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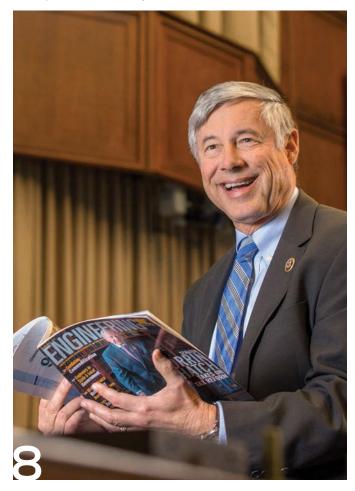
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CONGRESSMAN FRED UPTON

The Chairman of the House Energy & Commerce Committee discusses his approach to improving U.S. energy security and affordability.





12

18

26

52

Features

PUBLIC VS. PRIVATE CLIENTS

Managing the dissimilar practices and expectations.

NAVIGATING THE P3 LANDSCAPE

Public-private partnerships present opportunities and challenges for engineering firms.

ONE PERSON, ONE HOUR AT A TIME

Freese and Nichols challenges employees to volunteer at least 100 hours for worthy causes each year.

MILLION-DOLLAR CLOUT

ACEC/PAC smashes previous fundraising record to finish at approximately \$1 million.

2016 ANNUAL CONVENTION PREVIEW

Join your colleagues at the 2016 Annual Convention and Legislative Summit in Washington, D.C., April 17-20.

Departments

FROM ACEC TO YOU

New focus on energy in Congress.

MARKET WATCH

Solar market lights up thanks to extended tax credit and declining costs.

LEGISLATIVE ACTION

House committee approves FAA reauthorization bill.

MERGERS AND ACQUISITIONS

> 2015 another record year for M&A deals.

MEMBERS IN THE NEWS

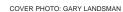
Morsches named CEO of TranSystems Corp.; Donahue named president of Horner & Shifrin.

46

BUSINESS INSIGHTS

One-day symposium helps firms optimize alternative delivery systems.

49





Engineering Inc. promotes the advocacy and business interests of ACEC by offering news, legislative analysis and business practice information to member firms, clients, opinion leaders and policy makers.

From ACEC to You

New Focus on Energy in Congress

ouse Energy and Commerce Committee Chairman Fred Upton, the subject of this issue's cover feature, is optimistic that Congress will "enact meaningful 21st-century policy reforms that says yes to energy." (See page 8.) Now that the House passed a comprehensive energy bill in December, the Senate is forging ahead with its own measure that insiders believe will be passed on a bipartisan basis, setting the stage for a House-Senate conference and final passage.

The Senate bill would expand renewable energy and efficiency programs, adding hydropower to the list of renewable energy sources and providing additional support for the development of geothermal energy. The legislation also includes important provisions advocated by ACEC, such as establishment of an interagency coordinating committee to focus on the "energy-water nexus."

But energy is not the only major issue in which ACEC has an oar in the water in Congress. Tax reform is another, where we seek to protect the interests of our members regardless of their form of incorporation or partnership. Moreover, protecting contracting out and QBS have become vital objectives as public employee unions seek to strip government-funded programs of private sector participation.

This issue of Engineering Inc. also addresses important differences in how our members treat public vs. private clients (see page 12) and the opportunities and challenges of public-private partnerships (see page 18).

Because 2015 was a banner year for ACEC/PAC fundraising—almost \$1 million dollars—the names of all contributors are listed on an Honor Roll (see page 31). The proceeds will be put to good use in supporting congressional candidates who support our industry's priorities.

Looking ahead, you won't want to miss the ACEC Annual Convention (April 17–20) in Washington, D.C., with former White House Press Secretary and Fox News commentator Dana Perino and provocative business author Daniel Pink. The convention also includes visits to Capitol Hill, legislative updates, federal market opportunities, business roundtables, industry panel discussions and the 49th Engineering Excellence Awards Gala.

See you in April!

Ralph W. Christie, Jr. ACEC Chairman

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Moro cedermons

David A. Raymond ACEC President & CEO



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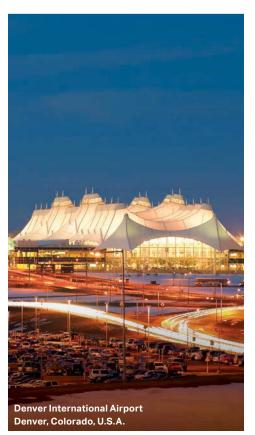
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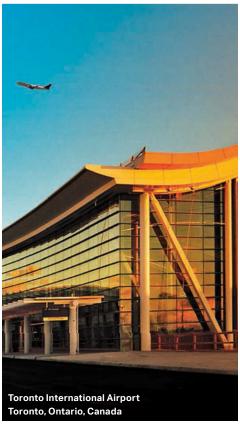
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Market Watch

Solar Market Lights Up Thanks to Extended Tax Credit and Declining Costs

n December, Congress gave the solar power industry a big—and unexpected—Christmas present, extending for another five years the Investment Tax Credit (ITC), which has been a primary driver in the industry's growth over the past decade.

The ITC, in place since 2006, provides a dollar-fordollar reduction in federal income taxes equal to 30 percent of the investment in a solar system placed into service on a residential or commercial property. The tax credit was set to expire at the end of 2016, and most industry analysts predicted that Congress would let it end. Instead, Congress renewed the ITC, along with several renewable energy tax credits that were due to expire at the end of 2015, and extended it through the end of 2021.

The Solar Energy Industries Association (SEIA) estimates that the ITC extension will increase domestic solar power capacity from approximately 23 gigawatts (GW) at the end of 2015 to more than 100 GW by 2020, at which point solar power will account for 3.5 percent of U.S. electricity generation. In contrast, had the ITC been allowed to expire, SEIA estimates that total solar power capacity in 2020 would have been closer to 50 GW.

Regulatory Certainty

Given the inaction of Congress in recent years, the early ITC extension caught nearly everyone in the solar power industry by surprise, and has radically changed industry projections.



Black & Veatch provided engineering, procurement and construction services for Arizona Public Service's Solana Generating Station in Gila Bend. The solar power plant sits on 400 acres and produces 32 megawatts of electricity—enough capacity to power 8,000 homes and businesses.

This year was shaping up to be the biggest year yet for the solar power industry. Facing the need to complete all ITC-supported projects before the end of 2016, the industry was forecast to install 11.2 GW of capacity—a 45 percent increase over 2015.

However, 2017 was expected to be a bust, with SEIA fore-casting as much as a 71 percent decline in year-to-year solar installations.

Now, with pressure to complete projects by the end of 2016 eliminated, the peak may not be quite as high, but the valley will be much shallower.

"The biggest impact is the regulatory certainty provided by this latest legislation," says Jason Hoskins, chief engineering and technical officer at Ulteig. "Having a five-year-plus plan is very helpful to the industry as a whole."

"We see some of the current 2016 projects slipping into 2017," says Tom Phillips, vice president and director of renewable energy business at Black & Veatch. "We also see some of the projects that were not financially viable without the ITC being rejuvenated."

Grid Parity

One of the reasons many analysts did not expect Congress to extend the ITC was the increasing competitiveness of solar power. Technological advancements in recent years—especially in the photovoltaic (PV) segment—have narrowed the price gap between solar and more traditional power sources.

From 2008 to 2014, the cost for installed PV modules fell from \$3.57/watt (W) to \$0.71/W—a more than 75 percent decline. From the second quarter of 2014 to the second quarter of 2015, module prices fell an additional 6 percent.

According to GTM Research, 40 percent of the utility-scale PV projects currently under development "have been procured primarily due to solar's economic competitiveness with fossil-fuel alternatives."

Lay the ITC on top of that shrinking price gap and you have a bright outlook for the solar industry.

"With utility-scale solar continuing to push towards grid parity without subsidies, the ITC extension will ensure solar remains an important and growing part of our energy mix," says Amec Foster Wheeler Vice President Tom Dodson, who heads the firm's solar business.

At the same time, costs in the solar industry will continue to decline. "Panel pricing will continue to fall because of efficiency increases," says Phillips. "Cell technologies will continue to improve. We'll see improvements in rack designs, inverters with lower prices, and a shift from 1,000 volt systems to 1,500 volt systems."

Two other important market forces are the impacts of various

Market Watch

state renewable energy programs and the eventual phase-in of the Clean Power Plan (CPP).

Numerous states—led by California, North Carolina and Minnesota—have programs that promote the development of solar power. While they don't have the same impact as the ITC, they still provide incentives for developers.

"Minnesota has a requirement that investor-owned utilities produce 1.5 percent of their energy via solar by 2020," says Hoskins. "That will drive investment into the technology."

Solar will also benefit from the implementation of CPP, which is designed to cut carbon emissions from the nation's power plants. Although the first CPP compliance dates don't kick in until 2022, the rule includes a Clean Energy Incentive Program to support renewable energy installations in 2020 and 2021, just as the ITC is winding down.

Modularized Systems

Phillips sees significant opportunities for engineering firms in the lead-up to and implementation of CPP.

"Many utilities need help understanding how to integrate solar into their portfolios and putting their strategies in place," he says. "West Coast utilities tend to have a very good understanding, but for some in the Midwest and on the East Coast, it might be more of an educational process."

He also sees a strong market for engineering, procurement and construction (EPC) firms to work with developers to design and build utility-scale PV solar projects and "opportunities in performance calculations and in conceptual and detail design."

Outside of the EPC space, however, design firms might find prospects in the sector less robust for two reasons.

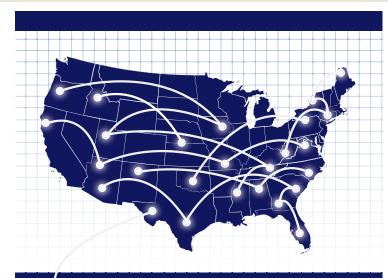
First, says Dodson, "The value of engineering isn't commensurate with the revenue

associated. It's a very small piece of engineering that affects a \$500 million project."

Second, as the industry matures, Hoskins says, "systems will become more modularized, especially for smaller installations, and the level of engineering could be reduced over time."

As a result, the primary opportunities for engineering firms within the sector will lie more with the infrastructure, focusing on permitting, geotechnical, and grid connections.

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



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Legislative Action

House Committee Approves FAA Reauthorization Bill; ACEC Secures Airport Funding Increase

he House Transportation and Infrastructure Committee has approved the *Aviation Innovation, Reform, and Reauthorization Act*, its legislative proposal for Federal Aviation Administration (FAA) programs and funding. ACEC secured increased investments in the Airport Improvement Program (AIP) fund and will seek to raise the cap on Passenger Facility Charges (PFCs) collected by airports.

Committee Chairman Bill Shuster (R-Pa.) has highlighted FAA operational reform as a top priority. The bill would remove air traffic control functions out of the FAA and create an independent, federally chartered nonprofit corporation to operate and modernize the air traffic control system. The complex and controversial proposal would be funded through aviation user fees and governed by a separate board.

"This bill will establish a stable, self-sustaining and fair user-fee funding structure for air traffic control, removed from the budget process and the annual appropriations cycle, and free from the funding uncertainty, political meddling and bureaucratic red tape that have plagued FAA and ATC services for years," explained Chairman Shuster at a committee hearing on the bill.

The bill increases AIP funding from \$3.6 billion in F.Y. 2017 to \$4 billion in F.Y. 2022. ACEC will seek to raise the cap on PFCs to enable airports to raise additional revenues to support improvements. The current \$4.50 per segment cap on PFCs has not

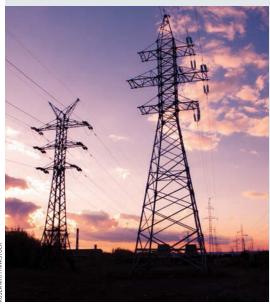


been increased since 2001. The Council is also backing an amendment to require airports to follow a qualifications-based selection process on all airport projects funded with AIP funds or PFCs.

