SEPTEMBER/OCTOBER 2011

ENGINEERING INC.

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THE RIGHT FIT

Expanding Your Business Through Strategic Acquisitions

ACEC
American Council of Engineering Companies
100 Years of Excellence

ENGINEERING INC.
SEPTEMBER / OCTOBER 2011 • Vol. 22, No. 5

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COVER PHOTO: C.J. BURTON

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American Council of Engineering Companies
100 Years of Excellence

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

Mergers and Acquisitions: Transforming Our Industry

Our cover feature this month takes an in-depth look at mergers and acquisitions (M&A) activity, which grew by 43 percent from 2009 to 2010. This aggressive upward trend continued through the first half of 2011 without letup.

Firms involved in M&A see benefits for ownership transition and for company growth in expansion of services and geographic reach. They also advise that acquisitions must be carefully considered and executed to avoid adverse consequences in employee morale and red ink.

M&As are changing our industry landscape, regardless of the size of the acquisition—whether it's the large U.K.-headquartered Atkins, with its 18,000 employees, acquiring the large U.S.-based PBSJ and its 3,100 employees; or the smaller Wisconsin-based Mead & Hunt acquiring South Carolina-based RPM Engineers to create a firm of 500 employees. *(See page 10.)*

Also in this month's issue is an insightful discussion among state DOT leaders on how they are dealing with state transportation challenges amid uncertainty in funding. *(See page 16.)* ACEC's government advocacy efforts are sensitive to these state needs as we seek to gain maximum achievable levels of funding. The recent debt-ceiling crisis required us to urge congressional leaders to protect key infrastructure accounts.

Be sure to register for the upcoming ACEC 2011 Fall Conference at Caesars Palace in Las Vegas, Oct. 19–22. Some of our most respected business leaders will address industry challenges—including John Hofmeister, former Shell Oil president; Craig Martin, CEO of Jacobs Engineering Group; CDM's CEO Richard Fox; Sargent & Lundy's CEO Bud Wendorf; and AMEC President Hisham Mahmoud. Additionally, we're sure you will enjoy Mike Huckabee's take on the upcoming election season and Nevada Gov. Brian Sandoval's insights on the financial condition of our states and national politics. Oh, and we've got Elton John, too! *(See Conference preview on page 8.)*

See you in Vegas!

Terry Neimeyer
ACEC Chairman

David A. Raymond
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ACEC/Louisiana Leaders Soak Up Flood Control Advice From the Netherlands

A seven-member contingent from ACEC/Louisiana recently visited the Netherlands seeking insights from a country with a long and storied history of flood control issues.

ACEC/Louisiana sponsored the five-day trip in June, which included ACEC/Louisiana Executive Director Daniel Mobley, as well as Wm. Clifford Smith and James Ledet from Member Firm T. Baker Smith. Smith is a member of the Mississippi River Commission, first appointed in 1998 by former President Bill Clinton.

"After Katrina, New Orleans was devastated by flood water," Mobley said. "The Netherlands had a destructive flood itself in 1953, and then figured out a way to control the North Sea. It was important to see how they've done it."

The catastrophic North Sea flood killed 2,000 people and destroyed 800 square miles of agriculture in South Holland. The devastation prompted the Dutch government to construct the Delta Project, a massive flood control system consisting of dams, locks, dikes, levees and storm-surge barriers.

"South Louisiana has dealt with coastal-related problems in recent years due to hurricanes and storm surges," Ledet said. "This was a great opportunity to get some technical insights and new ideas on how to tackle some of those problems."

ACEC/Louisiana members on one of the massive Maeslantkering storm-surge barrier gates that protect the Port of Rotterdam in the Netherlands. From left: Sergio Girau, Linfield, Hunter & Junius; James Ledet, T. Baker Smith; Wm. Clifford Smith, chairman, T. Baker Smith; Michael McGaugh, ABMB Engineers; local facility guide; Ralph Junius, president, Linfield, Hunter & Junius; and Anthony Mumphrey, TMG Consulting.

Ledet said he was impressed by the Maeslantkering storm-surge barrier in the Nieuwe Waterweg waterway. The barrier, designed to protect the Rotterdam harbor, includes two nearly 700-foot-long, 72-foot-high gates connected to 780-foot-long steel trusses that automatically close when the tide increases to threatening levels. Ledet also noted the number of pumping stations in the small Dutch country. "The Netherlands is about half the size of Louisiana, but has literally thousands of pump stations. We have only about 60 in Lafourche Parish."

The second leg of the trip took Ledet and others to Venice, where they observed strategies for floodgate construction.

"They are designing to a higher standard," Ledet said of his European trip.

Private Activity Bond Bill To Boost Water Funding Gaining Co-Sponsors

A CEC-supported legislation to increase funding for private activity bonds is quickly gaining co-sponsors from both sides of the political aisle.

In just the two months since H.R. 1802 was introduced by Reps. Geoff Davis (R-Ky.) and Bill Pascrell Jr. (D-N.J.), the number of co-sponsors has risen to 38, with dozens more likely to add their names in the coming weeks.


BILL CLARK/GETTY IMAGES

Rep. Geoff Davis (R-Ky.)

The bill would waive the state volume cap on private activity bonds for water and wastewater projects, making available up to $6 billion annually in private investment. According to the Joint Tax Commission, the tax foregone to the federal government would be less than $36 million per year.


MEL EVANS/AP PHOTO

Rep. Bill Pascrell Jr. (D-N.J.)

Private activity bonds are used widely by states and local governments, but only a small fraction of the federally tax-exempt bonds are allocated for water infrastructure projects. Exemptions from the state volume cap are already permitted for airports, ports and landfills.

An identical Senate bill (S. 939) has been introduced by Sens. Robert Menendez (D-N.J.) and Michael Crapo (R-Idaho).

Water Funding Takes Hit in F.Y. 2012 Spending Bill

The House-passed F.Y. 2012 appropriations bill for the Environmental Protection Agency included significant cuts to federal water infrastructure programs.

The bill cuts Clean and Drinking Water State Revolving Fund (SRF) programs by nearly $1 billion compared with current levels. Specifically, the Clean Water SRF would receive $689 million (a 45 percent cut) and the Drinking Water SRF would get $829 million (a 14 percent cut), turning the clock back to funding levels last seen in F.Y. 2008.

The bill included a number of regulatory provisions as well, including a prohibition on EPA proceeding with a proposed wetlands guidance document expanding which marginal waters are subject to federal jurisdiction, and a provision prohibiting the agency from expanding stormwater permit requirements for post-construction development.

ACEC is working in the Senate to restore the funding cuts.

ACEC Gains House Majority to Back 3 Percent Repeal

A majority of the House of Representatives has co-sponsored legislation to repeal the 3 percent withholding mandate, and support continues to grow in the Senate.

The surge in support comes on the heels of a multifaceted lobbying effort led by ACEC and the U.S. Chamber of Commerce. Support for the House repeal legislation (H.R. 674) now tops 218, constituting a majority of House members. In the Senate, 28 senators are on record supporting one of two repeal bills (S. 89 or S. 164).

ACEC is orchestrating the aggressive government advocacy campaign, which represents the interests of more than 100 industry and business organizations committed to defeating the onerous mandate.

ACEC and coalition allies will be pressuring Congress to act on this legislation in the fall.

FAA and Airports Funding Again Extended; Long-Term Deal Elusive

Congress extended Federal Aviation Administration (FAA) funding and programs through Sept. 16, while House and Senate negotiations continue over a long-term reauthorization bill. It is the 21st short-term extension since the current law expired in 2007.

The extension came after a brief lapse in the Aviation Trust Fund taxes and spending when the House included policy changes to Essential Air Service subsidies for small airports, changes that were initially opposed by the Senate. FAA engineering, research and development, and capital programs were shut down for nearly two weeks during the legislative standoff.

A long-term bill continues to languish as transportation committee leaders wrangle over a labor provision included in the House-passed bill (H.R. 658), which would overturn a decision by the National Mediation Board on airline worker unionization. The House and Senate are also divided on funding levels, including the Airport Improvement Program.


JUSTIN SULLIVAN/GETTY IMAGES

ACEC supports the Senate-passed $4.1 billion for airport capital grants, an annual increase of more than $500 million above current funding.

Sen. Barbara Boxer (D-Calif.), chair of the Senate Environment and Public Works Committee, publicly thanked ACEC for its efforts to move a transportation bill forward this year.

SCOTT J. FERRELL/GETTY IMAGES

Sen. Boxer Praises ACEC As Committees Unveil Transportation Bill Details

Key House and Senate committees have released outlines of their respective surface transportation reauthorization bills. Action on the bills could come in September.

