



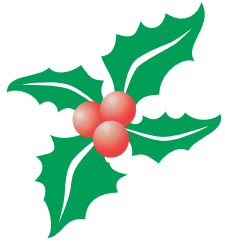
HOT-MIX ASPHALT



VOL. 10 NO. 4

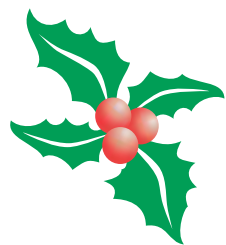
CURRENT NEWS

December, 2001

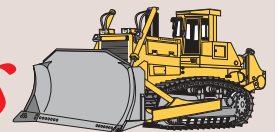


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Season's Greetings



ODOT ESTABLISHES TASK FORCE TO DEVELOP PERPETUAL PAVEMENT SPECIFICATION

Concept Centers Around Three Main Ideas

The Ohio Department of Transportation has established a task force to develop a design procedure and specification for the construction of a roadway using the HMA industry's new perpetual pavement concept. Tremendous progress was made when the task force held its first meeting on October 25th. The task force was divided into four subcommittees. The first is the thickness design subcommittee which is charged with developing a thickness design procedure, using mechanistic design principles, that keeps strain at the bottom of the pavement below the fatigue limit of the material. The second subcommittee is material design. Their goal is to develop the material specifications for each layer of the perpetual pavement. Testing design is the third subcommittee. They are to identify laboratory testing protocols to verify design assumptions, develop accelerated load test, procedures to collaborate laboratory testing results and establish an outline for ongoing testing of a pilot project. The last subcommittee is to identify potential projects that could pilot the perpetual pavement concept, coordinate with appropriate ODOT District and Central Office Departments, and recommend a best choice. Each group is to have the framework in place to achieve its goal and report on its progress when the task force reconvenes in December. The task force expects to complete its work by winter's end, or early spring at the latest.

An impressive list of national and academic experts join ODOT, FHWA and industry as participants on the task force, which is chaired by David Humphrey, the head of ODOT's Pavement Engineering Section. The list includes Dr. Ray Brown, Director of the National Center for Asphalt Technology at Auburn University; Dr. Mark Buncher, Director of the Asphalt Institute's Technical Services Division in Lexington, Kentucky; and Gerald Huber, Associate Director of Research for the Heritage Research Group in Indianapolis, Indiana. Local academics who attended the first meeting include Dr. Robert Liang, University of Akron; Dr. Osama Abdulshafi, The Ohio State University; Dr. Raj Arudi, University of Cincinnati; and Dr. Sang-Soo Kim and Dr. Shad Sargand, Ohio University. Representatives from ODOT Central Office and

Districts, FHWA and Flexible Pavements round out the task force.

The proposed perpetual pavement concept centers around three main ideas. First is to design the pavement to withstand an ultimate load rather than a given number of load repetitions. The failure mode in pavement design is bottom up fatigue cracking. Currently we determine how many load repetitions, or equivalent axle loads (EALs), a pavement will experience over the next 20 years. The pavement thickness is then selected so that it will not fail in fatigue after being bent that number of times. In reality, what we have done is to design the pavement to fail at a given point in time. In a perpetual pavement we use an ultimate load to design the pavement so that the number of times it is applied is not relevant. In this case, strain at the bottom of the pavement is kept below the fatigue limit of the material so that bottom up fatigue cracking never starts.

The second element of a perpetual pavement is to use mechanistic design principles. Currently Ohio uses the AASHTO design procedure, which is an empirical design method, based on the results of the AASHTO road test done in Illinois back in the 1960's. In this procedure, the strength assumed for asphalt is irrespective of its composition. Mechanistic design allows us to account for material properties when we do thickness design allowing the strength of a particular asphalt composition to be considered. For example, we know that an HMA mix with 100% crushed aggregate, two faces, is better than a mixture using 40% crushed aggregates, one face.

The third concept behind a perpetual pavement is the three-layer design. Currently we use a two-layer design incorporating a base course and a riding surface. In a perpetual pavement we incorporate a special bottom layer specifically designed to resist fatigue. Thus the pavement will be able to withstand a higher strain before the fatigue limit of the material is exceeded.

The goal of a perpetual pavement is to eliminate traffic congestion caused by pavement reconstruction. The whole idea is to build a roadway that will last indefinitely with only preventive maintenance activities, which can be accomplished at night and off-peak hours.

KANSAS STUDY COMPARES PCC AND HMA PAVEMENTS

Findings Mirror Ohio Study

This past summer, the Kansas University Transportation Center located at the University of Kansas in Lawrence, released a study on the cost of building and maintaining the state's rural interstate system. The purpose of the study was to gather historical performances and cost data in order to evaluate the assumptions associated with the life cycle cost input parameters currently used by the Kansas DOT. The routes studied included all of Kansas's rural interstate system maintained by the Kansas DOT. The system was originally constructed between 1959 and 1977 and includes 184 miles of PCC pavements and 244 miles of HMA pavements.

