



Industry Challenges met by APA Strategies



To establish asphalt pavement as the preferred choice for quality, performance and the environment.



Mission

Research & Technology

Pavement Economics Committee
Four Task Groups

Other Research

- NCAT
- Asphalt Institute

Research Road Map

Market Research & Communications

Go to Market Task Group

- Research Communications
- Market Research
- Brand Management

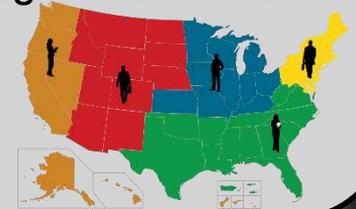


Deployment Activities



Deployment Task Group

- National Initiatives
- Regional Councils



NATIONAL ASPHALT
PAVEMENT ASSOCIATION



State Asphalt Pavement Associations



ASPHALT INSTITUTE



Industry Market Share Initiative





Mixture Quality & Performance

- Best Quality & Competitiveness
- Pavement Preservation
- Private Sector Markets & Local Roads



Life Cycle Cost Analysis

- Pavement Design
- Pavement Type Selection



Life Cycle Assessment

- Environmental Sustainability



Legislative



New Task Group Structure



LCCA: Guidance to conduct and improve LCCA, estimating costs, and cost-saving factors or inputs used in or influencing pavement type selection.

LCA: Ensure asphalt pavements are recognized as the pavement of choice for environmental and social sustainability.

Mixture Quality & Performance: Improve mixture quality and performance and increase the use of recycled materials, warm-mix asphalt, Thinlays, and other technologies while maintaining quality and reducing costs to maintain competitiveness.

Legislative: Position asphalt as the sustainable (LCA) and economic (LCCA) material of choice through legislative advocacy.



Four Strategic Goals

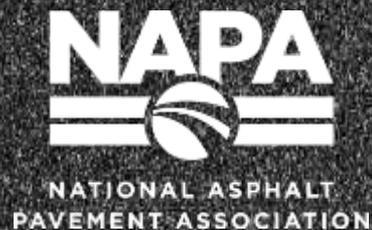


Research Communications



Market Research & Intelligence

Brand Management



Go to Market Program



Brand Management

Align with New Task Groups

- Create Materials on LCCA, LCA, Mixture Quality & Performance, and Commercial Markets
 - ✓ Advertising Program
 - ✓ Videos & Infographics



Research Communications

- **Optimizing Flexible Pavement Design**
- **Determining Initial Service Life & Actual Costs**
- **Life-Cycle Cost Analysis Guidance Report**
- **Thinlay Guidance Report**
- **Comparative Emission Study**
- **User & Business Impact Costs**
- **Environmental Product Declarations**
- **PerRoad Software**
- **Porous Pavement Structural Design**





PaveXpress



Life-Cycle Cost Analysis



Commercial Markets



**APA Strategic Priorities
2018 Focus**





Table 1 -- Full-Depth Asphalt Pavement (Parking Stall Areas)

MINIMUM PAVEMENT THICKNESS - FULL DEPTH ASPHALT

TRAFFIC	1.5T	2.0T	2.5T
SURFACE	1.5T	1.5T	1.5T
BASE	1.5T	1.5T	1.5T
SUBGRADE CONDITION	Good (ICM 4-0)	Fair (ICM 4-0)	Poor (ICM 3-0)

Table 2 -- Asphalt with Aggregate Sub-Base Pavement (Parking Stall Areas)

MINIMUM PAVEMENT THICKNESS - ASPHALT/AGGREGATE

TRAFFIC	1.5T	2.0T	2.5T
SURFACE	1.5T	1.5T	1.5T
AGGREGATE	1.5T	1.5T	1.5T
SUBGRADE CONDITION	Good (ICM 4-0)	Fair (ICM 4-0)	Poor (ICM 3-0)



Commercial Markets

STRATEGIC AREA 3 – COMMERCIAL

Objective: To work with industry and SAPA members to develop national relationships that create opportunities to advocate for the effective use of asphalt.

Means to achieve:

- National strategic trade shows.
- Meetings with engineers and decision makers at the headquarters of national accounts to create relationships and determine what assets they need.
- Work with state execs and contractors to implement PEC material geared to the commercial market.
- Based on discovery in 2 above, develop products to educate commercial owners and reinforce our market position.