Sen. Barbara Boxer (D-Calif.), chair of the Senate Environment and Public Works Committee, and Sen. James Inhofe (R-Okla.), the top Republican on the committee, have drafted a two-year, $109 billion bill entitled Moving Ahead for Progress in the 21st Century, MAP-21.

The bipartisan legislation would consolidate 87 transportation programs to fewer than 30, including a new freight mobility program, and give states more flexibility in directing federal funds. MAP-21 would also significantly expand the Transportation Infrastructure Finance and Innovation Act (TIFIA) program, providing $1 billion per year for loans and other financing support to leverage state, local and private funding for projects. The bill would also include targeted performance measures for states and accelerated project delivery provisions.

In a July 21 hearing on the bill, Boxer publicly thanked ACEC for its efforts to move a transportation bill forward this year. "It's because of your advocacy working with all of us that we've gotten to this point," she said of ACEC and other stakeholder organizations.

The Senate Banking, Housing and Urban Affairs Committee, with jurisdiction over transit programs, has been holding hearings and drafting its portions of the bill. It is expected that the highways and public transit provisions will be combined if and when both committees approve them and the bill comes before the full Senate.

A key consideration is resolving how to provide sufficient revenue to support the funding levels in the bill. According to budget projections, an additional $12 billion into the Highway Trust Fund is necessary to support current funding plus inflation over the next two years. The Senate Finance Committee has not unveiled details of a financing plan.

ISSUES ON THE MOVE	WHAT'S NEXT
Multiyear surface transportation program	House, Senate action in the fall
FAA legislation	Final deal possible in September
Water funding	Senate action expected in September

Less Funding in House Bill, but More Aggressive Reforms

House Transportation and Infrastructure Committee Chairman John Mica (R-Fla.) is writing a six-year transportation bill totaling $230 billion. The proposed 30 percent reduction from current funding reflects the amount the Highway Trust Fund can support with existing revenues, consistent with the House-passed budget.

Similar to the Senate bill, the House proposal would consolidate numerous federal programs and provide $1 billion annually for the Transportation Infrastructure Finance Innovation Act, which could leverage $120 billion in projects over six years. Tolling would be allowed to finance new interstate capacity and on nonfederal roads.

To streamline project delivery, the House bill would promote concurrent agency reviews, delegate project approvals to states, establish hard deadlines for permits and expand the list of exclusions from environmental reviews.

ACEC strongly supports the policy reforms expected in the House bill, but has serious concerns over proposed severe reductions in funding. The current extension of SAFETEA-LU funding and programs expires on Sept. 30.

House Transportation and Infrastructure Committee Chairman John Mica (R-Fla.) is writing a six-year transportation bill totaling $230 billion.

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For More News

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- Energy and Water Market Opportunities
- Transportation and Project Funding Trends
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- CEO and CIO Roundtables
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CEO Panel: Looking Ahead at Our Industry

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Richard Fox
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Chairman, President & CEO, Sargent & Lundy

KEVIN MAZUR/GETTY IMAGES

Local Color Night: Elton John

Enjoy an unforgettable evening with Elton John at The Colosseum in Caesars Palace. You must be registered for the Conference to purchase Local Color Night tickets; tickets are not included in registration. Cost: $195 per person; limit two (2) tickets per delegate registration.

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Additional Member, Same Firm Office	$875	$975
Non-Member	$1,225	$1,350
Spouse/Guest Fee	$395	$425

Room Rate (single/double)

ACEC's room rate is $239, single/double occupancy plus tax in the Forum Tower, and $269, single/double occupancy plus tax in the Palace Tower.* Reservations must be received by **Sept. 9**. Reservations received after this date, or after the group block sells out prior to this date, will be on a space- and rate-available basis. A deposit of one night's stay plus tax is due when the reservation is made. Check-in time: 4 p.m.; check-out time: 11 a.m.
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For more information or to register online, go to: www.acec.org.

Fitting the

C.J. BURTON

Pieces Together

By Samuel Greengard

Surging mergers and acquisitions fuel Member Firm growth through expanded expertise, services and markets

Takeaways

- The number of M&As consummated in 2010 was up 43 percent over the previous year, and analysts say those numbers continued to grow through the first half of 2011.
- Many executives interested in expanding into new industry segments—roads and energy, for example—consider acquisitions safer and more efficient than growing additional business units organically.
- Several firms are exploring the possibility of acquisitions in foreign countries. Conversely, foreign firms are expanding in the United States.

Mergers and acquisitions (M&As) are redrawing business boundaries and opportunities across a wide swath of the engineering marketplace. According to management consulting, investment banking and research firm FMI Capital Advisors, the number of deals consummated in 2010 grew by 43 percent over the previous year. And those numbers continued skyward through the first quarter of 2011.

CDM + Wilbur Smith

Headquarters: Cambridge, Mass.
Revenues: $1.246 billion (2010)
The deal: CDM identified Wilbur Smith as an acquisition target in 2009 and the companies engaged in several months of discussions and due diligence before coming to terms in 2010. The combination of the two firms creates a strong global force in water, environment and transportation markets.
Date finalized: February 2011
Employees: About 5,700 (4,500 from CDM and 1,200 from Wilbur Smith)
Footprint: 114 U.S. offices and 45 international offices
Specialties: Water, environment, transportation, energy and facilities


Richard Fox


Jerry Stump

Principals	Richard Fox, Chairman and CEO, CDM	Jerry Stump, COO, Wilbur Smith
Motivation	"The motivation was growth and extending our footprint beyond water and environmental engineering. Some of our competitors have become mega-firms. We're not looking to become a mega-firm, but we want to stay competitive and this deal helped us extend our platform globally."	"We were approached by a number of companies over the last few years. It was pretty clear from our first meeting with CDM that there was something a bit different about this firm—and about the possibility of these two firms getting together."
Strategic Goal	"We wanted to advance in the transportation sector and extend our global reach. Wilbur Smith looked like an ideal match."	"We wanted to diversify our transportation practice and broaden our client base. We also felt that it would benefit our clients by diversifying outside transportation."
Synergy	"Excellence, client service and commitment to clients were key. When we overlaid the cultural values, there was an ideal fit."	"It was clear that combining the two firms helped achieve our goals and fit our strategic plan."
Challenges	"We had to build a common communications platform immediately." The new company must still integrate benefits, and it is selecting the best from each firm. Moreover, "we are studying branding. We want to maintain the brand equity of both firms."	Wilbur Smith was an ESOP. Consequently, "we had to make sure employees recognized the opportunity." Yet, "the toughest part was combining operating systems and adjusting reporting metrics so they were in sync."
Philosophy	"This was an acquisition, but we treated the deal like a merger. It was necessary to respect Wilbur Smith's unique capabilities and expertise."	"It wasn't a deal we needed to do. It was a deal we wanted to do."
Status	"We want our clients to benefit from our broader portfolio and make the integration smooth for them. We are on target and the partnership is already paying off."	"There was an acceptance that changes would take place. We have received tremendous positive feedback from our employees and the marketplace."

Several factors are driving this surge, says FMI managing director Michael Landry. For one, there's been a commoditization of basic engineering and design services across the industry. To stay competitive, several organizations have sought to differentiate themselves through a broader and deeper array of services and technical capabilities. In some cases, firms have combined design, engineering and construction acumen to offer a more inclusive suite of services for a wider range of clients.

When it comes to expanding your business footprint, Paul Zofnass, founder and president of Environmental Financial Consulting Group (EFCG), says the prospect of an acquisition represents greater potential for growth and more immediate impact than building a practice area internally.

It probably also doesn't hurt that many firms have some cash to burn. Zofnass says industry conditions—including more publicly traded firms with more capital—make M&A activity increasingly attractive. Overall, "profit margins within the industry have increased from about 5 percent annually a decade ago to about 10 percent annually today—all while growth has slowed," he says. "Companies are looking for ways to put that cash to work." (*For examples, see the three Member Firm deals featured in this article.*)

Bill Siegel, CEO of San Diego-based Kleinfelder, whose firm has been very active in acquisitions, cautioned that not all M&As result in success. He highlighted factors such as culture, compatibility and communication as critical to any M&A.

"We may all be engineers and scientists, and almost everyone has honesty as a core value, but the bottom line is that there are a wide variety of ways to run our businesses, serve our clients and treat our employees. If you are generally not on the same page with this issue, there is a high likelihood of trouble ahead.

