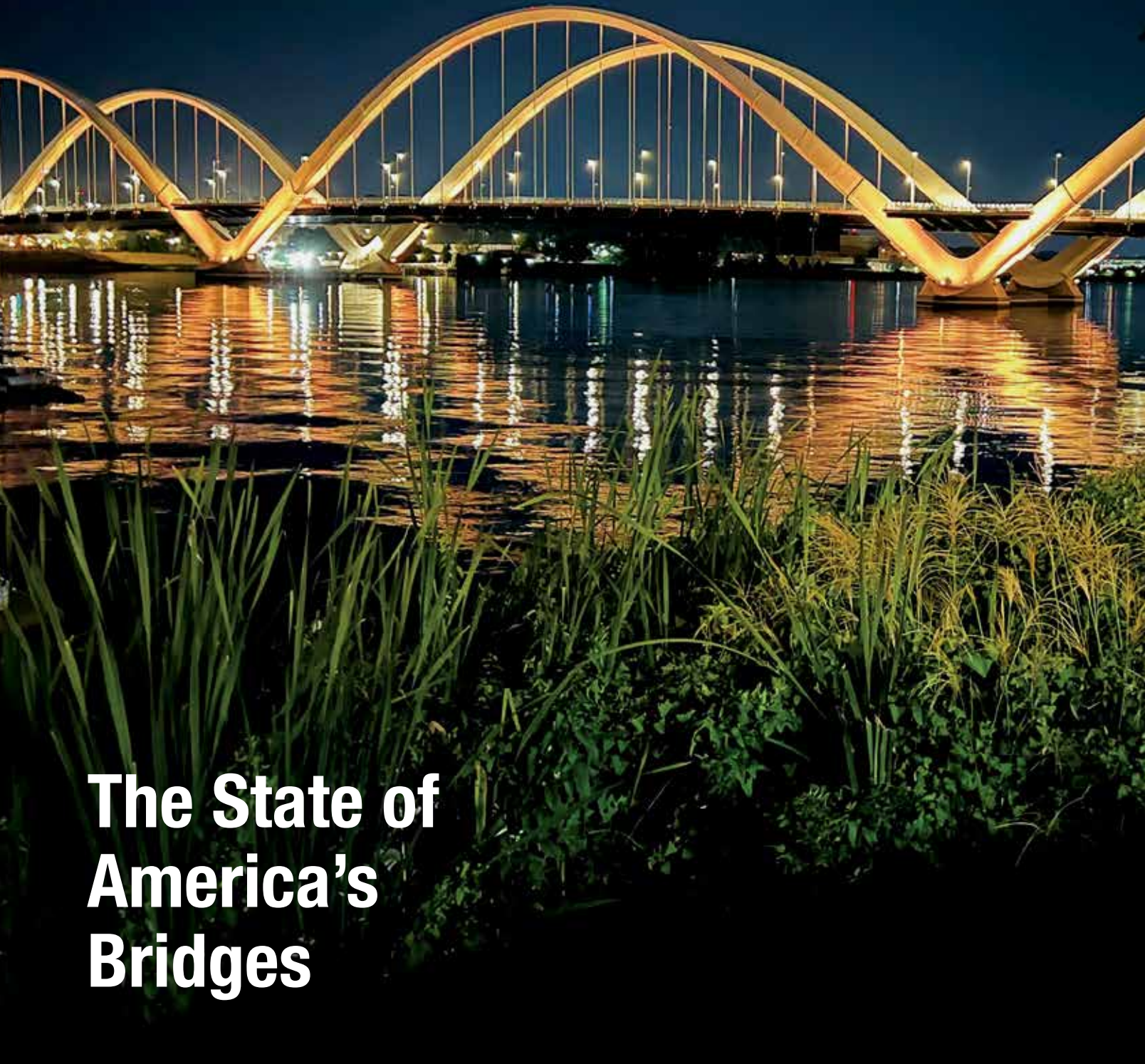


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**The State of
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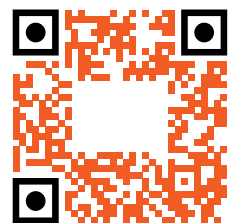
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Cover photo: Frederick Douglass Memorial Bridge in Washington, D.C. Courtesy of HNTB.

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EDITOR'S NOTE

BETH MCGINN | Editorial Director

Improvements Ahead



Beth McGinn
Editorial Director
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ARTBA's economic team has been analyzing federal data on bridge conditions in all 50 states for over a decade. This year's bridge report finds that one-third of U.S. bridges need fixing. The data also shows states starting to leverage bridge formula funds provided in the 2021 infrastructure law to address the problem.

The projects on pages 28 and 29 are prime examples. These old steel bridges in Illinois and Oklahoma served their communities and our country well for over half a century. Like so much of our post-World War II infrastructure, they have reached the end of their lifecycle. With help from new and historic levels of federal infrastructure investment, states are now confidently moving forward with long delayed plans to repair and replace these indispensable parts of our daily lives and national economy.

But bridge projects are not mill and overlay jobs. They are complex, multi-year, multi-million-dollar projects that require extensive planning, design and permitting. The Golden Gate Bridge project featured on page 26 is a good example. Final efforts to fortify this iconic and essential structure against the next potential earthquake will take five years.

That is why even small improvements in the overall condition of the nation's bridges is encouraging. ARTBA's report finds that bridges in "poor condition" now represent 6.8 percent of the 2023 U.S. bridge inventory—compared to 7.4 percent in 2019. With additional federal government investments, states are positioned to accelerate these improvements in coming years.

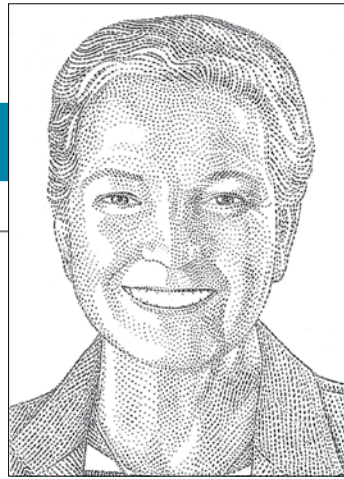
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PAULA HAMMOND | Senior Vice President, WSP USA

Telling & Selling the Story on the Infrastructure Investment Law

In September 2022 when the ARTBA Board convened in Nashville for my first meeting as chair, I outlined three top industry priorities: 1) securing the Infrastructure Investment and Jobs Act's (IIJA) year-two highway and transit funding levels; 2) helping ensure the law's ongoing implementation; and 3) telling the story of how the IIJA is positively impacting America.

As I write this last column in late September 2023, I can tell you we made great progress on all three.

For Fiscal Year 2023, Congress approved \$92.7 billion in highway, bridge, and public transit investment, along with \$3.4 billion in supplemental resources for highways.

Relating to priorities #2 and #3, a key moment was my March 28 testimony before the House Highways & Transit Subcommittee. It offered ARTBA an opportunity to discuss the 40,000 IIJA-funded improvements underway in all 535 congressional districts. That number is now more than 51,000 and growing by the month. ARTBA has been active on the regulatory front as well, regularly filing agency comments with the aim of ensuring the IIJA's policy provisions are implemented in a timely manner to maximize the law's funding.

Telling the IIJA story is also about laying the groundwork for the next reauthorization bill, due in late 2026. This is why in June we launched a multi-year external communications campaign to explain how these projects are positively impacting our quality of life. Many state DOTs have collaborated with us on this initiative. To date, we have written 40 project profiles, and produced eight companion short-form IIJA project videos for distribution via social media. These efforts will continue.

Looking down the road, I am optimistic for our industry because we have three more years of strong IIJA highway and transit funding still to come, and a new advocacy-centric strategic plan unanimously approved by the ARTBA Board at its September meeting in San Diego.

I leave the association in the capable hands of my good friend, Tim Duit. He is smart, thoughtful, knows how to build consensus, and is committed to advancing the association's goals.

It has been an honor to serve as chair. My thanks to the readers of this magazine, to the Executive Committee, and members of the Board for your support and continued engagement. You have helped create a year of memories that I will cherish.

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THE ARENA

DAVE BAUER | President & CEO, ARTBA

Major League Streamlining

I aim to attend at least one Washington Nationals baseball game each season. This year, I was curious how the new pitch clock and other rule changes would affect the game. To my delight, the Nats dialed up homeruns and scoring as they pounded the Chicago White Sox 13-3 in late September. Major League Baseball reports more runs scored and bases stolen this year with the new rules, and all in a shorter time—delivering action faster.

This experience reinforces how process improvements can produce impressive results. That is why ARTBA championed the 2021 infrastructure law's streamlining provisions, which set a goal of two years to complete the environmental review process—all in the name of speeding up project delivery. This year's debt ceiling agreement strengthened these reforms, by turning the goal into a requirement.

