



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

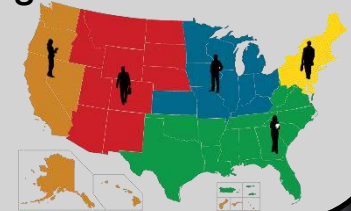


Deployment Activities



Deployment Task Group

- National Initiatives
- Regional Councils



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



NATIONAL ASPHALT
PAVEMENT ASSOCIATION



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.



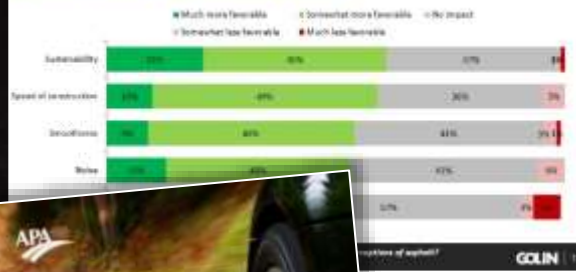
Four Strategic Goals



Research Communications



Message Testing: Favorability Values



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





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

MINIMUM PAVEMENT THICKNESS – FULL DEPTH ASPHALT			
SURFACE 30-A-2	1.5"	1.5"	1.5"
BASE 30-A-2 or 30-A-1	1.5"	1.5"	1.5"
SUBGRADE CONDITION	Good (UCMR 4-6)	Fair (UCMR 3-4)	Poor (UCMR 1-3)

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

MINIMUM PAVEMENT THICKNESS – ASPHALT/AGGREGATE			
SURFACE 30-A-2	1"	1"	1"
AGGREGATE BASE 30-A	1"	1"	1"
SUBGRADE CONDITION	Good (UCMR 4-6)	Fair (UCMR 3-4)	Poor (UCMR 1-3)



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.



1. Horwath (2016). Consumers Are Influenced by the Physical Appearance of a Retailer. Horwath Omnibus Report. April 2016. Horwath 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.

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Orange Park, FL 32073

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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 customers 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 on 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 the 40+ years working in the consulting industry.

Don Staschell, Northwestern Regional Director, APA

Don has 20 years of Asphalt Paving knowledge working in all levels ranging from Estimating, Project Management, Construction, Local, State, and National. Don works with APA Partners, NAPA, and the Regional State Asphalt Paving Associations.

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

It's free!
If you're ready to become a
Professional Engineer you will be
provided with training.

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

PAVEInstruct
Instruction
Please click below to enter the PaveInstruct learning module system. Presentations are available in shorter clips or in full format.
[Learning Center](#)

PAVEXpress
Design
Please click below to enter the PaveXpress design system.
[Learn More](#)

Session 6.2 PerRoad Design Example
From PaveXpress



PAVEInstruct

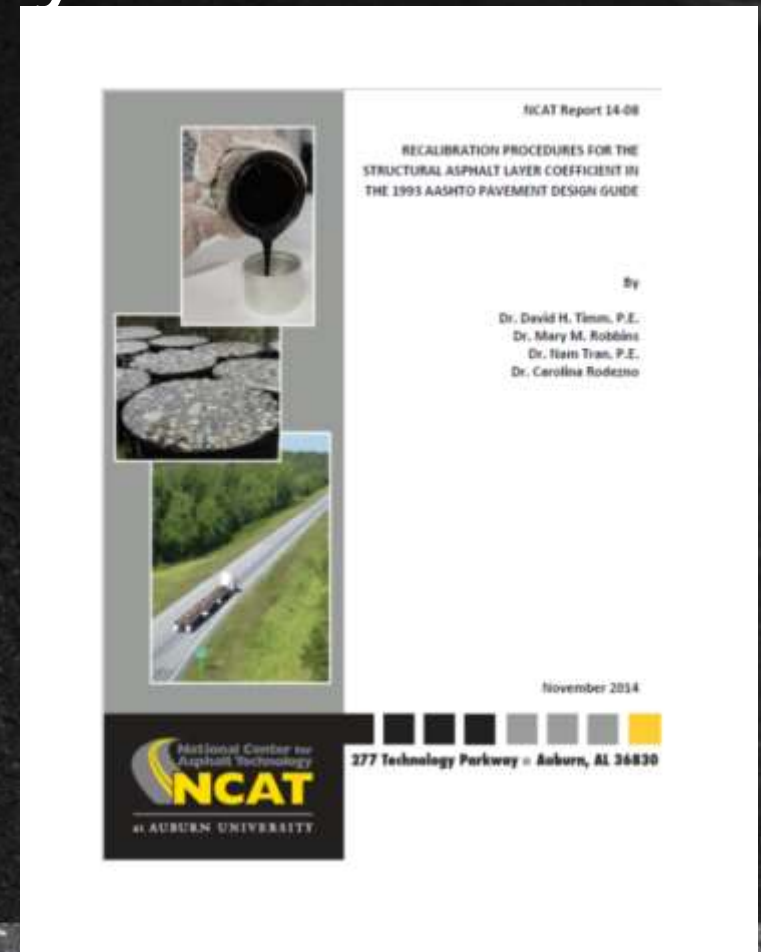


NCAT PEC Pavement Design Study

- 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"
Subbase	

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

20% Savings



Asphalt.

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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)

MIT Concrete Sustainability Hub 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%



James Feracor
University of Washington
Life Cycle Cost Analysis

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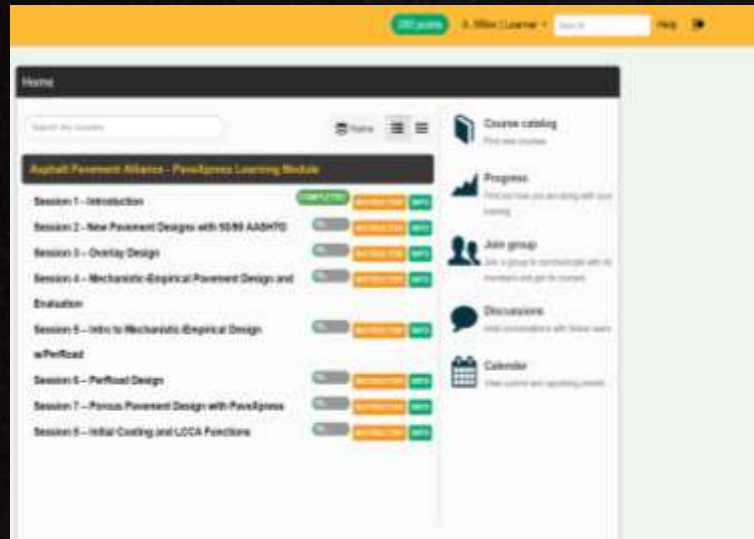
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🔒 Session 8 – Initial Costing and LCCA Functions

2 weeks ago

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PaveXpress Training



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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

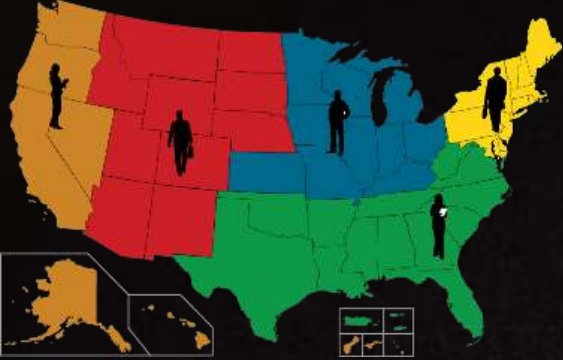
Most Recent Perpetual Pavement Winners



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



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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
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