

October 2017

Arkansas  
Professional

# ENGINEER

Official Magazine of the American Council of Engineering Companies of Arkansas & the Arkansas Society of Professional Engineers

## Engineering change at DOT

Department of Transportation Director Scott Bennett, P.E., is a busy man. After trying to convince legislators to increase money for highways, he's now leading a possible effort to go to the voters with a plan. Meanwhile, the day before this photo was taken (with the new logo he helped design), he was at the White House discussing policy with the secretary of transportation. It's his mission to solve the state's transportation problems. But as he points out, solving problems is what engineers do all the time.



# Surveying firm also does engineering

Consolidated Land Services can do engineering work for its surveying clients, and vice versa

ACEC/A members often are engineering firms that employ surveyors. Consolidated Land Services is primarily a surveying firm that also can do engineering.

The firm is led by three professional surveyors: Roger Gilley, P.S.; Robert “Cotton” Green, P.S.; and Kevin Gregory, P.S.; and a fourth who is both a surveyor and an engineer, Ken Cotter, P.E., P.S. Another surveyor, Jamie Hall, P.S., is on track to become a principal. Meanwhile, the firm employs two other engineers, Mike Scott, E.I., and Billy Wehmeyer, E.I.

That mix of personnel means the firm can offer its considerable expertise to surveying clients while offering engineering services on those same jobs and others.

“The engineering brings us surveying work, but also sometimes the survey jobs that we do may turn out to be an engineering project for Ken at some point,” Gilley said. “It’s a good combination there.”

The firm has 25 full-time employees and typically has four to five survey crews.

Among its biggest clients is the Arkansas Department of Transportation, for whom it has surveyed some of the state’s major roads. Consolidated Land Services recently provided ground control services on I-40 from Conway to Little Rock along with parts of I-630 and I-30 through the city. It used subconsultants to provide mobile and aerial LiDAR services and aerial photography. Meanwhile, the company has provided control, design and parcel surveys for 8-10 Connecting Arkansas Program highway projects in north Arkansas.

## Serving two states

Gilley said the company’s Mountain Home location in the east-west center of the state, and only 25 miles from the Missouri border, helps it serve a wide geographic area in both states. A major client is the U.S. Forest Service, for whom it serves all the ranger districts in the



**CONSOLIDATED LAND SERVICES.** A survey crew member works on Highway 25 on Greers Ferry Dam in 2012, top photo. Above, the staff Christmas 2016 photo.

Ozark-St. Francis National Forests, while Gilley and Green are licensed in Missouri and have also done projects for the Mark Twain National Forest. The firm has completed numerous projects for the U.S. Army Corps of Engineers’ Little Rock district, again working in both Arkansas and Missouri. Other clients have included the Arkansas Game and Fish Commission and the U.S. Fish and Wildlife Service.

“Being right here on the state line, we’re just about as close to anything in the Mark Twain National Forest as a lot of the Missouri firms, and ... the Little Rock (Army Corps of Engineers) district extends all the way up into Missouri,” Gilley said.

Much of its engineering-focused work is based in Mountain Home and surrounding counties. Its services include commercial site planning, water and sewer design, and roadway control for local contractors working for the Arkansas Department of Transportation.

The company was incorporated in October 1986 after the combining of two firms, Gilley and Nelson Land Surveyors in Flippin, and Marvin Cole and Associates in Yellville. The firms had worked on joint ventures before combining. Also, Gilley and Lynn Nelson, P.S., had worked for Marvin Cole and Associates before starting their firm. Cole and Associates was led by Cotter and Bill Cochrane, P.S.



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# Arkansas Professional / ENGINEER

Official Magazine of the American Council of Engineering Companies of Arkansas & the Arkansas Society of Professional Engineers



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The surveying firm can do engineering work for its surveying clients, and vice versa.

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**14** Scott Bennett, P.E., is director of the Arkansas Department of Transportation. Earlier this year, the Highway Commission voted to pursue a highway funding initiative to be considered by the voters in 2018, and Bennett is leading the effort to determine interest statewide.

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# ENGINEERING AMERICA'S BACKBONE

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civil engineering | surveying | architecture | planning | landscape architecture

# Step one: Education

At the ACEC/A Board of Directors meeting in July, I was struck by the knowledge and experience in the room. Last year Andy Dibble, our esteemed outgoing president, mentioned how daunting it was to step into his predecessor's shoes. Man, was he right! I am honored to hold this position and look forward to building on Andy's contributions and the contributions of each president before him.



**Mike Burns, P.E.**  
ACEC/A President

Keeping with our current agenda of advocacy in membership, government affairs, and public relations, we set the membership goal at 10 percent growth per year. I am thrilled to announce that we have already signed one new member and are one-third of the way there. Once potential members see our ability to influence meaningful change on legislative issues, membership will continue to rise. Although the Arkansas General Assembly is not currently in session, we intend to be proactive in the interim. We can do this by using our public relations team to promote our interests as well as fostering established relationships with our representatives. With that in mind, I encourage each of you to become more involved in our social media platforms by sharing thoughts, concerns, and relevant articles. More exposure leads to higher visibility, which leads to increased membership and greater influence.

That being said, I would like to use my tenure as ACEC/A president to raise awareness of Toward Zero Deaths. The program came about as a joint effort by the Arkansas Department of Health, Arkansas State Police, and the Arkansas Department of Transportation. Those entities formed the Arkansas Highway Safety Steering Committee to update the Strategic Highway Safety Plan (SHSP). Toward Zero Deaths' mission states, "The goal for every individual, every family, and every community should be zero deaths on Arkansas roads."

The updated SHSP presented a four-step strategy to lessen the number of Arkansas highway fatalities to no more than

400 per year by 2017. Those steps are **education, engineering, enforcement, and emergency services**. While the plan has made strides in the four years since its implementation, I believe we can use our platform to further the effort. In the next few columns, we will examine each step.

Let start with **education**.

The Arkansas SHSP lists the top causes of highway crashes and fatalities as primary emphasis areas. In descending order of occurrence, they are: roadway departures, intersections, impaired-aggressive-distracted driving, younger drivers, safety restraints, and motorcycles.

In 2010, roadway departures accounted for 63 percent of Arkansas highway fatalities. Engineering techniques can drastically reduce these numbers. However, the process cannot begin until local governments are made aware.

The same 2010 highway safety report found that nearly 20 percent of roadway fatalities occurred at intersections. More specifically, 90 percent were at un-signalized intersections. As engineers, we know how to approach this problem from a technical standpoint. The challenge is reaching out to local agencies with the information and the possible solutions.

Each of the primary emphasis areas listed above reads the same way. There are methods available that, if implemented properly, will reduce the number of highway fatalities. We can be part of the solution by educating those in a position to enforce these methods.

The mission of the ACEC is to be the voice of the engineering industry through government advocacy, political action, and business education. One of our core issues is qualifications-based selection, which protects public welfare. By educating local governments on risks and how to reduce them, we give a voice to the importance of our industry. I am looking forward to delving into this important objective in the coming months. In the meantime, visit the [tzdarkansas.org](http://tzdarkansas.org) website for further information.

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# Imagine a world without engineers

You are important. That may seem like an odd thing to say, but have you considered what a world without engineers would be like?