We've made progress, and a bipartisan appetite for more remains. A House bill to reauthorize federal aviation programs contains language that would extend the Infrastructure Investment and Jobs Act's (IIJA) project delivery reforms to airport construction programs. It overwhelmingly passed the House and awaits Senate action. Sen. Joe Manchin (D-W.Va.) is leading a similar push for energy infrastructure improvements.

These efforts counter the narrative that accelerating environmental reviews is an ideological endeavor. The IIJA and debt ceiling agreement passed with broad bipartisan support, and now that IIJA's two-year anniversary nears, we can begin to assess its effectiveness.

According to ARTBA data, state DOTs have advanced more than 50,000 highway improvement projects with federal funds. But making sure they are not mired in red tape will be key to achieving their intended safety and mobility benefits. As then ARTBA Chair Paula Hammond noted during March 2023 congressional testimony, "the IIJA's success will be judged, in part, by delivering infrastructure improvements to communities in a timely and cost-effective manner. A workable review process is integral to meeting this objective."

ARTBA will continue to laud the value of these reforms and their ability to maximize IIJA's increased funding. During an October congressional briefing, ARTBA members highlighted three projects that demonstrate what can be achieved when unencumbered by regulatory curveballs. In Pittsburgh, the Fern Hollow Bridge was rebuilt and reopened less than a year after its 2021 collapse. Hurricane Ian ravaged south Florida, cutting off Sanibel Island's only connection to the mainland in September 2021. Bridge repairs were completed and traffic started flowing again in less than a month. And this past summer, I-95 in Philadelphia reopened just 12 days after an accident and fire caused a section of the highway to fail.

Time is money. The more quickly the IIJA's investments result in tangible improvements in communities across America, the more members of Congress we will see stepping up to the plate and supporting additional transportation investments when the next bill is due in fall 2026.



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FROM THE FOUNDATION CHAIR

PAUL YAROSSO | Director, HNTB

New Name, Same Mission

Foundation Scholarship Expands to Help More Children of Fallen Construction Workers

Twenty-five years ago, two Virginia contractors, brothers Stan and Jack Lanford, had a clear goal: to help the children of fallen highway workers attend college or trade school.

They both knew the pain of losing company workers due to tragic incidents in road construction zones, and they were determined to provide a ray of light.

With a generous \$100,000 gift, they launched the “Lanford Family Highway Worker Memorial Scholarship” program. Since that time, the ARTBA Foundation—through the scholarship fund—has disbursed more than \$800,000 in aid to worthy students in 33 states. The fund is sustained annually by generous donations from ARTBA members, AASHTO and industry foundations.

This success, along with increased construction activity resulting from the 2021 infrastructure law, is driving a new direction for the program.

We are pleased to announce the newly renamed **Lanford Family Transportation Construction Worker Memorial Scholarship®**.

It will extend post-high school financial assistance to the sons, daughters or legally adopted children of workers killed or permanently disabled while working on projects in these sectors: airports, bridges, marine, ports and waterways, public transit, roads, railroads, tunnels, and utilities. Stan recently summed up the situation nicely, saying:

“The 2021 infrastructure law is providing record levels of federal investment in all modes of surface transportation to repair and modernize an aging network. The American people will be the ultimate beneficiaries of these improvements. At the same time, however, the increased investments also mean more project worksites that put more construction workers at risk. That’s why it is the right time to expand the scholarship’s reach.”

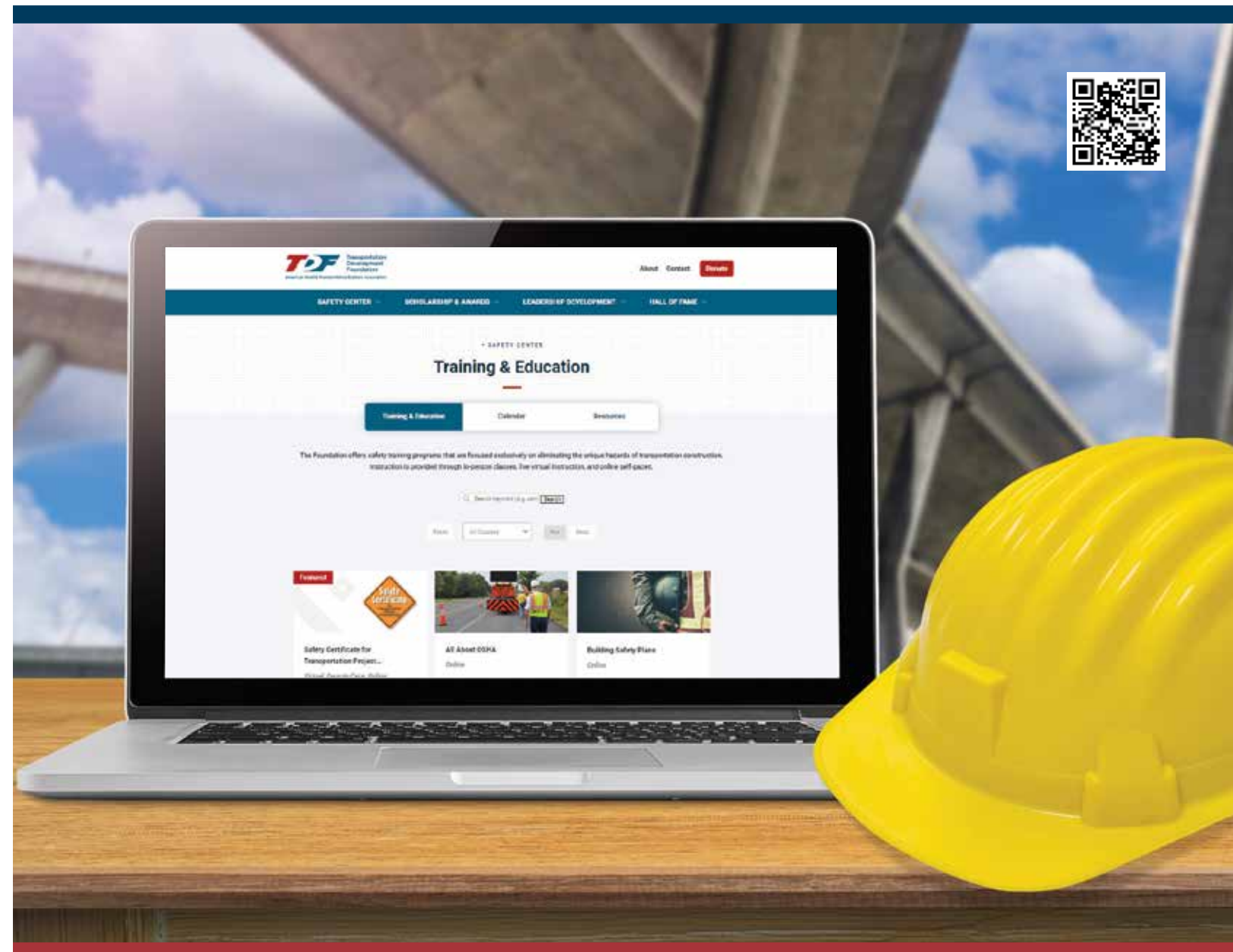
Please help us spread the word by sharing this information about the scholarship with your colleagues. Together, we can meaningfully help the families whose loved ones made the ultimate sacrifice while building a better America.

Editor’s note: Applications will be considered for the 2024-25 academic year and will open in January 2024. Questions about the program or referrals for eligible students can be directed to ARTBA’s Melanie Laird: mlaird@artba.org or 202.289.1029. For more information on making a tax-deductible donation before the end of 2023, please visit artbafoundation.org.



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States Leverage IIJA Bridge Formula Program to Make Critical Repairs

BY DR. ALISON PREMO BLACK
ablack@artba.org

The 2021 Infrastructure Investment and Jobs Act (IIJA) provides expanded funding for states to move forward in repairing and replacing America's aging bridges. If you have followed ARTBA's annual bridge conditions report over the last 10 years, you know this investment is needed.

Our analysis of the recently released 2023 U.S. Department of Transportation (DOT) National Bridge Inventory (NBI) database finds that 36 percent of all U.S. bridges—over 222,000 spans—require major repair work or replacement. Placed end-to-end, these structures span over 6,100 miles—and would take over 110 hours to cross at an average speed of 55-miles-per-hour.

The good news is states are beginning to leverage their IIJA bridge formula funds to tackle the problem. At the end of Fiscal Year 2023 on Sept. 30, states committed \$3.5 billion, or 34 percent, of available bridge formula funds to nearly 2,400 different bridge projects—with \$7.4 billion still to come.

Regardless of the size of the commitment or the project, these repairs will have a big impact on communities across the nation.

Bridge Formula Program

While states are always able to spend their traditional formula funds on bridge projects, the new IIJA bridge formula program is different. It provides support for both state and local bridge repairs—something many state DOT leaders have lauded.

Transportation agencies currently have access to \$10.6 billion in IIJA bridge formula funds, with another \$15.9 billion to be made available in the next three years. The law also gives them four years to dedicate funds to a specific project, giving DOTs and local governments extra flexibility in deciding when to make investments. Half of the funds are set aside to help with local bridge projects.

