



# HOT-MIX ASPHALT



## ODOT'S BUDGET BILL-THE REST OF THE STORY

### ODOT's Budget Fight

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We reported in our last newsletter that ODOT's biannual budget bill, HB 73, has been targeted by the American Concrete Pavement Association and the Preventive Maintenance Association for amendments to favor their industries. As that newsletter went to press, HB 73 had cleared the House and was on its way to the Senate. Both ACPA and the Preventive Maintenance Association had been unsuccessful in getting amendments to the bill up to that point.

In the Senate, attempts were again made to amend the bill. Testimony before the Senate Highways and Transportation Committee by the Preventive Maintenance Association included presentations by the recently retired director of the Kansas Department of Transportation among others. They had also done their homework with committee members and had a champion for their position in committee member Senator Priscilla Mead. Aided by opposition from ODOT and a lot of hard work by Flexible Pavements and their lobbyist, most committee members began to realize the fallacies of mandating set-asides for specific programs and industries. Senator Mead ended up choosing not to offer an

amendment because all support for it had eroded by the time the bill was due to be voted out of committee.

While the Preventive Maintenance issue presented the larger challenge, the American Concrete Pavement Association was still in the mix testifying before the committee and visiting members. However, they were unable to generate much interest in their position due to opposition by ODOT and work by Flexible Pavements and their lobbyist to present the other side of the issue to committee members. Jerry Wray officially summed up Flexible Pavements' position in testimony before the Senate Committee on March 15, 2001. The bill cleared committee on March 21st, leaving both ACPA and the Preventive Maintenance Association unsuccessful in their attempts to have it amended.

Titling this article "The Rest of the Story" is probably a misnomer as both groups will undoubtedly be back to the Ohio General Assembly with additional attempts to legislate the use of their products. Unfortunately this has been but one battle in what has become an all out war.

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## ODOT'S BUDGET BILL PAGE 2-TAX TASK FORCE AND WARRANTIES

### Motor Fuel Tax Task Force Established. Warranty Requirements Eased.

#### Task Force

When HB 73, ODOT's budget bill, was making its way through the legislative process, there was a concentrated effort by the County Engineers and Commissioners, Municipal League and Township Trustees to add an amendment that would provide additional funding for local roads and bridges. This effort was strongly supported by a coalition of trade organizations, unions, etc., called CRASH (Citizens for a Rational Approach to Safe Highways). Realizing that an increase in traditional road user taxes would be unachievable, the group promoted transferring the almost 3¢/gallon of gas tax used to fund the operation of the Ohio State Highway Patrol to local road and bridge repair. The OSHP would in turn be funded by user fees established through the Bureau of Motor Vehicles. While this effort was unsuccessful, a provision was added to HB 73 to have a task force study this proposal in more detail and report back to the legislature. While not what the group had hoped for, it at least kept the idea alive...until it went to the governor's desk for signature that is.

The Governor used his line item veto power to strike the provision from the bill. "I am concerned that the study contemplated by this task force could lead to the State Highway Patrol becoming dependent on the state's general revenue fund for its operating budget," Taft said. "In the face of declining state revenues and the significant demand for additional spending for schools, I am opposed to an additional burden on the state general revenue fund at this time."

Somewhat surprised by the Governor's veto and feeling the provision was worthwhile, the legislature subsequently tacked it onto HB 94, the State's General Fund Budget Bill. Although the Governor used an unprecedented 49 line item vetoes on HB 94, the Fuel Tax Task Force Study was not one of them. The actual language is listed at the end of this article.

#### Warranties

Although only a one word change in the current warranty law, the impact was monumental. Even though ODOT had reported to the legislature that they were unable to meet current requirements for the number of projects to be sold with war-

ranties, they made no initiative to change the requirements. However, Senator Lynn Watchman, at the urging of contractors in his area, proposed changing the requirement that at least 20% of ODOT's projects require a warranty to not more than 20% of ODOT's projects require a warranty. The warranty time periods were likewise changed from not less than 7 years, 5 years or 2 years depending on the type of project to not more than 7 years, 5 years or 2 years. ODOT quickly supported the change and it made it through the process intact. Since the bill's passage, ODOT has essentially abandoned the 5-year warranty, which was used on rehabilitation projects, because of the litigious atmosphere it created. Whether you favor warranties or not, this change was definitely in order and will hopefully eliminate some of the problems on warranty projects.

#### HB 94 Motor Fuel Tax Task Force

##### Section 203. MOTOR FUEL TAX TASK FORCE

(A) There is hereby created the Motor Fuel Tax Task Force. The Task Force shall study the adequacy and distribution of the motor fuel tax. The Task Force shall issue a report of its findings to the General Assembly and the Governor on December 2, 2002. Upon issuing its report, the Task Force shall cease to exist.

