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CONNECT ON



ON THE COVER: SHELLY & SANDS COMPANY'S ZACK TUTTLE, COBRETTI VANMETER (OPERATING) AND DREW VANHOUTEN PLACE A 3/4-INCH-THICK "ULT" TRAFFIC, PG 58-28 SURFACE LAYER ON AN ODOT STATE ROUTE 539 PROJECT IN WAYNE COUNTY. JASON JOHNSON WAS THE PROJECT'S PAVING FOREMAN.



Flexible Pavements of Ohio is an association for the development, improvement and advancement of quality asphalt pavement construction.

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THE PRESIDENT'S PAGE



CLIFFORD URSICH, P.E.
PRESIDENT & EXECUTIVE DIRECTOR

“Perhaps the greater celebration is the fact that asphalt pavement is strongly showing itself as being the pavement preservation treatment of choice. Using ODOT as a benchmark, Fine-Graded Polymer Asphalt (a.k.a. Smoothseal) surpassed other surface treatments in terms of lane miles placed, number of projects contracted and dollars invested. Smoothseal use is expected to show strongly again in the 2018 construction season.”

WINNING!

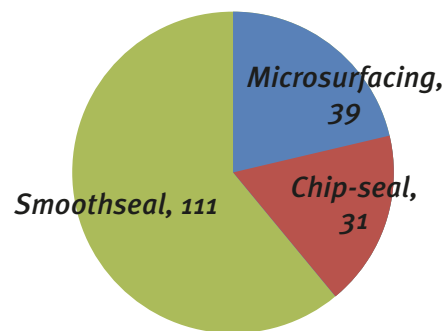
Tonnage reports are arriving and the expectation is that FPO-member contractors will have seen another healthy asphalt paving season in 2017. Asphalt sales began to perk up in 2015, after suffering through the “Great Recession.” They have steadily grown — albeit with fits and starts as funding ebbs and flows — in some locales. Clearly, a renewed optimism is taking hold in Ohio and the nation, as evidenced by growth in commercial and residential construction and multi-family housing. Also, retailers are beautifying their businesses by repairing and repaving parking lots that have been neglected for nearly a decade. Better news is the prospects for continued growth in this market sector. The recently passed Trump Tax Cut is energizing a new optimism and business expansion not seen since Reaganomics. Amazon, Apple and others have announced major expansions, and the list of companies giving employee bonuses and wage increases continues to grow — FedEx being the latest at \$3.2 billion. It Feels Great Again!

All of this activity bodes well for the asphalt industry. Extra cash in the wallet for discretionary spending will allow moms and dads to afford the long-awaited road trips and family vacations. Perhaps there will be a few extra nights a year for dining out or heading to the movies with your sweetie. With business growth there will be more customers to serve, packages to deliver and others to pick up. More travel equates to more revenue for building and maintaining roads. Fuel-use will increase — and perhaps price. 😞 Fortunately, the nation’s growing energy independence will help check price escalation. 😊

What’s this mean for the asphalt paving business? There will be more cars and trucks

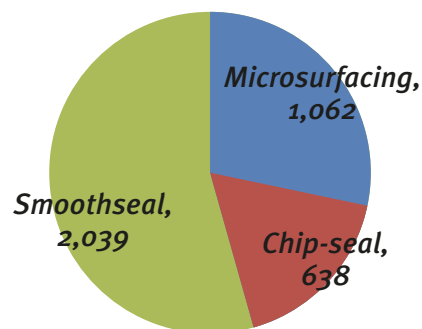
NO. OF PROJECTS LET TO CONTRACT

ODOT SFY 2017



LINE MILES OF TREATMENT PLACED

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on the road, more cars in the shopping malls and more vehicle miles traveled. All of this equates to greater demand. Consumers will demand good roads, safe roads and smooth roads. To the asphalt paving business this bodes well for strong markets and future growth for our product. One might be skeptical of this optimism — particularly with respect to the public-road sector of the asphalt market. From where will the money come? Public officials are faced with the real prospect of their locales’ largest assets — their roadway networks — deteriorating under the increased traffic if the “do nothing” option is taken. That option leads to a very expensive

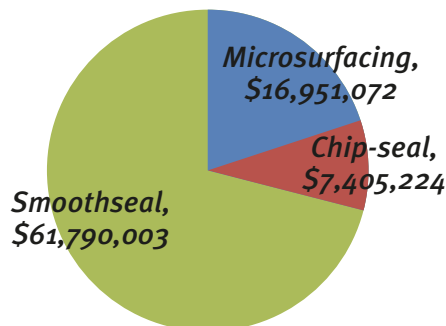
fix. Many are realizing this and doing something about it as witnessed in surrounding states and seen in local initiatives around Ohio.

