



HOT-MIX ASPHALT



VOL. 7 NO. 2

CURRENT NEWS

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Full Depth HMA Feature of New 10 Mile Highway

HOT MIX ASPHALT CHOSEN FOR THE \$92 MILLION BUTLER REGIONAL HIGHWAY

A dream of local officials since the opening of I-75 in 1959, and in active planning since 1970, the Butler Regional Highway is finally under construction. Flexible Pavements, Inc. (FPI) member company, the Kokosing Construction Company was awarded the contract by the Butler County Transportation Improvement District (BCTID) to construct all three sections of the 10.7 mile, limited access, divided highway based on their low overall bid of \$92,761,970.34. Construction began immediately after the official ground breaking ceremonies on May 15, 1998. Expedited construction is required to have the highway open to traffic in the year 2000. The project builds a new highway connection, also known as relocated SR 129, directly east from the City of Hamilton to a new interchange to be constructed on I-75 south of the City of Monroe, near the Butler-Warren county line in southwest Ohio.

Over the last 28 years, the highway has faced many obstacles which threatened to prevent its ever being constructed. Ever

changing environmental requirements required constant revisions to the environmental documents and plans virtually up to the beginning of construction. Persistence by Hamilton City, Butler County, ODOT and BCTID officials kept the planning and design moving forward. However, until creation

local projects. The BCTID was successful in selling bonds to raise the funds to allow construction of the Butler Regional Highway to proceed.

Most of the pavement on the project is Hot Mix Asphalt (HMA), 352mm thick, on 100mm of asphalt treated free

draining base and 150mm of aggregate base with eight longitudinal runs of underdrains, located at the edges of the pavement and the edges of the shoulders in both directions. The asphalt surface was bid with the requirement that it be warranted free of defects for 5 years. The pavement, because of its premium design features and warranty,

is expected to give long and trouble free service.

Contract administration for the BCTID is handled by FPI associate member company, the M-E Companies, Inc., and construction management and inspection is the responsibility of another FPI associate member, Resource International, Inc.



*Kokosing Construction Company begins work on
Butler Regional Highway.*

of the BCTID, it appeared that funding might never be available to construct the highway. In 1993 the Ohio Legislature authorized the formation of transportation improvement districts as a means of enabling local participation in the funding of needed transportation improvements. The BCTID was formed in 1994 to find ways to innovatively finance and accelerate construction of the Butler Regional Highway and other

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HMA = Smoothness

The traveling public cares about smooth roads.

That was true in the early sixties, during the AASHO Road Tests, when drivers gave the highest approval ratings to roads that were the smoothest. And it was true again two years ago, during the National Highway Users Survey, when travelers ranked smoothness as the most important feature of the national highway system.

That's why the Pavement Serviceability Index (PSI) that came out of the AASHO tests was primarily pegged to smoothness, along with cracking, rutting, patching and pot holes. (See "Smoothness and PSI" article.)

Smoothness Saves Vehicle Operating Costs. The traveling public may be less aware, however, that smooth roads also save them money. Roughness has an adverse effect on vehicle operating costs such as fuel and oil consumption, tire wear, maintenance, and depreciation.

For example, fuel consumption will increase about 10 percent for cars and 15 percent for buses if the PSI drops from 4.5 to 2.5. Maintenance and tire costs can triple, and oil consumption will nearly double.

Taken all together, the total economic effect on vehicle operating costs is substantial adding 2.5-3 cents per mile or \$250-300 per 10,000 miles of driving. (See "Pavement Smoothness," Michael S. Janoff, NAPA publication IS111, April 1991.)

Smoothness Saves Pavement Maintenance Costs. But how does smoothness relate to pavement performance and pavement life?

In his 1991 study, Michael Janoff shows a positive correlation between smoothness and long-term pavement performance. After collecting ten years' worth of data on 400 different sections of roadway, he concludes that "initial smoothness is related to both long-term roughness and long-term cracking; as initial pavement smoothness decreases (i.e. initial roughness increases), the roughness after 10 years increases and the percentage of cracking after 10 years similarly increases."

The reason for this is intriguing. It's obvious that rough roads jolt vehicles and their passengers. But those jolts, stresses, and strains transfer back to the vehicle's tires, which, in turn, distress the pavement. It's a circular dynamic, Janoff explains, not a one-way dynamic.

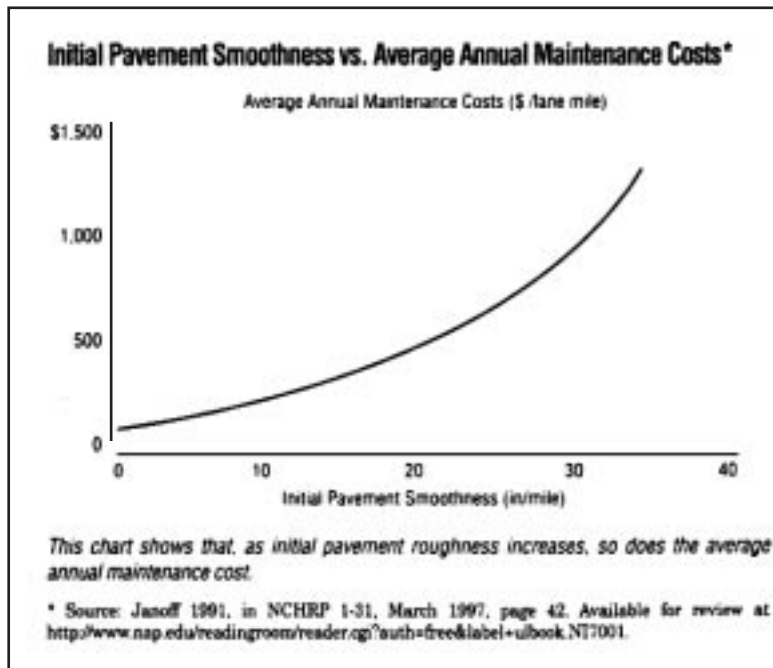


Why Smoothness Matters: Rough roads jolt vehicles, and those jolts transfer back to the vehicle's tires, which, in turn, distress the pavement.