The study first looked at service life. Service life is defined as the number of years from original construction until reconstruction for a PCC pavement and until rehabilitation for HMA pavements. It is interesting to note here that for PCC pavements, the term used is "reconstruction" i.e. rubblization, removal and replacement, etc., but for HMA pavements it's "rehabilitation" i.e. additional structural overlay. None of the HMA pavements have required "reconstruction." The study showed that in terms of service lives, the two pavement types were very similar. After 35 years, 50% of both the HMA and PCC sections had been reconstructed or rehabilitated. However the difference in cost between reconstruction of a PCC pavement and rehabilitation of an HMA pavement was significant. In inflation-adjusted 2001 dollars, reconstruction of a PCC pavement averaged \$2.27 million per 4-lane mile compared to \$0.72 million per 4-lane mile for HMA pavements.

The PCC industry would like everyone to believe that HMA pavements must be overlaid several times while nothing is required for PCC pavements. The study showed that this is not the case. After 19 years, 50% of the PCC pavements had received an overlay with a second overlay required 9 years later at year 28. The HMA sections were built using Planned Stage Construction (PSC). Fifty percent of the HMA miles received the PSC overlay after 10 years with the second overlay placed 17 years later at year 27.

The study also looked at the time from original construction until the first maintenance treatment. For PCC pavements this consisted of slab mud jacking, sealing joints and cracks and patching. For HMA pavements it was seal coating, crack sealing and surface recycling. After 10 years, 50% of the PCC pavements had received a maintenance treatment. Fifty percent of the HMA pavements lasted 18 years before a maintenance treatment was performed or 8 years after the PSC overlay.

The study concluded that, in actual 2001 dollars, total expenditures for HMA pavements were significantly less than those for PCC pavements. Original construction cost per 4-lane mile for HMA was \$613,388 compared to \$823,872 for PCC. Average annual expenditures for maintenance, rehabilitation and reconstruction, again in 2001 dollars, were \$56,152 per 4-lane mile for the HMA pavements and \$114,210 for the PCC pavements. Thus, the HMA pavements have been both less costly to construct originally and to maintain over their life.

These results mirror those from similar studies conducted in Iowa and Ohio. A 1998 Iowa study of adjacent PCC and HMA sections constructed in the same time period showed that for two of the three sections studied, HMA pavements were both less costly to construct and maintain. A 1995 Ohio study of all adjacent interstate HMA and PCC pavements constructed in the same time period showed that, in every case, the HMA pavements were both more economical to construct originally and to maintain over their life. As in the Kansas study, maintenance for the Ohio HMA pavements was relatively simple, consisting mostly of resurfacing, while most of the PCC pavements have required total reconstruction.

These studies clearly show that life cycle cost analysis that assign long service lives to PCC pavements, while assigning frequent maintenance activities to HMA pavements, do not reflect reality.

Editors note: copies of all the above mentioned studies are available on Flexible Pavements of Ohio's website. Just hit us at www.flexiblepavements.org. Or contact us at 1-888-4HOTMIX.

OHIO TURNPIKE NEARS COMPLETION OF CAPACITY EXPANSION

**3.2 Million
Tons of HMA
used so far**

Not since the original construction of the James W. Shocknessy Ohio Turnpike has the Turnpike Commission embarked on such an extensive capital improvement project as its Third Lane Construction. Under the visionary leadership of Executive Directors Allan V. Johnson, G. Alan Plain, and now, Gino Zomparelli the Turnpike forges ahead to provide Ohio with a world-class transportation facility. A facility paved with a world-class paving material – Hot Mix Asphalt!

Open for business on October 1st, 1955 the Ohio Turnpike saw some 10 million cars and trucks in its first full year of operation. That number was

public. The paving material selected for the vast majority of this work was Hot Mix Asphalt.

The Ohio Turnpike was originally constructed of portland cement concrete. In 1967, twelve years after its construction, the wear and tear of traffic made it necessary for the Pike to perform repairs and begin placing asphalt overlays to keep the pavement in serviceable condition. When engineers were eyeing what pavement material they wanted to use for the Third Lane Projects, cost, speed of construction, and durability were the major focus. Having been one of the first agencies in Ohio to use modified asphalt binders, the Pike

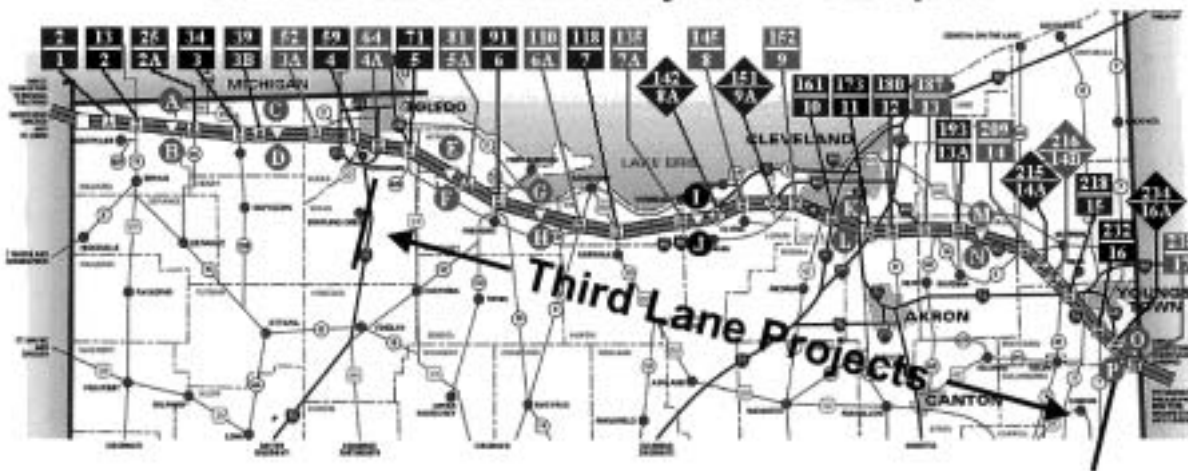
was confident Hot Mix Asphalt could meet the rigorous demands of Turnpike traffic. And rigorous demands they are.

