The IOWA ASPHALT REPORT

Fall 2012

www.apai.net

The Rise of the Interlayer

This is the second article of a two part series. The first article focused on the use of the Asphalt Interlayer and this article focuses on the use of the Rock Interlayer.

Sometimes great innovation comes about by accident. The use of the rock interlayer as a crack relief layer is just such an example. As the story goes, Gary Bishop, Davis County Engineer had a rubblization project that was going poorly, with dump trucks making deep ruts, even though two- thirds of the road had lateral drains installed the previous year. The rubblization was changed to a light crack and seat to achieve stability in the failing PCC pavement without success. Expensive and costly repairs were needed to prepare this first half of the project before it could be paved. To alleviate the structural failures facing his project, Bishop decided to place a rock layer over the second half of the failed PCC and a pavement rehabilitation innovation was born.

Mathy Construction places Rock Interlayer on Scott Co. Y4E in 2011.

Several years later, Bishop was again faced with a badly faulted PCC roadway. The use of rubblization was discussed and dismissed due to fears of pavement failures and potential costs. The use of a straight asphalt overlay was discussed, but concerns about the faulted PCC reflecting through made Bishop think back to his previous rock layer project. When going back to look at that roadway, he observed that the roadway was performing exceptionally well including the PCC section that had not been rubblized. That section of roadway only had a two-inch rock layer placed before the asphalt overlay. Bishop decided to forgo any rubblization on the new project and just placed the 1½ inch rock interlayer over the PCC and added the four-inch hot-mix asphalt (HMA) right over the rock.

When Bishop was asked about the choice to use the rock interlayer, and the success that was achieved through the use of this innovative technique, he replied, "I view use of the interlayer as a tool to be used in the proper locations, without rubblization or crack and seat, and where the PCC is deteriorated, but stable. Widening of the pavement has been achieved with asphalt millings with rejuvenator on several projects and road

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Inside This Issue

Tales from the Road

"Family Traditions"

There are few things in life better than family traditions. One of my favorites is the annual fishing trip I make with my Dad, my Uncle Darwin and my Cousin Scot to the Rainy River in Northern Minnesota. We spend a week in a cabin on the river (no running water) fishing, laughing, and playing euchre. This tradition has built upon itself year after year; fish stories grow, euchre games are glorified, and our family strengthens.

Next year, Cousin Scot plans on bringing his 15-year old son on the trip. One day I hope to bring my son Henry on this trip as well. This new blood will upset the established traditions and protocols: who rides in what boat, partners for euchre, who washes dishes, etc., but this new blood will be good for the family tradition. New blood means new ideas, new stories and new opportunities for these young men to learn from their grandpas, uncles and fathers.

Opportunities to build on family traditions exist in the asphalt industry. I have watched as the generation that taught me how to be an asphalt man are retiring or stepping aside to let the next generation of asphalt men and women become the leaders

(Continued Page 2)

Upcoming Events

(Click event for more information)

APAI 57th Annual Convention
Date: November 28-29, 2012
Location: West Des Moines Marriott
West Des Moines, IA
For more information, click here.
To register, click here.

John Smythe Retirement Party
Date: Friday, November 30, 2012
Location: Iowa DOT Construction Offices
Time: 9:00 a.m. to Noon

2012 County Engineers Conference
Date: December 4-6, 2012
Location: Scheman Building,
Iowa State University
Ames, IA

APAI 2012 Holiday Open House
Date: Thursday, December 13, 2012
Location: APAI Offices,
116 Clark Avenue, Ste C
Ames, IA 50010
Time: 3:00 p.m. to 7:00 p.m.

NAPA's Annual Meeting: Your Solutions. Your Decision. Your Future.
Date: February 9-13, 2013
Location: The Phoenician,
Scottsdale, Arizona
Click here for more information.

The Greater Iowa Asphalt Conference
Pre-conference Meetings
Date: March 6, 2013
Conference (General Sessions & Breakouts)
Date: March 7-8, 2013
Location: Holiday Inn Airport,
Des Moines, IA

World of Asphalt 2013
Date: March 19-21, 2013
Location: Henry B. Gonzalez Center,
San Antonio, TX
For more information, click here.

FHWA Workshop: Best Practices for Asphalt Pavement Longitudinal Joints
Date: Week of April 15, 2013
Location: To be announced

(Tales from the Road – Cont. from Page 1)

of the Iowa Asphalt Industry. These new, younger leaders bring new ideas, new ambition, and new strength to our industry. They are smart, hard-working and technologically advanced. These new leaders will take the Iowa Asphalt Industry to the next level.