(B) The Task Force shall consist of the following members:

- (1) Three members of the House of Representatives appointed by the Speaker of the House of Representatives, not more than two of whom shall be from the same political party as the Speaker;
- (2) Three members of the Senate appointed by the President of the Senate, not more than two of whom shall be from the same political party as the President;
- (3) The Director of Public Safety or the Director's designee;
- (4) The Director of Transportation or the Director's designee;
- (5) The Tax Commissioner or the Commissioner's designee;
- (6) The Director of Budget and Management or the Director's designee;
- (7) One person appointed by the Speaker of the

*Motor Fuel, continued on page 10*

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## ODOT ISSUES ITS PREVENTIVE MAINTENANCE GUIDELINES

### Thin HMA Overlays for Preventive Maintenance

The Ohio Department of Transportation has issued its *Pavement Preventive Maintenance (PM) Program Guidelines* as of May 1, 2001. The program guidelines were included in a training manual issued to ODOT district personnel at a series of four regional training seminars conducted around the state in May. An additional training seminar for local government officials was held on June 21 in Columbus.

The PM Program Guidelines contain information on when to apply preventive maintenance treatments, such as, crack sealing, surface treatments and thin overlays, as well as other information relative to the proper use of the treatments.

Flexible Pavements of Ohio has cooperated with the Department in developing its specifications for thin overlays for use in the preventive maintenance program. These efforts have resulted in a supplemental specification, **SS 854, Polymer Modified Asphalt Concrete**, which updates the Department's specifications for two thin overlay materials that have been successfully used in Ohio for the last 20 years.

**SS 854, Polymer Modified Asphalt Concrete**, is specially formulated for thin applications 3/4 to 1 inch thick. Type A is suitable for medium traffic and urban applications and Type B, known in the industry as "**Smoothseal**" is designed per 441 and is suitable for any and all applications including heavy duty and high speed applications. These materials have proven very durable. Flexible Pavements' Master Craftsman Award this year went to a project with a polymer sand asphalt surface that has been in service for 28 years.

**SS 854, Polymer Modified Asphalt Concrete, type A**, is a sand-asphalt using SBS

or SBR modified binders for durability and stability. Type A is the former SS 805, rubberized sand asphalt, consisting of high silicon dioxide natural sand and 8.5% binder content modified with SBS or SBR Polymer. The total binder content is more that two full points greater than for the average type 1 mix. The polymer additive is 5% rather than 3.5% as in the usual PG70-22M binder. The high polymer modified binder content is what gives this material its great durability. This type is produced to a recipe and is not a designed mix. The laboratory will prescribe the mix proportions in accordance with 401.

**SS 854, Polymer Modified Asphalt Concrete, type B**, is similar to the former proposal note 715, rubberized sand asphalt. It is a Marshall designed mix that can be designed for light, medium or heavy traffic per 441. This material consists of equal portions of crushed aggregates and high silicon dioxide content natural sand with a very narrow gradation band for excellent stability and skid resistance. The specified binder is a highly polymer modified PG76-22M the same as for the Type A mix. Because of it tight gradation and mix design requirements, this material can be designed for the heaviest traffic applications and relied upon to deliver consistent performance.

Flexible Pavements of Ohio has supported the Department's efforts to develop a preventive maintenance program because, experience in Ohio has shown that with proper surface maintenance, deep strength asphalt pavements can be the "**Perpetual Pavement**" that never needs replacement.

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## THE ASPHALT PAVEMENT ALLIANCE ANNOUNCES ITS FIRST ANNUAL ASPHALT PAVEMENT CONFERENCE

### U.S. Hot Mix Conference Restructured

Look for news of the latest innovations and developments in HMA at the Asphalt Pavement Conference, November 14-16, 2001, at the Doubletree Hotel in Austin, Texas. Being held under the aegis of the Asphalt Pavement Alliance, the Conference will bring together the U.S. Hot Mix Asphalt Conference and the Superpave Forum formerly sponsored by the Asphalt Institute. With a theme of "A Lifetime of Smooth Performance," the

Conference will have presentations in four major focus areas: durability, safety and user satisfaction, innovative and developments, and economy. The Conference will continue the tradition of a high-quality meeting of designers, researchers, materials suppliers, and contractors. To register online, go to [meetings@asphaltalliance.com](mailto:meetings@asphaltalliance.com), visit the Alliance website at [www.asphaltalliance.com](http://www.asphaltalliance.com), or contact Carol Prouty, Meetings Assistant, at NAPA.

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## PROPOSAL PUT FORTH TO BOTH REPEAL AND INCREASE THE FEDERAL GAS TAX

### Offense/ Defense

Last year's proposals to repeal and/or reduce the federal gas tax seem to be springing up again like this year's flowers. Representative James Sensenbrenner, Jr. (R-WI) introduced HR 1575 which would place a 6-month moratorium on the total 18.3¢ gas and 24.3¢ diesel tax and permanently repealing 4.3¢ on both fuels. It is anticipated that this proposal will again be met with strong opposition from a majority of the Senate as it was last year. Senator George Voinovich (R-OH) was instrumental in defeating last year's fuel tax repeal proposals and indicated he was prepared to fight it again. It would appear that the shift in control of the Senate from Republicans to Democrats will also slow

down movement on proposals to reduce the gas tax.