Truck traffic on the Pike is like none other in the State of Ohio. While Ohio law limits the gross vehicle weight of trucks to 80,000 pounds, Turnpike traffic is permitted to be 90,000 for conventional 18-

wheelers. Long-double and triple-trailer combinations reach as high as 127,400 pounds. The Pike builds pavements to take the kind of beating these heavy trucks inflict. Polymer modified Hot Mix Asphalt, “black concrete” as Turnpike officials affectionately call it, is their defense against this kind of attack.

28 years of experience using Hot Mix Asphalt, and infused confidence gained by the proven use of modified Hot Mix Asphalt mixtures, caused Turnpike officials to strongly consider the benefits of using Hot Mix Asphalt for its Third Lane Projects. Additionally, life cycle cost analyses (LCCA) performed by their consultant, Resource International, indicated that over the long haul an asphalt pavement would be less costly for 145 of the 160 miles of pavement to be built.

James W. Shocknessy Ohio Turnpike



quickly approaching 44 million by 1995. Forecasts saw an ever-increasing demand for the roadway. The number of cars and trucks using the road was on the rise. Brimming with commerce, the Pike plays a substantial role in the economic development of northern Ohio and something needed to be done about its ability to handle the forecasted demand. By 1995 Turnpike officials had determined that a major capacity expansion was direly needed and set out to ensure the free-flow of commerce on the roadway was not impeded by congestion.

The capacity expansion took the form of a third lane of pavement stretching from Toledo to Youngstown. The 160-mile expansion project would result in an additional lane of pavement for both east and west directions of traffic, and would be built in the median. Additionally, 14-foot wide paved shoulders and barrier wall would replace the grass median, enhancing safety for the travelling

Ohio Turnpike, continued on page 5



S.E. Johnson paving crew places big rock base course mix (302) for the Third Lane's paved shoulder.

A primary concern that led to the selection of Hot Mix Asphalt was speed of construction. Any contractor working on the Pike knows firsthand the strict time constraints placed on getting a job done. The Third Lane Projects were

no exception. Goals set by Turnpike officials called for the completion of up to 40 miles of pavement per year. For this to occur it would mean using a paving material that can be placed quickly – keeping the construction process moving forward. Today, after only six years of planning and construction the Turnpike Third Lane projects are approximately 80% complete.

The massive task of adding a third lane of pavement and widening its shoulders would require 4 million tons of Hot Mix Asphalt. The Deep-Strength asphalt pavement build-up begins with 6 inches of crushed aggregate base placed on sub-



This finished pavement constructed near milepost 89 by the S.E. Johnson Company, Maumee, Ohio allows greater mobility for the 44,000+ vehicles per day that traverse Northern Ohio on the Ohio Turnpike

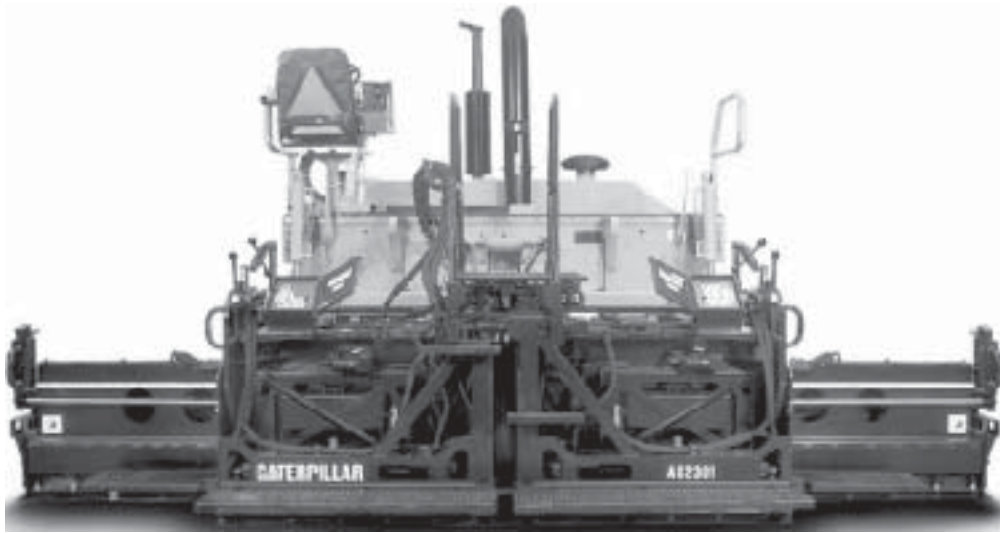
grade. On top of that are 10 inches of large-stone Hot Mix Asphalt base, a nominal 3-3/4-inch (variable thickness) intermediate course, and a 1-1/4-inch surface course. Project specifications incorporated the latest technology developed through the Strategic Highway Research Program by calling for the use of Performance Graded (PG) binders. PG 64-22 was specified for the asphalt base course. The intermediate and surface courses used a PG 70-22 modified binder grade. PG 76-22 polymer modified grade was used for hill climbing lanes, interchange ramps and other high stress locations. Specifications required the surface course mix to be comprised of either slag or limestone aggregate. Recycled mixes were permitted for use in intermediate and base courses.