"In the absence of communication, people will assume the worst," Siegel added. "All M&A stakeholders must know why a deal is occurring, what it will mean to them personally and professionally and the schedule for any events or changes."

World of Opportunity

The enormous growth of global markets—including Brazil (host of the 2014 World Cup and 2016 Summer Olympics), India, Canada, Australia and parts of the Mid-

Ready to Sell?

If you're considering a deal, here's how you can prepare:

- Make sure there's consensus and everyone is pulling in the same direction.
- Safeguard information and prevent the rumor mill from getting started. Use confidentiality agreements outside your core circle.
- Establish an internal leader who will serve as a liaison to outside advisers. The rest of the management team must stay focused on business and performance issues.
- Sellers should review the terms of employment, severance and benefit agreements and determine how a change in control affects key employees. If a payout is required, it's vital to quantify the amount.
- Conduct pre-transaction due diligence on your own firm to reduce the odds of surprises and problems.
- Have a set of audited financials prepared in advance of any discussions—or, at the least, have a compilation or review of your financial statements conducted by an outside accountant.

dle East—presents robust opportunities for U.S. firms exploring the possibility of design and engineering acquisitions in these and other countries.

Mick Morrissey, managing principal at management consulting firm Morrissey Goodale and whose firm produces the *Engineering Inc.* column on M&As (*see page 32*), says international growth rates make a compelling case for U.S. firms to acquire an international presence.

"China and India and parts of South America are investing in infrastructure at a rate that blows away anything being done in the United States," he says. Driven by a burgeoning middle class and a seemingly insatiable appetite for development and construction projects, foreign governments and private-sector clients are desperate for engineering firms with international experience. What's more, "these organizations can charge a premium for their services," Morrissey says.

Michael Baker + LPA Group

Brad Mallory

Glen Lott

Headquarters: Pittsburgh
Revenues: $499.4 million (2010)
The deal: Michael Baker paid $59.4 million ($51.4 million in cash and $8 million in Baker common stock). The consummation of the deal created a major player in the transportation engineering market.
Date finalized: May 1, 2010
Employees: Approximately 2,975 (2,500 from Michael Baker and about 475 from LPA Group)
Footprint: More than 90 U.S. and international offices, with a heavy focus in Pennsylvania, New Jersey, New York and West Virginia
Specialties: Transportation, including airports and aviation; environmental; facilities architecture

Principals	Brad Mallory, President and CEO, Michael Baker Corp.	Glen Lott, Chairman and Co-Founder, LPA Group
Motivation	"We saw the potential to markedly increase our exposure and geographic presence."	"Over the years, we've turned down numerous suitors. We wanted to ensure the continuity of the firm and do what was best for our employees."
Strategic Goal	"One of our primary goals was to have a presence in all of the top 10 national transportation markets."	"This wasn't about trying to extract maximum dollars; it was about putting together the right deal for both firms."
Synergy	"In an acquisition you are buying people, expertise and relationships. LPA was very strong in all three categories. It was a perfect strategic and cultural fit...and there wasn't a lot of overlap."	"We felt that because Michael Baker is a publicly traded firm, it added stability and growth potential to the deal. We filled a big hole for them in the Southeast U.S."
Challenges	"Connecting IT systems was disruptive, but we have managed to get through the process. We are now having financials fully integrated on an Oracle ERP."	"There were no major challenges or surprises. There was a lot of hard work and cooperation. The due diligence paid off."
Philosophy	"If you get the cultural fit right and the strategic fit right, the price ultimately takes care of itself. We viewed this as a merger of capabilities."	"Cooperation was critical. Both companies made a commitment to accepting change, and a lot of improvements resulted from it."
Status	"Like most marriages, this has taken a lot of work. We can now compete with the largest firms."	"The merging of the two firms has allowed both organizations to better meet their goals."

Changed Landscape

A lingering recession and the persistent graying of executive leadership—many of whom are nearing retirement and ready to cash out—ensures no shortage of firms ready to sell.

Among the most attractive acquisition clients are boutique firms, particularly in transportation and environmental engineering. These specialty areas increasingly appeal to larger companies seeking niche expertise.

But simply having a niche doesn't make

Pennoni Associates + Patton Harris Rust & Associates

Headquarters: Philadelphia
Revenues: $118 million (2010)
The deal: An adviser approached PHR+A and suggested the two companies explore a deal. After six months of discussions and due diligence, the firms decided to join forces. The combined company is an industry force in the U.S. and abroad.
Date finalized: Dec. 31, 2010
Employees: 950 (775 from Pennoni Associates and 175 from PHR+A)
Footprint: Offices in nine states across the northeastern U.S.
Specialties: Full-service consulting and engineering firm

Chuck Pennoni

Tom Rust

Principals	C.R. "Chuck" Pennoni, Chairman, Pennoni Associates	Tom Rust, Chairman, Patton Harris Rust & Associates
Motivation	"Organic growth is difficult because work is scarce. We were looking to expand geographically, technologically and into new markets."	"There are many small niche firms, but we felt we needed to grow and expand our capabilities in order to enhance client services."
Strategic Goal	"The two companies complemented each other by expanding service offerings, technology and geographic presence."	"We wanted to become more of a full-service engineering company and expand our ability to serve our clients."
Synergy	"Their core values and culture are very similar to ours. They're very much concerned about their reputation. There was some overlap, but we didn't close offices or cut staff. The overlap made the combined firm stronger."	"When we looked at Pennoni, it seemed to be a perfect fit. We felt that the deal also gave our existing personnel a greater opportunity to grow and advance."
Challenges	"Combining IT systems, particularly HR, was difficult. There was also some restructuring of HR."	"Their HR system was far more advanced, and some management restructuring was necessary."
Philosophy	"This business is all about people. We kept that focus all along. We created a very inclusive process."	"This felt more like a merger of equals than an acquisition. There was almost no friction."
Status	"The integration has taken place smoothly and we now have a greater depth and breadth of talent."	"We're sharing personnel and expertise. The former PHR+A employees are happy."

a firm irresistible. Potential buyers are willing to look far and wide for the acquisition target that best matches their growth plan.

Case in point: Nearly 60 percent of the domestic deals that closed during the first half of 2011 took place across state lines, Morrissey says. One in 10 of all sales featured international firms looking to expand their U.S. footprint. Publicly traded companies relied heavily on cash to complete acquisitions, while private firms trended toward a combination of cash, equity and financing. Another popular form of financing is a partial stock transaction—usually 10 percent to 20 percent—used to sweeten a deal with built-in performance and retention incentives.

Andrej Avelini, managing director at EFCG, says these trends are likely to continue for the foreseeable future. "There is a growing and ongoing need for firms to have a global presence and provide a larger and deeper array of services in order to address their largest clients," he explains. "The competitive landscape is changing. Acquisitions and mergers allow the industry to adjust and adapt." ■

Samuel Greengard is a business and education writer based in West Linn, Ore.

Industry Views

Mick Morrissey, Managing Principal, Morrissey Goodale
"We're seeing a return to growth-driven deals. Companies are using acquisitions as a tool for strategic growth. This was not the case during the recession. Domestic M&A activity is up 12 percent over last year. Firms are looking to get into a new marketplace, expand their client base, build internal expertise and enter new geographic areas. These things aren't feasible through internal growth."

Michael Landry, Managing Director, FMI Capital Advisors
"Large companies that specialize in a number of different markets and provide world-class capabilities are well-positioned in the current business environment. Small companies that are specialists must be very nimble and responsive to survive. Middle-tier companies face extremely tough conditions."

Paul Zofnass, Founder and President, EFCG
"Twenty years ago, success rates were in the range of one in four, which was incredibly low. We're now seeing CEOs report that 60 percent of the deals are extremely successful and another 30 percent were somewhat successful. Firms are approaching deals a lot smarter than in the past."

Alternate Routes

By Stacy Collett

State DOT leaders discuss ways to improve infrastructure amid the uncertainty of federal funding

Committed to improving the nation's bridges and roadways, yet realistic about funding expectations from Congress, leaders of several state departments of transportation (DOTs) are scouring every road and alleyway for creative opportunities to keep state transportation departments on pace with increased demand.

In this special feature, eight state DOT leaders share their thoughts on new funding initiatives to supplement traditional sources, the ramifications of a two-year federal transportation funding bill as opposed to a six-year program, and the critical role engineering firms play in helping meet state transportation goals. »

The 3 Rs—Reliable Recurring Revenue

Pennsylvania Department of Transportation (PennDOT)
11,700 PennDOT employees
44,000 state-owned linear miles

PennDOT Secretary Barry Schoch heads up a state transportation funding advisory commission that's looking to raise $2.5 billion of recurring annual revenue over five years.

