes, the Road Test staff

Acceptable? Yes No Undecided	5 Very Good 4 Good 3 Fair 1 Poor Very Poor
Section Identification Rater Date Time Figure 1: Pavement serviceability rating card used by AA responses to pavement characteristics	

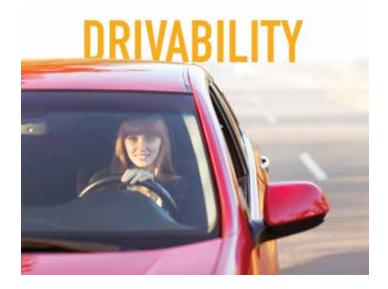
employed the help of the public to obtain subjective ratings of the test pavements' suitability. This essentially was a measure of riding comfort. What resulted from their work was the "serviceability performance" concept, which acknowledges the truism that rideability should be a preeminent consideration in pavement design.

AASHO would change its name to AASHTO (American Association of State Highway and Transportation Officials), but the work done on the Road Test continues to endure. The asphalt pavement design process formulated from the Road Test has served the nation very well over these many years. Ohio in particular has benefited, as evidenced by the fact that no deep-strength asphalt pavement on Ohio's Interstate System has needed reconstruction.

FROM SERVICEABILITY TO DRIVABILITY

The AASHO Road Test staff had it right when they wrote, "Highways are for the comfort and convenience of the traveling public." Today's transportation engineers need to pick up where Road Test engineers left off. When AASHO engineers embarked upon the Road Test in 1957, they couldn't in their wildest imagining ever have anticipated the growth of traffic and economic robustness that would ensue as a

result of their pioneering work. Their asphalt pavement design method would demonstrate itself suitable for ensuring enduring life under these extreme conditions. Not so, for the concrete pavements. Truth is, Road Test engineers planned for pavement failure. Asphalt and concrete pavements alike were supposed to die after a forecasted period of traffic. However, the enduring nature of the asphalt pavements demonstrates



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7

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a trait beyond serviceability. It's a trait that in recent months has been defined as "Drivability."

Like AASHTO's Serviceability concept, Drivability acknowledges that roads are for the comfort and convenience of the traveling public. However, Drivability goes beyond that. Drivability addresses convenience to the traveling public in a much broader way. It encompasses the implications of major reconstruction of pavements and the ensuing impacts such as disruption to motorist convenience, and cost impacts to motorists and rehabilitation budgets. It includes sustainable solutions that are truly sustainable — they both save money and are "green."

A pavement that has Drivability is one that is designed to meet the customers' demands for safe and reliable motoring with minimal disruption. Pavements with Drivability are the ones you can *DRIVE ON!* It's completely reusable. It has enduring structural life that facilitates use of pavement preservation strategies the likes of Thinlays and surface treatments. It eliminates costly pavement rebuilds.

CHOOSING A NEW WAY

It seems a natural progression that we move from Serviceability to Drivability, don't you think? It is after all the right and proper thing to do as transportation professionals who are dedicated to doing better. Ensuring Drivability is a new way of thinking about pavement. It's comprised of more than the age-old cycle of design \rightarrow maintain \rightarrow remove and replace. "Drivability" aspires to design and construct for permanence, provide high serviceability, be maintained economically and ensure sustainability.

My mind harks back to Robert Frost's poem, "The Road Not Taken." We stand at the divergence of two roads. One well worn, the other unfamiliar and less traveled. Frost ends his poem: "I took the one less traveled by, and that has made all the difference." Which road will you choose?

"Drivability" - it's a good choice to travel this way.

¹ AASHTO Guide for Design of Pavement Structures

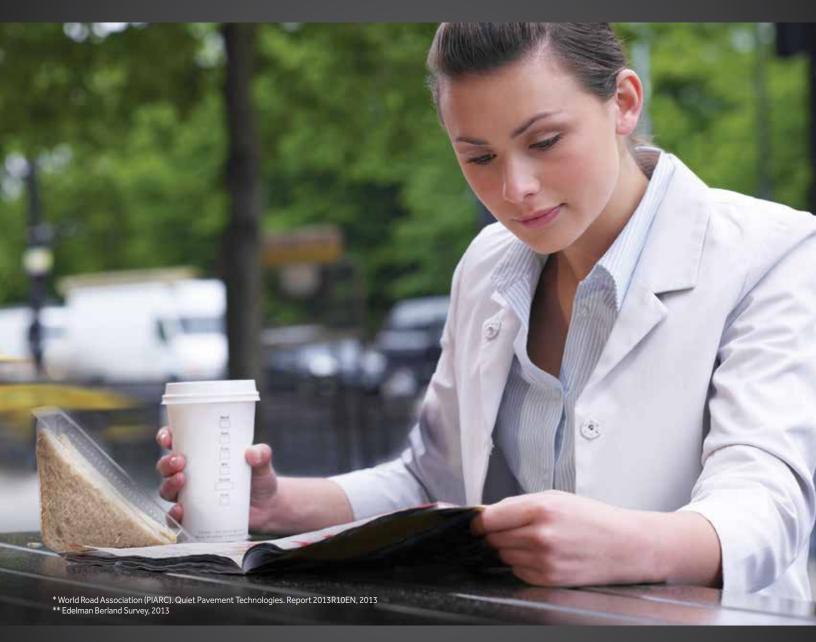
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DRIVABILITY



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Mike Acott, president of the National Asphalt Pavement Association (NAPA), addressed the International Conference on Perpetual Pavements this fall in Columbus. His remarks provided insight to the link between Perpetual Pavement technology, meeting customers' needs and ensuring DRIVABILITY. These

remarks were reinforced in his latest President's Perspective column in Asphalt Pavement Magazine (November-December 2014), which is reproduced in its entirety below.