All projects incorporated quality control measures. Pavement smoothness was validated by using non-contact profile measuring devices. A roughness limit of 65 (Mays Meter), later tightened down to 45, was used to determine the acceptable level of smoothness. The manufacturing process of the Hot Mix Asphalt, as well as the material's placement and compaction, were also closely monitored. Pavement density, a critical parameter relating to the long-term durability of asphalt pavements, was maintained at 92 to 97%.

As the construction of the Third Lane reaches 80% completion, 3.2 million tons of Hot Mix Asphalt have thus far been placed. Seven seasoned asphalt paving contractors accustomed to the rigors of working on the Pike have labored to place that material. The fruit of their labor is approximately 126 miles of some of the smoothest, high quality pavement in the State. "I am very pleased with the quality of the work we received," says Dan Castrigano, Chief Engineer for the Ohio Turnpike. "We have every expectation that these pavements will provide the people and businesses using the Pike with the continued high level of service that they have come to expect. We are proud of this magnificent accomplishment, but also wish to acknowledge the tremendous effort of our contractors and consultants who helped make this project a reality."

The asphalt paving industry in Ohio is pleased to have contributed significantly to the building of this world-class transportation facility. It wishes to thank the Ohio Turnpike Commission for its display of confidence when it selected Hot Mix Asphalt for accomplishing this historic endeavor.

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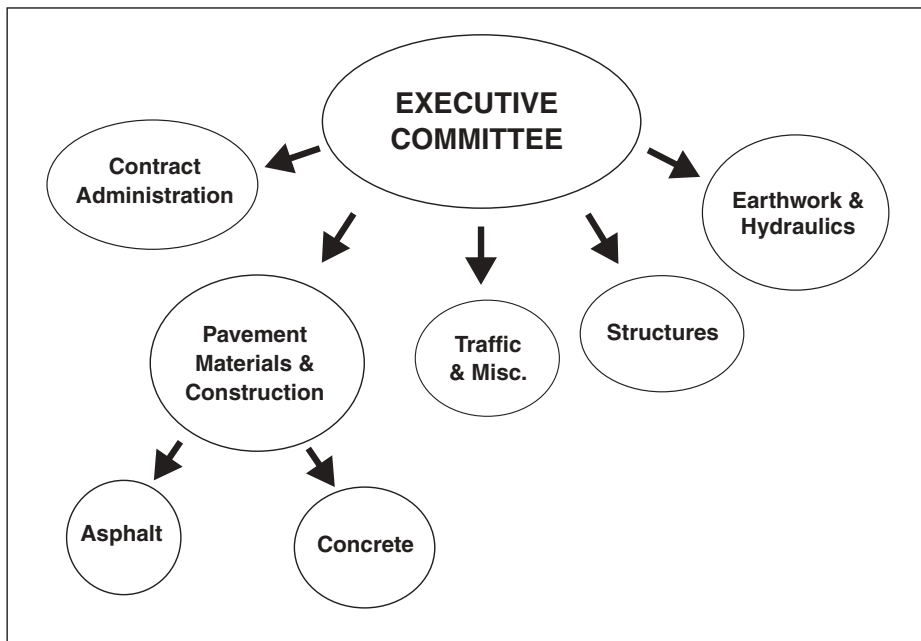
ODOT REENGINEERS SPECIFICATION COMMITTEE

FPO to be an Official Member

The Ohio Department of Transportation (ODOT) has reengineered its Specification Committee. The move comes as a result of benchmarking efforts by the Department, comparing its existing process for specification development with that of other states. When asked why the Department was changing its process, Walid Gemayel, Deputy Director of the Division of Construction Management, remarks, "It is our desire at the Department to utilize the most efficient and effective methods to develop specs that improve the materials and processes we use. We feel this new Committee structure will be better because it involves more people who must live with the consequences of the specs that are written. Further, involving the people who work in the trenches should give us better specs and more innovative ideas."

Committee Structure

The new Committee structure consists of an oversight committee and Working Committees. There are five Working Committees, each focussing on its own specialty. An Executive Committee serves to oversee the process. It is responsible for final review and approval of all specifications. Members include the ODOT Assistant Director of Highway Management, and Deputy Directors from the Divisions of Construction, Contract Administration, Highway Operations, and Production.



The Working Committees are where the "heavy-lifting" will be done. The Working Committees are Contract Administration, Pavement Materials & Construction, Traffic & Miscellaneous Items, Structures, and Earthwork & Hydraulics. The Pavement Materials & Construction Working Committee is further divided into an Asphalt Subcommittee and a Concrete Subcommittee. A chairman is assigned to each Working Committee. His duties are to coordinate all activities and assign responsibilities. The Asphalt Subcommittee has Lloyd Welker as its chairman. Welker is the Department's Administrator of the Office of Materials Management. Committee members are drawn from ODOT Central Office, the Testing Laboratory and Districts. Industry is also represented. Flexible Pavements of Ohio, the Ohio Contractors Association (OCA), and a contractor member of OCA have been included. Unlike the previous committee structure where industry was only permitted to provide input to the process, now voting privileges have been extended.

