FPO Annual Meeting: Members Recognized for Price, Speed, Quality and Service

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HMA Segregation: Causes & Cures, Part 2
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ON THE COVER

This stretch of U.S. Route 35 from Chillicothe to Richmond Dale was one of 32 projects, facilities and individuals honored at the 2005 FPO Annual Meeting, Equipment Exhibition and Trade Show held in late March in Columbus. See the article, beginning on page 10, for a look at the list of honorees.

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

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Last summer in this space I wrote about the first project in the latest round of ODOT optional bid contracts. These are projects in which the contractor can bid either an asphalt or concrete pavement option. ODOT is soliciting bids on these projects as the result of a recommendation by an independent third party consultant created by the Ohio Legislature to review ODOT’s pavement-type selection process.

You may remember that in my last article on this subject, I noted that the first optional bid contract, I-70 in Madison and Clark counties, resulted in only the asphalt option being bid. No contractors chose to bid the concrete option even though the project provided for a $1.1 million “bid adjustment factor” to be added to the asphalt bid to reflect the assumed difference in future maintenance cost over the next 35 years. Well, ODOT has now received bids on its second optional bid contract and this time the low bidder used the rigid pavement option. Not mentioning this fact in view of my first article on this subject would seem somewhat hypocritical; so, let me bring you up to date.

The project was #108 (2005), Ashtabula, IR 90, 3.70. It was bid on March 9, 2005. The pavement alternates were 68,199 cy of 7-year warranty asphalt pavement vs. 171,966 sy of 13-inch plain concrete, 7-year warranty pavement. The project included a “bid adjustment factor” against asphalt of $339,920. The project estimate was $14,710,000. There were two bidders who selected the asphalt option and for the first time a bidder selected the concrete option. What was even more unusual is that the bidder with the concrete option submitted the low bid for the project. At first glance you would assume that the concrete pavement provided the most economical price. However that is not the case. Reviewing the bid tabs shows that the cost of the pavement items were as follows:

<table>
<thead>
<tr>
<th>Concrete Bid</th>
<th>Asphalt Bid #1</th>
<th>Asphalt Bid #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4,777,215</td>
<td>$3,887,343</td>
<td>$4,023,741</td>
</tr>
<tr>
<td>100%</td>
<td>-19%</td>
<td>-16%</td>
</tr>
</tbody>
</table>

The concrete pavement bidder won the project with lower bid prices in a number of other categories other than pavement. Even with the bid adjustment factor ($339,920) applied, the average of the two asphalt pavement bids would have been 10 percent less expensive than the concrete pavement bid.

So what have we learned from the Ashtabula I-90 project? We have learned that flexible pavement is still the most economical choice in addition to being the longest lasting, easiest to repair, quietest and smoothest pavement choice available today.
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INTRODUCTION:

Segregation in a Hot Mix Asphalt (HMA) mixture can be defined as the separation of the coarse aggregate particles in the mix from the rest of the mix. The segregation can take one of three forms: random, side to side or longitudinal, and truckload to truckload. Each type of segregation is caused by a different problem or problems. However, each type of segregation affects the long-term durability of the asphalt concrete pavement structure.

Segregated areas in the surface of the pavement have a rougher texture than the surrounding pavement area. In addition, the density of the mix is much lower in the segregated locations compared to the density of the HMA mix in non-segregated areas. Pavement deterioration of the segregated areas in the form of raveling typically occurs quickly under traffic. With more time and traffic loading, the raveled areas can increase in both size and depth thus forming a pothole in the pavement surface. With additional time and traffic it is possible for the raveling to progress completely through the pavement layer.

This is the second of a three-part article (please see the Winter 2005 edition of Ohio Asphalt for the series’ first part) that will describe the various causes for each of the three types of segregation and, in addition, will discuss the most efficient means to prevent each type of segregation from occurring. In this part, other issues will be discussed that affect the problem of truckload-to-truckload type segregation. Specifically, the unloading of the haul truck and the operation of the paver will be presented.
UNLOADING THE HAUL TRUCK

If the haul truck is loaded properly – using multiple drops of mix into the length of the truck bed with mix against both the front bulkhead and against the rear tailgate – unloading the truck should not create any segregation problems. When the truck’s tailgate is opened, a mass of mix will flow from the truck bed into the paver hopper. As the truck bed is raised the mix continues to move en masse. In this case, by loading the truck bed correctly, the largest aggregate particles in the mix will not separate and segregation will not occur.

If the haul truck is loaded improperly and the large aggregate particles in the mix have rolled both to the tailgate and the front bulkhead on the truck, the segregation problem has already occurred. The problem can be minimized, but probably not completely eliminated, by using a different procedure to unload the haul truck. In this case, the tailgate on the truck bed should remain closed and the truck bed should be raised into the air (Figure 9).