In a letter to committee leaders, ACEC and other stakeholder organizations urged lawmakers to make needed airport infrastructure upgrades a stronger focus of the bill. "Aviation infrastructure improvements must go hand in hand with operational enhancements to deliver maximum benefit for air travelers and the U.S. economy," the groups wrote.

The current extension of FAA programs and funding expires on March 31. Another short-term measure is expected as Congress continues to debate a long-term proposal.

Senate Takes Up Comprehensive Energy Package



he Senate began consideration of the Energy Policy Modernization Act of 2016 in February, with the goal of sending a comprehensive energy bill that President Obama will sign.

The act includes a number of provisions advocated by ACEC, including establishing an interagency coordinating committee to focus on the "energywater nexus," with the goal of identifying sustainability best practices.

To expand and protect the power grid, the measure includes ACECbacked provisions to enhance the authority of the Energy Secretary to protect against cyberthreats and develop new models of electricity storage, distributed generation and micro-grids. The measure also expedites exports of liquid natural gas (LNG) through a streamlined permitting process.

The act emphasizes expanding renewable energy sources and efficiency programs, including adding hydropower to the list of renewable energy sources and supporting the development of geothermal energy sources.

The House passed its version of the bill late last year. Leaders in both chambers say they hope to produce a bipartisan bill this year.

ACEC Engages on Tax Reform

egislation passed in December to extend 52 expired tax provisions—including permanent extensions of the R&D tax credit and higher Section 179 expensing levels, among others—could help pave the way for comprehensive tax reform in the future. Making some of these provisions permanent will reduce the cost of tax reform.

ACEC continues to lobby for reforms that treat all business structures equally, including C corporations, S corporations, partnerships and sole proprietorships, an issue that divides the White House and Congress. These reforms are not likely to be resolved in 2016, and the congressional tax-writing committees are expected to use this year to build the foundation for legislation down the road.



House Ways and Means Committee Chairman Kevin Brady (R-Texas)



Senate Finance Committee Chairman Orrin Hatch (R-Utah)

House Ways and Means Committee Chairman Kevin Brady (R-Texas) plans to draft legislation to address international tax issues and the worldwide competitiveness of U.S. firms. Across the Hill, Senate Finance Committee Chairman Orrin Hatch (R-Utah) is working on a plan to change how C corporations and the dividends they pay to investors are taxed, which would also improve competitiveness.

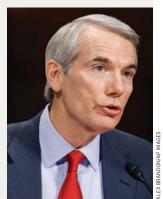
ACEC also continues to engage with the tax-writing committees to ensure key issues for the engineering industry—such as the ability to continue using the cash method of accounting—are addressed in tax reform.

ISSUES ON THE MOVE	WHAT'S NEXT
FAA Reauthorization	House action in March
Comprehensive Energy Bill	Final vote in early spring
Procurement Reform	Senate floor action mid-to-late spring

Design-Build and Reverse-Auction Reform Moves Forward

CEC's efforts to limit single-step design-build and stop the use of reverse auctions on design-build construction took a significant step forward last month when a bill made it out of the Senate Homeland Security and Governmental Affairs Committee. The Construction Consensus Procurement Improvement Act (S. 1526), introduced by Senators Rob Portman (R-Ohio) and Mazie Hirono (D-Hawaii), was passed out of the committee unanimously.

Single-step design-build allows for an unlimited number of teams to submit designs without the contracting officer reviewing qualifications prior to submission. The bill limits the use of single-step design-build in civilian construction to \$750,000, which strongly encourages the use of a two-phase design-build. This change enables teams to



Senator Rob Portman (R-Ohio)



Senator Mazie Hirono (D-Hawaii)

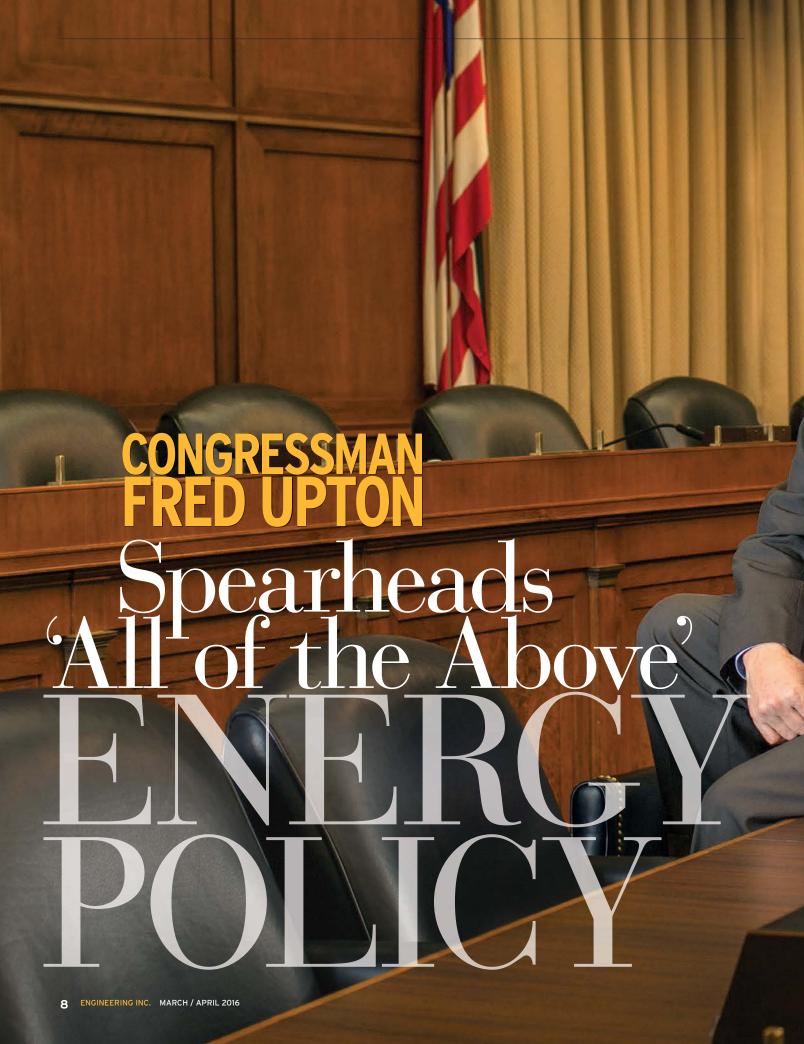
reconcile the expense of participating in design-build competitions by having a set number of finalists in the competition.

Reverse auctions require that participants lower their bids in a time-limited competition. The U.S. Army Corps of Engineers submitted a congressional report in 2004 stating that reverse auctions did not provide "significant or marginal savings," but other agencies have been using them recently. The bill also codifies the prohibition of reverse auctions in any federal design-build construction project.

ACEC is engaging with House members to introduce a companion bill.

For More News

For weekly legislative news, visit ACEC's *Last Word* online at www.acec.org.







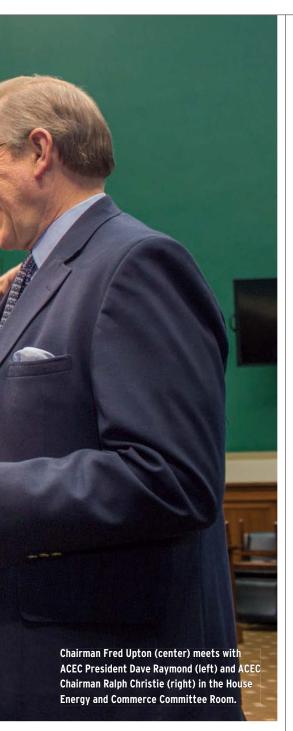
ACEC: Mr. Chairman, considerable progress has been made in advancing energy legislation during this Congress. Do you think Congress will send a comprehensive energy bill to the White House in 2016?

CHAIRMAN UPTON: In early December, the House passed H.R. 8, the North American Energy Security and Infrastructure Act, by a bipartisan vote of 249-174. The bill was the culmination of a multiyear, multi-Congress effort to modernize our outdated energy laws for the 21st century. At this time, we're hopeful the Senate will take up, and pass, its energy bill (S. 2012) so we can work through our differences in a conference committee to enact meaningful, 21st-century policy reforms that say "yes" to energy.

ACEC: You were successful in pulling elements of your bill and adding them as an amendment to the FAST Act.

How will those provisions enhance the nation's systems of energy supply and transmission?

UPTON: We are always looking to advance our work every chance we get, and the FAST Act presented an opportunity to get a number of important provisions into law. Grid security and strengthening our energy infrastructure remain an important component of our energy portfolio moving forward. The



FAST Act contained several provisions to ensure that our energy infrastructure, including the electric grid, is more resilient to 21st-century risks, such as physical attacks, cyberattacks and extreme weather.

ACEC: Congress also cleared legislation lifting the decades-long ban on oil exports-a move strongly supported by ACEC. How will that policy change impact energy markets?



UPTON: Many of our allies around the world have remained beholden to the whims of Russia, Iran and OPEC when it comes to importing oil. In lifting the ban, we've opened up another market for our friends around the globe to import oil from. We've expended significant resources to protect the free flow of energy around the world. We're finally practicing what we've preached for so long and giving our allies the option of buying American exports.

ACEC: As an organization, the Council strongly supports a comprehensive approach to energy policy that makes full use of all of the nation's energy resources. What additional policies would you advocate to expand energy markets?

UPTON: Our goals remain focused on strengthening our energy security and affordability, while our policies are aimed at building more transparent, integrated and competitive markets with a focus on consumers. Lifting the 40-year-old ban on crude oil exports was a big win in terms of expanding our energy markets, but more can, and should, be done. We've tried on several occasions to expedite the approval process for liquefied natural gas export permits, but certain members of Congress and the administration have been reluctant in doing so. We will continue to advocate this important policy initiative and work toward its enactment into law. We're also focused on modernizing our energy infrastructure and building additional energy infrastructure—including natural gas pipelines, hydropower and

the electric grid—in an effort to establish a more energy-integrated North America.

ACEC: While the debate over the production tax credits for renewable energy continues, how do you see the federal government's role evolving with respect to renewables as part of a national energy strategy?

UPTON: Continued basic support of research and development funding is a good way Congress can maintain its support for a truly "all of the above" energy policy.

ACEC: What role will nuclear power play in meeting our future energy needs?

UPTON: I am a strong proponent of clean, safe nuclear power and have two nuclear plants, Cook and Palisades, in my Southwest Michigan district. While market dynamics and EPA regulations continue to place undue burdens on the



electricity market, 99 operating nuclear power plants generate roughly 20 percent of the electricity we consume. Unfortunately, the nuclear industry's cost of compliance with regulatory action has doubled over the last 10 years while facing strong cost competition from other energy sources. Clean, safe nuclear energy is, and will continue to be, a vital component of our diverse energy portfolio, and we will continue to work toward ensuring nuclear energy remains an integral part of our future.

Managing the dissimilar practices and expectations of public and private clients

DISTINCT

By Gerry Donohue

ost engineering firms work with both public and private clients. It's a sound business strategy as public and private markets tend to follow different economic cycles.

Specific project undertakings, however—from business development to contract negotiations to managing the project—can vary dramatically for an engineering firm, depending on whether the client/owner is public or private.





"We're pretty evenly split between public and private," says Ray Hart, president of GEI Consultants, which has 700 employees in 36 offices nationwide. "We like to maintain that balance because it provides us a solid growth platform and gives our employees a diverse set of experiences."

Other differences in working with private and public clients, however, are less symbiotic, and a few actually clash. Firms that successfully serve both sectors have adapted their operations and tailored their staffs so they can seamlessly meet these two sets of clients' disparate needs.

Market Forces

Dewberry, which employs 2,000 people in 40 offices nationwide, is in the middle of its five-year strategic plan. At the plan's core is a goal of maintaining a balance of twothirds public client work (onethird federal and one-third state/local) and one-third private client work.

"You have to respond to what the market gives you, but we've found that any time

we get too far out of that balance, we start to encounter problems," says Dewberry CEO Donald Stone Jr. "At the beginning of our current strategic plan, we were more heavily involved in the public sector, so we put in tactics to build our book of business in the private sector, such as targeting Fortune 500 companies that fit our footprint."

