



ASPHALT | INNOVATE | ENLIGHTEN | IMPLEMENT

A wide-angle photograph of a paved road curving through a desert landscape. The road is flanked by sparse, low-lying vegetation. In the distance, there are mountains with patches of snow under a blue sky with scattered clouds. The entire image is overlaid with a semi-transparent dark blue filter.

AIEI NEWSLETTER | APRIL 2024

QUARTER ONE

MESSAGE FROM THE PROGRAM MANAGER

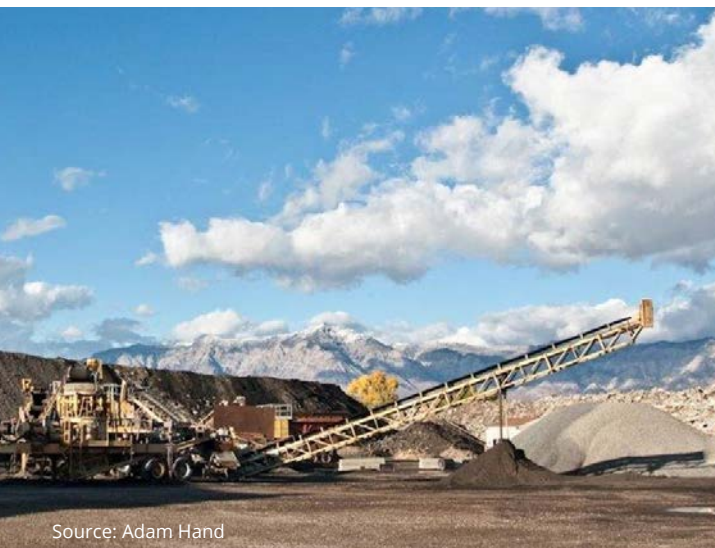
Welcome! We're excited to introduce you to the new AIEI program newsletter. Like many of you, my passion for deploying asphalt pavement technologies stems from my continuous commitment to advancing infrastructure sustainability and resilience. That's why the AIEI program is so important. First, it addresses critical needs in transportation infrastructure by accelerating the adoption of innovative technologies and practices. Second, the program provides an opportunity for peer exchange among state Departments of Transportation (DOTs) to share experiences, challenges, and positive practices related to asphalt pavement technologies.



ELIE Y. HAJJ, PH.D.

A constant challenge in the transportation community is timely and efficient deployment of new and innovative technologies. Our main goals for the first year of our cooperative agreement are:

- 1) to execute the FHWA approved statements of work and deliver high-quality products to support State DOTs stakeholders in their implementation efforts;
- 2) to understand the target audience and identify key decision-makers who play a crucial role in the adoption and implementation of innovative asphalt pavement technologies; and
- 3) to develop a clear vision that effectively communicates the potential improvements and benefits of adopting new technologies by State DOT stakeholders.



Source: Adam Hand



WHAT IS AIEI?

The “Development and Deployment of Innovative Asphalt Pavement Technologies” program, commonly referred to as the AIEI Program, is a five-year cooperative agreement with FHWA (9/23–9/28). The purpose of this program is to address the ongoing challenges faced by the transportation community to adopt new technologies and reduce the time to implement them in business practices, specifications, and construction methods relating design, production, testing, control, construction, and investigation of asphalt pavements. This project also supports the overall goals of advancing 21st-century solutions and improving performance and safety to keep America moving forward.

DDIAPT PROGRAM GOALS

The goals of the program under 23 U.S.C. 503(c)(3)(B) are:

- (i)** the deployment of new, cost-effective designs, materials, recycled materials, and practices to extend pavement life and performance and to improve user satisfaction;
- (ii)** the reduction of initial costs and lifecycle costs of pavements, including the costs of new construction, replacement, maintenance, and rehabilitation;
- (iii)** the deployment of accelerated construction techniques to increase safety and reduce construction time and traffic disruption and congestion;
- (iv)** the deployment of engineering design criteria and specifications for innovative practices, products and materials for use in highway pavements;
- (v)** the deployment of new nondestructive and real-time pavement evaluation technologies and techniques; and
- (vi)** effective technology transfer and information dissemination to accelerate implementation of innovative technologies and to improve life, performance, cost effectiveness, safety, and user satisfaction.

WHO IS ON THE AIEI TEAM?

The University of Nevada, Reno (UNR) has assembled a diverse project team of experienced research and professional engineers, marketing and communication professionals, and management experts with the expertise and knowledge required to successfully execute the project. The team comprises members from UNR, National Center for Asphalt Technology (NCAT), Asphalt Institute (AI), Virginia Transportation Research Council (VTRC), and Asphalt Testing Solutions & Engineering (ATS). The team members have world-class technical experience in all project innovation areas and extensive expertise in marketing, implementation, and project management.

Elie Hajj

UNR Professor | Program Manager & Principal Investigator

Roger Evans

UNR Engineering Research | Project Manager

Travis Walbeck

NCAT Training Manager / Engineer | Training & Marketing Manager

Mark Buncher

Asphalt Institute Director of Engineering | Work Plan Coordinator

Jhony Habbouche

VTRC Senior Research Scientist | Work Plan Coordinator

Adam Hand

UNR Professor | Work Plan Coordinator

Nam Tran

NCAT Associate Director | Work Plan Coordinator

Vinnie Gammons

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Paragon Technical Services Senior Vice President | SME, Senior Engineer

Chait Bhat

Asphalt Institute Sustainability Engineer | SME

Ilker Boz

VTRC Research Scientist | SME

Stacey Diefenderfer

VTRC Associate Principal Research Scientist | SME

Harikrishnan Nair

VTRC Associate Director | SME

Randy West

NCAT Director | SME, Senior Engineer

Fan Yin

NCAT Assistant Director | SME

Molly Berry

ATS Marketing & Business Development | Marketing Generalist

Austin Phillips

Auburn University Samuel Ginn College of Engineering, Office of Communications and Marketing Director | Marketing and Communications Specialist