Private Sector Markets & Local Roads



ASPHALT : THE SMOOTHEST WAY TO WELCOME CUSTOMERS

Whether at a business, a shopping center, a school, house of worship, recreation area or apartment building, a **PARKING LOT** is one of the first things a person sees when arriving at their destination. First impressions matter, and a poorly constructed or maintained lot can reflect negatively on an establishment. A well-maintained parking lot is also safer and easier for both pedestrians and drivers to negotiate. Asphalt pavements are the superior choice for parking lots because they are quick to construct, long-lasting, sustainable and easy and cost-effective to maintain. Plus, because asphalt is everywhere, there are qualified and capable asphalt paving companies in every community across the nation.



SPEED OF CONSTRUCTION

Construction and maintenance activities can be done quickly and at night, which eliminates inconvenience for customers and business operators.



PERFORMANCE

Long-life asphalt pavements are designed in layers so that they never need full-depth repair or reconstruction.



AESTHETICS

A business's exterior appearance influences the decision of where to shop for 95 percent of consumers.¹



¹ Horvath (2010). Consumers Are Influenced by the Physical Appearance of a Retailer. Horvath Group Report, April 2010. Horvath Inc., Farmington Hills, Michigan.

ASPHALT WELCOMES

- An asphalt parking lot allows an owner to keep their "welcome mat" crisp and inviting.
 - Long term serviceability is easily and quickly maintained when utilizing asphalt pavements.
 - Asphalt pavements are extremely versatile and can be easily adapted to suit any pavement application.
 - Asphalt is the most recycled product in the world.
 - Asphalt parking lots are economical and can be used in light and heavy-duty applications.
- Contact us today for assistance.

ASPHALT: The Right Choice

- + Proper Design
 - + Construction Expertise
 - + Timely Maintenance
- = Cost Effective Long-term Durability



The APA is a partnership of the Asphalt Institute, National Asphalt Pavement Association, and the State Asphalt Pavement Associations. We were formed over 10 years ago.

APA's mission is to establish asphalt pavement as the preferred choice for quality, performance and the environment.

Amy Miller, P.E., National Director
amiller@asphaltroads.org

Dan Staebell, Regional Director, Northeast Region
dstaebell@asphaltroads.org

2233 Park Avenue, Ste. 200J
 Orange Park, FL 32073

www.asphaltroads.org



NATIONAL ASPHALT
 PAVEMENT ASSOCIATION

Parking Lot Flyer



Upcoming Commercial Training

- Professional Instructor's
 - Tim Murphy, PE
 - Mike Groh- 
- April 17-18th Chicago
 - Future locations:
 - KC and MSP
- Focus: *“How To”*
 - Build
 - Maintain
 - Rehabilitate



Join us April 17 & 18, 2018
Commercial and Industrial
Parking Lot Training

Save the Date

How to Build
Considerations for Constructing Quality Pavements

How to Maintain
Maximize the ROI of Your Pavement Investment

How to Rehabilitate
Proactive Pavement Rehabilitation Options

What Lies Ahead
The latest in Asphalt Technologies

In today's world, being efficient and effective with resources is the name of the game to keep your customer and tenants returning year after year. Join us for in-depth training and education related to the unique requirements of your commercial and industrial parking lot installations.

From construction to maintenance, materials to proper pavement design, learn what is required to keeping your facility in top-top shape.

Instructions
Tim Murphy, PE, President, Murphy Pavement Technology, Inc.
Tim provides best practices within the asphalt industry at local, regional, and national levels. He works collaboratively with agencies, associations, consultants, suppliers, and contractors to ensure asphalt quality construction at the most economical price.

Michael L. Groh, Principal, Pavement Consulting, Inc.
Michael has been associated with the paving industry for four decades. His experience has been as a contractor, material supplier, and consultant with over twenty of his 40+ years working in the consulting industry.

Don Steinhilb, Northcentral Regional Director, APA
Don has 20 years of Asphalt Paving knowledge working in all levels ranging from Estimating, Project Management, Construction, Local Union Technicians, and Marketing. Don works with APA Partners, NAPA, and is the Regional State Asphalt Paving Association.

Join us April 17 & 18, 2018
Commercial and Industrial Parking Lot Training
NIU Naperville Conference Center
1120 E. Duell Rd, Naperville, IL 60563

1.5 hours of PDH credits for Professional Engineers will be provided with training.