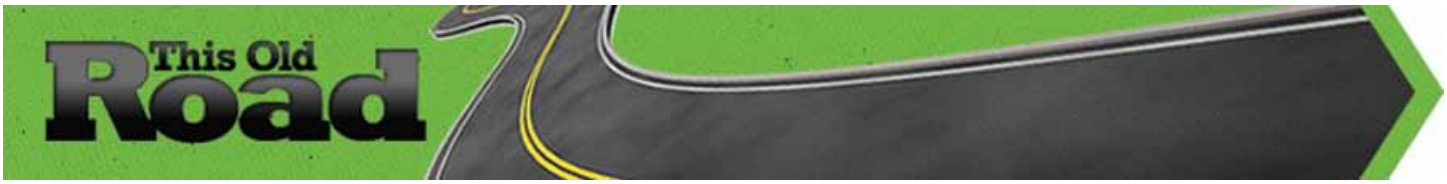
The Iowa Asphalt Industry has much to be proud of - we have a rich tradition of excellence and quality. Iowa contractors have been recognized nationally by winning the Sheldon G. Hayes Award, awarded to the best asphalt project in the nation, three times in the past twelve years. This rich tradition continues today with three Iowa contractors being announced in the final eight for the 2012 Sheldon G. Hayes award. Iowa contractors and Iowa agencies have never been afraid to lead. When safety and environmental initiatives are introduced nationally, Iowa contractors are always on the forefront of testing and adopting new methodology to improve the safety and the quality of our asphalt roads. We will be honoring the "Best of the Best" at the APAI Annual Convention Quality Paving Awards on November 29th, 2012. I am proud to say that Iowa contractors, and the agencies we work for, are the "Best of the Best".

The next generation of Asphalt Men and Women are here. Let's welcome them, encourage them and cherish them – It's part of our asphalt family tradition.

Smoother is Better

CORRECTION

The APAI would like to apologize for not recognizing the current evolution of the original Strata™ asphalt interlayer product in the Summer **Iowa Asphalt Report** article *The Rise of the Interlayer - Part 1*. The original Strata™ interlayer is now being designed, engineered and promoted by Road Science as BinderTekk™. For more information on BinderTekk™, please contact Dan Wegman, Road Science Account Manager at dwegman@roadscience.net.



P 14 County Line Road between Taylor Co. and Ringgold Co.

Sometimes building a road is just about "getting up out of the mud". That is the case for county road P-14. This 3.8 mile stretch of county line road between Taylor and Ringgold counties was originally built by the Iowa Department of Transportation (IDOT) in 1956 as Highway 25. The original cross-section of the road was 4" soil aggregate sub-base, a 9" rolled stone base, and 3" Type B asphaltic concrete. This low-volume road carried 510 VPD as a state highway and now carries 320 VPD with 10% trucks. In 1980, the state "gifted" the counties with the road and in 1981, Taylor Co. placed another 1.5" of hot-mix asphalt over the original 3" roadway. That 4.5" of asphalt lasted for 56 years with normal crack filling before Norris Asphalt milled off one inch of asphalt in 2012 and reused the RAP in the new 3" HMA overlay. "Success of roads like this have made me a believer in HMA and its longevity for both Adams and Taylor Counties," said Eldon Rike, County Engineer for both Adams and Taylor Counties. "Asphalt has performed well in both counties and we think milling off the existing HMA and using for RAP helps the environment and promotes the green initiative." P-14 is another great example of asphalt out-performing expectations and giving taxpayers safety, value and a smooth ride.

(The Rise of the Interlayer - Cont. from Page 1)

stone on one project." Bishop was also quick to give credit to long-time Benton Co. Engineer and former APAI field engineer, Jerry Petermeier, "Jerry had a theory that the rock interlayer would provide both structure and a buffer for the heaving of the PCC slabs", said Bishop. "He was right all along."

The rock interlayer is generally a ¾" road stone placed 1"-3" thick over a failing PCC pavement that has received a full or modified rubblization, crack and seat, or over a badly faulted PCC pavement. The rock is placed wet through an asphalt paver and then static rolled. The resulting rock layer is surprisingly strong and durable under construction traffic and provides a crack relief layer between the failing PCC and the asphalt overlay.