On The Docket

Currently the Asphalt Subcommittee is busy-ing itself with reviewing specifications for the new specification book. ODOT is in the final stages of its rewrite of the Construction & Materials Specification (C&MS) Book. The change to active voice – imperative mood has

made it necessary to rewrite all the specifications. The publishing of the new specification book in March, 2002 also provides the opportunity to incorporate many of the updates since the 1997 book. Subcommittee Chairman Welker has expressed that his vision for the Subcommittee also includes exploring new methods and materials that can advance the quality of the product the Department receives. This is a new and exciting role for the Specification Committee and the Asphalt Industry is excited to take part in it.

Member Spotlight

MINORITY FIRM, MCDANIEL'S CONSTRUCTION EVOLVES INTO ASPHALT CONTRACTOR

"There is a misconception that minority firms get something for nothing," says Dan Moncrief III, president of Columbus' McDaniels Construction Corp., Inc. Moncrief has skippered the minority firm since its creation in 1985.

"The only advantage we ever had was that in the days of set-asides there was a

sub-contractor on larger jobs. That way we control the money. It's a strategy that has worked well for us. We pride ourselves on doing the job right the first time. If it's wrong, we make it right, and that's paid off."

Headquartered at 1069 Woodland Avenue in Columbus, McDaniels Construction is supported by eight office personnel and as many as 60 field employees during peak construction months. In addition to asphalt paving, which represents about 50 percent of the firm's business, McDaniels Construction does concrete work, highway enhancement (landscaping), bridge replacement and has recently started building small storage buildings for ODOT. McDaniels has laid over 100,000 tons of asphalt a year for the past three years.

McDaniels started in 1985 when four partners with a civil service background started working as residential and commercial painters. Soon after its creation, the company was approached by ODOT, which hired them for bridge painting work. This became the company's focus from 1985 through 1989.

Then McDaniels hired a bridge engineer and for a few years shifted its focus to bridge construction work. "In 1994 we discovered that half of the state's budget was for asphalt," Moncrief said. That's when McDaniels began a few joint venture projects with Kokosing Construction. By 1996 McDaniels hired its own asphalt paving manager, Gary Leonard, and began building asphalt projects independently. Moncrief and a new partner, Eric Girard, who is now Secretary and Treasurer for the company, bought out the other three partners in 1997.



Lane Avenue & Schotteinstein Arena turn lanes

smaller competitive base," Moncrief said. "We still had to compete. We still risked taking losses on jobs. The days of set-asides are gone. Today we compete against companies far bigger than us. We don't have the economy of scale to compete with some of the bigger companies in the state, so commonly we're at a disadvantage in bidding projects."

"Our philosophy has been to try to be the big fish in the little pond, as opposed to the little fish in the big pond. By that I mean bidding on smaller jobs rather than being a



North Nationwide Arena parking lot

Since then the company has established itself as a well-respected contractor in the Central Ohio area having completed over 200 projects and assembled a construction management staff with over 100 years of experience. The majority of its customers are public, including ODOT, county and city engineering offices as well as local villages and municipalities. McDaniels has even done some work for the federal government at Wright Patterson Air Force Base and the Defense Supply Center in Columbus. The company has averaged nearly \$11.5 million in sales for the past three years

You can see McDaniel's paving work on SR 42 between West Jefferson and Mechanicsburg, or SR 315 between I-270 and Delaware. The company is also responsible for many of the parking lots surrounding Nationwide Arena (home of the Columbus Blue Jackets) and The Schottenstein Center (home of Ohio State basketball and hockey).

While African Americans manage the company, 80 percent of its workforce is non-minority. "In the past many minorities were kept out of skilled trade unions," Moncrief said, "so the number of skilled minority tradesmen is fairly small, and everyone wants to hire them. More minorities are getting this kind of training today, so hopefully in the future we'll see more in the industry. McDaniels is involved in an outreach to the inner-city community to recruit minorities for skilled trade jobs in road construction."

Another thing Moncrief sees as he looks to the future is an expansion into work that will provide year-round employment for his employees, including construction of buildings and maintenance contracts for roads. He hopes to increase his workforce by 50 percent and double the volume of asphalt laid by the company.

Visit the McDaniels Construction web site: www.mcdanielsconstruction.com for more information on this company.



Fred Taylor/Schottenstein Arena North parking lot

MORE DIAMONDS FOR THE OHIO ASPHALT INDUSTRY CROWN

3 Plants Recognized for Commitment to Adjacent Communities

Three more Ohio asphalt producers have earned the National Asphalt Paving Association's "Diamond Achievement Commendation" for excellence in plant and site operations. The newest honorees are Shelly and Sands, Mar-Zane Inc. Plant #2 located in Marietta, Ohio (the company's second Diamond), Valley Asphalt's Plant #25 in Troy (Valley's third Diamond) and the Kokosing Materials, Inc. Columbus Plant, located on US 23 south.

The "Diamond Achievement Commendation" is earned through a self-assessment process, which addresses six aspects of plant and site operations: appearance, operations, environmental practices, safety, permitting and compliance, and community relations.

