

Asphalt Pavement Alliance Overview

Amy Miller, P.E.
National Director



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



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Pavement Economics Committee

THE PEC TEAMS



**Pavement
Design**



**Pavement Type
Selection**



**Best Quality and
Competitiveness**



**Pavement
Preservation**



**Environmental
Sustainability**



Legislative



**Private Sector
Markets & Local
Roads**



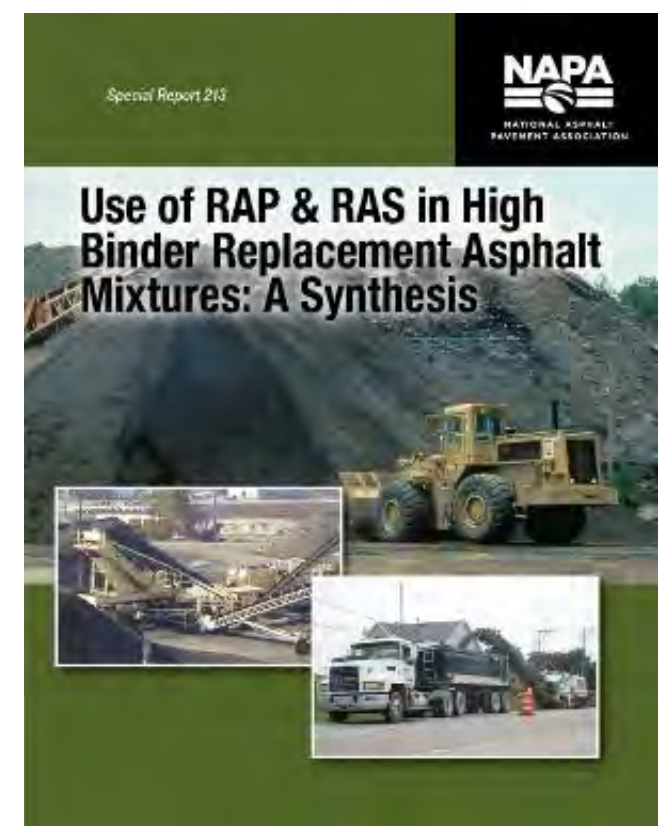
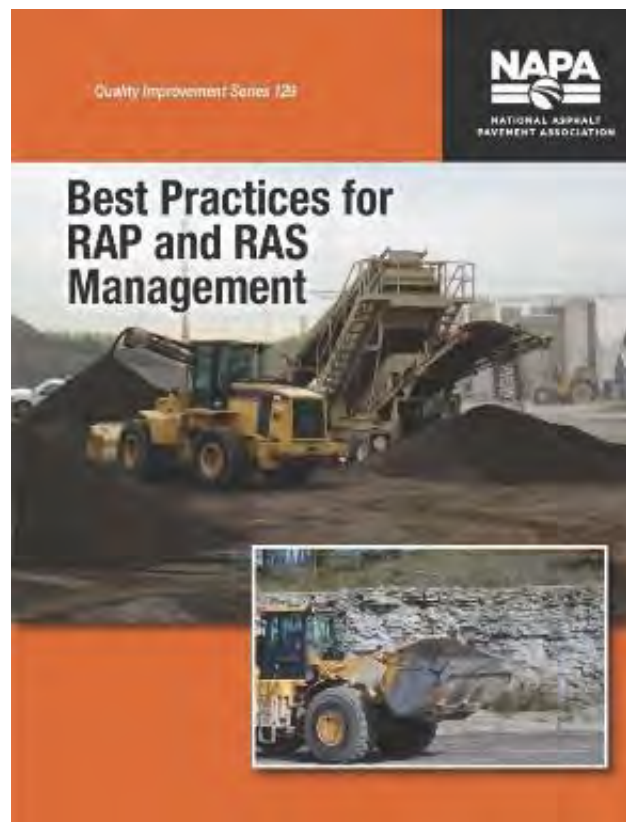
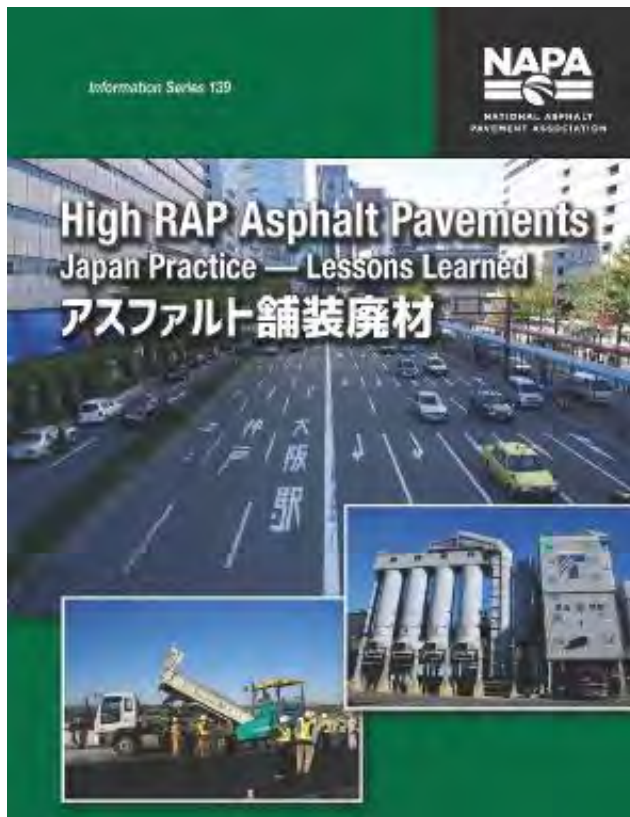
Over 13,000 Users