Acott is a past chairman of the Global Asphalt Pavement Alliance. His career activities involve more than 30 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.

He has served as president of NAPA since 1992, and has belped 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.

Acott has been active in the Transportation Research Board and is a former member of its executive committee. He is also 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.

Perpetual Pavements: Meeting Customers' Needs*

The Drivability Factors of Perpetual Pavement: Smoothness, Safety, Quiet, Easy Maintenance

*Keynote speech at International Conference on Perpetual Pavement, Oct. 30–31, 2014, Columbus, Obio.

By Mike Acott, NAPA President

Perpetual Pavements are designed and built to last without major structural rehabilitation or reconstruction. The design objective is to create an asphalt pavement structure that confines distress to its upper layers. The surface is periodically renewed and maintained at a high level of service for the road user. It's what pavement designers want when they work to balance material use with high-performance design, life-cycle costs and economics.

Now, we know what drivers want, too. Of course, we didn't ask highway users if they want Perpetual Pavements. They don't think in those terms. They leave design concepts like Perpetual Pavement to pavement designers. However, it is clear drivers know what they want — what they demand — from their roads. In 2013 and 2014, Edelman Berland

conducted qualitative and quantitative research. The goal was to better understand the current decision landscape for state department of transportation (DOT) officials, engineers, public works agencies, private developers, toll authority officials, design-build firms and other key stakeholders. In addition to surveying road owners, we also conducted surveys of drivers to better understand what they want from their roadways.

HIGHWAY USER RESEARCH DEMANDS SMOOTHNESS, CONVENIENCE

In December 2013, the first online driver survey of 1,000 U.S. drivers occurred, and was followed by a more comprehensive March 2014 survey of 3,085 U.S. drivers.

In general, drivers were frustrated by our nation's aging infrastructure. They understood the need to invest public funds in the maintenance and upkeep of roads and bridges. Lack of maintenance, causing potholes, cracked, or crumbling pavement, was identified as the most common and frustrating roadway problem encountered.

For drivers, smoothness was the strongest indicator of roadway satisfaction. They want the road to be smooth, safe and quiet, with minimal construction delays.

After gaining insight into drivers' frustrations, we asked questions to determine the trade-offs that drivers were willing to make to ensure smooth, well-maintained roads. The results built on the findings from our earlier research:

- 84 percent of the driving public and 73 percent of truckers wanted roadwork to be conducted during off-peak driving hours so that roads remain fully open to traffic during rush hour.
- More than two-thirds of those surveyed were willing to encounter periodic construction delays if it meant a more consistently smooth road.

Lastly, 69 percent of drivers said they would prefer a road that is resurfaced every 10 years but lasts indefinitely to one that may receive less maintenance but may need to be replaced after 30 to 40 years.

The survey also revealed the importance of maintenance to drivers, with 58 percent saying they want agencies to build roads that are designed to last with regular maintenance. Drivers also want roads that can be repaired quickly (42 percent). They want roads to be well-maintained, safe and smooth.

When we sum up all these desired characteristics in a single word, it is "Drivability." Keeping roads smooth, safe and well maintained with minimal inconvenience is central to providing the public with the high level of performance — of drivability — that drivers want and expect.

We then presented drivers with the financial challenges facing DOTs. Drivers stated they preferred their tax dollars be spent first maintaining existing roads; followed by strong support for increasing the capacity of existing roads; building new roads was considered the least important priority.



ROAD DESIGNERS, MANAGERS CHALLENGED BY SHRINKING FUNDS

In research conducted in 2013, our research firm spoke with executivelevel management at DOTs, public works agencies and concessionaires, and conducted a quantitative online survey with an additional group of transportation engineers, architects, developers and other key stakeholders to understand their challenges.

The in-depth interviews revealed that maintaining infrastructure with a shrinking funding stream was the top challenge facing agencies. They also saw pavement innovation as key to reducing costs while

maintaining a high-quality product. Speed of construction was a key benefit of asphalt with respect to traffic delays and public response.

Given budget constraints, decision makers are paying close attention to ways they can efficiently deliver and maintain a consistent level of service to drivers. They are placing an emphasis on pavement durability, lifecycle costs and the performance of the pavement — how well it provides drivers with a consistent level of service.

Because smoothness is what matters to drivers, a focus on pavement smoothness — both building an initially smooth pavement and maintaining it to ensure smoothness over time — has multiple benefits

for DOTs. According to FHWA, smoothness is an indicator of quality construction. A road that is built smooth remains smoother longer and requires less maintenance over time. When the DOTs and other pavement decision makers were surveyed, 77 percent of them associated asphalt with smoothness.

Respondents also aligned other attributes of asphalt pavements with the priorities cited by drivers. For example, 87 percent of decision makers said there were fewer construction-related traffic delays with asphalt pavements, and 72 percent noted that asphalt had lower rehabilitation costs than concrete.



