



Emerging Leaders

Class of 2012-13 learns “right brain”
leadership, communication skills

Front row: Adam Roberson, P.E., Garver
Max Good, P.E., Brown Engineers
Back row: Blake Martin, P.E., Garver
Chuck Wipf, P.E., Crafton Tull
Adam Lesso, P.E., CEI

From the Governor



Balanced budget requires tough choices

By **Governor Mike Beebe**
Guest Writer

As I do each November, I have submitted my proposed balanced budget for the Arkansas Legislature to consider this winter. The budget addresses the needs of our state and her people while meeting the requirement that we do not deficit spend. While modest growth in our economy will allow us to meet some additional needs, there are some tough choices ahead of us as well.

First and foremost, my budget continues our philosophical and legal commitments to the education of our children. Based on the recommendation of the Legislature's adequacy committee, I am proposing a two percent increase in per-pupil funding, similar to previous years. This should meet the Arkansas Supreme Court's mandate for educational adequacy while continuing our pursuit of educational excellence.

In addition, I've proposed ongoing money to help the Department of Correction operate our prisons. The Arkansas Forestry Commission, which led courageous fights against drought-fueled wildfires, will be able to restore jobs lost during previous financial struggles. I've

also recommended a modest cost-of-living adjustment for state employees.

The toughest budget to set this year will be the Department of Human Services, Medicaid in particular. Health care costs continue rising, and our improvement in per capita income rankings means we will pick up more of the tab for Medicaid services under federal guidelines. We will have about a \$300 million Medicaid shortfall at the beginning of the next fiscal year. My proposed budget has both new ongoing money and one-time money to help close that gap. Even so, we're looking at about \$140 million in services that will have to be funded another way or cut. At my request, DHS officials performed the difficult task of compiling a list of potential cuts. The most troublesome one would end nursing home care for "Level 3" clients, those elderly Arkansans who require the least intensive care in a residential setting. Other possible cuts would impact adult dental services and insurance options for small business employees.

We do have options available to reduce those cuts, the clearest being acceptance of the federal government's offer to expand our Medicaid program. It does

seem counter-intuitive to address a funding shortfall with expansion, but the new federal money would also reduce state obligations in some existing Medicaid services. The savings this expansion would generate could keep those nursing home patients where they are now, and could offset cuts elsewhere too.

Finally, there is my ongoing commitment to reduce the sales tax on groceries. With Medicaid cuts looming, I felt it was not the right time to put another grocery tax cut into my budget. Instead, I have proposed a system to trigger this tax cut when future state money becomes available. The most likely source would be the expected reduction or elimination of Arkansas' desegregation payments to three central Arkansas school districts. If and when that money becomes available in the next few years, the sales tax on groceries would drop from 1.5 percent to one-eighth of a percent.

Other ideas will surface, and I will discuss them with legislators and other interested parties. There will be difficult decisions to be made, but if we continue to work together as a government and as a state, Arkansas can make the best choices possible to care for our citizens.

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18 *Adam Lesso, P.E., a project engineer with CEI, laughs during a public speaking seminar at the ACEC/A-ASPE offices Dec. 19.*

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The Emerging Leaders program teaches engineers about leadership and communication.

Letter from the ACEC/A President



Brent Massey

Certainty? Certainly not.

For most, the crystal ball for 2013 appears a bit cloudy. We just finished the election cycle, with the results yielding a second term for the Obama administration and an Arkansas Legislature with both houses controlled by the Republicans.

Lawmakers in Washington continue to wrestle with fiscal responsibility and how to avoid the looming fiscal cliff. The stock market continues to trend up-

ward, despite a shaky global economy. Unemployment is still staggeringly high, but residential housing saw some modest gains last year. And last, but not least, Arkansas has a new football coach.

So how does all of that shape up for the engineering industry?

Football aside, most indicators seem to trend toward "more of the same." For our industry, that translates to some winners, some losers, and some in between. There is no guaranteed "winning formula" for all firms. The challenge to firm leaders is to find the right formula that fits their market sector, their personnel, and their risk tolerance. Is this the time to go international? Should the firm diversify to a new market sector? Should they focus their energy on a niche market? Is it time for a merger or acquisition?

