

## State News for NSPE Members

### What's the Status of Bridges in Puerto Rico?

A recent American Road & Transportation Builders Association report provides a snapshot of the status of bridges in the US. The association compiled [state profiles and rankings](#) from the Federal Highway Administration's 2019 National Bridge Inventory Data (released in April 2020).

The recent report showed that more than one third (37%) of US bridges—nearly 231,000 spans—need repair work. More than 46,000 bridges are rated in poor condition and classified as “structurally deficient.” A total of 81,000 bridges should be replaced. While the number of structurally deficient bridges declined by 900 compared to 2018, it still would take more than 50 years to repair them all.

The [profile highlights](#) the following about bridges in Puerto Rico

- Of the 2,315 bridges in the commonwealth, 284, or 12.3%, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is up from 268 bridges classified as structurally deficient in 2015.
- The deck area of structurally deficient bridges accounts for 9.6% of total deck area on all structures.
- 37 of the structurally deficient bridges are on the Interstate Highway System.
- 848 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 1,725 bridges at an estimated cost of \$2.7 billion.
- This compares to 1,718 bridges that needed work in 2015.

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### University of PR–Mayagüez Students Win NASA Competition

A University of Puerto Rico–Mayagüez team garnered a first place honor in

NASA's 2020 Revolutionary Aerospace Systems Concepts–Academic Linkage (RASC-AL) competition, which took place through a virtual forum in June. The students won for their *Exploration Multi-Purpose Rover for Expanding Surface Science (Empress)* concept.

The RASC-AL competition is an annual university-level engineering design challenge that allows students to work on real challenges and provide innovative solutions that can be used to advance human exploration of space.

In this year's competition, undergraduate and graduate teams developed new concepts that leveraged innovations for [NASA's Artemis program](#). NASA will send the first woman and next man to the Moon, enable sustainable lunar operations, and provide the foundation for humanity's next giant leap, sending astronauts to Mars. The theme was dedicated to the analysis of future business opportunities that take advantage of space—extending to just beyond the Moon's orbit—to improve the human condition.

[Read more.](#)

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## **Electric Grid Public-Private Partnership Raises Concerns**

In June, Puerto Rico entered into a public-private partnership with Luma Energy to operate and maintain its power grid under a 15-year contract.

While this partnership allows the Puerto Rico Electric Power Authority to continue ownership and may offer new opportunities for the island, it hasn't come without criticism. A [Greentech Media article](#) and a [Marketplace Morning Report article and podcast](#) explores all sides of the debate on the partnership.

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## **We Want to Hear from You!**

Do you know of engineering news in Puerto Rico that would be great for this newsletter? Maybe it's a project you or your firm is working on, or perhaps you read some interesting engineering news in your local newspaper. Or maybe you know of a fellow PE or student who deserves a little recognition. If so, we want to hear from you. Email your ideas to [pemagazine@nspe.org](mailto:pemagazine@nspe.org).

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## **NSPE Urges Veto of Structural Engineering Bill**

In a letter to Georgia Governor Brian Kemp, NSPE encouraged the veto of a bill to establish a separate licensing system for structural engineers.

President-Elect Tricia Hatley, P.E., F.NSPE, wrote that creating a new licensing system for structural engineering does not improve the public health, safety, or welfare. “Instead, it muddies the water, creating confusion and requiring regulatory authorities to make arbitrary distinctions to define structural engineering,” she added. “Rather than reducing regulatory burdens, the change would add a new layer, requiring one engineer to obtain multiple licenses in order to do work that, previously, required only one.”

Instead of creating a separate licensing system, NSPE recommends a certification process that occurs after the professional engineering license has already been obtained. “This system would allow for the SE designation, if required or requested by potential employers or RFPs, without drawing the same, hard line between structural and other types of engineering,” Hatley wrote.

[Read the full letter.](#)

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## **Take Action on Federal Infrastructure Bills**

You have an important opportunity to add your voice to the debate around pending infrastructure legislation.

The first two bills are the House and Senate’s surface transportation infrastructure reauthorization bills—The INVEST in America Act ([H.R. 2](#)) and the America’s Transportation Infrastructure Act of 2019 ([S. 2302](#)). This is an opportunity to communicate to members of Congress the importance and value of having PEs involved in engineering decisions to protect the public health, safety, and welfare.

[Take action on surface transportation reauthorization!](#)

The third bill, the SMART Infrastructure Act ([H.R. 4687](#)), would take decision-making authority away from professional engineers and instead give it to state and local authorities, allowing them to select “appropriate” construction materials. The bill would establish that these entities would have the flexibility to select appropriate construction materials that meet the performance requirements of the contract and enhance the service life, sustainability, and resiliency of the project.

NSPE opposes this bill because its enactment would prevent PEs from making the final decision on the appropriate construction materials for a project. Additionally, it establishes a federal interagency task force charged with deciding whether state and local procurement practices have artificial barriers to competition for new and innovative materials and recommending actions that can be taken to remove barriers. Their decisions could put the public at risk should these new and innovative materials present unforeseen harms to the public.

## Celebrate PE Day!

NSPE is celebrating licensed professional engineers with the [fifth annual Professional Engineers Day](#) on Wednesday, **August 5**. Join the Society in raising awareness about what it means to be a PE and showing appreciation for the work they do every day.

In lieu of in-district meetings with legislators, like those conducted last year, NSPE members will be able to participate in a series of panel discussions. The discussions will include members of Congress and/or their staff, who will share information on pending legislation that impacts the engineering profession. NSPE members will have opportunities to ask questions and to take action on the bills that are discussed by the panel.

PE Day falls within the week of the Virtual **PECon** (August 3–7). As a highlight of PE Day, NTSB Chairman Robert Sumwalt III, will discuss [“The Role and Responsibility of Professional Engineers in Ensuring Safety of Our Nation’s Infrastructure.”](#) His presentation will touch on the NTSB’s recommendation for eliminating the PE license exemption for public utility work, and the requirement for a professional engineer’s seal on public utility engineering drawings, stemming from the tragic pipeline explosions and fires in the Merrimack Valley of Massachusetts.

IBM’s Global Chief Technology Officer Ben Amaba, is also featured as a keynote speaker and will cover the [professional engineer’s role](#) in artificial intelligence and technology.

[Register for the Virtual PECon.](#)

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