When Janoff next compared initial smoothness to annual maintenance costs, he found that, as expected, "Pavements that have higher initial smoothness also have lower average annual maintenance costs." Says Janoff, those savings in maintenance costs can total as much as \$1,200 per mile when initial PSI is increased from 4.0 to 4.5.

Managing Smoothness. Because they recognize the value of smooth-

– It’s a Measure of Quality



ness, most — if not all — contracting agencies include smoothness specifications in their contracts. And many include bonuses and incentives for better work. Even so “People don’t manage pavement smoothness very well,” says Larry Scofield, manager of transportation research for the Arizona Department of Transportation. “To make a smoother pavement, you have to increase the quality of the entire product.”

A quality product starts with proper design and specification, then requires the right equipment and construction techniques.

(More on Smoothness in our next news letter)

SMOOTHNESS AND PSI

The 1962 AASHO Road Tests lead to creation of a “Pavement Serviceability Index” (PSI), which is a function of the “driveability” of a pavement. “Driveability,” in turn, is a function of driver-perceived comfort.

This PSI is obtained from measurements of roughness and distress (e.g., cracking, patching, and rut depth). Roughness — the absence of smoothness — is the dominant factor in estimating the PSI of a pavement.

The PSI scale ranges from 0 through 5, with 5 representing the highest level of serviceability. New pavements typically have PSI values between 4.0 and 4.5.

Pavements typically need resurfacing when the PSI value drops to 2.0 - 2.5. At this level, there is a huge increase in the number of drivers/passengers who rate a road as “unacceptable,” as shown by the following table:

PSI	% Rating Road as “Unacceptable”*
3.0	12%
2.5	55%
2.0	85%

* Source: AASHTO Guide for Design & Pavement Structures, 1991.

CELEBRATING HMA'S RESPONSIBLE STEWARDSHIP AT EARTH FESTIVAL

HMA Celebrated at Earth Festival

Flexible Pavements, Inc. took a recycling display to the “Celebrate Earth Festival” on the State House lawn, May 15, 1998. The Festival was jointly sponsored by Ohio State agencies: Development, Administrative Services, Environmental Protection and Natural Resources. The event was heavily attended by personnel from the State Agencies and teachers and school students on field trips. The Festival was organized to showcase organizations and businesses involved in energy conservation, recycling and other environmentally friendly activity. FPI’s display showed the Ohio Asphalt Paving Industry’s accomplishments in recycling over 2 million tons of reclaimed asphalt pavement each year and was intended to build good will for the industry.



FPI table top display trumpets HMA Industry’s commitment to environmental stewardship.



Earth Day Celebration is for “kids” of all ages.

INGERSOLL-RAND.

Vibratory Asphalt Compactor DD-90HF



Unit shown is without FOPS (Falling Object Protective Structure)

The DD-90HF features dual 66 inch (1675 mm) wide drums with 3800 vpm (63.3 Hz) frequency for fast rolling speeds and ultra smooth surface finish. The unit provides high performance capability for main line highway paving jobs. Operating weight over 10 tons (9.1 metric tonnes) meets all state D.O.T. static rolling requirements. The DD-90HF has a nominal capacity up to 325 tons (290 metric tonnes) of HMA per hour.

Standard Features

- Adjustable vibration on/off speeds of 0.75, 1.25, 1.75, 2 mph (1.2, 2, 2.8, 3.2 km/hr)
- Automatic reversing eccentric rotation
- Eight-position variable amplitude settings
- Five-position rotating operator's module with adjustable seat
- Machined drums, chamfered drum edges
- Polyethylene water tanks, 250 gallons (945 liters) capacity
- Patent-pending impact meter to provide consistent spacing of drum vibration impacts for uniform compaction of HMA
- Standard ROPS/FOPS and seat belt (in North America)
- Two complete, independent water systems with triple water filtration, four water pumps, four spray bars and variable water flow
- Vibration frequency of 3800 vpm (63.3 Hz)



Ohio's Dependable Dealer

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Dayton
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Canton
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HOW SPECIFICATIONS LIVE FOREVER

Tee Hee Haw Haw!

Of all the jokes and humorous stories that make their way around via e-mail these days, it's rare to find one about . . . standards. We thought you'd like this one:

"The U.S. standard railroad gauge (distance between the rails) is 4 feet, 8.5 inches."

"That's an exceedingly odd number. Why was that gauge used? Because that's the way they built them in England and the U.S. railroads were built by English expatriates."

"Why did the English people build them like that? Because the first rail lines were built by the same people who built the pre-railroad tramways, and that's the gauge they used."

"Why did they use that gauge then? Because the people who built the tramways used the same jigs and tools that they used for building wagons, which used that wheel spacing."

"Okay! Why did the wagons use that odd wheel spacing? Well, if they tried to use any other spacing the wagons would break on some of the old, long distance roads, because that's the spacing of the old wheel ruts."

"So who built these old rutted roads? The first long distance roads in Europe were built by Imperial Rome for the benefit of their legions."

"The roads have been used ever since."

"And the ruts? The initial ruts, which everyone else had to match for fear of destroying their wagons, were first made by Roman war chariots. Since the chariots were made for or by Imperial Rome they were all alike in the matter of wheel spacing."

"Thus, we have the answer to the original question. The United States standard railroad gauge of 4 feet, 8.5 inches derives from the original specification for an Imperial Roman army war chariot."

"Specifications and bureaucracies live forever. So, the next time you are handed a specification and wonder what horse's [expletive deleted] came up with it, you may be exactly right. Because the Imperial Roman chariots were made to be just wide enough to accommodate the back-ends of two war horses."

(The brevity of this history lesson is probably too good to be true. While this tale sounds reasonable, it's apparently something of an oversimplification. For those with access to the World Wide Web, check out an intelligent discussion on this very subject at www.spikesys.com/Trains/st_gauge.html).
(Source: *ASTM Standardization News*, May 1998.)