Kristy McLean

UNR Engineering Research | Technical Editor

Lindsay Rohlfson

L. DeSign | Graphic Designer

YEAR 1 SOWS

A.1.1 Technical Assistance to Stakeholders in Understanding the Characterization of Innovative Binders for Use in Flexible Pavements

Objective: Provide education to user agencies and producers/suppliers to aid in their understanding of how to properly characterize the physical properties of innovative binders within the PG Asphalt Binder Specification

A.3.1 Use of High Polymer Modified Asphalt (HiMA) Binders and Mixtures Gap Analysis

Objective: Identify and put forth strategies for implementable actions, lessons learned by DOTs, and limitations for use of HiMA

B.1.1 High RAP Mixtures Workshop Including Reclaimed Binder Availability (RBA)

Objective: Develop a state-of-the-art practice report on how State DOTs handle RBA for RAP mix designs, and conduct a peer exchange workshop for State DOTs that have implemented or are interested in implementing reduced RBA to improve cracking resistance of high RAP mixtures

B.3.1 Asphalt Pavement Recycling Technologies (APRT) Implementation Workshop

Objective: Develop a state-of-the-practice report on the latest APRT mix design practices and standards coupled with advancements in production and construction equipment capabilities and conduct a peer-exchange workshop for State DOTs that have implemented or are interested in implementing APRT

C.1.2 Asphalt Mixture BMD Lead States Peer Exchange

Objective: Assess state-of-implementation for BMD based on the outcomes of the regional peer exchanges, identify challenges and potential solutions

C.1.3 Balanced Mix Design Mid-Atlantic Regional Peer Exchange

Objective: Host a peer exchange in the Mid-Atlantic region to allow states to update each other on BMD efforts, discuss challenges in implementation and exchange lessons learned

C.2.1 Technical Support to Aid in the Understanding of Proposed Revisions to the PG Asphalt Binder Specification

Objective: Provide education to stakeholders to aid in their understanding of the proposed revisions to the PG Asphalt Binder Specification and provide technical assistance to AASHTO with implementation

C.3.1 Refinement of Superpave Volumetric Mix Design & Specifications

Objective: Identify and incorporate proposed changes to the Superpave mix design method to improve field density, durability and the responsible use of recycled materials

C.5.1 Methods for Measuring In-Place Density

Objective: Synthesize information (advantages and disadvantages, state of practice, needs for future enhancements) about different test methods for measuring in-place density of asphalt pavements

UPCOMING PRESENTATIONS BY TEAM MEMBERS

Elie Hajj

2024 NRRA Conference

April 30 | Shoreview, MN

National/West Coast Perspective of BMD implementation, FHWA efforts, Nevada experience

www.dot.state.mn.us/mnroad/nrra/pavement-workshop/archive/2024.html

Jhony Habbouche

Nevada Transportation Conference (NTC)

May 7 | Las Vegas, NV

Field Performance Evaluation of High Polymer Modified (HP) Asphalt Concrete Overlays

www.nevadatransportationconference.com

Derek Nener-Plante, Tim Aschenbrener, & Elie Hajj

Balanced Mix Design Workshop

May 22-23 | Tumwater, WA

BMD Case Studies Workshop: Moving Forward with Implementation

Mike Anderson

Asphalt Pavement & Materials TFG Meeting

June 13 | Raleigh, NC

Asphalt Binder Aging and Intermediate Temperature Cracking: Potential Changes to the PG Tests and Specifications

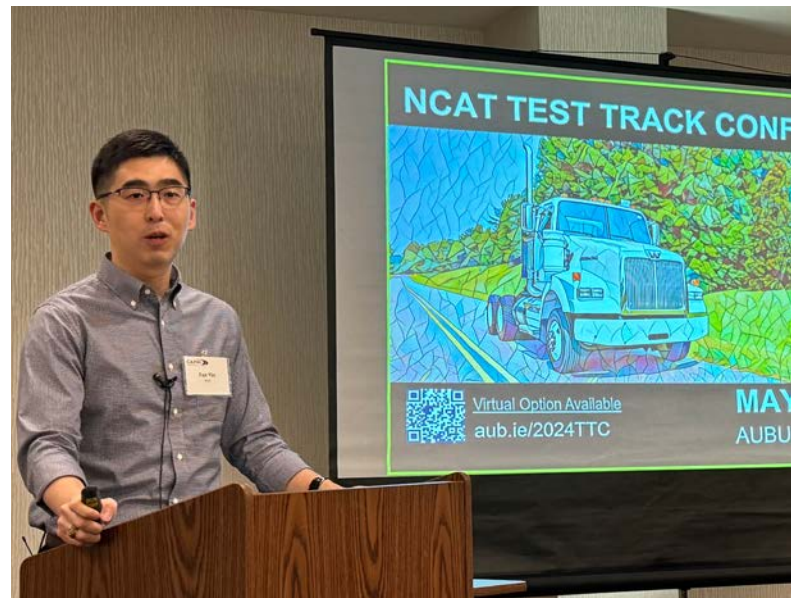
Elie Hajj

2024 Nevada Asphalt Conference

October 30 | Las Vegas, NV

Recent Development on BMD

www.nvltap.com/2024-nevada-asphalt-conference



FAN YIN, PH.D.

For other cooperative agreements materials, information or technical assistance, please visit:

<https://www.fhwa.dot.gov/pavement/asphalt/coopmaterials/>

<https://www.unr.edu/wrsc/tools/asphalt>

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