Current Benton Co. Engineer, Myron Parizek, put the rock interlayer to use on W24, a busy county road running south from Highway 30 to the City of Norway. The road had been overlaid with four inches of hot mix asphalt (HMA) in 2000 when it was "gifted" to the county by the Iowa Dept of Transportation (IDOT). By 2005, the PCC slabs had reflected through the asphalt overlay so badly that it was nearly impassable in a truck. Parizek placed subdrains in the fall of 2007 and debated on how to rehabilitate the road. He settled on milling off the 4" HMA to use as RAP in the new mix, performing a "modified" rubblization (breaking the slabs into one-foot sections) to relieve the stress in the PCC slabs, placing three inches of choke stone and overlaying the road with five inches of new HMA. "I was not a full believer in the rock interlayer process going into this project", said former L.L. Pelling Project Manager, Bill Rosener. "I was afraid the rock interlayer would move while we were putting the asphalt down. It didn't. Driving the same road a month ago, it was very smooth and I was only able to count five reflective cracks after some very hard recent winters."

Scott County Engineer, Jon

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Sioux City Paving Project Saves Tires From Landfill

A "Tire Rubber" HMA Open House was held on Oct. 23, 2012 on 19th Street in Sioux City, IA with over 50 people representing cities, counties, IDOT, contractors, suppliers and consultants attending.

The project consisted of a 3" mill and overlay of 3,100 ft. of West 19th Street between Helmer and Center St. This 2,300 Ton HMA project utilized PG64-22 AC blended with 10% Tire Rubber. As part of the "green initiative", this saved 1200 tires from going to a landfill. Where in the past the Tire Rubber has been added to the mix in solid form, this product is blended in a liquid form with the PG64-22 AC.

Presentations were given by: Sioux City Engineer, Eric Smith; Contractor on the project, Matt Barkley, Barkley Asphalt; Mike Spohr, Jebro, Inc. and David Dishman, Wright Asphalt, Suppliers of the Rubber Tire Asphalt. A special thanks should be given to these individuals for their help in making this a successful open house.

During his presentation Eric Smith noted that he had been approached by Jebro to try the product that had just been used successfully on Hwy. 75 for the Nebraska Highway Dept. Smith commented that he is so impressed with the work to date that he is considering a similar project for next year.

Please click here to view a slide show of the Open House.

My Summer Internship – A Student's Perspective

By Jonathan Nalevanko

For the past two summers I have had the privilege of interning for Des Moines Asphalt and Paving through the APAI's internship program. I am currently a student at Iowa State University and am studying Construction Engineering. In the short time I have spent at Des Moines Asphalt, I have learned a great number of skills. When I first started in May of 2011 I didn't know anything about asphalt, so this experience has been an eye opening learning experience for me. I have spent time in the lab where I have learned the different kinds of aggregates and oils that are used to put together the asphalt mixes, and also how to put together plant reports. I was able to go out and be on the paving crew for a couple of weeks to see how the asphalt is placed as well as operate some of the equipment that is used in the paving operation. I truly enjoyed being out there with the crews because they were willing to tell me if I was doing something wrong or if I was doing things the hard way. They took the time to teach me how to do it right. The major part of my experience has been in the office where I have been able to bid jobs, get in on the scheduling process, and the managing of projects. Being in the office has taught me the things I need to look for in plans and specs when I am bidding jobs and it has also allowed me to meet a lot of new people from the different jobs I have worked on. I have gained a new perspective of the business world from this internship and have had fun while doing it. I look forward to continuing in the asphalt industry and plan on learning much more.

New Longitudinal Joint Density Specification Gets Results in Pennsylvania

Incentive/disincentive plan improves on previous practices

By Garth Bridenbaugh, P.E.; Gary Hoffman, P.E.; Jennifer Albert, Ph.D., P.E.; and Frank Colella

(This article originally appeared in *Asphalt Pavement*, the magazine of the National Asphalt Pavement Association.)

Joints — whether in the human body or in pavements — are vulnerable areas. An athlete with well-toned muscles can be sidelined by a mishap to the knee, and a pavement mat with years of service

Cutting a Density Core on a Vertical Centerline Joint

life remaining can be compromised by deterioration at the longitudinal joint. For pavements, achieving optimal field density at the joint is vital to long-term pavement performance, as high density is key to reducing permeability and enhancing pavement durability.

The Pennsylvania Department of Transportation (PennDOT) has achieved significant success in improving asphalt longitudinal joints using a recipe that includes incentives/disincentives and a new "percent within limits" (PWL) specification. The tapered or wedge joint has been found to provide density benefits, and there is evidence that using warm-mix asphalt (WMA) makes joints easier to compact.

PennDOT's new specification was developed in a collaborative effort between PennDOT, the Federal Highway Administration (FHWA), and the Pennsylvania Asphalt Pavement Association (PAPA).

Beginning in July 2010, PennDOT included a new longitudinal joint density specification as a special provision in a number of contracts with a goal of improving joint density and thereby enhancing joint performance.