States are also able to use their funds in combination. Nearly 30 percent of projects supported by bridge formula funds also include commitments from the state's federal aid highway program allocations.

ARTBA's research finds states are using a variety of procurement methods for bridge work, including the traditional design-bid-build, design-build, public private partnerships, and construction manager/general contractor.

After the first two years of the IIJA, eight states committed more than two-thirds of their available bridge formula funds:

- Idaho (100 percent of available funds committed)
- Georgia (100 percent)
- Alabama (97 percent)
- Arizona (88 percent)
- Indiana (81.5 percent)
- Florida (80 percent)
- Texas (78 percent)
- Arkansas (68 percent)

There are 31 states, however, that have committed less than 33 percent of available funds, as of July 31.

Some of the largest IIJA bridge formula commitments include support for:

- Replacement of the Chain of Rocks Bridge carrying I-270 over the Mississippi River, connecting Madison County, Ill., and St. Louis, Mo. (\$162 million in bridge formula funds committed to date)
- Replacement of three bridges (SR-14/US-61) in Shelby County, Tenn. (\$76 million)
- Replacement of Route 47 bridge over Big Timber Creek, Westville, N.J. (\$55 million)
- Replacement of the SR 30 (US 98) Dupont Bridge over St. Andrew Bay/Gulf Intracoastal waterway, Bay County, Fla. (\$48 million)
- Painting and rehabilitation of the Veterans Memorial Bridge, Gramercy, La. (\$45.6 million)
- Support for Package 1 of the Major Bridge P3 Program, Pennsylvania (\$44.6 billion)

Small Bridges Need Love, Too

In addition to supporting larger reconstruction, replacement, and repair projects, bridge formula funds are also being used to fix rural and local structures, as well as planning and design work.

One example is the Utah DOT, which committed \$600,000 in bridge formula funds to help Sandy City reconstruct two local neighborhood bridges. Cyndi Sharkey, a Councilwoman for Sandy City, said they had been "grappling" for years on how to find money for the repairs. The concrete on one of the bridges had deteriorated so badly that rebar and cables were exposed, and water would seep from the deck.

Idaho committed over \$700,000 to support the design and environmental work needed to replace the Old Highway 95 bridge over the Union Pacific Railroad in Athol. The bridge,

See *Bridges*, 15

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Bridges, from 13

rated in "poor" condition, was described in the request for proposals as "inadequate" and "concerning to local law enforcement and the schools." The single-span bridge is currently in the preliminary design and environmental document stage.

Another new IIJA program that can help with smaller projects is the Bridge Investment Program (BIP), administered on a discretionary basis by the U.S. DOT. It provides an additional \$12.5 billion for projects that will be awarded through 2026. So far, the BIP has awarded \$2.4 billion for 37 planning, small, and large bridge project grants in 28 states.

Slow and Steady

Over the last five years, the share of bridges in fair condition has continued to grow as the share of structures classified in "poor" or "good" condition declined. In 2023, nearly half of all bridges in the U.S. (48.9 percent) are in fair condition. Bridges in poor condition represent 6.8 percent of the 2023 U.S. bridge inventory—compared to 7.4 percent in 2019.

Based on average cost data submitted by states to the U.S. DOT, ARTBA estimates it would cost over \$319 billion to make all needed repairs. The boost in federal funding through IIJA grants and the new bridge formula program will help states with the cost of the bridge work, especially on local networks.

New Bridges Making the List

While not the kind of list you strive to be on, here are some new additions to the annual list of U.S. bridges rated in poor condition:

- IH 345 over IH 30 and US 75 in Dart Rail, Texas
- Lacey V. Murrow Memorial Bridge, Washington
- Route I-678 over Flushing Bay Promenade, New York

- NC 58 over Intracoastal Waterway, North Carolina
- I-84 White Salmon over the Columbia River, Oregon
- State Route 51 North Bound in Sacramento, Calif.
- LA 27 over the Intracoastal Waterway in Gibbstown, La.
- US 21 Southbound over Beaufort River, South Carolina
- PR 53 over Grand De Patillas River, Puerto Rico
- SH 146 over Clear Creek and Shipyard Drive, Texas

State Rankings Similar to 2022

Most state rankings stayed the same this year, even as improvements have been made. The states with the most bridges in poor condition, as a percent of their total bridge inventory, are:

1. West Virginia (20 percent, #1 in 2022)
2. Iowa (19 percent, #2 in 2022)
3. South Dakota (17 percent, #3 in 2022)
4. Rhode Island (15 percent, #4 in 2022)
5. Maine (15 percent, #5 in 2022)
6. Pennsylvania (13 percent #6 in 2022)
7. Puerto Rico (13 percent, #7 in 2022)
8. Louisiana (12 percent, #8 in 2022)
9. Michigan (11 percent, #9 in 2022)
10. North Dakota (11 percent, #10 in 2022)

For a full list of rankings and details by state and Congressional District, check out the ARTBA annual bridge report at artbabridgereport.org. The report provides a snapshot in time of our nation's bridge conditions.

Dr. Alison Premo Black is ARTBA's chief economist.

U.S. Bridge Inventory, by Rating				
	2022	2023	Change 22 to 23	% Change 22 to 23
Good	276,282	275,093	-1,189	-0.4%
Fair	301,355	304,026	2,671	0.9%
Poor (Structurally Deficient)	42,951	42,391	-560	-1.3%
Total Number of Bridges	620,588	621,510	922	0.1%

Does not include Guam and U.S. Virgin Islands

Editor's note: Most bridges are inspected every two years, and their classification is based on the latest inspection; therefore, state and local governments may be in the process of working on some of these structures to make needed repairs.

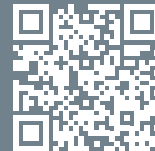
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Transportation Investment on the Ballot

BY CAROLYN KRAMER SIMONS
csimons@artba.org

Each November, voters in hundreds of localities around the country decide whether to newly invest in their roads, bridges, and transit systems. In some cases, it's a traditional extension of an existing gas tax, and in others, it's a new fee on short-term vacation rentals.

No matter the funding mechanism, when voters weigh in on these measures, ARTBA's Transportation Investment Advocacy Center (ARTBA-TIAC) is ready to report the results. As you might appreciate, the morning after Election Day is a caffeine-fueled, organized chaos in my office.

After 10 years of tracking these issues, we know that transportation investment consistently receives strong public support at the ballot box. Since 2013—the year TIAC was established—voters have approved 85 percent of all measures. We tracked 2,871 of them, which combined, are worth an estimated \$345 billion in new and renewed revenue.

The last two years have been particularly positive for local transportation funding advocates. In 2021's off-year election, voters in 17 states approved a whopping 89 percent of 275 initiatives.

Last year, voters in 18 states approved 88 percent of 380 state and local ballot initiatives aimed at boosting investment. Fifty-eight percent of those measures were property taxes, 20 percent were sales or income tax-related, and the remaining 32 percent were mostly bond measures.

