



# HOT-MIX ASPHALT



VOL. 9 NO. 4

CURRENT NEWS

December 15, 2000

## TAKE THE ASPHALT CHALLENGE!

### Choose Asphalt for Comfort

Time and time again when comparing asphalt and concrete, highway construction engineers come to the same conclusion: concrete simply can't stack up to asphalt. Driver comfort is one reason. If you don't believe that, take the "Asphalt Challenge," and see for yourself.

Engineers choose asphalt over 98% of the time for Ohio road surfaces for many reasons. In past issues of this newsletter we've discussed how low costs as well as quick and easy maintenance seem to be asphalt's strongest selling points.

Ironically, one of the most under-discussed considerations in the "great material debate" is perhaps the most meaningful to us all. Chances are the average person driving on Ohio's roads day in and day out is not thinking about long-term cost or maintenance of traffic. He's thinking about his driving experience at that point in time. Fact is, when it comes to driver comfort, asphalt is smoother and quieter and offers a more comfortable ride than concrete.

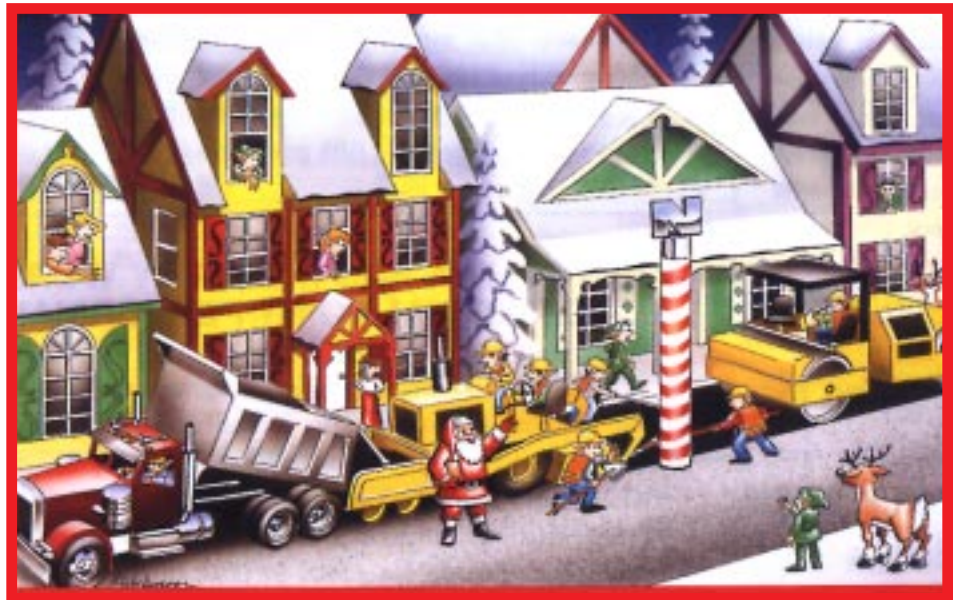
If you are not already clear on this issue, we encourage you to take the "Asphalt Challenge." Here's how it works: Choose your favorite CD, tape or radio station, or just bring along a friend for a conversation. Try driving on both concrete and

asphalt highway pavements. Note which type causes the most distraction from what you'd prefer to be listening to. You'll find the whiny noise and jolts generated as your car bounces along a jointed concrete surface can make listening to your favorite song or carrying on a conversation a truly annoying experience. Now compare that experience to the smooth and quiet ride you get while driving on a seamless asphalt pavement.

If you don't trust your own ears, consider these studies conducted around the country on the subject.

### IN THIS ISSUE:

- Take the Asphalt Challenge!*.....1
- Longitudinal Joint Performance*.....2
- Innovative Financing*....4
- More High Stress Treatments*.....5
- Ohio Contractor Makes Finals*.....7
- Shelly and Sands, Diamond Achievement*...8
- Student Fair Project*.....9
- Member Spotlight*.....10
- Recognizing the Obvious*.....11
- OCAPE Announces Its Winter Schools*.....12
- DOT Alternate Bid Project Goes Asphalt*....13



- The Center for Transportation Research at the University of Texas concluded that roadside noise levels for concrete were higher than for five different asphalt samples studied.
- The Arizona Transportation Research Center has found that concrete may be as much as 5.6 decibels louder than asphalt.

Take the Asphalt Challenge!, continued on page 2

---

**Take the Asphalt Challenge!**, *continued from page 1*

- A 1999 Study by the Ohio Research Institute for Transportation and the Environment at Ohio University confirmed that asphalt is noticeably quieter than concrete on highways.

This issue is not just about drivers. Ask anyone who lives near a highway about the significance of noise generated by that highway. That's why millions are spent annually on expensive noise barriers. The Transportation Research Board has estimated that reducing barrier height by two feet will save \$10 million a year nationally. This means choosing the quietest pavement is a matter of cost as well as comfort, not to mention a matter of courtesy.

Smoothness is another well-documented attribute of Hot Mix Asphalt pavements. Specification requirements of government agencies such as the Ohio Department of Transportation have more stringent smoothness criteria for Hot Mix Asphalt pavements than for concrete pavements. The reason is that concrete simply cannot achieve the smoothness of a Hot Mix Asphalt pavement. In fact, ODOT pays a bonus to get concrete pavements to a level of smoothness that asphalt pavements routinely achieve without a bonus. The smoothness advantage of asphalt pavements is so obvious that it can even be demonstrated by a fifth grade science fair

project (see *Science Fair Project Shows Asphalt's Superior Smoothness* page 8).

You don't need studies and statistics to tell you what you can hear and feel yourself every time you travel across the state, driving on multiple pavement types. The state of Ohio switched from building roads with primarily concrete surfaces, to using asphalt for the vast majority of road surfaces, for several reasons – perhaps the most immediately obvious of which is driver comfort.

