



# ***PAPA's 57<sup>th</sup>*** **Annual Conference**

**January 16-18, 2017**  
**The Hotel Hershey, PA**

## APA Deployment Update

January 17, 2017

Amy Miller, P.E.

National Director, APA

## Research & Technology

### Pavement Economics Committee

- Seven Task Groups

### Other Research

- Asphalt Institute
- NCAT

### Future Research

## Market Research & Communications

### Go-To-Market Task Group



## Deployment Activities

### Deployment Task Group



NATIONAL ASPHALT



SAPA  
State Asphalt Pavement Associations



# ASPHALT PAVEMENT ALLIANCE



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# Pavement Economics Committee



Best Quality &  
Competitiveness



Pavement Type  
Selection



Environmental  
Sustainability



Pavement Design



Legislative



Pavement  
Preservation



Private Sector Markets &  
Local Roads



# Pavement Economics Committee

## Technology & Innovation



Best Quality &  
Competitiveness



Pavement  
Design



Pavement  
Type  
Selection

**Pave**Xpress



Pavement  
Preservation

***THINLAY***  
SAFE. SMOOTH. DURABLE.



Environmental  
Sustainability



Legislative





Pavement  
Design



Pavement Type  
Selection

- State of the Practice
- Recalibration Procedure for the Structural Asphalt Layer Coefficient (AASHTO 93)

Reports and Synopses Posted on:  
[www.ncat.us](http://www.ncat.us)



# Pavement Design & Materials Selection



## Research & Technology

**Pavement Economics  
Committee**  
Six Task Groups

### Other Research

- Asphalt Institute
- NCAT

**Future Research**

## Market Research & Communications

**Go-To-Market  
Task Group**



## Deployment Activities

**Deployment  
Task Group**



# Go-To-Market Task Group



Factsheets

Infographics

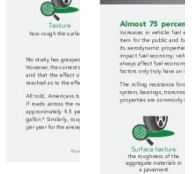
Videos

Presentations

Advertisements

Media Outreach

More

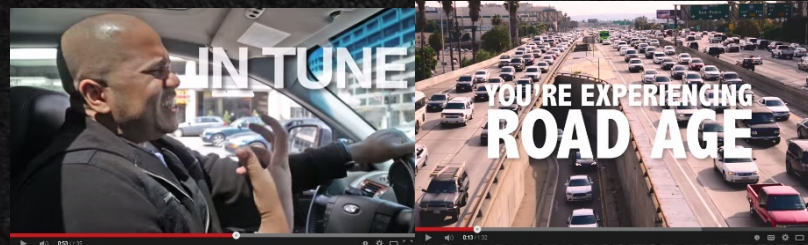


PAVEMENT DESIGN Simplified



Designing the right pavement for the job just got easier thanks to PaveXpress, a free web-based pavement design tool for roadway and parking lot pavements.

[PaveXpressDesign.com](http://PaveXpressDesign.com)



GTM Support



# Go To Market Effort



## The Challenges

Grow Market Share

Competitive Materials

Road Owner Perceptions

Make Asphalt Sexy

## The Strategy

Focus on Human Concerns

Leverage Market Research

Connect What Drivers Want  
With What Road Owners  
Know Asphalt Delivers



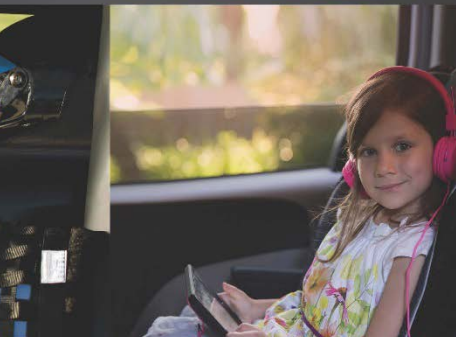
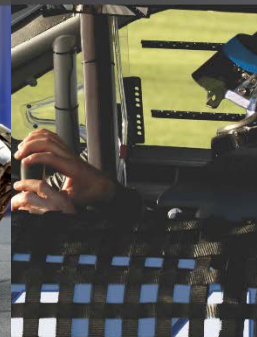
GETTING THERE ON TIME IS ALL ABOUT  
**DRIVABILITY**

BECAUSE SUSTAINABILITY IS A PART OF  
**DRIVABILITY**

NOISE IS ONE PASSENGER TO YOUR DRIVE  
**DRIVABILITY**

SAFETY AND CONTROL ARE ESSENTIAL TO  
**DRIVABILITY**

SMOOTH ROADS ARE SAFER ROADS  
**DRIVABILITY MATTERS**



**APA** ASPHALT PAVEMENT ALLIANCE  
LEARN MORE AT  
[DRIVEASPHALT.ORG](http://DRIVEASPHALT.ORG)

The Asphalt Pavement Alliance is a partnership of the



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The Asphalt Pavement Alliance is a partnership of the Asphalt Institute, National Asphalt Pavement Association and the State Asphalt Pavement Association.

"It doesn't matter if you're driving in a race, or taking your daughter to school; smoother roads are safer for you and your family. That's why almost all NASCAR tracks are asphalt, and why I prefer to drive on asphalt no matter my speed."