Space is limited. To reserve your spot today contact the Asphalt Pavement Alliance office - Sandy Hager at shager@asphaltmatters.org or 804.448.0758.

Additional 2018 Training Locations
Kansas City and Minneapolis
Location and dates TBD

APA ASPHALT PAVEMENT ALLIANCE

Pavement Design Initiative

Objective: Expand the use of the PaveXpress software by pavement designers.

Means to achieve:

Use PaveXpress to open discussions about structural number and proper design thicknesses in the APA Northcentral, Northeast, and Southeast regions.



PAVEXpress



PaveXpress Training

PAVEinstruct Pavement Design Education



Learning Pavement Design with PaveXpress

The PaveInstruct learning module is a web-based pavement design education system with video instruction by leading industry experts. PaveInstruct accompanies PaveXpress, a web-based software created to design flexible and rigid pavements using AASHTO 93/98. The education modules within PaveInstruct correlate with the design modules in PaveXpress and provide technically sound pavement design and instruction.

<p>PAVEinstruct</p> <p>Instruction</p> <p>Please click below to enter the PaveInstruct learning module system. Presentations are available in shorter clips or in full format.</p> <p>Learning Center</p>	<p>PAVExpress</p> <p>Design</p> <p>Please click below to enter the PaveXpress design system.</p> <p>Learn More</p>
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PAVEinstruct

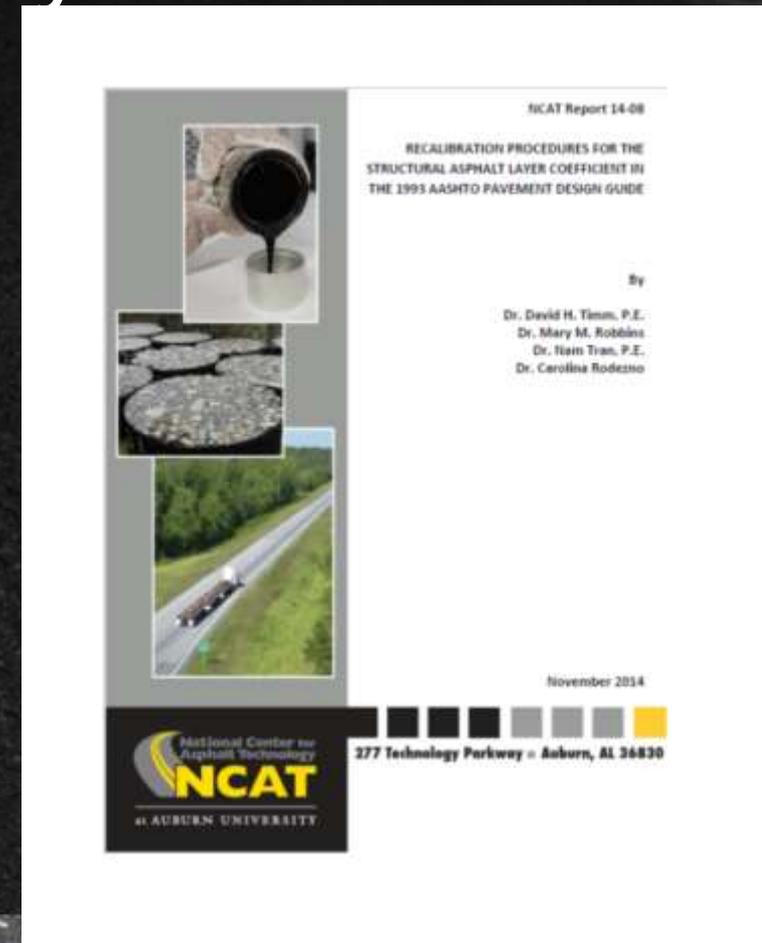


NCAT PEC Pavement Design Study

- SN Values today reflect .50-.54 vs .44
- Local review encouraged

1. The asphalt layer coefficient originally recommended by AASHO in 1962 (1) is not necessarily applicable in all situations. Studies in Alabama (8) and Washington (11) found a higher value better reflected actual performance. The values in each state (Alabama = 0.54; Washington = 0.50) were remarkably similar despite geographical

6. Local agencies or municipalities that may not have all the information required for recalibration could still perform recalibration by utilizing existing information available through state or other local agencies for similar roadways in their geographic regions.



