

Pennsylvania Asphalt Pavement Association

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NEWS BRIEF

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Upcoming PAPA Events

Mark your calendars for 2022 & 2023!

July 26-27, 2022—PennDOT PAPA Bus Tour-District 8
January 16-18, 2023

Annual Conference
The Hotel Hershey

March 14-16, 2023

Regional Technical Meetings
West | Central | East

April 12, 2023 - Environmental Seminar

July 25-26, 2023 – PennDOT PAPA Bus Tour

Visit the website for more information.

www.pa-asphalt.org

PAPA Officers & Board of Directors Update
We are pleased to announce the following changes to our elected Association Officers and Board of Directors:

Board of Directors for a 5-year Term:

David Garrett, Meeker Equipment
David Greenberg, Penny Supply



<https://www.bylerquarries.com/>



Not a member yet? Give us a call, and we will explain the benefits that go along with being a PAPA Member.

CHARLIE'S CORNER



IIJA Passed! Now what?

The Infrastructure Investment and Jobs Act (IIJA also nicknamed “The Bipartisan Infrastructure Act”), was signed into law Nov. 15, 2022, by President Biden. Nationwide, it dedicates more than \$100 billion for surface transportation networks, \$66 billion for freight and passenger rail operations, \$65 billion for rural broadband, and \$46 billion for climate change programs. The total package is a little over \$1 trillion. Here’s a link that goes into detail on the various parts of the law [Fact Sheet: The Bipartisan Infrastructure Deal | The White House](#). Here’s a link to FHWA, which goes into more detail on the programs that impact us - [FHWA Unveils Infrastructure Investment and Jobs Act 'One-Stop Shop' Website, Publishing Request for Information \(FHWA\)](#)

Before we go any further into this article, let us recognize those Pennsylvania legislators that voted for the “The Bipartisan Infrastructure Act.” They are as follows:

Senator Robert “Bob” Casey Jr. (D)
US Representative

- 1st District: Brian Fitzpatrick (R)
- 2nd District: Brendan Boyle (D)
- 3rd District: Dwight Evans (D)
- 4th District: Madeleine Dean (D)
- 5th District: Mary Gay Scanlon (D)
- 6th District: Chrissy Houlahan (D)
- 7th District: Susan Wild (D)
- 8th District: Matt Cartwright (D)
- 17th District: Conor Lamb (D)
- 18th District: Michael F. Doyle (D)

So, what does this mean for Pennsylvania and in particular our industry? According to Mike Keiser, P.E., Acting Deputy Secretary for Highway Administration PennDOT, the 2022 Construction Program will increase \$500 million to \$2.5 billion. By the end of the fifth year of the



Bipartisan Infrastructure Act, the program, may reach \$2.7 billion or a little more depending on additional funding programs that were included in the legislation. Contractors can expect PennDOT Districts to get a number of pavement resurfacing and mill – fill projects out the door and let in January, February, and March. Mike advised that last year’s asphalt mix tonnage procured through PennDOT Construction projects was 4.3 million tons. This year’s estimate is 5.8 million tons, an approximate 30% increase. Note, these figures do not include what PennDOT County Maintenance procures. Historically, they purchase around one million tons per year.

So, this is very positive news for our industry. It is a \$4 billion or 40% increase over the next five years on top of what PennDOT already receives in Federal Funds. That is the good news. However, that \$4 billion will require a 20% match in State funds, which means PennDOT will need to produce an additional \$1 billion to match the \$4 billion in additional Federal Funds and even more to match some of the other special programs authorized in IIJA.

So, where will that additional State funding come from? We are continuing to work with our sister transportation associations to lobby the Governor’s Office and Legislature to reduce the amount of funds being taken from the Motor License Fund (MLF) and utilized to fund other Department budgets like the PA State Police. The PSP Budget this FY gets \$674 million from the MLF. Governor Wolf supports reducing that amount down to \$500 million and we are pushing the legislature to approve this reduction as PennDOT will need the \$174 million to match the Federal dollars. We are also still working on pressuring the legislature to increase the registration fee (or a vehicle mile traveled assessment) for electric vehicles to a fair level. Another option being discussed is placing a fee (say 25¢ or so) on every package delivered in Pennsylvania. PennDOT is going to need additional revenue in the next few years, and we cannot strategically rely on the gas tax, which is a fairly flat revenue source and makes up 78% of the revenue going into the MLF.