-Brian Scott | Richard Petty Motorsports #14 | Father

#### A SMOOTH RIDE

It's just one of the ways asphalt delivers drivability.



SMOOTHNESS



NOISE



SAFETY



SUSTAINABILITY



CONSTRUCTION



# Advertisements



## Focused on:

- Speed of Construction
- Noise
- Smoothness
- Sustainability
- Safety

## Print & Web Formats

### WHEN IT COMES TO ROADWAY CONSTRUCTION DRIVABILITY MATTERS

ASPHALT DELIVERS DRIVABILITY

What's a road? It's a surface that allows vehicles to travel safely and efficiently. Asphalt is the most common material used for roadways in the U.S. because it's durable, flexible, and easy to maintain. It's also the most sustainable material because it can be recycled and reused.

**11 HOURS**  
The average work crew has been on the road for 11 hours a day covering nearly 7 miles.

**\$9.2B**  
Roadway construction adds \$9.2 billion to the cost of transporting materials and goods.<sup>1</sup>

**\$160B**  
In fuel, time and productivity is lost annually due to congestion.<sup>2</sup>

With asphalt pavements, maintenance and improvements that help traffic flow freely are made quickly outside of rush hour.

**70% FASTER**  
Following construction techniques, asphalt pavement construction can be up to 70% faster.<sup>3</sup>

**2.5X**  
more lane-miles can be reconstructed during a single road closure with asphalt's quick work and flexible process compared to reconstruction with concrete.

**48% LESS**  
Construction and maintenance of an asphalt Pavement costs 48% less and takes 48% less time than other concrete pavement types over 55 years.<sup>4</sup>

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asphalt.org

### WHEN IT COMES TO A QUIET RIDE DRIVABILITY MATTERS

ASPHALT DELIVERS DRIVABILITY

What's a road? It's a surface that allows vehicles to travel safely and efficiently. Asphalt is the most common material used for roadways in the U.S. because it's durable, flexible, and easy to maintain. It's also the most sustainable material because it can be recycled and reused.

**53%**  
of driving instructors call noise in the car a nuisance because it makes it harder to do their jobs.

Developments in asphalt pavement mixtures can help reduce highway noise by as much as seven decibels.<sup>5</sup>

Reducing noise by just three decibels is equivalent to doubling the distance from the source of noise to the listener.

Quiet asphalt mixes may reduce the need for costly and unsightly sound barriers. The cost of installation depends on wall height, but often exceeds \$2 million per mile.<sup>6</sup>

**\$2MIL**

**JUST REDUCED**  
A single family home would sell for 30% less if located near a road where noise is loud.<sup>7</sup>

**81%**  
of homeowners said they'd be willing to pay more for a house if road noise were less audible.<sup>8</sup>

APA  
asphalt.org

### WHEN IT COMES TO A SMOOTH RIDE DRIVABILITY MATTERS

ASPHALT DELIVERS DRIVABILITY

What's a road? It's a surface that allows vehicles to travel safely and efficiently. Asphalt is the most common material used for roadways in the U.S. because it's durable, flexible, and easy to maintain. It's also the most sustainable material because it can be recycled and reused.

**72%**  
of "the best" drivers prefer the smooth ride of an asphalt pavement.<sup>9</sup>

Nearly 7 out of 10 road racers say a smooth pavement improves their performance.<sup>10</sup>

**7/10**

Pavements that are smoother than the average have less maintenance, saving taxpayers about \$1,300 annually for every lane-mile resurfaced.<sup>11</sup>

**\$1,300**

Driving on roads in need of repair costs U.S. motorists \$109B a year in extra vehicle maintenance and operating costs — \$50 per motorist.<sup>12</sup>

**\$109B**

Smooth asphalt roads provide drivers up to a 4.5% improvement in fuel economy compared to other pavements.<sup>13</sup>

**4.5%**

By 2020, the 2007 estimates for use of Hot Mix Asphalt will save more than \$15 billion by reducing the amount of energy needed to produce asphalt mixes.<sup>14</sup>

APA  
asphalt.org

### WHEN IT COMES TO SUSTAINABILITY DRIVABILITY MATTERS

ASPHALT DELIVERS DRIVABILITY

What's a road? It's a surface that allows vehicles to travel safely and efficiently. Asphalt is the most common material used for roadways in the U.S. because it's durable, flexible, and easy to maintain. It's also the most sustainable material because it can be recycled and reused.

**13,500**  
Asphalt pavements are 100% recyclable and are recycled at a greater rate than any other material in the U.S.<sup>15</sup>

That means 13,500 Olympic-size pools worth of landfill space saved by reusing pavements.<sup>16</sup>

**3.2M**  
Nearly 3.2 million tons of waste and by-products from other industries were recycled in asphalt mixtures in 2014.<sup>17</sup>

Quiet asphalt mixtures help reduce highway noise by as much as seven decibels — a three decibel reduction is equivalent to doubling the distance from a sound's source.

**7dB**

Asphalt is easy to maintain and repair with minimal disruption for drivers.