Blending public and private sector work offers several benefits. "In the public sector, the programs are larger, they're more predictable and the funding is more certain. You can forecast your staffing needs more effectively over a longer period," Stone says. "Private work tends to be quicker and more market-responsive and has a faster churn. Ideally, we have a strong, long-term backlog built off of the public sector, and plentiful private client work to fill in the gaps."

Engineering firms can take advantage of the two sectors' different economic cycles, says MWH Global Chief Corporate Offi-



"Private clients are much more results-oriented. Get us the right answer, don't worry about having taken all the steps along the way. In the public sector, they're much more focused on the process of executing the work, doing everything in the right order and checking all the boxes."

JIM KUIKEN MWH GLOBAL

cer Jim Kuiken. "The public sector tends to be stable and lags the private sector when the economy changes. If you look at the recent recession, the private sector responded very quickly, while the public sector, because it's funded on an annual basis through taxes, declined much more slowly."

As the market climbed out of the downturn, the private client market was the first to recover. The quarterly ACEC Engineering Business Index (EBI), which tracks the performance of the engineering industry through Member Firm leader sentiment, has consistently shown growing confidence in private markets, while expectations for the public market have traditionally remained flat. Following passage of the recent \$305 billion, five-year transportation bill, however, Member Firm CEOs expressed a renewed confidence in the public market, while retaining their optimism about the private sector.

Differences Outweigh Similarities

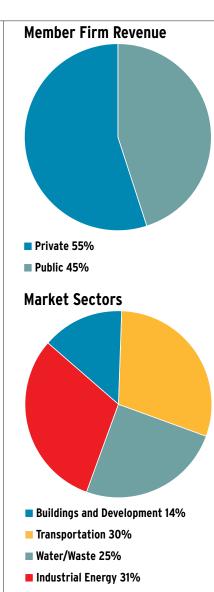
Public and private clients share some primary characteristics.

"The fundamentals of working with clients are consistent across both sectors," says Hart. "They expect us to understand their business drivers, and they want value-based solutions and timely delivery."

The differences between the two types of clients, however, can be glaring. Relationships, for example, are much more important in the private sector.

"We have [private] clients with whom we've worked for years," says Hart. "We've built up strong relationships with them and understand their drives, which helps us better position ourselves for work coming down the road."

"You do right by them, and they'll stay with you," Kuiken says of private sector clients. The public sector is another story. "They're under pressure to spread the work around. Even if you do a stellar job, your reward often is to go to the back of the line and wait until it's your turn again."



Source: ACEC, Dodge Data

Stone adds that "the pace of awarding the work is materially different. With private clients, the incubation of the opportunity, the pursuit and the award are measured in weeks rather than in months. Because of the slow pace in the public sector—as well as regulatory compliance—the cost of sale in the public sector is higher."

Once the design gets underway, pace becomes another defining difference between the private and public markets.

"Private clients are much more resultsoriented. Get us the right answer, don't worry about having taken all the steps along the way," says Kuiken. "In the public sector, they're much more focused on the process of executing the work, doing everything in the right order and checking all the boxes."

Financing drives that need for speed in the private sector, says Mike McMeekin, president of Lamp Rynearson & Associates,

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whose 150 employees work out of three offices in Nebraska, Missouri and Colorado. "They often borrow to finance their projects," he says, "so that creates pressure to get things completed and underway."

Private clients also tend to have a much more realistic view of risk than public clients.

"Private sector clients understand risk better, understand that it's a cost and are more inclined to accept their share of the risks that they have control over," says Kuiken. "The public sector doesn't understand risk, doesn't place any value on it, doesn't want to pay for it and tends not to allow you to charge for it."

Both sectors put a focus on a firm's safety statistics, but Stone says that while "safety is expected in the public sector, it is a prequalification in the private sector."

The differences between the two groups begin to narrow on the financial side of projects. If a firm is providing "straight-up services in the public sector, the margin is pretty fixed," says Stone. "But public cli-

ents are increasingly moving toward design-build, which is more of a risk-reward relationship, so there's an opportunity to earn a higher margin."

Or sometimes a lower margin, says McMeekin: "Many public sector clients seem motivated to lower fees as much as possible in the interest of protecting taxpayer dollars."

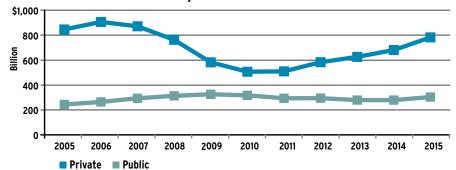
As always, says Kuiken, "If you provide a unique service, clients are willing to pay a premium. If it's a commodity, they'll work your margin pretty good."

One difference between the private and public sectors that remains is the certainty—or lack thereof—when it's time for payment.

"Private sector clients can be credit risks," says Kuiken. "You don't have that issue in the public sector. They may not be as fast in payment, but eventually they pay."

McMeekin points to another payment risk specifically with private sector land development clients. "We're

Member Firm Revenue by Year



Source: ACEC, Dodge Data

increasingly seeing demand for upfront services with no guarantee of payment if the project does not go forward," he says. "That would never be an issue in the public sector."

Adapting Operations

To best respond to the differences between public sector and private sector clients, many firms assign different staff members to work with each group, especially in the business development and project manage-

ment areas.

"There's some straddling, but we've found that it is better to have groups that focus on the different clients," says Kuiken. "The mindset of the people is important because each of these clients demand different things from us."

Working with private clients requires speed of responsiveness, innovation and a focus on customer service, whereas public clients put a high premium on following the process and checking all the

"If you put a staff member who is used to working with public clients onto a private sector project, that client would become unglued within a week," says Kuiken.

One key attribute for staff members who work on public sector projects is to be good at public outreach. "Being able to engage with the public is a skill set that not every project manager has," says Stone.

Lamp Rynearson is organized around market sector, so staff members work in both

sectors, says McMeekin, although many work more in one than the other. "I don't think the skill sets are that different," he says, "except in the private sector, you have to have staff that accepts unreasonable deadlines and are willing to put in overtime."

"People tend to self-select the type of clients they want to work with," Kuiken says. "They gravitate to those they're better with."

Getting Into Private Client Work

If a firm working primarily in the public sector were looking to get into or expand its private sector activities, what would be its first steps?

Stone recommends hiring someone at the senior level who has private sector experience. "Go outside and get some talent," he says. "You can't build your private sector work with public sector skill sets. They're too different, the market is too competitive and it'll take you too long."

Kuiken concurs. "Don't try to take the same people who are used to working with the pace of the public sector and put them with a private sector client and expect to be successful. The perspective is just too different."

Hart suggests that firms looking to move into the private sector adapt their operations to be more responsive to economic cycles and the demands of their new clients. "Structure your firm to reflect the needs of the client, not your own."

In the hunt for private sector clients, McMeekin also recommends caution. "Look for stability," he says. "How long have they been around? Do they pay? And if they used to work with one of your competitors, find out why they're changing."

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



"Private work tends to be quicker and more market responsive and has a faster churn. Ideally, we have a strong, longterm backlog built off of the public sector, and plentiful private client work to fill in the gaps." DONALD STONE JR. DEWBERRY



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Public-private partnerships present opportunities and challenges for engineering firms NAVIGATING THE

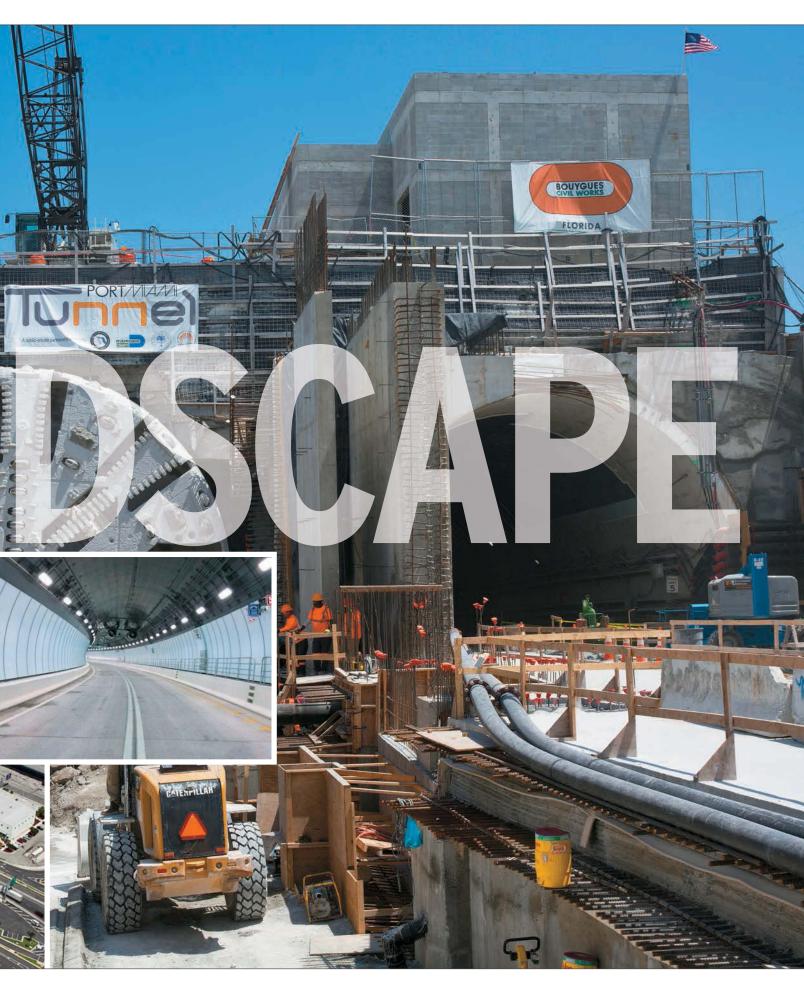
The PortMiami Tunnel. which opened in August 2014, is Florida's first transportation P3. Unlike many P3s, the tunnels will not charge a toll; the Florida Department of Transportation will make availability payments to the concessionaire.



By Samuel Greengard

ver the last few decades, funding for public projects has declined, and public-private partnerships, also known as P3s, have gained popularity. P3s are now used in 33 states and have the support of global entities such as the World Bank. "They have emerged as an attractive way to reduce public debt and shift at least some of the risk and rewards to private companies," says David Baxter, executive director of the Institute for Public-Private Partnerships (IP3). >>





Today, P3s are used to build roadways, ports, airports, hospitals, water and energy facilities, university buildings and more. Proponents say this approach can dramatically reduce costs and produce better outcomes.

P3s are now widely used in the U.K., Canada, Australia, China, India, Japan, Russia and the United States. They're also viewed as an attractive way to fund desperately needed infrastructure in developing nations.

While there's no single definition or approach for P3s, common experience holds that they completely rewire the way projects are managed. P3s shift the burden away from government entities that contract for services and finance debt through bonds and taxes. They incorporate an arrangement that involves a private sector firm or group -the concessionaire-that raises equity and then builds

and operates the project for a specified number of years. The three most common repayment mechanisms are:

• Toll Concessions, where the concessionaire receives compensation through obtaining the right to collect the tolls on a facility;

Availability Payment Concessions, where the concessionaire receives periodic "availability" payments from the public partner based on the availability of a facility at the specified performance level; and

 Shadow Toll Concessions, where the concessionaire receives a set payment called a "shadow toll" for each vehicle that uses the facility.

However, throughout the lifespan of the project, the government entity retains ownership and control. A P3 is not privatization.

Recent passage of the \$305 billion, five-year Fixing America's Surface Transportation Act (FAST), further boosts the prospects of P3s usage by establishing a National Surface Transportation and Innovative Finance Bureau. The agency



"In many cases, they come to market quickly and the results are impressive. But it isn't something that an engineering firm can jump into. It requires expertise and an understanding of how the P3 framework operates."

SALLYE PERRIN WSP | PARSONS BRINCKERHOFF aims to increasingly leverage federal dollars in transportation projects by facilitating private participation, and to encourage innovative financing mechanisms that help advance projects more quickly.