HOT MIX ASPHALT ALTERNATE LEAVES CONCRETE BID AT THE STARTING GATE

US 35 IS LATEST ODOT ALTERNATE BID CONTRACT

In the last issue of *Hot Mix Asphalt Current News* we reported on two ODOT pilot projects containing a provision to bid either rigid or flexible pavement types. In both of those projects, the only bids received were for the HMA alternate. No one would even bid the concrete alternate. Would history repeat itself on another alternate bid contract or would the third time be the charm and concrete make a showing?

The third and last ODOT alternate bid pilot project was let to contract in the May 31st sale. It was for a new section of US 35 in Greene County. This 4-lane divided highway, on the new alignment, had an ODOT bid estimate of \$23,210,000. There were six bidders on the project, but once again all bidders chose the asphalt alternate. This is particularly unique in that the out-of-state contractor that is presently building the adjacent section of US 35, which is concrete, bid on this project also, but chose the asphalt alternate even though he was already mobilized for concrete paving! He placed 5th in the race with Smith and Johnson Construction of Columbus, Ohio, submitting the low bid at \$18,993,907.99, more than \$4 million below the State DOT's estimate.

The purpose of these demonstration projects was to try and get a feel for the true cost between asphalt and concrete on various types of projects. What it demonstrated is that the cost differential is so wide that, when given the choice, no one will even bid the concrete alternate.

These three projects demonstrate the economy of using asphalt and when you consider there has never been an engineered asphalt base in this state that has required reconstruction, there is only one logical choice for pavement type — HMA.

POLYMER MODIFIED HOT MIX ASPHALT RECEIVES THE 1998 OHIO NEW PRODUCT AWARD

Engineers' Society Recognizes HMA

The Ohio Society of Professional Engineers (OSPE) selected Polymer Modified HMA as the recipient of their 1998 Ohio New Product Award. The nomination for the award had been submitted to OSPE by Flexible Pavements, Inc., on behalf of Ohio's Hot Mix Asphalt Industry.

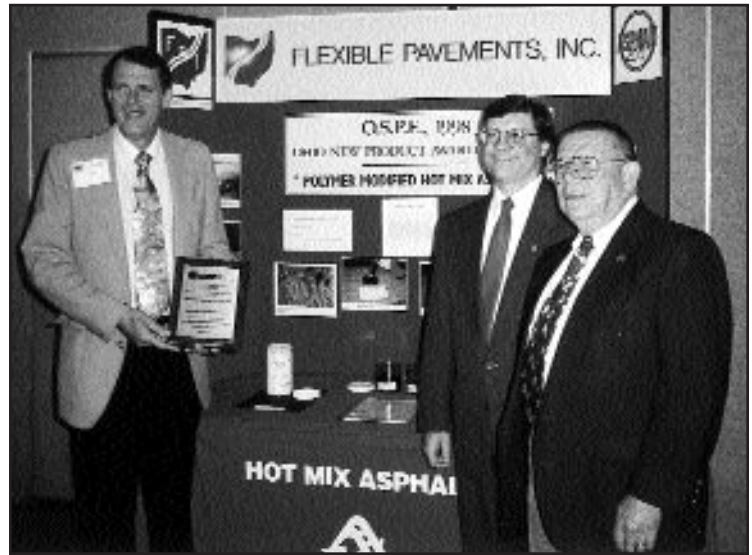
The purpose of OSPE's new product award is to recognize the benefits that come from the research and engineering of new products. These include added employment, economic development, strengthening of the nation's competitive position internationally and contribution to the public's standard of living. New and improved products stimulate the life and growth of our country. The competition recognizes the results of engineers' efforts and the foresight of the companies whose aggressive policies bring their products to the marketplace.

Realizing the benefits of polymer modified HMA and choosing to pursue an aggressive policy to improve our product quality, Flexible Pavements, Inc. met with the Director of the Ohio Department of Transportation (ODOT) and his staff during the summer of 1996. The purpose of this meeting was to recommend to ODOT that they standardize the use of polymer modified HMA on the surface of the state's major interstate and multi-lane highways. After an internal review that verified the increased life of polymer modified HMA, ODOT accepted this recommendation and required the use of polymer modified HMA starting with the 1997 construction season. An implementation team of ODOT and industry personnel was put together to develop a specification for using polymer modified HMA and to educate the HMA industry on its manufacture and placement. The original specification was a "recipe" specification requiring given percentages, by weight of mix, of SBS or SBR polymers to be added. This was refined for the 1998 construction season into a specification setting forth laboratory test requirements that, when met, reflect the necessary polymer addition which will benefit Ohio's pavements.

Use of polymers in HMA will extend the life of the pavement 3 to 4 years at a cost increase of 15% to 20% for the HMA. When you factor in reduced construction related traffic delays because of longer repaving cycles, decreased road use cost associated with better pavements and decreased construction zone accidents, polymer modified HMA is well worth the additional cost for use on high volume pavements.

As the winner of the Ohio Award, polymer modified HMA is eligible to compete for the national award which is given by the National Society of Professional Engineers.

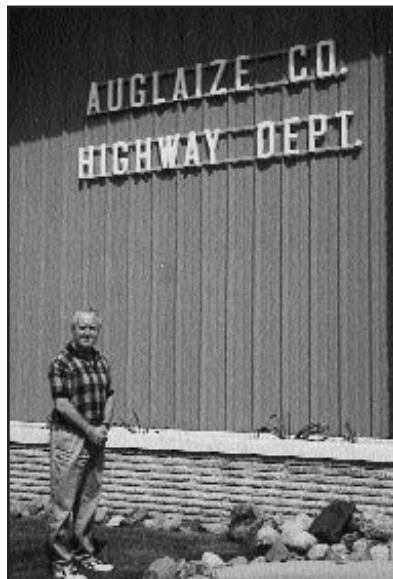
FPI would like to thank the Ohio Department of Transportation for their role in bringing this product to the marketplace. Without their foresight, experimental use, and specification development, none of this would have been possible.



Fred Frecker, President, Flexible Pavements, Inc. (left) receives award from OSPE President, Alan Olson and Jack Frost, OSPE President-Elect

Smooth Roads in Auglaize County

AUGLAIZE COUNTY RESIDENTS WANT AND GET GOOD COUNTY ROADS



Doug Reinhart, County Engineer, is bound and determined to providing high quality roads for the residents of Auglaize county.