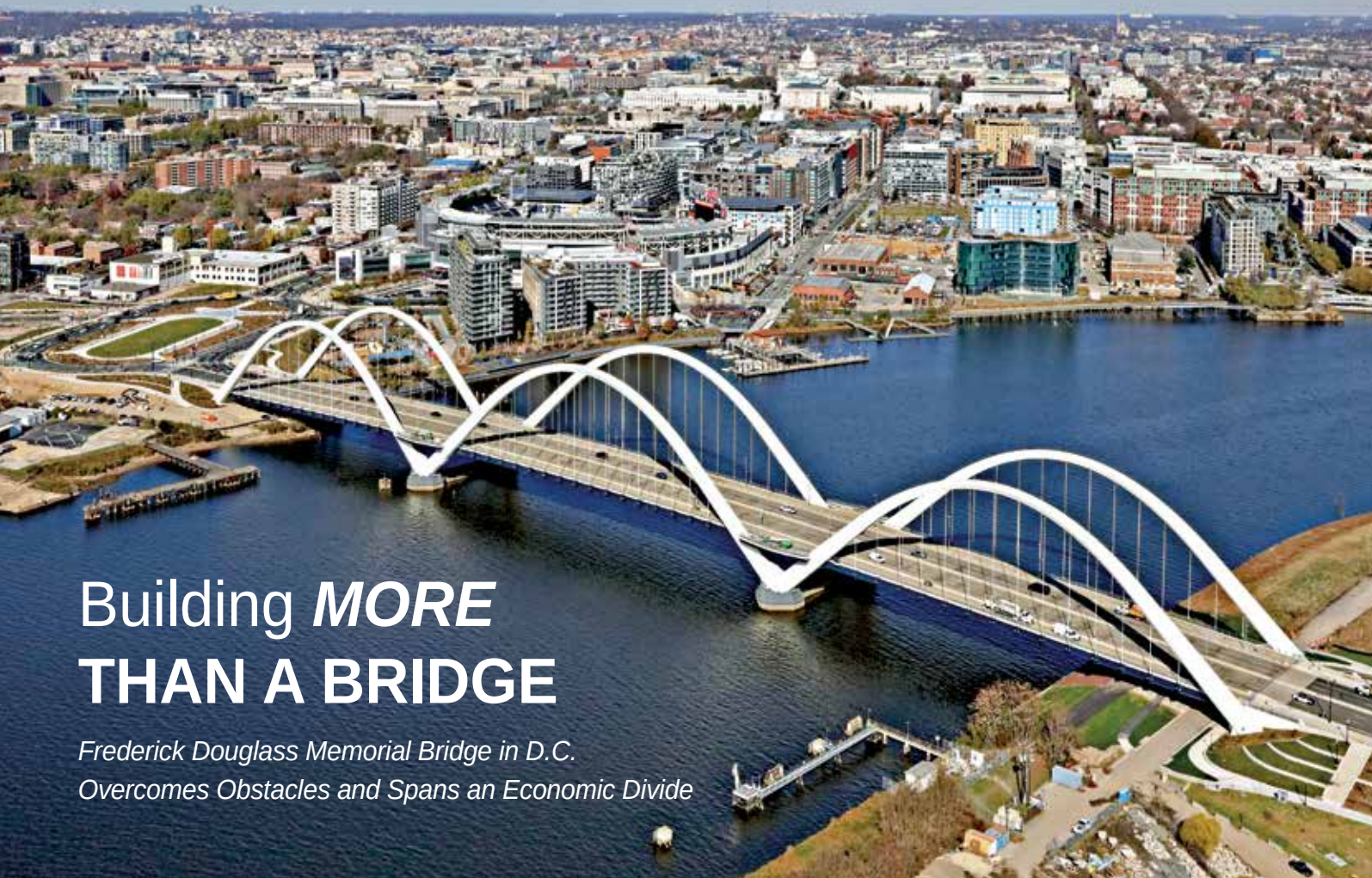
The 380 measures approved are expected to generate nearly \$23 billion in one-time and recurring revenue for projects. Of that funding, 85 percent will be used for highway, street and bridge improvements, while 12 percent will be used for multimodal projects and three percent toward rail and transit construction.

Off-cycle election years—meaning no congressional or presidential candidates—typically have fewer measures on the ballot. However, based on our current view of the advocacy landscape, we anticipate a robust transportation ballot this year. Much of the activity will come from localities requesting renewals or extensions of existing taxes that are reaching their sunset date.

To view the results of this year's ballot measures, visit transportationinvestment.org beginning Nov. 8.

Carolyn Kramer Simons is ARTBA's senior director, state funding policy, and managing director of its Transportation Officials Division.





Building *MORE* THAN A BRIDGE

Frederick Douglass Memorial Bridge in D.C. Overcomes Obstacles and Spans an Economic Divide

Article reprinted with permission from HNTB Designer Magazine.

The new Frederick Douglass Memorial Bridge in Washington, D.C., crosses more than just the Anacostia River. The largest infrastructure investment in District Department of Transportation (DDOT) history, the project not only replaced the functionally obsolete 68-year-old bridge, it reconstructed the Suitland Parkway/I-295 interchange.

The new structure improves pedestrian and vehicular safety, enhances multimodal transportation options, increases community accessibility and supports economic development on both sides of the river. In many ways, revitalization is the overriding goal, particularly for the historically underserved community around it.

DDOT wanted a bridge that directly addresses the inequities in transportation policy, planning and project delivery in Washington, D.C. The idea was for the project to provide economic fuel to the region. And it seems to be working, as investments and development are already on the rise.

“It was our responsibility to incorporate and carry out that vision statement through our projects,” says Joe Dorsey, deputy program manager for the South Capitol Street

Corridor Program, a mega infrastructure project that includes the construction of the new Frederick Douglass Memorial Bridge.

“We make sure our projects are mindful of the external environment,” Dorsey adds, “and ensure that pedestrians and cyclists have access to mass transit.” The bridge was designed with six lanes of traffic in each direction along with 18-foot split use paths for bicyclists and pedestrians.

HNTB joined the team in August 2017 as program and construction manager to provide project oversight. Much of the HNTB team also worked on another DDOT mega project—the 11th Street Bridge replacement and widening—where its recommendations resulted in cost savings and a significantly reduced schedule.

“HNTB was a major part of the 11th Street success, and we certainly benefited from having them again,” Dorsey says. “Their knowledge and experience were essential for us on a project of this magnitude.”

See Douglass, 20

INNOVATIVE WORKFORCE TRAINING PROGRAMS PROVIDE OPPORTUNITIES

There is a growing disconnect between the rising number of available construction jobs and the skillsets of the populace. It’s a particular concern in economically underserved areas. Anticipating and understanding that need, DDOT invested in three workforce development programs during the Frederick Douglass Memorial Bridge project:

- **Construction Management Training Program (CMTP):** A field service and classroom curriculum that provides accelerated instruction and opportunities for District residents with little to no experience in high demand jobs to earn certifications and increase chances of employment in construction management.
- **STRIVE Program:** A six-week, hands-on mentoring program that exposed District high school students with a proven affinity for STEM education to key discipline areas in heavy civil engineering.
- **Jobonomics DC:** A 10-week, grassroots program focused on basic job skills and heavy civil training to connect residents in the most impoverished communities in the District of Columbia to construction jobs and startup businesses.

CMTP has been unquestionably impactful. For Jon Whitney, HNTB senior project manager, it wasn’t his first experience with the program. HNTB partnered with DDOT to develop the program during the 11th



Street Bridge Project to provide a practical pathway to employment for those expressing interest in construction but lacking access to training.

Today, CMTP is a more polished version of itself. “It has been standardized, so that no matter who is doing the program they can easily pick it up and run with it,” Whitney said.

Gary Olson, who comes from a family of teachers, ran the program for HNTB at the Frederick Douglass Memorial Bridge site.

“While it’s not unusual for a construction project to include an on-the-job training program, it’s typically geared toward laborers, carpenters, cement masons, etc.,” said Olson. “They are not typically training for those on the quality assurance side of the table.”

During the training, CMTP accelerates instruction and opportunities for certifications in concrete, soils and aggregate compaction, safety and flagging and pavement marking to minorities, women, and individuals from underserved communities interested in the infrastructure construction industry. Students also can acquire ACI Concrete Field Testing and Soils and Aggregate Compaction Technician certifications.

Participants receive in-class training, and they spend time shadowing workers and inspectors in the field, receiving mentorship and ample exposure to on-site concrete applications such as retaining wall placements and approach slab construction. Following the preparatory training, participants take the certification exams in the areas of study.

See Workforce, 21



The firm was instrumental in overseeing the design process and ensuring that the Frederick Douglass Memorial Bridge was constructed according to technical requirements, visual quality requirements and specifications.

“Ultimately, we’re replacing the existing bridge with a new signature structure, as well as constructing traffic ovals at each end of the bridge for the purpose of calming traffic and to provide connections to numerous intersecting roadways,” said Jon Whitney, HNTB senior project manager. “The center of the ovals created public spaces for the local communities on each side of the river. On the east side of the river, we also reconstructed a portion of I-295, including bridges over three roadways and a new interchange between I-295 and Suitland Parkway.”

It was a much-needed investment. The existing interstate didn’t meet current design standards, and the bridges were structurally deficient.

Working Together

Co-location was critical in the beginning. The collaborative atmosphere that sprang from the project’s early days proved vital, as numerous changes would ultimately need to be incorporated into the design.

The in-person meetings morphed into Zoom and Microsoft Teams meetings when the pandemic hit. “We were still co-locating, but it just moved to our desktops,” Dorsey added.

“We brought everyone to the table to make changes happen quickly and efficiently, and it involved a lot of give and take,” Navin Jain, HNTB deputy program manager and contract manager.

When the pandemic hit, the collaborative approach proved beneficial once again, as the team quickly pivoted to take advantage of lighter traffic and implemented extended lane closures to expedite construction.

“Many of the work restrictions were lifted,” Whitney says, “so that helped the design-builder significantly advance the project during the lockdown.”

And when supply chain issues threatened to drag the project mid-way through the schedule—like many construction projects, HNTB took a hands-on approach by directly coordinating the DDOT approval process for long-lead items to ensure timely deliveries.

“We proactively worked with the contractor to help them expedite that process,” Jain says.

When utility relocations threatened to significantly impact the schedule, the team came together to re-sequence the project



to keep it moving. And when one of the bridge’s iconic arches was 3/4-inch out of tolerance, with five segments already in place, everyone came together to work a solution.

“Everyone pitched in to make the best decisions,” Dorsey says.

A Purposeful Approach

A stakeholder communications committee comprised of at least 25 community representatives, was created to address any potential community-related issues while working across such a heavily populated area of the city—there are major league baseball and soccer stadiums, a military facility and residential areas in close proximity to the jobsite.