www.PaveXpressDesign.com

FREE WEBINAR ON UPDATE Nov. 4th
at
www.asphaltpavements.org/webinar

Recycled Materials



Rapid Highway Construction



Takeaways:

- Isolate work zone from traffic
- Use in-place material as much as possible
- Lane closures improve productivity
- Contractor control over work zone
- Innovative approaches for moving traffic in and around work zones.

PAVEMENT HEALTH ANALYSIS TOOL



www.IRIExplorer.com

- Utilizes LTPP Data
- Free
- Web Based, Customizable
- Life-Cycle Emission Benchmarking

Why Should Customers Use IRI Explorer?

- IRI Explorer is a free, web-based tool for examining LTPP data, as well as benchmarking life-cycle emissions for roadway projects.
- Road roughness (or, conversely, road smoothness) is crucial to vehicle fuel efficiency, wear-and-tear on cars and trucks, and highway maintenance schedules. The IRI Explorer is a tool for exploring historical trends in road roughness data.
- IRI is a simple measure of the broad health of a roadway. Just as an elevated heart rate can indicate a health problem, a high IRI can indicate an ailing roadway.
- IRI Explorer helps determine the greenhouse gas emissions associated with road maintenance.
- Compare pavement types and their performance by your state or similar climate regions.
- Check up on 20 years of data from 2,000 pavement test sections in the Federal Highway Administration's Long-Term Pavement Performance (LTPP) program.
- Add data from local state road networks for analysis.

IRI Explorer analyzes roadway data, and provides customized reports to suit your needs.

FOR MORE INFORMATION
IRIExplorer.com



IRIExplorer.com

Pavement-Vehicle Interaction



When it comes to America's roads, drivers want to support fuel efficiency. Pavement smoothness is critical to achieve. Federal Highway Administration (FHWA) recently determined that smoothness is a key factor in driver satisfaction for road users.¹

Thanks to advanced materials and construction techniques, asphalt surfaces that meet drivers' standards while adding to pavement longevity and lowering vehicle operating costs.²

As drivers, automakers and regulators grow increasingly concerned about smoothness on vehicle efficiency is receiving greater attention. Three factors thought to affect fuel consumption:



Texture
how rough the surface is



Smoothness
how rough the road feels to a driver

No study has grasped how all three pavement properties simultaneously. However, the current scientific consensus is that pavement smoothness and that the effect of texture is smaller on well-maintained pavements than on rougher ones. The effect of pavement stiffness is also smaller than the effect of pavement smoothness.³

All told, Americans burn nearly 170 billion gallons of fuel driving on U.S. roads across the nation were built and maintained to ensure a 4.5 percent decrease in fuel consumption⁴ — the equivalent of 1.5 gallons per gallon.⁵ Similarly, rough and poorly maintained roads increase wear and tear on vehicles by 10 percent per year for the average driver.⁶

1. Research & Analytics, Inc. (RAI) and the FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010. 2. FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010. 3. FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010. 4. FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010. 5. FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010. 6. FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010.