Engineers invent, bring other people's ideas to fruition, and design using existing technologies to make life better. Thanks to us, doctors can work with better tools such as digital mammography, which provides much clearer images than the old analog technology. These types of improvements are ongoing and typically don't receive news coverage. But incremental contributions along with bigger leaps such as the pacemaker, which American engineer Wilson Greatbatch helped develop, shouldn't be taken for granted.

Engineers have both saved lives and made them better. George Andrew Darby, an engineer, patented the electrical heat detector, which led to fire alarms. Many young people don't remember the bad old days when we had to trudge to the TV to change channels or turn it down when loud commercials came on. Thanks to Eugene Polley, an engineer with Zenith, we no longer suffer from that inconvenience or source of hearing loss. What if you don't watch TV but instead prefer looking out of windows to enjoy nature? Thank Alastair Pilkington, an engineer who revolutionized the process of making clearer glass. If you don't have time to waste watching TV or staring out the window, then be thankful for George de Mestral. He's an engineer who invented Velcro, saving the time you'd waste tying your shoes.

There can be debates about who actually invented a new device. One person may have the idea and another modify it to make it useful. Such has been the case with computers and the internet. Engineers are



**Paul Speers, P.E.**  
**ASPE President**

credited with various inventions and designs that created the digital age. Just think about all of the integrated circuits designed by engineers. Clearly, engineers have made huge contributions to our everyday lives.

At this point you may think, "Well, it's been years since I've come up with a world-changing invention."

Yes, just like other professions, engineers don't save lives or change the world every day.

But engineers think logically to solve problems. Without us, instead of an Engineering Department, companies might have a Department of Hunches and Guesses. Management might decide to save money by building a bridge out of toothpicks and bubble gum. Since it would be difficult to find anyone willing to be the first to drive over these bridges, a Department of People Crazy Enough To Try Stuff would have to be added to the organization. The news would report, "Another 1,000 people died today due to infrastructure failures. The Department of Hunches and Guesses responded, 'Hmmm, weird. Hey, some of it's still standing!'"

So engineers are important and greatly benefit society, but since most engineers are satisfied quietly working projects, they need somebody to make sure the world knows what they do. Doctors, lawyers, teachers, and others have organizations publicizing and defending their professions. Engineers do as well: NSPE and ASPE. It's easy to forget they are lobbying and educating on our behalf, but engineers should remember and support our professional organizations. We need them to let others know how much better the world is with engineers and without a Department of Hunches and Guesses.

## In the News

### Two honor Garver for employee treatment, balance

Garver again has been recognized as a “Best Firm to Work For” as well as a firm committed to employee wellness.

The North Little Rock-based firm ranked second in the “Multi-Discipline” category on the Zweig Group’s prestigious “Best Firm to Work For” list for 2017. This is the fourth year Garver has ranked in the top three.

Zweig annually ranks engineering, architecture, and environmental consulting firms based on benefits and employee satisfaction.

“We strive to be a growing company that takes on new challenges in new markets,” said President and CEO Dan Williams, P.E., in a press release, “but it is essen-



Williams

tial that we continue to take care of our employees because they are the ones who got us to this point.”

The employee-owned firm has more than 400 employees in 22 offices in 10 states and offers a range of services with a focus on aviation, construction, facilities design, federal, power, transportation, survey, and water products. This year, Garver has opened offices in Athens, San Antonio, and Round Rock, Texas, and in Wichita, Kansas.

#### Honored for wellness

Garver also was one of 21 companies nationwide named a Gold Well Workplace by the Wellness Council of America for its dedication to a comprehensive, corporate-wide wellness program that promotes quality work-life balance. Garver is the first Arkansas-based company to earn that distinction.

Garver’s program scored its highest marks in administrative support, use of

data to promote healthy living, and creating a cohesive wellness team.

“Through coordination across all levels of the company, we have created a cohesive wellness network that helps our employees thrive,” said Wellness Coordinator Sarah Eanes Palmiero in a press release. “Wellness is not simply physical. It’s also the financial, mental, occupational and social aspects that make up a quality lifestyle.”

According to a Garver press release, the wellness program annually saves the company money by reducing employee health claims. Average claims for single and family coverage decreased in 2015, and the number of claims in 2016 was 4 percent less than projected.

“We believe that a strong company isn’t just made up of talented employees, but by talented employees who have balance in their daily lives,” said Williams, the CEO. “It has become a foundation of Garver’s recent expansion, and a key reason as to why we are an industry leader in employee retention and satisfaction.”



### Broadway Bridge AASHTO national award finalist

The Broadway Bridge connecting Little Rock and North Little Rock, a project led by Garver, is one of 12 finalists for two American Association of State Highway and Transportation Officials (AASHTO) America’s Transportation Awards.

The project is eligible for the America’s Transportation Awards Grand Prize and the People’s Choice Award, the latter of which will be decided by a vote of the public that ended Sept. 21.

Garver provided design services for the new bridge, which replaced one that had been in use since 1923. Twin 448-foot basket-handle network-tied arches are its most visible feature, and it includes four traffic lanes and pedestrian and bike lanes.

Garver also provided design services for the roadway approaches and traffic analysis.

### Garver adds commissioning to its list of services

Garver is now offering commissioning services.

The firm will provide clients with a third-party reporting body to work with contractors and designers. The service will ensure a project has been designed and constructed to an owner’s desire, while verifying and documenting building systems upon completion.

Garver will provide new building commissioning, recommissioning, and retro-commissioning to clients. It can commission projects designed by its own award-winning design team, or those designed outside of its office.

Commissioning projects designed by Garver’s team will provide a streamlined process that eliminates additional contracts while still providing the same independent commissioning projects that clients expect.

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## Brown Engineers' Rainwater teaches at UA Little Rock



**Rainwater**

When he's not busy designing safe, reliable, efficient electrical systems at Brown Engineers, Dr. Ben Rainwater is teaching Introduction to Engineering for the University of Arkansas at Little Rock's Systems Engineering department.

This is Rainwater's second year teaching at UA Little Rock, having taught the Engineering Materials course last term. He's also a member of the university's Systems Engineering Industry Advisory Council.

When he's not busy designing safe, reliable, efficient electrical systems at Brown Engineers, Dr. Ben Rainwater is teaching Introduction to Engineering for the University of Arkansas at Little Rock's Systems Engineering department.

Rainwater received his BSME from the University of Arkansas, followed by his master's degree and doctorate in the School of Materials Science and Engineering at the Georgia Institute of Technology. He recently completed six years of research in emerging energy technologies with the National Science Foundation, the U.S. Department of Energy and within the manufacturing industry.

Rainwater has been published in multiple peer-reviewed journals, including the *Journal of Power Sources, Energy and Environmental Science*, and the *International Journal of Hydrogen Energy*.

## FTN hires one; three certified to manage floodplains

Colby Spears, an engineer intern, is one of FTN Associates' newest employees.

Spears earned his civil engineering degree at Louisiana Tech in Ruston and was in the Honors Program. He is a native of Bogalusa, Louisiana, and now resides in Little Rock.

He enjoys canoe racing and is an avid angler. In college, his American Society of Civil Engineers concrete canoe racing team was nationally prominent. The student-built boats are made in part from the same Portland cement concrete as roads and buildings. Concrete canoe racing has been around for years but is virtually unknown outside the civil engineering community.

