

SUMMER 2021

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Redevelopment by IMEG Corp. rises
to the top at 2021 Engineering
Excellence Awards

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Leaders
Embracing
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Provides
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Another virtual event
recognized 173 projects
from across the nation.

And the 2021
Grand Conceptor
Award goes to...IMEG
Corp.'s Denver Water
Operations Complex
Redevelopment.



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The ACEC Research Institute provides the industry with cutting edge trend data, research and analysis to help firm owners make decisions and arm the Council with information to advance engineering's essential value to a broad audience.

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Engineering Inc., Volume 31, Number 7 (ISSN 1539-2694), is published quarterly by the American Council of Engineering Companies (ACEC), 1015 15th Street, NW, 8th Floor, Washington, D.C. 20005-2605. Periodicals postage paid at Washington, D.C., and at additional mailing offices. Annual subscriptions are \$24 for members (included in dues as a non-deductible amount); \$45 for U.S. non-members; \$65 for institutional subscriptions. Back issues are \$15.

POSTMASTER: Send address changes to *Engineering Inc.*, c/o ACEC, 1015 15th Street, NW, 8th Floor, Washington, D.C. 20005-2605.
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Advocacy Campaign Launched to Resolve PPP/ FAR Credits Clause Issue

Engineering firms that were approved to receive Paycheck Protection Program (PPP) loans to make it through COVID and save jobs are being forced to give this critical assistance back because of a glitch in federal contracting law, the Federal Acquisition Regulations (FAR).

The provision that could force engineering firms that qualify for loan forgiveness to give some of that needed assistance back is grossly unfair and essentially invalidates the core purpose of PPP loans. ACEC supports a simple fix to clarify that the FAR credits clause will not apply to forgiven PPP loans and urges Congress to take action to protect the industry from regulatory overreach.

The Council has subsequently launched an integrated advocacy campaign in Washington, D.C., and in the states to build support for Congress to pass a legislative fix that would exempt engineering firms' forgiven loans from the FAR credits clause.

The campaign includes traditional and social media placements from ACEC and our allies, to spread the message about PPP fairness to industry audiences. ACEC has advertised in leading Capitol Hill news outlets and will leverage its digital marketing capabilities to reach influencers online and in the states. Members are encouraged to join the effort by accessing www.acec.org/ppp to contact their member of Congress and to message support for the industry.

This *Engineering Inc.* highlights the successful 2021 Engineering Excellence Awards Virtual Gala viewed by more than 530 who witnessed 173 examples of the nation's best engineering efforts. Congratulations to all winners, including the year's most outstanding achievement—the Denver Water Operations Complex Redevelopment by IMEG Corp.

Another feature in this issue examines why so many Member Firm leaders embrace taking lead roles in state and national government advocacy efforts (See page 44).

Enjoy the summer as we all move closer to normalcy, but do not overlook soon-to-be-announced details about our upcoming in-person 2021 Fall Conference, Oct. 27–30, at Marco Island, Fla.



Robin S. Greenleaf
ACEC Chair



Linda Bauer Darr
ACEC President & CEO



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- Alerts of cyber incidents
- Security tools to minimize risk
- Access to security experts



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Pandemic-Ravaged Office Building Segment Poised for Comeback

BY GERRY DONOHUE

Few market segments have changed as much as the office market due to the COVID-19 pandemic. Already facing looming oversupply in many large cities, downtown cores and suburban office parks were emptied out by the pandemic, which fed broad uncertainty about what the segment will look like in the future.

The impact is borne out in the numbers. In 2019, the office segment hit an all-time high with nearly \$85 billion in annual construction put in place. By 2022, FMI forecasts that output will fall to about \$61.5 billion, a decrease of more than 27 percent.

Leaders of two of the largest firms active in the office segment, however, say the outlook for engineering in the sector is much brighter. “From a business perspective, change is good for engi-

neers and architects,” says Robert Ioanna, a senior principal at the Syska Hennessy Group in New York City. “If companies are downsizing their office footprint and someone else is moving in, that opens up more work for us.”

“We see a lot of tailwinds in the existing buildings market for pure fit-out work,” says David Farnsworth, a principal at Arup and leader of the firm’s Americas property business. “There’s a lot of incentive for people to be searching around for real estate deals. They’re not re-signing their leases but moving to a new space and then needing new fit-outs to make it their own.”

REASONS FOR THE DOWNTURN, INCREASED DEMAND

Three related pandemic factors have driven the decline in construction spending in the office market.

“The biggest thing is, of course, the delay in returning to the

office,” says Ioanna. “This has caused some hesitancy among people to execute projects and spend money.” He adds that caution is more prevalent among small and medium-sized clients (less than 300,000 square feet).

Second is the shift to remote work. “The idea that you have to be in the office five days a week to do your work has been shattered,” says Farnsworth. “My suspicion is we’re going to end up having partial occupancy for a long time.”

And both of those factors have led to the third: Moving forward, companies face an entirely new set of calculations in trying to figure out their future office space needs.

Ioanna says, “These issues will take some time to iron themselves out,” but other market forces are creating opportunities for engineering firms.

The yearlong-and-counting pause forced by COVID-19 has created pent-up demand. “There are a lot of companies with money that have been sitting on the sidelines,” says Ioanna. The migration of companies to cities and states with lower taxes and fewer regulations is also accelerating, boosting business in states such as Florida and Texas.

And then there are demands from building owners, tenants, and governments for better buildings systems and healthier office configurations. “There’s a lot of focus on health and wellness and smart building technology,” says Farnsworth. “I think we’re going to see lots of existing building work, and there are a lot of interesting things going on with changes in energy regulation.”

Owners of existing buildings are facing market pressures to update their systems, such as upgrading air handling units, installing stronger fans, and upgrading filtration.

“We’ve been trying for years to get the owners to pay attention to indoor air quality and maintaining a healthy building,” says Ioanna. “Now everybody is listening to us and asking for more fresh air, higher levels of filtration, directional airflow, and sensors to measure the CO₂, particulates, and volatile organic compounds in the air.”

Technological developments have made these enhancements more affordable. Five to 10 years ago, Ioanna says, to measure the air quality in a building would have cost \$10,000, and for that he would have received measurements of seven or eight moments in time from which he would need to extrapolate.

“Now, these sensors are tiny semiconductor-type devices that cost a few hundred dollars and can measure all those things in real time and give you a streaming profile of your building.”

‘COMPETING VOICES’

One potential point of contention in the push for healthier buildings is a spate of state and local regulations designed to reduce carbon emissions from commercial buildings. In New York City, Local Law 97 will require all buildings larger than 25,000 square feet to meet ambitious carbon-reduction targets by 2024. Farnsworth says these regulations may clash with the market clamor for office space with dedicated outside air systems.

“The push for healthy buildings and demand for increased energy performance aren’t necessarily compatible with each other,” he says. “In general, if you’re not recirculating air that is

already at the right temperature, you’re bound to be spending more energy.”

Office configurations are also in a state of flux. Companies are looking to design spaces that address the health and safety concerns of their employees but have no idea how the remote work dynamic will play out.

“You’ve got a lot of competing voices right now about how we’re going to emerge from this,” says Ioanna. “It makes it difficult to define, and that’s why we’re seeing a bit of a pause right now.”

Regardless of how it all washes out, Farnsworth expects the trend to be toward smaller spaces.

“Rent is often a massive proportion of overhead,” he says. “Changing the size of the office and the makeup of the office makes a lot of sense.”

He points to Arup’s office in Sydney, which before COVID-19 had been in a hoteling arrangement, where employees have a personal locker rather than a personal office or desk. On the days they come into the office, they sit at a desk assigned to them for that day. While a lot of companies may not go that far, Farnsworth does expect to see “more collaborative spaces and fewer desks.” ■

Gerry Donohue is ACEC’s senior communications writer. He can be reached at gdonohue@acec.org.





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Institute Creates National Advisory Board of Leadership in Engineering (nABLE) to Advance Strategic Direction



When ACEC launched the ACEC Research Institute just over a year ago, its mission was to become a thought leader in the engineering industry and within society.

"Decisions are being made at the business, government, and academic levels that will shape society for future generations, and our goal is to have a seat at that table for those discussions," says Institute Chair John Carrato. "We want to become a go-to resource."

Thought leadership demands a long lens. To that end, the Institute has created an advisory council, the National Advisory Board of Leadership in Engineering (nABLE), with the mandate "to dive into the most significant forward-looking issues in the consulting engineering profession that improve lives and the business of engineering."

ACEC Chair Emeritus Manish Kothari, president and CEO of Sheladia Associates, will chair the 14-person board, with Co-Chairs Doug McKeown, board chair of Woodard & Curran; and Karl Reid, chief inclusion officer at Northeastern University and former executive director of the National Society of Black Engineers.

"Our objective is to continually look ahead to develop and advance a strategic direction that will position ACEC and the consulting engineering profession as thought leaders in a broad way, and to be sought after on issues that shape the world," says Kothari. "Change is inevitable, and we're better off molding that change than reacting to it."

The Institute is recruiting strategic and innovative council members from four areas:

Business: Leaders in enterprises impacted by engineering, such as *Fortune* 500 companies specializing in infrastructure, technology, energy, health care, and more.

Government: Leaders including U.S. senators and representatives, state officials, and mayors.

Academia: Leaders from a broad spectrum of universities that



PEOPLEIMAGES/GETTY

are engaging in cutting-edge research into the future of the engineering industry and society as a whole.

Societal impacts: Leaders who understand the role of engineering regarding economic equity; diversity, equity, and inclusion; and other aspects of society.

"We want to hear from these people about what their thinking is for 2030, 2040, and 2050," says Kothari. "We need to take such a holistic approach, because in reality, all of us are interconnected."

The advisory group's deliberations will both identify issues and topics that the ACEC Research Institute can pursue and inform policy and planning discussions on a national scale. Carrato and Kothari have ambitious aspirations for nABLE. They foresee it presenting before the World Economic Forum or serving as a member on the next U.S. presidential transition team.

"We need to be bold," says Kothari. "We're bringing on people who have the courage and conviction to think they can do things to make life better for future generations and the will to act on it."

For more information about the ACEC Research Institute, visit www.acecresearchinstitute.org. ■

ACEC Signs MOU With Mexico and Canada in Creation of FIDIC North America

In 2020, the International Federation of Consulting Engineers (FIDIC) undertook a strategy to strengthen and formalize regional relationships among neighboring countries.

The FIDIC Regional Strategy calls for the creation of FIDIC Middle East and FIDIC North America, and renaming existing regional bodies as FIDIC Africa, FIDIC Europe, FIDIC Asia-Pacific, and FIDIC Latin America.

At its 2020 International Infrastructure Conference, the FIDIC Board approved the creation of the FIDIC North America region and encouraged the three member associations, ACEC (United States), the Association of Consulting Engineering Companies (Canada), and Cámara Nacional de Empresas de Consultoría, or CNEC (Mexico), to develop and execute the formation of regional partnering.

All three have signed a memorandum of understanding (MOU) that will move us closer to formalizing this great partnership, with goals to expand cross-membership engagement, increase our public influence, and build awareness of the essential value of engineering and the work our Member Firms perform.

“The formation of the FIDIC North America grouping is a landmark development for FIDIC and brings together over 600,000 professionally qualified engineers and consultants from the built and natural environment across the region,” says FIDIC CEO Dr. Nelson Ogunshakin. “I would like to thank the presidents of the three FIDIC member associations—Linda Bauer Darr (ACEC), John Gamble (ACEC-Canada), and Marco Gutierrez Huerta (CNEC, Mexico)—for their shared vision and insightful leadership in making the formation of the new regional group a reality.”

“With this agreement in place, I look forward to moving ahead with my two partners from Canada and Mexico to bring even greater opportunities for collaboration and the exchange of ideas for our members, in alignment with FIDIC’s vision for regional cooperation,” says ACEC President and CEO Linda Bauer Darr.

“While our three organizations share many members and have enjoyed a collaborative relationship for many years, this MOU allows us to more effectively leverage our resources and advocate for our industry within our integrated markets,” says John Gamble, president and CEO of ACEC-Canada.

CNEC President Marco Gutierrez says, “FIDIC North America region will continue to strengthen the most active commercial region in the world and will bring new opportunities and collaboration to engineering companies for further market integration.”

“Less than a year since the U.S.-Mexico-Canada Agree-



CNEC President Marco Gutierrez and ACEC Chair Emeritus Mitch Simpler at ACEC's Fall Conference in Chicago.

ment (USMCA) came into force, we are pleased to see the signing of this Memorandum of Understanding, which will support efforts to strengthen cooperation between engineering industries throughout the region. As our governments seek to leverage infrastructure projects to spur economic recovery, the advice and collaborative efforts of engineers and engineering consultancies will play an invaluable role,” says Stephen E. Alley, senior commercial officer and minister counselor for commercial affairs, U.S. Embassy Mexico City.

The MOU’s objectives include:

- Identify mutual interests and promote networking opportunities and exchange of information on market conditions.
- Identify, develop, share, and advocate for business best practices, including Qualifications-Based Selection (QBS).
- Provide platforms for exchanging published information and materials between the parties for use by the parties and/or their Member Firms.
- Encourage participation at each other’s webinars, seminars, workshops, training, conferences, conventions, general assembly meetings, and related open activities (in person or virtual).
- Participate, as needed and agreed on, in virtual or in-person meetings to assess progress and decide on specific mutual goals and activities to pursue going forward.

The chair of the new FIDIC North America will be held in rotation by the three member associations’ chairs as follows: ACEC (2021–22), ACEC-Canada (2022–23), and CNEC, Mexico (2023–24).

View the signed MOU at <https://bit.ly/3qzJWIT>.

House of Representatives, Key Senate Committee Advance Surface Transportation Infrastructure Bills

The House of Representatives and a key Senate committee have approved their respective versions of legislation to reauthorize and expand expiring federal surface transportation programs. ACEC strongly supported both bills.

In the House, the Transportation & Infrastructure Committee produced a five-year, \$547 billion surface transportation reauthorization bill. The Investing in a New Vision for the Environment and Surface Transportation (INVEST) in America Act provides \$343 billion for roads, bridges, and safety programs; \$109 billion for transit; and \$95 billion for rail. The overall funding total is \$53 billion higher than a similar bill approved by the committee and the full House last summer, which eventually stalled in the Senate.

The committee approved the



JUAN ENRIQUE/GETTY

bill on a 36-20 vote. It was then combined with other infrastructure bills for wastewater and drinking water programs (see related story) and approved by the House, 221-201.

The Senate Environment and Public Works (EPW) Committee unanimously approved the Surface Transportation Reauthorization Act by a vote of 20-0. The bipartisan bill authorizes \$303.5 billion over five years for highway programs from the Highway Trust Fund and an additional \$7.8 billion from the General Fund, subject to annual appropriations, for a total investment

of \$311.3 billion for fiscal years 2022–2026. This is a 34 percent funding increase over total FAST Act funding levels.

Within those totals, \$273 billion in highway funds would be distributed by formulas to the states. The bill features a bridge rehabilitation and repair program, grants aimed at bolstering resilience, a new carbon emissions reduction program, expanded freight and multimodal grants, and funds for electric vehicle charging and hydrogen, propane, and natural gas refueling stations. It would also advance a national vehicle-miles-traveled user fee pilot program and reauthorize the existing surface transportation system funding alternatives program.

Following the EPW Committee action, the other Senate committees of jurisdiction were developing their portions of a reauthorization package

for transit, rail, and safety programs, and finance and revenue measures.

ACEC President and CEO Linda Bauer Darr expressed strong support for the legislative action. “A long-term surface transportation bill ought to be the centerpiece of a national infrastructure-based economic recovery and jobs agenda,” she wrote to congressional leaders. “We applaud lawmakers for advancing these critical bills that will ensure five years of growing investment in core infrastructure programs. This essential legislation will provide critical resources necessary to upgrade our roads and bridges, improve safety, incorporate new technologies, and enhance the sustainability of our transportation networks.”

Current surface transportation funding and programs under the FAST Act are set to expire on Sept. 30.

Congress Reviewing Green Energy Incentives

As part of its infrastructure package, Congress is expected to include tax provisions that promote renewable energy and energy efficiency.

ACEC and coalition partners have engaged with the House Ways and Means Committee to advocate for additional improvements to the Section 179D energy-efficient commercial buildings tax deduction. Section 179D was made permanent at the end of 2020, and at the same

time the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standard requirement was updated.

The Section 179D Coalition is asking Congress to increase the value of Section 179D from the current level of \$1.80 per square foot, indexed for inflation, to \$3 per square



Ron Wyden (D-Ore.)
Senate Finance
Committee Chairman

foot. ACEC has long supported this change. In addition, the Coalition is recommending more flexible approaches to the ASHRAE standard to make using Section 179D feasible for a larger range of projects, including retrofits.

Senate Finance Committee Chairman Ron Wyden (D-Ore.) is taking a different approach and has reintroduced legisla-

tion that would consolidate 44 energy incentives into three technology-neutral provisions. The new categories would be a production tax credit for domestic production of clean electricity, a tax credit for domestic production of clean transportation fuel, and a performance-based tax credit for energy-efficient homes and a tax deduction for energy efficient commercial buildings.

ACEC will continue to engage with Congress as these tax policies develop.

Bipartisan Water Infrastructure Legislation Is Moving, but Challenges Lie Ahead

The House cleared robust water infrastructure authorization legislation largely along partisan lines while a closely divided Senate cleared similar, but strong bipartisan measures. ACEC supported both bills.

The Senate Environment and Public Works Committee unanimously passed the Drinking Water and Wastewater Infrastructure Act of 2021, S. 914, in April, followed by Senate floor passage on a vote of 89-2. ACEC supported the bill and in collaboration with coalition partners worked against threatening floor amendments.

The Senate bill authorizes \$35 billion to upgrade drinking water and wastewater systems and marks the advancement of the first piece of an expected larger infrastructure package. With a focus on vulnerable communities, and drinking water and wastewater resilience measures, S. 914 would reauthorize the Clean Water and Safe Drinking Water State Revolving Fund (SRF) programs over five years.

The House Transportation and Infrastructure Committee passed the \$50 billion Water Quality Protection and Job Creation Act (WQPJCA) of 2021, H.R. 1915, in June. That measure includes \$40 billion for wastewater infrastructure through the Clean Water SRF program.

WQPJCA authorizes an additional \$2 billion for grants to municipalities to capture, treat, or reuse sewer overflows or stormwater; \$1 billion for pilot programs for watershed-based and integrated management efforts to increase climate resilience; \$1 billion for alternative source projects such as wastewater reuse; \$1 billion implementation of treatment standards for PFAS and other emerging contaminants; and \$2.5 billion to address needs for American Indian tribes.

The House Energy and Commerce Committee passed H.R. 3291, the Assistance, Quality, and Affordability Act (AQUA) of 2021, in June. Among other things, that measure includes \$53 billion for drinking water infrastructure through the Drinking Water SRF program and \$45 billion for lead service line replacement.

WQPJCA and AQUA were combined with transportation measures under the Investing in a New Vision for the Environment and Surface Transportation (INVEST) in America Act, H.R. 3684. INVEST passed the House on July 1, largely along partisan lines, 221 to 201.

The water infrastructure bills now move to a House-Senate conference to negotiate differences. ACEC will continue to follow and advocate for water infrastructure provisions supporting robust project finance for traditional treatment and climate resilience, sewer overflows, and integrated stormwater and watershed management.



PICTURE ALLIANCE/GETTY

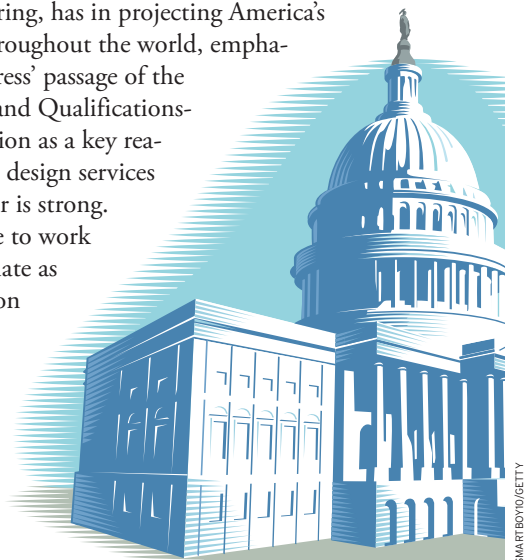
ISSUES ON THE MOVE	WHAT'S NEXT
Surface Transportation	Senate floor action in July
Water Infrastructure	House-Senate conference committee
Green Tax Incentives	May attach to larger infrastructure package in the summer

Senate Panel Advances International Infrastructure Bill

The Senate Foreign Relations Committee has passed S. 1169, the Strategic Competition Act of 2021. The bipartisan legislation is designed to mobilize the nation's strategic, economic, and diplomatic tools for an Indo-Pacific strategy that will allow the U.S. to confront the challenges China poses to our national and economic security.

One of the key components of the legislation includes challenging China's growing influence in global infrastructure. The bill strengthens American competitiveness with investments in science and technology and global infrastructure development. It also confronts China's predatory international economic behavior—most notably the Belt and Road Initiative. The PRC government grants special privileges and financial resources to certain PRC firms in key sectors designated as strategic, including architecture, engineering, and construction. Enterprises receive special state preferences in the form of favorable loans, tax exemptions, and preferential land access from the CCP. The various participants in the built environment wield outsized influence in projecting China's reach by sponsoring billions of dollars of critical, life-saving infrastructure projects.

ACEC urged passage of the bill, making several recommendations to further improve the measure. The Council noted the benefits that the built environment, including architecture and engineering, has in projecting America's influence throughout the world, emphasizing Congress' passage of the Brooks Act and Qualifications-Based Selection as a key reason the U.S. design services private sector is strong. We continue to work with the Senate as this legislation advances.



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Alternative and High-Frequency Data Is Valuable in Tracking Economic Recovery

By Erin McLaughlin



It's no longer necessary to wait for a monthly jobs report to see how the economy is recovering. As we emerge from this unusual recession, there are new metrics—resulting from the common use of high-frequency and “alternative” data.

The pandemic-caused recession, which included the worst ever U.S. gross domestic product drop, was unique in many ways—but particularly regarding how human (i.e., consumer) behavior was impacted. Economic shifts were caused by the course of the virus and people's reaction to it, often due to government restrictions on business activities. Now that we are recovering, analysts are tracking data to see how many behavioral changes made during the pandemic will be long lasting, including those related to working from home, connecting virtually, and even shopping online.

Human behavior and patterns inform consumer spending, tax collection, infrastructure needs, and capital spending. The course of the virus predicted the path of the economy. The question now is, post-pandemic, will there be lasting behavioral and consumer changes that will result in changes to the built environment?