Almost 75 percent of the oil consumed in the United States is used as vehicle fuel.⁷ 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: 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.⁸ In fact, only rolling resistance has an impact on rolling resistance.

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

Research has been conducted over the past 40 years to determine how each of the factors affects rolling resistance. Pavement texture influences fuel economy through the internal friction of the aggregate materials in a pavement. As the tire deforms, energy is converted into heat. The rest of the tire and the atmosphere. Pavement stiffness may influence rolling resistance by affecting the pavement's ability to compress, causing the tire to deform. Smoothness influences the fuel economy through energy lost by the shock absorbers as the vehicle moves down the roadway and these systems work to make the ride more comfortable.

7. Research & Analytics, Inc. (RAI) and the FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010. 8. FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010. 9. FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010. 10. FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010. 11. FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010. 12. FHWA. "2010 Road & Bridge Conditions Survey." FHWA, 2010.



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Vehicle Energy Consumption by Speed¹¹

	30 mph	70 mph
Rolling Resistance	45%	20%
Internal Friction	30%	10%
Aerodynamic Drag	25%	65%



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Research & Technology

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Go-To-Market Task Group

Factsheets

Infographics

Videos

Presentations

Advertisements

Media Outreach

More

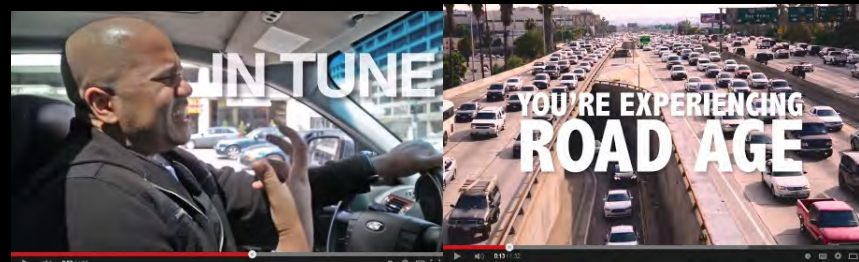


PAVEMENT DESIGN Simplified



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



SMOOTHER PAVING

BIGGER SAVINGS

ROAD MAINTENANCE SAVINGS

NEARLY 9% INCREASE IN PAVEMENT LIFE

NEARLY 8 OF 10

ADDITIONAL BENEFITS: REDUCED MAINTENANCE COSTS, IMPROVED SAFETY, AND INCREASED FUEL EFFICIENCY.

VEHICLE MAINTENANCE SAVINGS

2.5



GTM Support

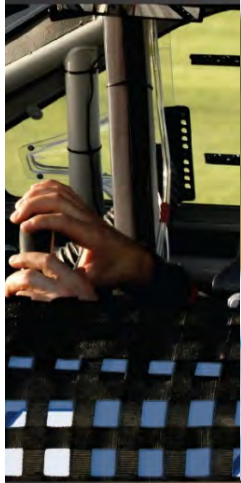
SMOOTH ROAD
DRIV

NOISE IS ONE I
DRIV

SAFETY AND CONT
DRIV

BECAUSE SUSTAIN
DRIV

GETTING THERE ON TIME IS ALWAYS IMPORTANT
DRIVABILITY MATTERS



"When I'm meeting my girlfriend for dinner, roadway construction means missing our reservation. It's frustrating, but only an inconvenience. When I'm on the job, a delay can be the difference between life and death. With asphalt, construction typically happens at times when fewer cars are on the road, and the delays are counted in minutes. That matters."