The bed should be raised far enough for the mix to shift in the bed and move toward the tailgate. This process will add more mix on top of the segregated material at the tailgate. After the mix has shifted, the tailgate can be opened. With the bed up in the air and with the additional mix moved against the tailgate, the combined mix will be moved en masse into the paver hopper. Some or all of the segregated material will be blended into the rest of the mix and the amount of segregation, which will occur behind the paver screed, will be significantly reduced.

While it is important to unload the haul truck correctly, it is much more important to load the truck bed properly so that segregation of the mix does not occur in the first place.

CONDITION OF THE PAVER HOPPER BETWEEN TRUCKLOADS OF MIX

If one is an optimist, the paver hopper should remain half full between truckloads of mix. If one is a pessimist, the paver hopper can remain half empty between truckloads of mix. In either case, the amount of mix which remains in the hopper of the asphalt paver when the truck bed of a haul truck is empty should be above the bottom of the flow gates at the back of the paver hopper or above the opening for the slat conveyors at the back of the hopper, if the paver is not equipped with flow gates. Figure 10 shows the correct condition of the paver hopper – half full.

As shown in Figure 11 (page 8), the paver hopper is essentially empty between truckloads of mix. If segregated material has collected at the tailgate of the haul truck and the tailgate is opened before the bed is raised into the air and the mix in the truck has shifted back toward the tailgate, the first mix that will be dribbled into the empty hopper will be all of the segregated, large aggregate particles that had collected at the tailgate of the truck. With the hopper empty, the segregated
material will be pulled through the paver on the slat conveyors and dumped on the augers in front of the screed. This will result in two segregated mix spots behind the screed when the paver moves forward.

If the paver hopper is half full, and if there is segregated mix at the tailgate of the haul truck, there is an excellent chance the segregated material will blend into the mass of mix already in the hopper. The more mix in the hopper, the greater the chance to “lose” a major portion of the segregated material.

Keeping the hopper half full between truckloads of mix can be easily accomplished by stopping the paver quickly once the haul truck bed is emptied – rapid stop. The haul trucks then should be exchanged with the empty truck pulling out of the hopper and the loaded truck backing into the hopper. Ideally, the bed of the new truck should be partially up into the air and the mix should be made to shift against the closed tailgate. (This is a good practice, even if the haul truck has been loaded properly. It increases the efficiency of the truck exchange and speeds up the unloading process).

When the newly arrived truck bed is in the proper position, the tailgate on the truck should be opened. The asphalt concrete mix will then be delivered en masse into the half-full hopper. The paver then returns to its original paver speed quickly – rapid start.

Keeping the hopper half full between truckloads of mix also keeps the head of material – the amount of mix – on the augers in front of the screed constant. This, in turn, keeps the force on the leading edge of the screed constant which, in turn, keeps the angle of attack of the screed constant. This permits the paver to place a smooth mat behind the screed.

If the paver hopper is emptied between truckloads of mix, the segregated mix at the tailgate of the truck will pass directly through the paver hopper and onto the augers. When the paver hopper is empty, the amount of mix on the augers will be significantly reduced. This will reduce the force on the leading edge of the screed and will result in a low spot in the pavement surface. The segregated mix will be deposited on the augers in the low spot in the pavement surface. Truckload-to-truckload segregation will be created, one very rough textured area on each side of the paver centerline, at the location of the slat conveyors on each side of the machine.

FOLDING THE HOPPER WINGS

Coarse aggregate rolls to the sides of the haul truck bed during the truck-loading process when the HMA material is delivered from the silo at the
asphalt plant. When the truck bed is unloaded, these large aggregate particles move down along the sides of the bed and are carried into the sides of the paver hopper – into the wings. These large particles will then collect in the wings until the wings are emptied.

Emptying the wings in the paver is a major contributing factor to the severity of the segregation that will occur behind the paver screed. If the paver hopper is kept half full between truckloads of mix, as recommended above, mix will be pushed out of the front of the hopper when the wings are raised. Two mounds of mix will be formed in front of the paver (Figure 12). This action will directly affect the smoothness of the mat being placed when the paver passes over the top of the two mounds of mix.

In order to empty the mix in the wings without dumping mix out the front of the hopper, it is necessary to essentially empty the paver hopper. This is not a good practice. When the wings are folded, the coarse aggregate particles that have collected in the wings are deposited into the bottom of the empty paver hopper. Segregated mix from the tailgate area on the next haul truck will then be added to the segregated mix from the wings. This combined segregated material will then be pulled through the paver on the slat conveyors and deposited on the empty augers. Segregation on the roadway behind the screed will be the result.

In order to keep the hopper half full at all times, it is recommended that the wings on the paver not be raised or emptied. Two different procedures can be used.

First, the mix that initially flows into the sides of the paver hopper – into the corners or wings of the hopper – at the beginning of the paving process each day can be allowed to remain in the wings all day long. This means that the wings are not raised at any time during the day. The mix that is collected in the corners of the hopper, and remains in the wings all day is simply wasted at the end of the day. Depending on the size of the paver, perhaps one to two tons of mix will collect in the wings and be unable to be laid.