On the other side of the coin, the American Road and Transportation Builders Association is calling for an 8¢ to 10¢ increase in the federal fuel tax as part of the new highway bill that will replace TEA-21 in 2003. This would take current highway appropriations from \$33.4 billion to \$50 billion per year which will approach the \$65 billion the U.S. DOT says is necessary to improve the nation's roadway system. Other transportation related groups will undoubtedly support this position. As they say, "The best defense is a good offense." Time will tell.

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## NEW FACES AT THE ASPHALT INSTITUTE

### Ohio Field Engineer and President Named

Wayne Jones is the new Asphalt Institute Field Engineer for Ohio, Indiana and Michigan and will be headquartered in Columbus, Ohio. Wayne is no stranger to Ohio, having worked a number of years as a division manager for the S.E. Johnson Companies. Wayne brings a wealth of construction experience to the position having also worked for APAC in Kentucky and Florida and APCON in Illinois. A registered Professional Engineer in several states, Wayne holds a Bachelor of Science Degree in Civil Engineering and a Master of Science Degree, both from the University of Illinois. "We are really pleased that the Institute has again chosen to headquarter this region's field engineer in Ohio," said Fred Frecker of Flexible Pavements of Ohio. The office had previously been in Ohio but had been moved to Indiana for the past several years. "We really have had a very good working relationship with our region's AI field engineer over the years and look forward to now working with Wayne. Even though we have to share him with two other states, we will use all the help we can get in fighting the new marketing initiative by the American Concrete Pavement Association," Frecker continued. Anyone wishing to contact Mr. Jones can do so by email at [asphaltiom@earthlink.net](mailto:asphaltiom@earthlink.net); mail at 947 East Johnstown Road, #161, Gahanna, OH 43230; or phone at 614-206-7997.

Peter T. Grass, P.E., has been named President for the Asphalt Institute, effective July 16, 2001. His immediate goals include developing membership and strengthening industry partnerships. He will also be responsible for the implementation of the Asphalt Institute's 2001 Strategic Plan.

Mr. Grass is currently a Commissioned Officer with over 20 years of consistent success in the U.S. Army Corps of Engineers. Career highlights include:

- U.S. Army's program execution manager for its \$1.24B construction program.
- Highly successful Commander and District Engineer (CEO) for the San Francisco District Corps of Engineers, an organization of 300 civilian employees, several dozen contracted support staff and an annual program workload of \$68M.
- Chief of Staff of a 900-person engineer brigade in Germany that deployed to the Balkans.
- U.S. Army's European family housing program manager with an annual budget of over \$500M.

Mr. Grass is a graduate of the University of New Hampshire, Durham, New Hampshire, with a Bachelor of Science in Civil Engineering, and the Georgia Institute of Technology, Atlanta, Georgia, with a Master of Science in Civil Engineering.

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## INCENTIVE SPECIFICATIONS TAKE QUALITY TO A HIGHER LEVEL IN OHIO

### ODOT adds Incentive Density Spec.

Incentive-based specifications have successfully raised the quality of hot mix asphalt pavements in the State of Ohio. Beginning with the State's specification for pavement smoothness, incentive specifications have focused energy and inspired innovation in the asphalt paving industry, leading to greater attention to detail and improved ride quality.

#### Ohio's Experience With Incentive Specifications

Ohio's first experiment with incentive-based specifications came in 1992. That year ushered in the Ohio Department of Transportation's (ODOT) Smoothness Specification. Contractors were challenged to look for ways to build better and

smoother pavements. Shelly & Sands, Inc. of Zanesville constructed the first project using the specification. The project was located on Interstate 77 in Washington County. A pavement that had over 50 inches of roughness, as measured by the California profilograph, S & S smoothed the pavement with Hot Mix Asphalt to 2 inches and less per mile per .1 section. Workdays were adjusted to ensure paving was done from bridge to bridge, eliminating transverse construction joints. His paving crew's intense planning to determine the best method to get the smoothest job capable

*Incentive Density Spec, continued on page 14*

## Member Spotlight

### RONYAK BROS. BUILDS ON VERSATILITY

Ronyak Bros. Paving, Inc. is all about versatility. A highly skilled workforce with state-of-the-art technology at its disposal, working in harmony with a family of related companies, makes for a team that can handle anything from a simple driveway re-pave to building a major road. The result for Ronyak Bros.' customers, public or private, is a quality asphalt pavement.

courts to subdivisions and roads has been our niche in the industry."