-Lee Look | Fireman | Boyfriend

APA ASPHALT
PAVEMENT
ALLIANCE
LEARN MORE AT
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WWW.DRIVEASPHALT.ORG

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

SPEED OF CONSTRUCTION

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



SMOOTHNESS



NOISE



SAFETY



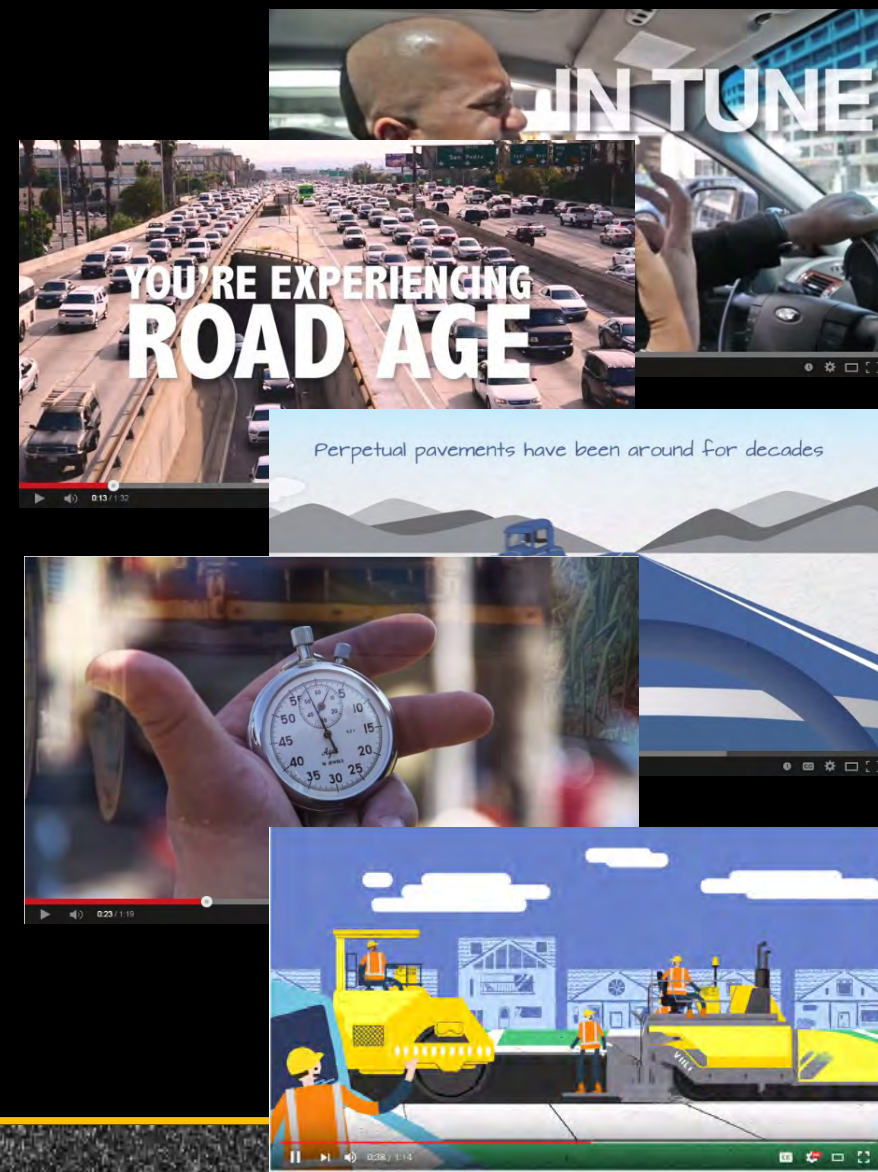
SUSTAINABILITY



CONSTRUCTION

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

Digital



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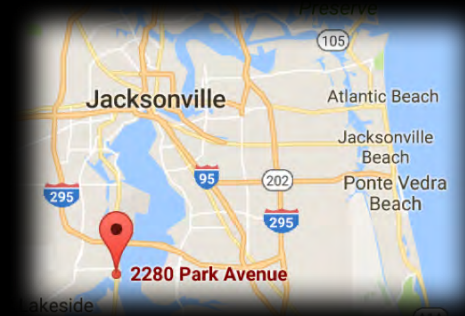
APA Deployment Team