It seems when dollars are few, pavement preservation becomes the norm of the day. That describes the current state of things. But “winning” does occur even in such difficult markets. Evidence of such is the FPO Asphalt Paving

Awards Program. The 2017 paving season saw a record number of nominations for paving awards with more than 80 pavements having been evaluated; this means there are a lot of very pleased asphalt customers. The awards ceremony at the 2018 Ohio Asphalt Expo on March 20 will be a lively celebration of craftsmanship for asphalt

INVESTMENT IN TREATMENT

ODOT SFY 2017



crews and pavement owners alike. Perhaps the greater celebration is the fact that asphalt pavement is strongly showing itself as being the pavement preservation treatment of choice. Using ODOT as a benchmark, Fine-Graded Polymer Asphalt (a.k.a. Smoothseal) surpassed other surface treatments in terms of lane miles placed, number of projects contracted and dollars invested. Smoothseal use is expected to show strongly again in the 2018 construction season. Credit is to be given to the team of Cobb, Welsh and Bailey, who developed Smoothseal with the vision of hot-mix asphalt being the pavement preservation treatment of choice. Winning!

On this day, I noticed a bit of a bump in some construction materials stocks. Interestingly, the bump coincides with the day's news regarding the Trump Infrastructure Plan. Media is reporting that “Trump is now calling for \$1.5 trillion package.” Sounds exciting, but no doubt there's plenty of fine print in this deal. However, it's the most aggressive attempt thus far to repair the United States' woefully underfunded infrastructure. Who knows? Perhaps with President Trump's package the asphalt industry along with the entire nation will soon be Winning Yuge!

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FLEXIBLE PAVEMENTS OF OHIO

2018-2019 TECHNICAL BRIEFINGS CATALOG



STAY ON TOP OF THE LATEST TRENDS AND TECHNIQUES

Flexible Pavements of Ohio (FPO) offers a catalog of technical briefings on a wide range of topics related to asphalt pavement technology, which can be presented at your location upon request and mutual agreement. These presentations will be presented free of charge. Topics can be accompanied by an opportunity for Q&A on the presentation or other topics related to asphalt pavement technology. Each briefing topic is intended to last approximately one hour in order to fit within a limited timeframe. Multiple briefings may be combined to fill a longer period if desired. FPO can award certificates for professional development hours (PDHs).

The host agency is responsible for providing a suitable location for the presentation, notifying participants of the presentation and taking an attendance record for awarding PDHs. This catalog can be used as a checklist in requesting presentations.

Please contact FPO at (614) 791-3600 or info@flexiblepavements.org to arrange for a technical briefing at your location.

- **Pavement Preservation Options: Thinlays, Smoothseal, 404LVT.** Thin overlays are the most cost-effective treatments for pavement preservation. This presentation defines and describes the purpose of Thinlay asphalt concrete. The development of Ohio Thinlay Asphalt Concrete is presented along with overviews of Ohio Smoothseal and 404 LVT. Guidance regarding the proper use of these materials as a pavement preservation program strategy is provided. 1 hour. 1 PDH.
- **Composite Pavement Rehabilitation ...Tips to Improve Your Repair/Rehab Strategy.** Asphalt overlays are commonly used to rehabilitate deteriorated concrete pavements. Successful treatment is very challenging. This presentation provides a variety of tips to improve the design and/or construction of your composite pavement rehabilitation project. Pre-design pavement investigation, pavement repairs and longitudinal cold joint construction among other topics are covered. Although composite pavement issues are emphasized, most tips/topics can also be applied to other types of resurfacing or rehabilitation projects. 1 hour. 1 PDH.
- **What are PG Binders & How are they Specified.** Specifying the appropriate grade of binder is essential to pavement performance. Binder grades and specifications are explained. ODOT standard usage is

explained and guidance is provided for proper application of non-standard binder grades to improve pavement performance. 1 hour. 1 PDH.