Three FTN employees have also become certified floodplain managers. Pratik Pathak, E.I.; Natalie Rogers, P.E.; and Chris Allen, P.E., work in FTN's headquarters in Little Rock. FTN now has nine CFMs.

Several years ago, the Association of State Floodplain Managers established a national program for certifying flood-

*Continued on next page*



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## In the News (Cont'd)



**FTN MOVERS.** Left to right, top to bottom are Pathak, Rogers, Allen and Spears.



plain managers. It recognizes continuing education and professional development that enhances the knowledge and performance of floodplain management professionals.

### Hawkins-Weir's Durham promoted to senior associate

Hawkins-Weir's Josh Durham has been promoted by the firm to senior associate.

Durham joined HW in 2009 following the completion of graduate studies

at the University of Arkansas. In December 2014, he was promoted to associate. With the opening of HW's office in Fayetteville in April 2016, he transferred to that office to become its manager.

He and his wife, Sarah, live in Fayetteville.



**Durham**

### MCE opening Fort Smith site, firm's fourth, in October

McClelland Consulting Engineers, Inc. is opening a new office in Fort Smith.

The office is located at 2120 Waldron Road, Bldg. A, Suite 5.

Leading the design efforts for the office will be Andrew Dibble, P.E., a project manager for MCE and a long-time resident of the Fort Smith area.

"I am thrilled that the opportunity has presented itself to better provide quality engineering service to clients in the River Valley, and to maintain and grow the relationships that I have enjoyed for more than 30 years," Dibble said in a press release. "MCE has a tremendous wealth of



**Dibble**

talent and experience that will now be available directly to the Fort Smith area in order to provide solutions to the varied issues that it faces."

The new office is scheduled to open the first week of October with a small start-up staff and the assistance of more than 100 additional staff in MCE's three other locations.

"With MCE's engineering expertise, and Andy's local relationships and knowledge of the Fort Smith area, we are hoping to hit the ground running," said CEO Byron Hicks, P.E., in a press release.

MCE is a full-service civil engineering firm with offices in Little Rock, Fayetteville and Tulsa. Its services include civil, geotechnical, environmental, transportation and airport engineering services, along with landscape architecture and professional land surveying. It serves clients in Arkansas, Oklahoma, Missouri, Mississippi, Louisiana and Tennessee.



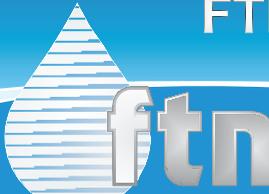
### Robinson Center, an MCE project, gets LEED Gold

Robinson Center was announced as receiving a LEED® (Leadership in Energy and Environmental Design) Gold rating August 22.

McClelland Consulting Engineers was the project director for the civil site design of the renovation, addition, and restoration of the historic Robinson Center Music Hall.

Site design included pedestrian plaza improvements, passenger drop-off area, and the loading dock area.

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## McClelland hired for new Texarkana taxiway, terminal

McClelland Consulting Engineers will provide full engineering, planning and design services, including surveys and geotechnical investigations, for the Texarkana Regional Airport Authority's new taxiway and terminal project.

MCE assisted the Authority with a five-year capital improvement plan and grant preparation. So far, the result has been two 90 percent grants received from the Federal Aviation Administration for the design of a new, full-length, parallel taxiway and new terminal facility.

The first grant is for the design of a new 6,600-foot long taxiway that will run

parallel to Runway 4/22, allowing aircraft to taxi to and from the runway to the proposed new terminal. The taxiway will be constructed in two phases in order to take full advantage of additional grant opportunities. The construction of the taxiway is scheduled to begin in 2019 or 2020, depending on funding.

### New terminal facility

The second grant received is for the design of a new approximately 30,800-square-foot terminal facility. The airport authority intends to replace and improve the existing terminal by moving the site location to the south side of the airfield. A new airport entrance will provide easy access from E. 19th Street and the future I-49. The new entrance will eliminate the need to cross the Union Pacific Railroad and the need to travel through the Rondo residential community near the current entrance. In addition to producing ample room for expansion, this move of the terminal will provide

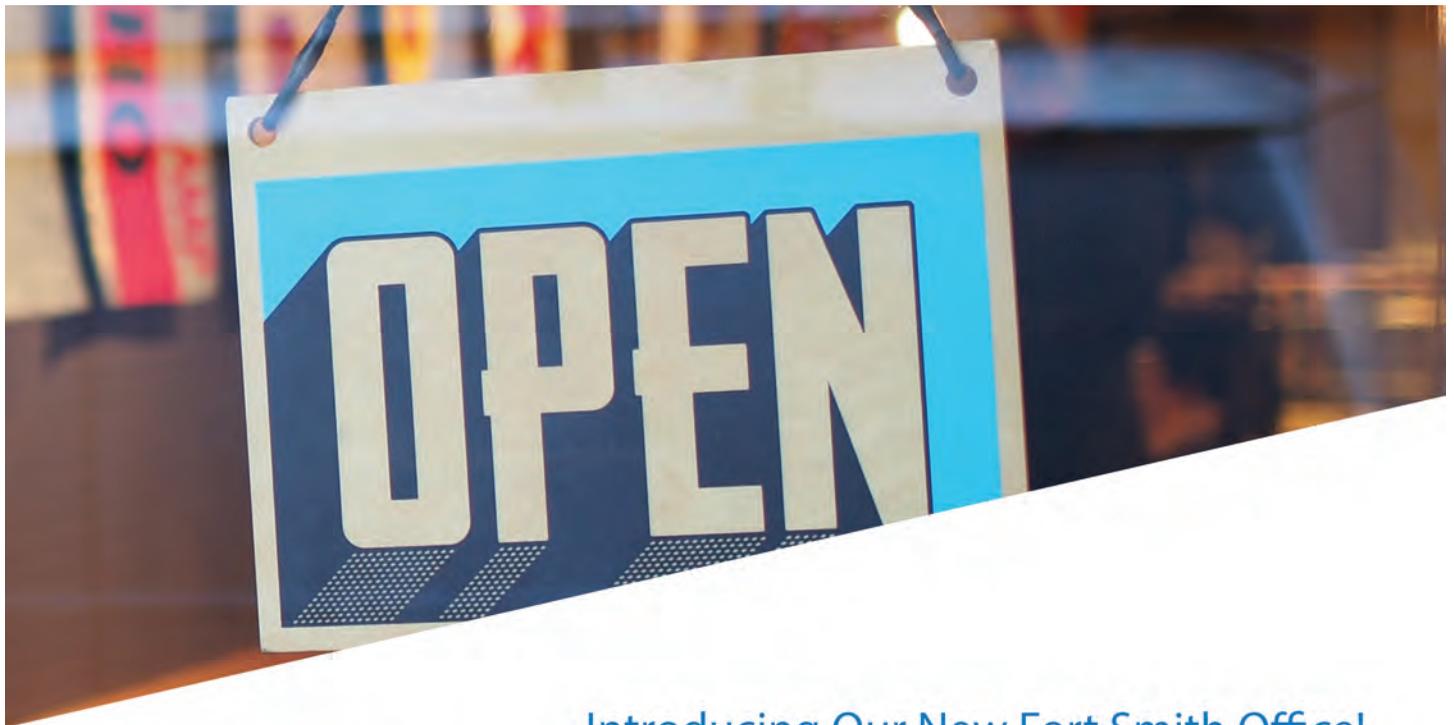
separation between the general aviation and the air carrier operations sides in order to better comply with security requirements.