Smooth asphalt roads provide drivers up to a 4.5% improvement in fuel economy compared to other pavements.<sup>18</sup>

**4.5%**

In 2014, recycled asphalt materials saved taxpayers more than \$2.8B.<sup>19</sup>

**\$2.8B**

By 2020, the 2007 estimates for use of Hot Mix Asphalt will save more than \$15 billion by reducing the amount of energy needed to produce asphalt mixes.<sup>20</sup>

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### WHEN IT COMES TO A SAFE RIDE DRIVABILITY MATTERS

ASPHALT DELIVERS DRIVABILITY

What's a road? It's a surface that allows vehicles to travel safely and efficiently. Asphalt is the most common material used for roadways in the U.S. because it's durable, flexible, and easy to maintain. It's also the most sustainable material because it can be recycled and reused.

**\$3B**  
Car accidents cost the U.S. about \$3 billion annually in damages, health care, legal fees and lost wages.<sup>21</sup>

Half of "the best" drivers and 55% of emergency responders believe public safety should be the most important factor when it comes to building new roads.<sup>22</sup>

**55%**

Asphalt increases the visibility of pavement markings, making it easier for drivers to see at night and during rainy weather.<sup>23</sup>

Well-maintained roads are safer roads, with a reduced rate of crash severity.<sup>24</sup> Asphalt pavement is quick and easy to maintain and repair with minimal disruption for drivers.

Nearly 20 percent of all accidents occur when the pavement surface is wet.<sup>25</sup>

**20%**

Open-Graded Asphalt Friction Courses (OGFC) increase roadway safety by reducing hydroplaning, pavement glare, and splash and spray from the wet pavement, which also leads to an increase in driver confidence.<sup>26</sup>

**REDUCES HYDROPLANING**

In a single year, Texas saw a 51% decrease in accidents and injuries despite an increase in rainfall, by adapting OGFC on roads with a high accident frequency.<sup>27</sup>

**51%**

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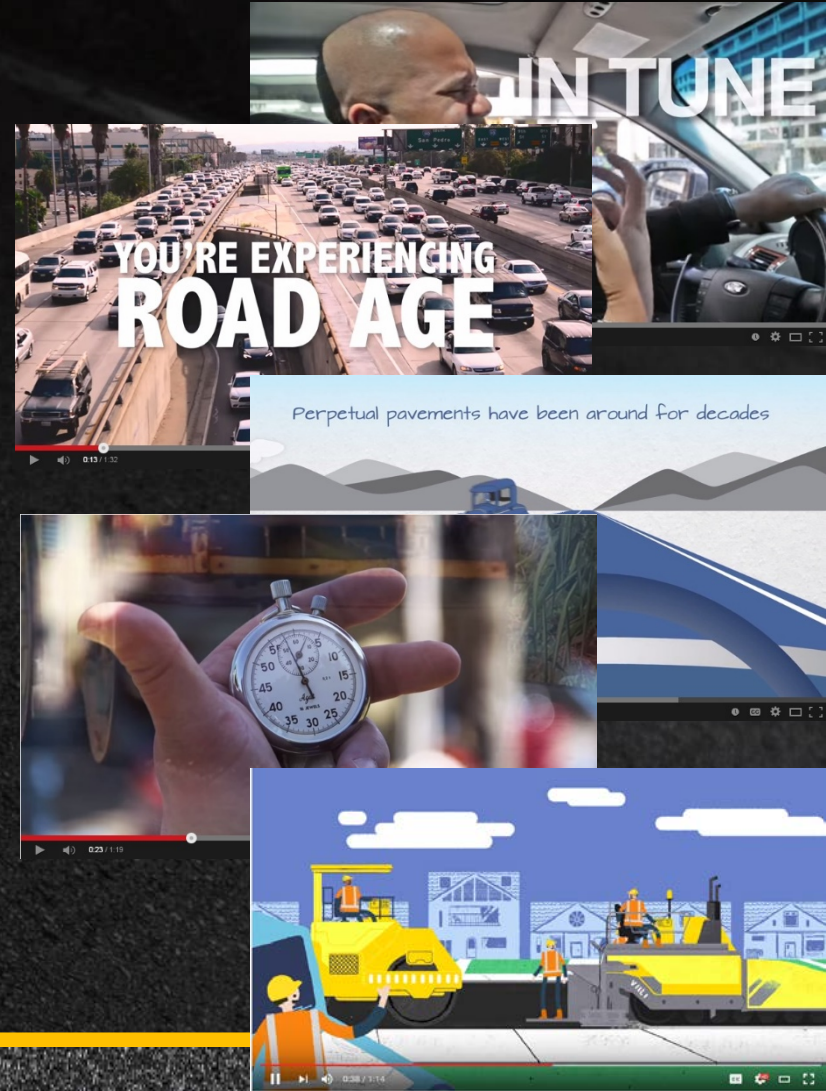


# Infographics



Six videos currently available  
**Viewed 109,638 Times**

Feel-good positive messages about asphalt, others focus on specific attributes or work to educate viewers about asphalt.



# Videos



# ASPHALT MAINTENANCE CAN BE DONE OUTSIDE OF RUSH HOUR



Asphalt.