Jerry Taylor, Vice President for Plant Operations for Shelly and Sands, reports that Mar-Zane #2 is a 35 year old 2 1/2 ton Barber Greene batch plant that has just been extensively refurbished as part of Shelly and Sands ongoing effort to update 1 or 2 plants per year. In addition to updating operating and environmental practices, physical updates include: new controls, a new dust collection bag house system, a storm water control system, construction of containment walls and landscaping of the facility. Shelly and Sands was commended



Valley Asphalt's Plant #25 in Troy, Ohio



Shelly and Sands' Mar-Zane #2 in Marietta, Ohio

for their improvements by Robert Badger, Washington County Engineer.

Kokosing Materials reports that the Columbus Plant was a natural for the most intensive of best environmental practices situated as it is above the aquifer that serves the City of Columbus well water field. The plant, built in 1991 consists of a 500 tons per hour double drum with 6 cold

feeds, 6-300 ton silos with blue smoke recovery package, dual scales and a silenced burner. All liquid tanks are located within secondary containment and are vented to precipitators to recover any fumes. The burner is equipped to use multiple fuels, either gas, oil or waste oil. The plant is equipped to produce any and all mixes including latex and fiber modified mixes. As part of the effort in achieving the "Diamond Achievement Commendation", the plant was inspected and Kokosing was commended by the City of Columbus' Well Field Coordinator for their environmental protection practices.

Mike Southers of Valley Asphalt reports that Plant #25 in Troy is the company's third facility to be awarded the "Diamond Achievement Commendation" for the company. The plant in



Kokosing Materials, Inc. Columbus Plant in Columbus, Ohio

More Diamonds, continued on page 12

2002 TRANSPORTATION SPENDING BILL APPROVED

The Rules of the Road

Voting 371-11, the U.S. House of Representatives gave final approval to a \$59.6 billion transportation appropriations bill for fiscal year 2002. The measure (H.R. 2299) provides \$32.9 billion for highways, including \$31.8 billion for the core highway program (known as "obligation limitation"). Last year, the core program was funded at \$29.7 billion.

Enactment of the transportation spending measure was delayed nearly two months past the

beginning of the fiscal year because of a dispute over the steps that would be required in order to allow trucks from Mexico to begin operating throughout the U.S., as required under the North American Free Trade Agreement. House and Senate negotiators, working with senior officials in the Bush Administration, finally hammered out a compromise on that issue this week. The Senate is expected to approve the bill and President Bush has indicated he will sign it.

GASOLINE PRICES DROP

The average price of gasoline nationwide dropped 4.5 cents per gallon to \$1.23 in the last two weeks, according to the latest Lundberg Survey. In inflation-adjusted 2001-dollar terms, today's price may be an historic low. Information provided on the American Petroleum Institute's

(API) website – www.api.org – indicates that the real cost of gasoline reached an historic high in 1981 at \$2.64 per gallon but has dropped precipitously since that time. Both Lundberg and API analysts attribute the price decline primarily to lower crude oil costs but also to savings realized in manufacturing, distribution, and marketing.

NEW FHWA DIRECTOR NAMED

Federal Highway Administrator Mary Peters announced on Nov. 26 that Frederick "Bud" Wright will be the Federal Highway Administration's (FHWA) new executive director.

Wright most recently served as program manager, Safety Core Business Unit. He has been

involved in numerous aspects at FHWA, such as budget formulation and execution, policy and legislative development, financial oversight and accountability, transportation economics and program management and leadership. Wright has 26 years of experience at FHWA.

NTSB REPORTS FATALITY INCREASE

The National Transportation Safety Board (NTSB) reports that transportation fatalities in the United States rose 0.2 percent last year over 1999, to a total of 44,186 deaths. Preliminary figures show that highway fatalities, which account for more than 94 percent of all transportation deaths, rose from 41,717

in 1999 to 41,800 in 2000. Rail fatalities declined from 783 to 770; marine fatalities dropped from 874 to 801, with most deaths occurring in recreational boating; aviation deaths rose from 693 to 777, with the vast majority (592) occurring in general aviation; and pipeline deaths increased from 26 to 38.

American Highway Users Alliance - "The Rules of the Road" Vol. 6, Issue # 47

CORRECTION

The article in the September, 2001 edition of Ohio Hot-Mix Asphalt, titled "City of Blue Ash Tries Rubblization" contained several errors. Corrections are as follows:

- Dennis Albrinck is Service Director of Blue Ash--his name was misspelled in the article.
- Dennis Dean's company is Construction Management Services, P.O. Box 42481, Montgomery, Ohio, 45242--the company was incorrectly listed in the article.
- A third street, Shell Road, not mentioned in the article, was also rubblized as part of the project. Shell Road intersects Rossplain Road. Rossplain Road is a dead-end street off of Plainfield Rd. and does not intersect Blue Ash Road.
- The depth of existing asphalt overlay that was removed from the streets prior to rubblization was 2 to 8 inches not 2 to 4 inches as stated in the article.

OHMA regrets any inconvenience that these errors may have caused and thanks Dennis Dean for these corrections.

KEERAN APPOINTED AS FLEXIBLE PAVEMENT ENGINEER

Bill Christensen Assumes New Duties

A new Captain has taken over the helm of the Flexible Pavement Engineer's position at the Ohio Department of Transportation. His name is Keith Keeran. A Department employee for over 27 years, Keith first started with ODOT in 1973. He's no stranger to pavement engineering, having served as the Department's Assistant Rigid Pavement and Concrete Engineer for two years (1979 – 1981) and Rigid Pavement and Concrete Engineer from 1981 to present. His new title will be Pavement Engineer, since he will now be handling the responsibilities for both flexible and rigid pavements.