Founded by Ronyak's grandfather, A.J. Ronyak, the Burton-based company has been a fixture in northeast Ohio for over sixty years, operating primarily in Lake, Geauga, and Cuyahoga counties. In 1963, the company was taken over by A.J.'s three sons, Denny and twin brothers Jim and Bill Ronyak. Denny passed away in the early '80s, but the twins continued to steer the company towards the modern operation it is today.

"It was my dad and his brother who instilled the emphasis on quality service that remains the guiding philosophy of our company," said David Ronyak.

When Jim and Bill retired in 1994, Jim's son Dave and his partner Howard Bates bought out the company. Dave runs the company today, assisted by Director of Operations Jim Shale. Mike Briggs is in charge of residential sales and Ronyak's wife, Stephanie, serves as controller. Dave's brother Scott is in charge of Ronyak Bros.' road paving crew.



**Left to right: David Ronyak, *President*, Howard Bates, *Vice President*, Jim Shale, *Vice President of Operations*, and Stephanie Ronyak, *Controller***

"We compete from both ends of the spectrum," said David Ronyak, president of the company. "Our ability to pave anything from driveways, parking lots and tennis

The paving company enhances its versatility through partnership in a family of related companies owned by both David Ronyak and Bates, each with services that complement the others. Shalersville

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Asphalt Company in Mantua produces a lot of the asphalt used in Ronyak Bros. projects. Blue Stone Sand & Gravel, Inc., also in Mantua, supplies the asphalt plant with most of its aggregate material. The Arms Trucking Company in Burton employs a fleet of trucks that haul aggregate materials to the asphalt plant, and asphalt to Ronyak Bros. job sites. Arms Dock in Toledo receives aggregate products shipped by lake freighters.

Ronyak Bros.' full range of services is well demonstrated in a job done recently for Perry Schools of Lake County. Ronyak Bros. was hired to pave all of the school system's roadways, parking lots, basketball and tennis courts. The school system had the luxury of going to one contractor for this diverse set of paving needs. The finished product is a beautiful group of pavements that students enjoy every day.

Versatility has spelled growth at Ronyak Bros. The company's sales figures have multiplied by 28 since 1983, when it was first incorporated. This incredible growth was recognized in 1998 with a Lake-Geauga County Fast Track Fifty Award, honoring 50 fast-growing companies in the region.



"We try to emphasize from the top down that regardless of the size of the job we're doing, we have to get a quality product out," said Ronyak. "Quality is what sets us apart. Our guys do care about the end product. With global conglomerate companies moving into Ohio's bigger markets, we have to sell service. That's how we've maintained dominance in the markets we operate in."

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## QUICK FUEL CHOOSES ASPHALT TO REHABILITATE THEIR FUELING STATION PAVEMENT

### HMA to Replace Concrete

Quick Fuel in Sharonville, Ohio wasn't satisfied with the performance of the original concrete pavement in their fueling station, so they called upon Valley Asphalt to rehabilitate the pavement with hot mix asphalt. Tom Terpenning, Operations Supervisor for Quick Fuel, asked that Valley remove the failed sections of concrete pavement and



The original concrete pavement at the Sharonville Quick Fuel station required rehabilitation.

replace them with 12 inches of aggregate base, 6 inches of bituminous aggregate base and resurface the entire lot with 2 inches of a type 1 surface mix. Because Quick Fuel services most of

the trucking companies co-located in the Sharonville Commerce Center, it was essential that the work not interfere with their heavy weekday traffic. Thus, Valley Asphalt is performing the work on weekends. According to



The pavement was heavily fatigued from the heavy truck traffic.

Patrick Lewis of Valley Asphalt, work began on Saturday, June 9, 2001, and is expected to be completed in four Saturdays.

This small project perfectly illustrates how the flexibility of hot mix asphalt construction



The damaged pavement was replaced with 12 inches of aggregate base, and 6 inches of bituminous aggregate base, prior to a finishing 2 inch overlay.



can be used to minimize the impact on one's customers. The same is true whether your customers are tractor-trailer rigs trying to refuel at your station or the travelling public trying to drive down your highway.



Hot Mix Asphalt can “reduce construction stress”.