To answer this and other questions, analysts are looking increasingly at data resulting from high-frequency and alternative metrics. Data is generally considered high frequency if it comes out more than monthly; and sources can come from both the public and private sectors. In previous recessions, there was not the proliferation of smartphones, sensors, and connectivity. This time around, economists from academia, Wall Street, and the Federal Reserve have additional indices to inform analysis, investment, and even public policy impacting real estate and infrastructure investment decisions.

Considered timelier and more accurate than traditional data—which often has a lag and requires revisions to surveys—high-frequency data provides

real-time insights. Sources of such data include: internet searches, remote sensors, phone location, and app usage—including map directions, social media posts, satellites, and credit card transactions. Specific examples of high-frequency data include:

- Mobility indices by Google and Apple that show how people are getting around in cities, regions, and countries;
- The OpenTable index, which is popular with analysts who want to understand if people are ready to dine out with strangers in public settings, as well as what types and locations of restaurants are rebounding;
- Credit card transaction data, which can be segmented by what money is being spent on (such as food versus gas, etc.);
- Box office receipts;
- Hotel occupancy data;
- Transportation Security Administration checkpoint data, which is updated daily and provides insight into traveler numbers passing through airport security checkpoints daily—key for understanding if business travel will rebound; and
- Commuter rail data, which is being used particularly by those who want to understand when and by how much office workers will return to central cities.

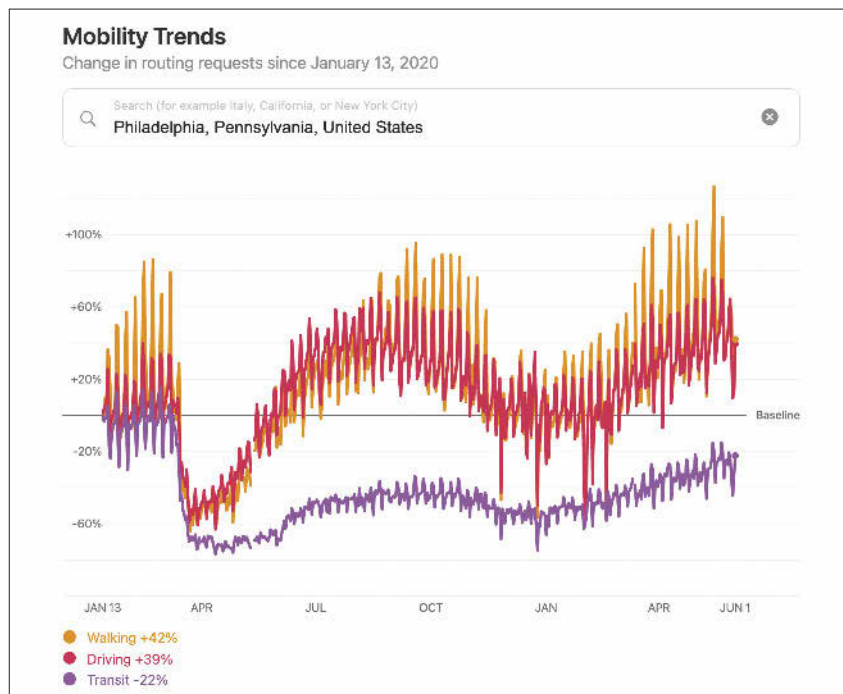
This sort of real-time data will help reveal if there is a new normal and what that is, with many having a particular interest in whether office workers will return to in-person office settings, and at what level, since that is expected to have a significant impact on the built environment. This will be measured largely by transit patterns. Essentially, real-time data will tell us if people are returning to the office, how they are getting there, and if they are frequenting the coffee shops and restaurants in central cities.

If there is a considerable change in office worker behavior, local economies and real estate markets may not recover—particularly in central business districts.

Academic Institutions and Websites:	Data Tracked Includes:
University of Maryland https://data.covid.umd.edu/about/index.html	Information from U.S. Department of Transportation and mobile device location data used to create a social distancing index and estimates of economic impact
Harvard and Brown Universities https://tracktherecovery.org	Consumer spending trends grouped by type, such as groceries, health care, and restaurants, informed by credit card transactions
Carnegie Mellon University https://delphi.cmu.edu/covidcast	A COVID-19 outbreak “nowcast” with data sourced from Google, Facebook, and other social media sources

This real-time data is also informing what is being called “nowcasting” by analysts. In a World Bank blog, which described how the international organization was using high-frequency economic activity—including Google mobility data—to measure the economies in South Asia, nowcasting was defined as a “prediction of the present, the very near future, and the very recent past state of an economic indicator (the term is a contraction of the words ‘now’ and ‘forecasting’).”

Much of this high-frequency and alternative data is free to the public, and several academic institutions (see table opposite) have begun aggregating data from a variety of sources to create interesting and user-friendly dashboards that track human behavior connected to the pandemic and our economic recovery.



Commercial & Residential Real Estate



Health Care & Science+Technology



Intermodal & Logistics



Economic Outlook



Energy & Utilities



Public-Private Partnerships (P3s)

The Private Side is a regular department of **Engineering Inc.**,

focusing on the private-sector markets listed above, and information and insights on public-private partnerships and economic data relevant to the industry. For more on these topics, subscribe to ACEC's bimonthly *Private Industry Briefs*: <https://programs.acec.org/industrybrief>.

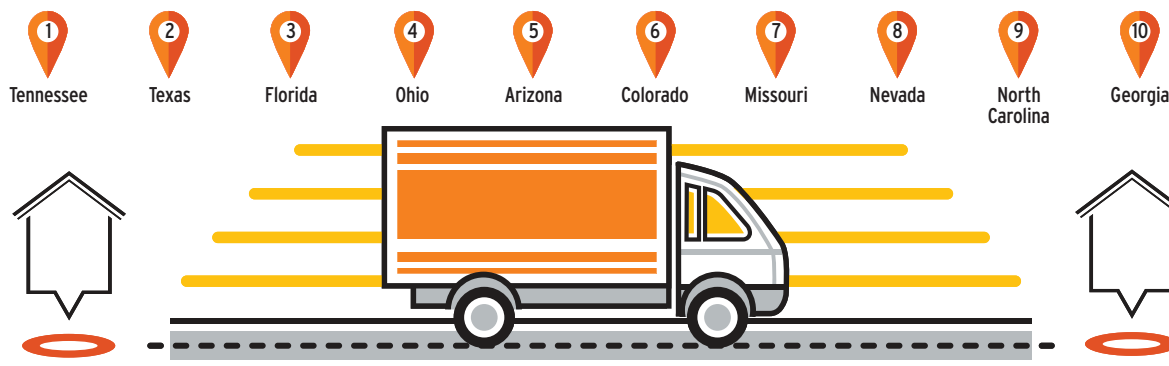
Erin McLaughlin is ACEC's vice president of private market resources. She can be reached at emcloughlin@acec.org.



U-Haul Migration Trends Show Growth Is in the Sunbelt

Although not a high-frequency data point, U-Haul's annual migration trends report is an interesting one for our industry to track, as engineering firms look to target growing markets. While waiting for U.S. Census Bureau data to confirm population shifts, U-Haul provides us with a list of how states fared, by calculating the net gain of one-way U-Haul trucks entering a state versus leaving that state within a calendar year. U-Haul says this migration trend data is compiled from more than 2 million one-way U-Haul trips annually. ■

U-HAUL 2020 INDEX: TOP 10 STATES BY MIGRATION GROWTH



THANK YOU

ACEC WISHES TO THANK THE FOLLOWING COMPANIES
FOR THEIR GENEROUS SPONSORSHIP AND SUPPORT OF THE
2021 VIRTUAL ENGINEERING EXCELLENCE AWARDS GALA



2021 ENGINEERING EXCELLENCE AWARD WINNERS

The 2021 Engineering Excellence Awards Gala—known as the Academy Awards of the engineering industry—showcased 173 projects from across the nation during the second virtual Gala broadcast on June 17, attracting more than 530 viewers.

A panel of 20 judges representing a wide spectrum of built environment disciplines selected 36 top winners: 20 Honor Awards and 16 Grand Awards, including the Grand Conceptor Award for the year's most outstanding engineering achievement.

Ross Shafer, a six-time Emmy Award-winning comedian, TV host, and nationally recognized motivational speaker, returned to host the Gala.



The Denver-based IMEG Corp. team, led by Principal and Client Executive Kenneth Urbanek (lower right), celebrates winning the 2021 EEA Grand Conceptor Award for the year's most outstanding engineering achievement, during the Virtual EEA Gala broadcast.

Denver Water Operations Complex Redevelopment

Denver

**IMEG Corp.
Denver**

An eye-catching redevelopment of a 35-acre water operations plant provides a powerful, real-life demonstration of efficient net-zero energy and water resource management. The project team optimized energy and water efficiency, including water reuse and zero on-site carbon emissions. A highlight of the complex central heating/cooling plant is the innovative campus-wide energy-recovery system. The result is one of the most multifaceted and sustainable structures of its type in the nation.



Lakefront Trail Pedestrian Bridge

Chicago

HNTB

Chicago

The 18-mile trail along the Lake Michigan shoreline serves as a major access point to Navy Pier. It is considered the busiest pedestrian path in the nation, but deteriorating conditions over the years led to many accidents along this section of the trail. The project team eliminated a host of long-standing safety hazards, incorporated new designs in the architectural steel railings and panels, and added new structural concept systems to ensure stability during all weather conditions.



Bank of America Tower

Houston

Walter P Moore

Austin, Texas

As Houston's newest landmark, the 35-story tower was designed with sustainability in mind. The structural frame offers spacious column-free floor plates with up to eight corner offices per floor. A water-harvesting system provides irrigation for a 12th-floor urban rooftop oasis. State-of-the-art environmental design achieved significant concrete construction reductions in embodied carbon, emissions that cause ocean acidification, and ozone-depleting compounds.



ASTM Test Methods: Cements Hardened by Carbonation

Piscataway, New Jersey

Braun Intertec

Minneapolis

Groundbreaking engineering has developed new testing standards aimed at promoting the use of sustainable, green construction materials. Submitted to the ASTM, the project team's proposed new standards are designed to test the effectiveness of cement hardened by carbonation, validate the performance of the novel green cement, and encourage the addition of more carbon-consuming concrete products to the marketplace.





I-40 Business Reconstruction

Winston-Salem, North Carolina

HDR Engineering, Inc., of the Carolinas
Raleigh, North Carolina

The redesigned and newly named Salem Parkway has reimagined a crucial stretch of highway into a beautiful gateway to the city of Winston-Salem. The 1.2-mile-long project significantly improves safety, mobility, and traffic flow through the city and downtown area. Corridor improvements include replacement and upgrade of nine highway bridges and two pedestrian bridges, modernized roadway and interchange configurations, and a convenient multi-use path for pedestrians.



The Heights

Arlington, Virginia

Silman

Washington, D.C.

A new 775-seat public school building features a unique geometric design while providing a full complement of school facilities such as classrooms, labs, a gymnasium, a cafeteria, and an auditorium. The innovative design incorporates five one-story bar-style classrooms stacked atop one another and rotated around a pivot point. The result is a series of classrooms overlooking landscaped terraces that cascade down the site to create a dynamic visual design.

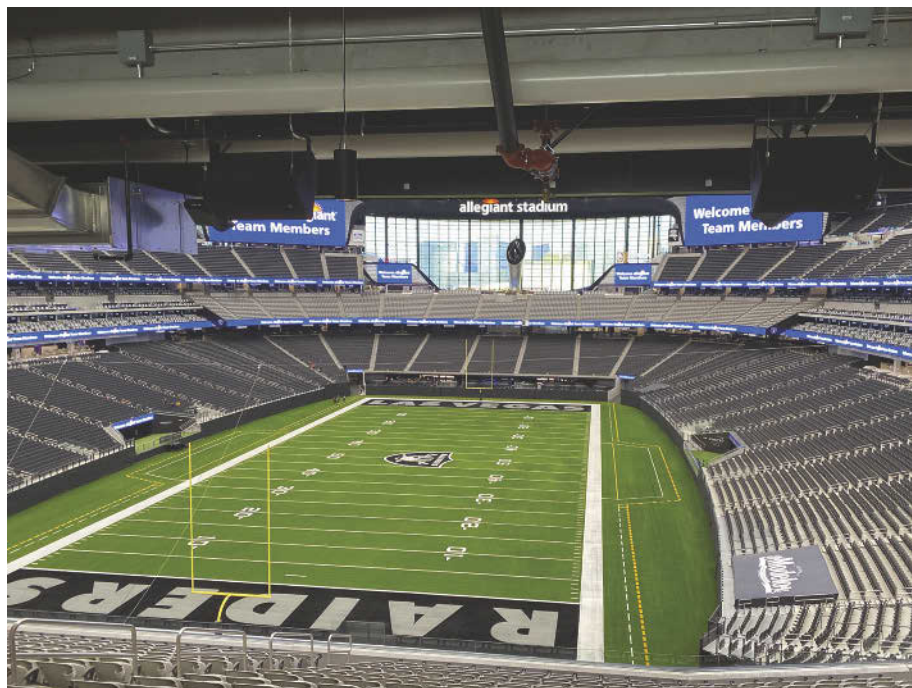


▲ **Santa Monica City Hall East**

Santa Monica,
California

KPFF
Los Angeles

An inspiring model of green design provides more efficient operations while supporting the city's commitment to sustainability via carbon neutrality, water self-sufficiency, and zero waste in the coming decades. The project team designed pioneering stormwater solutions including a drinking water well along with conveyance systems for rainwater to be collected, treated, and reused for the building's drinking water supply. It is California's first building to convert rainwater into drinking water.



▲ **Allegiant Stadium**

Las Vegas

HNTB
Kansas City, Missouri

The new iconic stadium of the recently relocated Las Vegas Raiders NFL team has a first-of-its-kind cable-net-supported roof system, along with an innovative retractable natural grass playing field—only the second of its type in the nation. The field tray slides in on game day and out of a 250-foot-wide “mail slot” on the stadium's south end for maintenance. The 65,000-seat stadium offers more than 8,000 club seats, 128 suites, 352 loge seats, and nine club and suite lounges.





New Shredder Site

Becker, Minnesota

Short Elliott Hendrickson
St. Paul, Minnesota

The new shredder facility is the largest of its type in the U.S., encompassing a 26-acre site. It features systems that can turn a full-size vehicle into 3-inch pieces in about eight seconds. The shredder also uses sophisticated technology to separate waste from recyclable products, recovering more than 80 percent of the recyclable materials brought in.



Marine Studies Initiative Building

Newport, Oregon

GRI, KPFF
Beaverton, Oregon

Applying a variety of innovative structural engineering methods and detailed geotechnical analyses, the project team designed the Marine Studies facility at Oregon State University to safely withstand a 9.0 magnitude earthquake and corresponding tsunami. The facility is also one of the nation's first vertical tsunami evacuation facilities, designed to safely house more than 900 people, and with the resiliency to remain fully operational during a community-threatened event.

Organic Waste Into Liquid Gold

Muscatine, Iowa

Stanley Consultants
Muscatine, Iowa

The new City of Muscatine Organics Recycling Center has the unique ability to separate food waste from food packaging, allowing refuse to be processed that otherwise would be destined for a landfill. Powerful spinning paddles break open packages and separate packaging material from organic waste, thus eliminating the prohibitive cost of manual separation. The organic waste is pumped into a tank, where a bacterial process converts the materials into mostly methane—the primary component of natural gas.



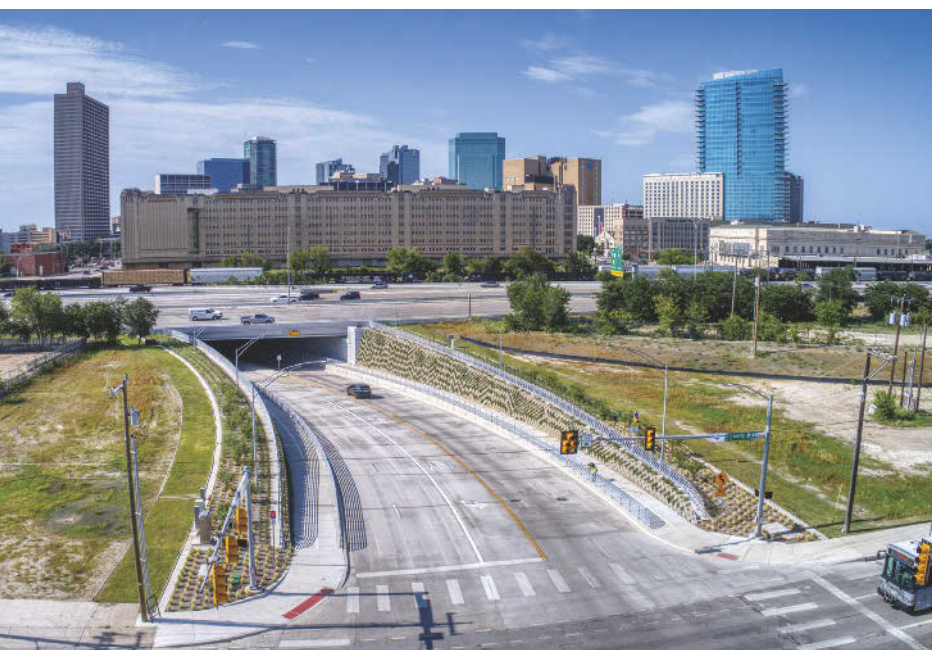


Chase Center

San Francisco

Magnusson Klemencic Associates
Seattle

Spanning eight city blocks in San Francisco's Mission Bay neighborhood, the 1.74-million-square-foot complex serves as home to the Golden State Warriors NBA team. It features an 18,000-seat arena, team headquarters, and a practice facility. Other elements of the complex include two office towers, multiple plazas, a below-grade parking garage, and foundations for a future hotel tower. The project has transformed a once-deteriorating industrial landscape into an anchor for waterfront development.



Hemphill-Lamar Connector

Fort Worth, Texas

TranSystems
Fort Worth, Texas

Greatly improved connectivity between Fort Worth's Central Business District and its Near Southside District was achieved with the new Hemphill-Lamar Connector. The enhancement involved extending Hemphill Street as a four-lane divided roadway though a new 400-foot tunnel constructed underneath a nearby United Pacific Railroad and I-30. The 2,100-foot-long roadway provides a new and safe, multi-modal option with two new pedestrian and cyclist paths.

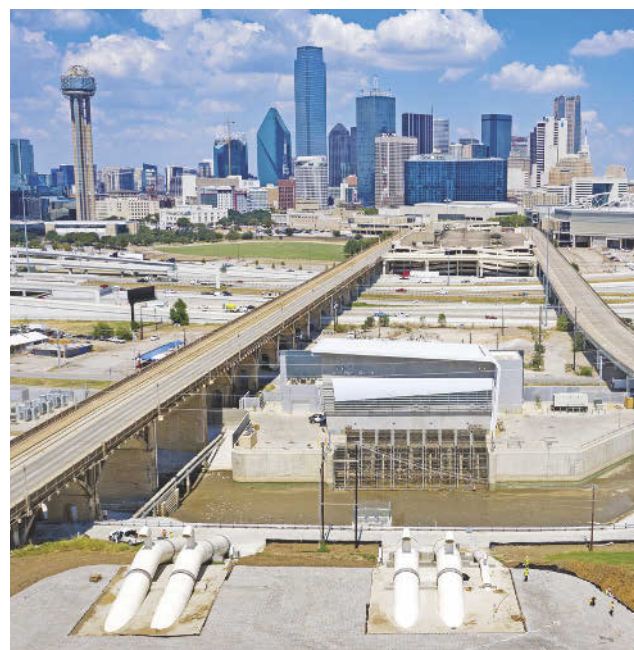


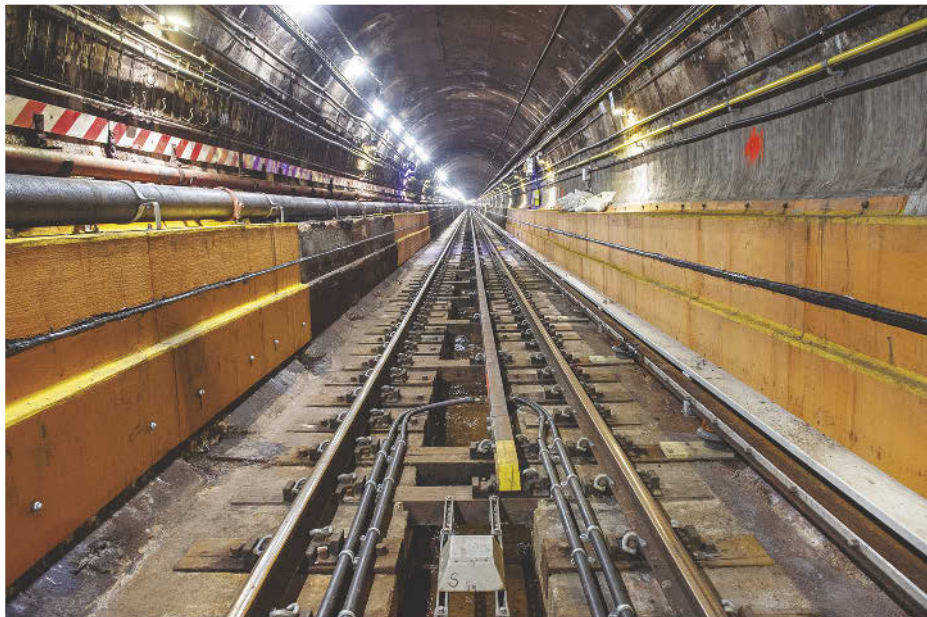
Able Pump Station

Dallas

HDR
Dallas

The new Able Pump Station combines the nation's four largest concrete volute pumps to lower any flood elevation by 6.5 feet while providing 100-year flood protection to approximately 4 square miles of Dallas. Replacing an aged sump complex that could no longer handle severe storm flows, the new station can pump 1.3 billion gallons per day and has enhanced corrosion resistance, vibration reduction, and lower maintenance costs.





▲ Zeiss Regional Headquarters

Lyon Township,
Michigan

SmithGroup
Detroit

A new regional headquarters for German-based Zeiss consolidates its five Detroit-area offices into a single facility and provides exacting conditions necessary to test and operate sophisticated equipment. Zeiss is a global leader in the design and manufacture of scientific optics and electronic measuring systems. The new facility features laboratories equipped with dedicated mechanical systems that provide highly stable environments and strict parameters for temperature and motion.

▲ Canarsie Tunnel Rehab

New York

WSP USA
New York

After 7 million gallons of salty floodwater from Superstorm Sandy inundated the tunnel for 11 days, it left most of the tracks, switches, signals, controls, and communication systems degraded or even ruined. The project team added new plated and continuous welded rail along with new discharge lines, pipes, and controls that will help prevent future flooding—all while avoiding full-service shutdowns throughout the renovations.