What does Optimized Design mean?

SN Value .52

SN Value .44

Surface (AC)	2.00"
Binder/Intermediate (AC)	2.00"
Base (AC)	1.50"
Aggregate Base	6.00"

Surface (AC)	2.00"
Binder/Intermediate (AC)	2.00"
Base (AC)	3.00"
Aggregate Base	6.00"

Subbase

20% Savings

5.5" HMA

7" HMA



Life Cycle Cost Analysis

APA Deployment Strategic Plan

STRATEGIC AREA 1 – LCCA

Objective: Advocate the Proper and Appropriate Use of LCCA

Focus Area 1: Working with the SAPAs and industry members, advocate to DOT audiences, pavement specifiers and political appointees on how to properly formulate and use LCCA. The key messages will emphasize LCCA recommended practices that assumptions should be transparent, and encourage the use of historical performance data with data inputs and calculations. Also, LCCA should be used only when appropriate and should not be mandated.



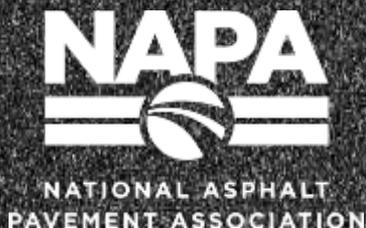
- Require Concrete Pavements (MA)
- Mandate Life Cycle Cost Analysis (MD)
- Mandate Alternate Designs and Bids (NV)
- Prescribe the Mechanistic & Empirical Design Guide (LA)
- Eliminate Price Adjustment Clauses (OH)
- Require Material-Specific Discount Rates (MO)
- Mandate Life Cycle Assessment (CA)
- Mandate lighter-colored pavements (FL)

Pavement LCCA: Price Projection Modeling

Material Price Projections for Pavement Life Cycle Cost Analysis

Motivation

Practitioners increasingly use life cycle cost analysis (LCCA) in the pavement selection process. One uncertain input parameter that has an impact on decisions in paving projects is the impact of future cost changes for rehabilitation and reconstruction events. However, existing pavement LCCA frameworks overlook price change as a consideration largely because, to date, little research has evaluated the



Life Cycle Cost Analysis



PAVEMENTS: COMPETITION

Measuring the Impact of Competition on Paving Material Prices

When sustained competition exists in a market, the price for similar goods is expected to go down. Research underway at MIT illustrates how this economic principal holds true with paving materials. Initial findings suggest that increasing competition between paving material industries lowers paving unit prices for both asphalt and concrete – which is likely to result in significant savings for both DOTs and taxpayers.

THE CURRENT STATE OF COMPETITION

Spending on concrete and asphalt paving materials varies greatly from state-to-state. However, an analysis of spending over a five-year period showed that all states that reported data spent at least 64% of their paving budget on asphalt pavements for DOT projects. There are several states where virtually no competition exists between these two paving industries.