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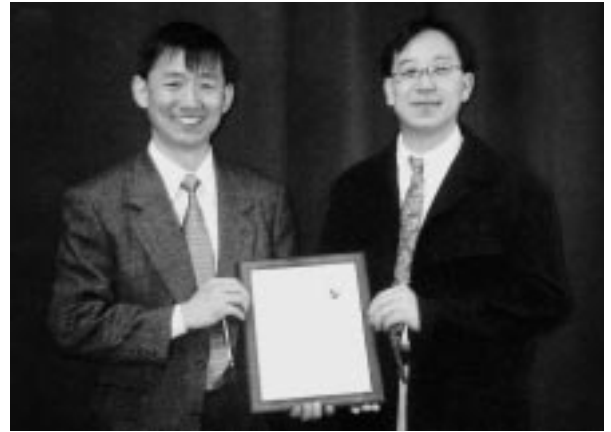
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## OHIO TAKES ASPHALT MIXTURE PERFORMANCE COMPETITION TITLE AWAY FROM WISCONSIN

### Ohio University Named National Champion

Flexible Pavements of Ohio first started sponsoring an Asphalt Mixture Performance Competition for students at Ohio's universities in 1996. The students were to design an HMA mix that would withstand rutting as determined by the Georgia Loaded Wheel Tester. The goal of the competition was to introduce students to HMA mix design, identifying those parameters that differentiate a good HMA mix. Two years later the Wisconsin Asphalt Pavement Association also started to sponsor a similar competition for the universities in their state. It seemed only natural that the winners from the two states should compete against each other to determine a national champion. (If they can call the winner of the game between the American Baseball League and the National Baseball League a "world" champion, then I guess we can call the winner of the competition between Ohio and Wisconsin a "national" champion.) In their first meeting, Ohio was beaten badly by Wisconsin, largely because of the quality of Ohio's video. That loss was avenged this past year by Ohio University who represented Ohio in the competition. Ohio edged out Wisconsin by a score of 94.6 to 91.5 to take the title. The

judging was done by the National Center for Asphalt Technology (NCAT) at Auburn University. Points were awarded for a written report, the rut depth, cost considerations of the mix, and a video presentation.



Ohio University team member Huntae Kim (right), and Dr. Sang-Soo Kim (left), the team's faculty advisor, receive the first place award for Ohio's Asphalt Mixture Performance Competition. Ohio later went on to defeat Wisconsin to win the national competition.

Our congratulations to Ohio University for their achievement. In reality, everyone is a winner because of the knowledge they gained by participating.

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### Motor Fuel, *continued from page 2*

House of Representatives to represent the general public;

(8) One person appointed by the President of the Senate to represent the general public;

(9) Eight members appointed jointly by the Speaker of the House of Representatives and the President of the Senate, one from each of eight lists of three individuals recommended by the County Commissioners Association of Ohio, the Ohio Municipal League, the Ohio Township Association, the County Engineers Association of Ohio, the Ohio Public Expenditure Council, the State Highway Patrol troopers' collective bargaining unit, the Ohio Contractors Association, and the Ohio Petroleum Council, respectively.

A vacancy on the Task Force shall be filled in the manner provided for the original appointment.

(C) The Speaker of the House of Representatives and the President of the Senate each shall appoint a co-chairperson of the Task Force from among the appointees who are members of their respective chambers. The co-chairpersons shall call the first meeting of the Task Force within thirty days after the last member is appointed.

(D) The Legislative Service Commission shall provide staff services for the Task Force.

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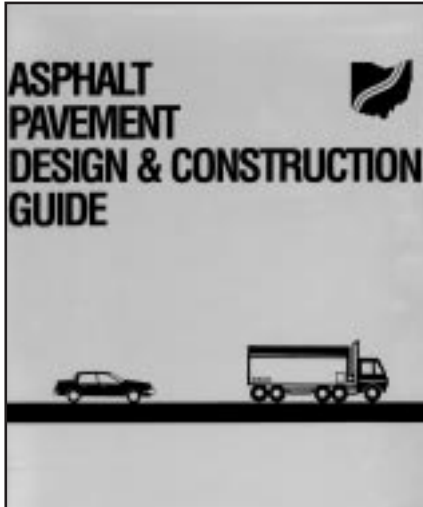
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## HEY CONTRACTORS! YOUR CUSTOMERS NEED THIS

### Info for Your Customers

When it comes to figuring out how thick of an asphalt pavement ought to be, many purchasing asphalt lack the knowledge needed to make proper choices. They can tell you how they want it to look, what the shape ought to be or how it is supposed to fit in with the motif of the building, but thickness and what materials to use, that's a mystery and they are clueless. Fortunately, there is hope.



The *Asphalt Pavement Design & Construction Guide* published by Flexible Pavements of Ohio provides valuable information that your customers need to properly specify Hot Mix Asphalt (HMA). The Guide addresses critical areas, that when done correctly, will result in their satisfaction and continued use of HMA.

The 1st section of the Guide is an introduction and provides general information about Hot Mix Asphalt. Discussed are the performance and economy of

HMA, its composition and some information about mixing plants, paving equipment, milling and recycling, and liquid asphalt.

Typical designs are provided in section 2. This section will be very helpful to customers desiring

to know what thickness and materials should be used for common designs such as residential streets, parking lots, residential driveways, industrial drives, bike and golf cart paths, sidewalks and playgrounds. Thicknesses are provided for full-depth and asphalt with aggregate base pavement sections, taking into account soil strength and the number of vehicles using the facility, and the effects of the environment. Material selection and thickness of the mix layers are also discussed.