So, we see better days ahead with this funding increase and should have a stable construction program for the next five years. Inflation is a big concern, and we need to continue to get more innovative and increase productivity to mitigate its effects. As always, we do not rest on our laurels as our transportation assets continue to age and need to be maintained, rehabilitated, or replaced. You cannot do that without adequate and sustainable funding.

Charlie

Charles C Goodhart, Executive Director



by Gary Hoffman

In early 2011 a joint task force including representatives from PennDOT, the Pennsylvania Asphalt Pavement Association (PAPA) and the Federal Highway Administration (FHWA) was empaneled to develop and

implement a cost-effective plant-produced thin hot mix asphalt overlay (THMAO). The fine densely-graded material would be paver-placed (3/4 -1 in. thick) and would be an option in the pavement preservation “toolbox.” A review of literature and a national survey revealed that a number of states had “Thinlays” that were cost beneficial, were smooth and quiet, sealed the surface and restored friction. PennDOT and the FHWA sponsored a four-year research project to assist the task force in specification and guidelines development, materials testing, and field performance validation on three pilot projects. The research project was conducted by the Northeast Center for Excellence for Pavement Technology (NECEPT) at The Penn State University.

PennDOT selected three locations to construct pilot projects to validate the performance life of the new THMAO material. At the first site on Cameron Street in Harrisburg, the 1-inch thick THMAO was placed directly on a 37-year-old jointed reinforced concrete pavement that had been patched and diamond ground several years prior. The second site (SR 230) was in Lancaster County where the 1-inch-thick overlay was placed on a composite pavement (concrete previously overlaid with asphalt). The third site was near Williamsport in Lycoming County (SR 220). This third site was a full-depth asphalt pavement that was milled before being overlaid.

Cores from the Harrisburg Cameron Street pilot project were subjected to mechanical testing to include: shear test for permanent deformation, shear test for tack coat bond evaluation, Hamburg Wheel Track Test for evaluation of rutting resistance and susceptibility to moisture damage, and the Texas Overlay Tension Test to evaluate cracking resistance. These mechanical tests showed very acceptable results. In fact, all of the preconstruction and construction testing results indicated that the THMAO should perform as planned.

The three pilot projects were evaluated annually for rutting, smoothness, and surface friction. The first site in

Harrisburg has been in service for over 10 winters, and the other 2 sites have been in place over 9 winter seasons. Rut measurements were made using a 10 ft. straight edge placed transversely across the full lane. Site one had approximately 3-mm total rut depth, and sites two and three had less than 2-mm of rut depth. All three sites experienced less than 1 mm of additional rutting after the initial few months under traffic. The mix showed excellent rut resistance as shown in Figure 1.

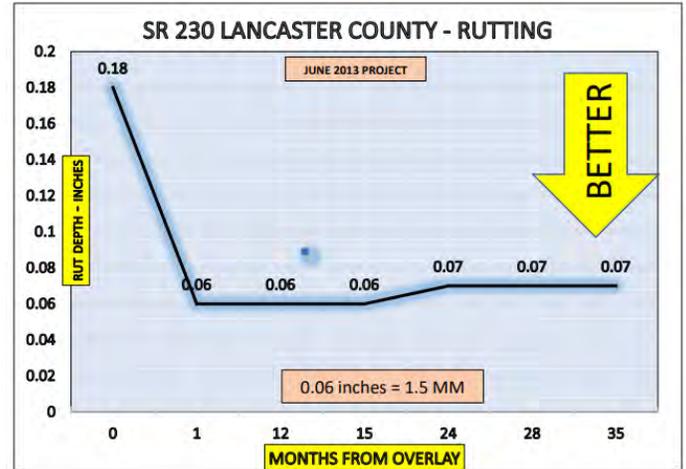


Figure 1 Site 2 SR 230 Before and after rut depths.