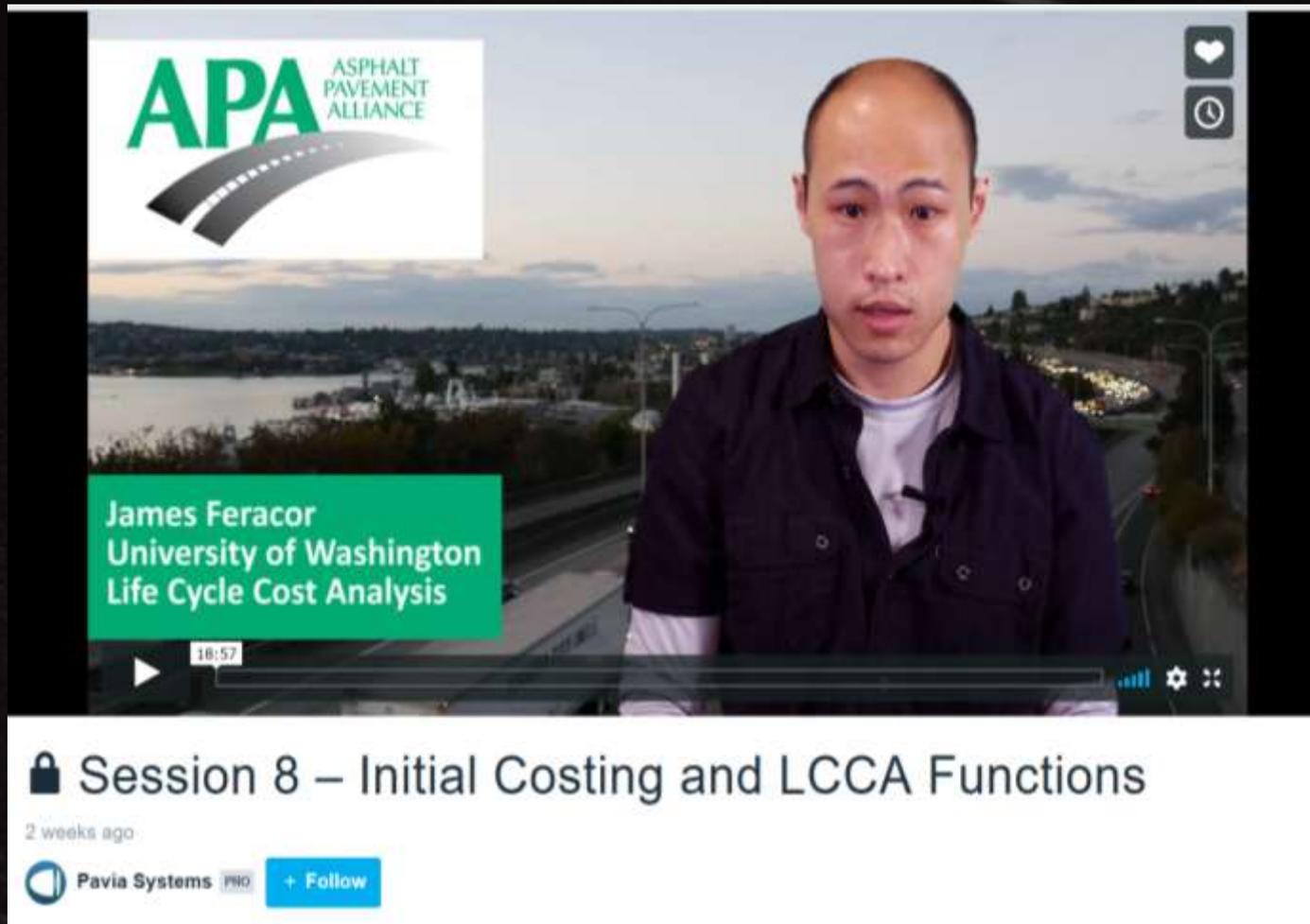
Review of Initial Service Life Determination in LCCA Procedures and In Practice

Summary of Middle 90% of Pavement Ages at Time of 1st Rehab

Pavement Type	No.	Avg	Min	Max	Std Dev
AC	206	17.68	7.09	28.93	5.51
PCC	121	23.84	12.88	35.44	5.79

Ride Quality (IRI) Prior to Rehabilitation

Pavement Type	Percent of Total Pavement Sections				
	Very Good** < 60	Good 61 – 95	Fair 96 – 120	Poor 121 – 170	Very Poor > 170
AC Pavements	9.6%	34.3%	24.1%	17.5%	14.5%
PCC Pavements*	1.1%	23.3%	26.7%	34.4%	14.4%



The image shows a YouTube video player. The video content features a man, James Feracor, speaking in front of a scenic background of a city and water. The APA logo is in the top left. A green text box identifies the speaker and his topic. The video player includes a progress bar at 18:57 and social media icons in the top right. Below the video, the title 'Session 8 – Initial Costing and LCCA Functions' is displayed, along with the upload date '2 weeks ago' and the channel name 'Pavia Systems' with a 'Follow' button.