The construction of the proposed new terminal facility is divided into three phases and is scheduled to be completed by 2021.

Also, the new taxiway and terminal improvements will include relocation of the instrument landing system glide-slope antenna to allow for the taxiway and runway center line to have a continuous 400-foot separation. Other work includes design and construction of a new apron at the proposed terminal, environmental mitigation, perimeter fencing, parking lots and an access drive.

Total cost for the improvements is estimated at \$30 million, and funding is being provided by the FAA, Arkansas Department of Aeronautics, the Texas Department of Transportation and the Texarkana Regional Airport Authority.

*Continued on next page*



## Introducing Our New Fort Smith Office!

We are proud to announce the opening of a new office in Fort Smith, Arkansas located at 2120 Waldron Road, Bldg. A, Suite 5. The new office is scheduled to open the first week of October, 2017. We are looking forward to our expansion into the River Valley and continuing to provide the quality engineering services we have for the past 50 years.



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## Joseph Fifer joins Crafton Tull's Infrastructure team



Fifer

Joseph Fifer, P.E., has joined Crafton Tull's Infrastructure team in Fayetteville as a project manager.

Fifer grew up in North Little Rock and received a Bachelor of Science in Civil Engineering degree from the University of Arkansas in 2008.

He is licensed in Arkansas and Louisiana and has more than eight years of experience. He is a national and state member of the American Society of Civil Engineers and serves on the board of the University of Arkansas Civil Alumni Society.

Fifer is married and has two children. He is looking forward to contributing to the Crafton Tull Infrastructure group.

## Kemp as interim to lead A-State engineering

Dr. Brandon Kemp will lead Arkansas State University's engineering programs this academic year as interim associate dean of the College of Agriculture, Engineering and Technology



**Calendar of events**

**Nov. 2 (Tentative)**  
 ACEC/A Membership & Board of Directors meeting  
 Little Rock

Arkansas Industry Update  
 Little Rock

Emerging Leaders Leadership Roundtable  
 Little Rock

**Dec. 7**  
 Emerging Leaders Public Speaking  
 Northwest Arkansas

**Jan. 18**  
 ACEC/A Board of Directors meeting  
 Northwest Arkansas

**April 5-6**  
 ASPE Conference  
 Hot Springs Convention Center

An ASU alumnus, Kemp has been an associate professor of electrical engineering and the Verbeth and Henry Ezra Coe Professor of Engineering. He earned his bachelor's degree in engineering in 1997, and was named A-State's most outstanding graduate in electrical engineering. He earned his master's degree from the Missouri University of Science and Tech-



Kemp

nology, and his Ph.D. from Massachusetts Institute of Technology.

"We are excited that Brandon accepted Dean Tim Burcham's offer to lead our engineering program for the

upcoming academic year," said Provost Lynita Cooksey in a press release. "As a product of our university and one of our leading researchers in engineering, Brandon brings an understanding of both our academic strengths and the role A-State plays in our regional engineering economy."

Kemp was named an Arkansas Research Alliance Fellow in 2015 and is a 2012 National Science Foundation CAREER award winner. He also is a member of the Arkansas Experimental Program to Stimulate Competitive Research (EPS-CoR) Center for Advanced Surface Engineering (CASE).

## ICM hosts sales staff

Improved Construction Methods recently had a two-day sales meeting at its headquarters in Jacksonville. The event brought together staff members from Arkansas, Texas, Oklahoma, Tennessee, Alabama, and Mississippi.

ICM offers a variety of underground and above-ground tools and construction products, as well as survey and machine control equipment and manhole products and services.

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# Avoid the rush: Get active now

Arkansas Industry Update, committees, ASPE Conference and Emerging Leaders offer plenty of chances to be involved

This year's ACEC Deep South Convention was a great experience at the beautiful Sandestin Golf & Beach Resort in Destin, Florida. There, the ACEC/A's 2017-18 slate of officers officially took their positions under the leadership of President Mike Burns, P.E., with Crafton Tull. Meanwhile, ASPE is now led by Paul Speers, P.E., a longtime Entergy employee.

But summer is now in our rearview mirror, and the craziness of the Christmas season will be here soon. That means that now is an ideal time for engineers to be active in ACEC/A and ASPE.

## Arkansas Industry Update

One big upcoming event will be the annual ACEC/A Arkansas Industry Update, tentatively scheduled for Nov. 2. This event, begun last year, offers a broader look at economic and regulatory trends than the event it replaced, the Agency Forum. That event tended to focus on state government. It was good, but a little policy heavy. The Arkansas Industry Update also is earlier in the calendar than the Agency Forum was, so weather should not be a factor (and neither should be Christmas shopping duties). We're still locking down a venue.

The Industry Update offers not only a lot of good information but also a chance to network with agency participants, so make plans to attend.

## Want to join a committee?

As is always the case this time of year, we're looking to fill slots on the various ACEC/A and ASPE committees. These

committees handle duties such as public relations and legislative advocacy. Some are busier than others, but none require an excessive commitment, and they enable our members to better plug into our organizations.

You're already paying your dues, so why not get involved and help determine the future of engineering in Arkansas?

## Emerging Leaders

Speaking of engineering's future, by the time you receive this magazine, our newest Emerging Leaders class will have had its first meeting, a team-building exercise at Northwest Arkansas Community College. (Story, page 20.) This will be the ninth class in the program, which teaches young design professionals skills in leadership, management and communication. On the same day as the Arkansas Industry Update, the class will participate in a Leadership Roundtable with

engineering veterans who will discuss issues from an executive perspective.

These are our future leaders (and for some of us, future bosses), and they would love to hear from you. The more you know about it, the more you'll like it, and you'll want your own design professionals to participate.

## ASPE Conference coming in April

Finally – and this is a little ways off – but plans are already taking shape for the annual ASPE Conference, which will be April 5-6 at the Hot Springs Convention Center. The format will be similar to past years – lots of speakers talking about industry issues and lots of time to network – and April is a great time to be in Hot Springs, so make plans to attend with some extra days to see the sights.



