House Energy & Commerce Committee Chairman

FRED UPTON

CHAMPIONS 21ST-CENTURY ENERGY POLICY

>> Expectations of Public vs. Private Clients

>> ACEC/PAC’s Million-Dollar Clout

>> Public-Private Partnerships: Risks & Rewards

>> Freese and Nichols’ Volunteers Aid Worthy Causes
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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.
New Focus on Energy in Congress

House 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

David A. Raymond
ACEC President & CEO
Every day, we help clients meet the most pressing challenges of our time.

Our engineers, architects, designers, planners, scientists and management and construction services professionals work together on projects of all scales in over 150 countries. From some of the world’s premier airports to infrastructure, urban development and national security, our connected approach creates better outcomes for people, communities and the world.
Solar Market Lights Up Thanks to Extended Tax Credit and Declining Costs

In 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-for-dollar 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.

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 forecasting 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 pro-
cured 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...
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.
Legislative Action

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

The 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

The 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 “energy-water nexus,” with the goal of identifying sustainability best practices.

To expand and protect the power grid, the measure includes ACEC-backed 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

Legislation 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.

Design-Build and Reverse-Auction Reform Moves Forward

ACEC’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 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.
CONGRESSMAN FRED UPTON

Spearheads ‘All of the Above’ ENERGY POLICY
n 2010, Congressman Fred Upton (R-Mich.) assumed leadership of the House Committee on Energy and Commerce—which has one of the broadest jurisdictions of any congressional committee, with principal responsibility over legislation relating to energy, the environment, health care, consumer safety, telecommunications, commerce, manufacturing and trade. In this exclusive interview with *Engineering Inc.*, Chairman Upton offers his perspective on a variety of critical energy issues, including prospects of a comprehensive energy bill in 2016 and his overall vision for the future U.S. energy market.
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 multi-year, 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

By Gerry Donohue

Most 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 two-thirds public client work (one-third 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 Officer 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 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 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 private markets.

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.”

Member Firm Revenue

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<td>25%</td>
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<tr>
<td>Industrial Energy</td>
<td>31%</td>
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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 results-oriented. 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,
“When I’m meeting my girlfriend for dinner, roadway construction means missing our reservation. It’s frustrating, but only an inconvenience. When I’m on the job, a delay can be the difference between life and death. With asphalt, construction typically happens at times when fewer cars are on the road, and the delays are counted in minutes. That matters.”

–Lee Look | Fireman | Boyfriend

SPEED OF CONSTRUCTION
It’s just one of the ways asphalt delivers drivability.
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 clients 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 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 management 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 boxes.

“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.
It’s time to THINK GLOCALY.

Join PMI-certified Project Management Professional John Mathew at the ACEC Annual Convention to learn:

- Key factors to consider before entering a foreign market
- How to strategically leverage your resources in an international context
- Recommendations for effectively doing business internationally

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SESSION: Going Glocal
TIME: 10:45 AM EST
DATE: Monday, April 18

John Mathew
BST Global Product Director of Project and Resource Management
Public-private partnerships present opportunities and challenges for engineering firms

By Samuel Greengard

Over 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 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.”

**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) FaStTracks, 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 helps engineering firms to 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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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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Construction Manager Adam Payne, Water/Wastewater Engineer Trooper Smith and families and friends at the Basura Bash park cleanup in San Antonio.

Transportation Engineer Shane Torno teaches students about bridge design in Corpus Christi, Texas.

CAD Designer Nathan Light at CANstruction, benefiting the Tarrant Area Food Bank, in Fort Worth, Texas.
In 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 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.”

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

By Calvin Hennick
“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 110-hour 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.”

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 2015—says 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 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 face-to-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.”

**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.

**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
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.
FMI Capital Advisors, a subsidiary of FMI Corporation, is the leading investment banking firm exclusively serving the Engineering and Construction industry. With over 700 completed transactions, our industry focus enables us to provide our clients with valuable insight and advice. Clients gain access to our unparalleled network of industry contacts and relationships, deep market knowledge and technical expertise, based on decades of experience.
A 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.
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/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 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.”