Dan Staebell
Northcentral Regional Director

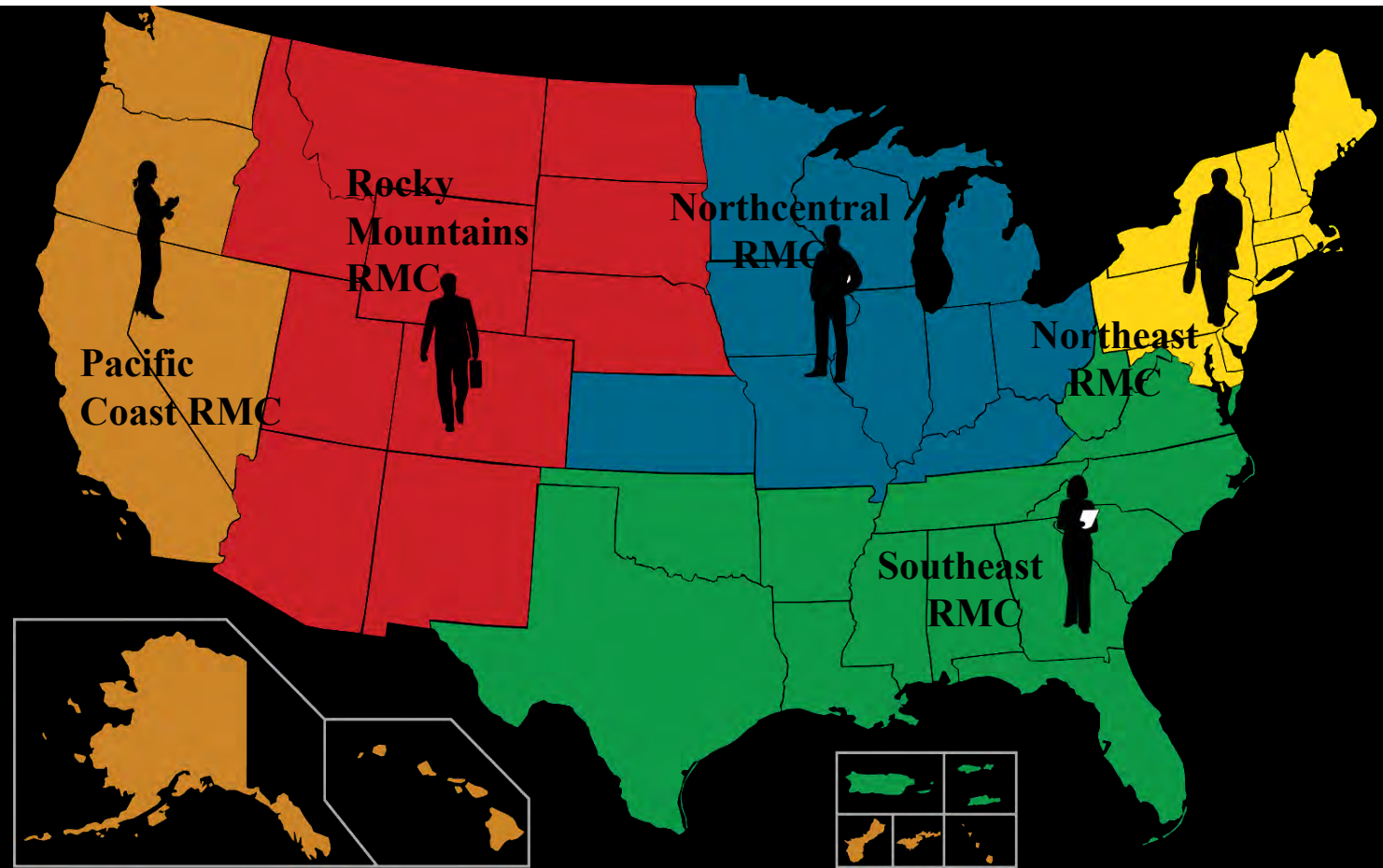


Amy Miller, P.E.
National Director



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 Marketing Councils

APA Northeast Regional Meeting

- Tuesday, March 29 – Wednesday, March 30
- The Woodlands Inn in Wilkes-Barre, Pa.