Angie W. Cooper  
Executive Director

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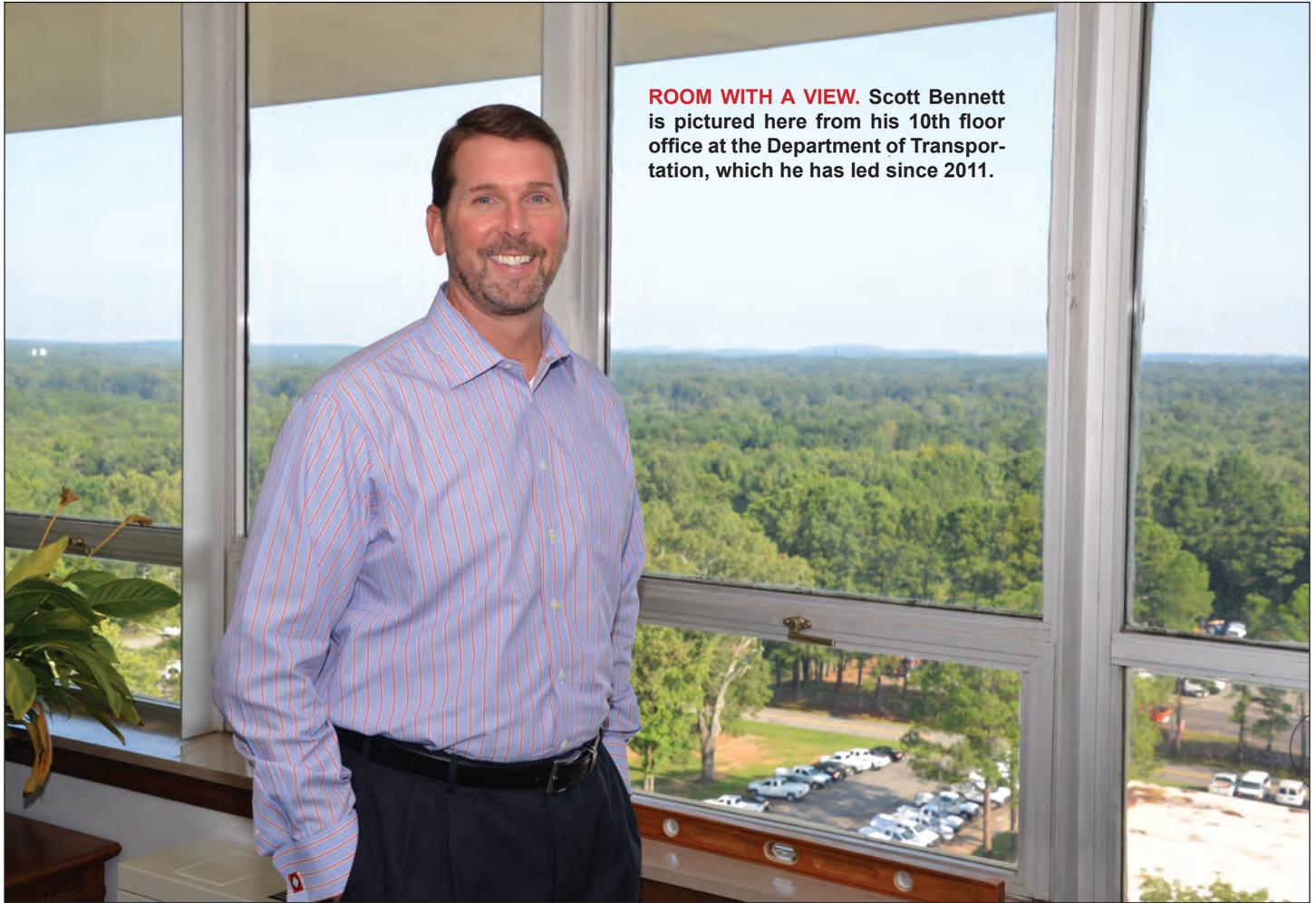


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**ROOM WITH A VIEW.** Scott Bennett is pictured here from his 10th floor office at the Department of Transportation, which he has led since 2011.

# Arkansas' highway engineer

Scott Bennett, P.E., has led the state's Department of Transportation for six years. Now he's working toward a future with, hopefully, more funding and fewer accidents.

By **Steve Brawner**  
Editor

Scott Bennett, P.E., has spent his career with the Arkansas Department of Transportation, and since 2011 he's led it. The 1989 University of Arkansas graduate began as a civil engineer in the Planning and Research Division and now is the department's director.

It's a job that requires both patience and initiative. During the past three legislative sessions, he's tried to convince lawmakers to fund a comprehensive highway program, but each time they've had higher priorities. Some highway supporters are hoping a new legislative Tax Reform

Task Force will lead to more funding, but this time he and the Highway Commission aren't waiting. Earlier this year, the Commission voted to pursue an initiative to be considered by the voters in 2018. The department is gauging public interest before deciding whether or not to collect signatures.

Meanwhile, on Aug. 31, the day before his interview with *Arkansas Professional Engineer*, Bennett attended a White House conference with other state transportation executives, Secretary of Transportation Elaine Chao, and Mick Mulvaney, director of the Office of Management and Budget. The message from the White House: We want more infrastructure, but we want state and local governments to pay for much of it.

Patience also has been required for the state's 30 Crossing project improving and widening the I-30 bridge across the Arkansas River between Little Rock and North Little Rock. The \$600 million proj-

ect has run into stiff opposition from activists who fear it will negatively impact the city's downtown and quality of life. The department and its team of engineers, led by Garver, have tried to address those concerns without sacrificing traffic efficiency and the needs of the motoring public. Of interest to engineers: The project is the state's first to use a design-build model and the first to use a planning and environmental linkage process.

Meanwhile, the agency is undergoing a name change. After decades of being the Arkansas Highway and Transportation Department, it's now the Department of Transportation thanks to legislation passed this year. The change puts the name in line with the names of corresponding departments in other states. Bennett even helped design the new logo.

*Arkansas Professional Engineer* sat down with Bennett in his office to discuss these and other topics in a wide-ranging interview Sept. 1.

**Where are you in your effort to get an initiative on the ballot next year?**

“Right now, we’re still in the mode of meeting the public and stakeholders and collecting a lot of information. ... We’ll be doing that for the rest of this month and into early October to try to get a sense of what the public’s thoughts are on whether or not they would support a new highway program and how they think it ought to be funded, and what kind of work should be done. So we’re still in the information gathering stage right now.”

**So basically, the funding mechanism and the amount are going to depend partly on what you hear?**

“That’s exactly right, and as far as how much to generate, there are a couple of avenues. One is that we’ve started with the targets that were set in the Governor’s Working Group on Highway Funding a couple of years ago, which was a target of an additional \$400 million a year for highways. Then you’ve got the 15 percent for cities and 15 percent for counties in addition to that, so it brings it up to somewhere between \$550 and \$600 million.

“The one thing that has happened just in the last couple of months is the Legislative Audit came over here and performed an audit of our revenue and our needs. It was requested by the group of legislators who have been also interested in highway funding, and then I think sometimes there are a lot of questions about our level

of needs that we say because of the magnitude of them. I mean, it’s huge, and I think some people question sometimes whether we really need that much money for highway improvements or not. The Legislative Audit report was actually released yesterday and will be presented to the subcommittee Friday, a week from today. Basically it confirmed our needs, confirmed our revenue projections looking forward. But they actually have said while we were saying our target was \$400 million, they said our needs are almost \$480 million a year.”

**Gathering signatures and running a campaign are extremely costly. Where will you get that money?**

“Well, obviously, it’s not going to come from us because we’re not legally able to do something like that. It’ll have to come from the industry and stakeholders. In the last two campaigns for the Interstate Rehabilitation Program and the half-cent sales tax program, there was a group put together under the Chamber of Commerce called Move Arkansas Forward that was responsible for generating revenue for the campaign. Obviously, coordination with industry groups like AGC, the Asphalt Pavement Association, Concrete Pavement Association, ACEC, ASCE, all of those groups are going to be important to be able to support a campaign of this nature. But also Chambers of Commerce, the State Chamber of Commerce. ...

“But one of the things that we’re mindful of is that we need to come to people with a plan. So we need to know how much revenue we’re trying to generate, where that revenue would come from, and what we’re going to do with it. So we haven’t gotten to the point where we have people on the hook to say, yes, we’re going to commit to this. But I think that will be coming in the next couple of months.”