"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

“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**

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200,000 400,000 600,000 800,000 $1,000,000

ACEC/PAC Year-to-Year Contributions
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Stacy Collett is a business and technology writer based in Chicago.
2015 ACEC/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)

**ALABAMA**
Bob Barnett
Kevin Blake
Renee Castillas
Alain Gallet
Rusty Hyde
Mark McMadsen
Jerry McCarey
H. McClane
Jim Mead
Jay Morgan
Barry Mort
Randall Neuhaus
John Smith
Steven Speaks

**ALASKA**
Duane Anderson
Hans Arnett
Peti Bellezza
Kyle Benson
Brett Coburn
Royce Conrad

**Floyd Damon**
Chris Darrah
Stafford Glashan
Tim Grier
Evans Griffith
Matt Henry
Gary Katsion
Kimberly Nielsen
Michael Puchop
Donald Porter
Robert Posma
William Preston
Mike Rabe
Charles Riddle
Matthew Stone
Len Story
Willem Van Hemert
Mike Warner
Paul Witt
Tom Wolf

**ARIZONA**
John Akcorn
Bruce Beenen
Russell Betz
Jennifer Bixby
Marla Biddy
Janice Burnett

Dawn Carter
Michael Chase
Donna Chiappini
John Conrado
Timothy Cralle
Gregg Creaser
Karim Dada
Keith Dahlen
Chris’ D’Arcangelis
John Derr
Kent Dibble
Jeffrey Erickson
Len Erte
Lauren Evans
David Fabiano
William Ferris
P. Douglas Folk
Fernando Galvez
Eddy Gandhe
Julie Leid
Jim Lee
Douglas Lamont
Bobby Lall
Douglas Linck
Janice Vincent

**ARKANSAS**
Jake Ash
Billy Ray
Mike Bixby
Jennifer Bixby
Shawn Bower
Robert Britten
Barry Brown
Mike Brown
Chad Brown
Beth Brown
Lon Brown

**CALIFORNIA**
L. Carl Yates
Daniel Williams
Timothy Tifft
Lance Shupe
C. Shupe
R. Scott Richardson
Becky Rice
Bob Roach
Jeffrey Remley
Randy Ridenhour

**COLORADO**
Ray Anderson
Thomas Anzia
Jennifer Ashworth
George Beams
Buck Betzner
Dean Bradley
James Brady
Gary Bricker
Allan Brown
Matthew Brown
Holly Buck
Jan Campbell
Philip Cardi
Craig Carroll
**Ralph Christie**
Susan Christie
Nancy Clanton
John Clarke
Kelly Close
Scott Colvin
Dave Dufilvou
Brad Doyle
Charles Dwyer
David Dyer
Mark Eberly

**CLIFFORD SIMENTAL**
Lawrence Simonetti
Santanu Sinharoy
Jim Smith
Bill Strong
Brian Stewart
Steven Strickland
Melvin Sukow
Audrea Tarapelle
Pete Tobia
Edgar Torres
Robert Torres
Larry Truman
Jason Van Zwal
Paul Wagner

**Stephanie Wagner**
William Wagner
Jeff Walker
Kirk Wheeler
Lee Whiteley
Steve Wrightson
Kurt Yoshii
Lydia Zabrycki
John Zumwalt

**Steven Myers**
Philip Noonan
Ahmad Omais
Ramam Padilla
Bruce Paton
Thomas Paton
David Petrie
Benjamin Porter
Richard Powers
Steven Rex
Chuck Reynolds
Darwin Reynolds
Fran Sanborne
Michael Schiller
Scott Schlandt
Paul Scott
Randy Simpson
Curis Slagell
Andrew Smigelski
Chistie Smigelski
Joseph Smith
Thomas Smith
Chester Teaford
Rebecca Timmer
Stephen Todd
Darrell Travis
Stan Turner
Linda Wallace
Steven Wilcox
Chris Williams
Darrel Wood
Mark Yang