This concludes a three-part series of articles on Flexible Pavement's new tag line: Asphalt . . . for Cost, for Convenience, for Comfort. We feel that these three concepts in combination explain why asphalt is absolutely the overwhelming choice for road construction across the state. Asphalt costs less today as well as in the long run; it's quicker and cheaper to maintain and repair, causing less inconvenience to Ohio drivers; and it offers a smoother, quieter, more comfortable ride for the motoring public.

If you'd like to see articles exploring the concepts of "cost" and "convenience," visit [www.flexiblepavements.org](http://www.flexiblepavements.org) to look at archived newsletters. Look at the two previous issues. You can also contact the Flexible Pavements office for a copy.

---

## **ODOT, FHWA AND INDUSTRY WORK TO IMPROVE LONGITUDINAL JOINT PERFORMANCE**

### **Striving for Better Longitudinal Joints**

A nagging concern of specifiers, longitudinal joint performance took a leap forward toward being resolved recently. Working together, the Ohio Department of Transportation (ODOT), the Federal Highway Administration (FHWA) and members of Flexible Pavements of Ohio (FPO) forged specification modifications that will address longitudinal joint performance. New requirements, yet to be adopted formally by the ODOT Specification Committee, will "raise the bar" by placing more strict pavement density requirements on surface course mixes, widening the field from which cores can be obtained, and utilizing incentives.

Early in the 2000 construction season ODOT, FHWA and members of the FPO Technical Committee, led by Chairman Jim Tharp of the L. P. Cavett Company, met to discuss methods by which the performance of longitudinal joints could be improved. Previous to this, several initiatives had been undertaken to improve the overall quality of pavement construction in Ohio and particularly longitudinal joint construction. Notably, changes to mix design requirements that increased the quantity of binder in HMA, making it more compactible, and requiring the use of a 3-

**Joint Performance**, *continued on page 3*

wheel roller in the construction of longitudinal joints. These initiatives were successful in enhancing pavement durability but testing of cores taken at the joint indicated that additional improvement was needed in this area.

The group discussed research performed by the National Center for Asphalt Technology (NCAT) which evaluated the performance of joints compacted using various techniques. These included the notched-wedge, conventional wedge, trimming, and joint compactors. The basis for NCAT's evaluation was the improvement realized in joint density for each of the evaluated methods or equipment. Increased density was seen as a desired outcome. The group also discussed methods employed by other states to improve joint density. The consensus was to avoid a "method" approach but rather seek one relating mat and joint density to a performance-related test. This would allow the Department to obtain the desired pavement properties and also benefit from contractor innovation.

The result of the deliberations is a specification that seeks to improve longitudinal joint density by raising the requirements for overall mat density on projects specifying Item 446 (density provisions). In conjunction with this, the area from which core samples can be obtained was increased. The increase comes from allowing cores to be taken as close as 3 inches to the edge of the mat. Previously, cores could be taken up to 12 inches of the edge. This two-pronged approach, widening the field from which core samples can be obtained and increasing the density requirements, was confirmed to be effective

through the evaluation of field data.

In a new twist, ODOT, as part of its specification revisions is adding a Density+ provision. The Density+ provision again attempts to tap into contractor ingenuity. This time by rewarding workmanship that enhances density beyond specification minimums. Applicable to surface course mixes only, the provision allows the payment of an additional 4% over the bid price for the HMA. To obtain full payment under the provisions of the new specification the pavement will have had to be compacted so that its density is within 93.0 to 96.9% of the mixture's maximum theoretical density. The Density+ provision allows for incentive payment when the mat density falls between 94.0 and 95.9%.

The formal adoption of the specification revisions by ODOT is scheduled to occur in mid-December, in time for plans being let to contract in the Spring of 2001. With the adoption of the revisions will come a reprieve on the mandated use of

certain compaction equipment and shape of longitudinal joints. ODOT's main concern is Density. "Density is what will make or break an asphalt pavement mix. Our desire is long-lasting, good performing pavements," says Dave Powers, ODOT Bituminous Concrete and Materials Engineer. "We have a high degree of confidence that the adoption of this specification will move us in the right direction."

Mean of cores(1)	Pay Factor	
	Surface Course	Intermediate Course
98.0% or Greater	(2)	(2)
97.0% to 97.9%	0.94	(2)
96.0% to 96.9%	1.00	0.94
94.0% to 95.9%	1.04	1.00
93.0% to 93.9%	1.00	
92.0% to 92.9%	0.98	
91.0% to 91.9%	0.90	0.94
90.0% to 90.9%	0.80	0.88
89.0% to 89.9%	(3)	(3)
Less than 89.0%	(2)	(2)

Proposed Table A, Item 446.05

---

---

## INNOVATIVE FINANCING KEY TO COUNTY MILLION DOLLAR PAVING PROGRAM

### Innovative Financing Yields Dividends

Fred Bennett, Belmont County Engineer, showed some real innovation in putting together a financial package for this year's paving program. That innovation was rewarded when, for the first time, the County's resurfacing program exceeded one million dollars. A package of six contracts, all funded through a mix of funding sources, resulted in the resurfacing of almost twenty-five miles of county and township roads.



*Tri-State Asphalt Company resurfaces County Road 24 with 1 1/2 inch surface course.*

The 2000 construction season started off with a bid opening on June 7th for a small contract to put a 1 1/2 inch asphalt overlay on about a mile of township road. Funding for the \$28,838 project was 84% from the Issue #2 bond program and 16% Township funds.

On August 2nd bids were opened for two additional contracts. The first was for a 3 1/2 inch overlay on a 2.88 mile section of County Road 16. This \$228,028 contract used money from the County's permissive sales tax to leverage Issue #2 bond funds. The second contract again used Issue #2 funds, but this time they were matched by the Township since the \$114,569 contract involved placing 1 1/2 to 3 inch overlays on sections of five different Township roads.