As car and truck manufacturers continue to improve fuel efficiency, gas tax revenues will continue to decline.

"When you look at average fleet mileage, we've gone from 12 to 13 miles per gallon up to almost 20 miles per gallon. If we meet Corporate Average Fuel Economy (CAFE) mandates going forward, we're going to be in the 30s by the end of the decade," Schoch says.

Though many states have considered a gas tax increase as a potential revenue generator, Schoch questions whether it's worth expending the political capital to get such a measure passed, especially in light of imminent usage declines.

Instead, the PennDOT commission is considering increases to car registration and licensing fees, which the state hasn't adjusted since the 1980s. The funds will go toward projects on state-owned highways, local roads and transit systems. That would be good news for private engineering firms, considering PennDOT outsources 76 cents of every dollar of its various transportation projects to private contractors.


Barry Schoch

Tolling is another potential revenue source on the table, though Schoch says the federal government frowns upon it as a practice and has discouraged Pennsylvania from pursuing new toll projects after rejecting its proposed I-80 tolling plan. Rather, Congress is now looking to give states the ability to toll new capacity on the Interstate System and greater flexibility to toll non-Interstate roads.

Whatever happens, Schoch says states have a responsibility to help meet the need for widespread transportation improvements. One thing's for sure: The federal government isn't going to carry the load. Even a six-year transportation bill at current funding levels would fall about 30 percent short of need, he says. "With continued restrictions on tolling and increased CAFE standards, that's a pretty difficult trifecta coming out of Congress."


WILLIAM THOMAS CAIN/GETTY IMAGES

SANTOKH KOCHAR/GETTY IMAGES

DAVID MCNEW/GETTY IMAGES

Border Crossing

Arizona Department of Transportation (ADOT)
4,000 ADOT employees
6,950 centerline miles

When Arizona legislators sliced roughly $100 million from the state's transportation budget in 2009, State Transportation Director John Halikowski and his team had no choice but to seek revenue beyond traditional coffers.

One idea: Issue permits to Mexican truck traffic coming across the border into the United States.

"They wanted to run at slightly higher weights than we normally allow," says Halikowski. "We started a permit process to allow that. We've now generated almost $2.5 million."

ADOT is also aggressively pursuing increases in aircraft and vehicle registration fees. And it's been trimming interdepartmental fat as well. The department has already closed several rest areas and laid off 125 employees. With attrition and retirement, ADOT eliminated 700 positions in all.

Those moves hardly fill the budget hole, and Halikowski says there are few new revenue options for his state at this time, such as gas or sales tax increases.

To fulfill its staffing needs, ADOT uses engineering consultants across all of its disciplines, including design, environmental analysis, traffic, drainage, geotech and quality assurance on construction projects, representing about $32 million a year in outside consulting options. "The way the relationship has grown, ADOT really values its partnerships because the engineering consultants have become an integral part of our operation," says Halikowski.


John Halikowski

Concrete Answers

West Virginia Department of Transportation (WVDOT)
6,000 DOT employees
37,000 centerline miles

Facing a $700 million budget gap to maintain its roads and bridges, WVDOT is experimenting with a variety of cost-saving and potential revenue-generating measures, including alternative materials for paving and repairing roads, increased use of design-build methods, alternate project bidding and the strategic use of outside consultants on road projects.

"Traditionally, we've done our paving in asphalt. But lately, we've been putting the asphalt providers head-to-head with the concrete people and been getting very competitive bids—some 20 percent to 30 percent less," says Marvin Murphy, state highway engineer.

With fewer projects, West Virginia doesn't contract out to engineering firms as often as it used to. The state spends about $10 million to $15 million annually on outside projects. But the department has recently begun bundling several smaller projects into single RFPs, which can make for a more appealing deal.


Marvin Murphy

"On one particular design-build project, we put seven bridges together" on one contract, says Murphy. "That seemed to work well for us."

Despite the alternative measures, Murphy agrees with other state transportation leaders that long-term federal support is essential to fixing the nation's transportation woes. "We really need a well-funded six-year bill to carry out even smaller maintenance and preservation-type projects," Murphy says. "You need to program these efforts over a number of years. There needs to be a method to the madness."


ANDRE JENNY/ALAMY

T-WORKS for Kansas

Kansas Department of Transportation (KDOT)
2,900 DOT employees
10,000 centerline miles

KDOT hit the mother lode in 2010 when its state legislature passed a 1 percent sales tax increase, of which four-tenths would be allocated to a new highway program called T-WORKS. The increase, which doesn't take effect until 2014, will raise $8 billion over a 10-year period for state transportation projects.

"The stars aligned right for us," says Jerry Younger, deputy secretary for engineering and state transportation engineer. "We were coming up on a gubernatorial session, and I think everybody wanted to get something done before the governor's election."

Unfortunately, when it comes to a long-term transportation bill, he says, the federal government doesn't share the same sense of urgency.

"Given the landscape right now, I think we would feel that a two-year transportation program is somewhat of a victory," he says.

Nearly $4.2 billion of the T-WORKS funding pot is earmarked for preservation. About $1.7 billion will go toward expansion and modernization projects. Funds have also been carved out for aviation, transit and rail projects, Younger says.

KDOT also hopes to finally finish the South Lawrence Trafficway, a city bypass started 15 years ago but never completed. "We're looking at possible tolling of that bypass to pay for the construction costs," says Younger. KDOT has also launched a toll feasibility study to examine the benefits and potential challenges associated with that project. "Tolling wouldn't pay for all of it, but some of it," he says.

Younger says private engineering firms will likely play a critical role in T-WORKS and other state transportation projects. "Traditionally, our partners on the consulting engineering side have done 70 percent to 80 percent of our total design work. That's what we expect going into this program, too."


Jerry Younger

LOGAN MOCK-BUNTING/GETTY IMAGES

The Will of the People

Georgia Department of Transportation (GDOT)
4,630 GDOT employees
18,100 state highway lane miles

In a fairly unorthodox move, Georgia legislators will let voters decide which transportation projects are most important for their region and whether they're willing to pay for those projects through higher taxes. The state legislature last year passed a transportation bill with a decidedly regional focus. Each of the state's 12 regions formed a roundtable of elected officials charged with choosing a list of transportation projects for their region from a master list provided by GDOT's director of planning. From the regional list, voters will decide whether to impose a one-cent sales tax for their respective regions to help pay for select transportation projects.

"That money will stay in that region. We're hoping that all 12 regions will pass it," says Vance Smith Jr., GDOT commissioner.

Such a plan would help, but it wouldn't solve all of the state's transportation issues. Georgia's population grew by 18 percent from 2000 to 2010 to 9.7 million people. Officials say the increase will place significant strain on the state's already crowded roadways.

"We're obligated to deliver a high level of service for people and freight mobility. So we'll have to look for other funding mechanisms" and continue to be more efficient in delivering projects, Smith says.


Vance Smith Jr.

Like his counterparts throughout the nation, Smith favors a long-term transportation plan from Congress. He says even a two-year bill would be better than the 45- to 65-day extensions the states have been receiving.

"The longer the bill, the better for us," he says. But the real issue is, what is the funding going to look like?"

As the number of state DOT employees continues to shrink (down 42 percent from a decade ago), engineering firms will continue to play a large role. Engineers and consultants participate in 70 percent of GDOT projects, totaling $1 billion to $1.5 billion annually. "Consultants and engineering firms have done a great job for us," Smith says.


LAWRENCE JOURNAL-WORLD

Running Out of Gas Taxes

Washington State Department of Transportation (WSDOT)
7,000 DOT employees
7,000 centerline miles

The Washington state legislature increased the state's gas tax, first in 2003 and again in 2005, by a total of 14.5 cents per gallon. The hike created a $15.5 billion windfall, which officials invested in 421 infrastructure renewal projects, including safety improvements, repair of vulnerable bridges, mega-projects and efforts to expand the statewide transportation network. Almost half (49 percent) of the work was contracted out to independent engineering and consulting firms.

"It represented a great shot in the arm for our system," says Paula J. Hammond, the state's secretary of transportation, of the gas tax profits. "More than 300 of those projects are already completed. Today, we have another 53 in construction." Though many of the projects are at or near completion, Hammond says the tax revenue will ensure the state's "mortgage" is paid on those efforts for three decades.

"We're benefiting from those investments, but we're back to square one because our needs are far greater," she says, especially the need to preserve and maintain a transportation infrastructure that for years relied on a substantial infusion of cash from the federal government.