But even with growing U.S. implementation, P3s aren't without obstacles, challenges and potential controversy. In some cases, P3s generate a higher rate of return than when the same project falls into the public sector, and if the operator fails or goes bankrupt, disruption and higher financing costs can result. There is also political opposition to toll roads and other P3 projects in some states, and there can be land-rights issues.

According to the National Council for Public-Private Partnerships, P3s typically lead to a 7 percent to 10 percent savings over the life

of the project. In some cases, the figure can

reach 20 percent or more.

Not surprisingly, firms that participate in P3s must think differently, work differently and interact with partners and other project participants in entirely different ways. "There is a growing recognition of the benefits of delivering projects through this alternative delivery model. In many cases, they come to market quickly and the results are impressive," says Sallye Perrin, a senior vice president at WSP Parsons Brinckerhoff, which has worked on P3 projects such as the Midtown Tunnel project in Virginia and the Port of Miami Tunnel. "But it isn't something that an engineering firm can jump into. It requires expertise and an understanding of how the P3 framework operates."



"You cannot apply a template approach. It's crucial to understand the nuances and specifics of a particular place and the companies involved in the project."

DAVID BAXTER INSTITUTE FOR PUBLIC-PRIVATE PARTNERSHIPS

Successful P3s

The U.S. has no shortage of high-profile P3 projects, particularly in Texas, Florida and California. One of the first major uses of the P3 model in the U.S. dates back to 1999, when the Port Authority of New York and New Jersey faced a limited debt capacity to finance necessary improvements to New York's JFK International Airport. It ultimately turned to a consortium of private developers, operators and financiers to renovate the international terminal. In addition, a private company has a 28-year lease with the Port Authority to operate the terminal.

Another P3 project, the U.S. Food and Drug Administration's White Oak Campus in Maryland, is expected to save more than \$200 million over 20 years. It will free up more than \$90 million in capital appropriations that can instead be directed to the agency's functional requirements.

Yet, many of today's largest P3 projects revolve around highways and rail transportation. In Denver, a new commuter transportation network, the Regional Transportation District (RTD) FasTracks, involves 122 miles of light rail and 18 miles of bus transit service. As part of the program, the \$2.3

> billion Eagle P3, which began in 2010 and is scheduled for completion this year, is estimated to save about \$300 million over the transportation network's lifespan.

In Texas, the LBJ express lanes project—which is rolling out in three phases—has tapped an international group to finance, design, construct, operate and maintain a 13-mile freeway corridor on Interstate 635 for 52 years. Among the innovative features the project offers: dynamic toll pricing based on traffic volumes. The P3 approach has allowed TxDOT to build a \$2.7 billion project in a five-county area that was otherwise budgeted for \$171 million. It will increase traffic volumes from a system designed to carry 180,000 vehicles per day to one that will accommodate 500,000 in 2020.

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EJCDC's Standard P3 Agreement Identifies Risks, Responsibilities

By Stacy Collett

A standard contract for public-private partnerships (P3s) had never been written before, and some legal experts thought it couldn't be done—as P3s tend to be highly individualistic.

In late 2014, and after more than three years in development, the Engineers Joint Contract Documents Committee (EJCDC)—comprised of three major engineering professional organizations: ACEC, ASCE and NSPE—published its first standard P3 contract form—the EJCDC P3-508 Public-Private Partnership Agreement.

EJCDC Past Chairman
Kevin O'Beirne, who led the
development of the new P3
contract, says the agreement is drawn from dozens
of P3 agreements already
in use and was refined with
the advice of P3-experienced
owners, attorneys, financiers,
developers, contractors and
design professionals in the
U.S. and abroad. It presents a
variety of contractual conditions typical in P3 agreements.

"P3-508 makes it easier to enter into an agreement because you don't have to start from scratch with a contract that is probably expensive to write and may not be as thorough," says O'Beirne,

principal engineer and manager of standard construction documents at ARCADIS. The contract form is designed for projects ranging from \$5 million to \$100 million, but "it could be used for bigger projects," he says.

The document is written in template form with embedded notes to help users tailor it to their specific P3 needs. It was developed so that other existing EJCDC agreements, such as the design-build agreement to control construction and design terms, can be easily attached.

"The P3 contract itself is a higher-level contract that allocates responsibilities and risks for matters such as financing the improvement, long-term maintenance and further upgrades, and all these lifecycle types of responsibilities," O'Beirne says.

ACEC recommends using the P3-508 form along with the ACEC guide Public-Private Partnerships: Opportunities and Risks for Consulting Engineers, which provides an objective, realistic and pragmatic look at P3 projects. This sourcebook aims to help engineering firms make informed decisions about the pros and cons of pursuing P3 opportunities.

For more information, go to **www.ejcdc.org/shop/**.

Lanes, the project has so far moved forward ahead of schedule and without any significant change orders. "It is one of a growing number of success stories," Perrin says. "As these projects take shape and roll out, it's becoming apparent that they offer a viable alternative to public financing. In many cases, they move forward faster, at a lower cost, and deliver better technical designs."

Despite glowing examples of success, not all projects fare so well. In 2014, the operator of the 157-mile Indiana Toll Road—a partnership between the Spanish firm Ferrovial S.A. and the Australian firm Macquarie Infrastructure Group—filed for Chapter 11 bankruptcy after projected traffic volumes and revenues failed to materialize. The state took over management of the highway. Three years earlier, in Southern California, the operators of the \$635 million South Bay Expressway in San Diego County declared bankruptcy.

"There are risks and concerns for engineering and construction firms related to contractual relationships with concessionaires and others," says John Muñoz, a vice president for CDM Smith and a former deputy director at TxDOT.

A Model Approach

The growing use of P3s to deliver major infrastructure projects translates into both opportunities and challenges for A/E/C

firms. A starting point for navigating P3s is recognizing that the overall business framework and the roles of different project participants is nothing like a conventional design-bid-build approach. P3s aren't a one-and-done arrangement; participants may be connected to the project for years or decades.

"It's critical to have a good relationship with the concessionaire from the start," says Muñoz, whose firm served as PennDot advisers to the \$899 million Pennsylvania Rapid Bridge Replacement P3 project. "There's a need to clearly articulate the risk-reward perspective from the engineering firm's point of view." Without this approach, Muñoz believes an A/E/C firm exposes itself—and the entire project—to greater risk. What's more, it sets up unrealistic expectations for the concessionaire and puts pressure on other engineering firms to accept less than desirable terms and conditions.

Understanding the workings and risk profile of a P3 is at the center of making a project viable and profitable for an A/E/C firm, Perrin says. At WSP | Parsons Brinckerhoff, the goal is to incorporate P3 projects into the fold but not let them overshadow traditional services.

Perrin says that P3s require different skill sets and a different temperament. "You can't just shuffle a person from one side to another. The dynamics are different





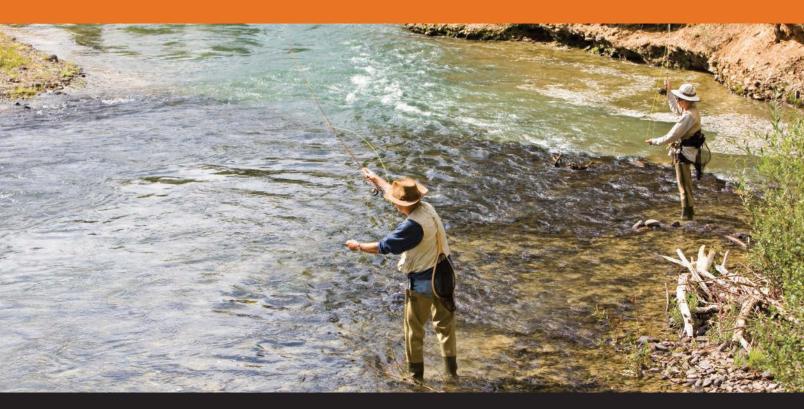


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because you are working for a contractor at an accelerated pace. You have to focus on innovation, agility, and be able to work in a highly collaborative environment." Perrin says that within a P3 framework, individuals must understand the value of relationships, know how to build and maintain them, and recognize the importance of adhering to schedules. "You have to understand the entire scope and lifecycle of a project," she says.

IP3's Baxter points out, "There are considerable political, environmental and social risks." Even a slight change in the underlying usage model can dramatically tilt the financial equation. In a tollway project for example, this can range from fluctuations in gasoline prices to the emergence of self-driving vehicles.

In addition, laws and regulations are constantly changing—and they vary greatly from state to state and in different countries. "You cannot apply a template approach. It's crucial to understand the nuances and specifics of a particular place and the companies involved in the project," Baxter notes.

Not surprisingly, the legal aspects of a deal are critical. Bill Wildman, a partner at the law firm Sutherland Asbill & Brennan, LLP, which handled a large 2014 P3 deal involving student housing for the University System of Georgia, emphasizes the need for due diligence. Because P3s are joint ventures, participants must ensure that the terms and conditions are appropriate and acceptable before committing to it. This includes an understanding of long-term risk—sometimes extending out to 30 or 50 years. "If the projections aren't accurate, the engineering firm could wind up on a creditor list during a bankruptcy," he says.

Among other things, this means having a seat at the table during the negotiation stage, playing a role in generating financial projections, providing input about the framework of the arrangement, understanding a firm's specific scope and responsibilities, and steering clear of unreasonable terms and obligations. There's also a need to examine everything from the initial design to what might happen if the design is inadequate or defective 10 or 20 years in the future.

"The concessionaire is going to want to limit liability, but it's important for an engineering firm to avoid conditions and obligations that are out of the ordinary or put it at unnecessary risk," Wildman says. This means having a legal team involved in the process from the start so that "the firm doesn't assume liabilities that are not insurable."

Baxter encourages A/E/C firms not involved in a P3 to familiarize themselves with all aspects of this model. He also suggests that companies looking to move into this rapidly expanding space seek out specialized expertise and skills.

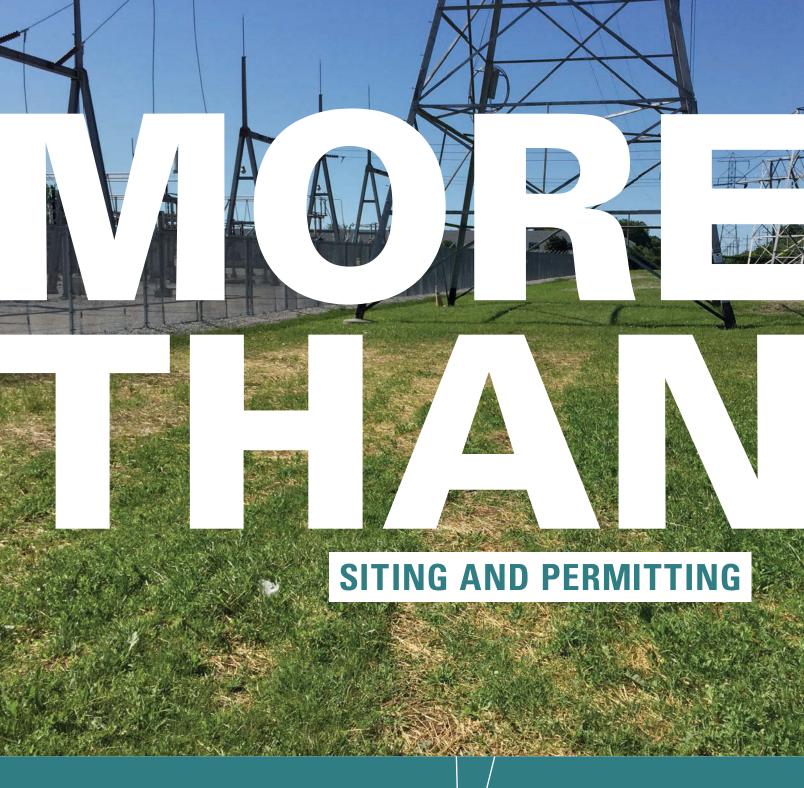
Firms already handling P3s need to stay current on trends and legislation in different countries and states while adding staff with specific expertise in P3s.

"Public-private partnerships will continue to grow in importance and stature in the years ahead," Baxter concludes. "Despite challenges and an occasional setback, it's a very effective way to tackle complex infrastructure projects."