- **Pavement Planing/Milling Options and Applications.**

Use of the proper planing/milling option for the appropriate application can improve project quality and economy. The various options available under ODOT specs, Item 254 and SS 897 are explained and the proper application of each type is illustrated. 1 hour. 1 PDH.

- **Mix-Type Specification for Prevailing Traffic**

Conditions. Selecting the proper mix types for an asphalt pavement build-up is essential for best performance and economy.

Different mix types are required for different load applications, layer thicknesses and position within the pavement build-up. The presentation will provide information regarding the mix types generally available under the latest ODOT specifications, thinlay mixes for pavement preservation and guidance for their optimum application. 1 hour. 1 PDH.

- **Implications of Global Stabilization on Pavement Design.**

Chemical stabilization of subgrade soil has been shown to provide many benefits to pavement design and construction; so much so, that ODOT has adopted design requirements to take advantage of these benefits. The presentation will provide information regarding the benefits identified by research and guidance for use on in asphalt pavement construction. 1 hour. 1 PDH.

- **Improving Asphalt Pavement Longitudinal Joint**

Performance. The presentation will discuss the causes of this premature deterioration and the construction procedures required to ensure good-performing longitudinal joints. 1 hour. 1 PDH.

- **Asphalt Pavement Maintenance & Rehabilitation.**

Adequate maintenance is essential to achieving the best long-term performance and lowest life-cycle cost of an asphalt pavement. This presentation covers the basics of selecting appropriate, timely and economical maintenance, including pavement preservation with thinlays and micro milling, and rehabilitation treatments of asphalt pavements. The presentation references the latest research on the subject. 1 hour. 1 PDH.

- **Performance Advantages of Asphalt Base**

Pavements. This presentation reviews the performance advantages of asphalt-base pavements, compares

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the performance of composite pavements and makes suggestions for maintenance of concrete base pavements with asphalt overlays. 1 hour. 1 PDH.

- **Overview of Sustainability in Asphalt Pavements.**

This presentation identifies the characteristics of asphalt pavements that contribute to sustainability, including: reuse/recycling, porous asphalt pavement for stormwater management, the perpetual pavement concept, energy reduction, warm-mix asphalt (WMA), carbon footprint and low noise. Describes how asphalt pavements fit into "green" rating systems. 1 hour. 1 PDH.

- **Porous Asphalt Pavement for Stormwater Management.**

This presentation explains the concept of Porous Asphalt used for stormwater management, and presents information on the performance of porous asphalt pavements with respect to runoff quality and quantity. References are included. 1 hour. 1 PDH.

- **The Perpetual Pavement Concept.** The technology finally exists to build pavements that last. The presentation will explain the concept of asphalt-base pavements designed for inexhaustible structural life and present critical design, construction and maintenance considerations. 1 hour. 1 PDH.

- **Asphalt Pavement Construction Quality Control, Quality Assurance & Inspection.** This presentation covers the basics of inspecting asphalt pavement construction and assuring compliance with quality specifications to achieve the best-performing asphalt pavement. The emphasis is on quality control and assurance methods commonly in use in Ohio construction, especially under ODOT specifications. 1 hour. 1 PDH.



- **Correction & Prevention of Deformation in Asphalt Pavements.**

Ensuring against premature deterioration of an asphalt pavement is critical to achieving the best performance and economy. This presentation will cover the treatments necessary for the prevention of deformation in asphalt pavements at intersections or other highly stressed locations. 1 hour. 1 PDH.

- **Design & Construction of Asphalt Parking Lot Pavements.**

Discusses issues related to adequate thickness design and construction of asphalt parking lot pavements for best performance and economy. 1 hour. 1 PDH.