While good mix design plays a key role in producing durable pavements, achieving optimal field density is vital to long-term pavement performance along the joint.

Pennsylvania Experience

Until recently, PennDOT had no measure of the actual densities achieved when constructing the joint. In 2006 and 2007, PennDOT and PAPA worked together to evaluate joint construction

Vibratory compactor passes over an 18-inch-wide section of uncompacted material along the joint. Note that the roller pass lips over the cold mat.

methods and began to gather data on joint density. Best practices for joint construction were developed after evaluating Michigan and Maryland practices and were distributed statewide. Training on these was conducted at many venues across Pennsylvania.

Beginning in 2007, a joint-density baseline was established to track the progress and improvements that resulted from using these best practices and from paying closer attention to joint construction. This represented the

A vibratory plate attachment compacts the taper in a notched-wedge joint.

first real data that were collected on Pennsylvania's joint densities, and this effort to obtain information continued in 2008 and 2009. The training on best practices and increased scrutiny on joint construction prior to the 2008 construction season paid off with a 1.1 percent increase in average joint density in one year (Fig. 1). However, the data showed that many projects still were not achieving optimal joint density.

For 2010, PennDOT, working with FHWA and PAPA, took a new approach toward joint construction. Instead of

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APAI Annual Convention

BACK TO THE FUTURE

West Des Moines Marriott

November 28-29, 2012

Wednesday, November 28, 2012 • ASSOCIATION DAY/Members Only

8:30 a.m. - 4:00 p.m. Registration

10:00 a.m. **COMMITTEE MEETINGS**
- Environmental & Energy / Legislative Committee
- Marketing Committee
- Specification Committee

11:30 a.m. **Associate Members Meeting**

12:00 Noon (12:30 p.m.) Buffet Lunch
Gavin Jerome "Morale Mechanic"
"If You Can Laugh At It, You Can Live With It"
Gavin returns after a 10 year hiatus to remind us of the importance of laughter in our private and business lives.

1:45 p.m. - 3:45 p.m. **ANNUAL BUSINESS MEETING**

6:00 p.m. - 10:00 p.m. **Asphalt Vegas Casino Night**
Food, Fun, and Fabulous Prizes!!

Thursday, November 29, 2012 • GENERAL SESSION/Non-Members Welcome

7:30 a.m. Registration

8:00 a.m. **Morning Session**
Presentation of Colors / National Anthem
APAI Presidential Welcome

Karl Mecklenburg – All-Pro Denver Bronco
"Six Keys to Success"
Having been a walk on in college and twelfth round draft choice, Karl Mecklenburg rose to an NFL career with the Denver Broncos that included three Super Bowls and six Pro-Bowl appearances. Karl shares the steps he took to reach his great success and how it can work for others.

Jay Behnke, President, S.T.A.T.E. Testing, L.L.C.
"SMArt Asphalt Paving, Chicago - Michigan Avenue SMA"
Jay Benke is a Professional Engineer and President of his own asphalt testing firm. He works closely with the Illinois Tollway and the Chicago Dept of Transportation. His presentation will focus on the innovative "green" technologies used to pave the "Magnificent Mile", one of Chicago's busiest streets.

10:00 a.m. **Break**

10:15 a.m. **Morning Session (continued)**
Scott Schram, Bituminous Engineer, Iowa DOT
"Asphalt Research and Specifications Update"

John Selmer, Director, Performance & Technology Division, Iowa DOT
"Thinking Differently, Genesis of the Performance & Technology Division"

John Adam, Director, Highway Division, Iowa DOT
"Iowa DOT Perspective 2012"

11:45 a.m. **Break**

Noon **ANNUAL AWARDS LUNCHEON**
Awarding of the 2012 Paving Awards and the Iowa Hot Mix Hall of Fame

2:00 p.m. Billy Snead, Oldcastle Materials Group
"Innovative Safety Solutions"
As a Safety Specialist, Billy Snead has the ability to analyze operations, pinpoint areas for improvement and redesign, and implement plans that generate profitable results. All with the aim of continually improving the work zone safety.