Bids were opened for a fourth contract on August 30th. A 6.63 mile section of County Road 10 received an 1 1/2 overlay at a cost of \$256,274. The County's permissive sales tax was again used to leverage Issue #2 funds.

Flexible Pavements of Ohio member Tri-State Asphalt Co. was the successful bidder on Belmont

County's fifth contract with a \$252,044 bid to place a 1 1/2 inch surface on 6.65 miles of CR 24 and CR 26. This project was funded from the County's permissive sales tax and the County Engineer's gas tax fund.

The final contract, bid on September 18th, was for overlaying a total of 4 miles on six different Township roads. This \$141,502 contract was funded from the Issue #2 bond program with a 16% match from the Townships.

All totaled, the six contracts used approximately \$440,000 of Issue #2 bond funds, \$500,000 of County permissive tax funds, \$46,000 of various Township funds and \$36,000 of the Engineer's gas tax funds. "We are really appreciative of the decision by the Belmont County Commissioners to step up funding for the road program from the County's permissive sales tax", said Mr. Bennett. "This enabled us to match Issue #2 bond funds and really stretch the miles we were able to repave this year."

The officials of Belmont County, and particularly County Engineer Fred Bennett, are to be congratulated for their fine efforts to provide the County's residents with a first class local road system.



*Fred F. Bennett, P.E., P.S.  
Belmont County Engineer*

---

---

## ODOT TRIES MORE HIGH STRESS TREATMENTS

### HMA For High Stress

Last year two ODOT Districts tried two additional, different approaches to curing troublesome rutting problems on heavily trafficked sections of roadway. After a full year of service both sections are reported to be performing satisfactorily.

On May 26, 1999 ODOT District 1 bid a con-



*SR 696, Allen County, at I-75, rut free in spite of all the truck traffic.*

tract for project number 410(1999), Allen County, SR 696, Section 0.00, to resurface a portion of State Route 696. Included in the project was that section of SR 696 that serves as a connector between I-75 and US 30. This short section carries all the trucks making the movement between I-75 and US 30 and accessing the many truck stops available on this short section of 4-lane highway. Although the project was just a mill and fill job, the District wanted a surface that would be more resistant to the rutting that had plagued the road. The District specified a 1 1/2-inch thick course of Item 448, Type 1H mix with a heavy polymer modified PG 76-22 binder.

The low bidder on the Project was Northwood Stone and Asphalt, of Belle Center, Ohio. The project was paved during the hottest part of July, 1999, which was a very hot summer. The 933 cubic yards of polymer modified asphalt were paved at night. The bid price was \$60.00 per cubic yard. Dan Montgomery of Northwood said that one of the keys to the successful performance was that the paving was done at night and the pavement was allowed to cool adequately before it was exposed to the heavy truck traffic.

Bob Dillhoff, District 1 Highway Management Administrator, reports that after a full year of service the material still looks good with no significant rutting. Although, it is not usually expected that a single course of rut resistant mix will be sufficient to prevent rutting on a heavily loaded pavement, this particular application appears to be performing well.

Joe Soond, Geauga County Manager, for ODOT District 12, took a different approach to solving the rutting problems on a section of SR 422 from just west of SR 528 to the Portage County line. The project was conceived as a mill and fill, "band aid" job to restore serviceability to the existing asphalt surface over an old concrete base. The project was bid as project number 5012(1999), Geauga County, SR 422, Section 16.88 on June 9,

**High Stress, continued on page 14**



*Photo courtesy of Joe Soond*

*SR 422, Geauga County, Schloss Paving Company crew placing polymer/fiber mix.*

ABSOLUTE

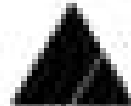
# DURABILITY

**P**ERPETUAL PAVEMENT  
STANDS THE TEST OF TIME.  
SIMPLY PUT: ASPHALT LASTS.

[www.AsphaltAlliance.com](http://www.AsphaltAlliance.com)



THE ASPHALT PAVEMENT  
ALLIANCE IS AN INDUSTRY  
COALITION OF



Flexible Pavements of Ohio  
P.O. Box 16186  
Columbus, Ohio 43216  
888-4HOTMIX  
[www.flexiblepavements.org](http://www.flexiblepavements.org)

---

---

## OHIO CONTRACTOR MAKES FINALS FOR NATIONAL PAVING AWARD

### Local Contractor seeks Hayes Award

The only contractor in the United States to have two projects make the top ten list of quality pavements, the Northern Ohio Paving Company (NOPCo), Twinsburg, Ohio has been named as a finalist for the Sheldon G. Hayes Award. Work performed by NOPCo on Interstate 77 was the project under consideration for the national award.

The Sheldon G. Hayes Award is presented annually by the National Asphalt Pavement Association (NAPA). Named after the founder of the National Bituminous Concrete Association (the forerunner of NAPA) the award is presented for the highest-rated highway pavement in the United States using 50,000 or more tons of Hot Mix Asphalt (HMA).

Reaching this level in the judging was no easy task for NOPCo. Rules require the project to have first received a Quality In Construction Award and to have shown evidence of quality. Evidence of quality includes documentation of quality control measures performed during the HMA manufacturing process, pavement smoothness measurements, pavement density achieved, and any other unique construction features of the project. NOPCo was successful in this first phase of the process, passing the scrutiny of the rating panel from the National Center for Asphalt Technology and receiving a Quality In Construction Award. The final step is an on-site inspection of the project that includes various measures of the pavement's appearance that are indicators of the highest quality in asphalt paving construction.