- **Asphalt Pavement Structural Design.** A superior performing pavement begins with a proper structural design. This presentation gives an overview of the various design protocols and catalogs available to provide a structural thickness for an asphalt pavement application, including the use of the free, web-based program, PaveXpress. Includes a discussion of design for parking lots, industrial facilities, streets and highways and typical designs. 1 hour. 1 PDH.

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Technical
Seminar Topics,
Part 1

Pre-Design Pavement Investigation – Pavement Coring



This is the first of a series of articles that will address various topics and provide practical tips intended to help determine repair strategy as well as improve the design and construction of your pavement rehabilitation project.

As part of the planning for a pavement rehabilitation, it is recommended that the designer consider an assessment of the structural capacity of the existing pavement. A pavement rehabilitation that does not provide adequate structural capacity may be subject to premature failure. Even if budgets do not permit a completely, structurally adequate rehabilitation, the knowledge can be useful for future planning. The *ODOT Pavement Design Manual*, Section 500 suggests the guideline that even a minor rehabilitation be designed for 12 years, which would about match the expected asphalt surface life on a rehabilitation project. A good design method to employ is described in the *AASHTO 93 Pavement Design Guide*. It uses a visual assessment of existing pavement condition, and knowledge of the depths and types of materials as recommended in this article.

Determining an appropriate pavement rehabilitation strategy requires an accurate assessment of existing pavement composition and condition. Unfortunately, "As Built" plans are rarely available and existing record plans combined with designer experience does not necessarily guarantee success. Tight budgets combined with exceedingly high expectations from local officials, residents and the motoring public require accurate plans detailing effective repair strategies that are appropriate for existing pavement conditions. Projects are expected to be constructed within budget, which means that large unexpected change-orders are unacceptable.

One of the easiest and most cost-effective ways to minimize risk and improve plan quality is to evaluate existing pavement

condition through implementation of a pavement coring program. Pavement cores provide the following information:

1. Pavement thickness
2. Pavement composition
3. Condition of underlying pavement layers

Pavement cores taken on rural routes and many older urban arterials are especially helpful, as many of these older routes have evolved over the years and often have various typical sections consisting of a variety of materials and lift thicknesses. Newer routes including, Interstate highways, typically have more-consistent pavement composition. But, cores are still helpful to verify overlay thickness and assess condition.

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Example Pavement Cores:

Interstate Pavement Core

Core Photo: C-3



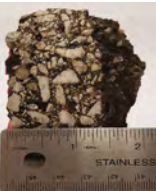
Pavement Photo




Core Info			
Layers	Core Composition & Thickness (in)		Location
	Asphalt Concrete	Concrete	
A	6	—	NB-RL-RWT Lat : Long:
B	—	10.5	Remarks Good Condition

Two-Lane Rural Shoulder Core

Core Photo: C-041




Pavement Photo




Core Info		
Layers	Core Composition & Thickness (in)	Location
	Asphalt Concrete	
A	2.0	SB-Shoulders Lat : Long: Remarks Fair Condition

Suburban Arterial Pavement Core

Core Photo: C-2



Pavement Photo



Core Info			
Layers	Core Composition & Thickness (in)		Location
	Asphalt Concrete	Red Brick	Concrete
A	4.5	—	SB-RL-RWT Lat : Long: Remarks Good Condition
B	—	3.5	Fair Condition
C	1.5	—	Good Condition
D	—	—	6.5 Good Condition

Two-Lane Rural Pavement Core

Core Photo: C-5



Pavement Photo



Core Info		
Layers	Core Composition & Thickness (in)	
	Asphalt Concrete	Concrete
A	8.25	—

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For pavement investigation purposes, 4-inch diameter cores are most common; 2-inch diameter cores are usually too small to adequately assess condition; and 6-inch diameter cores are often too cumbersome and costly especially for larger projects with numerous coring locations.

Number of cores and spacing will depend upon a variety of factors, including: pavement age, pavement condition, number of lanes, project scope and other factors. For a rehabilitation project on an old urban-arterial route with various typical sections, cores may be taken at intervals of 500-1,000 feet. On the other hand, a rural two-lane route with generally consistent pavement condition may have cores taken at 0.5-, 0.75- or 1.0-mile intervals. Additional cores may be necessary if the roadway has paved shoulders since the outer pavement/shoulder edges are often distressed due to lack of structure or strength. Additional cores may also be required in areas where pavement has been widened for a turning lane, side road or major driveway. Particular attention should occur in areas of work done by others; for example, pavement widening done by developers.