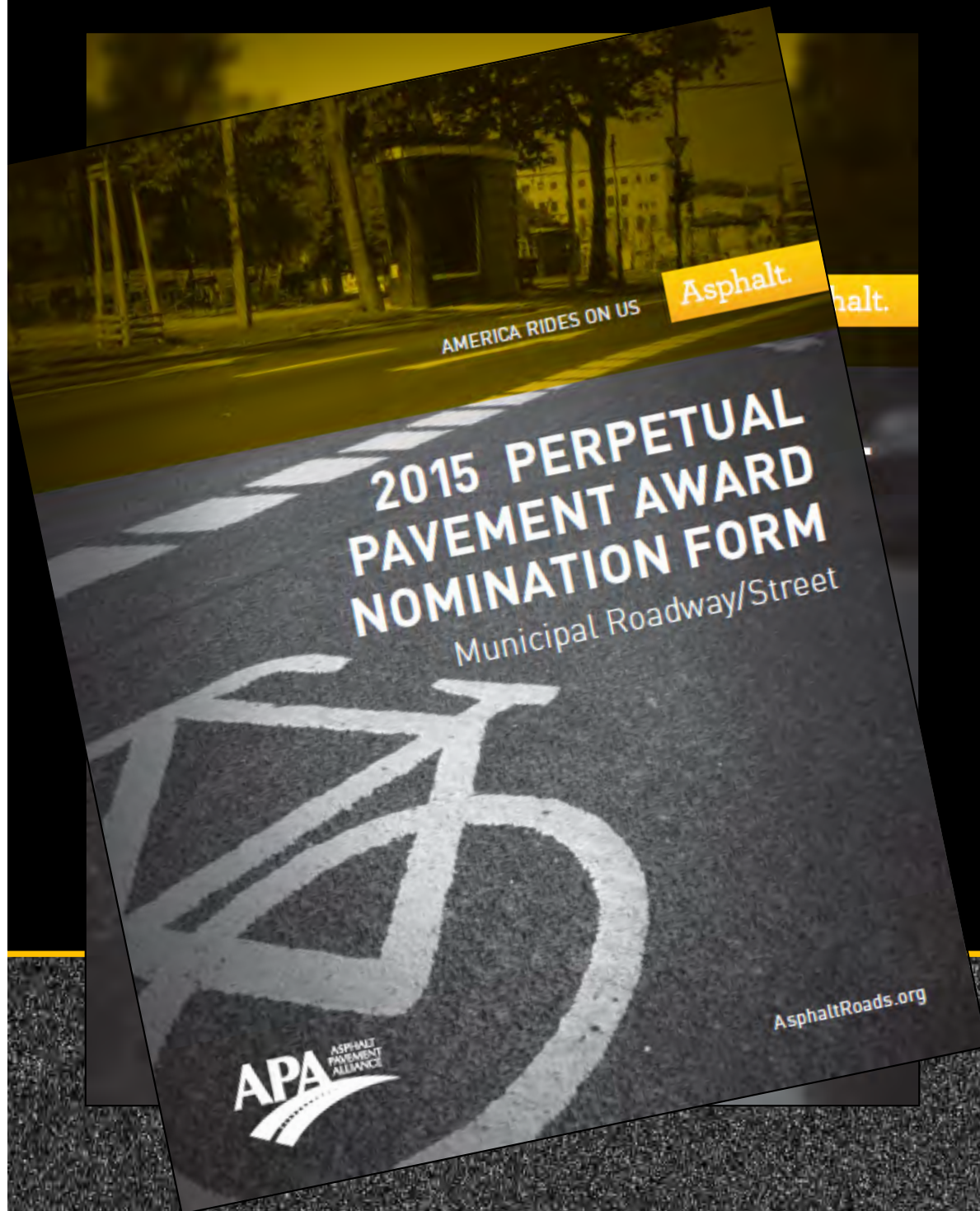
Contact Amy Miller
(AMiller@AsphaltRoads.org)



APA Northeast Meeting

APA NORTHEAST REGIONAL COUNCIL

- Connecticut: SAPA Don Shuber
- Brad Oneglia, O & G
- Delaware: SAPA Jim Clendaniel
- Tim Peffer, Allan Myers, Inc.
- Maine: Ron Simbari, All-states Material Co.
- Maryland: SAPA Marsall Klinefelter
- Jeff Graf, Maryland Paving
- Massachusetts: SAPA Jim Reger
- Mike Barry, Palmer Paving
- New Hampshire: Alex Phelps, Pike Industries
- New Jersey: SAPA Jim Purcell
- Scott Laudone, Tilcon NY
- New York: SAPA Bruce Barkevich
- Chris Suttmeier, Peckham Materials
- C indy Lafleur, Callanan Industries
- Pennsylvania: SAPA Charlie Goodhart
- Dan Bauman, G.O. Hawbaker
- Rhode Island: None
- Vermont: Alex Phelps – Pike Industries
- Washington, DC: None
- Asphalt Institute: Greg Harder
- NAPA: Ester Magorka
- APA: Amy Miller



Criteria:

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





Any Questions?

Amy Miller
amiller@asphaltroads.org