New Jersey Transit Microgrid Central Facility

Kearny, New Jersey

BEM Systems

Chatham, New Jersey

The groundbreaking design of a mass transit microgrid will be the core segment for the New Jersey Transit and Amtrak's service territory in providing decentralized, reliable power during emergencies. To be built in Kearny, New Jersey, the project was conceived in the aftermath of Superstorm Sandy, when the damaged commercial power grid left hundreds of thousands of customers without mass transit for more than two weeks.

Grand Canyon National Park Airport Drainage

Tusayan, Arizona

Dibble

Phoenix

Seeking the most cost-effective way to bring more potable water to the regional airport, the project team designed a model to better understand how the 16-square-mile watershed responds to rainfall. The effort included detailed modeling of local rainfall patterns and evaluation of existing drainage and potable water infrastructure. The result advances knowledge of leaders in the responsible management of limited natural resources.



Rejuvenating the Pulaski Skyway

Kearny, New Jersey

Arora and Associates

Lawrenceville, New Jersey

Critical pier replacement was achieved on the Pulaski Skyway—an 80-year-old, 3.5-mile vital link in the New Jersey/New York City transportation network. To replace two deteriorated piers under the Kearny Ramp, the project team incorporated a “structural health monitoring” method, which precisely evaluates a structure's behavior and capacity during construction. It allowed, for the first time in the Skyway's history, the truss to be jacked and placed on temporary structures under live traffic, while the piers and foundation went through complete replacement.



USTA Louis Armstrong Stadium

New York

WSP USA

New York

Pioneering design of a natural ventilation system for the 14,069-seat U.S. Open tennis venue allows for continuous tournament play when the facility's retractable roof is closed. The new ventilation system keeps the court and seating bowl temperatures sufficiently below the outside ambient temperature without the need for complex equipment or constantly fine-tuning operations.



Wind Turbine Foundation Evaluation

Desert Sky, Texas

Terracon Consultants

Germantown, Maryland

Groundbreaking engineering produced an innovative study for evaluating the stiffness of wind turbine foundations. In association with GE Renewable Energy, the study found that foundation stiffness was a critical factor in the design of new wind turbine facilities and in assessing existing structures for operational performance or potential component replacement.





Rowan Deep Tunnel Pump Station

Louisville, Kentucky

HDR

Lexington, Kentucky

A submersible pump station with 12 pumps installed in a 220-foot-deep, 40-foot-diameter shaft now returns combined sewer overflows (CSO) to the existing sewer system for treatment, preventing discharge into the Ohio River. The project blocks over 439 million gallons of CSO from discharging to the Ohio River in a typical year. It is one of the deepest submersible pump stations in the United States.



Patapsco WWTP Nutrient Removal Facility

Baltimore

RK&K

Baltimore

Fueled by diminished harvests of oysters, crabs, shad, and striped bass because of degraded Chesapeake Bay water quality, innovative treatment plant technology has produced a significantly positive response. The nutrient-removal system uses advanced biological treatment to optimize nitrogen removal and allows processing of up to 150 million gallons of wastewater daily. The Patapsco plant is the largest publicly owned treatment facility in the U.S. using this type of system.





Lomas Negras Phase II

Rio Rancho, New Mexico

Smith Engineering

Albuquerque, New Mexico

Advanced hydraulic modeling significantly minimized flood risk plaguing the Rio Rancho, New Mexico, community. Technology simulated potential rainfall events, including 100-year and 500-year 24-hour storms. The project team designed a detention pond and channel stabilization improvements for the Lomas Negras Arroyo and the North Tributary Arroyo flood protection systems. The project has already reduced runoff flows downstream and minimizes stresses on existing detention structures and channel networks.



Patapsco Intersector Relocation and Bloede Dam Removal

Catonsville, Maryland

Inter-Fluve, KCI, Hazen and Sawyer, and Kiewit Corp.

Hood River, Oregon

The century-old, 34-foot-high Bloede Dam on Maryland's Patapsco River was safely demolished to restore the river to its natural state. The dam also had become a bane to the region's health and safety, as nine people had died there since the 1980s. The project team designed a passive release strategy for removal of 300,000 cubic yards of impounded dam sediment, while adding a new 42-inch-diameter sanitary sewer line to replace an outdated 12-inch cast-iron siphon.

Water Siphon Replacement

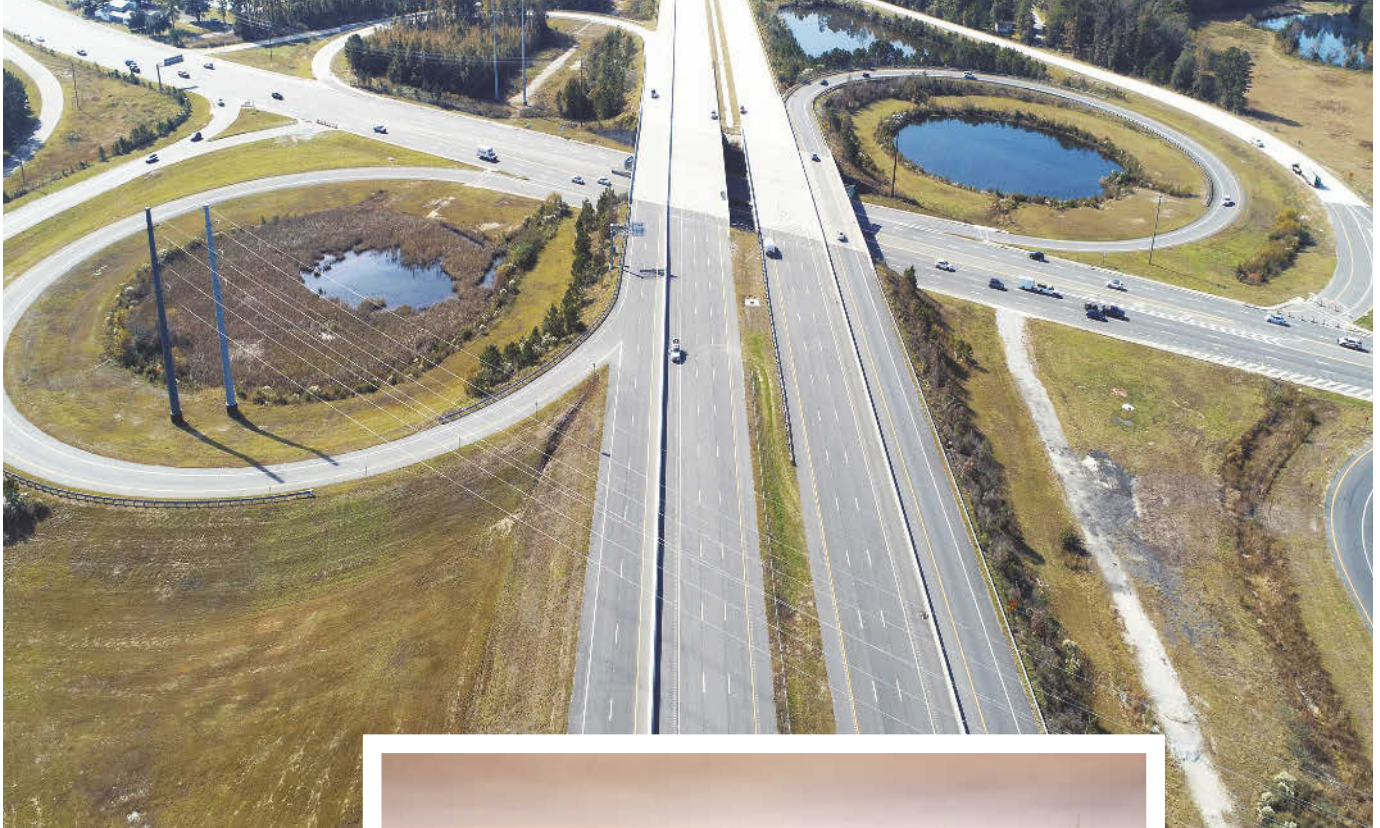
New York

WSP USA/LiRo (a joint venture)

New York

Relocating Staten Island's primary water supply siphon pipe to a greater depth was critical for the Anchorage Channel—a gateway to New York Harbor—because the harbor needed dredging to accommodate larger cargo vessels. After Superstorm Sandy delayed the project for 18 months, Staten Island residents now have improved access to potable water, plus new resilient infrastructure to withstand underwater forces of future storm events.





▲
**Carolina Bays
Parkway Phase III**
Myrtle Beach,
South Carolina
**Civil Engineering
Consulting Services**
Columbia, South Carolina

A bridge project headed for construction was halted when the project team convinced the South Carolina Department of Transportation there was a better, more affordable way. In designing the third phase of the Carolina Bays Parkway Project in Charleston, South Carolina, the project team determined the originally planned twin bridges would be better as a single structure with twin roadways. The change significantly reduced costs and complexity. The new signature entrance to the Southern Strand of Myrtle Beach reduced the project cost by \$40 million.



▲
I-29 Improvements in Sioux City
Sioux City, Iowa
HDR and HR Green
Omaha, Nebraska

Inventive engineering helped eliminate traveling hazards on a 3.5-mile stretch of the I-29 urban freeway desperately needing revitalization. Solutions included reconfiguring overall highway access to downtown by shifting and lengthening several roads and incorporating a split diamond interchange. The project modernized a previous 1960s-era route that featured short ramps, abrupt entrances and exits, and an accident rate up to four times the statewide average.





I-5 HOV Improvements

Santa Ana, California

T.Y. Lin International
San Diego

To mitigate worsening congestion on barrier-separated high-occupancy vehicle (HOV) lanes on a 3-mile segment of I-5 in Santa Ana, California, the project team removed the barriers while adding a second HOV lane in each direction. The design also included a new long retaining wall under an abutment of an existing railroad bridge. Traffic congestion subsequently eased in the HOV lanes, and overall travel times improved, while increased use of the HOV lane network has been encouraged.



Yeager Airport Runway 5

Charleston, West Virginia

Schnabel Engineering
Chadds Ford, Pennsylvania

Resourceful engineering restored a damaged airport runway and its adjoining 240-foot-high runway arresting system after a 2015 catastrophic failure of the arresting system's support. The tragedy resulted in swallowed buildings, major flood damage, and a destroyed nearby highway. Utilizing a multi-phase effort, the project team rebuilt the runway and its new runway arresting system, along with the major arterial—involving removal of more than half a million cubic yards of material—plus repaired and replaced damaged utilities and repaved.



Reconstruction of I-84

Waterbury, Connecticut

WSP USA
Glastonbury, Connecticut

The 2.7-mile highway section suffered from numerous deficiencies resulting in frequent congestion and increased safety hazards—problems that would only worsen as traffic volumes increase in the coming years. The project team provided innovative upgrades including an additional travel lane, new full shoulders in both directions, and elimination of a problematic S-shaped reverse curve by relocating the roadway 300 feet to the south. The improvements significantly increased lane speeds, cut travel times, and reduced crashes.



▲ **West Riverside Energy Center**
Beloit, Wisconsin

HDR
Madison, Wisconsin

As one of the most environmentally friendly natural gas-fired facilities in the nation, the new \$670 million West Riverside Energy Center provides 730 megawatts of power, enough to supply more than 550,000 homes. Featuring state-of-the-art, two-on-one-combined-cycle technology, the facility is also integrated with an adjacent 4-megawatt solar energy field. The center emits less than half the carbon dioxide, two-thirds less nitrogen oxides, and roughly 99 percent less sulfur dioxide and mercury than traditional coal-fired plants.

► **World Trade Center
Downtown Restoration**

New York

WSP USA
New York

One of the largest construction programs in the world, in one of the most visible, politically sensitive, and dynamic environments, now represents a sign of healing for the nation. The \$20 billion redevelopment of the 16-acre World Trade Center site in Lower Manhattan includes more than 20 new buildings in a constrained site challenged by an active underground subway and transit. For 18 years, the project team led more than 100 consultants in the planning, design, and construction of the progressive, modern, mixed-use complex that gracefully honors the past while eyeing the future.





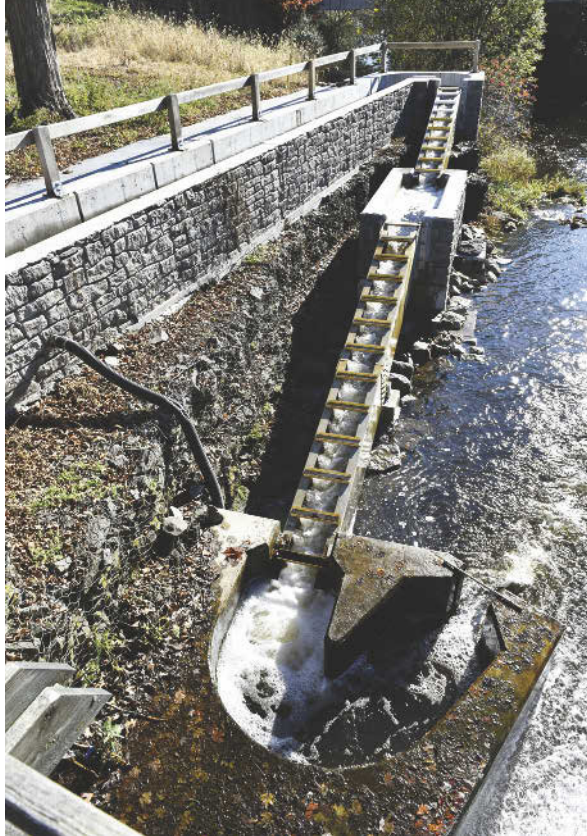
Forrest Hills Community Slope

Swannanoa, North Carolina

ECS Southeast

Raleigh, North Carolina

A 2018 landslide caused by a failed retaining wall closed a primary access road to a residential community and threatened an aging water main essential to the community's water supply system. To repair and mitigate future risk, the project team developed a pioneering geotechnical stabilization design consisting of reticulated micropiles and tiebacks. The strategy proved more economical than conventional approaches and allowed the road to remain open while minimizing risk until the threat of additional slides was remediated.



Pages Mill Pond Dam Fishway

North Branford, Connecticut

Nathan L. Jacobson & Associates

Chester, Connecticut

Blocked by dams for more than 300 years, a variety of migratory fish species are now able to climb 10 feet to reach a 4.25-acre head pond and 6 miles of upstream river habitat. The project team incorporated a new 170-foot-long fishway made up of a series of concrete structures and sloped aluminum steep-pass sections, along with an eel pass. Benefiting species include brown trout, alewife, blueback herring, sea lamprey, and American eel. The goal of restoring fish passage was realized within days of project completion.

Arkansas Lithium Plant

El Dorado, Arkansas

Hunt, Guillot & Associates

Ruston, Louisiana

A groundbreaking pilot plant features a direct lithium extraction process that provides the capture of lithium in a matter of hours instead of months or years. Lithium has become a key component used in batteries. The project team provided overall facility site design and detailed engineering services for the process systems. Based on breakthrough processes, the pilot plant expects to extract and process over 20,900 tons of battery-grade lithium carbonate annually from a 150,000-acre brine field in South Arkansas.



NATIONAL RECOGNITION AWARD WINNERS

FIRM NAME	PROJECT NAME	FIRM NAME	PROJECT NAME
ACEC CALIFORNIA		ACEC-FL	
AECOM	San Elijo Lagoon Double Track	EAC Consulting	MDX SR 836 Operational, Capacity, and Interchange
Degenkolb Engineers	ChEM-H and the Stanford Neurosciences Institute	Pond Michael Baker International Joint Venture	Jacksonville Regional Transportation Center at LaVilla
HDR	Southport Levee Improvement Project		
Kimley-Horn and Associates/ San Diego Association of Governments (SANDAG)	South Bay Bus Rapid Transit (South Bay Rapid)	ACEC GEORGIA	
		Walter P Moore	Medical University of South Carolina Children's Hospital and Women's Pavilion
Michael Baker International	Vista Village Trunk Sewer Project		
Moffatt & Nichol	Gilman Drive Bridge	ACEC ILLINOIS	
Shannon & Wilson	Protecting Infrastructure From a Moving Mud Spring	Hanson Professional Services	Norfolk Southern Grand River Bridge Emergency Repairs
Stantec	San Ysidro Land Port of Entry Phase 2	HR Green/Stantec	Illinois Route 23 Interchange on I-90
Syska Hennessy Group	Long Beach Civic Center, Port HQ, and Main Library	Primera Engineers	Chicago North Facility
		Strand Associates	Joliet's Collaborative Approach to Combined Sewer Overflows
ACEC COLORADO			
HDR	Chatfield Reservoir Reallocation Project	ACEC INDIANA	
HDR	Pine Creek Channel Improvements	American Structurepoint	Bass Road Corridor Project
Merrick & Co.	Globeville Landing Outfall	American Structurepoint	SR 37 Drainage Line Project
Muller Engineering Co.	Wonderland Creek Floodplain and Greenway Improvements	CHA Consulting	96th Street & Keystone Parkway Interchange and Corridor Improvement
Wilson & Co.	Garden of the Gods Detention Pond	Strand Associates	Bargersville Wastewater Treatment Plant Improvements
ACEC/DELAWARE		ACEC/IOWA	
Landmark Engineering	Avenue North Channel Restoration	Ulteig	Newport Substation Interconnect
RK&K	The Senator Margaret Rose Henry Bridge		
RK&K	U.S. 301: Delaware's Newest Toll Road		



The Jacksonville Regional Transportation Center at LaVilla in Jacksonville, Florida, designed by the Pond|Michael Baker International Joint Venture, is a 2021 EEA National Recognition Award winner.

FIRM NAME	PROJECT NAME	FIRM NAME	PROJECT NAME
ACEC-KY EA Partners Gresham Smith GRW HDR Strand Associates	U.S. 460 Restaurant Row Kentucky Route 9 Next Round Brewing Transforming Dixie Highway Fourth Street Corridor and Legacy Trail Phase 3	ACEC/MS Waggoner Engineering	Lake Harbour Drive Project
ACEC OF LOUISIANA Associated Design Group	NOAA Fisheries Research Laboratory–Northwest Fisheries Science Center Mukilteo Coulee Ile des Cannes FEMA Physical Map Revision Statewide Inspection of Metal Culverts Photovoltaic Applied Research & Testing Lab	ACEC/MISSOURI Burns & McDonnell	More's Lake Coal Combustion Residuals Impoundment and Restoration Champ Clark Bridge Emerson Zooline Railroad Tunnel Repairs I-435 South Loop Link Design-Build Project
C. H. Fenstermaker & Associates		HNTB Corp. Horner & Shifrin	
Forte and Tablada		Radmacher Brothers Excavating Co.	
Poche Prouet Associates		ACEC-MONTANA DOWL	West Fork Upper Battle Creek Diversion
ACEC OF MAINE Thornton Tomasetti	Maine Medical Center Employee Parking Center	ACEC NEBRASKA HDR	Cottonwood Ranch Broad-Scale Recharge Project Falls City Emergency Bridge Repair Florence Water Treatment Plant Chemical Building Rehabilitation Norfolk General Hospital Expansion and Renovation Wastewater Treatment Facility Design U.S. Highway 281 Over Niobrara River Emergency Repairs
ACEC/MD Century Engineering	SmartSWM: An Intelligent Infrastructure Solution Herring Run Trail Bank and Stream Restoration Broad Creek Augmentation Conveyance System	HDR HDR HDR HDR Olsson	
Gannett Fleming		ACECNJ AECOM	Alternate Care Facility at State University of New York–Old Westbury Basin 5 and 6 Clarifier Rehabilitation Route 1, Forrestal Road ITS Route 17 at Route 32 (Exit 131) Reconstruction American Dream Meadowlands George Washington Bridge Palisades Interstate Parkway Helix Replacement River Road Bridge Over Raritan Valley Railroad Route 72 Manahawkin Bay Bridges Contract 4
Gannett Fleming/ Mott MacDonald Joint Venture		HDR HNTB Corp. HNTB Corp. Langan STV WSP USA WSP USA	
ACEC/MA AECOM Arup Nitsch Engineering	Terminal B Optimization Lowell Judicial Center Christian Science Plaza Restoration and Repair Coulombe Family Tower Expansion Wachusett Aqueduct Pumping Station	ACEC NEW MEXICO Bridgers & Paxton Consulting Engineers	Strategic Computing Complex Exascale Class Computer Cooling Equipment
Simpson Gumpertz & Heger Stantec		ACEC NEW YORK AECOM	Electric Vehicle Charging Infrastructure at JFK Aaron Diamond AIDS Research Center Relocation 40 Tenth Ave. (Solar Carve) Ashokan Rail Trail Ronkonkoma Hub Sanitary Pump Station and Force Main Niagara County Landfill No. 1 Improvements K Bridge Phase 2-Construction and Erection Engineering
ACEC/MW Johnson, Mirmiran & Thompson	Jones Branch Connector	AKF Group Arup Barton & Loguidice Cameron Engineering & Associates CHA Consulting COWI	
ACEC/MICHIGAN AECOM	Boardman River Dams Ecosystem Restoration Allen Creek Berm Opening 8½ Mile Relief Drain In-System Storage Scan Research and Development Campus U.S.-31 Manistee Bridge Design Survey Ford Dearborn Central Energy Plant Site		
Bergmann Fishbeck/Tetra Tech			
SmithGroup Spalding DeDecker			
Wade Trim			
ACEC/MN Barr Engineering Kimley-Horn and Associates	Island Lake Dam Gate Upgrade Silver Ramp, Minneapolis-St. Paul International Airport Terminal 1 Madison Municipal Building Duluth Sky Harbor Airport Biochar- and Iron-Enhanced Sand Filter Digi-Key Electronics Product Distribution Center		
MEP Associates Short Elliott Hendrickson, Inc. Wenck, a Stantec company			
Widseth			

FIRM NAME	PROJECT NAME	FIRM NAME	PROJECT NAME
Delta Engineers H2M architects + engineers	Olin Science Building Springs School Sanitary System Upgrade Project	ACEC OHIO Michael Baker International Michael Baker International Mott MacDonald	Scioto River Pedestrian Bridge Vrooman Road Bridge Easterly Combined Sewer Overflows Tunnel System
Hazen and Sawyer	Passaic Valley Sewerage Commission Wet Weather Secondary Bypass: No Feasible Alternative Study	Prime AE Group	South Main Street Corridor and State Street Bridge
Hazen and Sawyer	Township of Ocean Sewerage Authority Offshore Ocean Outfall Replacement	ACEC OKLAHOMA Freese and Nichols	Lake Ponca Dam Spillway Improvements
HDR Jacobs Jaros, Baum & Bolles	Cross Harbor Freight Program COVID-19 Testing Sites Memorial Sloan Kettering David H. Koch Center for Cancer Care Charles Library, Temple University	ACEC/PA Gannett Fleming	Penn Street Historic Bridge Rehabilitation SR 422 Emergency Sinkhole Repair Shaler Street Bridge Replacement East Park Reservoir Southport Auto Terminal and Vehicle Processing Center
LERA Consulting Structural Engineers Mueser Rutledge Consulting Engineers STV Thornton Tomasetti	Jacob K. Javits Center Expansion Foundations Patterson Bridge Replacements Memorial Sloan Kettering David H. Koch Center for Cancer Care Dry Cleaner Site Assessment/ Remediation Program	Gannett Fleming H.W. Lochner Jacobs STV	
WSP USA		ACEC-SC Civil Engineering Consulting Services	I-85/I-385 Design-Build Interchange Bear Island Road Extension
ACEC/NC Freese and Nichols	City of Fayetteville Watershed Master Plan	Michael Baker International	
Stantec	Riverbend Continuous Flow Intersection U-6084	ACEC TEXAS Freese and Nichols	Comprehensive Wastewater System Assessment Update El Paso Hondo Pass Readiness Center
STV	Little Sugar Creek Tributary Sewer Improvements	Freese and Nichols	Trinity River Main Stem Pump Station and Pipeline Balmorhea State Park San Solomon Springs Repair Northern Delaware Basin Landfill Project New Camp Strake
ACEC NORTH DAKOTA KLJ	Grafton Flood Risk Reduction Project	Freese and Nichols	
KLJ	Sheyenne Street	JQ Engineering	
		Parkhill	
		Walter P Moore	
		ACEC VIRGINIA HDR M.C. Dean	Inova Loudoun Hospital National Museum of the United States Army
		ACEC WASHINGTON HDR HDR	Northeast Spring Boulevard Tumwater Falls Hatchery Modernization Fairview Avenue Bridge University District Gateway Bridge Coffee Creek Fish Barrier Removal
		HWA GeoSciences KPFF Consulting Engineers Parsons and GeoEngineers	
		ACEC WISCONSIN Ayres Associates	Wisconsin Regional Orthoimagery Consortium West Riverside Energy Center City of Madison New Fire Station 14 American Family Insurance Amphitheater Renovation Little Falls Dam Design and Construction Shell Lake Downtown Redevelopment I-94 N-S Freeway/WIS 11 Interchange WIS 441 Tri-County Freeway Expansion
		HDR IMEG Corp.	
		Larson Engineering	
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		Short Elliott Hendrickson	
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The Medical University of South Carolina Children's Hospital and Women's Pavilion, in Charleston, South Carolina, designed by Walter P Moore, is a 2021 EEA National Recognition Award winner.