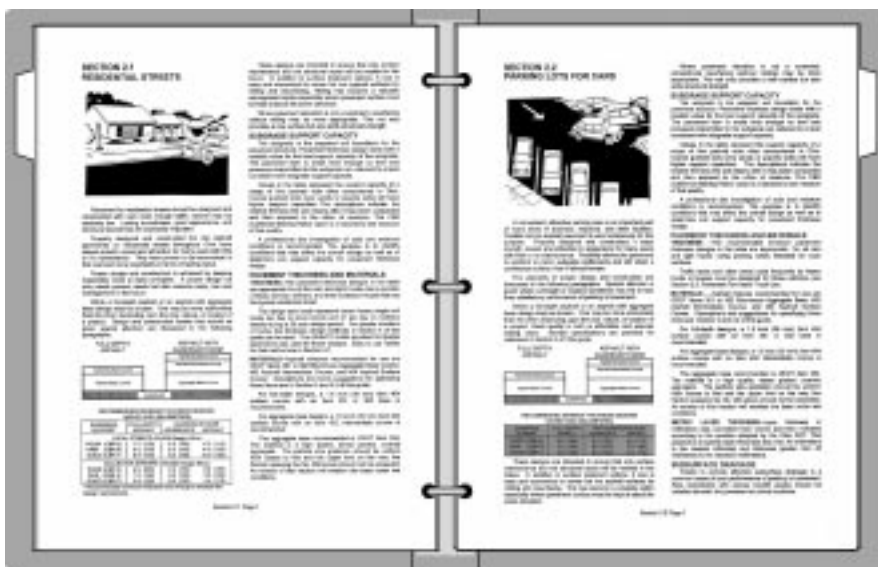
Many a construction project has run amuck due to the lack of specifications, or understanding the specifications. Section 3 of the Design & Construction Guide may be used as a reference in the preparation of contract specifications for Hot Mix Asphalt construction in Ohio. It covers subgrade preparation, aggregate base, and general specifications for Hot Mix Asphalt.

Section 4.1 is devoted to pavement thickness design. It discusses the necessary inputs for determining pavement thickness and provides predetermined structural numbers given various soil and traffic conditions. The thickness calculations closely follow those recommended by the Ohio Department of Transportation and the American Association of State Highway and Transportation Officials (AASHTO). They are based upon equivalent single axle loads (ESALs) up to 1.5 million, and are computed for full-depth as well as asphalt on aggregate base pavement buildups.

Paving materials are discussed in section 4.2. This section contains a description of the Hot Mix Asphalt and aggregate base materials suggested for use. It is based on the Ohio DOT Construction and Materials Specifications.

You've heard it said that the three most important factors in attaining a good performing pavement are drainage, drainage, and more drainage. Accordingly, Flexible Pavements has included in its Guide a section on sub-surface and surface drainage. This information can be found in section 4.3.

Rutting and shoving at intersections is a solvable problem. Guidance on asphalt mixes designed for high stress applications is found in section 4.4.



Section 2.1 and 2.2 provide information to educate your customers about the specifications of materials and thickness for application on common asphalt-based designs.

Info for Customers, continued on page 15

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## STONE MASTIC ASPHALT PLACED ON FORT WASHINGTON WAY

### SMA Introduced to Southwest Ohio

The reconstructed pavement for Fort Washington Way (I-71 and US 50) in Cincinnati was completed over the weekend of June 9-10, 2001, with the placement of the Stone Mastic Asphalt surface course. This is thought to be the first application of Stone Mastic Asphalt in southern Ohio.

Stone Mastic Asphalt (SMA), sometimes called Stone Matrix Asphalt, is a European development.



Fort Washington Way Stone Mastic Asphalt (SMA) surface placed.

The paving mixture consists of a nearly single sized coarse aggregate filled with a mastic of asphalt and filler. The mixture has gained wide acceptance because it combines many of the best performance features of different paving mixtures. It has much of the spray and noise reducing qualities of permeable, open-graded mixes along with the durability of impermeable, dense-graded mixes and outstanding rutting resistance.

The City of Cincinnati and their managing consultant, Parsons Brinckerhoff, selected SMA for the Fort Washington Way project surface because it could be expected to meet their project requirements of increasing durability and resistance to rutting, lowering noise and spray and presenting a pleasing architectural appearance of different texture between the traveled lanes and paved shoulders.