The group met quarterly in the project office, during which HNTB would provide updates and receive feedback regarding issues and concerns. In the process, committee members would frequently become advocates for the project.

The committee’s impact on the project was undeniably far reaching.

“They brought some great ideas to the table,” Whitney said. “For instance, there’s some very intricate landscaping and hardscaping in these large open spaces within the ovals on either side of the bridge, and they wanted to know who was going to maintain those areas.”

While it wasn’t part of the original contract, the team found a way to include an irrigation system in the contract through negotiations between the design-builder and DDOT.

They also incorporated a butterfly garden at the committee’s request.

“In the end, the stakeholder communications committee provided a great way for them to feel connected to the project. It was a great way to engage the stakeholders, and it produced some very real benefits,” Whitney said.

CONTACT

Jon Whitney, HNTB senior project manager
703.969.8264; jwhitney@hntb.com



Workforce, from 19

Cherie Gibson, HNTB outreach and communications manager, says HNTB partners with several workforce development groups, including the Department of Employment Services, the Department of Veteran Affairs, and DDOT, to find the participants.

“We let them know when we’re ready to gear up for a new class, and they help us get the word out,” Gibson said. “They also refer people to us.”

From there, the applicants participate in a screening process. “We give them a rudimentary math test to make sure they are capable of doing the math to pass the certification as well as a reading component,” Whitney said.

It’s an eight-week, intensive class and field training program. Students are paid two stipends, one in the middle of the program and one at the end. They’re also provided with safety gear and access to transportation to the classes. That enables them to continue to pay their bills while participating in the program. The program pays for the certification classes and testing as well.

DDOT’s Joe Dorsey, deputy program manager for the South Capitol Street Corridor Program, is encouraged by the success of the program.

“We’re seeing benefits from the CMTTP training on the 11th Street program, as many are all still involved in the industry,” Dorsey said. “We want to leave a legacy by contributing to a growing skilled workforce in the District and build careers.”

There have been some unexpected outcomes as well. Along the way, the team developed a deeper understanding of the challenges that many of area residents must overcome.

“Some of them experience homelessness or have been hospitalized, had COVID or other personal issues,” Gibson said. “Being able to respond and be flexible to their needs has to be built into any program.”

In addition to CMTTP, additional programs like STRIVE and Jobonomics DC are part of DDOT’s efforts to create opportunities and help people find lasting careers in construction.

“Workforce development is crucial to the success of projects and will continue to be into the future,” Dorsey said.

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Q & A With Illinois Department of Transportation Secretary

OMER OSMAN



Rebuilding Illinois

Born in Sudan, Illinois Department of Transportation (IDOT) Secretary Omer Osman came to America to study civil engineering at Southern University and A&M College in Baton Rouge, La. He then earned a master's in civil engineering with an emphasis in construction management from Bradley University in Peoria, Ill.

Osman began his career at IDOT as a civil engineer in 1989. After three decades with the agency, he was named deputy secretary and was tapped by Gov. JB Pritzker (D) in 2019 to serve as secretary. Under his leadership, IDOT champions diversity and Osman is a proponent for increasing opportunities for Disadvantaged Business Enterprises.

Osman spoke at length about his state's transportation program with ARTBA Public Affairs Vice President John Schneidawind. Here is an edited transcript of that interview:

Q: What are the major issues facing Illinois in transportation?

A: Five years ago, "Rebuild Illinois" was signed into law by our governor—the largest capital bill that I have seen in my entire career and the only one that I can call truly multimodal. It wasn't just for roads and bridges; it included everything.

When you look at it, at least from a secretary's perspective, you realize the highway and bridge assets in Illinois are massive. Really, really, massive. We probably are number three in the nation when it comes to interstate lane miles. We have the second-largest transit system. And the bill gave us the broad funding we needed to support and upgrade the 19 public port districts.

So collectively, back in 2019, when we introduced that \$45 billion, all-encompassing infrastructure bill—it was a game changer for us. We have already spent about \$14 billion of it.

Q: Now that we are in year-two of the Infrastructure Investment and Jobs Act (IIJA), how have the historic levels of new federal investment helped shape your state's program?

A: In our view, it has supercharged Rebuild Illinois. It added much more money—up by 33 percent. And it was meant for all modes of transportation.

Let me give you an example. Our June contract lettings at IDOT are usually the largest we do all year—typically \$200 million to \$300 million. This year, it was close to \$1 billion. We've never had close to \$1 billion in lettings in the entire history of the department. Every county in the state of Illinois is going to have a project, if not more than one.

Q: You must be excited about all that.

A: Of course. Obviously for us and for the transportation industry—the engineering firms, the contractors, the road builders—for all the organizations we collectively work with, the amount of excitement is different. You can tell there is a different dynamic, a positive dynamic.

Q: How are you balancing the demands for new capacity with the need to maintain and improve existing facilities?

A: The quick answer is this: IDOT is more and more hooked on data-driven processes. If it's not data-driven, we don't do it. We no longer subscribe to the "pie in the sky" kind of project because nobody wants it. My staff and I subscribe to TAMP—the transportation asset management principle.

I am a firm believer in not building a guest house when the main house is crumbling. That's how we look at this. Taking care of the existing system as it is—is the number one priority and, as such, two thirds of our annual budget go to maintaining the system.

See **Q&A**, 24

Q: What's your biggest transportation challenge?

A: We started with bridges. We have 26,000 bridges. If you look at the map of Illinois, you've got Lake Michigan and the Wabash River cutting us away from Indiana. And the Wabash River connects with the Ohio River all the way down south. The Ohio River connects with the Mississippi, and that separates us from Missouri and Iowa. If it wasn't for that sliver of dry land between us and Wisconsin, Illinois would be virtually an island. And there are major river bridges everywhere—8,000 of which are under the authority of the Department of Transportation. The rest are under local authorities, counties, townships, and municipalities. But each and every one of them was probably built 50-60 years ago. They weren't supposed to last even more than 50 years, right? Now it's time to remove and replace all of them.

Our program prior to Rebuild Illinois, prior to the IIJA, used to be in the realm of \$1.5 billion annually. Now our program is over \$5 billion annually.

Q: Workforce needs are a challenge for many. What trends are you seeing in your DOT and what are you doing to attract and retain talent?

A: Fifteen years ago at IDOT, we used to be in the realm of 7,000 employees; right now, we are around 5,000. We are hiring in a massive way. We start with the state of Illinois. We want to hire locally because we think those are the ones who are going to stick around, typically next to home, next to family.

If we don't get enough from Illinois, we go next-door. We go to Indiana, Wisconsin, Michigan, and the Midwest, and then we're going to add the national level. As a matter of fact, my recruiting team was down in Louisiana just last week.

And we try to diversify. It is extremely important to me—within the department and the workforce out on the construction site, too. We try to target historically black colleges. We try to target colleges with Hispanic populations, and with large female populations.

I'm feeling comfortable that we are going to increase our numbers pretty soon and that it is going to be a new generation—they will be the ones who will take us to the next level—when the pavement is talking to the car and when autonomous driving is here.

Q: What role does alternative delivery play in your program and how do you see these methods developing in your state?

A: We are a latecomer when it comes to alternative project delivery. It was just last year when we had our first legislative approval for design-build (DB). It's small when you compare it to the rest of the program, in that we are only allowed \$400 million to use on DB. I'm okay with that because I want to put it to good use. What I have asked the staff is to look for—and it's part of our multi-year program—projects that are not easy to do but not overly complex. I want a project that lends itself to innovation.

We're new to the game and we have to prove it to the industry as a whole and to our legislators who took the tough vote of increasing the gas tax. It gives us an extra tool in our toolbox.

Q: Did you envision yourself running a state DOT someday or did you take an unexpected path to your current position?

A: I'm from Sudan in East Africa. That's where I was born. I went to school in Baton Rouge. You know, I did not ever think that I would be where I am today. Ever. My career took a different turn because I was going to go to medical school. But I went to engineering school. And I moved up to Peoria because someone told me that is where Caterpillar is. And if you've ever been overseas, Caterpillar is pretty well-known—all over the world. So, I went to Peoria and started my career there.

Q: At Caterpillar?

A: No. I went to the IDOT district office in Peoria. I came in as a civil engineer trainee and came up through the ranks, the design, construction, planning side of it—even the operation and maintenance side of it at various levels. And along the way there are a lot of people who helped guide me. I had a lot of mentors. I can't even begin to tell you how many.

And then I wind up at the central office. I was a chief engineer for the department, statewide chief engineer—that's the director of highways. So, I got promoted. And I became deputy secretary. And when Governor Pritzker came in, he asked me if I wanted to be his secretary.

One thing he brings to the table that I haven't seen in a lot of people is a zeal and gusto for being fair to people of all kinds. Equity is very important here.

I'm blessed in so many ways. Every day, I wake up in the morning and I pinch myself to see if this is real or not. I'm living a dream.