AMERICA RIDES ON US



# Digital





# Fact Sheets



**About 75 percent of the oil consumed** in the United States is used as vehicle fuel.<sup>1</sup> Despite increases in vehicle fuel economy over the past few decades, fuel costs remain a significant budget item for the public and businesses alike. Numerous factors influence the fuel economy of a vehicle from its aerodynamic properties, engine, tire pressure, and air temperature; however, just three basic forces impact fuel economy: vehicle internal friction, air drag, and rolling resistance. While these three forces always affect fuel economy, they vary in importance based on the vehicle speed.<sup>2</sup> For example, when a vehicle is traveling at 30 miles per hour, 45 percent of the energy needed to move the car is used to overcome rolling resistance, but at 70 miles per hour, the rolling resistance only comprises about 20 percent of the energy requirement.

## Vehicle Energy Consumption by Speed<sup>2</sup>

	30 mph	70 mph
Rolling Resistance	45%	20%
Internal Friction	30%	15%
Aerodynamic Drag	25%	65%



The rolling resistance forces a vehicle must overcome to maintain speed are linked to its suspension system, bearings, transmission, tire pressure, and in part, the properties of the pavement. Three pavement properties are commonly understood to influence rolling resistance:



**Surface texture**  
the roughness of the aggregate materials in a pavement



**Smoothness**  
surface unevenness that affects perceived ride quality



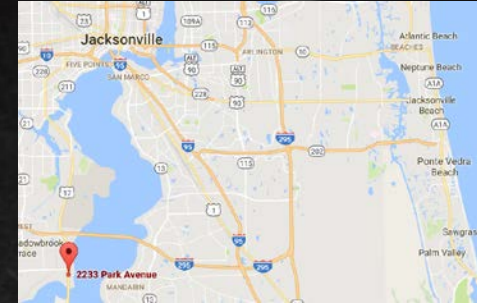
**Pavement stiffness**  
how the pavement deflects under a vehicle's weight

Asphalt Pavement Alliance | 5100 Forbes Blvd, Lanham, MD 20706 | Phone: 301-918-8391 | Toll Free: 877-APA-0077 | [DriveAsphalt.org](http://DriveAsphalt.org)  
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# APA Deployment Team



Amy Miller, P.E.  
National Director



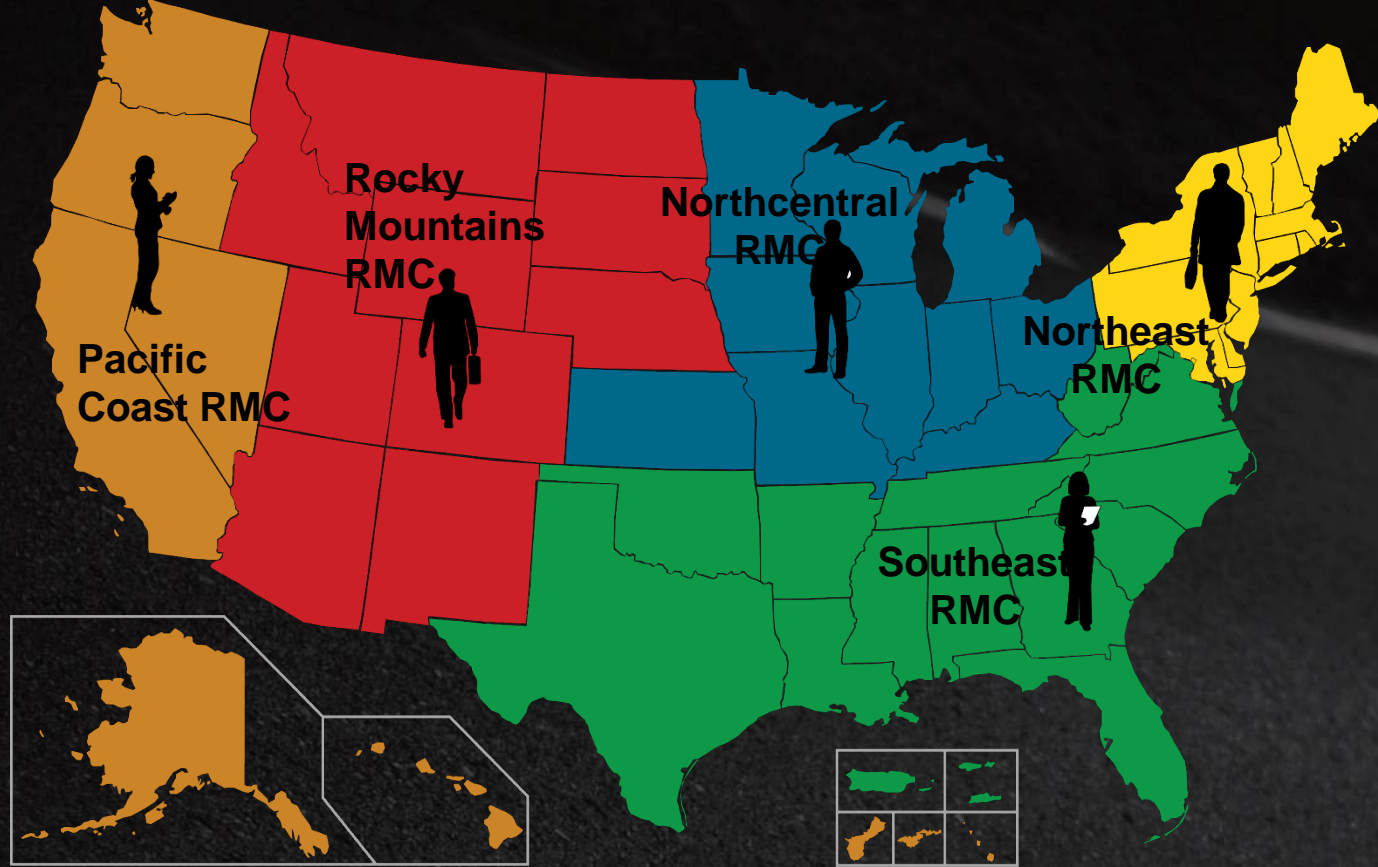
Dan Staebell  
Northcentral Regional Director