Together, the results of the driver and specifier surveys had much in common. They created the following roadmap for high customer satisfaction:

- Durable long-lasting pavements
- Reducing costs through pavement innovations
- Building a smooth pavement, and keeping it smooth and well-maintained
- Minimizing construction-related traffic delays
- Public support for funding maintenance and capacity expansion

Together, what do these results have in common? They describe Perpetual Pavements.



PERPETUAL PAVEMENTS GIVE CUSTOMERS WHAT THEY WANT

A Perpetual Pavement is designed by utilizing materials and selecting pavement thickness that limit the tensile strain in the structural layer to below the fatigue endurance limit. The objective is to prevent bottom-up fatigue cracking. It's long-life, high-performing paving structure provides cost savings. Because distress is confined to the surface layer, periodic surface renewal provides a smooth, low-noise surface throughout the life of the pavement.

In addition to its high-performance design, Perpetual Pavements provide significant cost-savings due to their economical designs — never fully reconstructed — optimized materials, innovative technologies and their use of sustainable resources. RAP, RAS, asphalt rubber and polymers can all be used. There is also the ability to incorporate new innovations during surface renewal. Furthermore, existing roads can be converted into Perpetual Pavements by adding to the pavement's structure.

As shown in the table below, there is perfect alignment between what our customers need and what Perpetual Pavements offer. Perpetual Pavements fully meet the needs of both the road owner and the highway user. Perpetual Pavement responds to transportation agencies' need to reduce life-cycle costs; they eliminate user delays associated with pavement reconstruction; and they maintain a high level of drivability. So, what's not to like?

KEY ATTRIBUTES	CUSTOMER NEEDS	PERPETUAL PAVEMENT BENEFITS
Durable Long-Lasting	\checkmark	\checkmark
Reduce Cost	√	\checkmark
Maintain Drivability	\checkmark	\checkmark
Minimize Construction Delay	√	√
Capacity Expansion	√	√





13

Ohio Asphalt Winter 2014



Olen Corporation engineers Tim Rhodes and Jared McCune (standing) provide overview of aggregate extraction operations at the Hartman Farm mine.

Ohio's Asphalt Industry Meets with Australian Delegation

Flexible Pavements of Ohio-member companies and staff met with representatives from Australia's asphalt industry as part of their International Knowledge Transfer Tour 2014. The Australian delegation was comprised of a broad spectrum of industry representatives from liquid asphalt suppliers, asphalt producers, paving contractors and public agency owners. Coordinated and led by the Australian Asphalt Pavement Association (AAPA), the delegation embarked on a 17-day tour of the United States, meeting with contractors and public agency owners with stops in seven states and Washington, D.C.

While in Ohio, the Australian delegation attended the International Conference on Perpetual Pavements 2014 organized by Ohio University in Columbus. This conference provided the Australians with an opportunity to hear presentations from experts from the United States and countries including Mexico, Brazil, Canada and Nicaragua on their experiences with asphalt pavements designed and built with an inexhaustible structural life and needing only periodic surface maintenance.

FPO organized a roundtable discussion between the
Australian delegation and representatives
from The Shelly Company,
Shelly & Sands Inc.,
Gerken Paving

and the Kokosing Construction Company on a wide range of topics such as liquid asphalt binders, Warm Mix Asphalt, construction and lay down techniques and work zone safety. After a mutually informative discussion, the delegation traveled to Kokosing Materials Inc.'s (KMI) asphalt plant and Olen Corporation aggregate operation at Hartman Farm for facility tours. The group later toured construction zones and discussed maintenance of traffic strategies as part of a discovery of technologies to improve work zone safety.

Ohio's asphalt industry was greatly honored to be singled out as one of a few states visited by this delegation, and the Australian representatives were greatly appreciative of the efforts of our member companies in hosting them during their visit. FPO thanks members Rob VanGorder and Bart Moody of Kokosing Construction Co., Larry Shively of The Shelly Co., Wade Hamm and Gary Tuttle of Shelly & Sands, Dean Breese of Gerken Paving Materials, Donnie McNeil of KMI and Tim Rhodes, Jared McCune and Tom Wissinger of Olen Corp. OA







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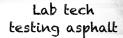
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- New Market, New Opportunities
- Capitol Hill Report
- The Pavement Engineer's Toolbox
- Fundamentals of Paving
- Asphalt Pavement Milling
- Longitudinal Joint Construction
- Sustainable Pavement
- Compaction as a Team Effort
- And more!

