

Quarterly Newsletter

January, 2026

ASU Ira A. Fulton Schools of
Engineering

Arizona State University

Southwest Pavement Technology

Southwest Pavement Technology Consortium



**WORKFORCE
TRAINING**



**INFRASTRUCTURE
RESEARCH**



**DATA &
COMMUNICATION HUB**

**BRIDGING
RESEARCH**



**TO
PRACTICE**

Upcoming Events

“ Asphalt Pavement Design, Production, and Construction ”

Jan 16th and 30th, 2026

“ Forum for Improving Arizona’s Asphalt Mixture Design Specifications ”

Jan 23rd, 2026

“ Northern Arizona Asphalt Pavement Workshop ”

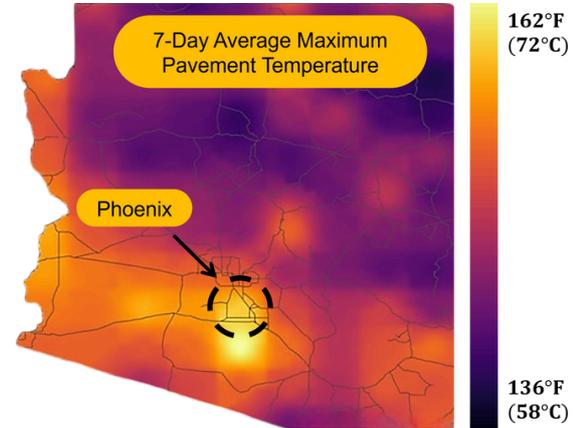
Feb 04th to 06th, 2026



Research Updates

ARIZONA'S UNIQUE CLIMATE AND IMPACTS ON PAVEMENTS

Arizona's extreme and prolonged summer heat accelerates the oxidation and hardening of asphalt binders, leading to rapid pavement brittleness and premature cracking. Arizona pavements' temperatures exceed 70°C during the summer for prolonged durations.



DEVELOPMENT OF ASPHALT CONCRETE MIXTURE LONG-TERM AGING PROTOCOL

A standard laboratory testing procedure was developed to simulate aging of asphalt concrete (AC) mixes under Arizona's extreme climatic conditions.

Major findings from the research

- The aging protocol is validated using field specimens weathered under Arizona's unique climatic conditions.
- The specimens prepared using the developed aging procedure allows for more accurate prediction of cracking resistance and pavement durability.
- The lab aged (6-15 hours at 135°C) samples reflect long-term in-service conditions, allowing accurate prediction of pavement cracking performance.



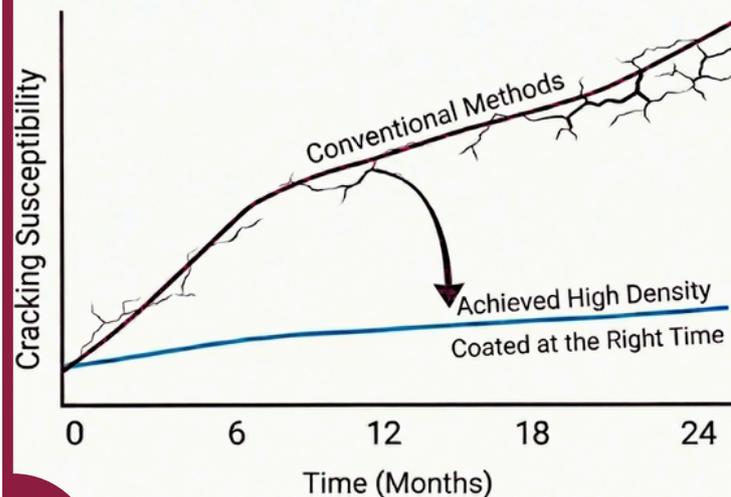
HOW CAN DENSITY AND SURFACE COATING IMPROVE PAVEMENT DURABILITY?

Achieving proper in-place density and using optimum preservation treatments can be used as a long-term durability strategy under extreme climatic conditions.

Our recent studies show that in-place (field) density plays a decisive role in how asphalt pavements age under Arizona's climate. Higher in-place density significantly reduces oxidative aging, helping pavements maintain strength, resist cracking, and extend service life compared to low-density pavements.

Surface treatments reduce exposure to heat and oxygen on the pavement surface, therefore enhancing long-term pavement durability.

Building denser pavements today and coating at the right time means fewer cracks tomorrow, ensuring Arizona's roads last longer against oxidative aging.



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2025 Best in Arizona Pavement Awards

Southwest Asphalt (Producer) ADOT Talis Construction
City of Mesa Granite Construction
M.R. Tanner Construction ViaSun, Inc.
City of Tempe City of Phoenix
Nesbitt Contracting City of Tucson
Pima County DOT Apex Motor Club
City of Glendale Pinal County Public Works Department Alex Carter (QC Manager)

We heartily congratulate all the **Award Winners**! Your project contributions are a seminal part in the Arizona pavement industry.



Student Spotlight

🎉 A big welcome to “**Can Atakan Ozturk**” as he joins us as a PhD student 🎓 at Arizona State University.

Coming from Middle East Technical University in Turkey, he brings a strong background and passion for creating more durable and long-lasting road materials.

🔬 His addition is a fantastic reflection of our commitment to fostering the next generation of pavement engineering leaders. 💡

“

We extend our deepest gratitude to every agency, contractor, and industry partner involved; you are the cornerstones of this consortium, and together, we are building the future of our region's infrastructure.

”

-
SWPT Consortium!

Our Esteemed Members