**I’ve heard one or two people say that maybe it would be best to wait and see what the Tax Reform Task Force does. Is that too long to delay?**

“Well, we’ve already waited several years. I mean, we’ve been through the last three legislative sessions with proposals, and nothing has come forward yet. Obviously, the longer you wait, the bigger the spread gets between the needs and the revenue that we have available to meet them. Something that we’re concerned about is the timing of all of this. If this were on the ballot in 2018, which is still a year from now, the revenue wouldn’t begin to flow until July of 2019, which is almost two years from now. If you wait, if something were possible in the general session of 2019, the revenue could start to flow at the same time if the Legislature would step up and actually fund a substantial highway program. If not, if it’s going to be another initiated act, or even if the Legislature were talking about referring something again, then you’re talking

*Continued on next page*

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about November of 2020. Revenues start to flow in July of 2021, which is four years from now. That's a long time to wait.

"One of the things that we've got to be mindful of is that the half-cent sales tax will expire in 2023. So what we're looking at, and this goes back to the Blue Ribbon Committee recommendations in 2010, is an additional amount of revenue, plus replacing the half-cent sales tax when it expires. So timing is going to be critical."

### White House visit

**You discussed infrastructure policy at the White House yesterday with other state transportation leaders, the secretary of transportation, and the White House budget director. How did that go?**

"It was pretty interesting because they're trying to generate support for the administration's guiding principles on infrastructure going forward. Like I said, it was an interesting conversation because some of their guiding principles are really going to push a lot of the responsibility for funding down to the state and local level. ... One of their guiding principles is leveraging private investment. One of the examples that they continued to use is with the additional federal funding they're looking at, they're looking for \$200 million projects where you put together all the state, local and private investment you can, and you're still \$20 million short. Those are the projects that they want to fund.

"Well, that's a completely inverse relationship of what we've had on federal projects in the past. In the past and even currently, they're funded with 80 to 90 percent from the federal level. Now they're talking about being funded 10 to 20 percent from the federal level. One of the issues that we have with that, though, is even if you put what might be seen as a de minimis level of federal investment in a project, it's still a federal project, and you still have to go through all of the federal regulations to clear it, and sometimes it's beyond the Federal Highway Administration. There's the Corps of Engineers, there's Fish and Wildlife, there's the National Park Service, there's EPA, and it's more costly to clear a project at the federal level than it is the state level, so one of the things that they're looking at, too,



**MAKING THE CASE.** Scott Bennett testified before legislators about the need for highway funding in 2014 prior to the 2015 session. That effort and others have been unsuccessful, so now the Department of Transportation and the Highway Commission are considering a ballot initiative that could go before the voters in 2018.

is trying to streamline the environmental and the permitting process.

"So it's an interesting concept moving forward, but I think it's also clear that they're looking for investment from places other than the federal government, which puts a higher level of responsibility on us whether it's a legislative proposal or a ballot measure."

(Editor's note: News reports have said that on Sept. 26, about a month after this interview, President Trump said in a meeting with lawmakers that public-private partnerships are not an effective method for funding infrastructure projects.)

**Listening, leading with 30 Crossing**  
**Changing gears, what have you learned from the controversy over the I-30 bridge connecting Little Rock and North Little Rock?**

"I've learned that we're doing things the right way, and that a higher level of public involvement is good. We're out there to do jobs for the traveling public,

to make things better for the traveling public. What you'll find on a lot of the projects that we do is that you don't always have 100 percent support for everything that we do. So you're trying to look for the greater good."

**Basically, some residents want an inferior road. Is that unique to Little Rock, or could it happen again?**

"No, it's not. It could happen again, and it happens across the country. ...

"It's happened in the past. It happened, really, on the first project that I ever worked at on the department, which was a U.S. 62 bypass around Prairie Grove. From the planning study, we knew improvements were needed to U.S. 62 west of Fayetteville. There wasn't really a way that you could fit them through town because of the national park and the battlefield on the north side, a lot of development through town. We proposed a bypass. The people were adamant. They did not want a bypass. They really thought that was going to be detrimental to the town. They wanted everything to stay through downtown and have a vibrant downtown. About five years after that, they came back and said, hey, they were wrong. They wanted to reconsider the bypass. Well, just a couple of years ago, we cut a ribbon on it. That's how long it took because we backed things up because of the public comment. But we did things the right way. We went through the process we needed to go through.

"It happened in Green Forest not too long ago. We needed to make some improvements. We were looking at going around Green Forest. They thought the same thing. Well, we backed up. The money that we had planned to spend there, we spent somewhere else because the people overall were adamantly opposed to it.

"On the 30 Crossing project, it's not that everyone's opposed to it. There's a vocal group, but we're addressing all their comments, and we'll see where it goes from here."

**It's the DOT's first-ever design-build project. How's that going?**

"It's a great process. It really is, and it's a way that we'll be able to get construction started sooner, and when construc-

tion starts sooner, you're going to be able to finish it sooner, which means the people are going to be able to enjoy the benefits of it sooner. I think really on a complex project like this, where you're going through that alternative delivery model, where you're getting the designers and the builders in the room at the same time early on, it's always going to result in a really good project. ...

"Right now, what we're getting started with is going to be our first construction manager/general contractor delivery. We got the authority to use that model in this most recent legislative session, so we're going to move forward with it. So it's another one that's a little bit different because it will be our designers working on it. But (it involves) hiring a construction manager to come in to look at constructability issues early on in the design process with our own staff. At the end of it, the construction manager that we hire will have the opportunity to be the first one to bid on it, and if their bid is within the acceptable range, then they become the general contractor on the project."

#### So you could have more of both?

"We could have more of both, and we are looking at other opportunities to do that. Now, it has to be the right project still. It has to be something where you need a lot of innovation, where there are a lot of constructability issues, a lot of traffic management issues, but we're going to continue to look for opportunities to do this because it is something that has been a good tool in the toolbox if it's solving the right problem."

#### The 30 Crossing project is also the first time you used a planning and environmental linkage process. How's that going?

"Well, that one actually has been a big benefit. It helped us move a lot more quickly into the environmental phase. What it does, it puts a little more analysis in the planning level to be able to screen out alternatives that aren't going to meet the purpose and need, so then you move forward with a smaller set of options. So we're actually past that, and that was extremely successful. And a lot of the comments that we'll get even now on some of the proposals for 30 Crossing have been issues that were already addressed in the planning and environmental linkage process that had fallen out through some of the screening that you do. So I think it's something that helps you narrow your focus when you get to the environmental process so you can focus on really a smaller number of alternatives and give you a higher level of concentration on them."

#### Still a place for small engineering firms?

**The trend in the engineering community has been toward bigger and bigger firms. Is there still a role for small firms with the Department of Transportation?**

"Absolutely. And I think there has to be. I think in anything that we're doing, whether it's from the design perspective or from the construction perspective, there's got to be a good balance, and I think we have that. There are going to be projects that are big enough and complex enough that you are going to need the higher level of resources from a larger firm, but there are also going to be smaller projects where we need some help,

and that's really the way smaller firms can be able to grow and be viable. They are, and they're going to continue to be, a viable part of the industry. Sometimes it's easier to deal with smaller firms than it is larger ones. When you have some of the workers that are here but most of the administration is somewhere else, there are some growing pains with things like that. I think the trick is, as a smaller firm becomes larger, they still have to have that local customer service orientation that they've always had."