Sandy Hagar  
Deployment Coordinator



Five regional councils focused on what works in the field to the benefit of the asphalt pavement industry locally and nationally.



# Regional Councils

# Northeast Review

- Meeting held in March, 2016 – Wilkes-barre, PA
- 50+ attendees
- Developed 3 Initiatives and Action Items
- Regional Council Created
  - Upcoming con-call



# Northeast Update

## DURABILITY

Goal: To protect market share by enhancing and promoting long-life asphalt pavements.

Action Items - short term:

- Presentation to promote what our states have done to enhance durability. Need to compile what each state has done. Also, describe what is coming....what we are working on for continuous improvement.
- Develop list of key speaking opportunities to present above industry presentation: LTAP, TRB, AASHTO, ACEC, NACE, etc.

- Develop presentations and opportunities to present to design engineers and municipality engineers on mix design opportunities (RAP – move them away from always requiring DOT specs on private work).

### Goals - Long term:

- Track research on performance based specifications and tests and keep states updated.
- Put together a consortium to determine if there is an interim step between current state and long-term goal.

- Goal: To protect and recover plant mix asphalt market share.



# PAVEMENT PRESERVATION

Goal: To protect and recover plant mix asphalt market share.

## Action Items:

- Promote Thinlay to key stakeholders. Develop competitive message focused on northeast states. Develop simple marketing documentation that describes: process, equipment, list improvements, etc.

## REGIONAL PROMOTION ACTIVITY

Goal: Give recognition to key projects and the associated designers, contractors and owners to endorse the use of asphalt.

- Annual showcase award from each state to be celebrated at NEAUPG.

# Northeast Regional Council

## Asphalt Pavement Alliance Northeast Regional Council – 9/7/16

Amy Miller	APA		(904) 591-3333
Greg Harder	Asphalt Institute		(315) 238-7000
Bruce Barkevich	<u>NYMaterials</u>	NY	(518) 783-0909
Chris Suttmeier	Peckham Materials	NY	(914) 403-6827
Charles Goodhart	PAPA	PA	(717) 657-1881
Dan Bauman	G.O. Hawbaker	PA	(814) 404-7823
Jim Purcell	NJAPA	NJ	(609) 838-1867
Scott <u>Laudone</u>	<u>Tilcon NY</u>	NJ	(973) 888-7689
Jim Reger	Mass <u>Agg</u> & APA	Mass	(781) 762-2367
Mike Barry	Palmer Paving	Mass	(413) 283-8354
Ron <u>Simbari</u>	All-states Material Co.	Maine	(207) 249-8378
Marshall Klinefelter	<u>MdAsphalt</u>	Maryland	(443) 220-4954
Jeff Graf	Maryland Paving	Maryland	
Jim Clendaniel	Del APA	Delaware	(302) 422-3197
Tim Pepper	Allan Myers, Inc.	Delaware	(717) 442-6113
Don Shubert	Conn Asphalt & <u>Agg</u>	Connecticut	(860) 529-6855
Brad <u>Oneglia</u>	O & G	Connecticut	(203) 522-2259
Alex Phelps	Pike Industries	Vermont/N.H	(603) 530-2237



# Northcentral Review

- Meeting held in July, 2016 – Chicago
- 50+ attendees
- Developed 4 Initiatives and Action Items
- Regional Council Created

# Initial NC Discussion

<b>LCCA</b>	<b>Proper Design Thickness</b>
<b>PaveXpress Implementation</b>	<b>IRI Explorer database</b>
<b>Rehab Options</b>	<b>EPD's and Life Cycle Assessment</b>
<b>Perpetual Pavement</b>	<b>Commercial Market</b>
<b>HMA Recycling &amp; Utilization</b>	<b>Common Technical Initiatives</b>
<b>Roller Compacted Concrete</b>	<b>Fractured Slab Technologies</b>



# Southeast Regional Meeting

- Initial group met November 14<sup>th</sup>;
- Meeting planned for February 15-16 in Atlanta, GA.