What you will gain:

- Expert knowledge from industry professionals
- Information on the latest asphalt technology & equipment
- Professional development credits for certain presentations
- Enthusiasm for the coming asphalt season

SCHEDULE AT-A-GLANCE*:

Tuesday, March 3, 2015

7:30 - 9:00 a.m. Public Agency Forum 7:30 - 9:00 a.m. FPO Membership Breakfast

8:00 a.m. - 5:00 p.m. Exhibitors Expo

9:30 - 11:00 a.m. Concurrent Education Sessions

Educational Session 1

New Markets, New Opportunities

- High Stress Mix Products Chris Lubbers, Kraton Performance Polymers Inc.
- Porous Asphalt Jay Dorsey, Ohio Department of Natural Resources
- P-601 Fuel Resistant Asphalt Ron Corun, Axeon Specialty Products LLC

Educational Session 2

Capitol Hill Report

- Jay Hansen, National Asphalt Pavement Association
- Martin T. Whitmer Jr., Whitmer & Worrall LLC

Educational Session 3

The Pavement Engineer's Toolbox

- PaveXpress Pavement Design Tool George White, Pavia Systems Inc.
- PerRoad Dr. Dave Newcomb, Texas A&M Transportation Institute

Educational Session 4

Fundamentals of Paving, Part 1

Educational Session 5

T.J. Young, T2ASCO LLC

Noon - 2:00 p.m. Quality Asphalt Paving Awards Luncheon 2:30 - 4:00 p.m. Concurrent Education Sessions

Educational Session 6

- Optimizing Technology in Asphalt Companies -Vince Tutino, Lindy Paving
- On-Line Training Opportunities George White, Pavia Systems Inc.

Educational Session 7

Asphalt Pavement Milling

- New Ohio Department of Transportation Milling Specification
 - Eric Heckert, Ohio Department of Transportation

 The Principals & Importance of Quality Asphalt Milling -Aidan McDonnell & Keith Weatherly, Boca Construction

Educational Session 8

- Understanding and Negotiating Critical Contract Clauses Andy Natale, Frantz Ward
- Cooperation, Collaboration, or Collusion Darren A. Craig, Frost Brown Todd LLC

Educational Session 9

Fundamentals of Paving, Part 2

Educational Session 10

T.J. Young, T2ASCO LLC

5:00 - 7:00 p.m. Chairman's Reception

Wednesday, March 4, 2015

7:30 - 9:00 a.m. Prayer Breakfast, FPO Scholarships

& Industry Awards

8:00 a.m. - Noon Exhibitors Expo

9:30 - 11:00 a.m. Concurrent Education Sessions

Educational Session 11

Longitudinal Joint Construction

- ODOT's Next Generation Longitudinal Joint Density Specification - Craig Landefeld, Ohio Department of Transportation
- ODOT's Longitudinal Joint Density Specification Percent Within Limits Implications - Larry Shively, The Shelly Co.

Educational Session 12

- What You Should Know About Sustainable Construction Specifications - Dr. Heather Dylla, National Asphalt Pavement Association
- FHWA Sustainable Pavement Initiative "INVEST" FHWA Representative

Educational Session 13

Compaction as a Team Effort - Chuck Deahl, Fat Boy Roller Co.

*Subject to change



PaveXpress is designed for use by local agencies, engineers, architects, consultants and engineering students who need a reliable way to quickly determine the necessary pavement thickness for a given section of roadway or project. The software only asks users for inputs required to create technically sound pavement designs, and it suggests industry-accepted defaults where appropriate. Context-sensitive help and guidance are available at every step of the scoping process to aid users.

"Not everyone who is called upon to specify a pavement has extensive training as a pavement designer," said Adam Hand, vice president for Quality Management for Granite Construction Inc., who consulted in the development of the web tool. "With PaveXpress, some basic design parameters and traffic data, users can develop pavement designs that are technically sound for the chosen task within minutes."

The simplified pavement design tool is based upon design equations from the "1993 AASHTO Guide for the Design of Pavement Structures" and the "1998 Supplement to the AASHTO Guide for the Design of Pavement Structures." For parking lots, two approaches are used. For heavy-duty sections expected to handle truck and bus traffic, AASHTO

design equations are employed; for light-duty sections, such as parking lots, the tool provides access to state-specific flexible pavement designs based upon industry-accepted standards and guidance. PaveXpress also includes links to state and local guidance as well as to Pavement Interactive to ensure the right pavement is being selected for the job.

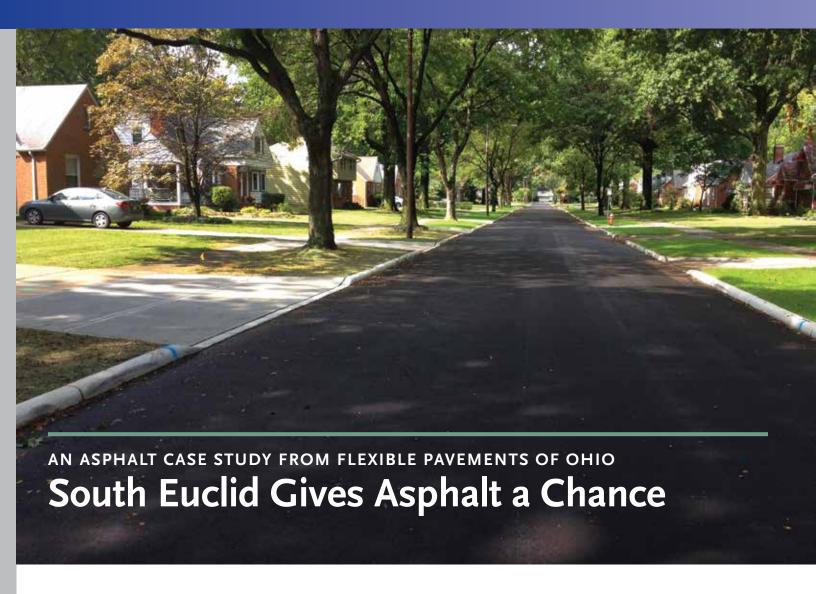
Projects created in PaveXpress can be printed, shared and saved, and design options can easily be evaluated in a side-by-side comparison. As a browser-based tool, PaveXpress can be accessed from any computer or mobile device regardless of screen size or operating system.