#### One of the department's initiatives is Toward Zero Deaths. How is that coming along?

"Not real well this year. Fatalities are up, and that's a huge concern. What we find out in most of our analysis is that it's not the fault of the roadway. Traffic safety, it's about engineering; it's about education; it's about emergency response. There are several things that are involved in it.

"Most of the issues that we see are happening because of the human element. You continue to see a lot of single vehicle, run-off-the-road crashes. And you read the reports in the paper, just the little blurbs in it, there are a good number of them that will say, 'single vehicle, ran off the road or crossed the center line, and the conditions were clear and dry.' The indications are that there's a lot more distracted driving going on, and that's a big concern. A lot of that is going to have to come from education

*Continued on next page*

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“Do I do a lot of engineering work anymore? No, I really don't. But it helps me understand everything that we do every day, from planning to design to construction to maintenance. And the problem-solving ability and learning to think logically through things is really priceless.”

and enforcement, which is the fourth 'E' for traffic safety: engineering, education, enforcement and emergency services. And that's difficult because our law enforcement officers are spread pretty thin. We do have some laws that are in place that are good. We probably need to strengthen those laws and strengthen the penalties, but it's an issue all across the country.”

### Automated automobiles

**One solution is to let cars drive themselves. Do you include that in your planning process?**

“We do, and on one hand, it may be far off, and on the other hand, it may not be. ... There's a lot of technology out there that's helping. The question is whether technology is going to completely solve the problem. There was one issue fairly recently of a driverless vehicle that ran into the trailer of a tractor-trailer combination. Well, the computer system saw the trailer as clear sky and didn't realize that was an object in front of it. So the technology is coming, but it's been talked about for a long, long time. When I first started work in the late 1980s, we were talking about intelligent vehicle highway systems, and now 30 years later, we're talking about connected and autonomous vehicles. So it's coming, but I really believe it's also going to take a long time for the fleet to completely turn over where everything is automated, and if that's the case, you're still going to have that human element, and how are you going to teach an automated vehicle to react when there's the human element that's right there next to them?”

### How's the name change going?

“I think it's going great. Most people have fallen right in line with it. There's still going to be people that call us the



Highway Department. Well, that was 40 to 50 years ago when we were the Highway Department. We've been the Highway and Transportation Department for about 40 years. So it will take people a little while to get used to it, but the response has been really positive so far.”

### You ever find yourself calling it the Highway Department?

“I haven't yet, but I'm not saying I won't. I've been calling it that for my 30 years here. So I haven't yet. We talked a little bit about starting a collection so any time anybody calls it the Highway Department or AHTD, they have to put a little money in the pot, and I don't know what we'll do with the money. (Laughs) It's not going to be enough to go very far.”

### It could be used to change the signs.

“Yeah, change some signs. But it's going real well. And I think it was a good opportunity to rebrand ourselves. Now

we also have a new strategic plan and a new mission statement to go along with it, so I think it's going well. I think it was time.”

### Always a P.E.

**You're a P.E. How does that affect your decision-making process?**

“You know, it has really taught me how to solve problems. Do I do a lot of engineering work anymore? No, I really don't. But it helps me understand everything that we do every day, from planning to design to construction to maintenance, and the problem-solving ability and learning to think logically through things is really priceless. Whether it's in this industry or another industry, I think that's one of the big benefits of being an engineer and being a licensed engineer is you have proven that you have the ability to solve problems.”

*Editor's note: Questions and answers were edited for length and clarity.*

# Meanwhile, a task force studies taxes

Legislators are meeting to consider tax reform, and highway funding could be part of the mix

By **Steve Brawner**  
Editor

While the Department of Transportation and its director, Scott Bennett, P.E., are pursuing a ballot initiative to increase highway funding (see previous story), a legislative Tax Reform Task Force is meeting to discuss changes to the state's tax code.

Could those changes also affect highway funding? Maybe, said its chairman, Sen. Jim Hendren, R-Gravette.

"Our charge is not really to look at finding new revenue for a highway program," he said after the task force met Aug. 31. "But I do think we'll look at, does the gas tax that we have now make sense? Does the way we pay for roads now make sense, or should we change it? Should we change it to a stream that increases as the traffic increases and the mileage per car increases? Is there a smarter way to fund our roads?"

Rep. Andy Davis, R-Little Rock, a P.E. and owner of ACEC/A member New Water Systems, said progress on tax reform can pave the way for additional highway funding.

"Officially, this group isn't tasked with looking at highway funding, but I know from talking to several members that it's on their minds, and they realize that the two topics are related," he said.

In Tennessee, legislators this year voted to increase motor fuels taxes and other road user fees while reducing other taxes, particularly the grocery tax, by a higher amount. Davis said the grocery tax isn't available for a trade-off in Arkansas because it's already set to be reduced when the state stops making desegregation payments to the Little Rock, North Little Rock and Pulaski County school districts after this school year.

Davis expects legislators to pass some kind of highway package in 2019. He said the groundwork is being better laid this time than in previous sessions, when other efforts failed.

## "Path towards relief"

The task force was created through legislation passed this year. Taxes have been cut in both of Gov. Asa Hutchinson's first two legislative sessions, but Hendren, also an engineer, said the goal now is to work with a consultant to examine the tax code, see how it competes with other states, and find ways to make it more efficient and simpler and create a "path towards relief."

"What I want (the consultant) to say is, 'Next time you want to do tax relief, if you want to cut a hundred million dollars, this is the tax cut that's going to give you the most bang for your buck,'" he said.

Hendren said the task force will have a package ready for the 2019 legislative session.

That's too slow for Bennett and the Highway Commission, which is why they are moving forward with a proposed ballot initiative that voters could consider in November 2018.

Bennett said that even if voters approve the initiative, revenues wouldn't be available until 2019, and the delay would be even longer if the department waits for the Legislature, and it fails to act. Meanwhile, the half-cent sales tax funding the Connecting Arkansas Program expires in 2023.

Hendren said the task force's work could be influenced by the progress of the ballot initiative. If it looks as if voters will approve it, the task force will have to take that into account.

A number of states have increased motor fuels taxes without voters punishing the lawmakers responsible for it. The American Road & Transportation Builders Association found that 91 percent of legislators in 16 states who supported fuel tax legislation between 2013 and 2015, and who ran for re-election, were re-elected.

Davis said legislators here will not be influenced by that fact.

"I would say that legislators don't really think about those things as much as a lot of people think they do ... Arkansas especially tends to be a state, we just kind of have a mentality where I don't really care what happened in the other state. We're talking about my state," he said.



Davis



"The greatest thing in this world is not so much where we stand as in what direction we are moving."

— Goethe

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# New leaders emerging?

**For the first time, four of this year's nine-member Emerging Leaders classmates are women. Part of a trend?**

The Emerging Leaders program always teaches young design professionals communication and management skills, but this year's class is unlike the eight previous ones in this way: Almost half of the participants – four out of nine – are females.

“I think it's awesome being one of four girls here today ... I'm the only female in my department, so we're kind of in a unique position as far as trying to lead people because we're not just another male leading other males,” said Anna Negrete, E.I., CFM, Crafton Tull.