# Trade Shows 2017

- ConAgg/ConExpo: Waiting List; March 7-11, 2017; Las Vegas, Nevada
- National Association of County Engineers: April 9-13, 2017; Cincinnati, Ohio
- RECON – International Council of Shopping Centers: May 21-24, 2017; Las Vegas, Nevada
- American Society of Highway Engineers; June 14-18, 2017; New York, New York
- AASHTO Materials Conference: July 30-August 4, 2017; Phoenix, Arizona
- American Public Works Association: August 27-30, 2017; Orlando, FL
- Greenbuild: November 8-9, 2017; Boston, Massachusetts



# Deployment Communication



## New Asset of the Month

Fresh from the Go-to-Market Task Group

**Asset:** Smoothness Advertisement  
**Intended Audience:** Pavement-type selection decision makers, asphalt pavement industry, and drivers.

**Format:** Available in full- and half-page versions, as well as several sizes for use on the Internet.

**Where:** The Asphalt Vault, available in APA and customizable "add your logo" versions. Usage recommendations: Share on social media, use in print or electronic newsletters and publications, as well as in emails geared to reach state DOT officials, public works agencies, consulting engineers, and design-build firms.

**Why Smoothness?** FHWA has determined that pavement smoothness is a key factor in ensuring driver satisfaction. Also, a [May 2016 report](#) from the International Grooving and Grinding Association notes, "research



Designing the right pavement for the job just got easier thanks to PaveXpress, a free web-based pavement design tool for roadway and parking lot pavements.

[PaveXpressDesign.com](http://PaveXpressDesign.com)

## What is Old is New Again...

Don't forget this oldie but goodie

**Focus:** Proper Pavement Design  
**Intended Audience:** Pavement designers, consulting engineers, students, local agencies

**Format:** Free, web-based pavement design tool

**Where:** [www.pavexpressdesign.com](http://www.pavexpressdesign.com), support materials (instructional PowerPoint, advertisements, brochure, etc.) are available via the Asphalt Vault Usage Recommendations: Put together a lunch-and-learn with local agencies — cities, municipalities, consulting firms, DOTs, DPWs, etc. — to highlight the tool. If you can, offer free CEU/PDH credits to help encourage attendance. A customizable PowerPoint file is available for such a presentation. To understand all the features, view a free, training webinar, found here: [PaveXpress Webinar](#). You can also demo the program at local trade shows or when meeting with local engineers or transportation officials. If the website features this



## Story of the Month

Recently, Jim Warren, Executive Director for the Asphalt Contractors Association of Florida used the "When It Comes to Sustainability, Drivability Matters" infographic and ad as to sponsor a part of a packet of information distributed to engineers at the Florida Association of Counties Annual Meeting in Orlando, FL. These documents were merged to become a two-sided document. This was a perfect fit as Florida cities and green codes are looking for ways to use pavements as an opportunity to meet local and county sustainability requirements. Way to go, Jim!

**REMEMBER:**  
Next APA  
Deployment Webinar  
November 15, 2016



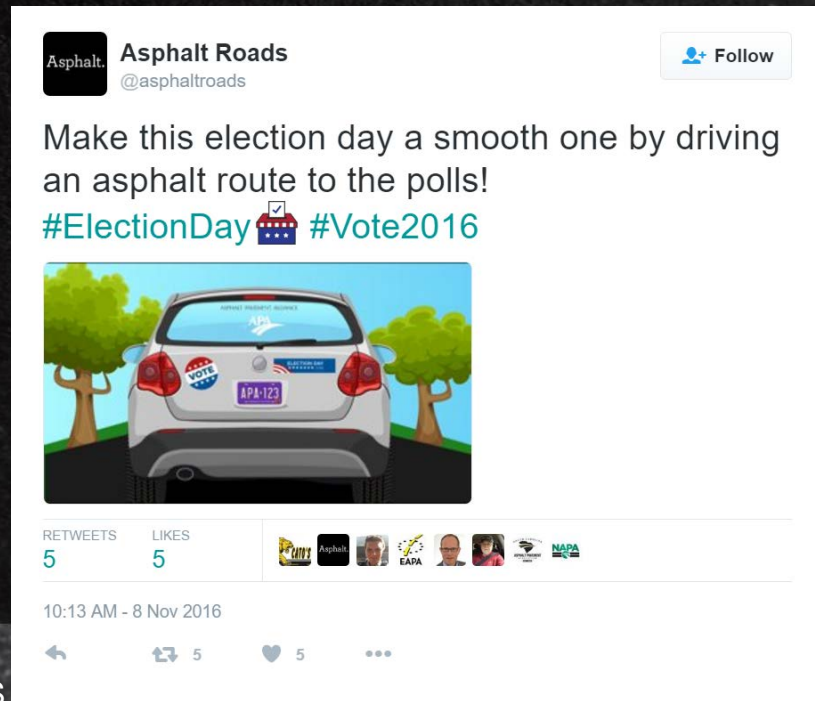
# Deployment Communication

- Monthly Con-call – 3<sup>rd</sup> Tuesday Monthly
  - 20-40 Attendees
  - Standard items: PEC/GTM Update, APA Regional Effort Update, Competition Issues, Legislative Issues, Asphalt Institute Regional Engineer Update
  - Featured Speaker