PaveXpress was developed by Pavia Systems, a leader in the development of software and technology for the transportation infrastructure sector, with funding from the National Asphalt Pavement Association and the State Asphalt Pavement Associations. Planned future updates to PaveXpress will add modules for the design of overlays, as well as tools for mechanistic-empirical pavement designs.





19



In Northeast Ohio concrete pavements have been the norm. According to Andy Blackley, consulting engineer for the Cleveland suburb of South Euclid, the lake ports have been a source of cement for the Northeast Ohio region, as limestone aggregates are readily available and the area has been a center for sand and gravel, so the ingredients of concrete are easily at hand and the local paving companies are knowledgeable about using it.

It is actually connected to the history of South Euclid, the site of a native sandstone called bluestone that was mined at the McFarland Quarry along Euclid Creek. With the development of concrete as a paving substance, bluestone declined and the wide-open quarry town of the same name eventually was absorbed into South Euclid.

Old habits die hard. South Euclid and neighboring communities have long continued to favor a product they were familiar with for their streets and highways. But that may be changing. As an inner-ring suburb east of Cleveland, South Euclid experienced an early growth spurt in the 1920s. It was incorporated as a city in 1921. The boom stopped with the Great Depression. But with the end of World War II the city again benefited from flight to the suburbs and grew continuously until the 1970s. By then it was largely built up and new growth leapfrogged the city to farther flung suburbs.

Today, according to Blackley, South Euclid is a diverse community of some 23,000 residents supported by commercial development and a small amount of "clean industrial manufacturing." New residential development in 2014 is confined to Cutter's Creek next to Euclid Creek Metro Park. But South Euclid continually reinvents itself. As with the redevelopment of older shopping centers like Cedar Center, the city now looks to sell itself to a next generation of young, first-home buyers to what Mayor Georgine Welo, quoting a newspaper columnist, calls, "an urban Mayberry."



"Our goal is to provide an environment that is both safe and attractive," says Blackley. As part of that goal, he says, "Good pavements give a good first impression that the city is well-maintained and residents are proud of their community."

South Euclid maintains 55 miles of residential streets and shares maintenance of 14 miles of county highway. About two-thirds of the roadways rate "good" to "excellent." The residential streets are mostly old concrete overlaid with asphalt, and the county roads are either concrete or concrete overlaid with asphalt. That's the legacy of South Euclid and other nearby communities.

Most of the streets in the city's subdivisions were built by developers. And when they were built, "People liked concrete, so that's what they used," says Blackley. The Cuyahoga County standards for pavements 20 years ago were "all concrete." While some asphalt streets were laid in the 1980s, concrete continued to be the preferred paver. Streets laid 50 to 90 years ago were seven to nine inches of unjointed concrete.

Blackley acknowledges that at age 15 or so, concrete requires "significant maintenance." In the years 2001 to 2002, a major reconstruction project on residential streets used full-depth asphalt, meaning six inches of



stone base under five inches of asphalt base, overlaid by three inches of Type 448 intermediate and surface courses. He likens this equal to a seven-inch concrete pavement. These pavements, now reaching their projected average life expectancy of 14 years, are in good shape, and Blackley expects them to do well for years past their sell-by date. Most of the residential street rehabs in the period from 2004 to 2014 have replaced concrete pavements using this formula. Only one new concrete street, a partnership with the neighboring suburb of Lyndhurst, has been constructed in the past five years.

Mayor Welo uses the term "cement," but her view of concrete versus asphalt is unambiguous. "We have

Ohio Asphalt Winter 2014

fiduciary responsibilities to the taxpayers, and up here cement doesn't work. It looks nice, but asphalt is much better for us. We get more for our money. It's easier to maintain and it has longevity. There are different ways to make the road last longer."

Mayor Welo, who is in her 11th year in office after serving eight years on City Council followed by a stint on the planning commission, knows South Euclid's challenges and opportunities inside out. She saw as long ago as the Reagan Administration that with shrinking federal budgets, small cities like hers were going to have to practice what she calls "fend-for-yourself localism." She cheerfully translates this into a practical problem women have solved in their homes every day during lean years. "When dollars are shrinking, I think it takes a woman

who knows how to sew buttons, clip coupons and feed a family on a soup bone to respond successfully."

In an older city like South Euclid with older infrastructure, rehabilitation is often on a catch-up basis because of tight funding. The roadway maintenance levy has been renewed every five years, but during a recession there is no political appetite for raising the millage, so every year the city finds itself doing more with less and "trying to stretch the dollars further and further," Blackley says.

Even in the land where concrete has been king, the financial situation alone makes the use of asphalt eminently sensible. Blackley notes that if an asphalt mixture is defective it shows its defects immediately and

Seriously Sustainable

South Euclid prides itself on being a "sustainable" and "green" community. In 2009, the city created the 10-acre Langerdale Urban Marsh to filter storm run-off, replacing an old concrete retention basin that offered both environmental utility and community entertainment, with a wildlife observation deck and tea house.

