

State News for NSPE Members

Transportation Board Approves Five-Year Construction Program

The State Transportation Board approved the [2022-2026 Five-Year Program](#), which will allow the Arizona Department of Transportation to reach its goal of allocating \$320 million per year for rehabilitation of bridges and roadways throughout the state highway system.

These rehabilitation projects through the Five-Year Program will include repaving and repairing highways, along with repairing or reconstructing bridges. The plan also includes \$407 million over five years for projects that improve highway safety, efficiency and functionality, such as smart technology or addition of shoulders.

The State Transportation Board's approval of the program followed a call for public comment in March and four virtual public hearings. In general, major projects begin as part of the agency's long-range visioning process, move into a six-to-10-year development program and then become part of the Five-Year Program. The program is developed by working closely with local and regional planning organizations and community leaders to identify projects that are ready to build or design.

Funding for the Five-Year Program is generated by the users of transportation services, primarily through gasoline and diesel fuel taxes and the vehicle license tax. Both the Maricopa and Pima County regions have independent revenue streams established through voter-approved sales taxes that allow for more expansion projects to take place in those areas.

[Read more.](#)

University of AZ Breaks Ground on \$85 Million Research Facility

Construction of the University of Arizona's new \$85 million Applied Research

Building (ARB) is in full swing. The ARB will house research that advances applied physical sciences and engineering and is expected to be completed in January 2023.

The three-story, 89,000-square-foot facility building will provide new research capabilities with state-of-the-art equipment and technology, and will bring together several interdisciplinary university programs in one location.



The ARB will connect faculty across four colleges and eight departments: the College of Engineering (Department of Aerospace and Mechanical Engineering, Department of Electrical and Computer Engineering, Department of Materials Science and Engineering and Department of Systems and Industrial Engineering); the College of Science (Department of Astronomy and the Lunar and Planetary Laboratory); the James C. Wyant College of Optical Sciences; and the College of Medicine–Tucson.

The ARB will be dedicated specifically to research programs related to the "[Grand Challenges](#)" pillar of the university's [strategic plan](#). Those grand challenges fall under areas such as space exploration, artificial intelligence, the environment and disease prevention. Although no classes will be taught in the ARB, students will be able to access the building's facilities to conduct undergraduate and graduate research.

[Read more.](#)

State Licensing Board Meeting

The Arizona State Board of Technical Registration will hold its next meeting on **Tuesday, July 27**. The meeting agenda can be accessed [here](#).

Individuals that want to attend the meeting remotely must make a request in advance and are advised to read the meeting agenda prior to making a request. Contact Kurt Winter at kurt.winter@azbtr.gov if you're interested in attending remotely.



NSPE's **Job Board** is your one-stop resource for professional engineering employment. Whether you are on the hunt for your next career move or looking for today's top engineering leaders and talent, you will find it here.

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Have You Registered for Virtual PECon 2021?

With sessions on leadership, innovation, diversity, ethics, time management, and more, there is a session for everyone at the [2021 Virtual Professional Engineers Conference](#) (Aug 3-5).

You won't want to miss out on the keynote speakers, networking with your friends and peers in Coffee Chats, solving everyday problems in MasterMind sessions, and [PE Day](#)



(August 4). Here's a peek....

- [Managing Up, Out and Within](#) (Stephanie Buckingham and Paula E. Miles, P.E.)
 - [Cyber-attacks and Resilience](#) (James Livermore and Dave Ubert)
 - [NSPE Engineering Excellence Awards](#)
 - [Mars Is a Harsh Mistress \(So is the Moon\)](#) (George Hamilton, P.E., F.NSPE)
 - [Delegation: How to Manage the Monkeys on Your Back](#) (Shelley Rowe, P.E.)
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Iowa Approves PE Exam Before Experience

PE license candidates in Iowa will have the opportunity to take the PE exam prior to meeting the four years of experience requirement.

Legislation (H.F. 284) signed by Governor Kim Reynolds in April eliminates the requirement that applicants for a professional engineer license must show necessary practical experience in engineering work prior to taking the PE exam. The bill does not alter other experience requirements for applicants.

Individuals applying for licensure in Iowa should access the Iowa Engineering and Land Surveying Examining Board [website](#) for updates on implementation of the rule change.

In states that have “decoupled” the experience and examination requirements, applicants are still required to complete all education, examination, and experience requirements before being granted a PE license.

NSPE believes that licensing boards should provide the option of taking the PE exam as soon as applicants for licensure believe they are prepared to take the exam and have passed the FE exam. Applicants, upon passing the exam, should not be eligible for licensure before meeting all other jurisdictional requirements.

Can the Engineering Profession Achieve Racial Equity?

Engineering occupations are some of the highest-paying and most prestigious in the US labor market, but they are also some of the least diverse. A [new report](#) from the Georgetown University Center on Education and the Workforce finds that between 1990



and 2019, the total number of Black/African American and Latinx students who graduated with a bachelor's degree in engineering increased nearly fourfold, but there is still far from equitable representation.

Over the same time period, the Latinx share of bachelor's degrees in engineering increased from 3% to 13%, while the Black/African American share held steady at 4%. At this pace, achieving racial equity in engineering on par with population share would take 76 years for Latinx and Black/African American workers as a group and up to 256 years for Black/African American workers alone.

“Having a career in engineering means you’ve made it,” said Anthony Carnevale, CEW director and report lead author in a statement. “While it’s a marker of climbing the wage and status occupational pyramid, it’s also a social indicator of progress on racial and gender justice.”

The report addresses how Black and Latinx are underpaid in a profession that pays very well. A person with an engineering bachelor's degree (and no graduate degree) earns 25% more on average than the typical bachelor's degree holder in the first job after graduation.

However, as with almost all fields, Black/African American and Latinx workers earn less than the average. While White and Asian workers with a bachelor's degree in engineering earn 61% and 71% more, respectively, than the average for all bachelor's degree holders, Black/African American and Latinx engineering majors earn just 15% and 18% more, respectively. To attain earnings comparable to those of White engineering majors, Black/African American or Latinx engineers must earn an additional degree beyond the bachelor's degree.

The report authors emphasize that it shouldn't take decades or centuries to ensure diversity in the engineering workforce mirrors diversity in society. It will take a comprehensive, committed, and innovative approach from employers and universities to close the gap.

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