

The Grainger College of Engineering

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Federal, state dignitaries visit to support Grainger Engineering transportation infrastructure research initiatives

U.S. Secretary of Transportation Pete Buttigieg joined U.S. Representative Nikki Budzinski and U.S. Senator Dick Durbin on campus Monday to celebrate the potential of projects led by Grainger Engineering faculty.

WRITTEN BY AARON SEIDLITZ

On Monday, Civil and Environmental Engineering professor [Bassem Andrawes](#) recently introduced [Transportation Infrastructure Precast Innovation Center](#) (TRANS-IPIC) received “a dose of encouragement and excitement about the mission we are undertaking” with a visit from United States Secretary of Transportation [Pete Buttigieg](#), U.S. Representative [Nikki Budzinski](#), and U.S. Senator [Dick Durbin](#).



Civil and Environmental Engineering professor Bassem Andrawes

In February, The Grainger College of Engineering [introduced TRANS-IPIC](#) as a consortium of five universities, including Purdue University, Louisiana State University, SUNY University at Buffalo and the University of Texas San Antonio.

Led by Andrawes and supported by a \$2 million grant from the [U.S. Department of Transportation](#), TRANS-IPIC seeks to improve the durability and extend the life of transportation infrastructure by advancing the technologies used in precast concrete systems.

With the concept entrenched, and early advancements already occurring, Monday's visit at the Newmark Civil Engineering Laboratory served as a reinforcement of the mission.

“Their visit bolsters the sense of support we are receiving from the federal government and our congressional representatives in Illinois. It certainly confirms the importance of TRANS-IPIC and its role in advancing our transportation infrastructure through research and education,” Andrawes said.

The magnitude of projects like TRANS-IPIC extends throughout Grainger

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Engineering to other transportation infrastructure initiatives, which were put into further perspective during the visit.

This included discussion about the [Illinois Center for Transportation](#), led by [Imad Al-Qadi](#), and the [Rail Transportation & Engineering Center \(RailTEC\)](#), led by [Christopher Barkan](#).

live in for the better.”

Dean Rashid Bashir,
The Grainger College of Engineering

“I would first just like to say that everyone here at the University of Illinois Urbana-Champaign, rightly, is proud of the contributions they have made in U.S. infrastructure and to our economy in so many ways. We are going to look for more; having seen some of the demonstrations while walking on campus today, I can see some of the extraordinary things that will come from the brainpower emanating from this institution,” Buttigieg said, as he thanked Congresswoman Budzinski for inviting him and Senator Durbin for helping usher in the \$1 trillion infrastructure bill signed in 2021 by President Joe Biden.

“Due to the infrastructure bill, we are marshalling in resources that now represent the greatest infusion of federal dollars into U.S. transportation infrastructure in my lifetime – and we’ll do this to maximum effect.”

As state leaders, Budzinski and Durbin each considered the collective response on such timely and important matters to be a clear strength of Grainger Engineers and the state of Illinois.

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U.S. Transportation Secretary Pete Buttigieg

“I initially became involved in public service through Quad Day, right here at the University of Illinois Urbana-Champaign,” said Budzinski, an alumna. “I hope we all leave today inspired by the transformational moment that we are all experiencing from infrastructure to the CHIPS Act, to addressing climate change. These are all very real efforts that will transform our communities.”

“It’s exciting to come to this campus, always exciting, mainly because of the people on this campus and what they mean to our nation and to the world. I’m not exaggerating,” Durbin said.

While the scope and capability of such innovation occurring within Grainger Engineering rarely surprises Dean [Rashid Bashir](#), it certainly reinforces the notion that change happens here.

“When solving problems, Grainger Engineers do not wait to innovate,” Bashir said. “Our commitment to this type of collaborative and creative work comes from the complete confidence we have in our dedicated researchers and energized students.

“Seeing Secretary Buttigieg, Congresswoman Budzinski and Senator Durbin here honoring this commitment galvanizes us all around the idea that Grainger Engineering and the University of Illinois Urbana-Champaign can change the world we live in for the better.”

As the newest project recognized during the visit, TRANS-IPIC has already begun progressing in a way that proves the capability of Grainger Engineering to collaboratively and efficiently propose new solutions to existing problems.

Since February, Andrawes has overseen the development of TRANS-IPIC as it's grown the number of research affiliates involved to over 30 faculty and researchers working on cutting-edge topics pertinent to precast transportation infrastructure. The center also established its Industry Partnership Committee, composed of industry leaders and state Department of Transportation representatives from across the country. Finally, TRANS-IPIC performed the first full-scale implementation of a new patented technology worked on at the University of Illinois Urbana-Champaign using “shape memory alloys,” which Andrawes said is an innovative class of smart materials that is extremely adaptable and resilient.

Andrawes noted that old and outdated technologies equate to inefficient and insufficient transportation infrastructure, which TRANS-IPIC can help overcome through its focus on precast concrete systems.

“In light of new challenges facing our nation and the world, we need, now more than ever, to invest in research that will take our infrastructure into the future. TRANS-IPIC will help our nation meet this challenge through performing groundbreaking transformative research,” Andrawes said. “The support we’ve received from the U.S. DOT grant established this effort. And to be housed within Grainger Engineering means we can attract the best engineering students and researchers in the world to help innovate within this effort.”



Bashir, Budzinski, Buttigieg, and Durbin at TRANS-IPIC event



RailTEC students (left), University of Illinois faculty and staff, and distinguished guests including Pete Buttigieg, Nikki Budzinski, Dick Durbin, and Omer Osman celebrating U.S. infrastructure research.

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