ACEC thanks the 2021 Engineering Excellence Awards (EEA) judges and EEA Committee members for their time and dedication to this year's competition

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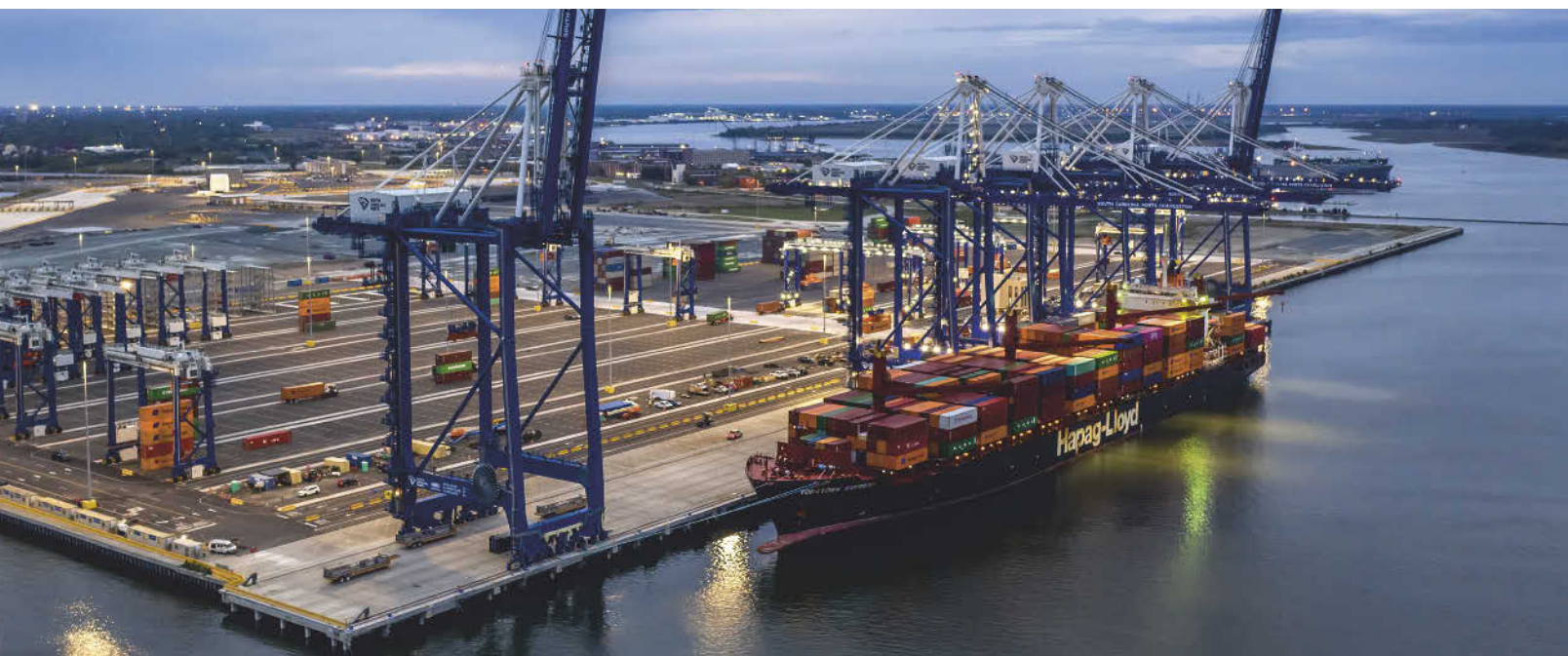
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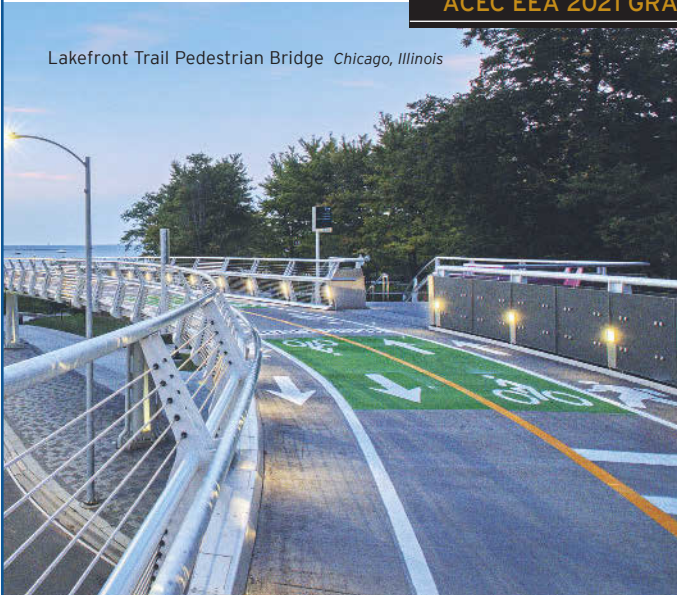
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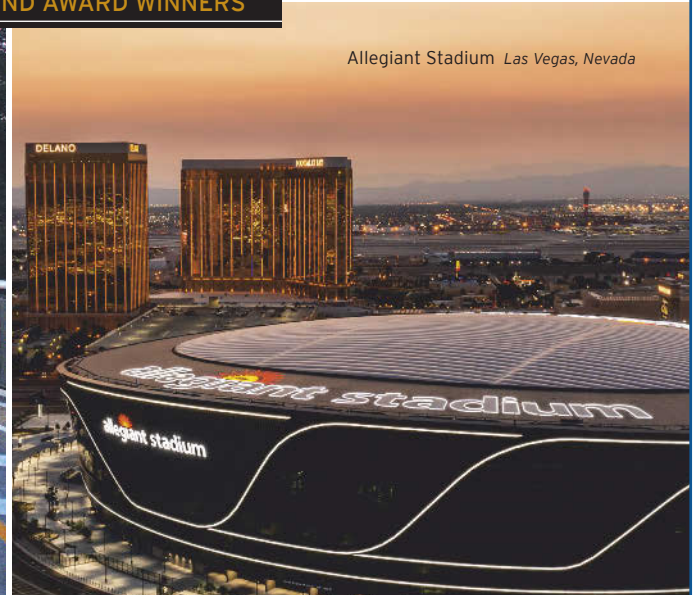
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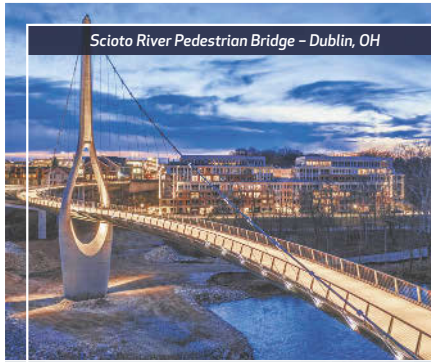
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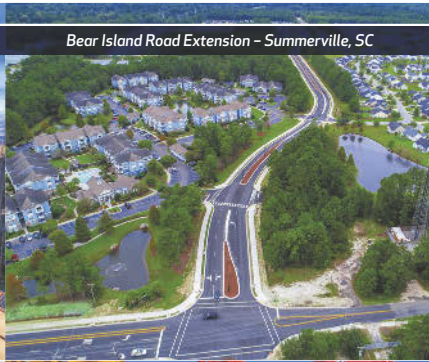


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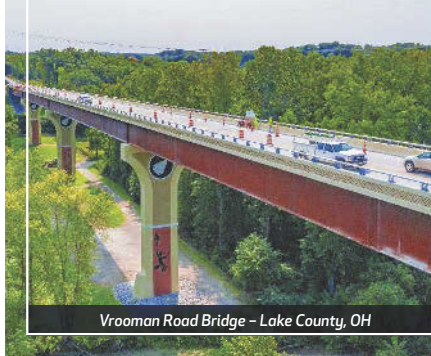
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MEET THE NEW EXCOM: NAVIGATING THE ROAD AHEAD

BY NOVID PARSI

A hybrid workforce and potential major infrastructure legislation could spell big changes for the engineering industry. After an unprecedented year, the 2021–2022 ACEC Executive Committee (ExCom) is among many groups assessing what the future will look like.

In a special report, ExCom members weighed in on factors that have the potential to shape the industry in the near and long-term future.

POST-PANDEMIC OPERATIONAL CHANGES

COVID-19 will have a lasting impact on firm operations, ExCom members agree. Pre-pandemic, business norms dictated in-person office work. But that changed—perhaps for good—as companies quickly learned that remote work was a viable option. “We have discovered we can do work, within reason, over technology,” says **Treasurer Matt Hirst**, president and CEO of CRS Engineers.

Remote work could be here to stay. According to PwC’s 2021 *U.S. Remote Work Survey*, more than half of employees want to



MANANYA KAEWTHAWEE/GETTY

work remotely at least three days a week after the pandemic. In the new normal, engineering firms will need to adopt a hybrid of in-person office and remote work, according to ExCom members. "Flexibility and adaptation to staff needs will likely drive our operations," says new **ACEC Chair Robin Greenleaf**, CEO of Architectural Engineers.

Digital adoption will help bolster the talent pipeline by opening up the industry to a larger workforce, predicts **Vice Chair Ed Alizadeh**, CEO of Geotechnology. With co-location no longer the standard, firms can benefit from the work and talent of more

WHAT WOULD YOU LIKE TO SEE ACCOMPLISHED DURING YOUR TENURE AS AN EXCOM MEMBER?



"As chair, I'd like us to provide our members with critical information related to the engineering economy, support key legislation like the infrastructure package, help resolve the Paycheck Protection Program and Federal Acquisition Regulation credit issue, and develop our next three-year budget. These issues are all vying for the top of my list."

Robin Greenleaf, chair



"I feel ACEC's strongest attribute is its advocacy. I want to make sure we encourage and expand our Political Action Committee. We need to make sure our Member Firms' employees understand what ACEC does for them. And we need more diversity within our organizations so that we're stronger at finding the right solutions."

W. Arthur Barrett II, chair-elect



"I would like to see ACEC's solid and audacious strategic plan fully implemented, executed, and measured. ACEC will become the advocate for the business of engineering."

Gary Raba, senior vice chair



"As treasurer, I would like to see our association in the financial shape we budget for and fund our strategic plan initiatives."

Matt Hirst, treasurer and vice chair



"I want to play a role in advancing the five goals of ACEC's strategic plan—in particular, helping ACEC demonstrate the essential value that engineers provide to society."

Ed Alizadeh, vice chair



"I would like to see greater awareness across our communities of what engineers do and the significant impact our work has on everyone's quality of life. And I would like to see our industry continue its efforts to become more just, inclusive, and diverse."

Michael Cooper, vice chair



"I will be an unwavering advocate for the R3 agenda: rescue/recovery/rebuild. It is an imperative continuation of any near-term infrastructure package to ensure that transportation, water, and energy priorities earn sustained congressional funding support."

Gary Hartong, vice chair

people, regardless of location. "This will allow for greater opportunities for innovation and improved designs," says **Vice Chair John Rathke**, principal and vice president at Mead & Hunt.

Even so, remote or hybrid work poses operational challenges that firms will need to address. First, they need the right technology in place. "The pandemic has forced firms to improve their communication and design tools," Rathke says.

Such tools will help offset a potential drawback of virtual work: "The lack of interpersonal interaction may lead to the lack of brainstorming and accidental collaboration," says **Vice Chair Melvin Williams**, vice president and senior client development manager at Terracon.

Another major challenge involves culture, especially with new hires. "How will firms retain their culture and acclimate new staff who have never worked side by side with their peers?" asks **National Association of Engineering Council Executives (NAECE) President Beth Bauer**, executive director of ACEC Indiana. They must do that, she says, by boosting communication and training to include not just technical expertise but also personal development.

"Learning on the job and counseling early-career professionals without spontaneous mentoring will be a major operational change," says **ACEC Chair-elect W. Arthur Barrett**, senior vice president at Gannett Fleming. Without face-to-face interactions, firms will need to establish formal mentoring programs, he adds.

"Firms must also consider how to communicate and reinforce business values with staff to preserve workplace culture," says **Senior Vice Chair Gary Raba**, chief growth officer at Raba Kistner.

Vice Chair Gary Hartong, president of Wooten, predicts more remote work also means greater exposure to IT threats and that the importance of cybersecurity cannot be overstated. "With more decentralized IT infrastructure, firms must be proactive and vigilant," he says.

Meanwhile, office spaces will need to be reimagined to accommodate health and safety practices. "Offices might need a redesign to allow for more social distancing; they also will incorporate more sanitation practices," according to **ExCom Chair Emeritus Charles Gozdziwski**, principal emeritus at Hardesty & Hanover. As a result of such changes, firms will reevaluate all their operational expenses, he says.

INFRASTRUCTURE INVESTMENT

Most ExCom members believe Congress will pass a meaningful infrastructure investment package this year. "It seems highly likely that a significant package will become reality soon because it touches so many parts of our communities," Bauer says.

Infrastructure investment legislation would have a direct impact on engineering projects, such as roads, bridges, and airports. That impact would be even more far-reaching if the legislation reflects an expansive understanding of infrastructure, which could include modernizing the electricity grid or installing a national power supply grid for electric vehicles. "An expanded definition of infrastructure is likely to create opportunities for engineers," Greenleaf says.

For several ExCom members, confidence in the passage is rooted in wide societal acceptance of its necessity. "Our infra-

structure is in dire need of significant upgrade. Most Americans see it, and I believe both sides of the aisle in Congress see it and agree that action is necessary,” says **Vice Chair Michael Cooper**, president and principal at HED.

Yet ExCom members have varying views on what a successful package might look like. While Bauer notes that the traditional definition of infrastructure is expanding to include the energy grid, broadband expansion, and housing, Barrett says elected officials understand the need for a strong infrastructure package as it is traditionally known—transit, power, and water. Williams, however, believes only a scaled-down version of the bill that addresses roads and bridges will pass.

Not all ExCom members agree any major infrastructure legislation will pass. “I am not confident Congress will pass meaningful infrastructure legislation until it has a viable way of paying for it that doesn’t involve taxation of business,” Hirst says. Raba also is not confident: “The acrimony between both parties of Congress is the biggest obstacle,” he says.

For the most part, however, hope remains high.

EMERGING MARKET OPPORTUNITIES

Other market opportunities lie in changes that took place due to the pandemic.

Concerns about safety and sanitation will impact the built environment. “There will be a great need to reconfigure existing spaces and design new spaces to meet the challenge of keeping us safe from spreading the virus,” Williams says.

The pandemic also accelerated the digital transformation of not only work but the entire economy, opening an array of market opportunities for engineers.

“There are many changes in the way we work, travel, shelter, and consume. Where there is change, there is opportunity,” Gozdziwski says. These changes will require solutions from engineers, he says.

As a result of the pandemic, “the distribution economy was put into overdrive,” says Alizadeh, who sees growth in industrial warehouse projects. Adds Raba, “The continuing growth of the consumer-driven U.S. economy will spur a growth market for warehouses, distribution centers, and manufacturing facilities.”

Near-term opportunities are also likely to emerge in the communication, education, health care, pharmaceutical, and outdoor recreation sectors, Hartong predicts. He says these opportunities include broadband and Wi-Fi expansion, especially in rural regions, as well as upgrading electrical and mechanical systems in health care facilities.

ACEC President and CEO Linda

Bauer Darr says she is excited about the collection of knowledge and experience represented by the 2021–2022 ExCom. “The multidimensional expertise of the new ExCom, regarding both industry trends and ACEC’s mission, will serve the Council well in our efforts to fulfill the needs of our membership,” she says. ■



Novid Parsi is a St. Louis-based writer who covers a range of fields, including business and technology.



“I’d like to strengthen ACEC with a robust communication and member engagement model that includes virtual and in-person meetings. I’d like to continue to make progress in inclusion and diversity among the national and Member Organizations. Finally, I want to help achieve a transformational and generational investment in our infrastructure.”

John Rathke, vice chair



“I would like the organization to become more diverse to reflect the communities in which we live and serve—especially at the Member Organization level, which should permeate up to the national level.”

Melvin Williams, vice chair



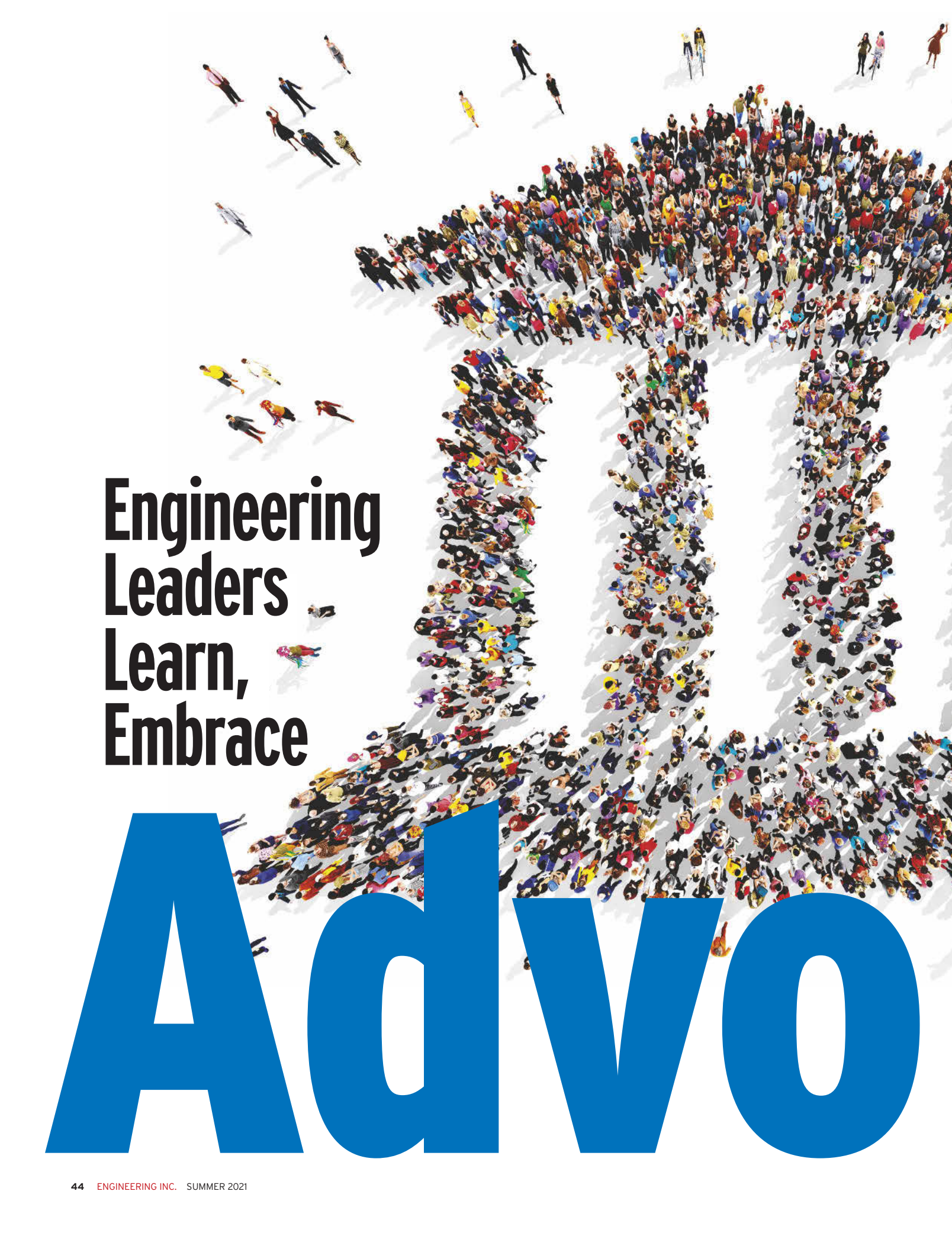
“I intend to remain active in ACEC and will continue to help it provide value and remain relevant.”

**Charles J. Gozdziwski
chair emeritus**



“We have all just gone through a crazy year, yet membership remains strong because we have kept members informed and engaged about issues facing their businesses. As we navigate the next phase of this new normal, my goal is pretty simple: to keep delivering on our members’ needs so that they thrive through the changes.”

Beth Bauer, NAECE president

A large crowd of diverse people, seen from above, forms the shape of a stylized letter 'E'. The crowd is composed of many individuals of various ages, ethnicities, and clothing, creating a vibrant, multi-colored mosaic. The 'E' shape is formed by a thick vertical bar on the left and two horizontal bars at the top and bottom, with a gap in the middle. The background is plain white, and the overall composition is clean and modern.

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ARTHIMIDES/SHUTTERSTOCK

BY SAMUEL GREENGARD

There's an old adage: You cannot have a say if you are not seated at the table. It is certainly true in the engineering industry, where multibillion-dollar decisions shape projects, regulations, standards, and public welfare. Whether the process takes place at the local, state, or federal level, politicians and governmental bodies rely on industry input to make important decisions.