The SMA was placed by Valley Asphalt as subcontractor on the project. The SMA mix design was developed by Valley to meet the ODOT specification requirements of Supplemental Specification 856, and was approved by the ODOT laboratory. The binder was SBS polymer modified asphalt grading at PG70-22. 0.3% cellulose fibers were added to develop the heavy film



The SMA has successfully delivered the desired, distinct difference in texture and appearance between the pavement and shoulder surfaces.

thickness required. Aggregate was a blend of #78 and #8, 100% crushed gravel, #8 limestone, manufactured limestone sand and mineral filler to meet gradation and volumetric requirements of the mix design. Mixture properties and compaction requirements were verified with a test strip produced and placed at Valley's plant. This being Valley's first experience with SMA, they enlisted the counsel of Jim Scherocman, nationally known asphalt paving technology consultant, to assist with finalizing the design and placement techniques. The shoulders on Fort Washington Way were surfaced with a conventional type 1 mix, which had been designed for rutting resistance and proof-tested on the loaded wheel tester.

Through their application of the latest asphalt paving technology, the City of Cincinnati has achieved a beautiful and functional pavement surface that should give outstanding service for years to come.



Coarse textured SMA on the left pavement surface, dense graded type 1 on the right shoulder surface.

impressed company President, Dick McClelland. "I've never before seen these guys motivated like this. Nothing other than the incentive-based smoothness specification is what caused it," says McClelland.

Other contractors and ODOT officials experienced improved quality as a result of the incentive-based smoothness specification. "We've found our crews competing against each other, trying to see who will get the smoothest pavement," says Larry Shively, Vice President of Shelly Company. Todd Audet, Construction Administrator for ODOT District 2, remarks, "We try and use the Smoothness Spec. wherever we can. I've seen it firsthand and am convinced that we get an overall better quality product as a result of the contractors paying closer attention to the details of getting a smooth job." "They just keep getting better at it," says Wayne Brassell, V.P. of Kokosing Construction Asphalt Group, when referring to his paving crews. "Last year, with just 2 courses, we took US Route 30's roughness from over 100 inches, down to less than 10 – and we still have yet to put the top on!" Bill Christensen, ODOT's Flexible Pavements Engineer, expresses satisfaction with the results of the Smoothness Spec. "At first, I felt the Department didn't need a smoothness specification, since experience in Ohio showed that the asphalt industry can be counted on to deliver good riding pavements. Now I see how incentives in a specification can affect the entire quality of the work. I'm interested to see how our incentive-based joint density specification will further enhance the quality of our paving projects."

This construction season ODOT unveils its newest incentive specification. Developed to improve longitudinal joint performance and mat impermeability this specification has made its way into recent ODOT contract bid documents. How the asphalt industry responds to the challenge the specification sets forth is yet to be seen. However, if the Smoothness Specification is any indication, innovation and attention to detail should rise to higher levels.

#### **Why Incentive Specifications Are Effective**

The reason incentive based specifications have been so effective in raising the quality of Ohio's asphalt pavements is that they provide the mechanism for rewarding quality workmanship in an environment where bidding pressure would otherwise discourage it.

The Ohio Department of Transportation (ODOT) awards construction contracts based upon the "low-bid" method. Awarding projects based on this method has served ODOT well and has resulted in the 10th largest highway network in the Nation. An unintended consequence of awarding contracts to the lowest bidder, however, is the tension that is created between the level of quality desired and the contractor's need for profitability. Becoming lowest bidder in a highly competitive environment, such as the Hot Mix Asphalt (HMA) business, pressures the asphalt contractor to squeeze profitability and push production goals. Because of the magnitude of these pressures, contractors are oftentimes left struggling to meet anything other than minimum quality standards. Incentive specifications are the relief valve that allows the HMA contractor to build in quality while remaining competitive.

Ohio's incentive specifications provide for a monetary incentive to be paid when the performance measures attained are better than minimum standards. Payment is made by adjusting the dollar amount bid for completing the HMA pavement item, and is proportional to the amount of improvement. Using this method permits the contractor to bid work competitively and, if awarded the project, focus all his energy on maximizing profitability by providing the highest quality achievable.

#### **The Future of Incentive Specifications**

The future of incentive-based specifications is bright. This contracting method has proven successful in raising the level of quality while maintaining the advantages of the low-bid system. In Ohio, this contract mechanism has been given the nod of approval and ODOT, partnering with the asphalt industry, is actively pursuing a second generation smoothness specification that will overcome the constraints imposed by lift

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**Incentive Density Spec**, *continued from page 14*

thickness restrictions, making the specification available for use on more projects.

Want to eliminate segregation? Digital imaging of a newly placed asphalt mat is not far off. Imagine pavers equipped with electronics that take a picture of the mat as it passes behind the screed. Data from the picture is immediately processed. Off the printer mounted on the paver, streams in real-time, a topography map of the asphalt mat, showing the various areas of differing texture. The contractor has instantaneous access to data that shows him what adjustments to paving operations need to be made. Software performs computations and determines the pavement area for each texture. The agency uses these computations to determine

the area of material meeting or exceeding the desired level of uniformity. The pay factor is determined and an incentive is paid, based upon the contractor exceeding the minimum uniformity standards. Seem far-fetched?