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Protecting an International Icon

BY JOHN SCHNEIDAWIND
jschneidawind@artba.org

It “sings” and shakes like an undulating dancer in gale force winds, and has survived all manner of earthquakes since opening in 1937.

America’s Golden Gate Bridge, one of seven modern wonders of the world, is an international icon, a tourist attraction, and a symbol of American ingenuity that’s as shrouded in mystery as the fog that regularly rolls into San Francisco Bay.

More practically, the Golden Gate is a commuter route for millions of residents and visitors every year. It’s a major avenue for interstate commerce—37 million vehicles cross it every year, including a half-million trucks filled with freight.

When the Loma Prieta quake struck in 1989, the Oakland Bay Bridge—its neighbor to the east—suffered severe damage as several sections collapsed. But the Golden Gate survived largely unscathed as a vital corridor for first responders and critical supplies traveling between San Francisco and the North Bay.

While the bridge suffered no observable damage in the 1989 quake, the Golden Gate Bridge Highway and Transportation District later conducted a vulnerability study of the structure, finding that an earthquake of magnitude 7.0 or higher, with a nearby epicenter, would cause severe damage. A magnitude 8.0 temblor meant that viaducts leading up to the bridge could collapse.

That’s why the iconic structure—built between two major fault lines—is undergoing a major facelift. A four-phase “seismic retrofit” began in 1997 to strengthen the structure’s north approach viaduct, where cables anchor the span on the bridge’s Marin County side. From 2001 to 2008, the same repair took place on the south side, with modifications to two large concrete pylons to cushion an earthquake’s impact.

Phase 3A, completed in 2014, focused on strengthening the anchorage on the north side. The project’s final phase—Phase 3B—includes strengthening the main span, two side spans, both towers, the south tower pier, and the underside of the toll plaza. With the earlier retrofit phases done, the bridge can withstand a 7.0 earthquake, but it could still cause damage and extended closures.

The bridge retrofit’s final phrase, expected to cost \$879 million, is getting assistance from the Federal Highway Administration (FHWA), which in December 2022 awarded a \$400 million grant to cover almost half the retrofit’s cost. The grant is provided through FHWA’s Bridge Investment Program, which received \$12.5 billion from the Infrastructure Investment and Jobs Act.

“The Golden Gate Bridge is an international icon and key transportation link for the Bay Area that serves tens of millions of residents and visitors every year,” said Denis Mulligan, district general manager, Golden Gate Bridge Highway and Transportation District. “This vital funding allows us to finish strengthening the bridge against disasters.”

“For more than eight decades, the Golden Gate Bridge has stood as a symbol of the innovative spirit of the Bay Area and our nation,” former House Speaker Nancy Pelosi said. “The Federal Highway Administration’s \$400 million investment will help ensure that this iconic landmark continues to safely and reliably serve our region for many years to come.”

Work on this massive effort will start in late 2024 and last until 2029.

John Schneidawind is ARTBA’s vice president of public affairs.

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Infrastructure Investment at Work

Third in an ongoing series highlighting the real-world benefits of the Infrastructure Investment and Jobs Act (IIJA).



Road to Prosperity Runs Through the Heartland

Challenge: The city of Muskogee in northeast Oklahoma has big plans. Its port along the Arkansas River has attracted new industry and jobs to the area. But as the city plans for growth, a critical infrastructure challenge has emerged. The U.S. Highway 62 bridge over the Arkansas River, a vital artery connecting communities and carrying commerce, was showing major signs of wear and tear. Its two 60-year-old spans were functionally obsolete and beginning to show their age, needing repairs such as beam replacement, that made full replacement more feasible. Other nearby river crossings which support waterborne freight traffic have been damaged by barges.

Solution: With help from the IIJA, the state is replacing both the east and westbound spans of the U.S. Highway 62 bridge as well as bridges over 55th Street on the east side of the river. The upgrades are an investment in the economic future of the region and provide a solid foundation for continued growth and development.

What They're Saying: Oklahoma Department of Transportation Spokesperson Brenda Perry Clark told FOX23 when the project began that it needed to happen because the areas are "functionally obsolete," and traffic can't flow as effectively because of the current shoulders and narrow bridge width. (FOX23, 3/20/23)

- **Total Cost:**
- \$74.7 million
- **IIJA Funds:**
- \$29.7 million
- **Contractor:**
- Manhattan Marine
- **Start Date:**
- September 2022
- **End Date:**
- Spring 2025



No More Bridge Blues

Challenge: The 95th Street Bridge in Chicago has not changed much since the Blue Brothers jumped their Dodge Monaco over it 43 years ago in the hit movie classic. Built in the 1950's, it is one of four drawbridges known as the Calumet River Bridges connecting the Windy City to the Illinois International Port. Along with commuter traffic, about 3,000 trucks haul cargo over them daily. These old workhorses lift 5,000 times a year to let ships pass under. Unfortunately, all four bridges are in "poor" or "serious" condition. Without upgrades, load restrictions may be imposed, ships may need to detour and port activities (as well as peoples' daily routines) could grind to a halt.

Solution: Thanks to the IIJA, the city of Chicago plans a full rehabilitation of all four Calumet River Bridges. The project calls for replacing the original steel beams with newer, stronger steel and installation of new machinery and electrical systems that help raise and lower the bridges. The project will also add bike paths for safer pedestrian crossing. The new and improved crossings will be Bluesmobile ready sometime in 2027.

What They're Saying: "Typically, there's only been enough money for maintenance. Maintenance is fine, but when you have 50- and 60-year-old bridges, at some point, they need to be rebuilt." - Rashod Johnson, president and CEO of Ardmore Roderick (CBS 2 Chicago, 1/4/23)

- **Estimated Cost:**
- \$302 million
- **Federal Funds:**
- \$144 million
- Large Bridge Grant
- **Start Date:**
- Early 2024
- **Scheduled End Date:**
- Early 2027

If you have an IIJA project that should be featured, please contact ARTBA's Beth McGinn at bmcginn@artba.org.



A crew does grading work along U.S. Route 69. Photo courtesy of US69 Express Constructors.

The Power of Partnership

KDOT Builds a Coalition for 69Express Project

BY GAVIN JENKINS
gjenkins@endeavorb2b.com

Editor’s Note: *Roads & Bridges (R&B) magazine is taking a deeper dive into some of the projects ARTBA highlighted in its ongoing “Infrastructure Investment in Action” campaign. Here is the first in our storytelling collaboration, written by R&B Senior Managing Editor Gavin Jenkins:*

The part of U.S. Route 69 that runs through Overland Park is the busiest stretch of four-lane highway in Kansas. It’s also one of the most dangerous.

Crash rates along this corridor are 53 percent above the statewide average.

A series of studies conducted over the last 25 years have identified safety and congestion issues along U.S. 69, as well. Commuters and travelers have grown increasingly frustrated with higher accident rates, growing congestion, and increasing travel times.

The problem is expected to increase. As Kansas City’s suburban development continues, traffic volume is projected to double and travel times are estimated to triple over the next two decades. Furthermore, the existing infrastructure is more than 50 years old.

It was not a shock when U.S. 69 improvements were identified as Johnson County’s most important priority during local consult meetings held across Kansas in 2019.

For these reasons, the Kansas Department of Transportation (KDOT) launched the 69Express project. With help from the bipartisan Infrastructure Investment and Jobs Act (IIJA), the project in Overland Park will reconstruct the highway and add an express toll lane in each direction between 103rd Street to 151st Street.

These will be the first express toll lanes in Kansas history. “Any time you have a first of something, there’s a process you have to go through,” said Steve Rockers, a KDOT engineer and the project director for the 69Express project.

Evaluation and improvements to U.S. 69 have been ongoing for more than 20 years. It gained steam in 2019, when the Kansas state legislature approved the use of express toll lanes.

Design and construction costs are \$570 million, with more than \$450 million coming from the IIJA. The project promises to improve safety and reduce congestion. It started last year and is expected to be completed in 2025.

To get to this point, the project had to overcome two major challenges: coordinating several groups that are involved and getting the public onboard with, not only a construction project on the busiest stretch of highway in Kansas, but also adding a cashless express toll lane in each direction.

“Gaining board support for the project was crucial to navigating the approval process,” Rockers said. “We needed approval from the city of Overland Park, the Kansas Turnpike Authority board, and the state finance council in Topeka. To get all of these folks to approve it, we had a healthy education campaign about how these toll lanes are going to work, and why we are doing it. We had several community task forces and a comprehensive public outreach program that reached over 1 million people to explain the project and solicit input.”



Left: A crew sets a girder at 135th Street and U.S. 69 in Overland Park, Kan. These girders will support the future southbound lanes of U.S. 69. Right: Rebar cages are set into drilled shafts to support new bridge construction of U.S. 69 over I-435. Photos courtesy of US69 Express Constructors.