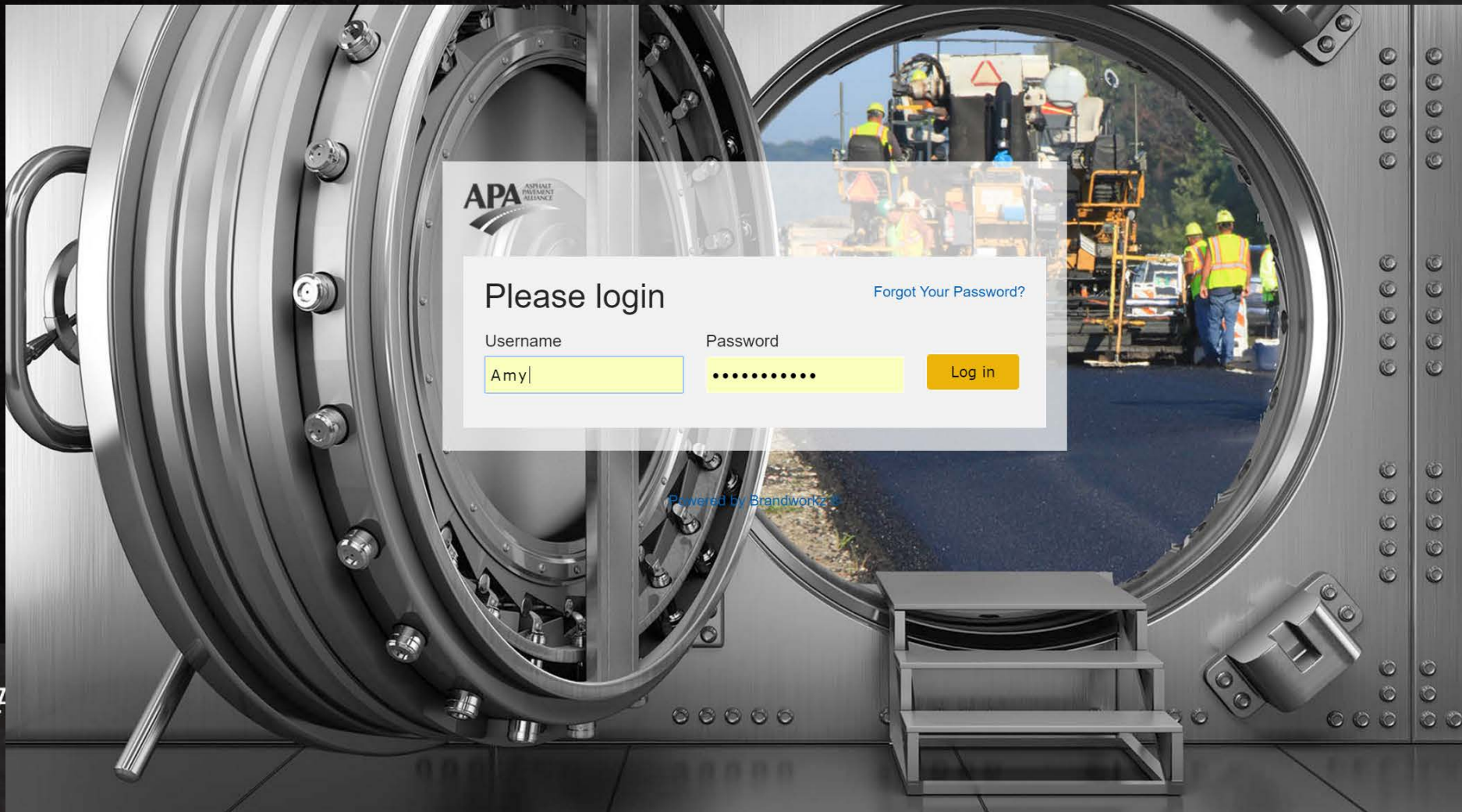
# Deployment of GTM Assets

- Social media webinars for SAPAs
- Monthly social media calendar



# Asphalt Vault

- Repository for State Execs
- First full year in use







# Any Questions?

Amy Miller  
[amiller@asphaltroads.org](mailto:amiller@asphaltroads.org)



Asphalt Pavement Alliance  
presents



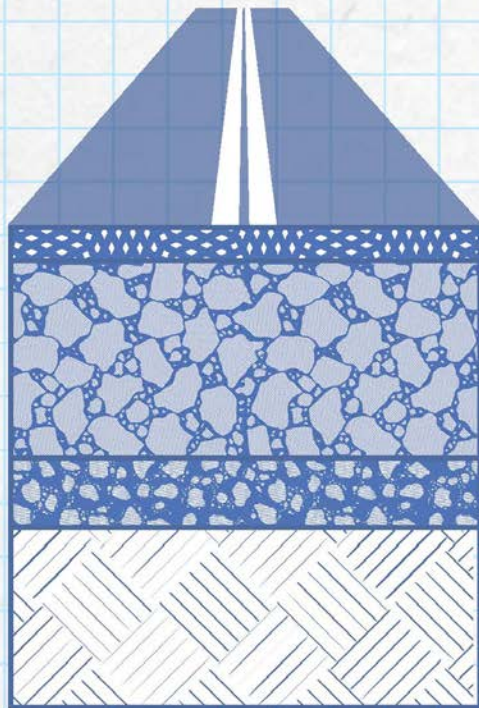
Perpetual Pavement Award  
Interstate 180





# How To Design A Road To Withstand Time, Traffic, and Taxpayers

## Perpetual Pavement Design



### Asphalt Surface

Renewed periodically. Maintained to ensure a high level of drivability. Surface type can be customized depending upon needs: open-graded friction courses for safety, stone-matrix asphalt for added durability, Thinlays™ for pavement preservation, etc.