The state is willing to accept a two-year resolution at current funding levels, as opposed to a six-year package reduced by 25 percent to 30 percent, she says, adding, "It would be the best we could hope for" until after the 2012 elections.

Gov. Christine Gregoire has called for a transportation advisory group, made up of legislators, business leaders, and labor and environmental representatives, which met in August to develop proposals for how to invest in and pay for the state's transportation system. Ideas currently on the table include yet another gas tax increase or fees on transportation licensing.

Washington faces a complete overhaul and consolidation of work and a reduction of 800 employees in the next four years. But exactly how such efforts might translate into work for engineers is unclear.

"It's the kind of world we live in—not knowing where our future investments lie. It's quite a roller coaster," says Hammond.


Paula J. Hammond

The Asset Management Approach

Michigan Department of Transportation (MDOT)
2,518 DOT employees
10,000 centerline miles

MDOT staffing is currently 20 percent under what the state allows. Nearly 12 percent of department staff retired in December, according to MDOT Director Kirk T. Steudle. In a move to cut costs, the state has decided not to fill 15 percent of those vacancies, saving $45 million annually as part of a departmentwide reorganization.

"We're going to have to offset that with some contracts and consulting to help us out," Steudle says.

While MDOT awaits a fall presentation by the governor outlining his vision for Michigan's infrastructure, including transportation and how he proposes to fund those projects, the department maintains an asset management approach to spending, allotting an annual percentage of funds to preventative maintenance, major rehab work for roads in fair condition and major reconstruction for the poorest roads.

"You can't just spend all your money on poor roads and fix the worst first. You'll never work your way out of it," Steudle says. "We're really running the wheels off that program to try to figure out what's the most optimal strategy to slow the rate of deterioration with the money that we have."


Kirk T. Steudle

On federal transportation legislation, "a two-year bill would give us some certainty. But the devil is always in the details. It depends on what the bill looks like—funded at what level? Six years certainly would be nice, but a lot depends on what kind of flexibility comes along with that."

Funding "certainty" is the key to the future of all DOTs, engineering firms and the entire country, Steudle says.

"We need to have some long-term stability to know what the world looks like, because roads and projects don't happen overnight. This is what moves our economy and what moves people around the country. As you look outside of U.S. borders, other countries are investing heavily on infrastructure to move people and goods. Absent a long-term funding plan, we're saying we don't want to do that. We really need to think about what this country needs for the long term."

Recycled Roadways

Nebraska Department of Roads (DOR)
2,100 DOR employees
10,000 centerline miles

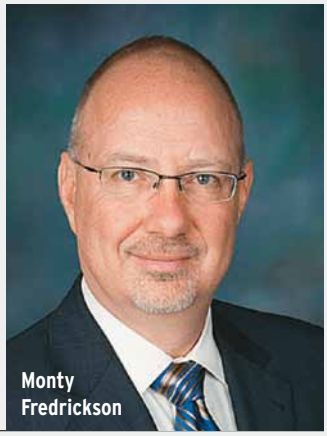
In 2008, Nebraska's Department of Roads (DOR) downshifted to "system preservation mode" and has been operating there ever since. The state has developed creative ways to cut costs, such as recycling asphalt, concrete and tires.

Last year, Nebraska saved $23 million by invoking an incentive for contractors to use recycled asphalt pavement. "The more recycled material they use, they get a piece of the savings as a bonus," explains DOR Director Monty Fredrickson. "Four years ago, 10 percent of our asphalt mixes had been recycled. Now, we have as much as 50 percent recycled. Not only does that save on oil in the asphalt, it's conservation." The state also recycles concrete pavement and uses ground tires in its asphalt mixture to replace some of the oil.

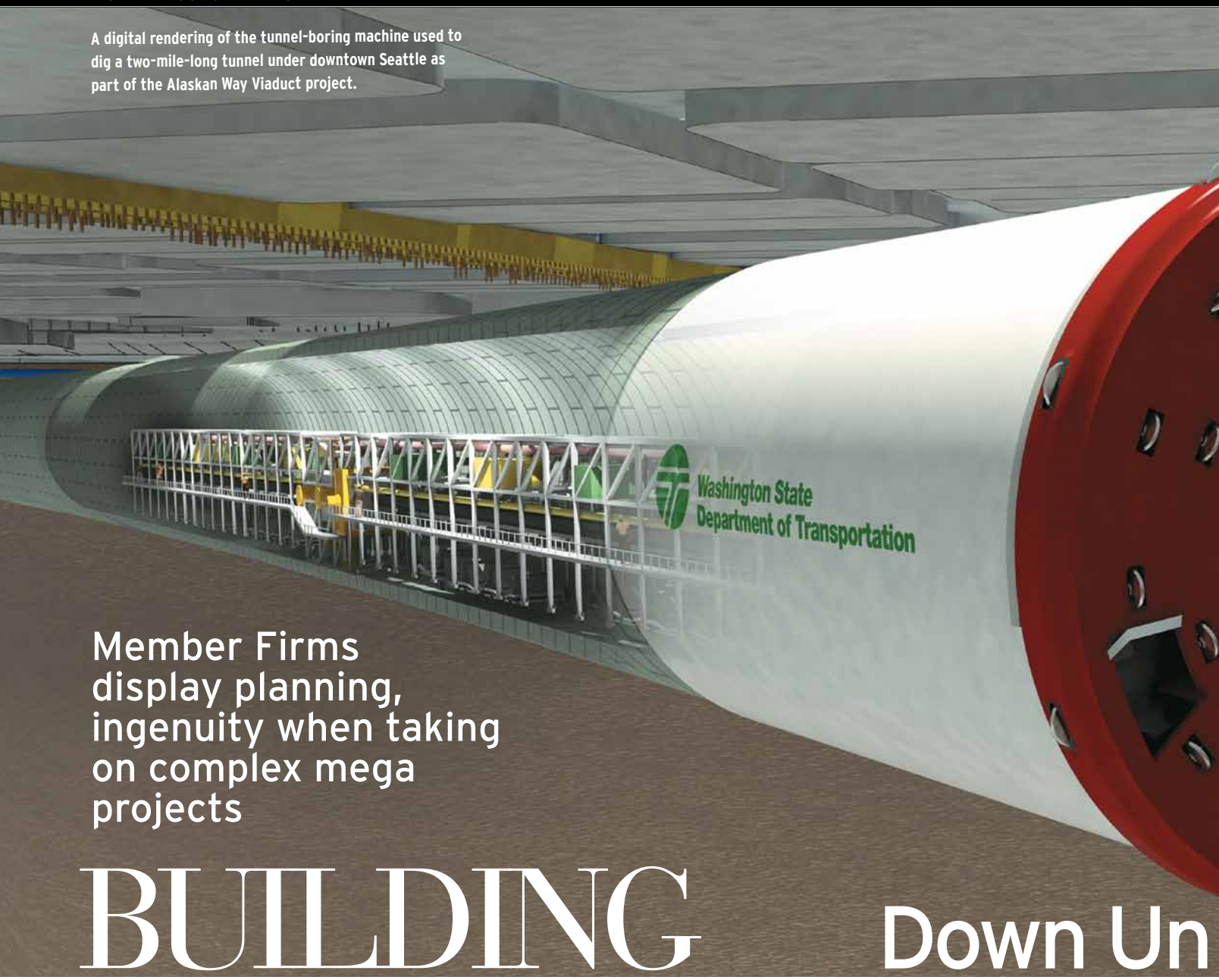
To help fund the state road system, the Nebraska legislature, in a first-of-its-kind move for the state, passed a bill that will allocate a quarter-cent of the state's sales tax to its roads fund. The bill, which takes effect in 2013, is expected to raise $70 million per year.

Going forward, Fredrickson says the state will call on engineering firms for about one-third of its project needs.

"Most DOTs are decreasing their staffs," he says. "If you need to produce X amount of work and you don't have the staff, you've got to use consultants to make up the difference." ■


Monty Fredrickson

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



A digital rendering of the tunnel-boring machine used to dig a two-mile-long tunnel under downtown Seattle as part of the Alaskan Way Viaduct project.

Member Firms display planning, ingenuity when taking on complex mega projects

BUILDING Big Down Un

By Darlene Bremer

PROJECT:
Alaskan Way Viaduct, Seattle

FIRMS:
Parsons Brinckerhoff, New York; and HNTB, Kansas City, Mo.

Skirting Seattle's downtown waterfront, the 58-year-old Alaskan Way Viaduct is part of a main north-south highway that carries more than 100,000 cars daily.