Mike Day and Shane Griffin, Dale Carnegie – Dale Carnegie
"How to Achieve Excellence through Others"

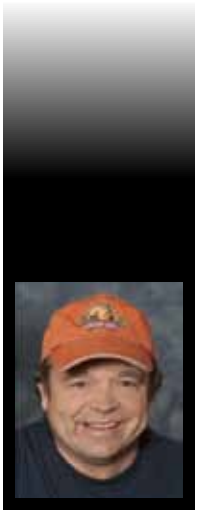
5:30 p.m. - Midnight **PRESIDENT'S BANQUET**

5:30 p.m. Cocktail Hour

5:30 - 7:00 p.m. APAI Scholarship Silent Auction

6:30 p.m. President's Banquet

7:45 p.m. Introduction of New Board
- President's Outgoing Speech
- APAI Outstanding Member Award
- Passing of the Gavel
- Silent Auction Results



7:45 - 11:00 p.m. **Johnny Holm Band**
Back by popular demand!!!!! The band that held you captivated last year is back to capture you again. Come listen to the band that can only be described as moderately controlled mayhem!

Followed by more fun and karaoke

To register, click here.

(New Longitudinal Joint Density Specifications - Cont. from Page 5)

dictating prescriptive best practices means and methods to the contractor, the department provided a performance specification on higher volume roadways with an incentive or disincentive for the joint density.

The HMA Longitudinal Joint Density Incentive/Disincentive Specification was issued June 3, 2010. In essence, the specification allows contractors to choose their own methods to achieve performance to earn an incentive for delivering high density at the joint. Conversely, a disincentive is assessed for achieving low joint density.

Longitudinal Joint Data Summary			
Year	Density Lots	Average Joint Density	Average Roadway Density
2007	18	87.8%	93.9%
2008	43	88.9%	94.1%
2009	29	89.2%	94.1$
2010	No Data: Transition to PWL Specification		
2011	137	91.1%	94.1%

Fig. 1: Longitudinal Joint Density Data Summary

The performance specification is based on a statistical approach of calculating percent within limits (PWL) based on the average and standard deviation of the individual core specimen density test results. The lower specification limit has been set at 89 percent of maximum theoretical density, and lots with averages below 89 percent received a disincentive. As density values move further below the 89 percent limit, the disincentive grows progressively larger to a maximum of $12,000 per lot. Additionally, lots with average density lower than 88.0 percent will require a placement of a ribbon of PG binder grade asphalt cement over the joint as a remediation effort.

For densities that calculate above 89 PWL, the contractor will begin to receive an incentive payment which progressively increases as density increases, to a maximum of $5,000 per lot. The lower specification limit was set at 89 percent of maximum theoretical with the understanding that consideration would be given to raising this limit to 90 percent after a period of successful implementation.

Contractors are required to cut one core at the newly constructed longitudinal joint for every 2,500 linear feet of joint. The specification only applies to surface courses and newly constructed joints where mats on both sides of the joint were placed as part of the contract.

Determining Effectiveness

In order to determine the effectiveness of this new specification, PennDOT project density acceptance data was collected and a survey questionnaire was implemented by PAPA. Penn State University performed statistical evaluations on the collected data.

Forty projects were constructed by 19 different contractors during the 2011 season with the new specification and were included in the evaluation. There were a total of 137 lots among these projects, which included 676 pavement cores. These 137 lots represented about 320 linear miles of joints.

There was a remarkable improvement in average joint density on projects constructed with the new joint density performance specification compared to those previously constructed with the methods specification (Fig. 1). Average joint density was 91.1 percent of maximum theoretical with the performance PWL specification in 2011 compared to about 89 percent in 2008 and 2009 with the "best practices" method specification. Average roadway mat density remained consistent at around 94 percent throughout the four-year study period.

The potential for a financial incentive or disincentive drove the improved performance. Contractors received a total of $260,625 in bonuses against $99,216 in total penalties. Seventy-one percent (97 lots) received bonuses while 18 percent (25 lots) and 11 percent (15 lots) were neutral or in penalty, respectively. Only five of the 19 contractors had penalty lots.

The data set was analyzed to consider the impact that the following variables had on average joint densities:

- type of joint (wedge or vertical),
- month of construction,
- size/type mix,
- hot mix vs. warm mix,

Breakdown by Lot Joint Style			
Lot Joint Type	Density Lots	Average Joint Density	Average Roadway Density
Notched Wedge	73	91.7%	94.1%
Vertical	55	90.3%	94.2%
Mix of Both/Other	9	90.6%	94.1%