NOPCo was successful in having two projects within the top ten competing for the Hayes Award, the only contractor in the nation able to boast this claim. The first was ODOT project 575(1998). This project, on State Route 14F and US Route 62 in Mahoning and Columbiana Counties, called for



*Northern Ohio Paving Company's work on IR77, Tuscarawas County makes finals in national competition.*

concrete pavement repair and the rubblizing and overlaying of a concrete pavement with 8 1/2 inches of asphalt. It won The Ohio Department of Transportation's 1999 Quality Award for Asphalt Paving, Reconstruction Category.

The second project was also an ODOT job. Project number 695(1997) in Tuscarawas County called for the rehabilitation on Interstate Route 77 using HMA. This project was a finalist for the prestigious Sheldon G. Hayes Award. It consisted of a milling and overlay of a seven-mile section of IR 77 using 106,000 tons of HMA. Extraordinary measures were taken by both ODOT and NOPCo to achieve a high quality pavement. These included placement of the leveling course in two passes rather than one, quality control that yielded pavement density measurements in excess of 94% in both leveling and surface courses, and standard deviations less than .007 in maximum theoretical densities of surface and intermediate course mixes. Pavement smoothness exceeded ODOT requirements, allowing NOPCo to capture a bonus for furnishing higher quality. Best of all, the project finished 3 months prior to the required contract com-

**National Paving Award, continued on page 14**

---

---

## SHELLY AND SANDS EARNS THE DIAMOND ACHIEVEMENT COMMENDATION

### Acres of Diamonds

Yet another Ohio asphalt plant has earned the National Asphalt Paving Association's "Diamond Achievement Commendation" for excellence in plant and site operations. The newest honoree is the Shelly and Sands, Mansfield Asphalt Company, Mar-Zane Inc. Plant #21 located at 1300 West Fourth Street in Mansfield, Ohio.

The "Diamond Achievement Commendation" is earned through a self-assessment process, which address 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 #21 is a special success story because of its long history and how the commendation was achieved by upgrading existing facilities without buying a new plant.

In 1953 Mansfield Asphalt Paving purchased a 180 ton per hour H&B asphalt plant and located it in urban Mansfield. That plant operated successfully for 46 years until 1999, when the need for increased production, improved safety and more environmentally efficient operation was realized. The company decided to modify the plant to increase capacity to 350 tons per hour. A new rotary mixer was installed. A bag house was added to capture dust emissions from the aggregate dryer. New asphalt storage tanks and containment were constructed. New cold-feed bins were fabricated. The dryer was upgraded and the 125 million BTU burner enclosed to reduce noise. Site improvements included remodeling the office building and landscaping the site with trees, shrubs, flowers and storm water retention ponds and paving the roadways in the facility, creating an "asphalt oasis" in the city.

Mar-Zane demonstrates they are "good neighbors" not only by their operational practices but by annually hosting visits to the plant by area vocational school students to inform them of the benefits of working in the asphalt paving industry. This year on October

**Diamond Achievement**, *continued on page 14*



*Mar-Zane Plant 21*  
**BEFORE**



*Mar-Zane Plant 21*  
**AFTER**



---

---

## STUDENT FAIR PROJECT SHOWS ASPHALT'S SUPERIOR SMOOTHNESS

### Student Proves Asphalt Smoothest

Most of us in the industry know that asphalt is consistently smoother and easier on the shocks than concrete. But why take our word for it? Taylor Johnson, a fifth-grader at St. Agnes School in Charleston, West Virginia, didn't! He performed his own tests for an award-winning Science Fair Project. He received a special "Roads Scholar Award" from the Flexible Pavements Council of West Virginia last March for his initiative in developing his own smoothness research project.

Below is the entire unedited text of Taylor's winning Science Fair project.

Some roads go thump, thump, thump and others are smooth and quiet. I wondered why that happens. My project was to study what products roads are made of and determine which product made the smoothest road. My study found that roads are mostly made of hot-mix asphalt or concrete. Roads in our state are made of both products.

Concrete roads are made of a mixture of portland cement, gravel, and sand. The mixture of these materials with water causes the product to harden and become concrete. Concrete pavements are called rigid pavements because they cannot be bent or compressed like asphalt. The cement in concrete roads is made of a powder that consists of calcium, silica, iron, and aluminum minerals.

Asphalt roads are made of a mixture of liquid asphalt in a hot-mix asphalt plant. The mixture is trucked from the plant to the job site where it is laid with a machine and compacted with another machine. The asphalt is a thick liquid material that is brown to black in color and is made from petroleum. The liquid asphalt is the glue in hot-mix asphalt that holds the sand and stone together. Hot-mix asphalt is sometimes called flexible pavement since it flexes under the weight of traffic.

My hypothesis is that asphalt roads are smoother than concrete roads.

To determine which product makes the smoothest road I performed an experiment on six different streets. All of the streets were in Charleston, West Virginia. Three of the streets were concrete and three were asphalt. All of the tests were done on 100 feet samples.

The experiment used a small red wagon, a cake pan, a glass bowl, a measuring cup, some water and a note pad to keep the results. I placed the cake pan in the wagon and placed the glass bowls in the cake pan. I filled the bowl completely full of water and pulled the wagon exactly 100 feet and then measured in milliliters the amount of water that went from the bowl to the cake pan and wrote down the results. Then I compared the average amount of water lost on asphalt roads to the amount lost on concrete roads.

Asphalt sample #1 lost 54 ml, #2 lost 70 ml, and #3 lost 128 ml. The average water loss on asphalt was 84 ml.



*Taylor Johnson, 5th grade student at St. Agnes School in Charleston, West Virginia performs smoothness testing.*

**Student Fair Project, continued on page 12**

# Member Spotlight

## KOSKI CONSTRUCTION LEADS IN NORTHEAST OHIO



Nothing is more rewarding for Don Koski than looking at a newly completed project. “You get a real sense of accomplishment when you look at a project you’ve just finished and remember what was there before you started,” Koski said. “I hope the next generation of leaders in this industry can understand how important and significant this work is.”