Jared Smith

Dan Dixon

der in Seattle

The viaduct's age, combined with the safety risk posed by the damage done in the 2001 Nisqually earthquake, led the Washington State Department of Transportation (WSDOT) to lead the long process of replacing the viaduct and adjacent seawall with a 1.7-mile-deep bored tunnel under downtown Seattle, representing one of the largest infrastructure projects in the western United States.

Two ACEC Member Firms—New York-based Parsons Brinckerhoff (PB) and HNTB in Kansas City—played major roles in the design and subsequent construction of this truly mega project.

PB has worked on the viaduct replacement program as general engineering consultant since 2001, providing environmental studies; conceptual, preliminary and final design of the southern end of the viaduct replacement; and preliminary design of the single bored tunnel chosen as the best option by all stakeholders.

The 56-foot-diameter tunnel, designed to withstand a Richter-scale 9.0 earthquake without collapsing, will accommodate a stacked roadway with two southbound lanes atop two northbound lanes. The total cost of the tunnel is estimated at $1.96 billion, including future roadway connections at each end. "As construction begins this fall, we will also provide contract administration and technical support to WSDOT," adds Jared Smith, PB's principal-in-charge.

In December 2010, Seattle Tunnel Partners was awarded the design-build contract to build the two-mile-long tunnel and its approaches. As lead designer, HNTB is providing civil, structural, mechanical, electrical and architectural design, as well as geotechnical input for the project. "The project also calls for the company to design the operations buildings located at each end of the tunnel, including the urban design and aesthetic architecture of areas around these buildings," adds Dan Dixon, HNTB's project design director.

The project's aggressive 2015 completion deadline is one of its greatest challenges, notes Dixon. The company decided the best way to meet the goal was to co-locate the design team with WSDOT's representative so questions could be answered and issues addressed immediately. "Co-location also provides better access to the City and Port of Seattle stakeholders and enables us to develop closer relationships and better understand the project needs," Dixon explains.

A key challenge has been to coordinate space usage within the tunnel. "The large tunnel will house the roadway, emergency exiting facilities, and electrical and mechanical equipment," Dixon explains. To detect conflicts between these systems, the team is using 3D techniques that enable designers to see how each component affects the entire project. In addition, a review panel of world-renowned bored-tunnel design experts will be consulted for input on best solutions.

Beyond the difficulties posed by the project's sheer size, performing work in a dense urban environment, and dealing with a massive network of utilities, the biggest challenge of all might involve boring the tunnel amid unpredictable ground settlement. "The geology is so variable," explains Smith, "that the tunnel-boring machine (TBM) will never have the same ground conditions at the top and bottom of its cutting head."

A map shows the length of Seattle's Alaskan Way Viaduct connecting its northern and southern portals.

As a result, PB worked with WSDOT to develop criteria for the TBM, including a state-of-the-art monitoring system composed of sensors on the surface and in the ground that enable engineers to instantly see what the TBM is doing and monitor any settlement that's occurring. "The project team, including international tunneling experts, will work collaboratively, in real time, to take the necessary steps to minimize any deformations," Dixon says.

Tulsa Goes Multi-Modal

PROJECT:
I-244 Multi-Modal Bridge

FIRM:
Garver USA, Little Rock, Ark.

Adjacent to historic Route 66, Oklahoma I-244 crosses the Arkansas River near downtown Tulsa. In 2009, the Oklahoma Department of Transportation (ODOT) sought an American Recovery and Reinvestment Act (ARRA)-funded, Transportation Investment Generating Economic Recovery (TIGER) grant to replace the highway's structurally deteriorating bridges.

"ODOT's goal is to replace the I-244 Westbound Bridge with multi-modal facilities while improving the Tulsa transportation infrastructure and to provide economic, public-health and quality-of-life benefits for Oklahomans," says Jason Langhammer, bridge team leader for Garver USA in Little Rock.

The state-of-the-art, $130 million multi-modal facility will include 2.5 miles of highway, planned high-speed and commuter rail, pedestrian bridges, one mile of multilane interstate highway, and the extension of an existing bicycle and pedestrian trail system. The planned trail system includes three connections to existing pedestrian walkways near downtown Tulsa and a new river crossing that adds aesthetic appeal and artistry to the project's practical design. Westbound construction is under way and scheduled for completion by summer 2013; a schedule for the eastbound lanes has yet to be determined.

Garver served as the primary design consultant for the project, responsible for the preparation of conceptual design plans, preliminary engineering plans and final design plans. Garver engineers evaluated the feasibility of the proposed multi-modal bridge replacement prior to moving ahead on the preliminary engineering plan phase. Conceptual plans were refined during this period; a geotechnical survey was performed to examine rock strength for determining the foundation's capacity; and hydraulics surveys were performed to ensure the project would not cause or add to any future flooding of the river.

To meet the provisions of its TIGER grant commitments, Garver completed design in a nine-month window, relying heavily on proactive project management and close coordination with ODOT and other stakeholders. The downtown Tulsa location added to the complexity of the project. Engineers had to negotiate the tight confines of the existing interstate facility in conjunction with the Arkansas River, existing utilities, railroads, private properties, city streets and the bridge. "The many facets of this project required a great degree of collaboration between Garver and ODOT and all of the team's structural, civil and electrical engineering expertise," Langhammer says.


Jason Langhammer

Few industrywide guidelines exist for designing the load parameters of a multi-modal bridge with highway and rail surfaces, which presented the company with another design challenge. "We worked with ODOT to examine the separate design codes for highway and rail and then analyzed how to best join those elements into a cohesive engineered solution for both," Langhammer explains.

Lighting and aesthetics were also a concern. The design includes highway, pedestrian bridge and trail lighting, and pedestrian bridge security cameras and call boxes. Additional aesthetic treatments to the retaining walls and structure are designed to add visual appeal for the public to enjoy.


A rendering of the new multi-modal I-244 Westbound Bridge in Tulsa with auto, rail and pedestrian throughways.

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[1]Renewal rate based on average year-over-year ACEC Life/Health Trust persistency metrics.
[2]Network statistic based on GeoAccess information and UnitedHealthcare standard network access mileage criteria, 2010.

A 20-year, $5.4 billion renovation of the Pentagon called for the systematic renovation of five separate 1.3-million-square-foot wedges.

Renovating America's Defense HQ

Dick McSeveney

PROJECT:
Pentagon Renovation

FIRM:
AECOM, Los Angeles

The largest low-rise office building in the world, the 6.5-million-square-foot Pentagon is its own small city, with 17.5 miles of corridors and 25,000 employees across a 220-acre site on the outskirts of Washington, D.C. In 1991, the complex underwent a massive, 20-year, $5.4 billion renovation.

"The building was originally constructed in 1942 in only 16 months, and there hadn't been a major renovation since," says Dick McSeveney, vice president of AECOM and director of the joint venture project. The goal was to update and upgrade the building's major systems, and to make it more reliable and secure while maintaining its National Historic Landmark status.

As the project lead, AECOM served as an extension of the Pentagon Renovation & Construction Office, providing program and construction management and technical expertise. The complex, phased renovation was completed ahead of schedule this spring and was managed in five discrete 1.3-million-square-foot wedges.

"Each of the building's five wedges was built essentially as a stand-alone building, with independent mechanical and electrical systems," McSeveney says. The company's responsibilities also included providing swing space for roughly 20 percent of the building occupants at any given time; planning and executing the requisite moves of offices and personnel; budgeting, design and constructability reviews; and phasing analyses for the entire renovation, including roadway reconfiguration and security upgrades.

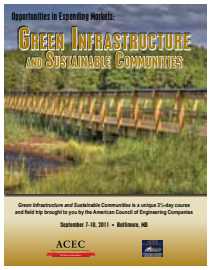
The renovation team had no sooner overseen the completion of the renovation of Wedge 1 in 2001 when the Pentagon was struck on Sept. 11.

"After the attack, we were challenged with overseeing damage assessments, reconstruction and re-occupancy work, the installation of significant security enhancements, and matching the gray limestone from the same Indiana quarry that had supplied the original materials," McSeveney says. AECOM and the renovation team also oversaw the reconfiguration of roadways in and around the site to improve security and ease travel restrictions imposed on commuters in the immediate aftermath of the attack. The additional restoration challenge was met with around-the-clock shifts to meet a promised re-occupancy deadline of one year.