In reading Auglaize County Engineer, Doug Reinhart's annual report for 1997, FPI saw a remarkable statistic. In the 5 year period from 1993 through 1997, Auglaize County resurfaced 61% of its road mileage, 216 of its 353 miles in the last 5 years, an average of 43 miles per year!

In talking with Chief Deputy, Gary Kuck, FPI learned that this has been made possible by an increase in the county's permissive license plate fee passed in 1988 and which became fully effective in 1990. Prior to the fee increase, the county was able to resurface only 20 miles per year and had patched and sealed their roads about as much as possible. The extra income, 13% of the Engineer's total budget, has allowed the engineers to reduce their resurfacing interval from over 15 years to 10 years, and nearly eliminate their dependency on patching and sealing. The county expects to resurface another 35 miles this year. Kuck expects that this cycle of resurfacing will place the county road system in good condition and enable them to start a program of preventive maintenance with hot mix asphalt overlays that will keep the roads in good condition rather than having to try to repair roads that break-up. Also, with the increased revenue, the Auglaize County Highway Department has been able to nearly complete its road widening program, with 98% of the 353 miles at a 20 foot width or greater.

The County has tailored its resurfacing specifications to the characteristics of the traffic on the road. On

roads carrying stone quarry or redi-mix traffic, they generally place an overlay of 402 with a total average thickness of about 1.5 inches that allows them to restore the crown, profile and add strength to their roads. On lower volume roads, the overlay is usually 1.25 inches of 404 with the asphalt content increased 0.2% to help retard the weathering of the surface. Roads are paved full width in one pass eliminating longitudinal joints.

County Engineer, Doug Reinhart gives his staff a special thanks for a job well done. FPI adds our compliments to the staff of the Auglaize County Engineer's Office and to the enlightened citizens of Auglaize County who want and are willing to pay for well maintained roads.



CALL FOR PAPERS

ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS
1999 ANNUAL MEETING AND TECHNICAL SESSIONS
Palmer House Hotel, Chicago, Illinois
March 8-10, 1999

The Association of Asphalt Paving Technologies is actively soliciting paper offers for its 1999 Annual Meeting and Technical Sessions.

Papers reporting on studies concerning all phases of asphalt paving technology and related fields will be considered for presentation and publication.

AAPT is an international forum for the presentation and publication of studies on these and other related subjects. The annual meetings are attended by asphalt specialists in chemistry, mix design, pavement structural design and contractors from around the world. Work done by contractors, energy companies, highway departments and agencies, private consultants and universities are presented.

Papers presented along with discussions at the meeting may be published as part of Volume 68 of the AAPT Journal.

Prospective authors should contact the AAPT office to obtain further details regarding submittal requirements.

Eugene L. Skok, Secretary-Treasurer
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Railroad Builds with HMA

HMA MAKES GRADE FOR B&O CAPACITY IMPROVEMENT PROJECT

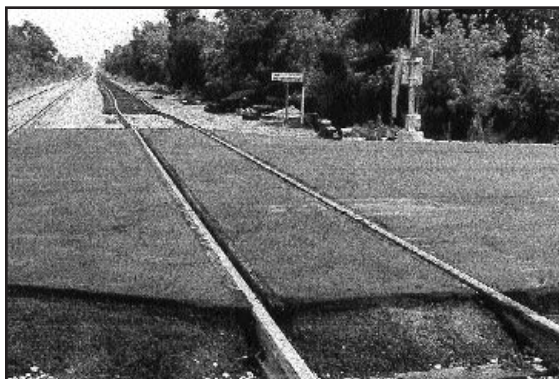
Touted as the largest railroad construction project undertaken by the railroads since their original construction in the nineteenth and early-twentieth



Spreading asphalt material with bobcat front-end loader.

century, the B&O Capacity Improvement Project stretches 250 miles from East Gary, Indiana to Greenwich, Ohio. This project says Dave Clark, Project Engineer for CSX Transportation, is the largest portion of a systemwide capacity improvement related to CSX's partial acquisition of Conrail, and it uses Hot Mix Asphalt (HMA).

HMA is being used for underlayment as a part of every new rail-highway crossing and every new and rebuilt rail-rail crossing. Clark explains, the underlayment consists of five to six inches of



Completed crossing with Rubber flangeway sealer.

HMA for highway crossing and eight inches of asphalt for rail crossings. The material used is standard highway surface (404) or base material (301) with a slight increase (0.5%) in asphalt binder content.

Procedures for constructing crossings using HMA typically requires the use of a skid-steer loader or rubber tired backhoe and steel drum roller. Underlayment placed underneath the track for any appreciable linear distance may be placed using standard tailgate spreader box or highway paving machine. In "tight" locations, such as a crossing installation, HMA is generally dumped directly from the truck onto the ground and spread with a loader. Compaction of the mix is then performed using a steel drum roller.

The purpose of placing HMA as underlayment, says David Clark, is two-fold. One is to increase the stability of the track structure; the other is to provide an impervious layer to keep mud and other debris from fouling the ballast structure from below



Final rolling of asphalt material with drum roller.

while promoting drainage of the ballast section. Clean ballast is one of the key ingredients to reduced maintenance and an extended track life. HMA works well in accomplishing this.

CSX has generally found that track facilities which receive extreme punishment, such as highway and rail crossings, and have been constructed with asphalt underlayment, require less maintenance than those facilities without underlayment. Virtually all highway and rail crossings that had for years been plagued with mud problems have been corrected after installation of asphalt underlayment. Additionally, rail crossing maintenance has been greatly reduced. The savings in material costs and labor have been so significant that the cost of the underlayment technique has paid for itself many times over.

Member Spotlight



Barrett Paving Materials, Inc. asphalt plant and maintenance facility, Cincinnati.

The road from Barrett Paving Materials' corporate office in New Jersey runs smoothly, crisscrossing eight states from the Northeast to the Midwest. A company whose prime area of activity is asphalt plants and construction, Barrett has offices or facilities in Ohio, Michigan, Kentucky, Indiana, New York, New Hampshire, Maine, and New Jersey.