APA ASPHALT PAVEMENT ALLIANCE

James Feracor
University of Washington
Life Cycle Cost Analysis

18:57

🔒 Session 8 – Initial Costing and LCCA Functions

2 weeks ago

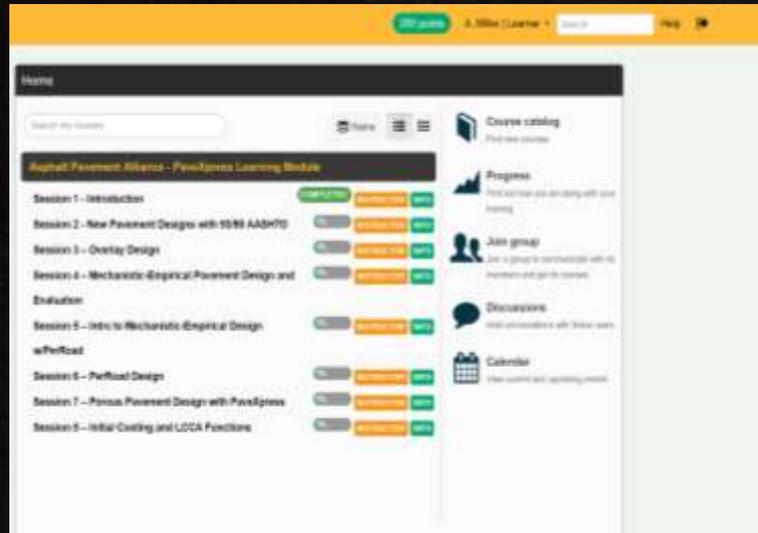
 Pavia Systems PRO + Follow

Asphalt.

AMERICA RIDES ON US



PaveXpress Training



Asphalt.

AMERICA RIDES ON US



LCCA

- Presentations at SAPA general sessions on LCCA
 - Deploy Educational PowerPoint on LCCA Best Practices
 - Prepare and conduct an APA update on the top three national initiatives: LCCA, PaveXpress, and Commercial Markets
- Meetings with industry partners
- Understand the LCCA challenges and opportunities in the Northcentral regional states and develop plan with deliverables
 - Meetings with SAPAs
- Deliver presentations on state of LCCA at SAPA Board Meetings/Executive Committees
 - Create a national state of play PowerPoint outlining legislative threats.
- LCCA Adult Learning Module (NCAT)
 - Launch webinar (June)
 - SAPA training (SAPA Annual Meeting – August)
- Develop regional council strategic plan
- Inclusion of APA deployment activities into AI, SAPA, and NAPA communications (e.g. social media, newsletters, webinars, and/or magazines).
- Provide real-time feedback on messages that resonate with key audiences to GTM.
- Identify research gaps and needs to stakeholders (e.g. PEC, GTM, and Research Roadmap) and provide real-time feedback on projects.
- Establish an LCCA team to assist with efforts and provide input on materials

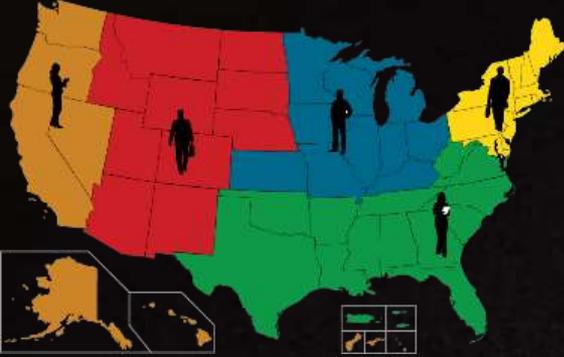
Most Recent Perpetual Pavement Winners

Ten states received : Alabama, Arkansas, Colorado, Florida, Minnesota, Montana, Pennsylvania, South Carolina, Tennessee and Washington.



ON US





APA Regional Council Focus

- Northeast – Bruce Barkevich, NY Materials
- Northcentral – Dan Staebell, APA
- Southeast – Craig Parker, Silverstar Construction
- Pacific Coast- Rob Treece, US Oil



Asphalt.

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Women of Asphalt

Please join us for the debut of

women of asphalt COUNCIL

World of Asphalt

Houston Convention Center

March 6, 2018 | 3-5 pm

Mixer (Free wine and beer)
APA booth (#3455) and AI booth (#3457)

March 7, 2018 | 1-3 pm

Women of Asphalt Council forum
Room 360 A&B

Discussion on the WOA council and a roundtable with ladies in the industry, plus a presentation from Dr. Audrey Copeland, NAPA VP for Engineering, Research and Technology

For more information, contact Asphalt Pavement Alliance at 904.446.0758



Sponsorship Opportunities
Available

THIS #WOMENSEQUALITYDAY, WE CELEBRATE THE

WOMEN IN CONSTRUCTION

WHO IMPROVE OUR INDUSTRY EVERY DAY.



Asphalt.

AMERICA RIDES ON US