In addition, the city and a developer together required the Walmart Supercenter being built on the site of the former Oakwood Club golf course to get certification from the Green Energy Building Council's LEED (Leadership in Energy and Environmental Design) program. The store opened in 2013 with a number of energy efficiencies, including landscaping designed to filter parking lot run-off (pictured on page 21).

South Euclid Mayor Georgine Welo says, "We sat down and talked about how we can become a sustainable community in every respect. Not just saving green-scapes, creating pocket parks, planting gardens and retrofitting, but how we can really sustain 100 percent across the board, including our dollars."

What has this to do with asphalt paving? Asphalt is the ultimate sustainable paving material. It is, first, the world's most-recycled material. And for sustainability at the local level, it offers ease of maintenance and the security of knowing that maintenance will be predictable and will not manifest itself as catastrophic roadway failure. According to the mayor, "If you make the decision to fix a road, you want to make sure you have the highest number of years that road will be in the best shape. I look at it in a sustainable manner."

For Welo and her advisers, asphalt is the best option. It's not just price, she maintains, although that is a factor, especially since South Euclid can join other suburbs to buy maintenance materials at wholesale prices. But she likes the idea that "you can take it up and put the same asphalt right down again."

Sustainability is good marketing for an older suburb like South Euclid. But Welo says it also works, looking forward to a bigger surplus in its reserves this year. "We are the poster child for how sustainability can work."



South Euclid's Green Neighborhoods Initiative is an innovative neighborhood revitalization strategy focused on the purchase, rehab and resale of vacant and abandoned homes and the creation of community gardens and community green space, including this one on Warrendale Road.

can be corrected. Not so with concrete, which may look good for years before structural defects become evident, leading to "variable durability."

The excellent performance of asphalt in the street reconstructions, which are undertaken in conjunction with below-ground water and sewer replacements, have given the city confidence in using it. Once laid, asphalt can be maintained indefinitely with preventive maintenance such as crack sealing. Welo adds that the city also partners with three other suburbs to buy crack seal for the roads at a better price. "You can't do that with cement," she says.

An economical pavement rehabilitation the city performs on composite pavement – which is a concrete base overlaid by asphalt - is mill-and-fill, a surface reconstruction in which the city grinds off two inches of asphalt and replaces it with a fresh Type 448 surface.

Keeping the streets in good repair is part of a package of city strategies for attracting the next generation of residents, Welo says. Inner-ring suburbanites like being close to downtown Cleveland, and many use their streets to reach rapid transit stations by bicycle. They need smooth pavements to make biking a realistic form of transportation.

The city also would like to see housing infill and rehab - driving up value by turning a \$100,000 house into a \$200,000 house. "Nothing changes a street like repaving or rejuvenating it," Welo asserts. Along with spiffed-up new signage, which is always part of the package, she adds, "When your street is done you feel like you have a brand new neighborhood." Next thing you know, the neighbors are out planting flowers and showing community pride.

With a limited budget, South Euclid has turned to asphalt to maintain a healthy street repair program while stretching its dollars. The results have given the city increasing confidence in moving its program from the traditional paving material of its past toward a pavement system more in line with its needs and resources. OA



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ODOT District 8 Receives Perpetual Pavement Award





The Asphalt Institute's Pete Grass (right) presents ODOT District 8's Jay Hamilton and Jennifer Elston with the Perpetual Pavement Award at the International Conference on Perpetual Pavement 2014 held in Columbus.

Did you know Ohio has award-winning roads? Often, when drivers head out on the road they think less about how it's constructed and more about whether the road is smooth, quiet and well maintained. They care most about the performance, or the drivability, of a road. Luckily, Ohio is a leader in constructing and maintaining long-lasting, high-performing roadways.

Last year, the Ohio Department of Transportation (ODOT) District 8 was honored with a Perpetual Pavement Award by the Asphalt Pavement Alliance (APA) for Interstate 275 in Clermont County near Cincinnati. The award was presented at the International Conference on Perpetual Pavement 2014 in Columbus on October 30. Since 2001, nearly 100 asphalt pavements across the country have earned this distinguished award, which recognizes roads that are at least 35 years old but have never experienced a structural failure.

Since 2003, ODOT has been honored four times for constructing long-lasting asphalt roads that are easy to maintain, ensuring a smooth, safe ride for drivers over the years.

ODOT's latest Perpetual Pavement Award covers a section of I-275 from milepost 53 to milepost 57, which first opened to traffic in 1972 and was then overlaid with two,

1.25-inch layers of asphalt in 1985. Fifteen years later, in 2000, ODOT milled 2.75 inches from the pavement and laid 3.25 inches of asphalt mix. This section of I-275 has handled approximately 100-million ESALS (equivalent single axle loads) over the years, and on average has a traffic count of about 92,150 vehicles per day.

"We have a history of long-lasting asphalt pavements in Ohio dating back to the original interstate construction in the 1950s," said Cliff Ursich, executive director of Flexible Pavements of Ohio. "Interstate 275 in Clermont County is another example of this exemplary performance, and the fourth pavement in Ohio to be honored with a Perpetual Pavement Award. We look forward to the future as Ohio conducts research on the optimization of Perpetual Pavement design to ensure the most efficient and cost effective long-life pavements that require minimal routine maintenance."