"Engineers understand technical issues that help define projects and regulations," says Lauren Evans, CEO of Pinyon Environmental, Inc. "Our voices provide guidance about how decisions affect the public and our industry."

A big-picture view is crucial, states Rashod R. Johnson, president and CEO of Ardmore Roderick. He filters everything through a viewpoint that advocacy must help society as well as the engineering field. This, in turn, requires a clear understanding of trends, problems, and concerns for political leaders, the industry, and the public.

"It's important to build relationships and serve as a resource without the expectation that you will get something out of it," Johnson points out. "Our goal is to be a valued independent resource."

cacy

The significance of advocacy should not be underestimated. At all levels of government, competing interests vie for attention and influence. Those who are the most influential and persuasive sway decisions and, ultimately, public policy. Whether it is promoting infrastructure funding at the national level, acceptable water pollution standards at the state level, or road improvements at the local level, the outcomes impact businesses and citizens.

"It's an opportunity to make a real difference," observes Julia Gustafson, vice president of government relations for the Council for Responsible Nutrition and a former legislative director in the U.S. House of Representatives.

POLITICAL CAPITAL

Industry advocacy is not about entering battles with the intent of winning wars. It also is not about landing business for a specific firm—even if this sometimes happens as a result of industry connections. The premise is actually quite simple: "If you want something, you have to ask for it. The voices of those who participate are amplified," Gustafson explains.

For many industry advocates, a primary motivation is to promote the broad interests of the engineering industry—including projects and infrastructure improvements that lead to actual work. For example, Johnson recognized the desire to become an advocate early in his career. It seemed like a natural fit from the start. "I just want to be helpful and contribute," he says. "I have always liked playing a role in outcomes."

The story is similar for Evans: "I always wanted to have my voice heard. As a young engineer in the 1980s, I attended meetings about regulations and reported back to the CEO. This motivated me to be involved in the decision-making process."

But advocates also say they desire to build a better world. "It's critical for political leaders and government officials to understand needs and issues, and engineers are in a position to help with that," explains Dan Meckes, CEO of Crawford, Murphy & Tilly, Inc.

To be sure, translating technical information into lay language can determine how a project is designed or how a regulation takes shape. For example, Evans points out that if a standard is too strict, it becomes impossible to achieve and has a negative impact. On the flip side, too lax of a standard does not address the fundamental problem and can actually make things worse. She says it is important to recognize that other groups lobby and advocate as well—and their motivations and attention to technical details

may differ. Evans has engaged in industry advocacy in a variety of roles, from serving on a state water quality control commission to attending ACEC-sponsored meetings and events and speaking with members of Congress in D.C.

"Being an advocate allows you to play a role in shaping the future," adds Linda Shumaker, president of Shumaker Consulting Engineering and Land Surveying.



"It's important to build relationships and serve as a resource without the expectation that you will get something out of it. Our goal is to be a valued independent resource."

RASHOD R. JOHNSON
PRESIDENT AND CEO
ARDMORE RODERICK



"Engineers understand technical issues that help define projects and regulations. Our voices provide guidance about how decisions affect the public and our industry."

LAUREN EVANS
CEO
PINYON ENVIRONMENTAL



RULES OF ENGAGEMENT

Delivering value to officials is at the center of industry advocacy—and the best way to do that is face to face, says Jim Wurm, executive director of the Exhibit & Event Marketers Association. “People turn to those they trust and depend on them to make important decisions. You can’t make things happen only through emails and the phone. You have to sit with someone and get to know each other,” he says.

Building relationships may require evenings attending events and travel to state capitols or Washington, D.C. Advocacy can also take different forms. Typically, local officials are far more receptive to taking calls and gaining input from engineers. “At the local level, your input is much more direct, and the results are often quite tangible,” Shumaker says. “At the state and national level, evidence of change and improvement can be more subtle.”

Adds Evans: “At the local level, you have a lot greater chance of hitting it out of the park. As you move up the ladder, it gets murkier, but this doesn’t mean you can’t play an important role.”

Indeed, big wins are possible. For example, a coalition of firms, including Crawford, Murphy & Tilly, worked with ACEC and other groups



“You can’t make things happen only through emails and the phone. You have to sit with someone and get to know each other.”

**JIM WURM
EXECUTIVE DIRECTOR
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"Being an advocate allows you to play a role in shaping the future."

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to promote Rebuild Illinois, bipartisan legislation that generated an array of projects and supports an estimated 540,000 jobs. The combined advocacy and efforts ultimately led to a \$45 billion investment, including \$33 billion for aging transportation infrastructure.

The outcome did not happen by accident: Meckes has served as chairman for the Sustainable Funding of Infrastructure Group in Illinois, and Crawford, Murphy & Tilly has provided guidance to the Transportation for Illinois Coalition (TFIC). ACEC Illinois played a pivotal role and was a large part of TFIC.

ADVANCING ACTIVISM

A strong commitment, along with determination and a clearly defined strategy, is a starting point for industry advocacy. It is not unusual for advocates to encounter resistance and sometimes even outright hostility from politicians and the public. Consequently, many choose to participate in organizations such as ACEC, which have formal initiatives in place. For firms that choose to become independent advocates, it is critical to have senior-level executives—usually a CEO or president—who have the interest, knowledge, passion, and experience to take on the task.

"You have to approach it within the framework that you want to make a difference and that you find it personally rewarding to contribute to the community," Evans explains. She has participated in industry advocacy efforts since the 1980s and has always made it a point to focus on areas where she thought she and her firm could make a difference. She also looks for people within the firm who have an interest in advocacy and view it as a way to gain leadership skills. "It can help people advance their careers," she says.

A team must work in unison toward a common goal—and be prepared to deliver relevant and accurate information about a proposed project, standard, regulation, or other issue. It is also wise to



8 Ways to Take Advocacy to the Next Level

1

Become an industry advocate.

Do this for altruistic reasons: You want to promote your entire industry and make the world a better place. You will grow and gain in the process—and your firm may pick up work—but these cannot be your motivation.

2

Understand what you can contribute and where you are comfortable doing so.

Advocacy can take many forms, based on time and inclination. For some, that is visiting ACEC's Advocacy Center and participating in the organization's Political Action Committee (PAC). For others, meeting with officials and serving on committees and government boards is desirable. All advocacy is valuable and important.

3

Recognize the playing field. Today, there are advocacy

groups and lobbyists representing every major industry. All are competing in the marketplace of ideas—and not all are beneficial to engineers, or grounded in facts and science. The technical expertise engineers provide can lead to better policy decisions.

4

Join professional groups. Most organizations, including

ACEC, have PACs focused on advocacy. ACEC also has state Member Organizations that work with officials. In addition, these groups can provide news, support, and resources that aid in both group and individual efforts.



ARTIMEDES/SHUTTERSTOCK

be available to local officials—whether it is a congressperson or mayor—to serve as a resource if a person needs to reach out for advice.

Johnson says he focuses on delivering a clear and relevant message. “The last thing you want to do is launch into detailed explanations that confuse a politician or other official,” he says. “You have to understand what they are looking for and explain it in plain and accessible language. Once you’ve lost them, they will tune you out.”

Preparation is crucial, and it must take place prior to every meeting, Wurm says. “You have to do your research, prepare, and then refine your message so that you’re using the time effectively.”

Establishing a trusted relationship and creating an open channel for communication can take months—or longer, and there may be setbacks along the way, including canceled phone calls and meetings. “You have to manage your expectations. Things often don’t happen with a single meeting,” Wurm points out.

Indeed, those on the front lines of industry advocates say there are plenty of frustrations and disappointments—particularly in gridlocked Washington. However, the satisfaction of contributing to the greater good and advancing the interests of the engineering industry ultimately outweighs any negatives.

“The sense of self-worth and accomplishment that comes from reaching goals is immeasurable,” Shumaker says. “The kinship and camaraderie that result from networking with others in this manner is deeply satisfying.” ■

Samuel Greengard is a technology writer based in West Linn, Oregon.



“If you want something, you have to ask for it. The voices of those who participate are amplified.”

**JULIA GUSTAFSON
VICE PRESIDENT
OF GOVERNMENT
RELATIONS
COUNCIL FOR
RESPONSIBLE
NUTRITION**

5

Respect officials' time and position.

Become a valued

informational resource to gain their trust. Do not expect projects or favoritism in return. If you are able to corral a congressperson for a meeting, be brief and on point. Talk about how something affects their constituency, suggests Julia Gustafson, vice president of government relations at the Council for Responsible Nutrition.

6

Do your homework.

A successful industry advocate stays

on message; uses big-picture, jargon-free language; and communicates clearly and concisely. “This means communicating key points in ways officials understand,” Gustafson explains.

7

Have realistic expectations.

Long-time industry

advocates say wins take place over months or years, and the accumulation of small wins often adds up to big gains. Recognize that every victory means you are making a difference.

8

Rely on the power of face-to-face communication.

We are overly reliant on technology, states Jim Wurm, executive director of the Exhibit & Event Marketers Association. While texts and emails are great for setting up meetings and exchanging information, phone calls and in-person meetings are far more effective for gaining trust and building relationships, he says.



FORGING AHEAD IN A POST-PANDEMIC WORLD

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**FIRMS
REPORT
MIXED
RESULTS,
WITH
REVENUES
DOWN
AND CLAIMS
INCREASING**

2021 ACEC PLI SURVEY

OF MEMBER FIRMS FOR FY 2020:
**A HARDENING
MARKET**

BY MAUREEN CONLEY

History will record 2020 as an extraordinarily challenging year. Yet in spite of the pandemic, A/E businesses continued to grow. The industry may also remember 2020 for another reason: a hardening of the longest-running soft market for professional liability insurance (PLI) in recent memory.

The results were mixed in ACEC's PLI survey of Member Firms for FY 2020, completed in April 2021 by 423 members. Revenues increased for 53 percent of firms, across nearly all segments and sizes. This is in contrast to the peak of 77 percent of firms seeing an increase in fiscal year 2018.

That 53 percent represents the smallest increase since 2012, says Jim Messmore, senior vice president and infrastructure market principal at Hanson Professional Services, Inc., and past chair of ACEC's Risk Management Committee. Designers continue to report high levels of satisfaction with their carriers' pre-claims and claims handling services. Only 4 percent of firms changed brokers, the low end of the 3–11 percent range over the last six years.

On the downside, 36 percent had more claims than the prior year, up from 27 percent in FY 2019 and the highest level since 2015. The highest percentage of causes were third-party claims (25 percent), followed by errors or omissions of a technical nature (20 percent) and communications (13 percent). Last year's survey had communications at 20 percent and third-party claims at 16 percent.

36 percent of firms had more claims than the prior year—up from **27 percent** in FY 2019 and the **highest level since 2015**



“[N]ewer carriers that were really economical during the soft market are increasing rates and are therefore not as cost effective as they once were. Carriers who are new into the market may not offer the same services as those with longevity and stronger risk management programs.”

JOHNNA WANGENSTEEN
PRESIDENT
A/E PRONET

Negotiation and mediation to settle claims rose from 77 percent in 2019 to 92 percent in 2020. Negotiation saw the largest share of that increase, from 44 percent to 63 percent. A pandemic-driven court backlog increased the time required to close out a claim from 15 to 21 months, says Kevin Collins, managing director and A/E practice leader at Victor Insurance Managers, Inc. Only 2 percent of claims went to trial in 2020.

Carrier turnover remained low at 12 percent. A lower premium was by far the biggest reason for changing (cited by 79 percent), followed by better policy terms (25 percent), broker advice (21 percent), and a need for higher limits (10 percent).

Another factor: “Firms like to have a choice, and if they have a claim, they want to be represented by somebody familiar with their firm, so they may switch if the carrier won’t offer an endorsement allowing choice of defense counsel,” says Jeff Connelly, senior vice president at Greyling, a division of EPIC, and program manager for the ACEC Business Insurance Trust.

MORE CLAIMS TO COME?

The claims picture is also mixed. “Claims activity has been pretty low, even with the increased volume of work,” says Tim Haener, president and CEO at J-U-B Engineers, Inc., and member of the ACEC Risk Management Committee, noting that “perhaps COVID work arrangements and tools may have freed up more production capacity to do additional quality assurance/quality control.”

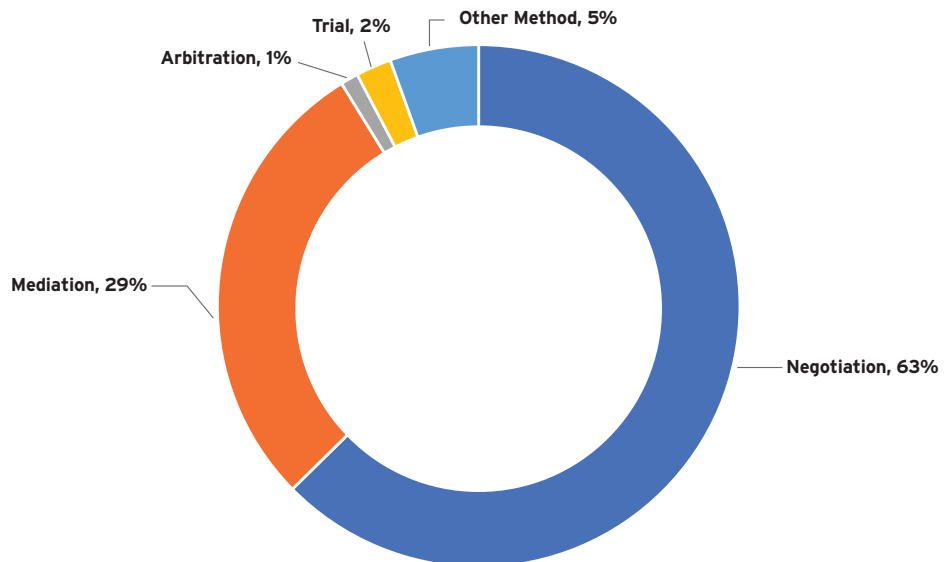
Scott Smith, director of the design professionals practice group at Smith Brothers and president of the Professional Liability Agents Network (PLAN), has seen an uptick in claims, both in frequency and severity, and that they are developing quicker. He believes that the COVID-19 stimulus program mitigated the economic impact, or claims might have been even higher. With increasing workload amid economic uncertainty, claims can be expected to increase, he predicts.

AXA XL, for one, has not yet seen claims directly related to COVID, but it expects to see claims due to supply chain interruption, increased material costs, and other challenges that “we don’t believe are the responsibility of the design professional, but may become a target of owners looking to recoup rising costs,” according to Director of Industry Relations Al Rabasca. Warning that contractors have looked back 5 to 10 years for issues that weren’t worth pursuing when they were making money, he says that “document retention remains a very important part of the practice to enable firms to defend claims, even on successful projects.”

WHAT TO LOOK FOR

Johnna Wangenstein, president of a/e ProNet, sees more firms looking for “as broad coverage as possible.” She suggests selecting a carrier that offers stronger policy forms or some service you

Claims Resolved by Method



are not getting from your broker or current professional liability carrier. Rather than prioritizing cost when purchasing PLI, Rabasca advises designers to look for a business partner, noting, “any carrier can sell a policy and some promises.”

AXA XL’s risk management program is continually upgraded, and much of its continuing education transitioned to virtual by June 2020, says Randy Lewis, vice president for loss prevention and client education, reaching 5,000 design professionals in 2020 and 5,800 in the first four months of 2021. The company also provides online courses and a contract guide, updated in 2021 with pandemic-related resources.

Firms should evaluate risk management resources and what other lines of insurance are offered by the carrier, but above all the claims department, suggests John Rapp, assistant vice president, professional liability—design professionals at Travelers. “Working with a carrier that has a wealth of claims experience, including in-house claim representatives, will pay off if a firm needs to file a claim,” he says.

Carriers use the application to understand a firm’s business, risk management practices, and liability exposure, which, combined with a firm’s fees, all factor into the rate. Specialty agents or brokers review applications to separate out lower risk services from general engineering work and use their knowledge of the business to advocate for design clients, Wangenstein says. A broker in partnership with the design professional can help ensure the numbers add up, entries are in the correct place, and the firm is properly rated.

The firm JQ meets annually with its PLI carrier months ahead of renewal, says CEO and partner Stephen Lucy, “to convey what we’re doing and what we feel our risks are,” and how JQ mitigates risk. The conversation allows a better understanding of expectations for interfacing over the policy year, and connects staff directly with the carrier on contract reviews and pre-claims services. “Benefits include educating the staff and ensuring PLI is not just seen as an interface point for only senior staff,” Lucy says. Stephen Safranek, general counsel at Wiss, Janney, Elstner Associates, Inc. (WJE), handles risk management for the firm. He relies on his PLI carrier for certain services, but not pre-claims and claims. “If we think we’ve done something wrong, we’ll pay for it and get it fixed,” he says, noting that firms can spend “far more money on defense than on actual claims.” WJE carries a high deductible, which gives Safranek flexibility.

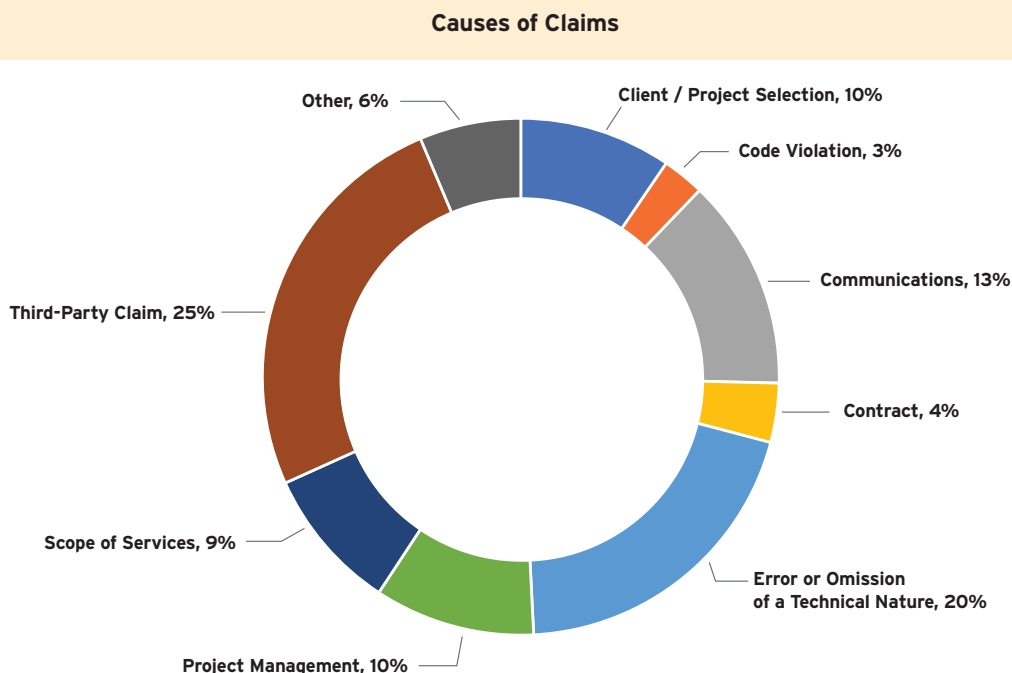
SIGNS OF A HARDENING MARKET

After a two-decade soft market, the experts see signs of hardening. For clients looking to renew or buy new policies, “newer carriers that were really economical during the soft market are



“Firms like to have a choice, and if they have a claim, they want to be represented by somebody familiar with their firm.”

JEFF CONNELLY
SENIOR VICE PRESIDENT
GREYLING
PROGRAM MANAGER
ACEC BUSINESS
INSURANCE TRUST



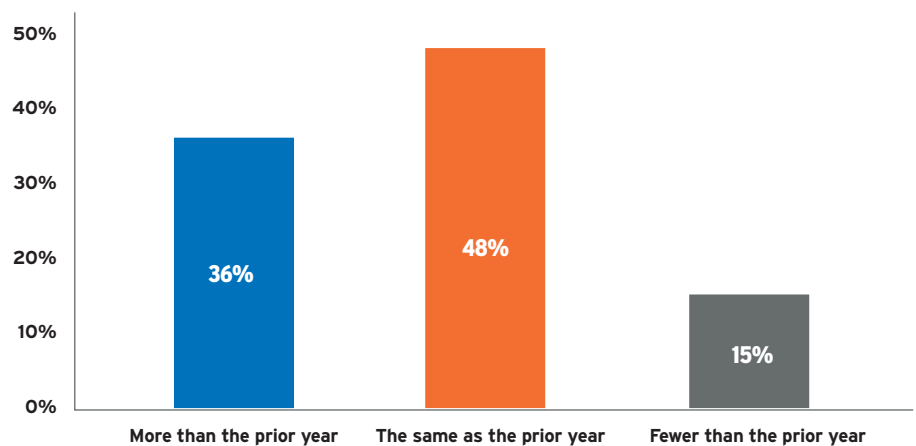
Negotiation and mediation to settle claims rose from **77 percent** in 2019 to **92 percent** in 2020



"Cyber claims have become a major issue, pushing premiums higher and pushing more stringent underwriting on stand-alone cyber coverage."

SCOTT SMITH
DIRECTOR
SMITH BROTHERS
PRESIDENT, PLAN

Number of Claims Made Against Firm Compared With Prior Year



increasing rates and are therefore not as cost effective as they once were. Some of the newer carriers are making the decision to exit the market and are not offering renewal. Carriers who are new into the market may not offer the same services as those with longevity and stronger risk management programs," Wangenstein says.

Smith sees the market "slowly starting to change," but predicts increasing claims activity will drive rates up more. "Cyber claims have become a major issue, pushing premiums higher and pushing more stringent underwriting on stand-alone cyber coverage," which Smith recommends over relying on the PLI policy. Yet firms purchasing stand-alone cyber coverage fell to 44 percent from 56 percent in 2019. Haener notes any shutdowns from a cyberattack could lead to significant claims due to delivery delays.

WJE has been able to obtain higher limits requested by clients, but Safranek says carriers are "asking harder questions" and pushing back before agreeing. While some firms can't find the limits they need with their current carrier, "more carriers are willing to write an excess layer of liability on top of another carrier's primary policy," Connelly says, requiring brokers to be creative and piece together the PLI coverage.

Collins still sees PLI capacity for engineers, especially for firms with strong risk management programs. While the market appears to be hardening, Collins hasn't seen a "true" hard market, where brokers are unable to find a willing carrier—though some carriers have cut segments such as geotech, or firms with high losses or claims frequency. He expects limited rate increases focused primarily on riskier clients.

HOW FIRMS PREPARE FOR RISK

Accelerated infrastructure projects boosted revenue growth from 2 percent in the first half to 5–7 percent in the second half of 2020, but now the industry has entered a "lull," according to Collins. In this environment, he urges designers to "solidify your internal operations through risk management and loss control," particularly as the insurance market's interest in PLI for designers is decreasing.