Perhaps the project's toughest challenge: The renovation could not disrupt work at the Pentagon. The team kept the building operational for 20 years by rerouting utilities section by section and by erecting barrier walls and creating temporary tunnels through construction zones to enable free movement by building occupants. "Good communication among AECOM and the entire renovation team, including the design-build and information technology (IT) contractors, agency representatives and other government contractors, and with the building tenants, enabled us to work through every issue together," explains McSeveney.

AECOM had to also manage the abatement of 2,000 tons of asbestos and 600,000 pounds of lead-contaminated debris, as well as ensure compliance with the U.S. Green Building Council's LEED-New Construction (NC) program. The subway entrance and remote delivery facilities, the athletic center and Wedges 2 and 3 are LEED-NC certified. The library and conference center, along with Wedge 4, have achieved LEED-NC Silver certification. ■

Burgeoning Market in Green Infrastructure



Requirements for using sustainable products and materials, conserving energy and water, recycling wastes, and following certain methods for sustainable project delivery are appearing more and more in requests for proposals and specifications.

According to sustainability expert Bill Wallace of Wallace Futures Group, engineering companies are responding by creating sustainable engineering practices within their organizations and bringing people together with the requisite knowledge and experience to address the new requirements.

Wallace says sustainable engineering is driven by three core client needs:

- *Public Expectation:* To demonstrate that the organization is operating in a way that protects the environment and the communities it serves, clients are investigating all avenues for "greening" the organization, including obtaining LEED certification of buildings and issuing reports on sustainable performance.
- *Investment Opportunity:* Viewing their operating problems through a sustainability lens and taking a life-cycle view, clients are investing in projects to reduce waste, extend the useful life of buildings and infrastructure, and make better use of natural systems.
- *Long-Term Necessity:* Clients are recognizing that the consequences of operating under an unsustainable model for development negatively affect the organization's overall planning horizon.

New green design variables, such as carbon footprint, embodied energy and use of recycled materials, must now be taken into account. ACEC's upcoming course, *Green Infrastructure and Sustainable Communities*, in Baltimore on Sept. 7–10, is designed to help professionals navigate this new and changing marketplace. Visit www.acec.org/education.

Minimizing Impact of Injury Or Accident During Business Travel

This year, more than 405 million businesspeople will embark on more than 25 million flights, arriving in more than 77 countries and 6.5 million cities worldwide.

Approximately one out of 30 of these journeys will be interrupted, as medical emergencies are projected to hospitalize an estimated 13.5 million travelers in 2011. Many in the A/E industry are among these frequent business travelers and can fall victim to accidents or injuries while traveling far from home.

What can be done to minimize the impact of such possible accidents or injuries?

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Members in the News

On The Move

Thornton Tomasetti announced that forensic architect **Steve Kahn** joined the firm's Ft. Lauderdale, Fla., office as vice president in the Building Performance practice. **D. William Otey** joined the Oakland, Calif., office as vice president in the Building Performance practice.

Hazen and Sawyer announced that **James W. Fagan** has been elected chairman of the board; **Charles S. Hocking** has been elected president and CEO.

Neil D. Bernstein was named chairman, president and CEO of **The RBA Group**. He previously served as COO.

Stantec appointed **Aram H. Keith** as chairman of the board, succeeding Ron Triffo.

Frank Joanlanne has been named chairman of the board of **Borton-Lawson**, a Wilkes-Barre, Pa.-based architecture and engineering firm.

Parsons appointed **Virginia Grebbien** president of Parsons Water & Infrastructure, Inc., a primary business unit of Parsons Corporation. Grebbien, who will be responsible for global operations, including sales and marketing, is based in Parsons' Pasadena, Calif., headquarters.

Matthew McGowan joined **CH2M HILL** as senior vice president of corporate development, where he will oversee merger and acquisition activities. McGowan, who will also spearhead the firm's public/private partnership initiatives, will be based in New York City.

D. Kent Turner joined **STV** as a senior vice president in the firm's Buildings & Facilities Division.

Hubbell, Roth & Clark, Inc., promoted **Nancy Faught** to vice president/partner and member of its board of directors.

Black & Veatch named **Bob Brnilovich** vice president and director of enterprise application services.

Anniversaries

Chicago-based **Sargent & Lundy LLC** is celebrating its 120th anniversary this year. Founded by engineers prominent in developing early electric power systems, the firm today continues to specialize in power generation and transmission.

Chairman and CEO Bud Wendorf attributes the company's sustained success as an independent firm to "never straying from our company culture that concentrates on helping our clients be successful and values technical excellence and innovation." (Wendorf will be a speaker at ACEC's Fall Conference in Las Vegas. *See page 8.*)

The company has more than 2,500 employees supporting projects worldwide.

Sargent & Lundy offices in 1893, with founders Frederick Sargent (left) and Ayres D. Lundy (seated) at the rolltop desk.

Steve Kahn

D. William Otey

James W. Fagan

Charles S. Hocking

Neil D. Bernstein

Aram H. Keith

Frank Joanlanne

Virginia Grebbien

Matthew McGowan

D. Kent Turner

Nancy Faught

Bob Brnilovich

Tighe & Bond, a New England-based engineering firm headquartered in Westfield, Mass., is celebrating its 100th anniversary. James Tighe founded the firm in 1911 when he launched a waterworks engineering practice in Holyoke, Mass. Today, the employee-owned firm totals more than 200, including professional engineers, planners, GIS professionals, environmental scientists and hydrogeologists, with regional offices in Connecticut, Massachusetts and New Hampshire. "Tighe & Bond's success as a recognized industry leader is deeply rooted in our people, our personalized client service and our unwavering determination to stay at the forefront of industry trends," said **Dave Pinsky**, president of Tighe & Bond.


Dave Pinsky

C2AE, a Lansing, Mich.-based architectural, engineering and planning design firm, celebrated its 45th anniversary in June.

In 1966, civil and environmental engineering firm Capitol Consultants was officially founded in Lansing. Since then, the firm has opened three new offices, merged with Grand Rapids-based architecture firm DesignWorks A/E in 2005, changed its name to C2AE in 2007 and transitioned to a new CEO last year.

"Developing innovative, cost-effective solutions to the challenges our clients face is our responsibility," said C2AE President and CEO **Bill Kimble**.


Bill Kimble

Calendar of Events

SEPTEMBER

- **7-10** Green Infrastructure & Sustainable Communities, Baltimore
- **12-13** Information Technology Forum, Chicago
- **12-13** Finance Forum 2011, Chicago
- **14** Reignite Your Ownership Transition Plans (online seminar)
- **14-15** Virginia Engineers Conference, Williamsburg, Va.
- **20** Transportation Funding Alternatives (online seminar)
- **28** Lost Commandments of Business Ethics (online seminar)
- **29** The Five Traits of Best-In-Class Companies (online seminar)

OCTOBER

- **4** Writing the Perfect 'FONSI' (Finding of No Significant Impact) (online seminar)
- **12** Mergers & Acquisitions 101 (online seminar)
- **19-22** ACEC 2011 Fall Conference, Las Vegas

NOVEMBER

- **2** Client Research: Better Understanding Your Clients, What Drives Them and How to Make Your Firm Invaluable (online seminar)
- **3-4** Essentials of A/E Financial Management & Firm Valuation, Orlando, Fla.
- **9** Engineering in the Cloud–Integrating Cloud Services into Your IT Strategy (online seminar)
- **9-12** Business of Design Consulting, New Orleans

To sign up for ACEC online seminars, go to **www.acec.org/education**.

Additional information on all ACEC activities is available at www.acec.org.

Demand for Energy, Environmental Services Contributes to Rebounding Domestic M&A

BY MIKE CAULEY

It appears that domestic mergers and acquisitions (M&As) may have bottomed out in 2010, as its 2011 rebound continues.

As of August 1, 189 total global industry deals were announced, compared with 142 for the same period in 2010—an increase of 33 percent. Of these transactions, 91 involved a U.S.-based seller, compared with 87 last year.

Based on the number of U.S. firms expanding internationally via M&As so far in 2011, as the macro-economy has become more global, so has the A/E industry. As of August 1, there were 12 transactions involving a U.S.-based firm acquiring an internationally based firm (compared with 14 for the *entire* year in 2010). In contrast, there have been eight transactions involving an international firm buying into the U.S. (compared with 30 for the *entire* year in 2010).

Additionally, 2011 is currently on pace to be the first year in five years to have more U.S.-based firms buying overseas than international firms buying into the U.S. The increased ease of doing business globally and increased opportunities abroad combined with the slow domestic recovery make international expansion increasingly attractive to U.S. firms.