Fig. 2: Average Joint Density by Joint Type

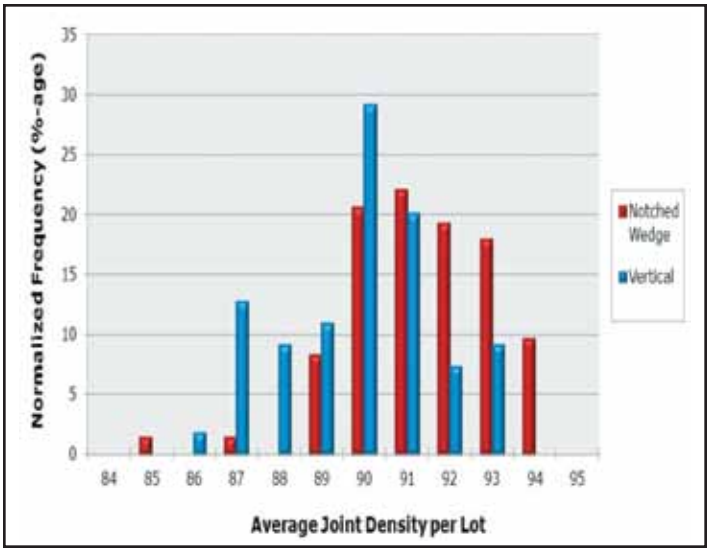


Fig. 3: Frequency Distributions of Average Joint Density per Lot by Type

(New Longitudinal Joint Density Specifications – Cont. from Page 8)

- PG binder type,
- amount of RAP in mix, and
- asphalt content.

One of the most evident factors that influenced the average joint density outcome was the type of joint construction. The notched wedge (tapered) joint averaged almost 1.5 percent higher density than the vertical (butt) joint (Figs. 2 and 3). In fact, 13 of the 15 penalty lots were constructed with vertical joints.

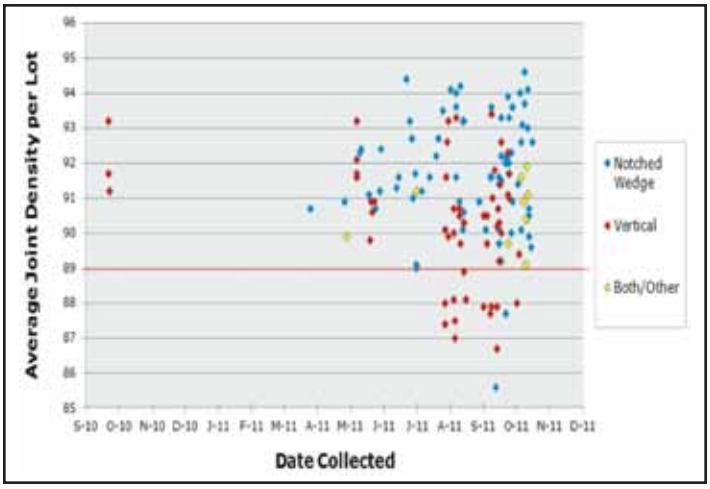


Fig. 4: Average Joint Density per Lot by Month Constructed

Upon visual inspection of these out-of-tolerance cores, it was noticed that there was a void at the bottom of the paving layer on the hot side of the joint. It was speculated that this void was the result of insufficient supply of material from the paver along the joint or an inadequate rolling sequence that did not push material toward the longitudinal joint (see Fig. 6). Most contractors bought vibratory compactor paver attachments (Fig. 7) to compact the tapered wedge while it was still hot to meet the new specification.

Another significant factor in lower density at the joints was the time of the year when paving was done. The preponderance of the out-of-tolerance core densities occurred in late August, September or October (Fig. 4).

Mix Types

The 40 projects included three size/type mixes with both hot-mix and warm-mix construction. Most of the wearing courses were 9.5-mm mixes, but there were also some 12.5-mm and stone-matrix asphalt (SMA) mixes. Fig. 5 indicates that the finer 9.5-mm mixes had lower total average densities than those of the coarser 12.5-mm and SMA mixes. This is contrary to what was expected, and it is believed that the negative influence of the penalized butt joint lots lowered the total average of the 9.5-mm wearing courses.

Breakdown by Lot Mix Size			
Lot Mix Size	Density Lots	Average Joint Density	Average Roadway Density
9.5 mm	93	90.7%	93.8%
12.5 mm	19	91.8%	94.1%
SMA	23	91.9%	94.9%

Fig. 5: Average Joint Density for Lots by Size and Type of Mix

Breakdown by Lot Mix Size and Type			
Mix Size and Type	# of Lots	Avg. Density per Lot	Standard Deviation
9.5 mm HMA	45	90.62%	1.68%
9.5 mm WMA	48	90.84%	1.67%
9.5 mm SMA	25	91.90%	1.22%
12.5 mm HMA	15	91.86%	1.49%
12.5 mm WMA	4	91.68%	1.69%
Σ = 137			

Fig. 6: Average Joint Density for HMA vs. WMA Mixes

A comparison of average joint density between HMA and WMA mixes of the same size (Fig. 6) indicated that there was virtually no difference in the density. Anecdotal comments from contractors tended toward a greater ease in achieving compaction with the use of warm-mix technologies.