Keith received his education from Ohio Northern University, obtaining a Bachelor of Science degree in Civil Engineering. Keith later earned his professional engineer's license in the State of Ohio. He hails from Canton, Ohio but now resides near Sunbury. He and his wife Debbie have two wonderful daughters. Keith's aspiration for his new job is to ensure that the asphalt pavements Ohio's motoring public travel on are the smoothest, most durable they can be.



Flexible Pavements of Ohio is pleased to welcome Keith to the world of Hot Mix Asphalt. We wish him the best of success in his new endeavor. We also wish to extend our sincere gratitude to Mr. Bill Christensen for his faithful service to ODOT and Ohio's asphalt paving industry during his tenure as Flexible Pavement Engineer.

More Diamonds, *continued from page 10*

Troy was built in 1999 and is located in a mixed industrial/residential neighborhood. The facility is equipped with an ASTEC Turbo 400 TPH double drum plant and a Hauck Eco-Star Burner (for emissions and noise control). Practices incorporated to control dust include: paved drives and lots, and a truck load-out wash bay. Drums and silos have a blue smoke package. The facility recently hosted an OCA "Constructor for a Day" tour of the facility by students.

Previous Ohio recipients of the "Diamond Achievement Commendation" include Mar-Zane's Plant #21 in Mansfield, Valley Asphalt's #6, Dryden Road, and #14, Newtown plants, and the Osterland Company's Plant #1 in Cleveland.

The Ohio Asphalt Paving industry congratulates Kokosing, Shelly and Sands, Valley Asphalt and all previous recipients on the effort and example set in achieving the Diamond Achievement Commendation.

HELP US UPDATE OUR NEWSLETTER MAILING LIST

We ask for your help in correcting and updating our mailing list. If you receive a copy of the newsletter that is misaddressed in any way or is directed to a person who is no longer with your agency, please let us know by calling us toll free at **888-446-8649** or e-mailing us the information to flexpave@ameritech.net. If you read a copy directed to someone else and would like to receive your own copy, ask to be added to our mailing list. And, lastly, if you know of someone who should receive a copy of Ohio Hot-Mix Asphalt, please give us her/his mailing information. We'll be eternally grateful.

Editor's Note: The following article appeared in the 1930 Central Ohio Motor Travel. It discussed the beginning of hot mix asphalt paving in the state of Ohio during the 1920's and spotlights the conversion of US 27 in southern Butler County to an asphalt surface from its prior chip and seal state. The road provided many years of service as the main travel route between Cincinnati and Indianapolis until US 27 was relocated to a new alignment in the late 1960's. It still continues to provide excellent service to the motoring public more than 70 years later as part of Butler County Highway System.

Central Ohio MOTOR TRAVEL

November, 1930

Contractors Learn

How to

Rebuild Old Roads

RE-SURFACING of old roads with asphalt macadam offers a solution to the problem Ohio confronts in maintenance of makeshift improved highways constructed to "get the farmer out of the mud" in the past years.

Experiments conducted by the highway department in 1930 bear out the experience of Ohio contractors in other states and indicate that old roads may be reclaimed with a non-skid surface that will last for many years without an annual treatment of a sticky surfacing material, and at an extremely low cost.

The Ohio experiment was laid in September on U.S. Route 27, between Millville and Venice in Butler County, a section of the Cincinnati-Indianapolis road. It followed the method advocated by asphalt contractors for several years past, and was installed at a cost of \$9,000 per mile, providing a hard surface road equivalent in quality to roads costing many times that amount.

The contract as awarded called for the laying of hot mixed non-skid asphalt macadam to a depth of 1-1/2 inches, according to Clifford W. Simpson, president of the Federal Asphalt Paving Co., of Hamilton, which did the work, and details of the job were revealed in an address made by him to the Asphalt Paving Association at Toledo November 19. Mr. Simpson also is president of the Ohio Asphalt Paving Contractors' Association.

In constructing this road the contractor was faced with an old gravel highway, upon which a tar re-tread surface had been

laid in the fall of 1929, just a year previously. As is customary on a heavy traffic road, the tar surface had worn out in a year, requiring new surface treatment. The work was simply reclamation of a worn out old road. No attempt was made to re-grade or re-brem the road. The mixture laid on the highway, which contractors know as hot mix non-skid asphalt macadam, consisted of crushed gravel or boulders, washed river sand, and asphalt cement, in the proportion of 6.1% asphalt cement, 35.3% sand and 58.6% stone.

NEW ROADS FOR OLD



Clifford W. Simpson inspects and approves U.S. Route 27 after it has been re-surfaced with asphalt

The resulting surface was entirely satisfactory. The large percentage of stone used gives it inherent stability, and the coarse sand and asphalt welding it together in a motor that presents a water-proof surface and a gritty finish that prevents skidding even in wet weather.

Ohio has many thousands of miles of worn gravel, waterbound macadam, and other worn highways which annually need attention. Many of these were constructed with the full knowledge of the state depart-

ment that they were not permanent highways, but an effort to surface temporarily as many miles as possible of the state's road system. Engineers, realizing that these roads would not be permanent no doubt planned to rebuild them of more durable materials as opportunity and state finances afforded an opportunity to do so.