Recent examples of ACEC Member Firms involved with firms outside of the U.S. include:

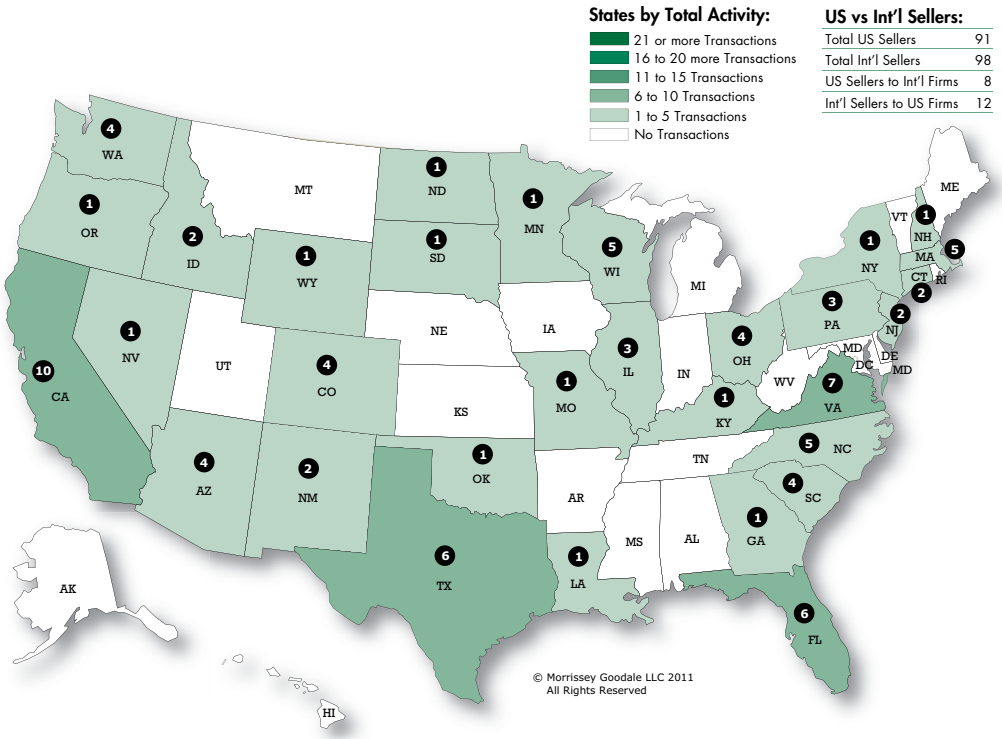
- Leading North American and ACEC Member **Stantec** signed a letter of intent in July to acquire fellow ACEC Member **Bonestroo** (St. Paul, Minn.).
- ACEC Member **Tetra Tech** (Pasadena, Calif.) also reached agreement in July to acquire mining engineering firm Proteus EPCM Engineers, based in Australia.

We also are seeing increased activity from firms that specialize in services related to energy development, transmission and distribution; energy efficiency; mining; and various environmental services, including natural resources management, water and wastewater, remediation, and environmental management.

Recent M&As involving ACEC Member Firms include:

- **RESPEC Consulting & Services** (Rapid City, S.D.), specializing in energy, mining, natural resources, acquired the planning and consulting firm MATRIX Consulting Group (Rapid City, S.D.).
- **GAI Consultants** (Homestead, Pa.) an engineering and environmental consulting firm acquired EnPower (Green Bay, Wis.), an energy and environmental services firm specializing in electric transmission and generation.
- **Maser Consulting** (Red Bank, N.J.), an engineering and environmental services firm acquired hydrogeological and geophysical services firm Eastern Geosciences (EGI) (Woodbine, N.J.).
- **Woolpert** (Dayton, Ohio), a design, geospatial and infrastructure services firm, acquired hydrographic and bathymetric survey firm Geomatics Data Solutions (GDS) (San Diego, Calif.).

2011 Merger and Acquisition Sales Activity Through Aug. 1, 2011



To view live up-to-date versions of the M&A heat maps that accompany this article and to see a list of the buyers and sellers in each state, go to **www.morrisseygoodale.com**.

Mike Cauley is principal consultant at Morrissey Goodale, LLC, a strategy, M&A and human capital solutions firm serving the A/E/C industry. He can be reached at mcauley@morrisseygoodale.com.

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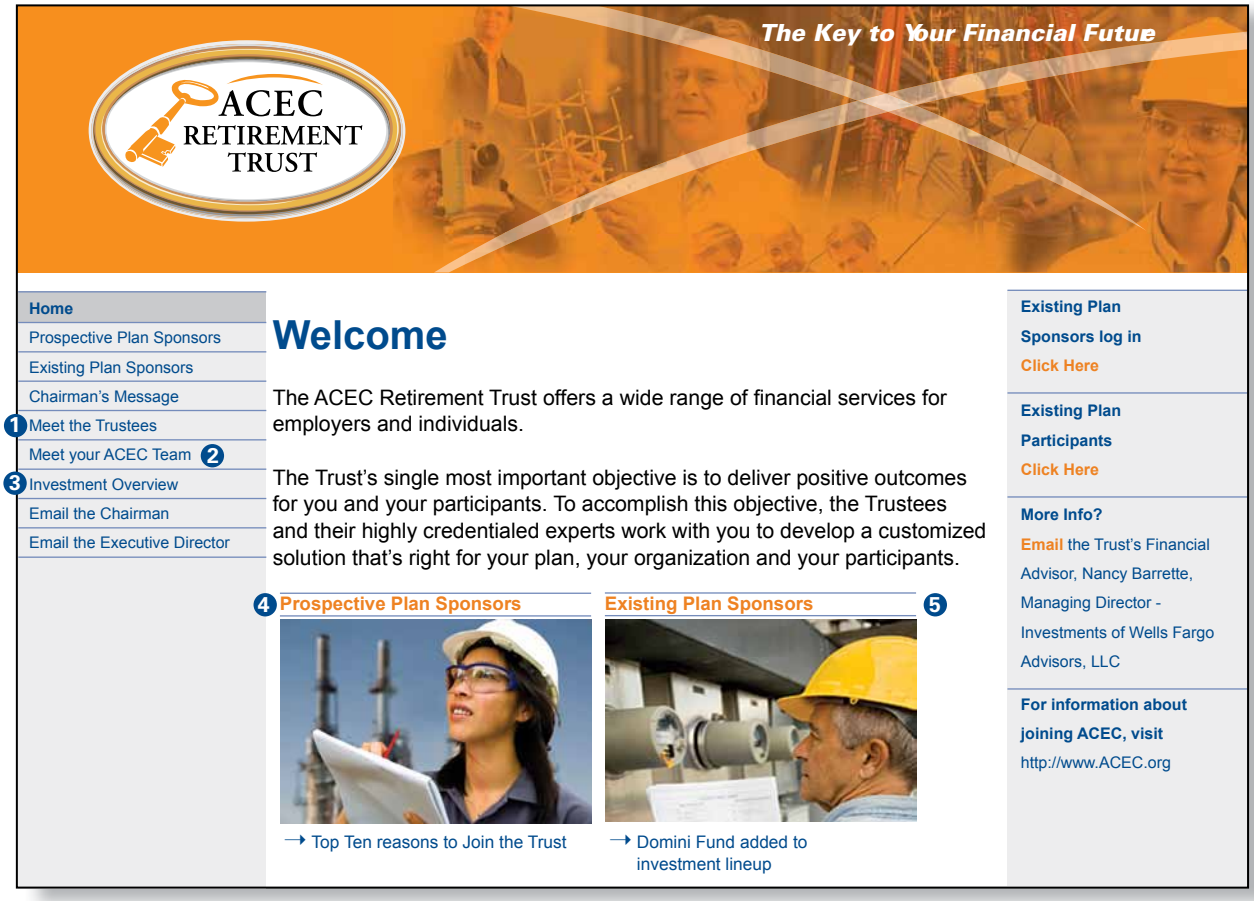
...Starting with our new, improved website.



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2. **Background on the ACEC Team:** Learn about the experienced professionals who provide recordkeeping services, plan design consulting and educational services, ERISA support, and investment advisory services.

3. **A quick look at the full investment menu** for a view into the spectrum of investing options available.

4. **A special informative section for prospective plan sponsors** provides current Trust news and the benefits of joining the Trust, for employers and employees.

5. **An exclusive, in-depth area for existing plan sponsors** offers the latest Trust news and fast access to important participant communications such as educational articles, material promoting new program features, and access to quarterly webinars.

The ACEC Retirement Trust website.

Experience it today at www.acecrt.com and explore all the website has to offer.

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