How can firms prepare? "Risk management is key," says Wangenstein, and in strong programs, firms can earn credits that lower the rate. Wise client selection and having contracts are important, as it is statistically more expensive to defend against claims where there is no contract, she says. Carriers and brokers offer contract reviews, including the newly unveiled artificial intelligence technology Victor Contract Sifter, designed to quickly analyze a contract for potential coverage issues in 24 distinct areas, then provide guidance on insurability and recommendations to strengthen contract language.

JQ convenes a lesson-learned exercise two to three times a year, sometimes involving the carrier or its counsel, to engage staff on how the firm might have avoided an issue. On one claim,

Lucy says, “we felt it was very important for all our staff to understand exactly what happened, how it happened, and what we could learn so we wouldn’t do it again.” Even when a claim doesn’t arise, he says the process can demonstrate transparency, educate younger staff, and “empower them to look for other things that may put us at risk.”

Haener is selective with new clients, as J-U-B does not want to sacrifice serving long-term client relationships.

Safranek’s firm may pass on riskier projects, especially those with penalties for delays, and “may turn down work because we don’t have the staff.”

Staffing is a long-term, widespread challenge, Lewis notes, particularly for project managers with 7–10 years’ experience, who he says with the right knowledge can be the “best risk management tools an A/E firm has.”

For every new project, JQ works to understand the pros and cons of both the client and the project, and won’t take work “from clients we don’t really know, or those we may know are marginal on how they oversee work or interface with consultants,” Lucy says. JQ also considers workload, as “sometimes you have to leave hay in the field because the barn is only so big.”



“Engineers should make sure they’re doing quality work and mitigating claims by communicating early with clients about issues.”

**TIM HAENER
PRESIDENT AND CEO
J-U-B ENGINEERS
MEMBER
ACEC RISK
MANAGEMENT
COMMITTEE**

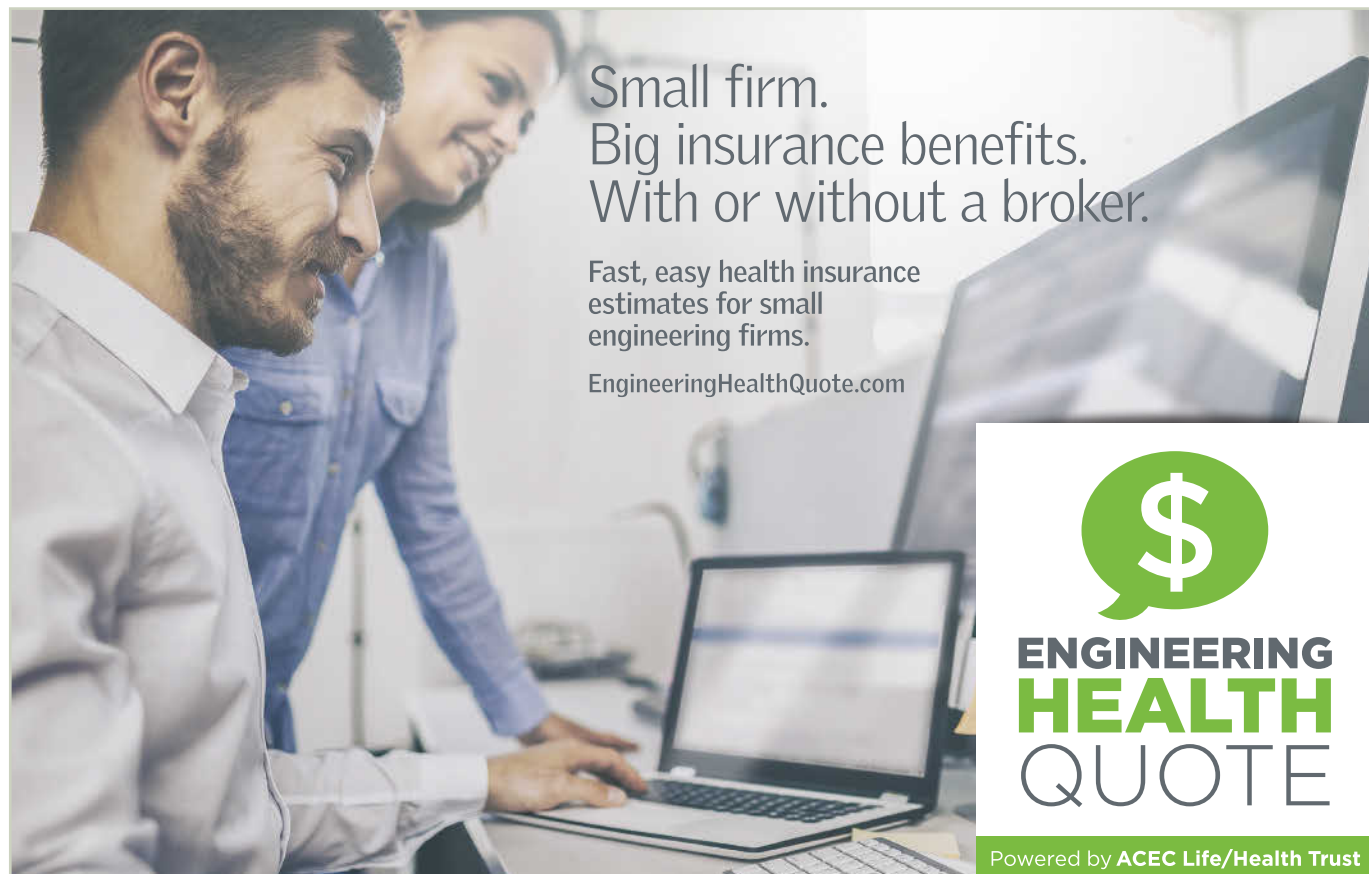
LOOKING AHEAD

“Design firms may be in for some stress,” predicts Haener. A federal infrastructure bill would mean more work, but with the current labor shortage, more strain on employees can lead to more claims. Amid economic uncertainty, he adds, “engineers should make sure they’re doing quality work and mitigating claims by communicating early with clients about issues,” as well as using loss prevention tools to keep the problem small and resolve it as soon as possible.

When the economy suffers, “claims typically go up,” Rapp says, so Travelers is closely monitoring potential claims due to cost overruns, whether because of delays or increasing prices of construction materials, and safety concerns from COVID-impacted design, which may exceed the standard of care.

Connelly counsels firms to pay attention to a policy’s definition of professional services, particularly if venturing into new service areas. If the definition differs from what the firm does, “then there could be a gap in coverage,” he explains. Definitions vary, so this is an important area where a specialty broker can help ensure a design engineer’s professional services are covered. ■

Maureen Conley is based in Washington, D.C., and has more than 25 years of experience writing about science, engineering, and government policy.



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GIVING SPIRIT THRIVES FROM THE TOP DOWN

H.W. LOCHNER BUILDS COMMUNITY AND HONORS ITS FOUNDER WITH ITS CORPORATE SOCIAL RESPONSIBILITY PROGRAM

BY MATT ALDERTON

In 1944, Harry W. Lochner established his eponymous engineering firm, Chicago-based H.W. Lochner, Inc. (Lochner), to help the federal government design the newly conceived national system of interstate highways.

But Harry Lochner wasn't an engineer. He was a planner. A transportation planner, to be exact. Whereas many engineers looked at infrastructure and saw assets, he saw opportunities.

"When Harry started the company, he was very passionate about doing things that were helpful to mankind," notes Lochner President and CEO Jeanne Cormier, who says roads were more than concrete and asphalt to Lochner; they were enablers of employment and community, and arteries for life-changing goods and services.

"He really appreciated the fact that the work he did brought value to men and women in his community by getting them from point A to points B and C and D."

Lochner looked at his business the same way he looked at roads—as a means to a greater end. Instead of jobs to fill their days, he wanted to give his employees livelihoods that they could use to impact their families, their neighbors, and the world at large.

"If Harry found out an employee had a hardship, he found a way to help them," continues Cormier, who recalls the story of an employee who was planning to quit to go back to school. "Harry pulled him aside and said, 'If I pay for your college, will you stay?' And he did. There are so many stories just like that."

In 2018, preparations began for the firm's upcoming 75th anniversary. As leaders contemplated how to mark the occasion, they decided to declare a year of giving across the organization in honor of their founder.

"I've always been a person who believes that when you get something, you give something back," Cormier says. "We're very fortunate at Lochner. We have great jobs and good lives. We wanted to enter our 75th year by giving thanks for our success, and we decided that the best way

Employees volunteer for NeighborWorks Boise's Paint the Town program by cleaning a house surface, applying primer and caulk, and painting the exterior.



Pittsburgh employees volunteer for Miracle League of the South Hills by helping children with special needs play baseball.



Tampa, Florida, employees host a food drive and raise donations for the St. Petersburg Free Clinic. (2020)



Get on the bus and give blood today.



Miami employees donate blood and host a blood drive for One Blood.

Austin employees volunteer for the Central Texas Food Bank by sorting and cleaning nonperishable food items.



Bellevue, Washington, employees volunteer for Food Lifeline by helping to host a mobile food event for those in need.





“We wanted to enter our 75th year by giving thanks for our success, and we decided that the best way to do that was

to give back to our communities in honor of our founding father.”

**JEANNE CORMIER
PRESIDENT AND CEO
LOCHNER**

to do that was to give back to our communities in honor of our founding father.” The program the firm created, Giving Back, was intended to be a limited engagement with which to celebrate Lochner’s diamond anniversary. It was so popular among employees, however, that it’s now a permanent fixture within the company—just like the decades-old culture from which it grew.

A MINDSET OF SERVICE

Now in its fourth year, Lochner’s Giving Back program spans 35 offices in 16 states. Every year, employees in each location choose at least one group service project to benefit the local community.

During the program’s first three years, more than 200 employees spent over 2,000 hours volunteering at 61 group service events. Beneficiaries included Habitat for Humanity, Ronald McDonald House, the Leukemia & Lymphoma Society, the American Red Cross, and Feeding America.

“We don’t tell them what to do. We just ask that they do something,” explains Cormier, who says employees rally behind the program because they get to decide where and with whom to volunteer. “Every office has something different in mind, but it’s always personal, and it’s always local.”

As part of Giving Back, employees have donated nearly \$20,000 to various charities. Mostly, though, it’s about donating time.

“When you ask for donations, employees will give \$20 and move on with their day,” explains Lochner Director of Business Development and Strategy Catherine Curtis. “We want our employees to give their time because we want them to develop a mindset of service.”

To entice participation, the company offers team members up to four hours of paid time off per year that they can spend doing community service. In the true spirit of giving, however, most employees opt to use vacation time—including senior leaders, who set a positive example each year by taking vacation days to participate in a group service activity prior to the company’s annual leadership meeting.

“That’s one of the reasons it’s successful,” Curtis says of Giving Back. “The tone comes from the top of the organization and permeates throughout.”

A DIFFERENT KIND OF INFRASTRUCTURE

Although its goal is to positively impact communities, Giving Back also has helped Lochner itself, according to Curtis, who says the program has yielded numerous benefits for the organization.

One such benefit is its appeal to young engineering talent.

“Corporate stewardship is a key aspect of our employee engagement program, both for existing and prospective employees,” Curtis says. “There are a lot of engineering firms in our industry, so anything we can do to give prospective employees a flavor of what Lochner is about outside of our project deliverables is incredibly valuable to us from a recruiting and retention standpoint.”

There’s also a team-building component that thrives during Giving Back events but lasts long after they’re over. “This is *esprit de corps*,” Cormier says. “Being part of a group of men and women who are doing something to truly help their communities builds relationships and creates a shared sense of pride.”

Lochner volunteers at SOS Children’s Villages Illinois, which operates three “villages,” where full-time professional foster parents care for children in environments that allow them to keep siblings together. Consisting of clusters of single-family homes with shared recreational facilities, each village takes a community approach to raising youth in foster care so they can grow into caring, responsible, self-reliant adults.

In 2019, SOS Illinois hosted a Giving Back event for attendees of Lochner’s annual leadership meeting in Chicago. During the event, a group of 76 employees and leaders assembled a variety of kits for the children who live in SOS Illinois’ villages, including hygiene kits with toothbrushes, toothpaste, soap, and shampoo; school supply kits with pens, pencils, and notebooks inside backpacks; and birthday kits with cake mix, frosting, balloons, decorations, and games to help children celebrate their special days.

“The people at Lochner are engineers who work on roads and airports that keep the world moving. By volunteering with our organization, they keep young people’s lives moving, too,” says SOS Children’s Villages Illinois CEO Tim McCormick. “What



“The people at Lochner are engineers who work on roads and airports that keep the world moving.

By volunteering with our organization, they keep young people’s lives moving, too.”

**TIM MCCORMICK
CEO
SOS CHILDREN’S VILLAGES ILLINOIS**

we have in common is infrastructure. But our infrastructure is social infrastructure, and Lochner understands that very well.”

The firm understands because that idea is what it was founded on. “The reason we do what we do in our profession is to bring value to communities,” Cormier concludes. “That’s been ingrained in our culture forever. What we’re doing now is we’re taking the idea of doing good for communities, and we’re applying it outside of the work that we do.” ■

Matt Alderton is an architecture, engineering, and construction writer based in Chicago.



“Corporate stewardship is a key aspect of our employee engagement program.”

CATHERINE CURTIS
DIRECTOR OF BUSINESS
DEVELOPMENT AND STRATEGY
LOCHNER



VOLUNTEER HOURS:

2,087

MEALS SERVED:

77,330

POUNDS DONATED:

1,598

FUNDS DONATED:

\$18,794

**GIVING
BACK**

GIVING BACK IN ACTION

If you ask the nonprofit organizations with which they volunteer, there’s a lot for Lochner’s employees to be proud of. One such organization is the Central Texas Food Bank. The largest hunger relief organization in the region, it solicits, stores, and distributes food for food-insecure people in an area that’s twice the size of Massachusetts.

For three years running, employees in Lochner’s Austin, Texas, office have chosen it as their Giving Back charity of choice. Although they haven’t been able to do it yet in 2021 because of COVID-19, employees in past years volunteered in the food bank’s warehouse; in February 2020, they spent over two hours sorting and cleaning 3,961 pounds of nonperishable food for distribution to hungry families.



**LOCHNER
GIVING BACK**

“Hunger has been an issue in our community for as long as we’ve existed, which is almost 40 years,” says Central Texas Food Bank Director of Community Engagement Amelia Long. “We’re really happy that we can help relieve the stress that so many people feel when they’re experiencing hunger, and we’re proud to partner with companies like Lochner that want to give back by helping us do that.”



ACEC ALABAMA

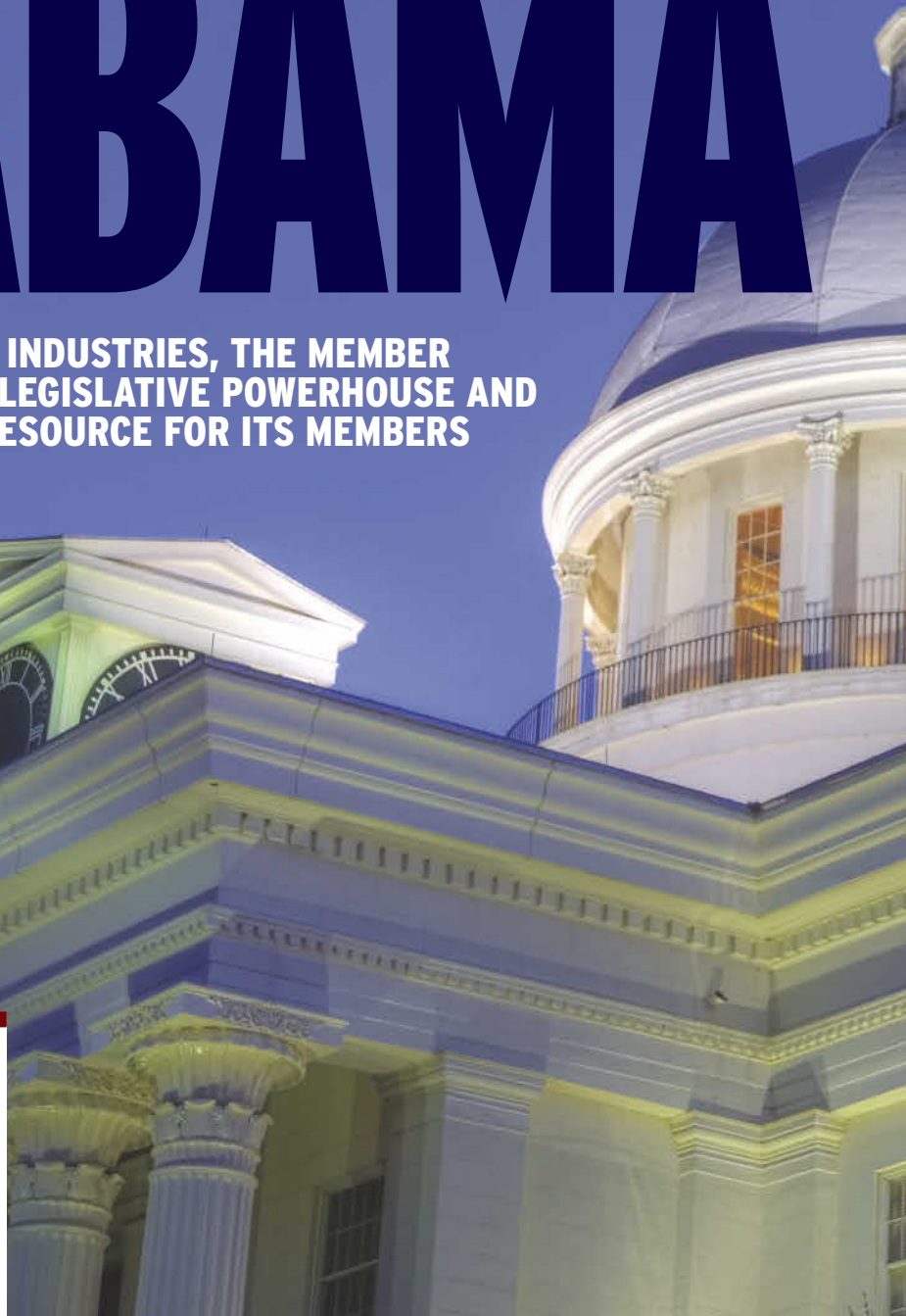
IN A STATE WITH BOOMING INDUSTRIES, THE MEMBER ORGANIZATION ACTS AS A LEGISLATIVE POWERHOUSE AND BUSINESS MANAGEMENT RESOURCE FOR ITS MEMBERS

BY NOVID PARSI

ACEC ALABAMA AT-A-GLANCE

Founded in 1956, ACEC Alabama currently represents about 75 firms with approximately 2,500 employees.

The Member Organization is led by Executive Director Renée A. Casillas, who was hired by ACEC Alabama in 1993, President Heather Page, and National Director John Smith.





DENIS TANGNEY JR/GETTY IMAGES

At meetings for ACEC Alabama in the '70s, about a dozen engineers gathered in the basement of the Member Organization's first executive director, Richard Groenendyke. "He had a big pool table, and we put a couple sheets of plywood on it," recalls Bob Barnett, past president of ACEC Alabama and founding partner of Barnett Jones Wilson, LLC. "We probably weren't as professional then as we are today."

The Member Organization (MO) has since come a long way. Under the leadership of Renée Casillas, executive director since 1999, ACEC Alabama has become a legislative powerhouse—working to advance laws and regulations that support the state's engineers and the public. "We've had tremendous success in advancing the business of engineering in Alabama," Casillas says of the organization, which currently has 75 Member Firms representing about 2,500 employees.

"Since my tenure as ACEC Alabama president in 1999, our state MO has intervened on hundreds of bill efforts to stop adverse legislation in order to protect the integrity of business for our firms in Alabama. By the same token, we've passed game-changing legislation to improve the environment we operate in," says Alain Gallet, past president of ACEC Alabama and senior national account manager for Terracon. Over the years, by meeting regularly with legislators and educating them on the industry's issues, ACEC Alabama's leaders have become the lawmakers' trusted engineering experts. "Very few legislators really understand what engineers do. ACEC Alabama is an important resource to lawmakers," Gallet says.

Thanks in part to ACEC Alabama's legislative efforts, the state's Qualifications-Based Selection (QBS) law—which mandates the selection of engineering firms based on qualifications, not the lowest bid—applies not only to public works but to private projects, too. Casillas says it is "quite possibly the strongest QBS bill in the nation."

"At its core, QBS protects the public by ensuring the best engineering and land surveying firms work on projects," says John Smith, past president and current national director of ACEC Alabama and principal at CCI Planning & Engineering. "You wouldn't want heart surgeons bidding on who can do it the cheapest."

MORE LEGISLATIVE VICTORIES

Other wins include the 2019 Rebuild Alabama Act, which will draw on the state's first gas tax increase in 27 years (at 10 cents per gallon) to fund infrastructure improvements. The organization also endorsed the Good Samaritan Act, which allows design professionals to volunteer their help after catastrophic events without incurring personal liability. And ACEC Alabama was successful in passing statute of limitations and repose legislation in the early 1990s, and returned many years later to reduce the repose period of time an engineering firm is liable after project completion.



"It's important to recognize that the ACEC Business Insurance Trust was instrumental and served as a tremendous resource throughout the legislative process. Passage of this bill is landmark legislation for design professionals in Alabama."

RENÉE CASILLAS
EXECUTIVE DIRECTOR
ACEC ALABAMA



"Very few legislators really understand what engineers do. ACEC Alabama is an important resource to lawmakers."

ALAIN GALLET
PAST PRESIDENT AND FELLOW
ACEC ALABAMA
SENIOR NATIONAL
ACCOUNT MANAGER
TERRACON



"When I go to an ACEC Alabama seminar or meeting, I can talk with engineers from different disciplines and from firms of different sizes. That's a great resource to have."

HEATHER PAGE
2020-2021 PRESIDENT
ACEC ALABAMA
PRINCIPAL
WHORTON ENGINEERING

from 13 years to seven. Over the years, the Alabama MO has been hugely successful in other legislative and regulatory matters.

Recently, ACEC Alabama gained final passage of its indemnification bill, SB261, sponsored by Sen. Clyde Chambliss, (a licensed professional engineer and owner of a small civil firm in central Alabama), which sought to limit design professionals' liability. It means design professionals would be responsible for their own mistakes, not those committed by third parties. "It's important to recognize that the ACEC Business Insurance Trust was instrumental and served as a tremendous resource throughout the legislative process," Casillas says. "Passage of this bill is landmark legislation for design professionals in Alabama." Passage of SB261 was led by Roger Guilian, J.D. (in-house legal counsel at Volkert), a member of the ACEC Legal Counsel Forum and ACEC Risk Management Committee, and trustee of the ACEC BIT.