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

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Corporate Social Responsibility

ONE PERSON, ONE HOUR AT A TIME

Freese and Nichols challenges its employees to volunteer 100 hours or more for worthy causes each year

By Calvin Hennick

n 1994, engineering and architecture firm
Freese and Nichols broke open the corporate
piggy bank and threw itself a huge party
celebrating the company's 100th anniversary.
Clients had fun. Employees had fun. The night
was a success.

"Then we had spender's remorse," says Robert

"Then we had spender's remorse," says Robert Pence, president and CEO of the firm. "We said, 'We're never going to do that again." The problem wasn't so much the dollar figure, Pence says, but the fact that spending a lot of money to toast the company didn't fit with the firm's guiding principles—one of which is, "We give back to our communities."

"The party was about us, and that's not what it should be about," Pence says. "We said, 'That's not who we are, and let's do something meaningful instead."

So, for the firm's 110th anniversary in 2004, company leaders set out to do just that. Rather than springing for another expensive celebration, they instead challenged employees to donate 110 hours of their time to community service.

By the end of the year, employees across the company had spent nearly 9,000 hours volunteering, with 36 workers reaching the 110hour mark. The company gave each of those employees a \$110 reward for their service, \$1 for every hour volunteered, and employees asked the firm to donate the money to organizations of their choice.

At first, the company increased the goal by another hour each year, but it soon became apparent that this was unsustainable. "We realized that at some point in time, nobody would be working," Pence jokes. "They'd just be helping the charities."

By the Numbers

In 2015, the Freese and Nichols volunteering program posted the following numbers:

- 95 total employees volunteered and logged their hours with the company.
- 37 employees met or exceeded the 100-hour goal.
- 210 different organizations benefitted from employee volunteers.
- 8,228 hours (equivalent to nearly 4 years of 40-hour work-weeks) were volunteered.



"People want to be part of an organization that goes beyond just what their business is. They want to feel good about whom they work for, and they want to feel good about the company's role in the community." ROBERT PENCE FREESE AND NICHOLS

The company continues to reward its top volunteers but has reduced the employee goal to 100 hours (still a hefty commitment, at an average of roughly two hours per week over the course of a year). Since the program began, Freese and Nichols employees have volunteered more than 82,000 total hours—equal to 39 years' worth of 40-hour workweeks.

Pence—who logged 140 volunteer hours in 2015says the results illustrate how employees have fully embraced the volunteering program. "We thought this was a great idea," he says. "The employees thought it was an even better idea."

Personal Rewards

Amy Caster, an employment manager in the firm's human resources department, started volunteering with Meals on Wheels years before she joined Freese and

Nichols. The firm's volunteering program makes it easy for her to continue helping out and get away from the office to drive meal routes and serve the nonprofit in other ways.

"As I get closer to hitting those [100] hours, there's the impetus to say, 'What else can I do to meet that challenge?" Caster says. "I think it does inspire us just to be creative and look for ways to help out an organization and benefit somebody. If you give me a challenge, I'll do it just because I'm competitive like that. And it's a good challenge."

Caster volunteers with several organizations, but she says that Meals on Wheels is the "nearest and dearest to my heart." She delivers meals to elderly people and attends board meetings during her lunch breaks. She enjoys the



"If you give me a challenge, I'll do it just because I'm competitive like that. And it's a good challenge." AMY CASTER FREESE AND NICHOLS

hands-on experience of volunteering.

"If you just write a check to an organization, you never see the people on the other end who are receiving it," Caster says. "There could be 12 clients on a route, and that's 12 people that I see faceto-face and have an interaction with and provide a smile, checking in on them, asking, 'Are you doing OK? Is there anything that you need?' Even those few minutes of conversation, I think, can help keep them mentally sharp and help them not feel quite so isolated."

The benefits aren't just theoretical. One day, Caster came to a woman's house ("She probably weighed 80 pounds soaking wet," Caster says) and realized that the doors had all been swollen shut by rain. Caster dialed 911 and waited while the fire department came to make sure the woman could get in and out of her home.

At the end of each year, Caster asks the firm to send her reward check for meeting the 100 hours to Meals on Wheels. Along with the money (which represents only a portion of the firm's annual commitment to charitable giving), the company sends a letter explaining which employee is responsible for the donation.

"The nicest letters I get back for anything we do are for those small, little checks," says Pence. "What they really appreciate is not the amount of money, because it's not that much. It's that we're encouraging our employees to give their

time to the charities."

Community Involvement

Sabrina Joplin, a geographic information systems analyst in Freese and Nichols' Austin office, logged 182 hours of volunteer time in 2015, helping with a community garden she founded. Joplin does "a lot of everything," she says, including organizing workshops and leading administrative tasks, such as applications and permitting. While she was initially lax about tracking her hours, she's more fastidious about it now-both because of reporting requirements for a separate grant and because she wants to earn the company reward money to





donate to the garden. "It seems silly of me to put in all these hours and then let the money sit on the table," she says.

Joplin's co-workers have pitched in, too. A transportation engineer conducted a pro bono site visit and gave his thoughts on a potential sidewalk addition.

Joplin sees the project as a win-win for everybody. "Volunteering within the community is a way of demonstrating that our commitment to our community goes above and beyond client projects," she says.

Shane Torno, a transportation engineer in the firm's Corpus Christi office, volunteers with a number of different organizations, and he says that Freese and Nichols' program helps him find new volunteering opportunities. About twice a year, Torno and a group of other employees build ramps for people with disabilities. One ramp was for a young man who had been living with his parents; he'd never been inside his new home until Torno and his colleagues built the ramp. They were so excited for the man

that they returned two weeks later to paint the exterior of the house.

Another time, Torno served lunch at a homeless shelter with co-workers, and then later returned to the same shelter to volunteer with his sons. "It was a really great experience that otherwise I wouldn't have been aware of," he says.

In one of the most visible illustrations of the volunteer program, a receptionist at the firm's headquarters donates time at a women's center and asks fellow employees to bring in items the center needs. One month, the lobby might be filled with donations of wrapping paper. Another month, it will be toiletries, or teddy bears, or school supplies.

"Clients will come in and see all this shampoo and say, 'What do you do with this?" says Peggy Freeby, human resources manager for the firm. "People right there will give her money and say, 'I want to help with this."

Corporate Win

Ultimately, the volunteer program is good not just for the nonprofits that receive help or for the employees who participate; it also benefits Freese and Nichols itself. The program boosts the company's reputation with clients, prospective hires and the communities where the firm works, and it helps establish a positive culture that lives up to the firm's lofty guiding principles.

"It's absolutely a positive thing for the company," says Pence. "People want to be part of an organization that goes beyond just what their business is. They want to feel good about whom they work for, and they want to feel good about the company's role in the community. It's a big piece of our culture."

While that culture was already firmly in place when the volunteer program was established a little over a decade ago, the program gives management and employees a constant, concrete reminder of it. The program also helps them see how their efforts-donated one person and one hour at a time—add up.

"It makes you feel good about the company's priorities," says Torno. "It's just nice to see what we as a group can accomplish." ■

Calvin Hennick is a business, technology and travel writer based in Milton, Mass.

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ACEC/PAC smashes previous fundraising record to finish at approximately \$1 million

By Stacy Collett

decade ago, the thought of raising \$1 million for ACEC's Political Action Committee (ACEC/PAC) seemed a distant pipe dream. In 2015, that dream came true.

ACEC/PAC raised \$982,230 last year to support federal candidates, on a bipartisan basis, who support the engineering industry's legislative agenda in Congress. The 2015 total shatters the previous year's record contributions of \$834,705.



"The No. 1 goal of the PAC is to help elect good, thoughtful men and women to Congress who will promote pro-business and pro-engineering issues."

JEFFREY D. GEURIAN CEI ENGINEERING ASSOCIATES ARKANSAS PAC CHAMPION

ACEC/PAC Chairman Christopher Robertson credits the record-breaking year to a fundamental shift in the way ACEC state organizations and individual members view their role in legislative advocacy.

More members than ever contributed to the PAC in 2015, which led to a record number of State Member Organizations achieving fundraising goals.

Contributors didn't have to look far to see the benefits of PAC donations. In December, Congress passed a five-year, \$305 billion transportation spending bill after years of stopgap funding measures. ACEC/PAC leaders attribute the bill's passage to years of relationship-building with legislators. "It allowed us to tell our side of the story, and just as importantly, it will be used to help re-elect those people who saw the importance of voting for infrastructure in Congress," says Robertson, who is vice president of Shannon & Wilson in Seattle.

As a result of the record fundraising, ACEC will spend more than \$2.3 million on candidates in the 2015-2016 election cycle, a significant increase from 2007-2008 when ACEC's candidate budget totaled \$980,000 for the election cycle.

ACEC/PAC is currently the largest PAC in the design industry, having tripled in size over 10 years. It ranks in the top 25 of all trade association PACs and is in the top 2 percent of all federally registered PACs.

ACEC/PAC broke other records, as well, including the total number of PAC donors (2,752) and the number of states (38) reaching their yearly fundraising goals. Notably, Colorado and New Jersey each reached their targets for the first time, and Georgia made its goal for the first time since 2008.

ACEC/Illinois raised \$73,805, a new record amount collected by a single state in a single year.

ACEC/Indiana was the first state to make its goal in 2015 and kept raising funds to reach an impressive 178 percent of goal.

Currency of Conversation

Colorado reached its fundraising goal thanks to contributions from a larger base and more individual donors. According to Rob Refvem, state PAC Champion, many large firms were reluctant to make contributions in previous years because they had their own PACs, and a few were

simply anti-PAC.

The number of individual contributors more than doubled from 40 in 2014 to 88 in 2015. Refvem says, "If we can top 100 contributors, it will be much easier to hit this goal and maintain this goal in years going forward."

Refvem believes that a phrase often repeated by ACEC National Chairman Ralph Christie has finally struck a chord with Member Organizations: "This is the currency of conversation."

"I think that message now is starting to permeate our membership here in Colorado," Refvem says.

To attract new individual contributors, Colorado's PAC held a series of unique events, including an event at a new golf entertainment complex, a "Scotch and Cigars" night at Refvem's home, and a silent auction of artwork and sculptures created by local engineers that raised \$4,000 at its annual conference. "People come to those events who normally





"ACEC/PAC support helps us to tell our side of the story on key issues. Without that support, legislators would be left to make critical decisions that affect our industry without being fully informed."

KEVIN McOMBER CLARK PATTERSON LEE GEORGIA PAC CHAMPION wouldn't give to a PAC. We get a lot of new donors that way," he says.

In Arkansas, PAC Champion Jeffrey D. Geurian also set out on a mission to increase the number of PAC contributors. He harnessed the state's passion for duck hunting and raffled a premium shotgun to raise money for the PAC. About 50 people entered the raffle, including 14 new contributors, and the PAC raised \$7,760, he says. ACEC/Arkansas Member Firms recognize that their contributions are going to good causes, he adds.

"The No. 1 goal of the PAC is to help elect good, thoughtful men and women to Congress who will promote pro-business and pro-engineering issues," says Geurian, who is president and CEO of CEI Engineering Associates in Bentonville.

The Comeback State

ACEC/Georgia last met its ACEC/PAC goal in 2008 as the economic downturn saw contributions dwindle. But in 2015, the state roared back with collections of \$43,720, crushing its goal of \$37,554. More than 120 individuals contributed to the PAC.

The state board realized that asking individuals to make contributions at the national PAC was a harder ask, says Kevin McOmber, PAC Champion and senior vice president at Clark Patterson Lee in Suwanee, Ga. "When you're pulling [money] out of your personal pocket, it's hard to see the changes at a national level," he notes.