With a history dating to 1854, Barrett Paving was originally owned by the Allied Chemical Company and was in the tar distillation and roof manufacturing business. Eventually it grew to include three asphalt plants in the Cincinnati area and remained a division of Allied until 1979 when the Colas Group, a holding company which owns a number of asphalt-related entities in the United States and Canada, purchased Barrett. In 1987 Barrett, which continues to operate as a separate company, purchased a local paving business, The Brewer Company, and its six asphalt plants. Future acquisitions included the Northwood Group, Trojan Asphalt, TRIASCO, and Interstate Asphalt. In addition, Barrett built a new asphalt plant in northern Kentucky. The company expanded to the Piqua/Dayton area in 1990. When Allied owned Barrett, it was basically a materials company, selling asphalt, gravel, and aggregates. Because of its growth, the company has evolved to include a strong construction group as well.

Today Barrett's Ohio operations are centered in Cincinnati and Dayton. The Cincinnati operation includes

11 asphalt plants and one gravel pit and is headed by regional manager, Mike Thompson. These facilities produce more than one million tons of asphalt a year, generating about \$50 million worth of business. About a dozen crews complete 150-200 jobs each year within a 50-mile radius of the Cincinnati area.

Jerry Bushelman heads up the Dayton regional office with its six asphalt plants and three aggregate facilities. This region services an 11-county area and completes about 150 jobs each year. The asphalt plants produce about 800,000 tons of asphalt annually.

Both regions rely on government contracts as well as commercial work for their livelihood. "ODOT has pumped a lot of dollars into our area of the state," Bushelman said, noting their construction volume has doubled in the last four years. Government jobs account for the bulk of the workload for both Cincinnati and Dayton. Since both regions sell asphalt, they try to stay away from the smaller commercial jobs. We try not to take bread out of our customers' mouths as far as commercial work is concerned," Thompson said.

Since 1983 Barrett's Dayton office has paved 45 of the 50 miles of the Little Miami Scenic Trail, a bikepath that runs from Milford to Beavercreek, as well as the Mad River Bikeway in downtown Dayton. In 1997 the company completed a project on I-75 in Warren County. It was a night time only job with "a lot of degrees of difficulty," according to Don Rosenbarger, construction manager for the Dayton region. "We could only take the first lane at 6 p.m. and second lane at 8 p.m. and had to be off the road completely by 6 a.m. the next morning. That included milling, putting in crack filler, paving it and putting down temporary striping." Despite a myriad of problems the first night, the job was completed early, had no injuries, and achieved 100% pay factor on density.

Barrett is currently finishing up a \$8.5 million job on another stretch of I-75, which required 143,000 tons of asphalt. They have also been involved in preparatory work for the General Motors plant in Moraine over the last several years. A \$460 million, 10-year expansion has required the building of parking lots to accommodate employees as construction takes place. Barrett is currently working on the third of what Rosenbarger calls a "\$2 million parking lot."



*Mike Thompson, Regional Manager,
Barrett Paving Materials, Midwest South
Region, Cincinnati.*

The Cincinnati division also likes to accept jobs that are challenging according to Thompson. Rebuilding the Mason/Montgomery-Fields/Ertle road intersection, a \$4 million project, presented a challenge because of the high volume of traffic. "We basically widened a two-lane road to five and six lanes," Thompson said. The reconstruction of RT. 32 in 1995, an \$8 million job in which 70,000 tons of asphalt was used, was another challenge for the company. "It has a short completion date and was an incentive/disincentive contract with a \$10,000 per day incentive/penalty clause. The company was able to complete the project early and netted \$80,000 in incentives. The biggest single paving job Barrett completed was resurfacing the east-west runway at the greater Cincinnati airport in 1994. The company used 170,000 tons of asphalt on this project. "We did very well," Thompson said, "especially with the tight schedule and high quality requirements."

In 1996 the company constructed two roads at the Fernald Environmental Management Project. This job was a challenge "because of the stringent training and safety and management requirements," Thompson said. In addition, during excavation operations, materials which resembled Indian artifacts were uncovered and the crew was required to stop until a local Indian historian was notified. In addition, Barrett Paving was cited as the most proactive contractor on the site, achieving a zero incident safety record.

Safety is of paramount importance to both Thompson and Bushelman. "We have an active safety program," said Thompson, adding his division was honored for no lost time accidents for the entire region in 1996. Bushelman lists safety as the company's number one priority, even above profit. "We have a lot of safety meetings, including a day-long annual meeting for all employees."

The meticulous work and attention to quality has earned recognition for Barrett Paving Materials. Rosenbarger highlighted some of his region's award-winning projects. Last year Barrett received NAPA's "Quality in construction Award" for five projects: The Hedges Road-Zenia Bikeway, the H-Connector Bikeway, the Mad River Bikeway, ODOT project on U.S. Rt. 36 in Miami County and an ODOT project on I-75 in Warren County. "In 1996 we won one award, in 1997 we won five, and in 1998 we hope to continue that trend," Rosenbarger said. The Cincinnati region has also been the recipient of numerous paving and safety awards, including recognition for no lost days for accidents for the entire region in 1996, an example of the company's commitment to quality.

"We try to do the best job we can, building the job right the first time," Thompson said. "I don't want a year from now to go out on one of my jobs and see a longitudinal joint falling apart or feel bumps in the road because we didn't pack the joints properly. I want to do a job, when I ride on it five years from now, I can be proud we built the job."

Bushelman echoes the importance of quality. "We want to do a good job; our philosophy is to please," he said, "For me the best feeling I can have is when we leave a job the customer says "hopefully you'll be back to do more work."

Bushelman attributes the company's success to the "tremendous people who work for us. They have a personal philosophy of achievement and the responsibility and authority to do their job," knowing that management is there for support. That support includes the expertise of Thompson, Bushelman, and Rosenbarger, all professional engineers with extensive construction backgrounds. Both regions have five professional engineers on staff, something Bushelman calls "unique."