With long-lasting Perpetual Pavements, life-cycle costs are lower because deep pavement repairs and reconstruction are avoided. It also reduces delays for Ohio's drivers, as minor surface rehabilitation requires shorter work windows and can be completed outside of peak traffic hours. To learn more about Perpetual Pavements, visit Flexible Pavements of Ohio's webpage at www.flexiblepavements.org.



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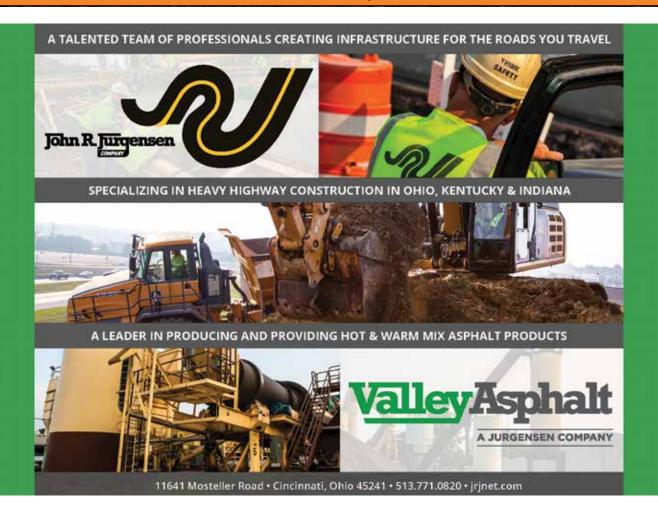


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Level 2 Asphalt Quality Control Technician Training January 21-23, 2015

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Flexible Pavements of Ohio (FPO) offers this training course to prepare individuals having basic lab familiarity to take the Ohio Department of Transportation (ODOT) Level 2 Asphalt Technician Exam. After the training, students will have the opportunity to take the ODOT written examination for Level 2 Asphalt Concrete Technician approval. Individuals who pass the written test will be scheduled for the practical laboratory exam. Achieving Level 2 Asphalt Concrete Technician approval will also satisfy the requirement of newly revised ODOT specifications that individuals who take and handle cores hold an ODOT approval, either FQCS or level 2 or 3 asphalt technicians.

Go to www.flexiblepavements.org for additional information regarding this training.



Ohio Asphalt Paving Conference February 4, 2015

The Fawcett Center
The Ohio State University
2400 Olentangy River Road
Columbus, OH 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.

Go to www.flexiblepavements.org for additional information or to register for this conference.

Comprehensive Asphalt Mix Design School February 9-13, 2015

Ohio Department of Transportation
Testing Laboratory, Lower Conference Room
1600 West Broad Street • Columbus, OH 43223

This course meets the requirements for ODOT HT.306, Asphalt Level 3 training. It is designed to give the participants a working knowledge of the principles associated with asphalt concrete volumetric mix design. On the final day of the course, students will have the opportunity to take the ODOT examination for Level 3 Bituminous Concrete Technician approval.

Go to www.flexiblepavements.org for additional information regarding this training.



Ohio Asphalt Expo March 3-4, 2015

Columbus/Polaris Hilton Hotel 8700 Lyra Drive • Columbus, OH 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.

Go to www.ohioasphaltexpo.org for additional information and to register for this event.



Newsmakers



Ohio Asphalt Now Available as Mobile App

Obio Asphalt keeps the asphalt industry and pavement owners informed and educated on the latest product and materials innovations, construction best practices and relevant discussions to improve the performance of asphalt pavements. This publication is entering a new dimension and is now

available as a free iOS mobile app available in the Apple App Store.

The same great technical information contained in each print issue of Obio Asphalt is now more accessible than ever. The new mobile app allows users to instantaneously download each new issue and begin collecting a growing reference library on their mobile device. The new iOS mobile app is iPad and iPhone compatible and each future issue of *Ohio Asphalt* will be available free of charge.

Visit the Apple App Store to download this free app.

New Asphalt Pavers List Launched

Flexible Pavements of Ohio recently added a searchable, map-based directory of asphalt paving contractors to its webpage. Named the "Asphalt Pavers List," this directory was developed as a tool for pavement owners, designers and general contractors to find quality asphalt paving companies in the state of Ohio.

The Asphalt Pavers List displays all FPO member contractors in the state and allows users to easily search for asphalt paving contractors by city or zip code. Each entry in the Pavers List contains contact information for each company as well as a listing of Quality Asphalt Paving Awards received in the previous five-year period as an indicator of quality performance.

Visit FPO's webpage at www.flexiblepavements.org to view the new Asphalt Pavers List.

2015-2016 Asphalt Scholarship Program

Applications are now being accepted for Flexible Pavements of Ohio's Asphalt Scholarship Program for the 2015-2016 academic year. Undergraduate and graduate civil engineering and construction management students at participating Ohio universities are eligible to apply with qualifying coursework in asphalt pavement technology. The application period is from Dec. 1, 2014 to Jan. 30, 2015.

Interested applicants should visit FPO's website at www.flexiblepayements. org for complete information on program eligibility and to apply for this scholarship.