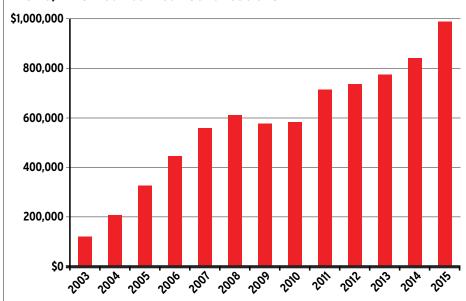
To increase the number of participants and donation amounts, ACEC/Georgia's board created the ACEC/PAC Leadership Circle, a program that recognizes contributing individuals and their firms. The program tallies total receipts from individuals from any given firm, and based on their contribution level, rewards the firms



"I get calls from legislators who aren't even in my district—all because I contributed. I find that really exciting—the ability to talk to people who make important decisions about us and our businesses."

CHRISTOPHER ROBERTSON SHANNON & WILSON ACEC/PAC CHAIRMAN

ACEC/PAC Year-to-Year Contributions



with advertising perks, which can include banners at events, firm videos before and after events, and member company logos on display.

Leadership Circle members also participate in events at which state representatives are presented with contributions. "They get some face time with those representatives. That's a little bit more of an ROI than just writing a check," McOmber says.

"ACEC/PAC support helps us to tell our side of the story on key issues. Without that support, legislators would be left to make critical decisions that affect our

industry without being fully informed," McOmber says.

Sustaining Momentum

Going forward, Robertson remains confident that ACEC/PAC will surpass its annual \$1 million goal. "I'm more excited about stepping it up so that people who make PAC contributions start getting engaged with their legislators on a personal level, so the benefits of what they're doing become more personal to them, and they have a part of making that happen," he says.

At its core, PAC fundraising is based on relationships and willingness to contact people you know and make the case directly to them, Robertson adds.

In Robertson's own experience, "I've done that, and I get calls from legislators who aren't even in my district-all because I contributed. I find that really exciting—the ability to talk to people who make important decisions about us and our businesses."

Stacy Collett is a business and technology writer based in Chicago.



"If we can top 100 contributors, it will be much easier to hit this goal and maintain this goal in years going forward."

ROB REFVEM FELSBURG HOLT & ULLEVIG COLORADO PAC CHAMPION

ÉC/PAC Honor Roll

ACEC/PAC's record-breaking 2015 included all-time highs in the total number of PAC donors (2,752) and the number of states (38) reaching their fundraising goals. Following is a complete listing of 2015 donors.

*State made its 2015 PAC goal

Bold designates PAC Champion(s) for the state

Bold underlined designates 2015 Capitol Club Member (\$5,000 donor)

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Congressman Daniel Webster (R-Fla.) (center), a member of the House Transportation and Infrastructure Committee, spoke at ACEC/Florida's DOT Partnering Conference. Also pictured (left to right): Jay Calhoun, VIBE; Allen Douglas, ACEC/Florida; Andy Lauzier, HDR; Jim Horton, AMEC Foster Wheeler; Jason Matson, Kimley-Horn and Associates; Scott Perfater, Burgess & Niple, Inc.; Scott Gombar, Eisman & Russo, Inc.; Sia Kusha, AECOM; Frank Hickson, Infrastructure Engineers, Inc.; Stephen McGucken, Kisinger Campo & Associates; Pete Sheridan, VIA Consulting Services, Inc.; and Leila Nodarse, Terracon.

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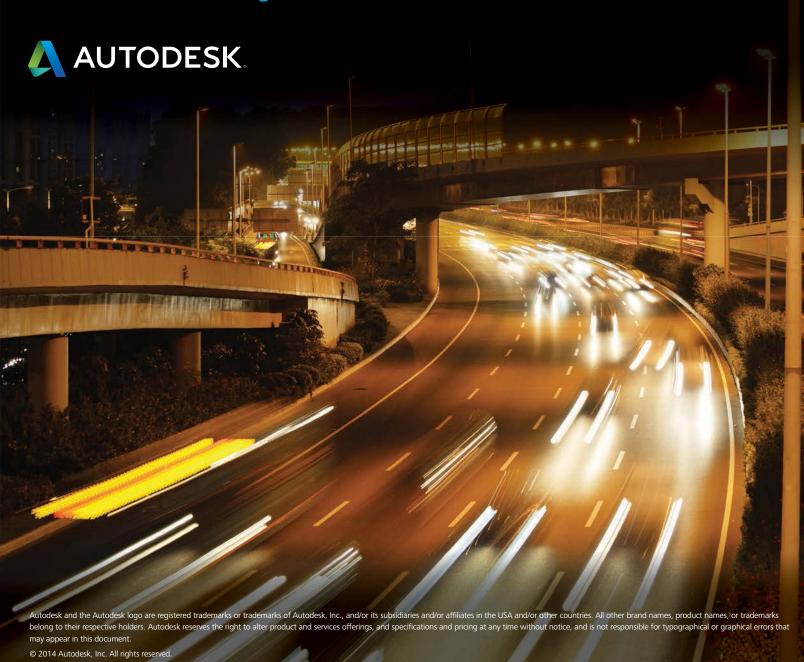
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Rep. Mike Coffman (R-Colo.) (center), a member of the House Armed Services Committee, briefed ACEC/Colorado members last year on tax reform, the need for long-term transportation investment and the importance of contracting out. Also pictured: (front row, left to right) Lauren Evans, Pinyon Environmental; Elizabeth Stolfus, Stolfus & Associates; ACEC/Colorado Executive Director Marilen Reimer; Dave Huelskamp, Merrick & Company; and Brad Doyle, Parsons. (Back row, left to right) Gregg Ten Eyck, Leonard Rice Engineers, Inc.; Rob Refvem, Felsburg Holt & Ullevig; Michael Ellsberry, MKE Engineering; Greg Roush, Leonard Rice Engineers, Inc.; and Dean Bradley, Felsburg Holt & Ullevig.

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ACEC/Kentucky members meet with U.S. House Appropriations Committee Chairman Hal Rogers (R-Ky.) at his field office in Somerset, Ky. (Pictured left to right): Derek Guthrie, ACEC/Kentucky Executive Director; Mark Litkenhus, ACEC/Kentucky President; Congressman Hal Rogers; and Randy Scott, ACEC/Kentucky Past-President.

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Scott Chenet Andrew Ciancia Ann Clark Maureen Clegg Frank Conti Gregory Cummings John Cunningham Eugene Daly Jamie Davis Tina Deale John Deerkoski Frank Delsignore Anthony Depasquale Stephen Dolson Iulie D'Orazio Thomas Duffy Daniel Duprey Lee Ecker Mark Edsall David Ellis Kenneth Ellsworth Joseph Engels Robert Ervolina Robert Eschbacher Keith Faucher Bradlev Fisher Scott Frank Charles Franzese Robert Gallup Thomas Garrett Charles Gozdziewski Paul Grosser D. Guglielmo Douglas Halstrom Keith Harlock Steven Hearl Iitendra Hirani Robert Hoffmann Daniel Hull Steve Hutchins Greg Hutter Richard Iuele A. Jannesari

Shelly Johnston

Megan Kamencka

Patrick Kenneally

Dennis Kennelly

Seth Kaeuper

Mark Kastner

Iames Krapf

Curt Krempa

Mark Laistner

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Mark Lang James Laurita Erica Lavigne Michael Leydecker Bruce Lilker Herbert Litts Garv Loesch Jeffrey Lookup Neil Lucey Patrick Lynch Orrin MacMurray Michael MacNeil Liam Madden Charlie Manning Jessica Mariani Mark McAnany Bill McCarthy William McCormick Iames McDuffee Richard McFadden Thomas McLaughlin Walter Mehl Martin Meriwether Jennifer Michniewicz Brian Miller Donald Mongitore Anthony Montalto Kevin Mulligan Lawrence Murphy Mia Nadasky Hannah O'Grady Jim Orcutt Funsho Owolabi Ellen Pangburn Philip Parisi, Jr. Mark Pawlick Richard Peters Mark Petranchuk Nicholas Pinto Charles Pisano Jason Pitingaro Eric Pond Gina Potfora Christopher Prochner Mike Randall John Robson Karl Rohde Lorenzo Rotoli Mary-Beth Rumble Lee Sacket Samuel Schwartz Martin Schwartzberg

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Seth Fisher James Fitz Morris

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Richard Wells

Thomas Wells

Eric Wilson

Jon Wilson

Mark Wilson

Brigette Welton

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OHIO Michael Avellano Michael Bandwen Bruce Bassett Steven Bergman Brian Braaksma David Breitfeller Raymond Briva Daniel Bucher Michael Buettner Robert Campbell Kevin Carpenter Michael Ciotola Brian David Aaron Domini Sandy Doyle-Ahern Mark Droll Michael Duffey Ben Dusina Frank Eisenhower Ronald Erb Eugene Esser Michael Frank Rocco Gallo Christopher Hall Charles Hammontree Stan Harris Greg Heaton Mark Henderson Adam Hoff James Houk Ali Jamshidi Bipender Jindal Jack Jones Matthew Justus Kevin Kershner Robert Kirkbride David Krock Donald Mader James Mawhorr Mitchell McCoy Bethanie Meek Lynn Miggins Perry Morgan **Thomas Mosure** Stephen Pasternack Shyam Rajadhyaksha Kevin Reichert Bryon Ringley Michael Rowland C. Satvapriva Gary Sebach Edward Sefcik A. Seling Clifford Shrive Jay Shutt Mark Skellenger

Richard Williams **OKLAHOMA**

Robert Steele

Matt Tin

David Wiles

Joseph Sullivan

Timothy Van Echo

Hollis Allen Rebecca Alvarez Karl Baldischwiler James Benson Jeremy Boswell Matt Brown J. Bret Cabbiness Brandon Claborn Jerry Clement

David Cross Joe Davis Edward Donwerth Lauren Evans Ben Fletcher Stephen Ford Ute Ganjanathavat Chad Grinsteiner Julie Guy Denise Hale Tricia Hatley Jim Hemphill Thomas Hendrick Martin Hepp Sharri Hiller Mike Homan Douglas Klassen Stacy Loeffler Kirsten McCullough Janet Meshek Tom Meshek

Chuck Mitchell Dennis Morris Helene Murdock Rebecca Poole Karthik Radhakrishnan Jenny Sallee Brent Schniers Robert Smith Cort Westphal Ronald White Robert Zahl

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Sean Henderson



Congressman Sean Maloney (D-N.Y.) (center), a member of the House Transportation and Infrastructure Committee, with ACEC/New York leadership in late June. Also pictured (left to right): ACEC/New York President Jay Simson; Tom McLaughlin, HDR; Mia Nadasky, Hudson Valley Engineering Associates; Mark Edsall, McGoey, Hauser & Edsall Consulting Engineers; and Kathy Dewkett, Dewberry.