Smoothness or ride quality was determined using the Department’s profilometer, and the International Roughness Index (IRI) was calculated. IRI units are reported in inches/mile, and the lower the number, the smoother the pavement. Not only did all three projects experience a significant improvement in ride quality, but that improvement was also maintained over the valuation period. It is important to note that the before and after IRI numbers on the full-depth asphalt pavement (third site on SR 220 in Lycoming County) were significantly better than the overlays directly on existing concrete or composite pavements (Figures 2 and 3).

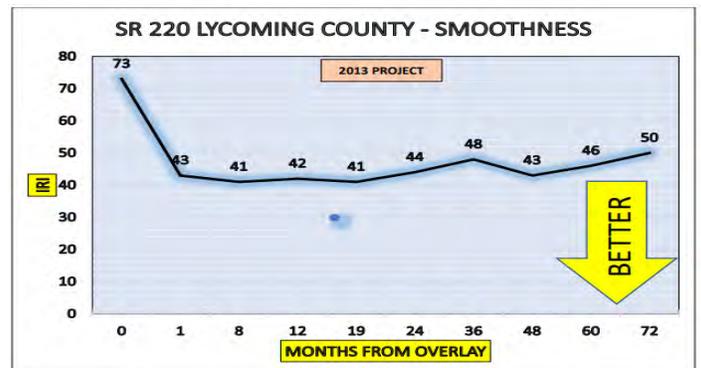


Figure 2 Site 3 SR 220 Before and after ride numbers on full depth asphalt pavement.

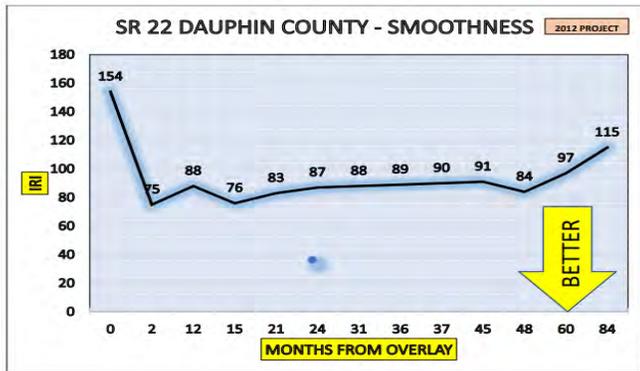


Figure 3 Site 1 SR 22 Before and after ride numbers on jointed concrete pavement.

Friction numbers were obtained using the Department’s locked-wheel skid trailer at 40 mph using a smooth tire. Surface friction or skid numbers improved and were maintained well above the Department’s threshold (30) at which corrective actions are initiated (Figure 4).

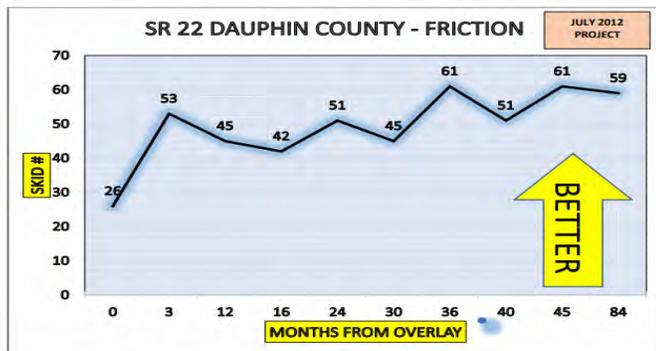


Figure 4 Note significantly improved and maintained friction numbers.

In addition to these physical measurements of surface conditions, visual inspections were done to assess cracking, delamination, and raveling. Pilot projects two and three have experienced minor reflective cracking at concrete and paving construction joints, but there is no delamination or raveling at these cracks. As can be seen in the picture, the overlay was “sawed and sealed” over the joints in the reinforced concrete pavement on site number one. Note that there is no raveling or delamination at these sealed joints after nine years.



Site 1 SR 22 6.3 mm Thinlay at nine years of service with sawed and sealed joints.