Construction is a joint venture between Ames Construction and Emery Sapp and Sons. HNTB is supporting KDOT as its program management consultant overseeing design and construction, with Jason Sanders as project manager.

“The power of partnership is what drives this project,” Sanders said. “Partnership with Overland Park, the Kansas Turnpike Authority, and with FHWA. And now during construction, that partnership has extended to the industry

as well, with the contractor and the engineers, and so forth. The power of partnership yields results, and it captures what KDOT is all about.”

Rockers said this is KDOT’s third design and build project. Crews work 24-hours a day, six days a week. However, during peak hours—morning and evening rush hour—there are no lane drops on the highway.

“Travel times through the project have been largely unaffected during peak hours,” Sanders said. “Minimizing impact to traffic is a commitment KDOT made to the community, and it’s something we’ll continue to monitor.”

In 2020, an Environmental Assessment (EA) was conducted, as required by the federal National Environmental Policy Act (NEPA), to determine if there were significant environmental impacts associated with proposed improvements. It was determined that adding express lanes for northbound and southbound traffic will offer better travel time reliability and a more-sustainable alternative. This option required additional traffic, safety, and revenue analyses to supplement the EA.

Eleven noise walls will be erected as part of the project because a study determined traffic noise levels specific to the express lane configuration met or exceeded federal and state impact thresholds.

In 2025, when construction is completed, KDOT will launch another education campaign to urge motorists to sign up for KTAG—the Kansas Turnpike’s electronic toll collection program. However, drivers who do not sign up will receive a bill after their license plate is scanned.

“I’m excited,” Rockers said. “This project has been in the making for a long time.”

Gavin Jenkins is Roads & Bridges senior managing editor.

Telling the IIJA Story

The U.S. 69 Corridor Modernization and Expansion Project received an up close and personal tour Aug. 17 by Rep. Sharice Davids (D-Kan.), who serves on the House Transportation & Infrastructure Committee. ARTBA and the Kansas Contractors Association, in partnership with US69 Express Constructors, hosted Davids.

Showing lawmakers transportation improvements derived from 2021’s IIJA is essential to winning congressional support for the next major highway reauthorization bill, due in 2026. ARTBA members interested in hosting their member of Congress should contact Dean Franks at dfranks@artba.org.



Pictured left to right: ARTBA Senior VP of Congressional Relations Dean Franks, U.S. Rep. Davids and Kansas Contractors Association Executive Director Michael White.



2023 ARTBA NATIONAL CONVENTION

Torrey Pines: Golf Tees & An Ocean Breeze

La Jolla—California’s “Jewel by the Sea”—provided the backdrop for this year’s ARTBA National Convention, held Sept. 10-13. The following pictures capture some of the event’s highlights.



CEOs of three top transportation construction and design companies Sept. 11 shared industry insights in an opening day panel. Pictured from left to right: Moderator **Lisa Robert** (RS&H), **Mary Teichert** (Teichert), **David Miles** (Kiewit Infrastructure Group Inc.), and **Gayle Packer** (Terracon).



The Sept. 12 Chair’s Dinner guest speaker, NBA legend **Bill Walton**, made a grand entrance.

ARTBA Foundation Chair **Paul Yarossi** (HNTB), left, received the George S. Bartlett Award for his outstanding contributions to highway progress from ARTBA Vice Chair At-Large **Tom O’Grady** (HNTB).



2023 ARTBA Chair **Paula Hammond** (WSP USA) took the podium to introduce the Behavioral Health Town Hall panel.



From left: Moderator **Nick DiBartolo** (Rogers Group) and panelists **George Moubayed** (Caterpillar Inc.), **Michael Bell** (C.W. Matthews), **Amy Morris** (T3 Design), and **Kyle Mote** (Georgia Department of Transportation) discussed transportation construction workforce issues during a Sept. 11 general session.



From left: Moderator **Brad Sant** (ARTBA), **Hamilton Baiden** (Youturn Health), **Vince Hafeli** (Ajax Paving Industries of Florida), and **Cal Beyer** (Holmes Murphy) spoke about worker mental health during the Sept. 12 Behavioral Health Town Hall session.



Hammond passed the gavel to 2023-24 Chair **Tim Duit** (Duit Construction Co., Inc.).



Golfers ready to tee off at the Torrey Pines South Course.



Construction Industries of Massachusetts Executive Director **John Pourbaix** (second from left) was awarded the Nello L. Teer, Jr. Award. From left: **Bob Latham** (Associated Pennsylvania Constructors), **Ken Rezendes** (K.R. Rezendes, Inc.), and **Kent Starwalt** (Tennessee Road Builders Association) made the presentation.



ARTBA’s Chief Economist **Dr. Alison Premo Black**, Senior Vice President of Congressional Relations **Dean Franks**, and General Counsel **Rich Juliano** provided a federal legislative, regulatory and market update.



Duit, his wife, Heather, and their four daughters pose with **Walton**.

Photos by Janis Foley Photography

Honoring Industry Excellence

During the National Convention, the ARTBA Foundation recognized individuals and organizations for industry excellence and outstanding leadership contributions to the development and continued management of the U.S. transportation network. Here's a look at this year's winners:

Women Leaders in Transportation Design & Construction Awards

Honors "extraordinary efforts of individuals, companies and public agencies that have demonstrated leadership and dedication to innovation in the transportation construction field as well as the promotion of women leaders within the industry."

Ethel Birchland Lifetime Achievement Award:

- **Laura Mehiel**, senior associate/director of transportation, A. Morton Thomas and Associates, Inc.
- **Natalia Homedi**, president, Atlas Engineering Group LTD



ARTBA Women Leaders Council Chair Susan Martinovich (HNTB), left, presented the Ethel Birchland Lifetime Achievement Award to Laura Mehiel (top photo) and Natalia Homedi.

The Glass Hammer Award:

- **Terracon Consultants, Inc.**

Excellence in Academia Award:

- **Dr. Hilary Nixon**, deputy executive director, Mineta Transportation Institute



Future Industry Leader Spotlight Award:

- **Denissa Purba**, University of Illinois at Urbana-Champaign
- **Shanshan Liu**, University of Illinois at Urbana-Champaign

Leadership Impact Awards

Recognizes outstanding graduates of the Industry Leader Development Program (ILDLP).

- **Martha Gross**, Virginia Department of Transportation
- **Leigh Lilla**, David Nelson Construction
- **Chris Fronheiser**, TYLin



From left: Industry Leader Development Council Chair Brandon Squire (Ralph L. Wadsworth Construction) presented the 2023 Leadership Impact Awards to Martha Gross and Leigh Lilla.

Photos by Janis Foley Photography

Contractor Safety Awards

Honors industry firms that have implemented outstanding employee health and safety programs.

- Less than 500,000 personnel hours = **J. Banicki Construction Inc.**, Phoenix, Ariz.
- 500,000-1 million = **Hawkins Construction Co.**, Omaha, Neb.
- Over 1 million = **Ralph L. Wadsworth Construction**, Draper, Utah



Pictured (from left) are representatives from two of the three winning companies: Chris Dillman, Steve McPhearson, and Jesse Meldrum (Ralph L. Wadsworth) and Marc Momcilovich and George Lane-Roberts (J. Banicki Construction).

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**WSP USA
Senior Executive
Paula Hammond
joined ARTBA
because of
its singular
focus.**



For 120 years, the American Road & Transportation Builders Association (ARTBA) has worked exclusively to build and protect the U.S. transportation construction market.

Highway, public transit, airport, rail, port and waterway design, construction and maintenance generates \$650 billion in annual economic activity and sustains 4.4 million U.S. jobs.

ARTBA and its members:

- Led the industry charge resulting in 2021's Infrastructure Investment and Jobs Act—the largest federal surface transportation funding law since the 1956 Interstate Highway System.
- Have helped advance \$58 billion in approved, yet challenged, U.S. transportation projects via strong regulatory and environmental legal advocacy programs.

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Contact **Allison Klein** at **202.683.1036** or **aklein@artba.org** to learn more about membership.



**Transportation Construction Market
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Regulatory Roundup

Changes to Davis-Bacon: What We Do and Don't Know

BY PRIANKA SHARMA
psharma@artba.org

By now, you may have heard that changes are coming to the regulations concerning the Davis-Bacon Act (DBA)—the prevailing wage law for direct federal and federal-aid projects. First proposed by the U.S. Department of Labor (DOL) Aug. 8, the new regulations take effect Oct. 23, and the Federal Highway Administration (FHWA) has already published a new Form 1273. Contractors with direct federal and federal-aid projects are affected.