### Asphalt Base

Stiff structural layer designed to distribute loads and resist structural rutting. Optimizes materials and costs with use of RAP, RAS, and other recycled materials.

### Fatigue-Resistant Asphalt Layer

Flexible layer designed to prevent fatigue cracking and bottom-up cracking. The overall thickness of the structure and the materials of this layer help limit the maximum tensile strain to below the fatigue endurance limit.

### Pavement Foundation

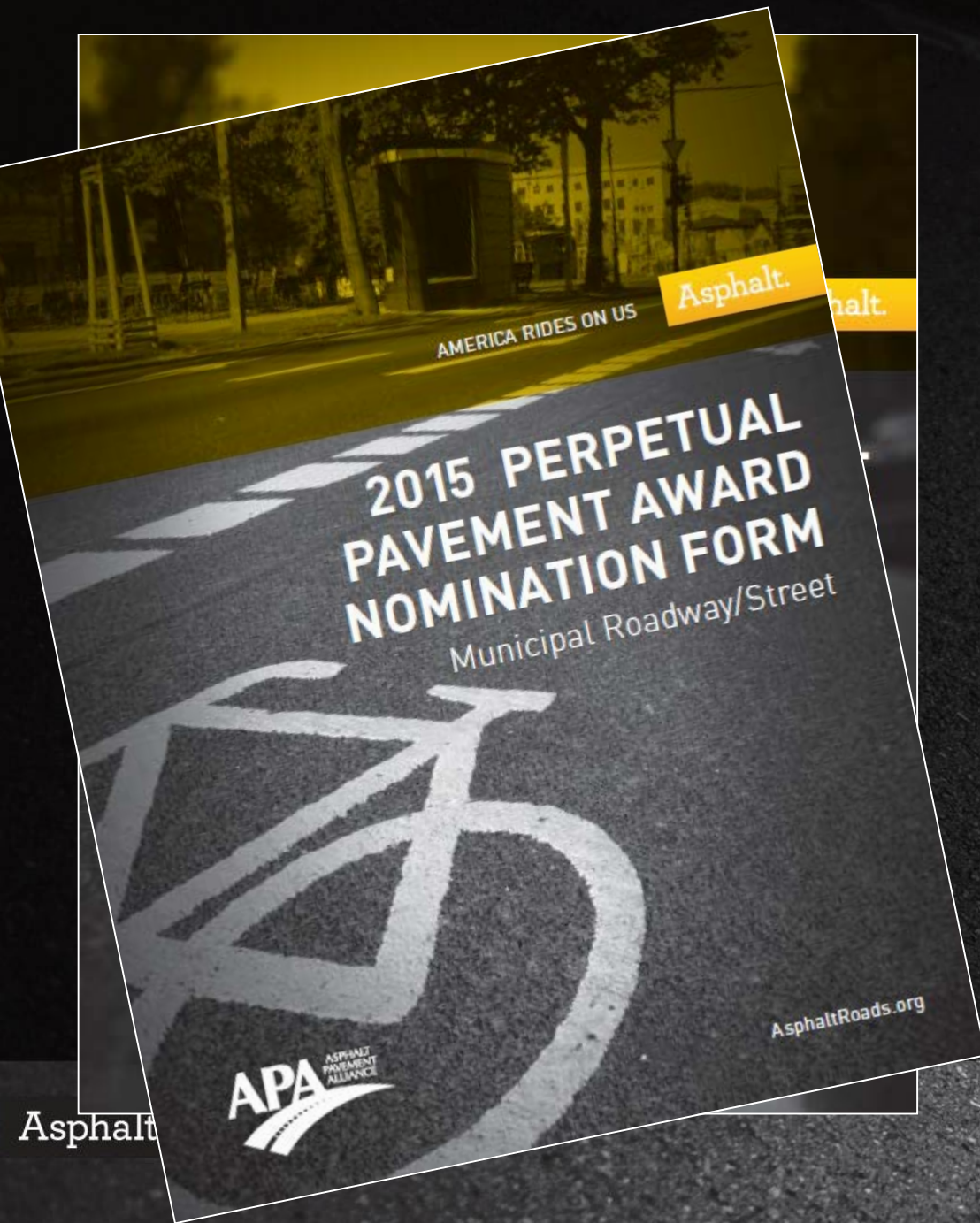
The subgrade may be stabilized or unstabilized.

# Perpetual Pavements

Asphalt. AMERICA RIDES ON US







## Criteria:

- 35+ years old
- 13+ years between overlays (average)
- No increase > 4"





Asphalt.

AMERICA RIDES ON US





# Congratulations!



## pennsylvania

DEPARTMENT OF TRANSPORTATION



Interstate 180 MM1.5-MM4.5



THANK YOU!

Asphalt.

AMERICA RIDES ON US