Second, and more economically, the capacity of the two corners of the paver hopper can be reduced by fitting the hopper with two fillets or cutoff plates (Figure 13). With the cutoff plates in place, no mix will be collected in the corners of the paver hopper; thus, it is not necessary to raise the wings on the paver to get rid of material. With the cutoff plates in place, the paver hopper can be maintained half full at all times. This will greatly reduce any segregation that might occur. The cutoff plates can be bolted into the sides of the hopper and can be easily removed when necessary.

**SUMMARY**

Truckload-to-truckload segregation is caused by the manner in which the haul truck is loaded. If the truck bed is loaded in one drop of mix and a conical pile is formed inside the bed, the largest aggregate particles in the mix will roll downhill and collect at the front, sides and at the tailgate on the truck bed.

Truckload-to-truckload segregation can be eliminated by merely loading the haul truck correctly. One drop of mix should be deposited from the surge silo as close to the front bulkhead on the truck bed as possible. The truck driver should then pull the haul truck forward and the next drop of mix deposited as close to the tailgate on the truck bed as possible. The truck should then be backed up and additional drops of mix placed between the first and second amounts of mix. By loading the truck using the proper multiple-drop procedure, the distance that the coarse aggregate particles in the mix can roll will be greatly reduced and segregation of the mix will be prevented.

In addition to loading the haul truck correctly, keeping the paver hopper half full between truckloads of mix, practicing rapid-stop-rapid-start paver operations, and using fillets or cutoff plates in the corners of the paver hopper to eliminate the need to raise or fold the wings will be very beneficial in reducing any amount of segregation that may have occurred during the truck-loading process.

“Segregation: Causes and Cures, Part 3” in the next issue of *Ohio Asphalt* will discuss two other types of segregation, random and side-to-side, together with the causes and cures for each of these types of segregation.

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32 projects, facilities and individuals honored at Annual Meeting’s Award Ceremony

Each project receiving a Quality Award for Asphalt Paving or Master Craftsman Award at the Flexible Pavements of Ohio 43rd Annual Meeting, Equipment Exhibition and Trade Show shared three value characteristics: price, speed and quality.

The Awards Ceremony culminated the 2005 event, which was held March 30 & 31 at Columbus’ The Midwest Hotel and Conference Center. The event, which included trade and equipment shows, forums, seminars and meetings, attracted more than 300 FPO members and industry representatives.

According to FPO Chairman Howard J. Wenger, “Price, Speed and Quality comprise Value. It is the asphalt industry’s continued ability to provide high value that ensures its future viability.” Along with the ODOT and local road and street projects that were honored, other Quality Award projects demonstrated how “flexible” asphalt truly is, as parking facilities, a high school track, a university tennis court, and bike and walking paths were also recognized.

Here is a look at FPO’s 2004 honored projects:

**QUALITY AWARDS FOR ASPHALT PAVING**

**ODOT PAVEMENTS**

**Fairfield U.S. Route 33, City of Lancaster Bypass, Phase III**

Kokosing Construction Company’s work called for 71,000 tons of warranty asphalt for this 2.5-mile, four-lane pavement. The 10-inches of HMA atop a crushed aggregate base has no longitudinal joints, as Kokosing implemented full-width mainline paving of 29 feet on all four lifts.

Present and accepting the awards were:
For ODOT District 5 – Mike Barrett, project inspector and Doug George, project engineer

For Kokosing Construction Co. – Scott Harris, paving superintendent, Andy Rhodes, project manager, and Rob VanGorder

**Lucas U.S. Route 24 from Monclova Rd. to the IR 80 overpass, City of Maumee**

Gerken Paving’s work consisted of upgrading 3.5 miles of paving, milling and 30,000 tons of HMA two-course overlay. Project constraints called for Gerken to complete the job in 30 days and that milled surfaces would be covered the same day.

Accepting the awards were:
Eric Heckert, testing engineer, and Roger Shope, inspector, of ODOT District 2, and Mark Krieg, project manager of Gerken Paving
Mercer S.R. 29 from City of Celina corp. limit to 6.04 miles east

The Shelly Co. used a Superpave mix as well as material transfer device to minimize segregation and maximize smoothness. Work on this three-year warranty project called for four lanes of resurfacing and two-course overlay that met density specifications. Shelly received 100 percent pay on all lots and a 4 percent bonus on two thirds of the surface course.

Accepting the awards were:
Bob Lowery, project supervisor, ODOT District 7, and Terry Muhlenkamp, superintendent, The Shelly Co.

Montgomery U.S. 40 over the Taylorsville Dam, City of Vandalia

For this reconstruction project Barrett Paving Materials used a two-course asphalt overlay of composite pavement. Pavement drainage was paramount, as the 1,800-foot dam’s length was paved with a .2 percent grade change every 100 feet.