Annualized costs per lane mile were determined (Table 1) to do an economic comparison among various preservation treatment types. Note that the cost of 6.3 mm THMAO is comparable to microsurfacing Type A (4.75 NMAS mix) and is less costly on an annualized basis than the microsurfacing Type B (9.5 NMAS mix) and the UTBWC treatments

PRESERVATIVE TREATMENTS – COST COMPARISON

Treatment	Life Years (1)			\$Cost/SY (2)			Annualized \$Cost/Lane Mile
	Min	Max	Avg	Min	Max	Avg	
Chip Seal	2.50	5.0	3.75	1.50	2.50	2.00	3755.00
Micro Type A	3.00	6.00	4.50	3.00	4.00	3.50	5475.00
Micro Type B	3.00	6.00	4.50	3.00	6.50	4.80	7509.00
UTBWC	6.00	8.00	7.00	8.00	10.00	9.00	9050.00
THMAO	8.00	10.00	9.00	6.00	8.00	7.00	5475.00

(1) Expected lives from Chou (2008) and Peshkin (2011) SHRP Study
 (2) Actual PennDOT bid data averages 2016 to 2021

PennDOT has incorporated a new Section 412 “Plant Mix 6.3mm Thin Asphalt Overlay” into their General Construction Specification (Publication 408). They have also added this specification as an alternate pavement preservation treatment to their Pavement Policy Manual (Publication 242). Over the past 10 years, PennDOT and the Pennsylvania Turnpike have constructed numerous THMAO projects on Interstates and State Routes.

In summary, the THMAO material placed at 3/4 to 1-inch depth has shown to be a competitive preservation treatment alternate to microsurfacing and ultra-thin bonded wearing course. It has the following advantages:

- Improves and maintains both longer term surface smoothness and friction.
- Provides excellent rutting resistance.
- Uses conventional mix production and paving methods and equipment.
- Provides 10 years of service with minimal maintenance.
- Adds some structural value to the pavement.
- Can be installed by any of PennDOT or PA Turnpike Commission paving contractors.
- Is 100% recyclable.

Gary

Gary L. Hoffman, P.E.
 Director of Technical Services

Congratulations

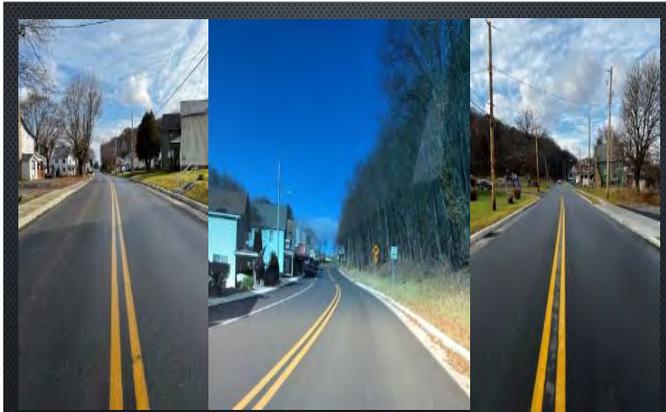
2021 PAPA QUALITY PAVEMENT AWARD RECIPIENTS



**PENNSYLVANIA TURNPIKE COMMISSION,
H&K GROUP, INC.**



**PENNDOT DISTRICT 1-0,
IA CONSTRUCTION CORPORATION**



**PENNDOT DISTRICT 2-0,
HRI, INC.**



**PENNDOT DISTRICT 3-0,
GLENN O. HAWBAKER, INC.**



**PENNDOT DISTRICT 4-0
H&K GROUP INC.**



**PENNDOT DISTRICT 5-0,
HANSON AGGREGATES**

Continued.....
2021 PAPA QUALITY PAVEMENT AWARD RECIPIENTS



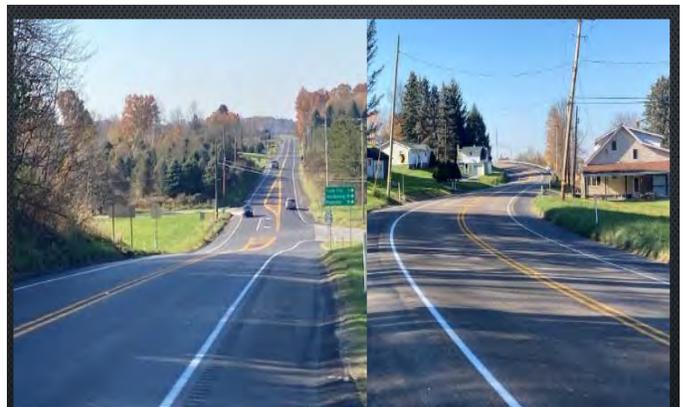
**PENNDOT DISTRICT 6-0,
H&K GROUP, INC.**