Koski Construction is a family owned business that has survived and flourished by passing this philosophy on from one generation to the next. The company has been a member of Flexible Pavements as long as its President, Don Koski, can remember. Don’s grandfather, Frank Koski started the company in 1921 as a sewer contractor. In the late 1920s and early ’30s Koski began doing its first asphalt work.

Today Koski Construction performs several road construction services beyond asphalt work, including excavating, and soil and concrete work. At one point the company was involved in commercial industrial building, but in recent years it has focused on road construction.

Asphalt will represent about 50 – 60 percent of the company’s business this year. Koski would like to do more asphalt work, but unfortunately Northeast Ohio weather is not conducive to doing this type of work all year round.

The company is headquartered in Ashtabula, Ohio. The asphalt plant, located on Pinney Dock on the Ashtabula River, produces between 2,500 and 3,000 tons of asphalt each day -- roughly 150 thousand to 200 thousand tons a year.

This asphalt is used primarily in the northeast Ohio area in Ashtabula, Lake and Geauga counties as well as in Erie and Crawford counties in Pennsylvania. About 80 percent of the company’s business is public work, with ODOT, PennDOT, local communities and townships making up the bulk of its customer list.

“There is a lot of competition in our area,” Koski said. “But that’s good for the industry. It forces us all to find ways to do better work at lower cost. That’s good for everybody.”

### Asphalt vs. Concrete

Koski’s involvement in both asphalt and concrete work gives it a complete perspective on the use of each material in different situations. “You have to look at the cost benefits of the material when you start a project,” Koski said. “The new asphalt designs out there will definitely hold their own with concrete. Plus asphalt is easier to repair than concrete. In most cases it seems to be the best value for roads.”

### Workforce is the Key

Don Koski leads a workforce of about 80 – 100 employees with the help of Tom Pope, vice president in charge of engineering and estimating.

“We try to keep our people interested in coming to work because if you don’t have good people, you can’t succeed,” Koski said. “You have to have a team effort where you treat everyone with respect, listen to their ideas and pay them a decent wage to have a productive workforce.”

“I think everyone wrestles with keeping up their workforce in this job market,” Koski said. “We’re

---

---

hurting for young people. It's hard to get them interested because this is not the most glamorous business." Koski has participated in career days at local schools to encourage young people to consider a career in road construction. "It's an issue the entire industry is going to have to address."

He hopes to impart the same pride in a job well done in the next generation of employees at Koski construction, just as his father and grandfather did with him.

## Looking Ahead

The future is bright for Koski Construction. Don Koski's plan is for slow and steady growth. He hopes to build another asphalt plant, also in the Ashtabula area, within the next decade. It's likely Don Koski, still a long way from retirement, will continue to lead the company for quite some time. He has two daughters and a son who may grow up to carry on the family tradition. They are all too young to go to work with dad at this point.

---

## RECOGNIZING THE OBVIOUS

We are trained as engineers and managers to gather information, analyze it, and then make a decision. But sometimes we can't recognize the obvious because we get so much information that we can't see the forest for the trees. It's comforting to know that there are those out there who are able to discern the truth and relate it so eloquently that the trained and untrained alike can understand it.

### Seeing the Forest in Spite of all the Trees

*The highway to San Juan de la Cruz was a blacktop road. In the twenties hundreds of miles of concrete highway had been laid down in California, and people had sat back and said, "There, that's permanent. That will last as long as the Roman roads and longer, because no grass can grow up through the concrete to break it." But it wasn't so. The rubber-shod trucks, the pounding automobiles, beat the concrete, and after a while the life went out of it and it began to crumble. Then a side broke off and a hole crushed through and a crack developed and a little ice in the winter spread the crack, so the resisting concrete could not stand the beating of rubber and broke down. Then the county maintenance crews poured tar in the cracks to keep the water out, and that didn't work, and finally they capped the roads with an asphalt and gravel mixture. That did survive, because it offered no stern face to the pounding tires. It gave a little and came back a little. It softened in the summer and hardened in the winter. And gradually all the roads were capped with shining black that looked like silver in the distance.*

– John Steinbeck 1902-1968  
The Wayward Bus

---

---

**Student Fair Project**, *continued from page 9*

Concrete sample #1 lost 100 ml, #2 lost 115 ml, and #3 lost 135 ml. The average water loss on concrete was 117 ml.

Based on the amount of water loss for the samples I tested, asphalt roads had less water loss than concrete roads. I divided the average amount of water lost on concrete roads by the average amount of water lost on asphalt roads to show that asphalt roads are 39% smoother than concrete roads, based on the results of my experiment.

My hypothesis that asphalt roads are smoother than concrete roads was correct based on my test.

In conclusion, there are two reasons that I think asphalt roads are smoother than concrete roads. The first reason is that asphalt roads are seamless and concrete roads have seams between the slabs of concrete. The second reason is the concrete surface is rough so that cars will not skid too easily

Now when I ride over West Virginia roads and hear the thump, thump, thump, I think I am on a concrete road. If the road is smooth and quiet, I think I am on an asphalt road.