Accepting the awards were:
Josh Bowman, project engineer, ODOT District 7, Greg Barnes, paving superintendent, and Ken Wilson, general superintendent, Barrett Paving Materials, Midwest Central Region

Knox S.R. 13, 308 and 546

The project called for Kokosing Construction to perform a combination of rural and urban two-lane resurfacing and intersection reconstruction, which included base reconstruction, multiple-course overlays and modified asphalt mixtures in high-stress pavement areas. Kokosing used 38,000 tons of HMA in six types of mixes.

Accepting the awards were:
Todd Carpenter, Kokosing, Numan Babieh, ODOT-5, and Steve Malone, Kokosing

Mercer S.R. 118 from St. Henry to Coldwater

The Shelly Co. used more than 16,000 tons of HMA conventional 448 mixes for the 9 miles of two-course overlay. The project incorporated Thin-lift smoothness specifications in which Shelly successfully captured a substantial portion of the maximum attainable bonus.

Accepting the awards were:
Charlie May, project inspector, ODOT District 7, and Terry Muhlenkamp, superintendent, The Shelly Co.
Ross U.S. Route 35 from the City of Chillicothe to the Village of Richmond Dale

Kokosing Construction used more than 310,000 tons of HMA on this 9.5-mile relocation and widening project, which featured 13-inch thick mainline pavement on a crushed aggregate base. The project also called for Kokosing to construct one interchange and 16 structures.

Accepting the awards were:
Victor Picciano, area manager, ODOT District 9, Rob VanGorder and Bill Penn, paving superintendent, Kokosing

Morgan S.R. 60 from milepost 0.00 to 9.4

Shelly & Sands used 24,000 tons of HMA on this 9.5-mile project. Incorporating ODOT’s change-order, experimental Thin-lift specifications, Shelly & Sands and District 10 improved the existing road’s measured 19-inch-per-mile roughness to a 2-inch-per-mile roughness.

Accepting the awards were:
Wade Hamm, Shelly & Sands, Inc., Doug Parks, project inspector, and Steve Williams, construction engineer, ODOT District 10

LOCAL ROAD OR STREET

Sandusky County Road 32 from U.S. 20 to S.R. 6

The Shelly Co. successfully executed Sandusky County’s first venture into the use of polymer modified mixes on this 7-mile-long project. The project featured nearly 8,000 tons of HMA used in a two-course overlay for a total thickness of 2 1/2 inches.

Accepting the awards were:
Joseph Fick, deputy engineer, Sandusky County, and Gary Schlea, paving superintendent, The Shelly Co.

Madison Ave. from Edwards Rd. to Brotherton Rd., City of Cincinnati

On this mill-and-fill project, Barrett Paving Materials used 6,100 tons of 448 Type 1, medium-traffic HMA. The project called for a milling depth of 3 inches and replacement with a two-course overlay.

Accepting the awards were:
Danny Jones, project engineer, City of Cincinnati, and Steve Jodrey, Barrett Paving Materials, Midwest South Region
Accepting the awards were:
Bill Snoke, foreman, and Jonathan Apple, project manager,
Decker Construction Co.

Decker Construction met the challenge of keeping traffic moving on this high-volume route when it used 5,300 tons of HMA on this 2-inch, mill-and-fill project.

Accepting the awards were:
Bill Snoke, foreman, and Jonathan Apple, project manager,
Decker Construction Co.

Lane Ave. from Riverside Dr. to Northstar Ave., City of Upper Arlington

Woodin Road Rehabilitation, Geauga County
Shelly & Sands used more than 8,000 tons of HMA on this project, which consisted of multiple-course asphalt overlay with 2 inches of intermediate course mix and 1 1/4-inch surface course. The surface course was a virgin 404 limestone blend with PG64-22 binder.

Accepting the awards were:
Ricks Parker, paving foreman, Shelly & Sands, Inc., and Kenneth A. Folk, project engineer, Geauga County

Quarry Lakes Business Park, Sandusky
This new-construction project called for Erie Blacktop to use 11,000 tons of HMA on a base that included 6 1/2 inches of 302 base, 3 inches of intermediate course mix topped with 1 1/2 inches of Type 1 material.

Accepting the awards were:
Jack Farschman, Erie County Engineer, Dean Wikle, Erie Blacktop, Inc., and Tim Reisterer, Margareta Township

Five Points Intersection – Tremont, Fishinger & Northwest Blvd., City of Upper Arlington
Reconstruction on this three-road intersection called for Decker Construction to reconstruct the pavement from the stone base up. The 13-inch-thick HMA pavement was built using full-width construction to eliminate cold joints.

Accepting the awards were:
Bill Snoke, foreman, and John Ewert, Decker Construction Co.
**Hancock C.R. 236 from S.R. 12 to Hancock C.R. 212**

In replacing the existing road, The Shelly Co. placed 11 inches of HMA atop a 10-inch, crushed stone base. Quality assurance followed ODOT’s specifications.