Rosenbarger also compliments the "very dedicated work force" of Barrett, many who have been with the company for years. "Some of our people have never worked for anybody else," Rosenbarger said, adding "we have three estimators who have been here 25 years each." "A lot of crews have been with us a long time, some for 20 years," Thompson concurs, adding, "Key people come back every year. We also try to hire young people and get them interested in our business," Thompson said.

(Member Spotlight, continued on page 12)

When Barrett acquires another company, they like to utilize the knowledge and expertise of that company's staff. Promoting from within is also a big-time belief, but Bushelman also likes to recruit from outside. "We want enough new blood to get some new ideas," he said, "but at upper levels we want people who have come along" through the organization.

Bushelman and Rosenbarger see continued government funding and the availability of a work force as top concerns for the industry. "So many of the younger kids who come out of school today want to sit in air conditioned offices or are more service oriented," Bushelman said, adding, "we don't see young people coming into the industry as before and have given up on the idea of replacing workers with similarly capable people." The average age of the construction worker is 47. Together with the Ohio Contractors Association, Barrett is trying to expose young people to the field by getting information to grade and middle school children. "We want them to say 'I want to be a paver operator, I want to be a pipe layer when I grow up,'" Rosenbarger said.

Because Barrett is a "local" company, community involvement is an integral part of the company's philosophy. "We derive what we are from the community, and we owe something back to the community," according to Bushelman. Last year the Dayton region became a sponsor of the Ludlow Falls Christmas lights display when they heard funds were lacking. In addition, at holiday time the office takes up a collection to support families with meals. "It's neat to see people who may be laid off at the time still out there helping feed someone else," Rosenbarger said. Thompson agrees noting his division also contributes to "a lot of good causes. We help sponsor a 5K run in Newtown, support the DARE program, Little League and provide materials to Habitat for Humanity."

Looking to the future, "if the opportunity arises, Barrett is always looking to grow," says Thompson. "I think that's the wave of the future. The single plant owners are the exception rather than the rule now." Bushelman agrees, noting it appears to be a national trend that the smaller asphalt companies are being bought out by larger companies. "We are always looking to buy up small companies," Bushelman said, adding "in our acquisitions we want to buy local companies and run them locally. We try to maintain a very local atmosphere. Basically it's local people, working a local job with their customers."

But being "large" isn't a drawback according to Rosenbarger. "The way Barrett operates, even though we're a large company, each of the seven regions that Barrett has operates as independent companies, as their own little small company. That has allowed us to be more successful because we don't look at things as a big company does. We look at them as a small company does."

Rosenbarger explains his fascination with the industry. "It's long hours, tough long hours," he said, "but when you bring a project to a successful completion, there's a lot of celebration. Our industry is such a challenging industry, if it's in your blood, if you like it, you can't get enough of it." That attitude sums up why the road to the future for Barrett Paving Materials continues to run smoothly.



Don Rosenbarger, Construction Manager (left) and Gerald Bushelman, Regional Manager (right) of Barrett Paving Materials, Midwest Central Region, Dayton.

CONGRATULATIONS TO FPI ASSOCIATE MEMBER, OHIO MACHINERY CO.!

Ohio Machinery Co. Con/Agg Division was selected as one of Carlson Paving Products, Inc. Top 10 Dealers for 1997.

Ohio Machinery Co. Con/Agg Division, the Carlson dealer in eastern Ohio since 1995, earned this prestigious national ranking based on sales volume.

Ohio Machinery Co. Con/Agg Division offers a full line of paving products and has been providing exceptional service to its customers for over 50 years. FPI wishes to extend a hearty congratulations for this achievement.

Sixth Annual United States Hot Mix Asphalt Conference

**Co-sponsored by
National Asphalt Pavement
Association
State Asphalt Pavement Associations
Asphalt Institute**



**in association with
Federal Highway Administration
American Association of State
Highway
& Transportation Officials
National Association of County
Engineers
Oregon Department of Transportation
Washington Department of
Transportation**

November 4-6, 1998, Portland Hilton, Portland, Oregon

Registration Form – 1998 United States Hot Mix Asphalt Conference

Please print the full name of the registrants as they should appear on the registration list. (Nicknames indicated in parentheses will appear on the name badges only.) Space is limited. Make your reservation early. Please copy this form if more names are needed.

Name	Nickname	Title
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Company Name: _____

City/State/Zip: _____

Phone: _____ Fax: _____

Registration Fee: \$150.00 per person

Total Registration Fee(s): \$ _____

Payment: (All funds payable in U.S. dollars.)

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Fax your completed registration form to NAPA at 301-731-4621, or mail in your registration form to NAPA, NAPA Building, 5100 Forbes Blvd., Lanham, MD 20706-4413

JUST HOT ROCKS AND OIL?

What Your Paving Dollar Buys You

Have you ever considered what your pavement construction dollar buys you when you specify Hot Mix Asphalt (HMA) versus other road building materials? HMA paving mixtures are scientifically designed for your specific pavement conditions, optimizing the use of precious natural resources, benefit to the road user, and economy.

For each and every paving project in Ohio, a job mix formula or recipe, is developed to match the conditions of the project. The job mix formula is developed using a mix design method which, as a result of continuous quality improvement, has been honed and refined for over 20 years. That method, the Marshall Method of Mix Design, permits the producers of HMA to manufacture mixes using raw materials which are locally available. This holds down the cost of HMA while at the same time, optimizes the use of precious natural resources and stimulates the local economy. In recent years, the HMA industry has made a giant leap forward with the development of Superpave by the Federal Highway Administration. Superpave is a system for asphalt binder selection and HMA mixture design. The Superpave System is a performance based system which promises to owners of HMA pavements the ability to integrate pavement mix design, thickness design and performance.

Developing a job mix formula requires skilled technicians, knowledgeable not only in HMA mix design but also, aggregate resources, asphalt binder behavior, and HMA constructability. HMA technicians developing mix designs are trained in these matters and are required to successfully complete an eight hour written examination, and practical examination administered by the Ohio Department of Transportation (ODOT). All this must happen before the first ton of asphalt for an ODOT job is manufactured with the technician's job mix formula.