**PENNDOT DISTRICT 8-0,
NEW ENTERPRISE STONE & LIME CO., INC.**



**PENNDOT DISTRICT 9-0,
GULISEK CONSTRUCTION & QUAKER SALES CORP**



**PENNDOT DISTRICT 10-0,
DERRY CONSTRUCTION CO. INC.**



**PENNDOT DISTRICT 11-0,
LINDY PAVING, INC.**



**PENNDOT DISTRICT 12-0,
LINDY PAVING INC.**



**Congratulations
to PennDOT District 9-0
for receiving the
2020 Asphalt
Pavement
Alliance Perpetual
Pavement Award**

**at The PAPA Annual Conference.
That is ten PPA Awards for PennDOT.**



APA VP, Member & Industry Alliances & National Director **Amy Miller, P.E.** presents 2020 APA PPA Award to **Kevin Gnegy, P.E.** PennDOT District 9-0 Materials Engineer Go to [Awards | Asphalt Pavement Alliance \(driveasphalt.org\)](https://driveasphalt.org) for more information.

PennDOT District 9-0,10.16-mile section of SR 96 in Bedford County, originally constructed in 1958.

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Eighth Test Track Cycle Focuses On Innovative Materials

Operations at the NCAT Test Track began in 2000 to improve materials, tests, specifications, and design policies by providing sponsors confidence to move innovations into practice. The only high-speed, full-scale accelerated pavement testing facility of its kind, the 1.7-mile oval consists of test sections sponsored by U.S. highway agencies and the asphalt pavement construction industry. Now in its eighth three-year cycle of accelerated pavement research, the track will include new and continuing experiments to evaluate innovative additives, balanced mix design (BMD) trials for several states and pavement preservation research.

Surface mix performance sections are built on a robust cross-section that limits distresses to the experimental surface layers. Seven test sections on the track have been milled and inlaid with new mixtures to evaluate how they can stand up to the severe loads from the track's fleet of five trucks, each weighing in at 156,000 lbs.

- Alabama DOT (E9)
- Kentucky Transportation Cabinet (S7)
- North Carolina DOT (W4)
- Oklahoma DOT (N8, N9)
- Tennessee DOT (S4)
- Texas DOT (N6)

There is also an Additive Group (N1, N2, N5, N7, S5, S6). An experiment to study the impact of various mix additives on pavement life is the core of the structural research effort within the new group experiment. Group experiments are projects that address a national need where the costs of construction, operations and research are shared in a cooperative manner. The Additive Group is sponsored by Alabama DOT, Florida DOT, Mississippi DOT, New York State DOT, Tennessee DOT, Texas DOT, and the Federal Highway Administration. Recycled plastic additives, recycled tire rubber additives and aramid fiber additives will be evaluated using balanced mix design methods. The objectives are to comprehensively evaluate the field performance impact of multiple mix additives at the same time, develop a laboratory testing framework to provide a good indication of field performance and

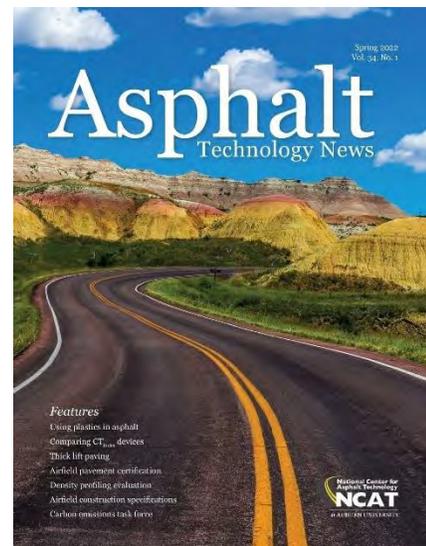
establish a framework to evaluate future mix additives with a validated pavement model.

Trafficking begins this fall and will continue over a period of two years. Each section on the track is subjected to ten million equivalent single axle loads of heavy truck traffic and performance is closely monitored on a weekly basis. Drivers currently operate NCAT vehicles in order to best induce representative vehicle wander, but autonomous systems are expected to be implemented in the future.