Accepting the awards were:

**COMMERCIAL PARKING FACILITY**

**Wal-Mart Parking Facility & Roadways, Georgesville Rd., Columbus**

Poor weather conditions turned a 44-crew day project into a nine-day job, as Miller Pavement Construction installed a base featuring 27,000 tons of crushed stone and 13,000 tons of HMA.

Accepting the awards were:
Tim Miller, Steve Hammond and Glen Harrison, paving foremen, Miller Pavement Construction

**Monroe Local Schools K-12 Educational Facility, Butler County**

Faced with grade- and slope-sensitive areas, Barrett Paving Materials used more than 29,000 tons of HMA on this project, which called for the construction of service roads, parking areas, running track and tennis courts.

Accepting the awards were:
Steve Campbell, Monroe Local Schools, Gary Johnson, Steed-Hammond-Paul, Jeff Sebring, paving foreman, and Doug Thompson, superintendent, Barrett Paving Materials, Midwest Central Region

**Bellevue Hospital Parking Facility & Roadways**

Erie Blacktop used both ODOT specifications and independent quality-assurance testing in meeting the project’s requirements of constructing both light- and heavy-duty pavement sections. Approximately 7,000 tons of HMA was required on the project.

Accepting the awards were:
Mario Barone, paving superintendent, Erie Blacktop, Inc., and Mike Winthrop, CEO, Bellevue Hospital
Northridge High School Running Track & Parking Facility

Southern Ohio Paving performed two, two-course overlays on this project; the running track required a 3-inch overlay while the parking facility implemented a 4 1/2-inch overlay.

Accepting the awards were:
Bill Parker and Matt Arledge, project estimator, Southern Ohio Paving

AIRPORT PAVEMENT

Rehabilitation of Runway 7-25, Lorain County Regional Airport

The Shelly Co. milled 2 inches of pavement, performed crack sealing, placed star-grid fabric over the longitudinal and transverse cracks and improved drainage prior to topping the work with HMA – all under the rigors of FAA specifications.

Accepting the awards were:
Bill Podusiwsky, project manager, and Douglas Rauh, VP/general manager, The Shelly Co., Twinsburg Division, Ron Dixon, URS Corp., and Michael Barth, executive director, Lorain County Regional Airport Authority

Ottawa C.R. 163, Langram Rd. & Bikepath, Put-In-Bay

Challenged by the fact that no asphalt plants exist on the island, Erie Blacktop successfully widened C.R. 163 in order to include a bike path. The widened buildup featured a crushed-stone base and 6 1/2 inches of asphalt pavement.

Accepting the awards were:
Matt Miller, Put-In-Bay Township, Dave Brunkhorst, engineer, Ottawa County, and Chris Schaeffer, Erie Blacktop, Inc.

The Ohio State University

Varsity Tennis Courts Rehabilitation

On this rehabilitation project, Decker used 12,000 lineal feet of Petrotac fabric and 6,300 square yards of micropave fabric, topped with a 1 1/2-inch asphalt overlay and color-coat application.

Accepting the awards were:
Bill Snoke and Jonathan Apple, project manager, Decker Construction Co.
Western Reserve Greenway Bike Trail, Phases 1 & 2

On this rail-to-trail project, Shelly & Sands used a two-course overlay to achieve the desired pavement structural strength and smoothness – which was assured through the monitoring of volumetric mix control and density to insure adequate compaction.

Accepting the award was:
Dave Schoonover, paving foreman, Shelly & Sands, Inc.

Llewelyn Farms, Phase I, City of Dublin; Meijer Store Parking Facility, Cleveland Ave., Columbus

Both projects were constructed in 1987 and have provided 17 years of uninterrupted service.

Accepting the awards were:
Jonathan Apple, project manager and John Ewert, Decker Construction Co.

Seneca U.S. Route 23/S.R. 199 from the Wyandot County line north to the City of Fostoria, ODOT Project 267(1989)

Project 267(1989) was constructed by the S.E. Johnson Co. This 404 mixture produced at Stoneco’s Carey mixing facility has provided 15 years of uninterrupted service.

Accepting the awards were:
Don Weber, vice president, The Shelly Co./S.E. Johnson Companies, Eric Heckert and David Spurgeon, plant inspector, ODOT District 2.

Lake S.R. 2 from the Cuyahoga County line to the Mentor West Corp. line, ODOT Project 215(1986)

Currently serving 94,000 vehicles a day, this stretch of S.R. 2 has provided 18 years of uninterrupted service.

Accepting the awards were:
Dave Paulitsch, executive VP, Cleveland Trinidad Paving, Ray Bencivengo, Matt Piascik and Ron Kulikowski, project engineers, ODOT District 12.

Valley Asphalt Corp., Mixing Facility No. 17, Cleves

This facility features a Barber Greene 340-ton/hour drum plant that has been equipped with a star-jet burner package, truck load-out wash bay and a maintenance crew that keeps dust to a minimum.