Negrete made those comments Sept. 20 at Northwest Arkansas Community College, where she and the other Emerging Leaders were participating in an outdoor team-building course offered by Challenge Quest. Future topics to be cov-

ered include public speaking, conflict resolution, business and state government

Her interest in engineering began at age six, when she rode the “Mr. Freeze” at Six Flags in Arlington and decided she would grow up to design other roller coasters. That remained her intention even through college, until she learned that opportunities were limited in that field and decided her path instead led to Crafton Tull. There, she's a highway engineer whose projects have included the widening of I-49 not far from the NWACC campus.

Negrete attended engineering school with two of the other female Emerging Leaders: Anna Keogh, P.E., with CEI Engineering Associates; and Cary Beth Lipscomb, E.I.T., with the Little Rock Water Reclamation Authority. The other participant is Holly Vetsch, E.I., with B&F Engineering.

The other members of the class are Bart Gilbreath, P.E., LEED AP, Garver; Maneesh Krishnan, P.E., McClelland

Consulting Engineers; Landon Miller, E.I.T., Michael Baker International; Travis Rapp, P.E., Burns & McDonnell; and Dustin Ward, P.E., B&F Engineering.

Angie W. Cooper, executive director of the ACEC/A and ASPE, said she is excited about this class's diversity

“I think it's fantastic,” she said. “This is a first, and I really hope that this is going to be a trend. More and more women are getting into engineering,” she said.

The team-building program included an exercise where pipes numbered 1-25 were placed randomly on orange placards, also numbered 1-25. The challenge was to rearrange the pipes so their numbers corresponded with the placards. The exercise occurred on a platform resting on a fulcrum, which meant it was unstable. Only two participants were allowed on the platform at once, and each participant could pick up only one pipe during their turn. Because of that rule, the participants had to coordinate their efforts to switch pipes. If any rule were violated, or



**EMERGING LEADERS.** Opposite page, Cary Beth Lipscomb, E.I.T., with the Little Rock Water Reclamation Authority, left, and Anna Negrette, E.I., CFM, with Crafton Tull look to match numbered tubes and placards during a Challenge Quest exercise. Above, Maneesh Krishnan, P.E., with McClelland Consulting Engineers tries to climb a ladder along with partner Negrette, not pictured. Right, Lipscomb and Landon Miller, E.I.T., with Michael Baker International try to scale the ladder.

if any pipes fell on the wobbly platform, then all the participants were required to exit the platform, turn their backs to it, and say, “Yabba yabba yabba doo.”

The group was given a couple of minutes to plan and set a goal, which they decided was 15 minutes. Instead they accomplished it in 7:50. However, the second attempt was slower. By the fourth exercise, the participants had cut the time to 2:51 by focusing on uncovering the placard and finding the pipe to match it rather than starting with the pipe and looking for a placard. They also left Negrette on the platform at all times to direct the proceeding, reduce chaos, and reduce the time lost by transferring participants.

It was a good finishing time, but not the best ever. Challenge Quest facilitator Floyd Hinman said some groups have finished in about a minute, including a team of alternative school teachers. Hinman said that group did a good job communicating with each other.

Could the Emerging Leaders’ slower time be the result of engineers typically having long deadlines to solve problems rather than the chaotic situation pre-



sented in the challenge? Perhaps, Hinman said. He said he has worked with engineering groups before, and they tend to spend a lot of time – maybe too much time – planning.

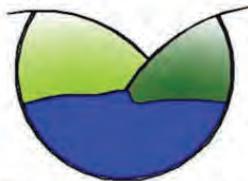
Negrete agreed that having little time to plan was a challenge. “Especially in my field, we often have six months, seven months until our next deadline,” she said. “We’re not even on a week-by-week basis. I’m really used to how we just kind of crunch away at things.”

Regardless, it was clear the participants were comfortable with the problem-solving process and with each other.

“We’ve got a group of personalities, I think, here,” Negrete said. “There’s no one that’s trying to have control of someone else. We’re all just throwing ideas out there, and if it sticks, all right.”

That’s typical for engineers, Hinman said, who added that some other types of groups can have conflict issues.

“They’re fun to work with,” he said of engineer groups. “They’re always light-hearted and tend to be able to joke around with each other in much more sophisticated ways than I understand. ... I’ve never had a group of engineers get mad at each other.”



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## ACEC/A Affiliate Spotlight

# Now in sales, but still an engineer

ETEC's Chad Cooley uses experience, expertise to help clients complete their projects

By Steve Brawner  
Editor

Chad Cooley, P.E., doesn't design water and wastewater treatment plants, but he does engineer solutions for those who do.

Cooley is vice president of Environmental Technical Sales, a manufacturers' representative. Among his many product lines is Evoqua Water Technologies, whose manufacturing lines include Davco®, Envirex®, Jet Tech, Memcor®, and Wallace & Tiernan®. Other major manufacturers are Suez, maker of Infilco and Ozonia products, and Smith and Loveless.

ETEC is headquartered in Baton Rouge with satellite offices in Little Rock, Memphis and Jackson, Mississippi. Cooley's responsibilities are Arkansas and western Tennessee, where the office is staffed by Matthew Muehlbauer.

Cooley relies on his training and many years of experience. A native of Memphis, he earned his bachelor's degree at Mississippi State University in 1988 and then spent a year with the John B. Spaulding & Associates consulting firm in Nashville. He then returned home to work for the Fisher Arnold consulting firm in Memphis. There, he spent 13 years doing water and wastewater projects, including pump stations, water and sewer extensions, and water and wastewater collection systems. At night, he earned his master's degree in environmental engineering at the University of Memphis.

### Making the move to ETEC

He made the move to ETEC in 2002 as a sales representative. At Fisher Arnold, he had become head of the department over water and sewer projects, which meant he was marketing the firm and negotiating the design contracts – in other words, sales.

The opportunity required more of a change in mindset than a change in skill set. Still, he was reluctant.



**ETEC'S VP.** Cooley is pictured here with a universal chemical feed pump, one of many products he offers as a manufacturer's representative.

"It took me a while to get my head around going into sales, but once someone helped me make the connection that I had been selling, and that I would just be doing it differently now, it kind of helped me overcome that hurdle," he said. "Because it took me a while to decide that was the right jump for me."

Cooley does miss designing projects. Now that enjoyment comes from helping others do the same.

"Working with an engineer or a utility, or both in a lot of cases, to provide some equipment that's achieving the goals that they're trying to achieve, I get a lot of satisfaction out of that," he said.

As a child, Cooley said he "wanted to be a race car driver, but no such luck." In-

stead, the married father of two now content himself with playing a little golf and tennis in his spare time.

About three years ago, Cooley had the opportunity to buy into ETEC's ownership.

The process was completed in 2016, and he's now a vice president with the firm.

He has maintained his engineering license and plans to continue doing so.

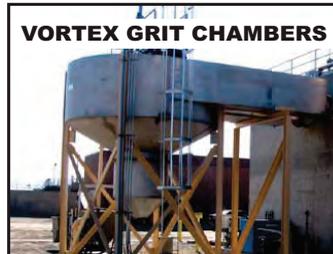
"My business card still has the 'P.E.' designation," he said. "As long as I'm in this industry, I'll maintain my licenses in Arkansas, Mississippi and Tennessee. It took me a long time, and that was such an important goal early in my career, I have no intention of letting it go."



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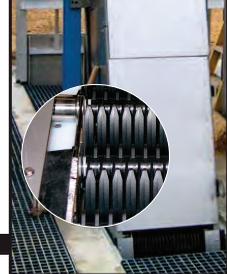
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