The bulk of the mixes on these 40 projects used PG 64-22 and PG 76-22 grades of liquid asphalts. Softer PG 58-22 binder was used in only seven of the 137 lots. Average joint and mat densities were relatively similar for the three different binder grades.

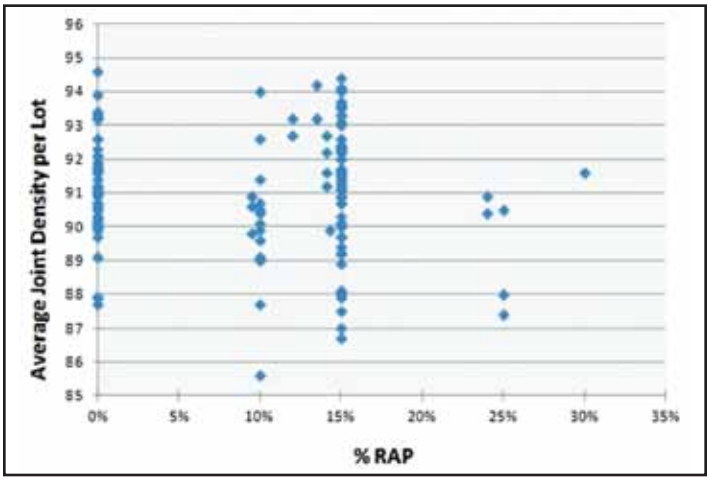


Fig. 7: Average Joint Density per Lot by Percent of RAP in the Mix

Lastly, a comparison of average joint densities per lot was done for mixes with various percentages by weight of total mix of reclaimed asphalt pavement (RAP). Fig. 7 shows that the average and spread of lot densities at the 15 percent RAP level was very similar to that of 100 percent virgin material mixes. Mixes at the 25 percent RAP level appear to have a somewhat

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APAI Welcomes New Members

APAI continues to add new members. At the last Board Meeting of 2012, the Board of Directors elected one Contractor/Producer Member and two Associate Member to the Association. Thank you to those who have helped recruit these new members.

At Barkley Asphalt, you can find **Everything Asphalt**—a full range of asphalt products meeting ASTM, AASHTO and local specifications for building, maintaining, rehabilitating, recycling and preserving roads. The company also manufactures numerous specialty asphalts, blended to customers' needs and specifications. Barkley also provides technical assistance to help you select the right materials and applications for your project.

The company's product slate meets your **Everything Asphalt** requirements. This ranges from road and highway construction, maintenance, repair and preservation products and services to below ground pipe joint sealers and road top marker adhesives. Barkley produces and keeps in inventory a wide variety of water-based asphalt emulsions. Asphalt emulsions are safer, cleaner and more fuel-efficient than traditional asphalts and are widely used for cost-saving pavement construction, rehabilitation, recycling and preservation. Contact Barkley Asphalt for your Everything Asphalt needs by calling 712-255-1848.

Olson Brothers'
Sodding & Landscaping, Inc.
PO BOX 188, Marion, Iowa 52302
Phone 319-377-5877 · Fax 319-377-1773

Olson Brothers Sodding & Landscaping is a family owned company based in Marion, IA that was established in 1977. They specialize in sodding, seeding, hydro-seeding, native grass seeding, wetland seeding, erosion control such as wood ex. matting, TRM matting, scour stops, silt fencing, and straw wattles in their commercial and IDOT work. Olson Brothers Sodding and Landscaping are proud members of the Associated General Contractors and The International Erosion Control Association. For all of your landscaping and erosion control needs contact Randy Olson of Olson Brothers Sodding at 319-377-5877.

MID - IOWA ENTERPRISES
130 SONDROL
AMES, IA 50010

Mid-Iowa Enterprises has been in business in the Ames, Iowa area since 1993. They offer seal coating, and hot pour asphalt crack repair for driveways and parking lots. They also provide new layouts for parking lots as well as restriping and resurfacing/cleaning of existing lots. Their services also include full depth patching of parking lots and driveways. Contact Bryan Dale at 515-232-0221 for your driveway and parking lot servicing.

Please welcome these new members and show your support for them by contacting them and utilizing their services. To find contact information for these members, go to www.apai.net/members.aspx.

(New Longitudinal Joint Density Specifications – Cont. from Page 9)

lower average, but there are too few data points at this level to draw conclusions.