Accepting the award was:
Craig Goldsberry, Valley Asphalt Corp.
SCHEROCMAN, WEBER, WENGER AND SHELLY HONORED FOR SERVICE

At the Flexible Pavements of Ohio Awards Ceremony individual honors were presented to Jim Scherocman, Don Weber, Howard Wenger and Dick Shelly.

Industry Service Award, 2005 – Jim Scherocman

Jim Scherocman was presented with the Industry Service Award for 2005, which recognizes individuals making significant contributions to the asphalt industry and advancing HMA paving in the state. Scherocman is an internationally known hot mix asphalt expert that makes his home in Cincinnati. Scherocman has worked in the Hot-Mix asphalt industry for nearly 40 years. Like many connected with our industry, Scherocman began his career with the Ohio Department of Transportation in 1966 where he was the assistant flexible pavement engineer for the Bureau of Construction. He has also worked for the Asphalt Institute, the Barber-Greene Co. and the Indiana Asphalt Pavement Association. Scherocman has donated many hours to the industry through his involvement in industry-related groups and associations. He is a member and past president of the Association of Asphalt Paving Technologists. He is a member of the Transportation Research Board, the National Asphalt Pavement Association, the American Society for Testing and Materials, the Canadian Technical Asphalt Association and the American Society of Civil Engineers. Scherocman holds three degrees from The Ohio State University; a Bachelor’s and Master’s in Civil Engineering and a Master of Business of Administration. He is a registered professional engineer in three states and has been elected to the National Engineering Honor Society, the National Civil Engineering Honor Society and the National Business Administration Honor Society.

Scherocman has published many technical papers and articles on asphalt pavement design and construction and made presentations at conferences, seminars and meetings throughout North America and Europe. He edited the Hot Mix Asphalt Paving Handbook, a manual sponsored by the FHWA, FAA and Corps of Engineers (and is considered the bible for asphalt production and placement).

He has been very generous in helping Flexible Pavements of Ohio. In addition to being a frequent instructor at our seminars, he has contributed many articles to the Association’s newsletter over the years and been a presenter at numerous conferences. He also authored the current Ohio Asphalt series on “Segregation Causes and Cures” (see page 6).

Retiring Board member – Don Weber

Don Weber, the vice president of The Shelly Company’s Findlay Division, was honored as a retiring FPO board member. Formerly the vice president for the S.E. Johnson Company, Weber served several stints on the FPO board - most recently since 2002 when he was appointed to a vacated seat.
Past Chairman of the Board – Howard Wenger

Howard Wenger, president of Northstar Asphalt, Inc., was recognized for his service to the association in 2004-2005 as the FPO chairman of the board of directors.

The William W. “Bill” Baker Award – Dick Shelly

The William W. “Bill” Baker Award is the highest honor the Association can bestow and this year it was awarded to Mr. Dick Shelly.

Dick Shelly began working for The Shelly Company in 1959, a few years before his father Charles, passed away. Dick worked his way up through The Shelly Company and was involved in the company’s management by the mid-1960s. This ushered in a period of expansion for the company, starting with the acquisition of the L.P. Cavett Company in 1966. As Shelly describes it, “It was like a mouse swallowing an elephant.” Since that acquisition, two dozen other companies have been purchased by The Shelly Company prior to its becoming part of the Old Castle Group. These purchases greatly expanded the company’s geographic reach and diversity and made it one of Ohio’s major hot mix asphalt producers.

Shelly was a pioneer in introducing new technologies to Ohio’s Hot Mix Asphalt Industry. He was instrumental in introducing drum mix asphalt plants to Ohio during the mid to late 1970s. He had The Shelly Company using computer plant controls long before ODOT ever required them.

Shelly was a strong advocate of quality control by the contractor, which ODOT put into its specifications in 1978. This made Ohio a leader in contractor quality control decades before most states implemented it. Because of his belief in contractor quality control, Dick Shelly was one of the first asphalt producers to build a state-of-the-art asphalt laboratory.

He was also a strong believer in sharing the company’s success with the employees. To accomplish this, the company was structured as an employee stock ownership plan, in which the employees were given stock each year. At the time of the company’s purchase by Old Castle, employees owned 48 percent of its stock.

Although Shelly was never a board member of Flexible Pavements of Ohio, he always supported the organization and allowed his employees to give of their time, talent and support. Dick Shelly retired from The Shelly Company in December, 2003 after 44 years with the company.

Flexible Pavements of Ohio is proud to honor Dick Shelly with the William W. “Bill” Baker Award for his leadership and contribution in making hot mix asphalt the pavement of choice in Ohio.
Introduction
Wondering what we are up to lately? Here’s a chance to get caught up. I hope you will see that not only are we involved in interesting work, we are involved in work that will further the goals of increasing asphalt pavement quality and performance through materials, testing and specification improvements.