As technology provides new tools for measuring pavement quality, incentive specifications will be the force empowering their effective use. The net result will be the attaining of higher levels of quality, meeting the Ohio Asphalt Paving Industry's mission – to provide Ohioans with Hot Mix Asphalt pavements that are cost efficient, convenient for their use, and have superior riding comfort.

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**Info for Customers**, *continued from page 12*

There, procedures are provided to restore pavements that have deformed, or prevent deformation from occurring in new construction. Included for reference are material specifications for mixes that exhibit high resistance to rutting and shoving.

Pavements normally are designed to serve their purpose for a period of time called the design period. Eventually, the effects of repeated load applications and changing environmental conditions will require work either to maintain the pavement or to restore serviceability. Section 5 of the Guide discusses restorative procedures such as crack sealing, surface treatment, drainage, patching, resurfacing for structural improvement, and resurfacing for smoothness.

Lastly, the Guide includes other helps such as references to other literature, a glossary, list of producers of Hot Mix Asphalt in Ohio, and tables to determine asphalt quantities for given pavement areas.

Contractors are strongly encouraged to see that specifiers get a copy of the *Asphalt Pavement Design & Construction Guide*. Proper thickness and specifications are what make for an excellent paving job. The Guide is a valuable tool to help designers to that end. Copies can be obtained by either calling the FPO office at 888 – 4HOTMIX and ordering, or by the FPO web-site. That address is [www.flexiblepavements.org](http://www.flexiblepavements.org). The cost is \$20 for FPO members and government agencies.



# THE 2001 ANNUAL MEETING





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## OHIO DEPARTMENT OF TRANSPORTATION

### QUALITY AWARDS FOR ASPHALT PAVING: NEW FLEXIBLE PAVEMENT



Construction of U.S. Route 35 in Greene County, near Jamestown, Project 259 (1998)



Paving Contractor:  
John R. Jurgensen Company  
Cincinnati, Ohio

### MAJOR RECONSTRUCTION USING ASPHALT CONCRETE



Paving Contractor:  
Gerken Paving  
Napoleon, Ohio



Interstate Route 280  
From the Ohio Turnpike to Lemoyne Road, Wood County Project 504 (199)

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## FLEXIBLE PAVEMENT OF OHIO

### QUALITY AWARDS FOR ASPHALT PAVING: SPECIAL USE PAVEMENT



Cedar Point Amusement Park,  
Frontier Trail, Sandusky, Ohio



Paving Contractor:  
Erie Blacktop, Inc.  
Sandusky, Ohio

### AIRPORT PAVEMENT NEW CONSTRUCTION



Paving Contractor:  
Erie Blacktop, Inc.  
Sandusky, Ohio



Middle Bass Island  
Construction of Runway 10-28  
Put-In-Bay Township Port Authority

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**FLEXIBLE PAVEMENT OF OHIO, CONTINUED. . .**

**AIRPORT  
PAVEMENT  
REHABILITATION  
CATEGORY**



**Youngstown-Warren Regional Airport  
Rehabilitation of Runway 14-32**



**Paving Contractor:  
Hardrives Asphalt Paving, Inc.  
Mineral Ridge, Ohio**

**COMMERICAL  
PARKING  
FACILITY**



**Paving Contractor:  
Barrett Paving Materials  
Midwest South Region  
Cincinnati, Ohio**



**Hamilton County, Paul Brown  
Stadium Facility,  
Lots B, C & F**

**LOCAL ROAD OR  
STREET OVERLAY  
CATEGORY**



**Vienna Park Resurfacing Project  
Montgomery County, Ohio**



**Paving Contractor:  
John R. Jurgensen Company  
Cincinnati, Ohio**

**LOCAL ROAD OR  
STREET MINOR  
REHABILITATION  
CATEGORY**



**Paving Contractor:  
John R. Jurgensen Company  
Cincinnati, Ohio**



**Ridge Road, Marburg Avenue  
to Interstate Route 71  
Cincinnati, Ohio**

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**FLEXIBLE PAVEMENT OF OHIO, CONTINUED. . .**

**LOCAL ROAD OR  
STREET MAJOR  
REHABILITATION  
CATEGORY**



**Kilbourne Road Reconstruction,  
From SR 521 to SR 61,  
Delaware County, Ohio**



**Paving Contractor:  
Kokosing Construction Company  
Fredericktown, Ohio**

**MASTER  
CRAFTSMAN  
AWARD**



**Paving Contractor:  
Northern Ohio Paving Company  
Twinsburg, Ohio**



**Shelburne Road in the City of Shaker  
Heights, From Warrensville Center  
Road to the West Corporation Limit  
Constructed in 1973**

**ECOLOGICAL  
AWARD**



**Mansfield Asphalt • Mar-Zane Inc.  
HMA Mixing Facility Plant No. 21  
Mansfield, Ohio**



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