New Member Welcome

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

AGGCORP has joined as an Associate Member. VAGGCORP Located in Euclid, AGGCORP specializes in the sale and service of crushing and screening equipment for the aggregate, forestry, environmental and recycling industries.



Jones-Warner Consultants Inc. has joined as an Associate Member. Jones-Warner

Consultants Inc. is a full-service professional civil engineering and surveying firm founded in 1994 and located in Franklin.

Ontario Trap Rock has joined as an Ontario Trap Rock. Aggregate Producer Member. Ontario Trap Rock operates a quarry located near Sault Ste. Marie, Ontario, which produces a specialty aggregate known as "Diabase" - commonly referred to as "Trap Rock." This aggregate is a very hard, durable construction material and is shipped throughout Canada and the United States.

Please join us in welcoming our new members.



27



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Obituary: Willis B. Gibboney, P.E. Ohio's Asphalt Industry Honors Passing of a Legend

Willis B. Gibboney, P.E., pavement specialist, former Ohio Department of Transportation (ODOT) Flexible Pavements engineer

and Interstate Pavements engineer,

and dear friend of Ohio's asphalt paving industry, passed away on September 26.

"Gibb," as his friends and acquaintances knew him, proudly served in the U.S. Navy as a gun control man aboard a ship in WWII, Pacific Theater. After the war he married and came to Columbus where he attended The Ohio State University from 1946 through 1950, earning a degree in civil engineering. He began his engineering career in 1950 with ODOT. Exhibiting acumen for flexible pavement construction, he became ODOT's Flexible Pavements engineer. Gibb had an integral role in the advancement and success of flexible pavements for ODOT's highway network. His work in developing construction and materials specifications endures to this day, serving as a foundation for today's asphalt construction specifications. Gibb's responsibilities grew at ODOT, as he took on the role of Interstate Pavements engineer in the Bureau of Maintenance. The observation of interstate pavement performance provided him firsthand experience in understanding the strengths and weaknesses of pavement types, noting that asphalt pavements had the greatest success in providing lasting service and economy. Gibb left

ODOT in 1980 and worked as a pavement consulting engineer in Kuwait. Asphalt being the primary road building material in this oil rich nation, his experience in asphalt pavement construction grew as he learned how to ensure good asphalt road performance in extreme climates such as in Kuwait. At the conclusion of "Operation Desert Storm," photos released of the war showed a bombshell lodged in an asphalt pavement. Gibb quipped how the asphalt pavements he worked on even stood up to the U.S. Air Force bombardment. Gibb consulted as a pavement specialist for Flexible Pavements of Ohio (FPO). His earliest contribution involved solving PCC pavement problems in Ohio using what is now termed "fractured slab" technology. He was featured in the National Asphalt Pavement Association (NAPA) publication *Hot Mix Asphalt Technology* and was a key contributor in the effort to communicate the exceptional performance of asphalt pavements as evidenced on Ohio's interstate highways. Landmark research conducted in 1983 by Gibboney on asphalt pavement performance and economy was published nationally by NAPA and titled, "Pavement Performance On A Portion of Ohio's Interstate System." A second report commissioned by Flexible Pavements Inc. and published in 1995, "Flexible and Rigid Pavement Costs on the Ohio Interstate Highway System," created in the pavement engineering community a national awareness of cost implications in pavement material-type selection. Other studies of similar nature followed Gibb's work. In 1999, FPO honored Gibb for his many professional contributions by awarding to him the association's highest honor, the William W. Baker Award, which recognizes outstanding contributions to the asphalt industry of Ohio.



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Frantz Ward LLP	26
The Gerken Companies	8

JASA Asphalt Materials/	
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Valley Asphalt	. 2
The McLean Company	. B
Northstar Asphalt Inc	1
Ohio Cat	2

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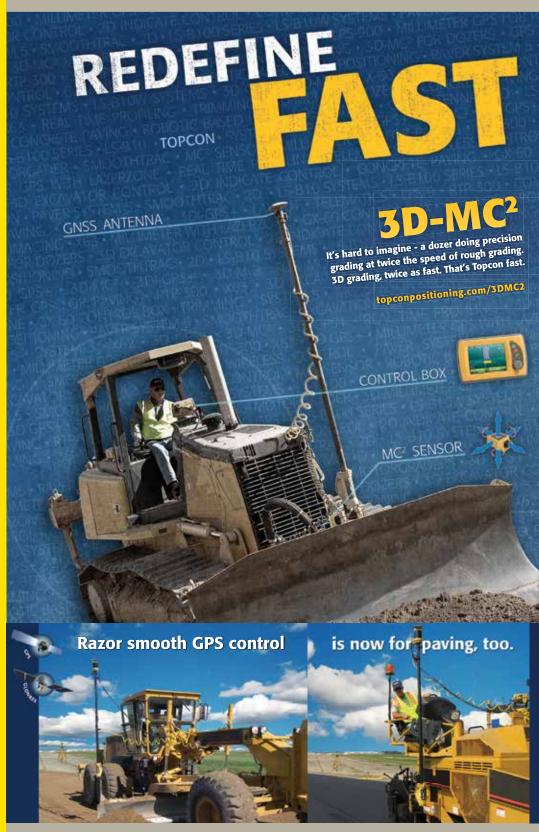
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