Here is a look at a few of the things the ODOT Central Office Lab is studying:

Corelock study – This device, available several years ago as a less technique-intensive device for determining specific gravities of asphalt materials, is being researched to determine the extent of its deviation in results from traditional methods. Included will be multi-lab and multi-technician data collection. It is hoped ODOT will be able to better specify the use of the device with trends and tolerances that are realistic. Dr. Rajagopal Arudi, adjunct associate professor of the University of Cincinnati, along with much assistance from the J.R. Jurgensen Company, will develop and administer the study. The ODOT lab will participate with multiple-technician testing. This study is thru the OPREP (ODOT Partnered Research Exploration Program) 2005 program.

Joint Density study – When ODOT opened up 446 coring to randomly include asphalt joints several years ago, it was agreed it would conduct a study to determine the effectiveness of that change. The current study was conducted by ODOT Districts in 2004. For the study, 26 projects with a total of 500 cores were tested. Results showed that joint densities were quite variable, with most being lower than the typical nationally accepted variation of -2.0 percent density from the average mat density. While it was noted that joint performance today is generally better than that experienced in the early 1990s (due to increased requirements on mainline density), it was still desired to increase joint performance to the highest-practical level possible. A joint group of ODOT and industry personnel have been discussing how best to implement a joint density requirement on ODOT 446 projects. Included in the discussions has been the application of “wedge joint” design and its equipment requirements. Properly constructed wedge joints have been shown to improve overall joint performance as well as or better than any technique other than joint cutting.

Round Robins – Each winter the ODOT lab develops round-robin testing programs for both asphalt mixtures and asphalt binders. This year, 140 samples were part of the round robins. Besides being required by FHWA, these programs enable ODOT to select a particular goal and orient our samples and test requirements to obtain a large amount of multi-lab and multi-technician data. As well, ODOT is able to determine if particular laboratory problems in testing exist and address them. Labs involved are contractor, supplier and ODOT district labs.

Supplemental Specification 854 Rut Resistance study – This specification has received much interest in the last year, mainly due to ODOT’s preventive maintenance program. Consisting of two different mixes, Type A and Type B, the specification can see use in a wide range of traffic and existing pavement conditions. Currently, ODOT limits the application of Type A to lower-traffic pavements. Type B,
while applied in higher-traffic situations, is a relative new-
comer. It’s expected long-term, anti-rutting performance is still 
largely unknown. The in-house study is designed to determine 
actual anti-rutting effectiveness of each mix type so better 
guidance can be given to district designers in applying the 
mixes. Results are expected later this spring.

Non-nuclear Density Gauge study – A final report on this 
Ohio University study is due soon. It was started to determine 
practical limitations and reliability of non-nuclear devices in 
determining in-place densities.

Rapid Aggregate Polish Test study – Just underway, this 
Akron University study is hoped to yield a methodology for, as 
the title implies, a quicker means of determining polish poten-
tial in aggregate. This is a follow-up implementation study to 
two studies done by Akron University over the past five years. 
It is thought that this tool, in concert with other current chemi-
cal tests, can be used for specifying acceptable aggregate for 
skid properties.

T 283 test update – This test, used for determining asphalt-
mixture sensitivity to moisture damage, is cumbersome and has 
high variability. It is hoped that this investigation will refine a 
few of the many variables in the procedure, including saturation 
and voids, reduce variability and provide more consistent 
results.

ABCD Development – The Asphalt Binder Cracking Device is 
being developed by Dr. Sang Soo Kim of Ohio University. It is 
being investigated by both ODOT and FHWA as a potential 
replacement for the Bending Beam Rheometer and/or Direct 
Tension tests in the Performance Graded Asphalt specification. 
The ABCD is simple in theory and application compared to 
current methods as required equipment is less expensive and 
easier to maintain. However, development is still needed, 
which FHWA is interested in assisting with. Ohio does not 
expect an immediate change to its specification, but the state is 
hopeful this device will eventually be used in its binder pro-
gram.

Field Quality Assurance Supervisor – The intent of this pro-
posed program is to bring accountability and oversight to the 
asphalt paving process similar to that under the current Asphalt 
Level 2 and 3 programs that have existed for nearly 18 years in 
asphalt production and design. Although in the development 
stages, the program should include training and experience 
requirements; proven ongoing ability to respond to paving 
irregularities as defined in ODOT specifications; and a fair 
review process of industry and DOT personnel should com-
plaints against an individual arise.

QC Specification revisions – While in the formative stages, 
the goal of this effort is to bring the current 441 Quality 
Control Specifications up to date. Some specification items are 
early 20 years old and enough experience has been gained to 
show that a few of the requirements do not accomplish what 
they were intended for (e.g. when contractor production-mix 
quality goes awry, and can be unfairly used against ODOT in 
dispute situations). Changes to be addressed will provide 
ODOT needed data to assure mix quality is in control, while 
giving the contractor freedom to respond to control issues.