The manufacturing of HMA is a dynamic process. Unlike other road building materials, on-the-go verification is performed to ensure mix proportions and properties are maintained within specification. To accomplish this, plants are equipped with computer automation for measuring the quantity of each ingredient. Also, technicians approved by ODOT, having demonstrated expertise in HMA technology, perform quality control functions to monitor the manufacturing process.

Extraction and gradation testing utilizing the latest proven technology is performed to evaluate mixture proportions thereby ensuring the quantity of asphalt cement and amounts of coarse and fine aggregate conform to the job mix formula. During the manufacturing of an HMA paving mixture, specimens are made and evaluated for their density and air void content. These tests indicate to the HMA technologist the ability of the mixture to be durable and compact when constructed. Standards are set within the guidelines of the ODOT specifications for these properties to ensure conformance to acceptable levels. Where satisfactory levels of performance are not reached, pay adjustments are applied based upon the mixture's fair market value.

Speaking of compaction, in Ohio, specifications are used on many projects which demand high levels of compaction, keeping moisture and air out of the pavement, and durability in the pavement. Compacting HMA pavements can at times be a significant challenge. To make sure things go right, HMA technicians monitor rolling methods using nuclear testing devices, checking the pavement's density often. Where acceptable standards are not being met, this is communicated to supervisors and methods quickly altered.

Quality Assurance by means of acceptance testing or independent assurance sampling is performed by the agency on HMA projects as just one more check on mix quality.

Placing a high quality HMA pavement requires attention to detail and a commitment to quality. Nowhere is this more evident than when smoothness of a pavement is considered. The HMA industry is held to the highest levels of performance when it comes to pavement riding smoothness. Higher than any other road building material. After paving is complete, HMA contractors test every inch of the wheel paths using profile measuring devices to ensure the ride quality of the pavement is superior.

Warranties are now a reality in road building. The first warranted pavement constructed for the ODOT, a five year warranted pavement, was constructed with HMA. The HMA Industry has stepped forward, demonstrating its commitment to quality, by allowing itself to be held accountable to the performance of its product.

Shhh! Everyone knows that HMA is the quietest of all available road building materials.

And lastly, HMA is 100% recyclable too! This permits manageability for the agency. Now, with the advent of the cold milling machine, HMA pavements can be placed, have their wearing course removed and restored in subsequent years, all with little disruption to the public. This Close-Couple System is unrivaled by any other paving material for user friendliness, economy, and overall manageability.

So, the next time you wonder if all your paving dollar buys you is hot rocks and oil, think again. Behind the hot rocks and oil is an infrastructure dedicated to the production of quality Hot Mix Asphalt.

FPI SPEAKS AT THE PAVEMENT MANAGEMENT CENTER

PMC-CCV Hears About HMA

In recent months, FPI has been privileged to speak at meetings of the Pavement Management Center for Counties, Cities and Villages (PMC-CCV). The PMC-CCV is organized through the Civil Engineering Departments of Ohio Northern University and the University of Toledo. The goals of the organization are to:

- provide information to assist small political subdivisions in making the most cost effective use of their resources,
- provide a forum for the transfer of experience with innovative methods and materials, sharing best practices,
- and providing a living laboratory for students to gain working knowledge of pavement management using the Village of Ada street system.



Drs. Murnen and Chou, UT, Billy Joe Smith, Ebony Construction, David Laird, City of Bowling Green, Kent Gardam, Joe Camp, Bob Simon and Howard Brebberman of the City of Maumee and Jack Jaegly, Kuhlman Corporation attended the PMC-CCV breakfast at the University of Toledo.

Activities are directed by Drs. Don Milks and Subhi Bazlamit at Ohio Northern and George Murnen and Eddie Chou at Toledo, as well as a rotating Board of Directors.

A regular activity of the PMC-CCV is a monthly breakfast/technical meeting which alternates between ONU and UT. In recent months, FPI has presented technical programs related to the Superpave System and Asphalt Quality Control/Quality Assurance Issues.

The PMC-CCV was originally the brainchild of Bill Brewer, a consulting engineer from Maumee, who provided pavement management services to local governments. Approximately 10 years ago he organized the PMC-CCV to facilitate the exchange information on the costs of pavement construction and maintenance so as to improve the accuracy of pavement management economic analysis and decision making. Mr. Brewer points with pride to the fact that agencies who use the pavement management system have been able to lower their costs

and improve the condition of their road systems. When Mr. Brewer needed to become less involved with the PMC-CCV, he was instrumental in getting it located with ONU for continuity.

FPI expects that in the future, formal pavement management systems will become the "state of the art" for public agencies. With the use of a pavement management system, decisions regarding pavement investment and maintenance expenditures can finally be made on the basis of fact, as opposed to speculation as to the actual performance and costs of alternative treatments. An article in *American City and County* magazine last year touted pavement management as one of the 5 best techniques that public administrators could use to improve the cost effectiveness of their service to the public.

FPI commends the PMC-CCV for their continuing efforts in promoting the concept of pavement management for local governments.



The Ohio Northern University Civil Engineering Class and others turned out for the PMC-CCV breakfast meeting at ONU.

Show Your Industry Pride



Fred Frecker, FPI Executive Director, displays his “HOT MIX” license plate which is proudly attached to his Camaro Z-28. Mrs. Frecker expresses no complaints when he brings the white convertible home full of fresh asphalt splashes – “After all, that’s what paid for it” she says.

If you have a license plate that expresses your industry pride, give us a call so we can feature it in *Hot Mix Asphalt Current News*.

BILL BREWER PASSES AWAY

FPI would like to extend its sympathy to the family and friends of Mr. Bill Brewer who passed away on June 4th, after a heart attack.

Mr. Brewer was a former co-owner of the Brewer Company which was started in Chillicothe in 1888 by his grandfather. Pinckney Paul Brewer, Bill’s father, brought the company to Cincinnati and in 1960 it was taken over by Bill and his brother Pinckney John “Bud” Brewer. Health reasons forced Bill to abandon the business in 1983. In 1988 Bill opened Brewer Products, Inc., in northern Kentucky and moved it to Reading, Ohio, in 1994 where he co-owned it with his two sons Jim and David.

Bill was a long time member of FPI and a tremendous HMA industry supporter. He will be greatly missed.