**ARKANSAS**
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Zak Johnston
Brent Massey
James Montgomery
Herbert Parker
Stephen Pawlaczuk
R. Scott Richardson
C. Shupe
Peter Strub
Timothy Tisakie
Mark Tipton
Daniel Williams
L. Carl Yates

**CALIFORNIA**
Mousa Abbasi
Lee Abramson
Shahnovaz Ahmad
Jeffrey Allen
Roger Ball
Aravind Batra
Thomas Blackburn
Jonathan Blanchard
John Boland
Gene Bougadanos
Ted Buscaglia
Gerardo Calvillo
David Cane
Mark Capuzzi
Arvin Chaudhary
Rubina Chaudhury
Sadhbir Chaudhury
Shyamal Chowdhury
Robert Close
Chad Coleman
Michael Cooper
Tim Corcoran
Travis Deane
Karen Delucia
Robert Dewitt
Christopher Diaz
Brad Diede
Mary Erchul
Arash Erfani
Larry Ernst
Allen Evans
George Fares
Jean Fares
Dean Francuch
Mark Gilbert
Steve Greenfield
Ralph Guida
Paul Guptill
Michael Hartley
Justin Height
Ali Hemmati
Thomas Holdrege
Rod Holman
Ted Hopkins
Justin Kempston
David Kennedy
Francis Kennedy
Eddie Kho
Dev Krishnan
Randal Leptien
Casey Lewis
Arvin Liang
Trudi Lim
Keith London
David Long
John Lopez
Jason Matson
Lisa Mauraeh
Ryan McLean
Parag Mehta
John Moosazadeh
Blake Murillo
Edward O’Brien
Randall O’Dell
Walter Okticus
Harvey Olisick
Greg Ow
Marco Palilla
Jason Paul
Kim Keperson
Walt Plachta
Chris Poland
Daniel Pradel
Bruce Presser
Timothy Proamas
Armando Ramos
Grant Reynolds
Scott Riple
Christopher Robertson
Dina Rochford
Mark Rodgers
Claudia Rosen
Ayman Salama
Robert Schlesinger
Tom Sell
Eugene Shank
Michael Sheehy

Clifford Simental
Lawrence Simonetti
Santanu Sinharoy
Jim Smith
Bill Strong
Brian Stewart
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Melvin Sukow
Audrea Tarapelle
Pete Tobia
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Robert Torres
Larry Truman
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George Fares
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Kevin Ernst
Arash Erfani
Mary Erchul
Christopher Diaz
Robert Close
Shyamal Chowdhury
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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
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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, Kinley-Horn and Associates; Scott Perfater, Burgess & Niple, Inc.; Scott Gombar, Eisman & Russo, Inc.; Sia Kusha, AECOM; Frank Hickson, Infrastructure Engineers, Inc.; Stephen McCucken, Kisinger Campus & Associates; Pete Sheridan, VIA Consulting Services, Inc.; and Leila Nodarse, Terracor.
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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 Elsberry, MKE Engineering; Greg Roush, Leonard Rice Engineers, Inc.; and Dean Bradley, Felsburg Holt & Ullevig.

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Everybody envisions a better world for all Americans through engineering, and New Mexico is no exception to that. The state’s commitment to the profession is evident in the list of names below, including some of its prominent engineering leaders.

AEC/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, AEC/ACEC/Kentucky Executive Director; Mark Litkenhus, AEC/ACEC/Kentucky President; Congressman Hal Rogers; and Randy Scott, AEC/ACEC/Kentucky Past-President.

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Ammon Bush
M. Denise Carter
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James Benson
Jeremy Boswell
Matt Brown
J. Bret Cadinnes
Brannon Chatham
Jenny Clement
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; and Heather Catron, ACEC/New York leadership.
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.

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Mergers and Acquisitions

2015 Another Record Year for M&A Deals

Last 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 double-digit 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).
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 graphIT (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.

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 Nichols Consulting (Owasso, Okla.), a bridge and structural engineering firm.

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 Houston 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.

Neil 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.
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.
Welcome New Member Firms

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