Smoothness – While pavement smoothness is not the direct 
responsibility of the Lab, it has for some time been conducting 
equipment approvals and updating specifications for this area. 
In the coming years expect to see a new process for equipment 
approval; use of high-speed profilers in addition to the current 
low-speed units; a move to the International Roughness Index 
(IRI); vastly increased use of smoothness specifications on 
projects; project smoothness data verification; and perhaps 
control of pavement smoothness requirements by the Office of 
Pavements.
The Ohio Public Works Commission (OPWC) was created to provide financial assistance for local public infrastructure improvements under the State Capital Improvements Program (SCIP) and the Local Transportation Improvements Program (LTIP). These programs provide financial assistance to local communities for the improvements of their basic infrastructure systems. Through the two programs, OPWC provides grants, loans and financing for local debt support and credit enhancement. Eligible projects include improvements to roads, bridges, culverts, water supply systems, wastewater systems, storm water collection systems and solid waste disposal facilities.

Resolutions have been introduced in the Ohio House of Representatives and Senate proposing extending the program for another 10 years while keeping the commission’s total annual bonding authority at its current level, $120 million annually. While some local government advocates would like to increase the OPWC’s $120 million annual bonding limit, current projected constraints make such a proposed increase unlikely. These resolutions would place the issue on the November general election ballot for vote of the public.

The State Capital Improvements Program was created in 1987 by an amendment to Section 2K, Article VIII of the Ohio Constitution, which allows the state to use its general fund as a revenue stream to support debt and issue up to $120 million in bonds each year. This program was re-authorized in 1995 by an amendment to Section 2M, Article VIII of the Ohio Constitution.

The LTIP was created by the legislature in 1989 and provides an additional $65 million in gasoline tax receipts annually.

Local jurisdictions may apply for SCIP and/or LTIP funds through their respective local District Public Works Integrating Committee. The Ohio General Assembly created 19 Public Works Districts each having its own District Public Works Integrating Committee that is responsible for recommending projects to OPWC. District Public Works Integrating Committees consist of local officials representing all levels of government. Each Integrating Committee evaluates and scores applications using a locally developed methodology based on criteria listed in chapter 164 of the Ohio Revised Code. These evaluation criteria focus on the financial need of the subdivision, the project’s strategic importance to the district and subdivision, and the rehabilitation/replacement of existing infrastructure.

After evaluating and scoring the projects, the Integrating Committee creates a list of high-priority projects that are submitted to OPWC. Reviews of the project selection and evaluation methodology used by the Integrating Committee are conducted by OPWC to ensure fair and objective decision making. Then, each application is reviewed for completeness and project eligibility. After all requirements are met on the district level and the application is approved, a formal agreement is issued by OPWC to the individual subdivision. The Commission’s staff maintains ongoing con-
tact with local communities, providing technical assistance through the project’s completion.

To date, the SCIP has distributed nearly $2.3 billion in financial assistance on a statewide basis. Of this assistance, 76 percent has been distributed in the form of grants, 20 percent in the form of loans and 4 percent in the form of credit enhancements. The distribution of funds by local political subdivision type had counties receiving 23 percent, cities 45 percent, townships 9 percent, villages 21 percent and water and sanitary districts 1 percent. Finally, the distribution of funds by infrastructure type had road improvements receiving 44 percent, bridges 7 percent, water supply 17 percent, wastewater 22 percent, solid waste 1 percent and storm water receiving 8 percent. On average, local governments are contributing nearly one dollar for every dollar of state assistance.

As the Hamilton County Engineer and the chairman of the District 2 Public Works Integrating Committee, I have seen how this program’s funding has assisted southwestern Ohio. Through 19 rounds of funding cycles, the Public Works Integrating Committee of Hamilton County (District 2) has funded 507 projects (372 SCIP, 135 LTIP). District 2 has distributed more than $201 million from the SCIP funds and $94 million from the LTIP funds to the various jurisdictions of Hamilton County. Total construction costs of these projects total approximately $501 million ($341 million SCIP, $160 million LTIP). Through this program, nearly all of Hamilton County’s 49 local jurisdictions have had the ability to fund much-needed infrastructure improvements, repairs, replacements and new facilities. Without a renewal of this program, only funds from the Revolving Loan Program and the LTIP program will be available for an annual total of approximately $6 million in Hamilton County.

While the Ohio House and Senate have introduced a resolution to extend the OPWC program another 10 years, another possibility is the linking of the SCIP program with that of the Governor’s proposed Third Frontier Project. The Third Frontier Project is a 10-year, $1.1 billion initiative intended to expand high-tech research capabilities, promote innovation, encourage company formation and create high-paying jobs in the State of Ohio.

Renewal of the SCIP program, in whatever form it takes, is critical to local governments. The program provides needed assistance by both repairing and rebuilding infrastructure while providing needed jobs in the construction related industries. Without it, critical infrastructure repairs will be delayed causing escalated costs when they can be done.

Please contact your local representatives and request their support of this much-needed program.
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