It is often convenient to lay out cores in an alternating left/right pattern as you proceed up station along your route (e.g. 5+00 RT, 10+00 LT, 15+00 RT, etc.). Taking cores in outside lanes is also recommended, since the driving lanes tend to have greater traffic volume and distress. In addition, MOT costs will be reduced on multi-lane facilities if a one-lane closure is required instead of a multi-lane closure.

Oftentimes, cores are taken in the right wheel tracks. However, exact location can be adjusted based upon typical sections and visible surface distress.

Although some of the larger agencies may have the ability and equipment to do their own pavement coring, it is very common and cost-effective to have this work done by a consultant.

Consider implementing a Pavement Coring Program for your annual resurfacing/rehabilitation program. The Pavement Coring Report will soon become an invaluable resource to assist in making various design decisions, such as planing depth, types of pavement repairs, appropriate overlay materials, etc. Plan

accuracy and quality will improve, and project costs should stabilize or decrease.

On more complex and costly rehabilitation projects involving concrete base repair, consider the addition of Falling Weight Deflectometer (FWD) testing. FWD testing can analyze load transfer at joints and subgrade support at cracks to help evaluate pavement condition and estimate full-depth repairs. FWD testing can also analyze pavement thickness and strength; subgrade stiffness and strength; and provide additional data that can further aid in pavement analysis and overlay design.

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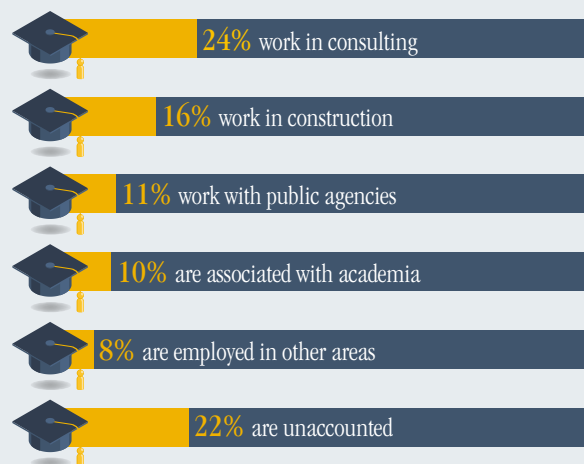
Since 1995, when the Ohio Asphalt Pavement Industry Scholarship Program began, FPO has awarded 448 asphalt industry scholarships totaling \$599,099 to 387 individuals.

One of the objectives of the asphalt scholarship program, now in its 23rd year, is to have individuals educated in asphalt pavement technology working throughout the industry. To learn how that objective is working, FPO reached out to former Ohio Asphalt Pavement Industry Scholarship recipients to learn where they are in their careers. The results of that outreach effort to-date are enlightening.

Of the 387* scholarship recipients:

- 24% work for consulting engineering firms
- 16% work for construction companies (heavy/highway or other)
- 11% work with public agencies (ODOT, federal, state, county engineers and local government). Two individuals are elected county engineers.
- 10% are associated with academia, as either recent scholarship recipients that are still full-time students or are working with university professors and researchers.
- 8% are employed in other areas, including 3% who work for manufacturers, 2% with petroleum refiners and one individual who is a physician.
- 22% of Ohio Asphalt Pavement Industry Scholarship recipients are unaccounted.

“It should probably be no surprise that the greatest percentage of former scholarship recipients are working for consulting engineering firms,” said FPO Director of Engineering Services Bill Fair, who organizes the Ohio Asphalt Pavement Industry Scholarship Program. “For those working with consultants or construction companies, they hold every conceivable position – from owner to principal, to manager to technical specialist.” Fair added that 4 percent of the scholarship recipients are affiliated with FPO-member companies. Studying the results of FPO’s follow-up with the scholarship recipients and their range of professional careers and involvement, Fair believes it supports the efforts of the asphalt scholarship program and the support it receives from FPO members and donors. “It should be gratifying to see so many recipients employed in the industry to the betterment of the infrastructure,” he said.