Barnett recalls a moment that illustrates just how central legislative advocacy has been for ACEC Alabama. When he was president about two decades ago, Barnett and other leaders joined Casillas at an ACEC national convention to meet with lawmakers in Washington, D.C. Members and spouses followed their intrepid leader down the corridors of Congress and all over Capitol Hill that day. "Upon entering a restaurant for dinner, Renée turned abruptly to make a pit stop, and several of us members automatically followed our fearless leader into the ladies' room," Barnett says with a laugh. "Maybe her leadership abilities are a little too good. We have since dubbed our executive director 'Mama Duck.'"

BUSINESS EXPERTISE

Beyond its legislative work, ACEC Alabama provides numerous forums—including board meetings, committee meetings,



"I've been able to establish relationships outside of the state that have given us business opportunities we would not have

been aware of."

JEFF COWEN
2021-2022 PRESIDENT
ACEC ALABAMA
PRESIDENT
BUILDING & EARTH SCIENCES

continuing education seminars, and award celebrations—for the state's engineers to come together and learn from one another. "Engineers can talk about engineering at technical organizations. They often don't talk about the business of engineering other than at ACEC," Gallet says.

Barnett agrees: "All technical organizations teach you how to be a good engineer," he says. "ACEC Alabama teaches you how to be a good businessperson."

Barnett says ACEC Alabama taught him "how to make money from engineering." For instance, early in his career, he learned through ACEC Alabama how to write good contracts, collect money from clients, and plan for his retirement—valuable lessons for him as a business owner that he might not have gotten otherwise.

When an employer based outside Alabama tasked Smith with growing its business inside the state, Smith turned to his ACEC Alabama colleagues. "I learned from them who were the key contacts and how to get work," he says. "That was a tremendous help not only to that firm but also to me, and ACEC was a big part of that."

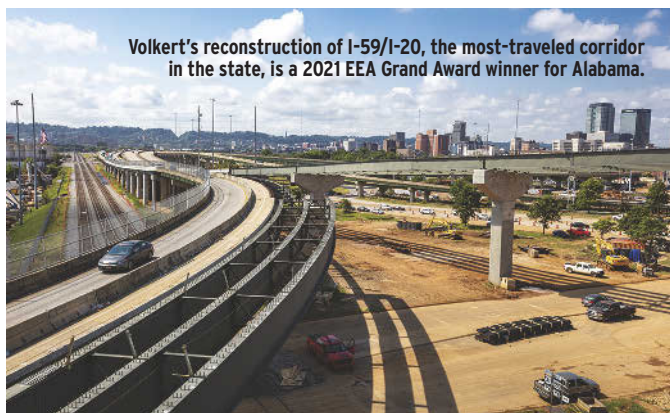
MAKING CONNECTIONS

For all of ACEC Alabama's legislative successes, Jeff Cowen sees the professional relationships he's built through the Member Organization as the biggest benefit. "We can put the competition aside and get to know each other as people," says Cowen, 2021–2022 president of ACEC Alabama and president of Building & Earth Sciences. "And I've been able to establish relationships outside of the state that have given us business opportunities we would not have been aware of."

For Heather Page, ACEC Alabama 2020–2021 president, the professional relationships she has developed through the Council have been especially valuable because they have run the gamut of engineering disciplines: civil, electrical, mechanical, structural, and so on. "When I go to an ACEC Alabama seminar or meeting, I can talk with engineers from different disciplines and from firms of different sizes. That's a great resource to have," says Page, who is also a principal at Whorton Engineering.

Page adds that resource proved critical in 2020, as the pandemic disrupted all aspects of business. ACEC rose to the occasion by focusing its continuing education seminars on the most pressing challenges of the day, such as applying for Paycheck Protection Program loans. "ACEC's ability to adapt to the needs of engineers and provide continuing education has been a huge asset to our firm," she says.

ACEC Alabama's various gatherings blend professional development with personal relationship building. Each



Volkert's reconstruction of I-59/I-20, the most-traveled corridor in the state, is a 2021 EEA Grand Award winner for Alabama.



LBVD was the design engineer for Auburn University's state-of-the-art structural engineering testing facility.

COURTESY AUBURN UNIVERSITY

summer, the Deep South Convention brings together engineers not only from Alabama but also from Arkansas, Louisiana, and Mississippi. These events combine work with fun. Annual fundraising events include clay shooting: "We're a different culture in the South," Casillas says.

MAKING AN IMPACT

In addition, the organization recognizes its members' best work with the annual Engineering Excellence Awards, honoring "projects that make a significant impact to our society," Casillas says. This year, the first-place winner, Volkert, reconstructed the most heavily traveled corridor in the state, with an average of 160,000 vehicles each day. The firm completed the Birmingham project within budget and ahead of schedule. Auburn University's state-of-the-art structural engineering testing facility took second place.

The annual awards gala also recognizes graduates of the Leadership Development Series, a yearlong program for 12 to 15 emerging leaders—who often go on to serve in leadership roles in ACEC Alabama firms. "It's been an extremely rewarding



"All technical organizations teach you how to be a good engineer. ACEC Alabama teaches you how to be a good businessperson."

BOB BARNETT
PAST PRESIDENT AND FELLOW
ACEC ALABAMA
FOUNDING PARTNER
BARNETT JONES WILSON, LLC

experience to watch young engineering professionals come in as novices, build camaraderie with their peers, and grow into leadership roles," Casillas says. "We shape and develop young industry leaders to become future leaders for their firm and our state MO."

Those future leaders are sure to prove vital to the state's potential projects and trending markets. With the pandemic-era spike in shipping, the state likely will see more distribution projects. Last year, Amazon announced plans to open two new delivery facilities in the metro Birmingham area. Alabama is the fourth largest state in auto exports, and a Mazda Toyota plant is scheduled to open in Huntsville this year.

Funding for the state's public projects will remain a challenge, Casillas predicts. But in January, Alabama received national attention when it beat out five other states to become the future site of the new U.S. Space Command headquarters. It will be located in Huntsville, which has one of the country's highest concentrations of degreed engineers.

Through these and other projects, ACEC Alabama will remain a key player, and its members will continue to reap the benefits—especially those who actively get involved.

"ACEC Alabama has made me more aware as an engineer, more aware of legislative and other issues that affect our business, and more aware of the importance of being involved," Page says. ■

Novid Parsi is a St. Louis-based writer who covers a range of fields, including business and technology.



"At its core, QBS protects the public by ensuring the best engineering firms work on projects. You wouldn't want heart surgeons bidding on who can do it the cheapest."

JOHN SMITH
NATIONAL DIRECTOR
ACEC ALABAMA
PRINCIPAL
CCI PLANNING & ENGINEERING

ACHIEVING THE NEW WORK-LIFE BALANCE

Workdays blend into night. Employees feel pressure to be always on. Parents must find time for their children. How company staff can manage expectations and prevent burnout.

As was the case for most businesses, when Parkhill's 442 employees were forced out of their offices by the COVID-19 pandemic, the initial reactions to working from home were varied.

"Some employees immediately loved working without interruptions and without commutes," says Dawn Moore, principal and vice president of human resources for the 75-year-old firm, which has offices in Texas, New Mexico, and Oklahoma. "For others, the biggest drawback was the loss of social connections and the people they were close to."

As the situation went on, Moore saw that some employees had trouble shutting down from work for the day. "Employees who might normally work 43 hours were suddenly working 50 hours, and we knew their workload hadn't changed," she says.

At Chicago-based Collins Engineers, Inc., a similar situation was happening, with employees' work chores colliding with home duties. "Several employees are home-schooling their children," says Anne Harney, vice president of human resources. "The day is getting longer. You can hear the burnout in their voice."





BY JOE MULLICH

VECTOR MINE/SHUTTERSTOCK



"We show it by example. Our executives are always saying, 'Put your family first. Please let us know what we can do to help. We're all in this together.'"

ANNE HARNEY
VICE PRESIDENT OF HUMAN RESOURCES
COLLINS ENGINEERS

JUST TELL ME HOW TO FIX THIS!

Work-life balance has long been the holy grail for employees, and the pandemic has made the pursuit more complicated. As Moore noted, responses to the pandemic, and remote work, are wide-ranging. Nearly three-quarters (73 percent) of employees feel their work-life balance has improved during the pandemic, with the absence of commutes giving them more time to spend with their family, partner, and/or pets, according to a survey by FlexJobs.

However, work-life balance has always been a more nuanced topic than the binary it is often positioned as. More than half (52 percent) of people are feeling burned out, and 67 percent say the feeling has worsened over the course of the pandemic, an Indeed study found. People feel less motivated and more tired, and they struggle to stay focused.

Women are twice as likely as men to be suffering the physical symptoms of stress and burnout, such as sleep issues and racing heartbeats, according to a study by Lean In and Survey Monkey. Women who have full-time jobs, partners, and kids are spending significantly more time caring for children and elderly relatives than their partners do. But it is hard to find anyone who does not feel some loss of balance because of the pandemic.

"I've sat with industry professionals who are stuck in unsustainable work-life schedules and they plead, 'Just tell me what to do to fix this!'" says Nicole Villegas, a consultant and doctor of occupational therapy. "This is often fueled by fear of failure in both work and life. People express sadness and frustration that they have missed opportunities for connection and making joyful memories with friends and family. They question meaningfulness and performance as a professional."

CRUMBLING BOUNDARIES

For many people, the boundaries of their work and personal lives, already crumbling in an era of smartphones and always-on connectivity, have become even hazier in the remote-work era intensified by COVID-19.

"Even before the pandemic, people felt they were stretched with not enough time," says Joe Robinson, an employee trainer and coach with a focus on work-life balance. "Our culture is so

performance-oriented that we don't put a lot of value into refueling. During the pandemic, people are not availing themselves of the detaching and recovery that needs to happen after work."

It helps to have a designated area for work that's apart from the rest of your home. Kristy Allen, director of human resources for Crawford, Murphy & Tilly, originally set her computer on her kitchen table when her Springfield, Illinois-based firm shifted to remote work. Like many people, she thought the pandemic was going to be short-lived. As it continued into the summer, she moved her "office" into a designated space, establishing a tangible work-life boundary.

"When I had a dedicated place for work, I could shut it off for the day," she says. "We suggested to our employees, you have to intentionally turn off your computer, no differently than you would when you were working out of the office. We encouraged people to take PTO and go on a bike ride, get outside."

Still, employees struggled to do so. That has been a constant refrain, experts say. "Research shows that incorporating movement, variety, and fun can have a tremendous improvement in our overall well-being and productivity," says Brianna Harrington, founder of the wellness platform Seek United. "Yet, many folks are finding it hard to allow themselves short breaks throughout the day—using up vacation days can feel pointless. Our work-life-school balance has never been grayer, and our collective need for a vacation has never been higher."



BALANCING BY EXAMPLE

Over its 42 years, Collins Engineers has long emphasized work-life balance. All employees, including interns, are given a laptop, so shifting to working at home wasn't complicated. "It's just easier," Harney says. "People have kids, dogs, and doctor's appointments."

Since the pandemic, at all-hands (virtual) meetings, the company's president and other top executives have emphasized the need for work-life balance.

"We show it by example," Harney says. "Our executives are always saying, 'Put your family first. Please let us know what we can do to help. We're all in this together. If you need time, because your daughter has a T-ball game, we completely understand.' We tell people you don't have to answer emails at 9 p.m."

Managers simply talking about their own time away from

work signals to employees that it is OK for them to knock off as well, according to Robinson. "It's super important for teams to talk about what they do outside of work," he says.

Now, with vaccinations well underway, Allen has three vacations planned for the year—and is encouraging her staff to plan some, too.

"You can't work all day and home-school children, take care of household responsibilities, and then go back online to check your emails at 9," she says. "You'll just be exhausted. You need to give yourself permission to have a life and find balance, even during the pandemic." ■

Joe Mullich is a business and health writer based in Sherman Oaks, California.



"Many folks are finding it hard to allow themselves short breaks throughout the day—using up vacation days can feel pointless. Our work-life-school balance has never been grayer, and our collective need for a vacation has never been higher."

BRIANNA HARRINGTON
FOUNDER
SEEK UNITED

4 TIPS TO FIND BALANCE

- 1. Fake commute.** Before or after your workday, get on your bike, take a long walk, or drive around your neighborhood as a signal to your brain and body that you need to put work behind you. "You can reboot your brain and put it into another sphere," says Joe Robinson, an employee trainer and coach.
- 2. Take breaks.** "When you work from an office, you often have built-in breaks as you chat with a co-worker on your way to the kitchen," says Brianna Harrington, founder of Seek United. When you are working from home, schedule a stroll around the block or a short yoga break during the day.
- 3. Record daily activities.** Keep a three-day log, suggests Nicole Villegas, a consultant and doctor of occupational therapy, and every two hours write down a value on a scale of 1 to 5 of how the tasks you've just done made you feel in the following areas: Drained to Energized; Not Meaningful to Meaningful; and Impedes Balance to Supports Work-Life Balance. "Prioritize adjustments to your schedule using your reflections," she says.
- 4. Identify personal life values.** Identify four key values that are important to you, such as connection, altruism, productivity, and knowledge. "Reflect on how each value is expressed in your life," she says. "If you notice a lack of expression, consider this area to prioritize in your efforts to improve balance."

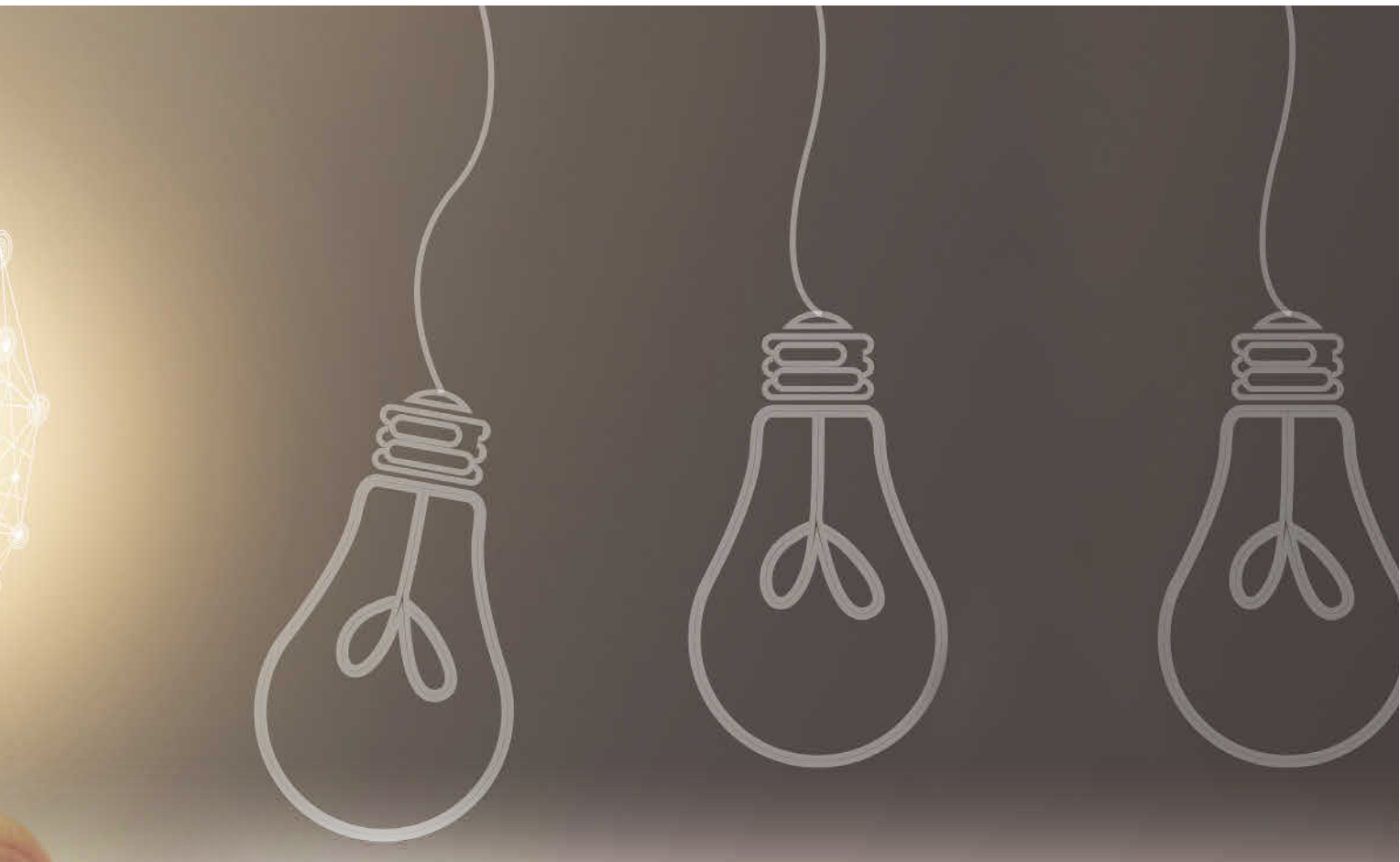
VECTOR MINE/SHUTTERSTOCK



The Future Is Bright

BY GERRY DONOHUE

HOW MEMBER FIRMS EMBRACE YOUNG ENGINEER DEVELOPMENT



Jill Baumbach was nine months out of college and in her first job at VHB when she and a colleague approached then-Regional Manager Bill Ashworth in 2015 with a proposal to improve communication and interaction among young professionals across the firm.

“The firm was going through a growth period, and being new and navigating my way through how to get work done efficiently, I saw opportunities to increase networking, growth, and learning opportunities by connecting junior and mid-level engineers earlier on in their careers,” says Baumbach, who is a water resources engineer in VHB’s Watertown, Massachusetts, office.

“I was working through project managers or senior project managers and had a desire to streamline the process by collaborating more with my peers to advance projects more efficiently,” she says.

Ashworth, who is now VHB’s COO, vividly remembers the meeting with the two junior engineers. “We talked through their proposal, and I was abso-

lutely blown away,” Ashworth says. “Both from seeing the excitement that these two people just out of school had and from thinking through the impact their proposal could have on VHB.”

Thus began the Emerging Professionals program, now firmly entrenched at the firm, and Ashworth, who has been with the firm for 25 years, says “it continues to be one of my proudest moments at VHB, seeing how successful it’s been. In just six years, it has become such an important part of our culture. It’s incredible.”

A BREED APART

Today’s younger engineers are different. On the one hand, they’ve lived and possibly worked through two huge recessions since 2008, many carry big student loan debt, and social justice issues play a big part in their lives. On the other, they can seem to be entitled because the job market for engineers is so competitive that they often have their pick of firms to join, and they can be quick to move for a better offer.



"Today's young engineers have higher expectations. They want to know what

the vision and purpose of the firm is, and community and sustainability are so much more important now."

PAUL LEWIS
SENIOR VICE PRESIDENT
GANNETT FLEMING



"The groups operate a bit differently in each region because what is applicable to New England

might not be to the Southeast. We wanted to make sure we were holding meetings that were going to be useful and helpful."

JILL BAUMBACH
WATER RESOURCES ENGINEER
VHB

"They want to know upfront what opportunities exist for them in the firm," says Masai Lawson, senior manager of talent acquisition and inclusion at Gannett Fleming. "They're looking for structure for what lies ahead and how they get there. They want to work for a firm that they feel will make an investment in them."

Gannett Fleming Senior Vice President Paul Lewis remembers that when he joined the firm 38 years ago, his criteria were basic: work in a small firm where he could build relationships with mentors and work on exciting projects. "Today's young engineers have higher expectations," he says. "They want to know what the vision and purpose of the firm is, and community and sustainability are so much more important now."

It can be a challenge for firm leaders to accommodate these differences. Asking younger engineers to do it the way previous generations did doesn't resonate.

"They want to know that where they go to work makes a difference," says Brown and Caldwell Chief People Officer Bob Chapman. "So, then the question becomes, how do you do that for your employees?"



"We look to the local rising professionals to figure out what they need, to determine what they are looking for in their careers,

and to give it a local flavor."

BOB CHAPMAN
CHIEF PEOPLE OFFICER
BROWN AND CALDWELL

CELEBRATING THE DIFFERENCES

In talking with leaders in these three firms that have built an industry-wide reputation for recruiting and retaining young engineers, it's clear the answer isn't mandates from the C-suite.

"These programs don't start until an employee raises their hand and says they want to do it," says Chapman. Brown and Caldwell has had a Rising Professionals Group for several years, as well as several other Employee Networking Groups. "And then we say, 'Great. You're in charge—run with it.' We give them the resources they need and the funding, but it's their group."

"The employees are the ones who take the reins, and they are the drivers," says Gannett Fleming's Lawson. "It's the employees' passion that ensures that they are making an impact and that they're focusing on the issues and challenges that are important to them."

Support from the firm, however, is vital. "We completely endorsed the idea to create the Emerging Professionals group," says VHB's Ashworth. "We gave them 100 percent support across the board to do what they needed."

"I was able to meet with our CEO Mike Carragher and everyone at the C-suite level to talk about Emerging Professionals," says Baumbach. "The support has been unmatched, which has been awesome."

Like VHB, Brown and Caldwell has been growing rapidly. Chapman says about half of its 1,700-plus staff has come on board within the past five years, and 46 percent of them participate in the Rising Professionals program. Recognizing they are the firm's present and future, Brown and Caldwell "doubled down and tripled our investment in talent management, and we got really serious about what we do for our rising professionals."

SIMILAR STRUCTURES

Across these three firms, there is a remarkable similarity in how the young professional groups operate.

They are organized locally or regionally but reach across the firm. They have local leaders who tailor the program to the needs of the offices they represent. And they create programming that extends far beyond traditional professional development.

"The best thing about the program is that the heart of it is at the local level or business unit level," says Chapman. "We look to the local rising professionals to figure out what they need, to determine what they are looking for in their careers, and to give it a local flavor."

At the same time, the synergy among the groups connects the participants throughout the firm.

"Working in our Hawaii office, we can sometimes feel separate from the mainland," says Susan Mukai, a senior engineer at Brown and Caldwell, who joined the firm's Rising Professionals Group in 2012. "Locally, it's bonding, and that's great, but it also makes such a huge difference to be able to reach out to and have connections with engineers my own age across the company."

Each region has its own organizational structure. "We have leaders who have stepped up in every region and oversee the program," says Baumbach. "The groups operate a bit differently in each region because what is applicable to New England might not be to the Southeast. We wanted to make sure we were holding meetings that were going to be useful and helpful."

The groups organize a wide variety of programming. One meeting may feature a presentation by an engineer about their practice area. Another might address business development. Or it might be a speaker on career planning or investing. And then sometimes it's a happy hour or a bowling night. The most popular sessions have proven to be those featuring firm management discussing their career paths. A recent webinar with VHB's senior leaders telling their stories drew 500 attendees.

A popular program at Gannett Fleming is the Ask Me Anything session. "I was on the hot seat one time," says Lawson. "It's an hour-long conversation that is led by one of the group's leaders. In the past, they've interviewed our chief administrative officer and our chief financial officer."



"We spend most of our time at work, so it's important that you like the people you work with. Having the Rising Professionals

Group really helps us bond and helps to keep us here."