ARTBA submitted comments to DOL prior to the rule's finalization, pointing out that the draft language was too broad and overly burdensome. DOL's final product was somewhat responsive to ARTBA's concerns and specifically referenced our comments. But it also left a number of gray areas. For example:

1. The initial proposal expanded DBA coverage beyond active project sites. The new rule narrows the scope of coverage to locations where a significant portion of work is performed, and where the site is established for the exclusive performance of the covered contract.
2. ARTBA raised concerns that the prevailing wages for the time that off-site drivers and materials providers spend on the worksite would be subject to DBA wages even if that time was negligible. In the final rule, DOL allows for "de minimis" exceptions and/or exemptions but as several members have alluded to, there are gray areas and questions about when these exemptions apply.
3. The initial proposal redefined the term "area" for highway construction projects. DOL now allows multi-county wage data to be averaged together to calculate the prevailing wage. This means that rural and urban wage data may be combined.

4. The final rule clarifies the difference between licensed surveyors that are salaried professionals—and not subject to the DBA—and workers surveying on sites. The rule allows for "learned professional" exemptions but the definition of learned professional may vary depending on state licensing requirements.

Additional provisions of note:

1. DOL will be permitted to issue wage determinations when survey data is insufficient. As a result, wage determinations can be based on factors that may not paint the entire wage picture. DOL can use any number of sources for determining the wage including existing project labor agreements.
2. The prevailing wage will now be set if it's paid to at least 30 percent of surveyed workers in a given area. This is a change from the current 50 percent and may result in wage rate increases.
3. Prime contractors are responsible for DBA compliance by subcontractors and will be liable if subcontractors don't pay a prevailing wage.

A recently-recorded ARTBA webinar with DOL and labor law experts is available in the members' only section of **artba.org** to help our members better understand these changes and how they will impact their firms.

As the new DBA rule moves to the implementation stage, ARTBA remains in close contact with both DOL and FHWA. If you encounter questions working with your state DOT on this, please contact me so we can seek any answers or clarifications you may need.

Prianka Sharma is ARTBA vice president and counsel for regulatory affairs.

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ARTBA On the Road

ARTBA General Counsel **Rich Juliano** (center) attended the Aug. 16 ribbon-cutting for the I-95 Express Lanes Fredericksburg Extension in Northern Virginia, known as "FredEx." He joined Virginia DOT Commissioner **Stephen Brich** (left) and **Tom Witt** of the Virginia Transportation Construction Alliance. ARTBA members Transurban, Branch Civil and Flatiron played lead roles in delivering the project.



Tim Creson of Texas Sterling Construction (right), co-chair of the AASHTO-AGC-ARTBA Joint Committee, visited with Federal Highway Administrator **Shailen Bhatt** during the committee's annual meeting Aug. 28 in Park City, Utah.



2023 ARTBA Chair **Paula Hammond** (WSP USA) was a keynote speaker at the Sept. 22 Long Island Contractors' Association Annual Legislative Breakfast in Melville, N.Y.



ARTBA Contractors Division President **Jeff Parisi** of Parisi | A Walbec Company (right) participated in the annual meeting of the AASHTO Construction Committee Sept. 18-21 in Kansas City, Mo. He's pictured with Montana Department of Transportation Director **Mack Long**.



HNTB President and ARTBA Vice Chair At-Large **Tom O'Grady** (left) met Aug. 15 at the firm's Kansas City offices with ARTBA COO **Matt Jeanneret**.



ARTBA Chair **Tim Duit** of Duit Construction (left) and **Juliano** Sept. 6 traveled to Conway, Ark., to brief the Highway Division of AGC Arkansas on current advocacy activities.



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AEM CORNER

BENEFITS OF CONSTRUCTION EQUIPMENT TECHNOLOGIES STUDY RELEASED BY AEM

AEM has released a study outlining how construction equipment technologies have advanced the construction industry and benefited a wide range of stakeholders, from contractors, to owners, to society as a whole.

The **Benefits of Construction Equipment Technologies and Their Impact on Society** details four construction equipment technologies that play critical roles in advancing the industry, and thereby enabling benefits to productivity and performance, planet and environment, as well as people and safety.

The trends identified in the study are: machine and grade control, engines and drivetrains, digital control systems and machine telematics.

“Today’s equipment offers incredible technologies for operators, and it’s critically important for industry stakeholders to learn how to leverage them effectively and maximize their potential,” said AEM Vice President of Construction and Utility John Somers. “In releasing this study, we are not only showcasing how today’s construction equipment continues to advance our industry, but also highlighting the benefits of contractors and equipment owners adopting leading technology as part of their business practices.”

The newly released study provides:

- An overview of the construction industry as it stands today;
- Highlights of recent improvements seen in the industry;
- An outline of four key construction equipment technologies benefiting industry stakeholders and society; and
- Case studies illustrating the impact of these technologies.

“Technology has revolutionized the construction equipment industry, enabling us to design and manufacture machines that are smarter, safer, and more sustainable than ever before,” said John Deere Vice President, Production Systems, Sales & Marketing Jason Daly. “By embracing these technologies, the construction industry will continue to evolve and revolutionize how we design, build and maintain the world around us.”

As detailed in the study, from automated functions and telematics to cleaner and more fuel efficient engines, technological innovations have significantly enhanced productivity,



reduced downtime, increased safety, and improved overall project outcomes.

“Technology has a critical role to play in addressing the many challenges faced by our industry, including the ongoing shortage of skilled workers, cost inflation, project schedule and cost overruns and our industry’s carbon footprint”, said Trimble Senior Vice President, Buildings & Infrastructure Peter Large. “While we have come a long way in our digital transformation journey, the productivity, first-time quality, safety and sustainability benefits of full equipment technology implementation for all stakeholders are not only highly compelling, they are becoming increasingly essential to our future.”

As innovation accelerates in the coming years, OEMs, technology providers, and tier 1 component suppliers will continue to develop the next generation of technology that will support industry stakeholders and beyond.

Additional support comes through positive and supportive public policy, including:

- Strategic use of state and federal funding to create efficiencies and long-term ROI
- Incentives to drive adoption of new technology throughout the construction industry
- Education of stakeholders on benefits of construction equipment technology and their significant impact
- Assurance that the enabling infrastructure is in place to support implementation of technology

The adoption and implementation of next generation technology, along with existing construction equipment technologies, will drive additional benefits in productivity and performance, planet and environment, as well as people and safety.

The Association of Equipment Manufacturers is the North America-based international trade group advancing the off-road equipment manufacturing industry in the global marketplace.

We Build Momentum

To learn more, visit aem.org

The Hair-Raising Research Into Repairing Bridges

BY JOHN SCHNEIDAWIND
jschneidawind@artba.org

A group of college and high school students at the University of Kentucky's College of Engineering are discovering that the hair you're worried about losing may one day be needed to help fix America's aging bridges.

That's just one intriguing area of materials research headed up by Issam Harik, a professor at the Lexington school's Department of Civil Engineering. Harik has been leading students since 1994 into how fiber reinforced polymer composites can be used to repair bridges and buildings.

It turns out that the average strength of human hair is 30,000 pounds per square inch. That means it's eligible for membership in a family of fiber reinforced products that can be used for bridge repair.

Hemp exhibits similar strength properties. Using hemp, Harik's research team has already repaired a pile on a Kentucky bridge in the state's Lawrence County. The group has restored more than 40 Kentucky bridges by strengthening beams, columns, piles, and walls using a variety of carbon fiber fabrics, panels, and wraps.

The wraps act as a straightjacket, or cylinder, around concrete that's poured into the space between the damaged pile and the wrap. For this reason, they must be composed of materials strong enough to withstand the loads the bridge will endure once it's repaired.

"Instead of removing that entire pile, we inject it with resin and then we encase it once we are done," Harik said. "It's much stronger than the original pile when it was first placed in the field, but this repair is far less expensive than removing the pier in its entirety and replacing it."

How did human hair become an eligible material? One of Harik's female students came up with the idea. "So, the student collected a big bag of hair from a salon," he said.

Harik said that usually the cylinders are made of plastic. Once the concrete reinforcing the pile dries, "those plastic cylinders end up in the dump," he said. "So, the objective



Repaired pile on KY 32 over Blaine Creek in Lawrence County, Ky. Photo courtesy of University of Kentucky.

was: what if we can produce these cylinders out of human hair? When you take the concrete out of that cylinder, you throw away the human hair and the bonding agent—which is all natural products—and it will biodegrade. We wanted to move to something that any community can produce as material to use."

With a \$10,000 grant from the university, the student then began researching ways to clean the hair.

"The next step was to find the binding material to be able to connect the hair together to produce something similar to a fabric," he said. The student eventually found a product that worked and was able to produce a sample that could be tested. The one-inch by eight-inch strip proved strong enough to move forward into making it into thin sheets.

After the student graduated, Harik assembled more team members from the university and local high schools to continue the research study during the 2023-24 school year.

The next challenge?

Using new machines that just arrived on campus, "these kids now are researching how best to produce the fabric or the mat out of the human hair so we can form it in any shape that we want," Harik said. "Eventually by the end of the spring semester, we are hoping that they will be able to produce enough of this material from a very large piece of hair, and that we will use as a construction form on a bridge in the future."

John Schneidawind is ARTBA's vice president of public affairs.

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