---

## OCAPE ANNOUNCES ITS WINTER SCHOOLS

The Ohio Center for Asphalt Pavement Education has announced its educational courses and schedule for Winter, 2001, as follows:

### Educational Opportunities Announced

January 22-26, 2001	ODOT/OCAPE, Comprehensive Mix Design, Columbus
January 31, 2001	Ohio Asphalt Paving Conference - Columbus
February 14, 2001	OCAPE, Asphalt Concrete Pavement Design - Columbus
February 26 - Mar 2	Operating Engineers/FPO Paver Operator School, Miamisburg
March 1, 2001	OCAPE, Night-time Paving/ Cold weather Paving, Columbus
March 6-7, 2001	OCAPE, Advanced Plant Operators School, Columbus
March 8-9, 2001	ODOT/OCAPE, Superpave Mix Design, Columbus
March 12-16, 2001	Operating Engineers/FPO Paver Operator School, Cygnet
March 21-22, 2001	FPO, Annual Meeting and Equipment Exhibition, Columbus, OH
March 21-22, 2001	OCAPE, Asphalt Pavement Construction, Columbus
March 21-22, 2001	OCAPE, Soils and Drainage for Flexible Pavement Designers, Columbus
To be Announced	OCAPE, Rubblization Demonstration, Richfield, OH

Course announcements and registration forms for the individual courses are included with this newsletter and can be downloaded from the Flexible Pavements of Ohio website: [www.flexiblepavements.org](http://www.flexiblepavements.org) Monitor the website calendar for any changes in the course offerings.

**Some Compactors  
Are Trying To Jump On  
The Superpave Bandwagon.  
We've Been Pulling It  
For 20 Years!**



**Hit The Ground Running! HAMM**

These days, it seems all compactors are claiming to be "Superpave Approved". But no other line of compaction equipment can hold a shovel to HAMM's HD line. That's because we've been compacting mixes such as Stone Matrix Asphalt (SMA) and Open Friction Course (OFC) in Europe for 20 years. In fact, we can safely say our technology has contributed significantly to the development of superpave.

HAMM offers a full line of double-drum compactors with rolling widths ranging from 58" to 87.5". All five HD models offer infinitely variable hydrostatic drive to both drums, dual frequencies of up to 3,480 VPM with infinite control of frequency and dual amplitudes of .014" and .026", controlled from the operator's station which reduces the number of passes to reach density.

To find out more about the HAMM HD line and the superior job they can do on superpave and HMA mixes call the nearest branch of Cantwell Machinery Company. You'll see for yourself, the band sounds much better when you're in front of it.

**Columbus**  
614-276-5171

**Cincinnati**  
513-489-3040

**Macedonia**  
330-467-4171

**Perrysburg**  
419-837-9425

**Old Washington**  
740-489-5031

Email: [cantwelloh@aol.com](mailto:cantwelloh@aol.com)

Website: [www.cantwellmachinery.com](http://www.cantwellmachinery.com)



Over  
50  
Years

## DOT ALTERNATE BID PROJECT GOES ASPHALT

### Asphalt wins in Alternate Bid

The ODOT bid project 525(2000) Butler-CR19-3.20, Cincinnati-Dayton Rd., on November 29, 2000 with alternate bid items for the paving, either asphalt or concrete. The apparent low bidder for the project is the C.J. Mahan Construction Co. of Grove City, 5.67% below the engineer's estimate. The Mahan Co. reports that they bid the project to be paved with asphalt and will use a sub-contractor for the asphalt paving.

As previously reported in *Ohio Hot-Mix Asphalt* the Ohio DOT and the Ohio Turnpike Commission have periodically taken alternate bids for pavement items in order to test the economic waters on the con-

struction costs of both concrete and asphalt pavements. On May 31, 1998, the Ohio DOT bid alternate pavement items on the relocation of US 35 in Greene county. While asphalt was the low bid, no bids for concrete pavement were received. Also in 1998, the Ohio Turnpike Commission took alternate bids for the pavement items on one of its projects and required all bidders to bid both types of pavement. Comparison of the bids showed almost a 40% savings with asphalt Pavement.

So, it's still true –

***For cost: it's asphalt.***

---

**High Stress, continued from page 5**

1999. The project included full and partial depth repairs, milling and 1 1/2 inches of item 448, type 1, PG 64-22, modified with the addition of 3% SBR (702.14) solids and 3 pounds of polyester fibers per ton of produced mix.

The low bidder on the project was the Schloss Paving Company of Cleveland. The 3,100 cubic yards of SBR and polyester fiber modified mix was bid at \$65 per cubic yard. John Faloon of Schloss Paving indicates that the mix was produced with no extraordinary difficulty and could be a practical solution for other urban rutting problems. Joe Soond reports that after one year of service the material is performing satisfactorily and that the district has now specified the same mix for another project.

These successful ODOT projects suggest two conclusions:

The technology is now available to produce hot mix asphalt pavements that do not rut, shove, corrugate or otherwise deform under heavy, stopping, starting, or turning traffic, *and*

There are many different mixes that might be used to produce a stable rut-resistant pavement. In addition to the mixes discussed above, ODOT Type 1H, SS 858, Superpave, and SS 856, Stone Mastic Asphalt, have all been used to produce rut resistant pavements under varying conditions. Which material is best depends upon the traffic application, available aggregates and economics of production.

For specific suggestions on materials for rut-resistant pavements contact your local Flexible Pavements of Ohio member company or the association staff.

---

**National Paving Award, continued from page 7**

pletion date, allowing full access to the pavement by the motoring public.

“Though we didn’t receive the (Sheldon G. Hayes) Award we are extremely pleased that the quality of our company’s workmanship and the partnership with ODOT brought us to the finalist level,” said Doug Rauh, Executive Vice President for Northern Ohio Paving Company. “For a company to have had two projects make the top ten list

of quality projects in the Nation is something of which we are very proud.” Flexible Pavements of Ohio too is proud of its member company. Says Fred Frecker, Executive Director of FPO, “we are pleased with Northern Ohio Paving Company’s accomplishment. It says much about the desire of Ohio’s asphalt paving industry to do quality work, and the efforts by both ODOT and Industry to deliver such quality to the public.”