We all wish we had a crystal ball to know where we should invest our time and money and the direction to point our firms. So far, that technology eludes us. So what's a firm to do? For some it is steadfast endurance. For some it is innovation.

For most it's about doing what you're passionate about and trusting your instincts.

One thing we CAN count on is ACEC's continued

diligence to fight for our industry and the things that matter most for engineering firms. Infrastructure funding is a serious issue for our country, and ACEC has it at the top of the list when talking with congressional delegates in Washington. ACEC continues to fight for the interests of small business and against the things that stifle economic growth. ACEC/Arkansas will be closely monitoring the upcoming legislative session to stay abreast of any legislation affecting firms here in Arkansas.

There are not many things about 2013 that we can know for certain, but we can KNOW that ACEC is representing us well on the national platform and that ACEC/A is looking out for Arkansas engineers.

Best wishes for a prosperous 2013!



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Paul Strickland

Letter from the
ASPE President

Conference gives engineers a chance to come together

Ecclesiastes 4:9-10 says, “Two are better than one, because they have a good reward for their labor. For if they fall, one will lift up his companion. But woe to him who is alone when he falls, for he has no one to help him up.”

That verse could apply not only to a marriage or a close friendship but also to our profession. As engineers, we learn early in our careers the importance of companions in our design work. Our jobs are both difficult and important, and if we fall, many others can fall with us. In fact, lives can be lost. Simply having someone close by with a different perspective can help us solve problems or even prevent a planning mistake from becoming a construction disaster.

Usually that companion works with us at our own firm, but not always. Sometimes even a direct competitor can give us insight and understanding, or just a lift up when we need it most.

In fact, we're all each other's companions because, if one of us falls far enough, it hurts the entire profession. One poor design, in addition to the material and human losses it can cause, can result in public distrust and excessive governmental interference. Truly, we're all in this together even when it looks like we're competing.

There's no better time to create that companionship than the ASPE Annual Conference, which in 2013 will be April 18-19.

Our executive director, Angie Cooper, and the rest of the board are still pulling

together the details, but this is always a first-class event, and I know Angie won't let this year be any different.

We already know some of what will be happening. We know this year's conference will be in central Arkansas. We know a representative from the National Society of Professional Engineers will attend. We'll give a “good reward for labor” by recognizing the Distinguished Service Award winner as well as the Engineer of the Year and Young Engineer of the Year. We'll also recognize the newest professional engineer licensees as well as the graduates of the Emerging Leaders program. We know attendees can earn up to seven hours of professional development hours credit by attending the various sessions. We know we'll have some fun and all go watch an Arkansas Travelers baseball game with dinner on April 18.

But again, those are the details. What matters most is that as engineers we'll be coming together to strengthen our ties, discuss important changes to our profession, and honor some of Arkansas engineering's most important achievers.

I hope to see you there. No one understands what we engineers experience better than our fellow engineers. The relationships we develop through ASPE help us do our jobs better and make our profession stronger.

So let's come together, reward each other for our labors, and lift each other up. Because two engineers really are better than one, and many engineers coming together is even better than that.

In the News

Entries sought for Excellence Awards

Entries for the 2013 Engineering Excellence Awards should be submitted to the ACEC/A office by **Feb. 1**. Forms are available at ACEC's website, www.arkansasengineers.com/acec.

Entries are accepted in 10 project categories: Studies, Research, and Consulting Engineering Services; Building/Technology Systems; Structural Systems; Surveying and Mapping Technology; Environmental; Water and Wastewater; Water Resources; Transportation; Special Projects; and Energy.

Awards are given for large projects with construction costs greater than or equal to \$500,000 and for small projects with construction costs less than \$500,000 for each of the categories except Category A. One Grand Conceptor Award is chosen from among the other award winners.

Projects must be designed by engineers located in Arkansas and must be substantially completed and ready for use between Nov. 1, 2010, and Oct. 31, 2012.

Also, this year, entrants will receive a \$100 discount for submitting in the small projects subcategory.

All submitted projects are rated on the basis of uniqueness and originality; future value to the engineering profession; social, economic, and sustainable development considerations; complexity; and successful fulfillment of the client/

owner's needs, including schedule and budget.