Chris Brown

Katie Hodgson Troy Holloway Frank Joanlanne Kevin Johnson Brian Keaveney Richard Kercher Mark Kinnee David Kozel John Kurgan John Kweder Gregory Lebo Tom Leckrone Paul Lewis Jon Livingston James Lombardi David Lowdermilk Eric Madden Thomas Maheady Joyce Markosky Mark Markosky Matthew Marquardt Joseph McAtee Esther McGinnis Rodney Miller Steve Moore Todd Morris Ara Mouradian Rachel Murawski Kenneth Nadler Lea Nadler Donna Newell Joseph O'Neil Hiroo Patel Andrew Pennoni C. R. Pennoni Domenic Piccolomini Marc Pinto John Pocius John Prybella Thomas Riester David Scherer Perry Schweiss Curtis Shugars Dennis Stidinger Michael Sydlik D. Vevdt R. Willey Sharmon Winters

John Zarsky

Scott Zeevaart

SOUTH CAROLINA*

Kent Alexander Marty Baltzegar Ernest Capps Jerry Carter Allen Chestnut Derek Clyburn David Eberspeaker James Fei Robert Fei Forrest Foshee Don Freeman Joseph Greenburg Larry Hargrove Joe Jones Tom Jordan Merritt King Miller Love Howard Perry Frederick Quinn John Richards . Kevin Shoemake Peter Strub Walter Warren Melvin Williams Tony Woody Mark Yodice

SOUTH **DAKOTA**

Terry Aaker Bob Babcock David Berg Gail Boddicker Trent Bruce Chad Hanisch Terry Helms Steven Hoff Dawn Horner Todd Kenner Manish Kothari Ralph Lindner Kim McLaury Monty Miller David Odens Douglas Wessel

TENNESSEE*

Kasey Anderson James Bearden Kenneth Beeler Kurt Boyd Jason Brady

Stephen Brown James Bruce W. Cannon Rodney Chester Mark Dunning Robert Elizer Steven Field James Floyd Christopher Hammer David Ĥarrell Michelle Harris Suzanne Herron Michael Hunkler Ted Kniazewycz Stephen Lane Randy Martin Deron McIntosh Tony Montiel Gary Mryncza Craig Parker John Perry Robert Polk Steven Qualls Brack Reed John Reidy Larry Ridlen Thomas Saunders Kenneth Stewart Michael Stomer Jerry Stump Michael Sullivan Elizabeth Surface Kevin Tilbury Jody Vance David Verner Tim Verner David West Dwayne West William Whitson Joseph Wimberly Donald Yarbrough

Ken Zyga **TEXAS**

Sommer Boecker Gregory Burns Timothy Buscha Melissa Byler Jim Chee Dilip Choudhuri Jeff Collins Terry Conn David Covarrubias

Edwin Davis Don Durden Jay Edwards Lauren Evans Darrell Flatt Edwin Friedrichs Karen Friese Garland Galm Kyle Gass Donald Glenn Humberto Gonzales Brad Gorrondona Christine Graygor Dawn Green Chuck Gregory Rachel Hayden Bryan Helbert Kevin Hopper Keith Jackson Frank Jaster J. R. Jones Kent Kacir John Lamb Paul Lampe Russel Lenz Alan Lindskog Robert McDermott Richard McNary Jack Miller Mike Moss Derek Naiser Michael Nichols Joe Nix Edward Ochoa Mark Pacheco Michael Perez Pamela Puckett Jeff Puig Gary Raba Joseph Rapier Stephen Redding Phil Russell Brian Shamburger Susan Turrieta Chester Varner Allen Watson John Wooley Giti Zarinkelk

UTAH*

Hiram Alba David Alter Craig Bagley Kirk Bagley

Jeff Beckman Dale Bennett William Bigelow Lee Cammack Tena Campbell Diego Carroll Thavne Clark Ryan Cole Michael Collins David Day Darren Evre Cliff Forsgren Rodolfo Garcia Kim Harris Connie Hillard Matthew Hirst James Horrocks David Jenkins Brent Jensen Robert Kesler Keith Larson Michael Lasko Greg Loscher Jason Luettinger Rachel McQuillen Brett Mickelson Chris Mikell Richard Miller Rod Mills Ronald Mortimer Leslie Morton Richard Noble Jon Oldham

Lowell Williams **VERMONT***

Brent Packer

I. Reading

Ken Spiers

Lisa Tuck

John Wallace

Newell White

Bryce Wilcox

Craig Peterson

James Schwing

Michael Smith

David Thurgood

Kerry Ruebelmann

Bradley Aldrich John Baumann Darren Benoit Brendan Cosgrove Greg Edwards

John Forcier

T. Frehsee Ko Ishikura Shawn Kelley John Kiernan Evan Lowell Gary Santy Guy Vaillancourt

VIRGINIA*

William Aden Ken Anderson Victor Angell C. Bamforth David Barlow Vince Benedetti David Bohn Donald Booth Anthony Bream C. Eric Burke Robert Burkholder Richard Clark Roger Cronin Jeffrey Davis

Patricia Davison Raymond Destephen Paul Diggs Cecil Doyle Gregory Ellen Samuel Estep Jeffrey Fisher Harvey Floyd Cara Gavagan Matt Gough David Greenwood Tim Groover Steve Hall Iulie Hartman Ronald Helton Nancy Israel Jared Jamison Greg Knopp Kevin Kokal Charles Lamb Carolyn Langelotti Monica Larsson Jeffrey Lighthiser Benjamin Lilly John Mann Craig Matthews Michael Matthews Neil McSweeney Mickiewicz Leann Nowak

Joseph Adam Peter O'Hara John Ozmore Chad Poultney Frances Railey Bruce Sadler Donald Sipher Christopher Stone John Stuart Christopher Swanson Carter Teague James Thompson Patreace Thornton John Vandergriff R. Vaughan Nancy Walker Jav Wells Mark White Michael Wiercinski Carter Williams Larry Willis Frank Wilson Rick Zong

WASHINGTON* Bruce Alward

Kurt Anderson Robert Axlev Kristen Betty Ralph Boirum Jay Bower Gerard Buechel Brian Butler Marcus Byers Lee Cammack Daniel Campbell Barry Chen Bart Cima Dale Clark Michael Clark Shelley Collins Van Collins Jeffrey Colon Kathryn Cox-Czosnyka Eric Crowe Rick Della Karen Doherty



ACEC/Indiana members meet with Congresswoman Susan Brooks (R-Ind.) to discuss energy and business issues. (Left to right): Michael Obergfell, USI Consultants; Shelby Swango, WSP | Parsons Brinckerhoff; Rep. Brooks; Phil Beer, USI Consultants; Brad Miller, HNTB Corp.; and Dave Mohler, Commonwealth Engineers.

Charlie Dougherty Bill Dunlap Chris Engstrom Manuel Feliberti Kurt Gahnberg Robert Galteland Bill Garrity Scott Gaulke Paul Godlewski Erik Halverson Eric Herzstein Mary Hughes David James Paul Johnson Susan Kemp Santosh Kuruvilla Matthew Laccinole Thomas Leonidas Douglas Lindquist Greg Livengood Jeff Logan Jeffrey Logan Lee Marsh Wendy Mathieson Steven McMullen Dwight Miller Martin Page E. Richard Patterson Chris Poulsen

Christopher Robertson

Richard Reis

Cos Roberts Kathleen Robertson Dave Rodgers Scott Roux Ryan Schultz Tom Service James Shellooe Jay Soroka Mark Strickland Larry Swartz David Talcott April Taylor Iames Thomson Troy Thrun James Tupper Benjamin Upsall Jeff Wagner Katie Walker Katie Walter David Warner Mike Wert Anthony Wilen

David Winter Scott Woerman Loy Young

WEST VIRGINIA*

Robert Belcher Joseph Bird Jamie Bumgarner Jerry Cantley Dayton Carpenter Michael Haid Greg Knopp Michael Perry Clay Riley Amy Staud

WISCONSIN* Ryan Amtmann

Susan Barker

John Boldt

David Brose

Philip Budde Rusty Chesmore Stephanie Christensen Les Fafard Fred Groth Jeff Hanson Gilbert Hantzsch Greg Jewell John Kissinger Jeffrey Kronser Kim Lobdell Thomas Ludwig Jayne Martinko William Mielke John Mitby Rose Morgan Andrew Platz Thomas Pulse John Rathke Matthew Richards Theodore Richards Paula Schultz Raian Sheth Doug Sina Amy Squitieri Stanley Sugden Paul Tarvin Iill Treadway Randal Van Natta Yash Wadhwa Kenneth Williams

Brian Wilson

Steve Wurster Jan Zander

WYOMING

Anthony Barnett Michael Brown Ralph Christie Travis Conklin Robert Croft Dave Dufault James Evans Travis Evans Mike Evers Zane Green Gary Grigsby

Theresa Gunn Steven Moldt Heath Overfield Robert Overfield Kenneth Rathbun Cody Schatz Murray Schroeder Craig Shauers David Shultz Tim Wick Zia Yasrobi

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 Mark Patis, Technical Executive, Design Parsons Brinckerhoff

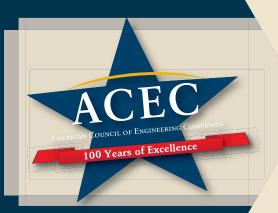
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Mergers and Acquisitions

2015 Another Record Year for M&A Deals

ast year turned out to be the busiest year yet for industry mergers and acquisitions (M&A) activity. Sales of U.S.-based firms in 2015 increased by more than 5 percent, with 234 deals announced last year, compared to 222 the previous year. The scale of deal making, however, was smaller than in 2014, which saw a flood of megadeals among some of the industry's largest players.

The median size of a firm sold in 2015 decreased to \$3 million in revenue and a staff of 23 employees from \$4 million and 30 staff the prior year. In 2015, industry firms seemed to focus on filling strategic gaps, bolting on new offices and adding resources.

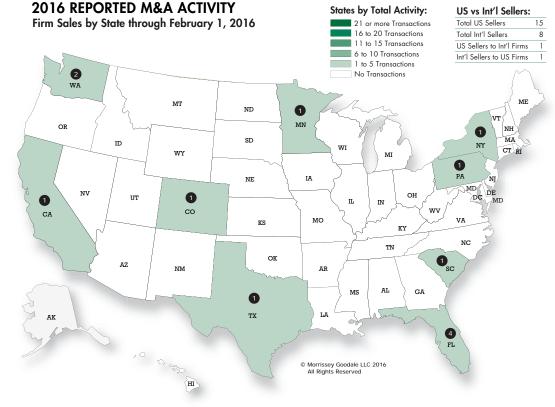
For the second straight year, Texas topped the list of states for industry firm sales with 31, followed by California with 24. Prior to last year, California had dominated in deal activity, but continued population and economic growth appear to have moved Texas to the head of the pack. Other states with doubledigit firm sales included New York and Illinois with 14 each, North Carolina with 11 and Florida with 10. Buyers appeared to focus on states with large, diversified economies, where population growth, infrastructure needs and funding sources create a nexus.

In 2015, private equity played a major role in industry deal making, with a number of significant deals involving outside capital. Private equity's interest in the engineering industry appears to be increasing, as firms invest in high-quality businesses with the opportunity for growth. Among the most noteworthy deals was CH2M's announcement of a major investment from Apollo Global Management. Gryphon Investors was also active in the industry last year, announcing majority investment in fire-protection engineering firm JENSEN HUGHES as well as the sale of environmental consulting firm Trinity Consultants to an affiliate of Levine Leichtman Capital Partners.

Bernhard Capital Partners, a private equity firm founded by former Shaw Group CEO Jim

Bernhard, announced multiple transactions in the engineering and construction sector, including the acquisition of ATC Associates from Cardno. In early 2016, Keystone Capital announced it had invested in and partnered with engineering and construction management firm Target Engineering Group. Last year, Keystone also invested in health care-focused architectural firm MorrisSwitzer. Private equity's interest in the engineering industry signals that the investment community sees strong growth potential in the sector.

It remains to be seen how deal activity will shape up in 2016, but the economy is sending mixed signals for the engineering industry early in the year. On one hand, the new five-year highway bill is welcome news for firms heavily involved in transportation. On the other, oil prices below \$30 per barrel could hurt firms that have benefited from the energy industry's recent growth, particularly in North Dakota, Pennsylvania, Ohio, West Virginia and Texas. Firms that can remain nimble and diversified will be best positioned to adapt to a constantly changing economic and competitive environment.



Recent ACEC Deal-Makers JANUARY 2016

ACEC Member Johnson, Mirmiran & Thompson (Sparks, Md.) announced an agreement to acquire ACEC Member Kennedy Consulting (McKinney, Texas).

ACEC Member Morrison-

Mergers and Acquisitions

Maierle (Helena, Mont.) acquired ACEC Member Holm, Blough and Company (Cody, Wyo.), a provider of civil engineering and land surveying services.

ACEC Member EBA Engineering (Baltimore) acquired geospatial technology firm geographIT (Lancaster, Pa.).

DECEMBER 2015

ACEC Member VHB (Watertown, Mass.) acquired GT Hill Planners (Tucker, Ga.), an environmental and transportation planning firm serving public agencies, private clients and municipalities.

Dirk Lohan and his 10-person firm, Lohan Anderson (Chicago) joined ACEC Member Wight & Company (Darien, Ill.). Lohan will lead a new section of the firm called the Lohan Studio, bringing a global reputation as well as experience in commercial, hotel, government

and institutional buildings.

ACEC Member Matrix **New World Engineering** (Florham Park, N.J.) acquired Southwest Ground-water Consultants (Phoenix), a hydrogeological and environmental consulting firm that serves the industrial and public sectors.