Bottom Line

Contractor responses to the survey questionnaire provided some important comments. Sixteen of the 19 contractors purchased special equipment to densify the tapered or wedge joint. Numerous contractors added personnel to the paving crew to meet the new specification. Many of the contractors indicated that the mix with the warm-mix technology was easier to compact.

Also in the survey, concern was expressed for the safety of workers along the centerline joint with traffic in the adjacent lane. Adjustments in traffic control plans have been suggested and implemented.

The bottom line is that contractors wanted to maintain the incentive/disincentive pay adjustments in the specification, although they recommended that incentive and disincentive should be equal. There was a general belief that the new specification and the resultant improved joint density would provide longer pavement performance.

Based on the successful implementation of this specification, PennDOT proposes to increase the lower PWL density limit from 89 percent to 90 percent as a quality improvement initiative for the 2013 construction season. The industry will respond accordingly to provide longer-lived asphalt pavements in Pennsylvania.

Garth Bridenbaugh, P.E., is Quality Assurance Team Leader with the Pennsylvania Department of Transportation Bureau of Construction and Materials. Gary Hoffman, P.E., is Executive Director of the Pennsylvania Asphalt Pavement Association. Jennifer Albert, Ph.D., P.E., is Assistant Professor of Civil Engineering at Pennsylvania State University. Frank Colella is a consultant to PAPA.

(The Rise of the Interlayer – Cont. from Page 3)

A Fort Dodge Asphalt crew places a rock interlayer on Webster Co. road P59 in 2010.

A Fort Dodge Asphalt paving crew paves over the rock interlayer on Webster Co. road P59 on the same day.

Burgstrom, has had similar successes using the rock interlayer for both rubblized and non-rubblized projects. In 2004, Burgstrom rubblized twelve miles of County Road Y68 (Old Highway 61), placed a two-inch rock interlayer and seven inches of asphalt. "It's been about 10 years now, and while there are a few cracks, we have not had to do anything major to the road. It looks good and is performing well," said Burgstrom regarding the project. Burgstrom utilized the rock interlayer again in 2011 on County Road Y4E by placing 1.5 inches directly on a badly faulted PCC pavement. He then placed five inches of asphalt over the rock interlayer. "By using only rock we were able to avoid major patching," said Burgstrom. "It seems that with every crack and seat job with the trucks running on it something goes to pot and you have to do expensive patching before the overlay. As costs seemed to be similar, we decided to give the rock only, without the crack and seat, a try. While the cost of rock overran, not having to do any patches saved a lot of money. We learned a lot and will do it again. The rock interlayer also increased smoothness since it was placed with a paver. Today the project rides very good and we are very happy with it."

When using the rock interlayer in a rubblization project, the rock can provide additional stabilization and structure during the construction process. During the Highway 69 Rubblization Open House held in late July, Manatts General Manager, Duane Hassebrock, talked about the importance of the rock interlayer following the rubblization of some badly deteriorated PCC, "After removing the old asphalt overlay, the PCC was in such bad shape that the rubblization had to be modified or we were going to see catastrophic failures in the base. By placing the rock layer right behind the breaker, we were able to bridge some areas that otherwise would have needed to be cored out and replaced."

The use of rock interlayer has become standard procedure on Iowa county road and IDOT rubblization projects. "The use of a "choke stone" layer to smooth irregularities was standard practice on rubblization projects in the past," said Chris Brakke, Iowa DOT Pavement Design Engineer. "On projects in the last 7 years, our Districts have implemented the use of the rock or RAP interlayer. Typically these are 3" thick, and in addition to improving the construction platform, there appears to be a performance benefit even at this early age. Because of this, we have now begun including the interlayer in the structural design of the rehabilitation."

A final benefit of the rock interlayer is smoothness. The opportunity to correct crown and ride is not missed by engineers and contractors. "Any time we get the opportunity to improve ride, we'll take it," said Hassebrock. "The rock interlayer over the rubblization gave us a much better platform to build our overlay compared to overlaying the rubblized PCC."

The Rise of the Interlayer is a success story for the Iowa Asphalt Industry in our quest to improve the duration of PCC rehabilitations. From municipal streets to Interstate overlays, the use of the Asphalt Interlayer has proven an effective method for retarding PCC reflective cracking through asphalt overlays. By introducing the use of the Rock Interlayer over rubblized, crack and seat, and straight PCC overlay projects, it has proven to be a beneficial construction platform and a cost-effective structural layer. Continued success of current projects, coupled with stronger knowledge and acceptance of both the asphalt interlayer and the rock interlayer by all agencies, may prove to be another tool for engineers in their quest to rehabilitate failing PCC roadways. There is a better alternative for all agencies: build full-depth, perpetual asphalt pavements!

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