---

**Diamond Achievement, continued from page 8**

12th the “good neighbor” policy was taken a step further when the facility hosted an open house for the community to see first hand the improvements made to the facility. The open house was attended by neighbors and elected public officials who commented favorably on the improvements made to the facility. William Cuning, manager of the nearby ODOT garage, commented on the many physical improvements to the

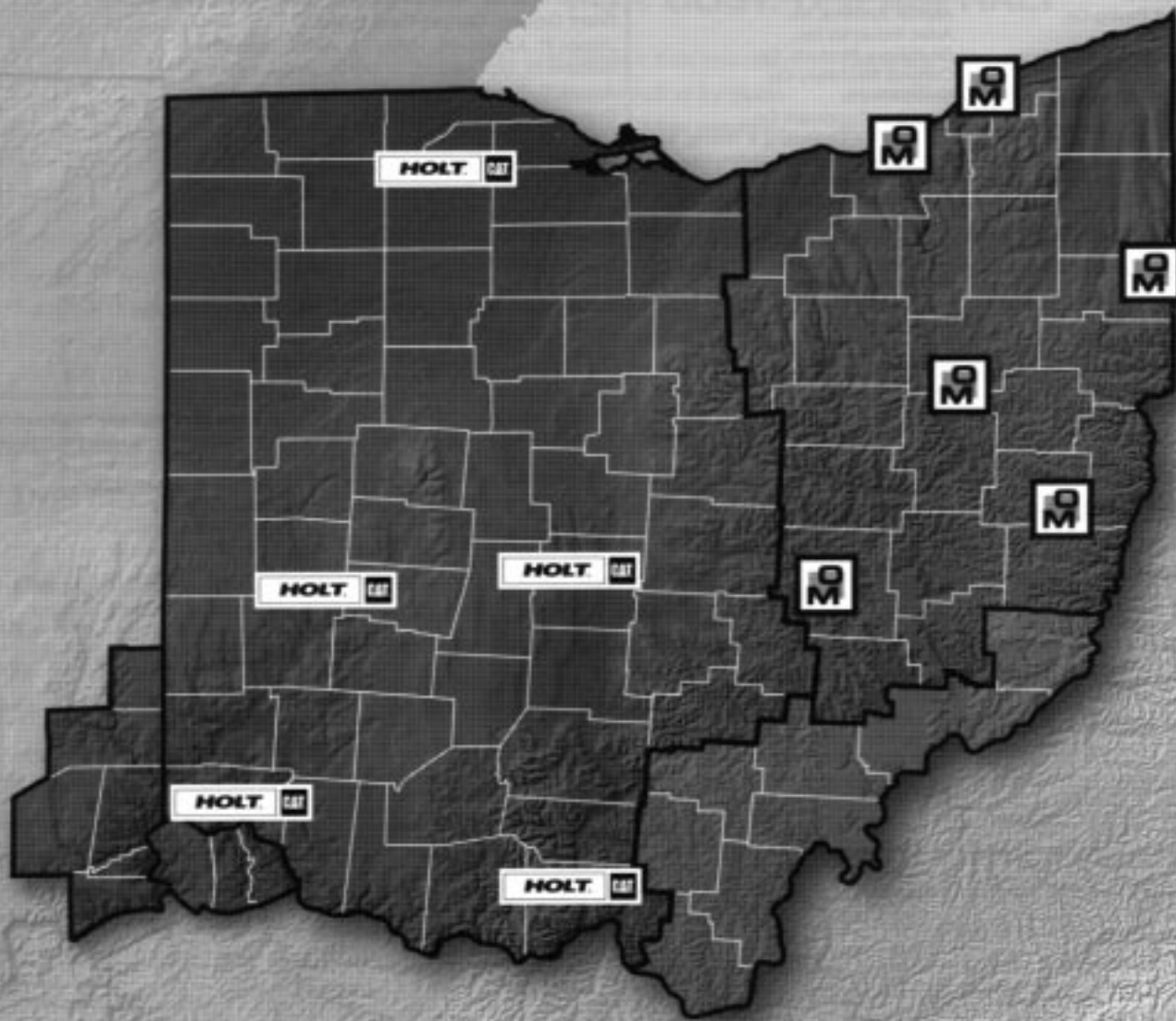
site, the “nice” appearance that has resulted and the neighborly and environmentally friendly way that the plant is operated.

The Ohio Asphalt Paving industry congratulates Shelly and Sands on the effort and example set in achieving the Diamond Achievement Commendation.

# We've Got You Covered!

## Countless Paving Equipment Solutions

- ▲ **One Manufacturer**
- ▲ **2 Dealers**
- ▲ **11 Locations**
- ▲ 395 Service Technicians
- ▲ 140 Field Service Trucks
- ▲ 176,000 Parts Items Stocked
- ▲ 46 Models of Paving Equipment



  
Your **OhioCat** Dealers

Covering Ohio.

Serving You.



OHIO MACHINERY CO.

**Cleveland** (800) 837-6200  
**Cadiz** (800) 837-6204  
**Canton** (800) 837-6207

**Painesville** (888) 901-6620  
**Youngstown** (800) 837-6203  
**Zanesville** (800) 837-6205

**Columbus** (888) 441-HOLT  
**Cincinnati** (888) 332-HOLT  
**Dayton** (888) 330-HOLT

**Toledo** (888) 339-HOLT  
**Lucasville** (888) 336-HOLT

[www.ohiomachinery.com](http://www.ohiomachinery.com)

[www.holtohio.com](http://www.holtohio.com)