ACEC Member Westwood Professional Services (Eden Prairie, Minn.) acquired Pogue Engineering and Development Company (McKinney, Texas), a provider of full-service civil engineering and land surveying services.

ACEC Member Jacobs (Pasadena, Calif.) acquired J.L. Patterson & Associates (Orange, Calif.), a consulting and professional services engineering firm specializing in rail planning, environmental permitting, design and construction management.

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

Watch the M&A Takeaway video that accompanies this article, presented by Mick Morrissey, at www.morrisseygoodale.com/ACECMergers/MarchApril 2016.



ACEC Member Raba Kistner (San Antonio) acquired Red River Archaeology (Dallas), a firm specializing in cultural resource compliance services to multiple engineering and environmental consulting firms.

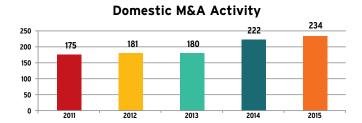
ACEC Member Fehr Graham (Freeport, Ill.) acquired Coombe-Bloxdorf (Springfield, Ill.), a 16-person civil and structural engineering and land surveying firm.

ACEC Member Guy Engineering Services (Tulsa, Okla.) acquired Nicholls Consulting (Owasso, Okla.), a bridge and structural engineering firm.

ton and throughout Texas.

ACEC Member McClure Engineering (Clive, Iowa) announced plans to merge with JFSCO Engineering (Red Oak, Iowa), a civil engineering and land surveying firm.

ACEC Member Johnson, Mirmiran & Thompson (Sparks, Md.) acquired **Trumbull Construction Management Services** (TCMS) (Pittsburgh), a division of Trumbull Corporation and one of Pennsylvania's leading transportation construction management firms.





NOVEMBER 2015

ACEC Member Dewberry (Fairfax, Va.) acquired Wilson Architectural Group (Houston), a nearly 40-person architectural firm with a portfolio of health care, corporate and commercial, industrial and civic buildings in HousNeil Churman is principal consultant of Morrissey Goodale LLC—a strategy, M&A and human capital solutions firm serving the A/E/C industry. Churman, who is based in the firm's Houston office, can be reached at nchurman@ morrisseygoodale.com.



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Members in the News

On The Move

Kansas City, Mo.-based **TranSystems Corp.** promoted **Richard J. Morsches** to CEO. He succeeds **Brian Larson**, who will remain as executive chairman. Morsches most recently served as the company's chief strategy and marketing officer and will continue to reside in the Chicago area.

St. Louis-based **Horner & Shifrin** appointed **Steven Donahue** president. He succeeds **Duane L. Siegfried**, who served as president from 2010 to December 2015. Siegfried will serve as chairman and CEO until his retirement on June 7, 2016. Donahue most recently managed the firm's O'Fallon, Ill., office.

San Diego-based **Kleinfelder** appointed **Kevin Pottmeyer** interim CEO, following the resignation of former President and CEO **Bill Siegel**. Pottmeyer, who was senior vice president and chief strategy officer, will lead the company while the board conducts its CEO search.

Rochester, N.Y.-based Fisher

Associates named Robert W. Goossen
CEO. He succeeds founder and former
CEO Claire Fisher, who retired.
Goossen joined the firm in 1990 and
most recently served as president and
COO.

Anchorage, Alaska-based **R&M Consultants, Inc.**, named **Len Story** CEO and **Bret Coburn** CFO. Story joined the firm in 1979 and served as COO from 2008 to 2015. Coburn served as CEO from 2002 to 2014.

St. Paul, Minn.-based American Engineering Testing appointed Daniel Larson CEO, succeeding founder Terry Swor, who is retiring. Larson formerly served as president. David Rettner will become the company's new president. Swor will remain chairman of the board, and Bob Krogsgaard will remain the company's CFO.

Kansas City, Mo.-based **Burns & McDonnell** announced that **Ray Kowalik** will succeed **Greg Graves** as the firm's CEO on Jan. 1, 2017. Kowalik is currently president of global practices and manages the firm's energy group.

Austin, Texas-based Surveying And Mapping, LLC, (SAM) promoted Christopher M. Solomon to president. He formerly served as a senior vice president. H. Stroud Evans, vice president of SAM-Construction Services, LLC, has been promoted to principal.

New York City-based **Arup** appointed **Andy Howard** chairman of the Americas region and **Leo Argiris** as chief operating officer. Howard previously served as the firm's COO and will be based in Arup's Los Angeles office. He succeeds **Mahadev Raman**, who was named director of Arup University.



Richard J. Morsches



Steven Donahue



Kevin Pottmeyer



Robert W. Goossen



Len Story



Bret Coburn



Daniel Larson



David Rettner



Ray Kowalik



Christopher M. Solomon



Andy Howard



Leo Argiris

Members in the News

New York City-based WSP | Parsons Brinckerhoff named Joseph G. **Pulicare** president of the U.S. transportation and infrastructure sector. He succeeds Cliff Eby, who is retiring. Pulicare previously served as COO of the U.S. transportation and infrastructure sector and will be succeeded by Bernie McNeilly, who formerly served as regional business manager for the Northeast. John D. Porcari was appointed president of U.S. advisory services.

Pasadena, Calif.-based Parsons announced the following appointments: Donald D. Graul was named interim president of Parsons Transportation Group, Inc. He will also maintain his position as president of Parsons Construction Group and will be based in Denver. James R. Shappell was appointed vice chairman and managing director of Saudi Arabian Parsons Ltd. and Saudi Arabia country manager. He will be based in Riyadh, Saudi Arabia. Gina L. Trombley was appointed group executive vice president of Parsons Federal, a business unit of Parsons Corporation. She is based in New York. Kurt H. Tripp was appointed senior vice president and defense and security division business development manager of Parsons Federal. He is based in Centreville, Va. Christian S. Alexander was named executive vice president and infrastructure and environment division manager of Parsons Federal. He will be based in Washington, D.C.

Crystal Lake, Ill.-based Baxter & Woodman, Inc., promoted Deborah Finn to chief marketing officer. Finn joined the firm in 1994 and serves on the board of directors. She is based at the firm's headquarters.

San Antonio-based Pape-Dawson Engineers, Inc., promoted Gilmer **Gaston** to senior vice president of transportation. Gaston will be responsible for the firm's transportation services throughout Texas.

New York City-based **Thornton** Tomasetti announced the following appointments: former CFO Andrew **Goldbaum** was promoted to COO; former Weidlinger Associates CFO Rimma Zaleznik was promoted to CFO (the firms merged in 2015); and Tod Rittenhouse was promoted to senior principal and East Region leader. Goldbaum and Zaleznik are based in the Madison Avenue office, and Rittenhouse is based in the Wall Street office.

Kansas City, Mo.-based HNTB **Corporation** promoted **Michael Sweeney** to Northeast Division president. He will be based in the firm's New York City office.

Jason Matson, a principal at Kimley-**Horn**, relocated to the firm's Orange, Calif., office, where he'll join the California regional leadership team. He previously served as marketing manager for the firm's Florida region. Matson is an ACEC/PAC Chairman's Club contributor and serves on the ACEC/ AASHTO Joint Committee.



Joseph G. Pulicare



Bernie McNeilly



John D. Porcari



Donald D. Graul



James R. Shappell



Gina L. Trombley



Kurt H. Tripp



Christian S. Alexander



Deborah Finn



Gilmer Gaston



Andrew Goldbaum



Rimma Zaleznik

Members in the News

Welcome New Member Firms

ACEC/Alabama

Helix Systems, Inc., Bessemer

ACEC/Alaska

Northern Geotechnical Engineering, Inc./ Terra Firma Testing, Anchorage

ACEC/Arizona

Hunter Engineering, Inc., Scottsdale **Kreuzer Consulting** Group, Mesa

ACEC/California

CE2 Corporation, Pleasanton Cenergy Power, Carlsbad **Engineered Soil** Repairs, Inc., Walnut Creek Harbour & Associates, Inc., Atlanta

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Brander Construction Technology, Inc., Green Bay Spire Engineering, Inc., Milwaukee

ACEC/Wyoming

Uinta Engineering & Surveying, Inc., Evanston

Calendar of Events

MARCH

- Why Company Culture Should Be a Top Priority in Your A/E/C Firm (webinar)
- 10 The Neglected Differentiator: **Delivering Great Service** (webinar)
- 16 Take Control of Your Time: Strategies and Solutions to Boost Productivity (webinar)
- 17 Lean Introductory Overview (webinar)
- 22 The Death of 'Old-School Business Development': What Your Emerging Leaders Need to Know (webinar)
- 23-26 Business of Design Consulting, Denver
- 24 Mapping the Client's Mind: **Building Client Loyalty and** Avoiding Surprises (webinar)
- 30 LinkedIn for Professional Services (webinar)

APRIL

- Are You Building Muscle or Just Getting Fat? (webinar)
- Secrets to Successfully Communicating Technical Topics (webinar)
- Smart Buildings/Smart Cities and the Opportunities for Engineers (webinar)
- 12 Dead in the Water-A Case Study of Claims Facing Civil Engineers (webinar)
- 17-20 ACEC Annual Convention and Legislative Summit, Washington, D.C.
- PowerPoint Simplified! Tools and Tips for Presentations That Bring Results! (webinar)

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Business Insights

Solutions for the A/E Industry

New One-Day Symposium: Alternative Delivery Systems

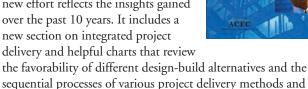
ACEC's "Alternative Delivery Systems (ADS): Optimizing Your Firm to Win More Work with Less Risk," is an allday symposium to be held on March 24, 2016, at ACEC headquarters in Washington, D.C., to help Member Firms optimize their performance, minimize liability and risk, protect their reputations, and secure fair compensation with ADS projects.

Presented by a seasoned faculty of legal, financial and A/E industry experts, the symposium will cover the different forms of ADS, including legal, contractual, insurance and financial risks; how to choose the right projects and teaming partners; why clients and teaming partners choose ADS; how to avoid becoming a commodity by selling the benefits of strong designer involvement; how to optimize your position during project definition and performance; how to align internal marketing/ sales, project performance teams and firm leadership; when to forgo the work when the ADS alternative and structure isn't a good fit; and the actions the industry can take to improve the policy and contractual environment.

This symposium will help ACEC Member Firms win profitable, high-quality projects with less risk. For more information and to register, go to bit.do/acec-ads.

Project Delivery Systems Owner's Manual Revised for 2016

This update to the Project Delivery Systems Owner's Manual guides project owners thorough the process of understanding the options for selecting, contracting and managing the design, construction and operation of capital projects. Originally published in 2006, this new effort reflects the insights gained over the past 10 years. It includes a new section on integrated project delivery and helpful charts that review



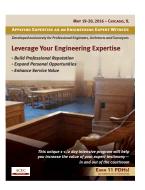
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Leverage Your Engineering Expertise as an Expert Witness

Engineers are often asked to serve as expert witnesses in legal proceedings—but only prepared and prudent professionals should take on these potentially lucrative assignments. The 2016 seminar, Applying Expertise as an Engineering Expert Witness, is

scheduled for May 19-20, 2016, at the Hyatt Place Chicago/Downtown. Developed exclusively for engineers, architects and surveyors, this unique course details how to prepare for and successfully provide expert testimony for discovery, depositions, the witness stand and related legal proceedings. For more information on the course, faculty and registration, visit www. acec.org/education/seminars.



CASE 962C — Guidelines for International Building Code-Mandated Special Inspections and Tests and Quality Assurance

This new update to CASE Guideline 962-C reflects the current requirements of the 2012 International Building Code and details the roles and responsibilities of the parties involved in the special inspection and testing process. It also



chronicles how to prepare a special inspection and testing program, the necessary qualifications of the special inspectors, how to conduct the program and who should pay for the special inspections and test. The Appendix contains sample forms for specifying special inspections and tests, along with sample letters for filing with code-enforcement agencies after the program is completed. To order, visit www.acec.org/publications.

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