**Sixty-one scholarships have been awarded to previous recipients. Undergraduate students can receive scholarships for up to two years and there is no limit for graduate students.*



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OHIO ASPHALT INDUSTRY CONFERENCES & TECHNICAL TRAINING

Comprehensive Asphalt Mix Design School February 26 to March 2, 2018

Ohio Department of Transportation
Testing Laboratory, Lower Conference Room
1600 W. Broad St.
Columbus, OH 43223

This course meets the requirements for Ohio Department of Transportation (ODOT) HT.306, Asphalt Level 3 training. It is designed to give participants a working knowledge of the principles associated with asphalt concrete volumetric mix design. On the final day of the course, students will have the opportunity to take the ODOT examination for Level 3 Asphalt Concrete Technician approval.



Ohio Asphalt Expo March 20-21, 2018

Columbus/Polaris Hilton Hotel
8700 Lyra Dr.
Columbus, OH 43240

The Asphalt Expo is Ohio's premier asphalt pavement event with multiple concurrent educational sessions and an indoor and outdoor trade show and exhibition. If you construct, inspect, manage or maintain local or private transportation infrastructure, the Ohio Asphalt Expo has the information you need to ensure a successful, long-lasting asphalt pavement.

Roadway Work Zone Safety Training Seminar April 5, 2018

Crowne Plaza Hotel Dublin
600 Metro Place N.
Dublin, OH 43017

This seminar provides the training to help workers, supervisors and inspection personnel develop the awareness needed to implement best practices in safety while working within roadway work zones. The program is focused expressly on preventing fatalities and injuries during road construction activities.

Go to www.flexiblepavements.org for additional information or to register for these events.

NATIONAL CONFERENCES & TECHNICAL TRAINING



World of Asphalt Show & Conference

March 6-8, 2018

George R. Brown Convention Center
1001 Avenida De Las Americas
Houston, TX 77010

The World of Asphalt Show & Conference is the leading exposition and education resource for the asphalt industry. The event features in-depth, industry-focused educational programming and comprehensive exhibits that showcase the latest technologies and innovations in asphalt-related equipment, products and services.

Go to www.worldofasphalt.com/visit/about-the-show/ for additional information or to register for this event.

2018 NCAT Test Track Conference March 27-19, 2018

The Hotel at Auburn University & Dixon Conference Center
241 S. College St.
Auburn, AL 36830

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Held every three years, the Test Track Conference is a forum to present research findings from the previous cycle of accelerated pavement testing. During the two-and-a-half-day program, participants learn about advancements in asphalt pavement design, construction, technologies and maintenance that are more cost effective and improve performance. The conference also provides a valuable networking opportunity and sets the stage for further cooperation among federal, state and local agencies as well as the private sector.

Go to <http://eng.auburn.edu/research/centers/ncat/pavetrack/conference> for additional information or to register for this event.



**Asphalt Pavement Alliance's
Commercial & Industrial Parking
Lot Training**

April 17-18, 2018

NIU Naperville Conference Center
1120 E Diehl Rd.
Naperville, IL 60563

This in-depth training is focused on the unique requirements of commercial and industrial parking lot installations, including materials section, proper pavement design, construction best practices and maintenance.

Go to <https://www.eventbrite.com/e/commercial-and-industrial-parking-lot-training-tickets-42355871552> for additional information or to register for this event.

**Transportation Construction Coalition's 2018 Legislative Fly-In
May 15-16, 2018**

Grand Hyatt Washington
1000 H St., NW
Washington, DC 20001

The Transportation Construction Coalition is co-chaired by the American Road & Transportation Builders Association (ARTBA) and the Associated General Contractors (AGC) of America. The two-day event includes 31 national associations and labor unions focused on the federal budget and surface transportation program policy issues. During the annual TCC Fly-In, hundreds of transportation construction industry executives from across the nation converge in Washington, D.C., to hear from top federal policymakers and meet with their congressional delegation to discuss pending transportation issues.



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—Natalie Walmsley



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