## Members

### Producer Contractors

Apache Aggregate & Paving Co.  
Barrett Paving Materials, Inc.  
Black Top Contracting, Inc.  
Bowers Asphalt & Paving Inc.  
C&S Limestone, Inc. Asphalt Div.  
L.P. Cavett Co.  
Cunningham Asphalt Paving, Inc.  
Erie Blacktop, Inc.  
Gerken Paving, Inc.  
Hancock Asphalt & Paving, Inc.  
Hardrives Paving & Const., Inc.  
Highway Asphalt Co.  
S.E. Johnson Companies  
Kokosing Construction Co., Inc.  
Koski Construction  
McCourt Construction Co.  
M&B Asphalt Co., Inc.  
Mansfield Asphalt Paving Co.  
Melway Paving Co., Inc.  
Milestone Contractors, L.P.  
Miller Bros. Paving Inc.  
Northeastern Road Improvement Co.  
Northern Ohio Paving Co.  
Northstar Asphalt Inc.  
Northwood Stone & Asphalt Co.  
Ohio Asphalt Paving, Inc.  
Ohio Tar & Asphalt Div. Central-Allied Entrp.  
The Osterland Co.  
Sarver Paving Co.  
Schloss Paving Co.  
The Shelly Co.  
Shelly Materials, Inc.  
Shelly & Sands, Inc.  
H.P. Streicher, Inc.  
Superior Paving & Matls., Inc.  
Thomas Asphalt Paving Co.  
Tri-State Asphalt Co.  
Valley Asphalt Corp.  
Valley Paving Co., Inc.  
Walls Bros. Asphalt Co.

### Contractor Members

Henry W. Bergman, Inc.  
Bucyrus Road Materials, Inc.  
Chemcote, Inc.  
Clinton Asphalt Paving Co.  
Decker Construction Co., Inc.  
Ebony Const. Co., Inc.  
Hysong Paving Co.  
McDaniels Construction Corp., Inc.  
Ronyak Bros. Paving, Inc.  
Southern Ohio Paving, Inc.  
Strawser, Inc.  
Wagner Paving, Inc.  
Whitta Construction

## Aggregate Producers

Agg Rok Materials  
Rogers Group, Inc. dba  
Sandusky Crushed Stone

## Asphalt Marketers

BP/Amoco Oil Co.  
Greater Cincinnati Asphalt Terminal  
Koch Pavement Solutions  
Marathon Ashland Petroleum, LLC  
Seneca Petroleum Co., Inc.  
Tosco Asphalt

## Associate Members

A&A Safety, Inc.  
A.M.A. Material Supply  
Ames Engineering, Inc.  
Asphalt Materials, Inc.  
Asphalt Systems, Inc.  
Astec Industries Inc.  
Bituminous Products, Co.  
Burke Heating Systems Co.  
Cantwell Machinery Co.  
Caterpillar Inc.  
Columbus Equipment Co.  
Construction Consulting & Testing, Inc.  
Craig Technologies, Inc.  
Crane and Tractor, Inc.  
Cross-Roads Asphalt Recycling, Inc.  
DJL Material & Supply, Inc.  
Dillman Equipment, Inc.  
Eagle Crusher Co., Inc.  
Envisage Environmental, Inc.  
Fiberized Products, Inc.  
Frankfort Testing Laboratory  
Frank Gates Service Co.  
GenTec Equipment Co.  
Gencor Industries, Inc.  
Global Road Maintenance Systems  
Grasan Equipment Co., Inc.  
Heat Equipment and Technology, Inc.  
Highway Rubber Products Corp.  
Holt Co. of Ohio  
Hug Manufacturing  
Hy-Grade Corp.  
Interstate Traffic Control  
Kennametal  
Key Positioning Systems  
Lucas County Asphalt, Inc.  
McLean Co.  
Manhole Systems, Inc.  
Martin-Marietta Aggregates  
Meeker Equipment Co., Inc.  
Meredith Brothers, Inc.  
Momentum Technologies, Inc.  
North Central Engineering, Ltd.  
H.C. Nutting Company



## OFFICERS AND DIRECTORS

### OFFICERS

Chairman – Dean Wikel, Erie Blacktop, Inc.  
Co-Chairman – Paul Scala, Highway Asphalt Co.  
Treasurer – Mike Thompson, Barrett Paving Materials, Inc.

### BOARD OF DIRECTORS

Peter M. Alex, The Osterland Co.  
Wayne Brassell, Kokosing Construction Company, Inc.  
Brent Gerken, Gerken Paving, Inc.  
James P. Jurgensen, Valley Asphalt Corporation  
Richard H. McClelland, Shelly & Sands, Inc.  
James S. Tharp, The L.P. Cavett Co.  
Donald C. Weber, S.E. Johnson Companies, Inc.

### STAFF

Fred F. Frecker, President & Executive Director  
Clifford Ursich, Executive Vice President  
Florence H. Flowers, Administrative Assistant  
William H. Fair, Customer Service Engineer

Telephone: 614-221-5402; 888-446-8649 (Ohio only)  
Fax: 614-221-0394  
Website: [www.flexiblepavements.org](http://www.flexiblepavements.org)

Ohio Machinery Co.  
Performance Site Management  
Pine Instrument Co.  
Protection Services Inc.  
Rohm and Haas Co.  
Sharp Testing Services  
Solar Testing Laboratory  
Southeastern Equipment Co.  
Tiger Machinery Co.  
Toltest, Inc.  
Troxler Electronic Labs, Inc.  
Ultrapave  
United Rentals/Highway Technologies  
VLS-QC Resource Division  
Wisconsin Electrical Mfg. Co.

### Architects & Highway Engineering Consultants

Adache-Ciuni-Lynn Assn., Inc.  
BBC&M Engineering, Inc.  
Balke Engineers  
Brandsetter/Carroll, Inc.  
CDS Associates, Inc.  
HNTB Corporation  
Kohli & Kaliher Associates  
Korda/Nemeth Engineering, Inc.  
Mannik & Smith, Inc.  
M-E Companies, Inc.  
Resource International  
Woolpert Consultants

## FLEXIBLE PAVEMENTS OF OHIO

37 W. Broad St., Suite 460  
P.O. BOX 16186  
COLUMBUS, OHIO 43216

First Class  
U.S. Postage  
Paid  
Columbus, Ohio  
Permit No. 1366