SUSAN MUKAI
SENIOR ENGINEER
BROWN AND CALDWELL



"Our employees want to be part of it because they recognize it's helping them in their career. It also gives them visibility and

connections with firm leaders, so we get to see them in action and are able to mentor them."

KERI KOCUR
CHIEF PEOPLE OFFICER
VHB

SHARED BENEFITS

When discussing the benefits of these programs, both firm management and young engineers could hardly be more effusive.

"It's been such a positive thing throughout the company," says Keri Kocur, chief people officer at VHB. "Our employees want to be part of it because they recognize it's helping them in their career. It also gives them visibility and connections with firm leaders, so we get to see them in action and are able to mentor them."

Because the groups are organized regionally, there are several parallel leadership structures operating at the same time, creating opportunities for young engineers with the talent or drive to be firm leaders to step into the limelight.

"The Emerging Professionals Group is mutually beneficial for young professionals and for VHB," says Baumbach. "We have the opportunity to step up early and develop leadership and management skills as we lead some of EPG's programming, which will help us become stronger people and project managers in the future."

"We have lower turnover," says Brown and Caldwell's Chapman. "We're at 11 percent turnover, and most companies of a similar size are at 13 percent, and our industry as a whole is at 20 percent. Two points might not seem significant, but it's a huge percentage difference."

"Nowadays, we can pretty much pick where we want to work," says Mukai. "We spend most of our time at work, so it's important that you like the people you work with. Having the Rising Professionals Group really helps us bond and helps to keep us here."

Chapman says the program also benefits recruitment. "Before we started these programs, we were at about 90 days to fill a position. Now we're down to 62 days."

Gannett Fleming often has members of its Future Generations group speak with job candidates. "It's been instrumental for attracting both senior and entry-level talent," says Lawson.

"They're great ambassadors for us," agrees VHB's Ashworth. "We're trying to attract other emerging professionals to the firm, and having them sit in on interviews and share their perspective makes a huge difference." ■

Gerry Donohue is ACEC's senior communications writer. He can be reached at gdonohue@acec.org.

U.S. M&A: 2021 Deal Count on Track for Record Year

BY NICK BELITZ

During the pandemic-induced roller coaster of a year in 2020, engineering industry mergers and acquisitions fell by as much as 45 percent on a year-over-year basis. But industry consolidation, led by ACEC deal-makers, fully recovered by the middle of April 2021. Although the societal effects of the pandemic are still being felt and will continue to reverberate for years to come, the deal-making world came roaring back and returned to pre-pandemic levels of activity on the strength of sustained interest among buyers and sellers in doing engineering deals across the country.

To put the recent data in context, 2020 opened on pace to become the biggest year ever in terms of the number of transactions. In the first two months of 2020 and just before the pandemic took hold in March, Morrissey Goodale tracked 88 deals in the U.S., the most in the first two months of any year and up considerably from the previous high of 65 deals reported just a year earlier in 2019. After a severe contraction in deal-making in the second quarter, activity rebounded in the latter half of the year to such an extent that, despite the pandemic, 2020 ended with 307 total deals in the U.S., just slightly off the torrid pace of 2019. As of mid-April 2021, Morrissey Goodale tracked 126 deals in the U.S., an increase from the 113 deals tracked in the same period in 2020 and the 115 deals tracked in 2019. This puts 2021 on pace for a new record of 370 U.S. deals, or a rise of approximately 20 percent compared to the prior year.

Here are some trends we have identified thus far in 2021:

1. All that glitters is gold (in California). As of this writing, acquirers have already announced 23 deals in California through the first three and a half months of 2021. By comparison, the Golden State saw 29 deals in all of 2020. Notably, ACEC member **Universal Engineering Sciences** (Orlando, Fla.), which reported no less than nine acquisitions since the onset of the pandemic, acquired well-known firms **Wallace-Kuhl & Associates** (West Sacramento, Calif.) and **Construction Testing & Engineering** (Escondido, Calif.). Why the interest in deals way out West? California's fiscal condition is robust, with state and

local tax revenue having come in ahead of projections through the pandemic, and the state, with its usual high demand for engineering services of all types, is primed for public infrastructure spending that generally precedes private sector investment.

2. The top firms are continuing to buy and are buying in bunches. Already in 2021, more than 10 firms have made multiple acquisitions. These serial acquirers include some of the most recognizable names of *Engineering News-Record* Top 500 firms and ACEC members: **WSP** (Montreal) (*ENR* #8), **Ter-racon** (Olathe, Kan.) (*ENR* #24), **NV5** (Hollywood, Fla.) (*ENR* #27), **LJA Engineering** (Houston) (*ENR* #57), **SAM** (Austin, Texas) (*ENR* #98), **Bolton & Menk** (Mankato, Minn.) (*ENR* #150), and **Universal Engineering Sciences** (Orlando, Fla.) (*ENR* #85). Also active is private-equity-backed global consulting firm **J.S. Held** (Jericho, N.Y.), which has made multiple acquisitions already in 2021 after making five acquisitions in 2020.

3. Deal-makers find themselves in the same places, including Maine. Judging by the most recent deal announcements below, buyers adhered to the adage that birds of feather flock together, or at least like to be headquartered in the same state. ACEC members **PRIME AE Group** in Maryland, **Tyndall Engineering & Design** in North Carolina, and **LJA Engineering** and **Dunaway** in Texas all announced mergers or acquisitions with firms relatively close to home. Also, in a first for this column, we are happy to cite not just one, but two deals in Maine in the same reporting period. Both qualify as intrastate transactions as ACEC members **Haley Ward** (Brewer, Maine) and **Sebago Technics** (Bangor, Maine) closed deals with other Mainers. Way to go, Downeasters!

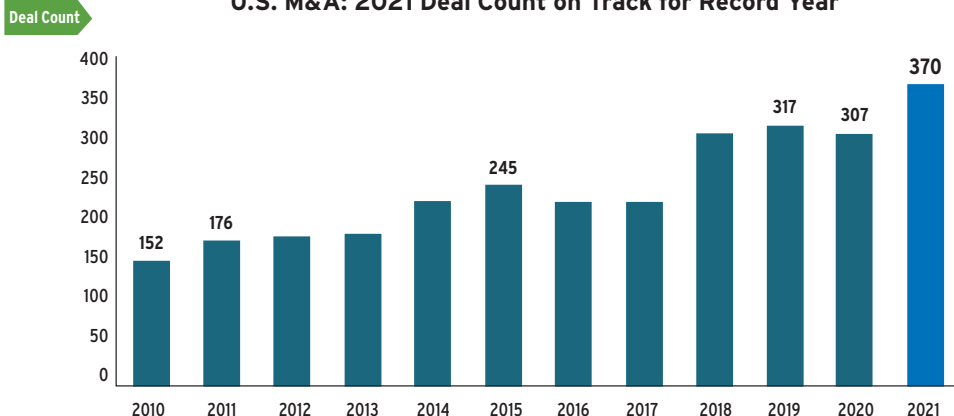
The usual suspects of highly attractive states of Florida and Texas have accounted for 12 deals each as of this writing, but deal-making has ranged across the U.S.; we note Connecticut, Indiana, Kansas, Maine, Mississippi, Rhode Island, and South Dakota all have more deal activity in roughly the first 100 days of the year than they did in all of 2020. Given the activity in 2021 so far, we predict robust demand for and interest in M&A will continue to drive consolidation and make this year the all-time high for ACEC deal-makers and the engineering industry at large.

ACEC DEAL-MAKERS

APRIL 2021

Employee-owned engineering, environmental, and surveying consulting firm **Haley Ward** (Brewer, Maine), formerly **CES, Inc.**, purchased the **GeoEnvironmental division of S.W. Cole Engineering** (Bangor, Maine). Both firms involved in the deal are ACEC members.

U.S. M&A: 2021 Deal Count on Track for Record Year



ACEC member **PRIME AE Group** (Baltimore) acquired **Penza Bailey Architects** (Baltimore), an architecture firm that serves the K-12, higher education, justice, federal, commercial, and custom residential markets.

Full-service infrastructure consulting firm **T.Y. Lin International** (San Francisco) acquired structural engineering firm **Silman** (New York). The deal will strengthen T.Y. Lin's Buildings Market Sector throughout the Americas. Both firms are ACEC members.

ACEC member **Stantec** (Edmonton, Alberta) signed a letter of intent to acquire **Engenium** (Perth, Australia), a project delivery consultancy specializing in the delivery of mining, resources, and industrial infrastructure projects.

ACEC member **Terracon** (Olathe, Kan.) acquired **Sport Environmental Services** (Midland, Texas), a provider of environmental services and consulting to energy production and oil and gas clients in the Permian Basin.

ACEC member **Sebago Technics** (South Portland, Maine), a civil engineering, survey, transportation, landscape architecture, and environmental services consulting firm, acquired surveying firm **Titcomb Associates** (Falmouth, Maine).

Sentinel Capital Partners (New York), a private equity firm that invests in lower midmarket companies, recapitalized iconic transportation EA firm **TranSystems** (Kansas City, Mo.), an ACEC member.

Engineering and environmental firm **Langan** (Parsippany, N.J.) acquired **Adams Consulting Engineers** (Dallas), a provider of land development engineering and landscape architecture services. Both firms are ACEC members.

ACEC member **DLZ** (Columbus, Ohio) expanded its presence in Costa Rica with the acquisition of **Carbon Engineering** (San Jose, Costa Rica), a firm specializing in hydroelectric and wind power projects.

MARCH 2021

ACEC member **TerraCosta** (San Diego) merged with **ENGEO** (San Ramon, Calif.), creating a combined firm of more than 350 professionals across the U.S. and overseas.

LJA Engineering (Houston) acquired **Ramos Consulting** (Austin, Texas), an engineering firm with specialized transportation, program management, and tollway expertise. Both firms are ACEC members.

ACEC member **NV5** (Hollywood, Fla.) acquired **Geodynamics** (Morehead City, N.C.), a marine geology and coastal science consulting firm specializing in bathymetric and geophysical mapping, monitoring, and geospatial analyses.

ACEC member **Woolpert** (Dayton, Ohio) announced that **MSD Partners** (New York) has agreed to invest in the company. In connection with the transaction, **Long Point Capital** (New York) will be exiting its investment in Woolpert. **Woolpert** also acquired fast-growing ACEC member **CivilTech Engineering** (Cypress, Texas), a multidisciplinary engineering firm that specializes in transportation, water resources, municipal, structural, and construction services.

Multidisciplinary architecture and engineering firm **GMC** (Montgomery, Ala.) acquired **PDC Consultants** (Franklin, Tenn.), a planning, design, and construction services firm focused on general aviation airports. PDC is an ACEC member.

To view the most up-to-date and "live" versions of the M&A heat maps, and to see who are the buyers and sellers in each state, go to www.morrisseygoodale.com.



Nick Belitz is a principal with Morrissey Goodale, LLC, a management consulting firm that specializes in the A/E industry and provides strategic business planning, merger and acquisition, valuation, executive coaching, leadership development and executive search services. He can be reached at nbelitz@morrisseygoodale.com.

ACEC member **Hanson Professional Services** (Springfield, Ill.) acquired **Amherst Consulting Company** (Maitland, Fla.), a full-service engineering consulting firm focused on aviation planning, programming, design, and construction services.

ACEC member **Dunaway** (Fort Worth, Texas) acquired **DBI Engineers** (Farmersville, Texas). The acquisition provides Dunaway with an additional business line, expanding the firm's expertise in water, wastewater, and civil infrastructure design.

Colliers Engineering & Design (Red Bank, N.J.), formerly known as **Maser Consulting**, acquired transportation engineering and design firm **Bolton Perez & Associates** (Miami). Both firms are ACEC members.

ACEC member **Geosyntec Consultants** (Boca Raton, Fla.) acquired **Zoic Environmental** (Sydney), a consultancy providing environmental services to clients in the Asia-Pacific region.

ACEC member **Universal Engineering Sciences (UES)** (Orlando, Fla.) acquired **SUMMIT Engineering, Laboratory & Testing** (Fort Mill, S.C.). The deal marks UES' eighth acquisition in two years.

Engineering and design firm **Olsson** (Lincoln, Neb.) executed a purchase agreement to acquire **Premier Engineering Corp.** (Chandler, Ariz.), a provider of transportation, civil, structural, geotechnical, and land survey services. Both firms are ACEC members.

ACEC member **Atlas Technical Consultants** (Austin, Texas) entered into a definitive agreement to acquire **Atlantic Engineering Laboratories** (Avenel, N.J.), a materials testing and inspection firm.

ACEC member **COWI** (Kongens Lyngby, Denmark) acquired **Bittner-Shen Consulting Engineers** (Portland, Ore.), an engineering firm that specializes in the design of major marine structures and heavy civil engineering.

ACEC member **Tyndall Engineering & Design** (Garner, N.C.) merged with **DRB DESIGN** (Garner, N.C.), a custom residential design firm. DRB DESIGN will operate as the design division of Tyndall Engineering & Design, retaining its current name.

ACEC member **Terracon** (Olathe, Kan.) acquired **GET Solutions** (Virginia Beach, Va.), a geotechnical, environmental, and materials testing firm serving clients throughout the mid-Atlantic region.

ACEC member **IMEG Corp.** (Rock Island, Ill.) acquired **Mendenhall Smith Structural Engineers** (Las Vegas), a structural engineering firm that serves the hospitality, entertainment, education, multifamily, and commercial markets. ■

Insurable Standards of Care, and Why Your Clients Should Care

BY KAREN ERGER

Engineers who are veterans of the contract negotiation process know that the standard of care can be a flashpoint for engineers and clients alike. Clients often propose contracts requiring engineers to employ the “highest standard of care” or to warrant or guarantee that the design will satisfy the client or be suitable for the client’s purpose.

Engineers know that this language creates a coverage problem under their professional liability insurance. The insurability argument, however, frequently fails to change clients’ minds. Some may even say, “How you pay for your claims is your problem—not mine.”

In this column, we will share information and ideas that can help engineers win the standard of care battle. We will not only explain *how* the coverage gap works but also provide practical reasons *why* the policy is written this way. We will also help you make the case that uninsurable standards of care can cause problems not only for engineers, but for their clients, too.

WHAT DO PROFESSIONAL LIABILITY INSURANCE POLICIES COVER?

Before we discuss what is *not* covered under professional liability insurance, let’s review what *is* covered. We will need to generalize because there are many carriers and no standard policy form. But typically, professional liability insurance covers damages for which the insured engineer is legally liable due to their negligence in the performance of professional services.

Engineers are negligent when they fail to meet the professional standard of care, which requires engineers to perform their services with the skill, care, and judgment ordinarily exercised by reasonable design professionals of the same discipline providing similar services at the same time and place. This common law standard of care is the legal default and will be applied when there is no written contract for engineering services and when a contract is silent regarding performance standards.

Note that this standard of care does not require engineers to render perfect performance or to warrant that their designs will operate as intended. This is because engineering services are unlike mass-produced goods manufactured under factory conditions, which can be free from defects and are legally required to be. Design projects are one-of-a-kind solutions to the requirements of a specific client, program, and site. Under these circumstances, the standard of perfection is unattainable and inappropriate, and the common law standard of care reflects this fact.

WHAT’S THE COVERAGE GAP WITH ELEVATED STANDARDS OF CARE?

Engineers are free to contract to exercise the “highest standard of care,” provide “defect-free design,” or warrant or guarantee their work. Those who do, however, create a gap in coverage under their professional liability insurance policies. Recall that professional liability insurance applies when engineers fall short of the common law standard of care, which is not perfection because no design is perfect. Insurers will not insure against a sure thing, so they do not undertake to cover engineers’ promises of perfect performance.

While all professional liability policies are different, all include a contractual liability exclusion barring coverage for liability assumed by contract unless the insured would have been liable in the absence of contract. This circular-sounding exclusion has many coverage ramifications, but the upshot with respect to the engineer’s standard of care is straightforward. Because engineers are required to meet the common law standard of care even if there is no contract, liability arising out of their failure to do so is covered. Conversely, because an engineer would have no duty to meet a higher standard of care in the absence of a contract, liability arising out of their failure to meet that contractual promise is not covered.

WHY SHOULD YOUR CLIENT CARE ABOUT COVERAGE?

Even though you are now well-equipped to explain not only *how* but also *why* elevated standards of care are not covered by professional liability insurance, you may still have a problem if your client does not recognize that insurability benefits them, too. Here are some points you might raise with the client who says, “I don’t care whether it’s covered or not.”

Explain to your client that you purchase professional liability insurance to provide sufficient financial resources to make things right in the unlikely event that your negligent performance causes damages. Disputed professional liability coverage may delay and hamper settlement in the event of a claim, and neither you nor your client wants that to happen.

Moreover, it’s likely that your contract requires you to carry professional liability insurance with a certain limit, perhaps for a period of years after project completion. But for that coverage to help your client in the event of a claim, the contract language must be insurable.

Insurable contracts are in the best interests of engineers *and* clients. Your contract negotiations can help your clients understand why they should care about insurable standards of care. ■

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On the Move

Sparks, Md.-based **KCI Technologies** promoted **Christopher J. Griffith** to president. Under his new post, Griffith will retain the role of COO. **Nathan J. Beil**, KCI's president and chief executive officer, will remain CEO. Griffith joined KCI in 1997 and was named executive vice president in 2006 and COO in 2017.

Brian D. McGlade has been named president of Lancaster, Pa.-based **Baker, Ingram & Associates**, succeeding outgoing President and Founding Principal **A. Paynter Ingram**, who held the position for four years. McGlade is also principal and branch manager of the company's Haddon Heights, N.J., office.

Diana Mendes has been named corporate president of infrastructure and mobility equity at Kansas City, Mo.-based **HNTB Corp.**, a new position for advancing equity in transportation solutions. Mendes most recently served as the firm's Mid-Atlantic Division president overseeing growth, operations, and client services in six states and D.C. Mendes is based in the Arlington, Va., office.

New York-based **STV** announced the following appointments: **Luis Delgado**

has joined the firm as executive vice president, where he will lead the firm's nationwide construction management practice. Delgado, who previously served as U.S. West region director of growth at AECOM, is based in Dallas. **David Isabelle** has been promoted to a senior vice president and is also a Northeast regional manager, who oversees multidisciplinary transportation and infrastructure-focused teams. **Bruce Jennings** has been promoted to vice president and will continue to focus on STV's expansion of transportation services in the Midwest region and growing its construction management services in the Chicago area.

Jeff Black has been promoted to vice president of Jackson, Miss.-based **Maptech, Inc.**, a subsidiary of **Neel-Schaffer**. Black joined Maptech in March 2020 and has over 25 years of experience in all facets of land surveying.

Laura Rampersad has joined Mechanicsburg, Pa.-based **Modjeski and Masters** as regional director of the firm's new office in Grand Rapids, Mich. She will manage operations in the state and surrounding region.

New York-based **WSP USA** announced the following appointments: **Lorelei Williams** has joined the firm as vice president and transportation business line leader for the Pacific Northwest District. Williams most recently served as deputy director of capital project delivery for the city of Seattle's Department of Transportation. **Alice N. Bravo** has joined the company as the Florida District leader in the firm's Southeast region. She will be responsible for project delivery and client engagement in Florida. Bravo formerly served as director of the Department of Transportation and Public Works for Miami-Dade County. **Christopher Burke** has joined the firm as a national toll practice consultant. He formerly served as senior toll manager for Parsons Corp.

Kansas City, Mo.-based **Burns & McDonnell** announced the following appointments: **Zach Herrington** has been promoted to director of projects within the Water group and will also continue to serve as the group's national director of construction. **Agnes Otto** has joined the firm as transportation director within the firm's Transportation group. Otto formerly led a multistate regional transportation practice at WSP USA.



Christopher Griffith



Brian D. McGlade



Diana Mendes



Luis Delgado



Bruce Jennings



Jeff Black



Laura Rampersad



Lorelei Williams



Alice N. Bravo



Christopher Burke



Zach Herrington



Agnes Otto

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ACEC AND EFCG PARTNER IN NEW BENCHMARKING PROGRAM

ACEC National has partnered with the Environmental Financial Consulting Group (EFCG) to provide financial benchmarking services to ACEC members. Firms that contribute financial data—with complete firm-level confidentiality—will have access to industry trends and metrics with the single largest vantage point on trends and dynamics in the A/E industry.

Member Firms participating in the benchmarking survey will receive access to key business indicators and corresponding business analysis, including overall demographics, and prior-year growth and prior-year profit by company size. Participants can also purchase premium access to a new online data platform, EFCG360, which will enable firms to benchmark themselves in real time against their peers on prior, current, or projected growth and prior, current, or projected profit, as well as turnover, utilization, revenue multiplier, and overhead rate, by company size, sector, and location.

For more information or questions, please contact Marie Ternieden at mternieden@acec.org.

CAREERS BUILDING COMMUNITIES

ACEC recently became part of a platform called Careers Building Communities. Additional participating organizations include the Associated General Contractors of America, Associated Builders and Contractors, International Council of Shopping Centers, American Institute of Architects, and others that represent many areas of the built environment. Participating organizations share insights about the diverse opportunities that are available to those considering a career in the built environment, from real estate to engineering. Primarily, Careers Building Communities is a website designed for students, educators, and early career individuals exploring related industries to learn more about what it takes to obtain education and employment within each sector. The platform enables ACEC to reach out to young professionals and future engineering graduates to highlight engineering consulting as an exciting career path. Check out how engineers build communities at: <https://careersbuildingcommunities.org/engineering>. ■

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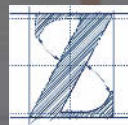
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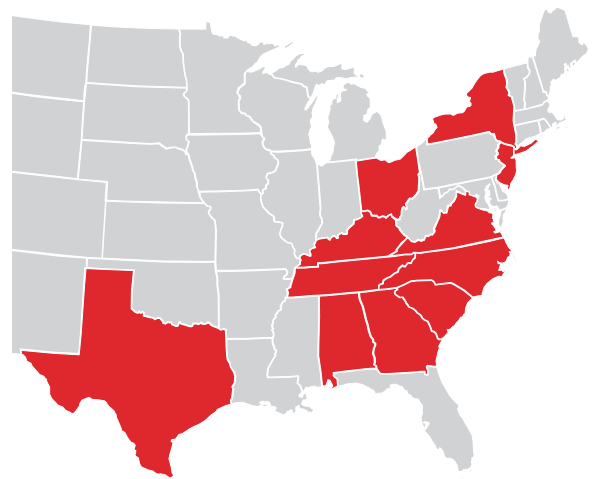
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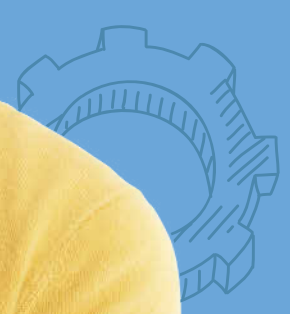
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