The asphalt contractors contend they now offer the state the most satisfactory and lowest cost method of reclaiming these roads in a permanent, or at least semi-permanent, manner.

This method makes use of old foundations, and saves the cost of re-grading on roads where this work already has been done, in past years. It does not require annual treatment, as the tar covered roads so widely used on macadam bases in the past usually do. It costs less than tar treatment, over a five year period, with the additional advantage of keeping the highway in use constantly during life of the material, and of eliminating the sticky smeary tar which is the dread of the motorist in the summer.

Wearing qualities of the treatment have been adequately tested in other states before the Ohio experiment was tried. In 1922 this same company laid a similar road in Bluefield, W. Va. This surface was laid over an old water bound macadam street, the holes in the original paving being filled with the mixture, and the surface thus brought up to a smooth level. After eight years use Elmer C. Barton, City Manager of Bluefield, writes,

New Roads for Old, continued on page 15

THIRD PAVER OPERATOR TRAINING SITE COMES ON LINE

Richfield Location Will Serve Northeast Ohio

Hands-on paver operator training, jointly sponsored by Local 18 of the Operating Engineers Union and FPO, will add a third site this year. The new location will be at the Union's newly remodeled training site, 176 Broadview, Richfield, Ohio. The site is located between Akron and Cleveland and will provide easy access to paving contractors in the northeast part of the state.

These one-week schools cover roller and paver operation and maintenance, how to work with today's mixes and, most importantly, lots of hands-on practice in the seat of various pavers. The classes are conducted in large ventilated buildings, which will accommodate operation of the paving equipment. Classes are limited to 10 people to allow for personalized instruction. There is no cost for schools, however, companies are encouraged to

help out with attendees' expenses. Participants must be members of the Operating Engineers Union Local 18 or have applied for membership and are awaiting acceptance.

The Richfield site will complement existing schools currently being given at Cygnet in northwest Ohio and at Miamisburg in southwest Ohio. The schedule for the schools is as follows:

- February 25 to March 1 – Cygnet
- March 4 to March 8 – Miamisburg
- March 25 to March 29 – Richfield

A registration form is enclosed as a flyer with this newsletter.

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OCAPE EXECUTES PARTNERING AGREEMENT WITH OHIO LTAP CENTER

HMA Education to be Coordinated

As of October 8, 2001, the Ohio Center for Asphalt Pavement Education (OCAPE), the educational arm of Flexible Pavements of Ohio, and the Ohio Local Technical Assistance Program (LTAP) Center have formally agreed to partner in making available technical education in the field of asphalt pavement technology. LTAP and OCAPE will coordinate their annual education programs. OCAPE will provide technical support to LTAP in their efforts to transfer technology to local government agencies. Both partners will avoid duplication of effort by coordinating their educational offerings. LTAP and the OSU office of continuing education will assist OCAPE in making continuing education units (CEU's) available for specific courses. A first development of this partnership

has OCAPE and LTAP collaborating to deliver training for asphalt construction inspectors in the Cuyahoga County Engineer's office. Future projects may include developing a short course for the OSTEP program.

OCAPE has developed a curriculum and a certification program that provides the basic knowledge that practicing engineers and technicians need to design, construct and maintain quality asphalt pavements. For more information on the OCAPE certification programs visit the OCAPE menu item on the website: www.flexiblepavements.org or call 1-888-446-8649. For more information on LTAP programs visit: www.ohioltap.org/ltap/ or call 1-800-552-6891.

New Roads for Old, *continued from page 13*

under date of Nov. 11, 1930, as follows:

"The paving of Bluefield Avenue (which is one of the main thoroughfares of the city) was repaved with hot mixed macadam over an old water-bound macadam pavement. This type of pavement has held up under heavy traffic and is today in good condition. In my opinion this is an ideal type of pavement."

A county engineer, in whose territory many miles of the same mixture has been in use since 1923, writes that "the road is in good condition, in my opinion it is good for many more years of service, regardless of the fact that it has never been bermed, and was constructed very narrow, being only thirteen feet in width. Of course this narrow construction concentrates the traffic, and passing cars must crowd the unprotected edges of the pavement. However I am making no apologies for the road, as there has been absolutely no maintenance on the road since it was laid."

The same opinion is expressed by C.N. Teaff, director of public works, of Hamilton, Ohio. A street in Hamilton was constructed by this process in 1923, and after seven years wear, is still in good condition without any repairs whatever. Mr. Teaff writes:

"The surface of the above street is of hot mixed asphalt macadam, and after a lapse of seven years with no maintenance whatsoever the surface has maintained its original contour and looks like a new street."

Mr. Teaff also inspected the new surface on the Butler County road this fall, and praises its non-skid qualities very high.

Use of this type of surfacing was begun in 1922, and in the eight years use that has followed, results have been uniformly satisfactory, Mr. Simpson has found. Engineers in charge of roads have in every case praised the wearing qualities of the material and the low cost of the reclamation of old roads it affords.

In his address in Toledo Mr. Simpson said:

"It is well known that one of the greatest demands today is for a road upon which automobiles can travel at a high rate of speed in safety. The gritty surface of this particular type of bituminous pavement provides traction to automobile tires, even on a wet day, and the driver can handle his car with a feeling of safety and we believe this to be one of the greatest advantages this pavement possesses.

"The cost of the road recently finished in Butler County was slightly over \$8,000.00 per mile.

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