An automated pavement distress data collection vehicle is used to quantify roughness, macrotexture, rutting and cracking in the same manner used by most state highway departments for their pavement management systems. Other tests such as surface friction, falling weight deflectometer, tire-pavement noise and permeability data are also conducted. Similar performance data is conducted for off-track sections on a less frequent basis due to the open traffic on these roadways.

The final part of the three-year cycle will involve forensic analyses of damaged sections in order to determine the contributing factors to pavement distresses. Investigations conducted during this stage include destructive testing such as trenching and coring, as well as additional laboratory testing. Test sections will either be replaced or remain in place for additional evaluation during the ninth research cycle in 2024.

Click [here](#) for the full article.



<https://eng.auburn.edu/research/centers/ncat/research/newsletters/spring2022.pdf>

PAPA 62nd Annual Conference

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PAPA Membership Directory

It's that time of year again that we are preparing to update **PAPA's Membership**

Directory for 2022-2023. The information listed in the directory is a tool for you, as a member, to be able to list those employees that should be contacted directly by other members, or externally by existing or potential customers. As the delegate for your company, you will be receiving an email in the next few weeks asking you to update your listing. Please take a moment and review your company listing and submit changes to Donna at donna@pa-asphalt.org as soon as possible.

Advertising Opportunity...

2022-2023 PAPA Membership Directory

As in previous years, we've partnered with Graphtech to produce our Membership Directory. If you are a member, you don't want to miss the opportunity to have your company showcased in the next directory!

Click the link for further details:

[2022-23 PAPA Directory Media Kit.pdf](#)

IMPOTANT NEWS FROM NAPA

GSA Discusses Required EPDs for Asphalt Mix

Nearly 400 attendees participated in a General Services Administration (GSA) webinar on May 5 that featured NAPA Director of Sustainable Pavements Joseph Shacat and Benjamin Bowers with the National Center for Asphalt Technology (NCAT). The webinar informed the industry on the new "environmentally preferred asphalt" requirements for GSA-funded projects including border land ports, post offices, and other federally owned infrastructure. The webinar introduced a new database where contractors can upload their Environmental Product Declarations (EPDs) to qualify for bidding on projects. Other agencies, including the Department of Transportation (DOT), Department of Defense, and Corps of Engineers, may adopt similar protocols.

NAPA has prepared a summary of federal activity around buy clean procurement to give NAPA members

an indication of how quickly this issue is moving. In addition, U.S. DOT Secretary testified last week that the agency will soon issue a greenhouse gas performance measure/management rule to reduce on-road carbon emissions. The GSA intends to post a recording of the webinar [here](#), but has not indicated a timeline for doing so. Asphalt mix producers can prepare for these new requirements by developing verified EPDs using NAPA's [Emerald Eco-Label](#) tool.

Federal Government to Establish Buy Clean Policy

The Federal government is planning to establish a Federal Buy Clean procurement policy that will accelerate purchases of low-carbon materials as part of a newly released [Federal Sustainability Plan](#) and accompanying [Executive Order](#). The Federal government's purchasing power of \$650 billion in annual contracts will be leveraged to reduce greenhouse gas (GHG) emissions in Federal operations, including upstream supply chain emissions. Several elements of the plan have the potential to impact the asphalt paving industry:

- Procurement of sustainable products and services will be maximized through policies that consider the recycled content of products and [environmental product declarations \(EPDs\)](#).
- Major Federal suppliers will be required to publicly disclose GHG emissions and set [science-based targets](#) to reduce emissions, although what constitutes "major" has not yet been not defined.
- The emerging field of factoring the [social cost of GHG emissions](#) into procurement will be advanced through establishment of agency-level pilots.

Further details are not yet available, but these programs are expected to affect paving contractors and material suppliers for Federal agencies such as the Department of Defense, Federal Lands, National Parks, and others. On a related note, NAPA is preparing comments in response to an Advanced Notice of Proposed Rulemaking that will [amend the Federal Acquisition Regulation \(FAR\)](#) to include consideration of GHG emissions during Federal procurement.