ASPHALT INSTITUTE DISTRICT ENGINEER RETIRES AFTER YEARS OF DEDICATED SERVICE

Villacres Retires

Jorge Villacres, Senior District Engineer for the Asphalt Institute, retires as of June 30th. Jorge was honored for his 11 years of service to the Institute at a banquet, June 8th, in Lexington, Kentucky. Three State Asphalt Paving Associations, representing Kentucky, West Virginia, and Ohio made a joint presentation to Jorge in recognition of his service to the industry. The Institute has not yet named a permanent replacement for the District.



Honoring Jorge Villacres at his retirement dinner were Dean Blake, Executive Director of The Plantmix Asphalt Industry of Kentucky (left), Pat Parsons, Executive Director, Flexible Pavements Council of West Virginia (2nd from right), and Bill Fair of Flexible Pavements, Inc. (right).

OOPS!

If you read the article in the last newsletter (April 1, 1998, no fooling) on “FPI Seeks Closer Working Relationship with Design Consultants” you noticed that the last sentence was not complete —

That last sentence was intended to read — “We believe that many times we may be able to provide suggestions or alternatives for consideration that may improve the quality and economy of the project.”

Sorry for any inconvenience.

PRESIDENT SIGNS NEW TRANSPORTATION BILL

TEA-21

Now Law

The new Federal transportation bill, the Transportation Equity Act for the 21st Century (TEA-21), is now the Law of the Land with the President's signature on June 9th. Dubbed the largest public works bill in American history, TEA-21 makes relatively few policy changes to the Intermodal Surface Transportation Act (ISTEA) which it replaces but contains a large increase in spending. It provides for total spending of \$215 billion over 6 years, a \$60 billion increase over the ISTEA \$155 billion package. Unlike ISTEA, where Budget Committees always pared back approved spending well below what the bill authorized, TEA-21 contains a provision to spend all the new money that comes to the Trust Fund. This "fire wall" guarantees that \$165 billion of the \$175 billion authorized for highways in the bill will actually be spent. This provision was a compromise to the legislators who wanted to take the Trust Fund off budget. Since spending is tied to Trust Fund revenues, it means funding could rise or fall depending on fuel use. Any spending over the \$165 billion has to be approved by the Budget Committees. However, to keep increased highway spending within the scope of the Balanced Budget Agreement, cuts in other programs were actually written into the transportation bill.

Another major provision in TEA-21 is how the money is allocated to the states. Each state is guaranteed a 90.5% return on 93% of the money in the bill. This has a major impact on the amount of money many of the donor states will receive.

The House provision to end the ethanol tax credit did not make the final bill. This was a foregone conclusion when House Speaker Newt Gingrich did not appoint any proponents of this issue to the Conference Committee with the Senate. The Senate version provided for continuing the credit for another 7 years costing the Trust Fund \$700 million per year in lost revenue.

What does all of this mean for Ohio? Well it's good news/bad news. The good news is that Ohio should realize a \$241 million or 36.9% yearly increase in funding over the 6 years of the bill. That is certainly good news for Ohio's new construction program which was projected to go to zero in the next few years. The bad news is that over 40 states receive a larger percentage increase than Ohio. We were well below the national average of 44.1%, especially when you consider Ohio is a donor state. The bill contained its usual list of demonstration projects, 1,850 in all, of which 71 are in Ohio. Of course, it will be months before officials can wade through all the provisions of the bill and assess all its impacts.

If you are interested in reading the bill, it's on the web at <http://thomas.loc.gov/>. Make sure you have plenty of paper in your printer if you want to download it — the bill is over 1,100 pages long!

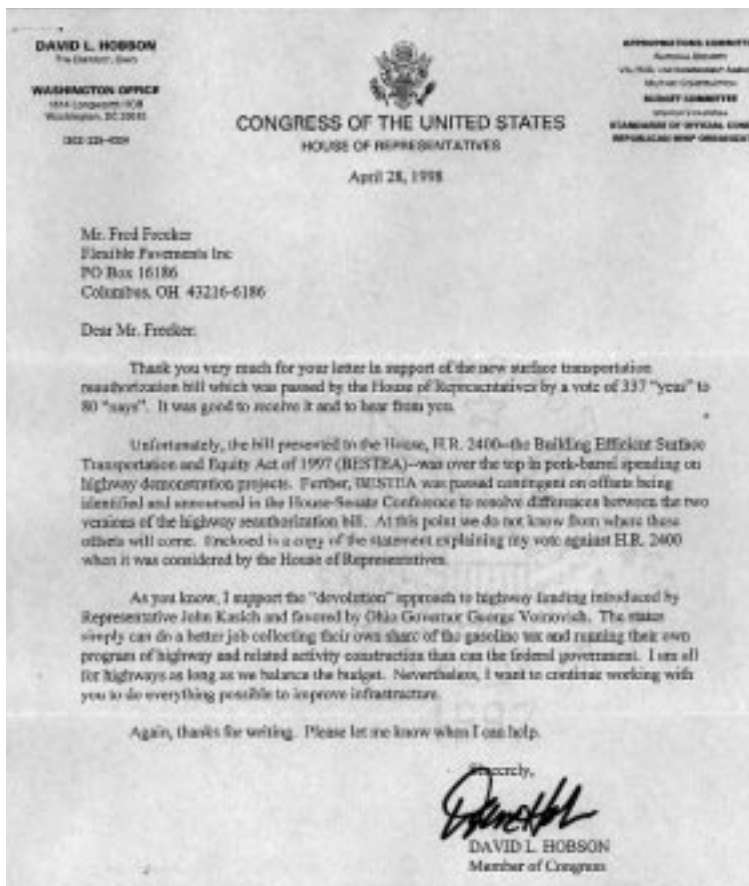
CONGRATULATIONS TO FPI ASSOCIATE MEMBER, FRANKFORT TESTING LAB!



Congratulations to associate member company – Frankfort Testing Laboratory, Frankfort, Kentucky
for receiving AASHTO accreditation in

- Asphalt Cement/Cutback Asphalt
- Hot Mix Asphalt
- Hot Mix Asphalt Aggregate

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