The deadline for entering the national ACEC competition was Jan. 4.

The annual awards banquet will be at the Governor's Mansion in Little Rock on March 7.

ASPE Conference planned for April in North Little Rock

The ASPE Annual Conference will be **April 18-19** in North Little Rock, with the exact location still to be determined. Up to seven professional development hours will be available.

An NSPE officer or staff member is expected to attend. As in past years, the Engineer of the Year, Young Engineer of the Year, and Distinguished Service Award winners will be recognized. Professional engineering certificates will be presented to new licensees. Graduates of the Emerging Leaders program will be recognized.

Attendees will attend an Arkansas Travelers game following the April 18 activities.



January 14

89th General Assembly Convenes

January 24

ACECA Board Meeting,
Emerging Leaders Sr. Leadership Roundtable
McGoodwin, Williams and Yates
Fayetteville

March 7

ACEC/A Engineering Excellence Awards Banquet
Governor's Mansion (Tentative)
Little Rock

March 8

ACEC/A Board Meeting
Executive Offices

March 28

Emerging Leaders Contracts and Risk Reduction

April 18-19

ASPE Annual Conference
Central Arkansas

Garver ranked in list of growing firms

Garver is ranked 65th in this year's Zweig Letter Hot Firm List, which recognizes the 100 fastest-growing engineer-

ing, architecture, planning, and environmental consulting firms in the United States and Canada.

According to a ZweigWhite press release, the listed firms have "outperformed the economy and competitors to become leaders in their chosen fields."

Rankings are based on a ZweigWhite survey, and firms are ranked according to their three-year growth rate in gross rev-

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enue for fiscal years 2008-11. Half of the ranking is based on percentage growth and half on dollar growth.

Garver also made the list in 2011.

Holder is Garver's new director of transportation

Jerry Holder, Jr. has been named Garver's director of transportation and will work from the firm's North Texas office in Frisco.



Holder

Holder has more than 25 years of transportation and program management experience. He spent the first 14 years of his engineering career with the company.

During the last five years, he has been involved in Texas and Mississippi program management projects valued at more than \$7 billion. These programs include stormwater improvements in Dallas, the North Texas Tollway, and the Biloxi Hurricane Katrina recovery efforts.

Holder's engineering background includes projects for departments of transportation in Texas, Arkansas, Oklahoma and Mississippi. His prominent projects include I-540 in Northwest Arkansas, the High-Five Interchange in Dallas and the Trinity River Levees analysis and recertification in Dallas.

ESI's Mays designs \$72 million Ozark water project



Mays

A \$72 million project being completed by the Ozark Mountain Regional Public Water Authority is bringing clean water to about 20,000 Arkansans in Boone, Newton and Searcy counties. Tim

Mays from Engineering Services, Inc. is the project engineer.

The project transports water from Lake Bull Shoals to 18 member customers through 110 miles of ductile iron pipeline. The treatment capacity of the plant is 4.5 million gallons, with a first-year anticipated peak flow rate of 3.5 million gallons per day. It was funded through a \$55.7 million federal stimulus grant.

The first customers were hooked up in November, with the rest expected to be served by late winter or early spring.

The project will reach a part of the state previously served mostly by deep water wells, some of which had serious violations and had been under Department of Health administrative orders for many years. Some of the wells were contaminated with high levels of radium and fluoride, and some had odor and taste problems.

According to Mays, who first started working with the project in 2004, designing a 110-mile pipeline system brought with it a number of challenges. Some property owners did not want the pipeline crossing their property if they could

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Snyder Environmental & Construction

not hook directly into it, even though it would serve their residences. The Buffalo River twice had to be traversed using bridge attachments, but digging near the river wasn't an option because of conservation concerns. The topography is rugged with high-pressure valleys and low-pressure peaks, so proper tank location was a key to success.



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FTN engineers earn advanced degrees

Two engineers with FTN Associates, Ltd., a water resource and environmental consulting firm based in Little Rock, recently earned advanced degrees.

Ranjit Jadhav, a senior water resources engineer and branch manager of the Baton Rouge office, recently completed his doctoral degree in civil engineering with a specialization in coastal engineering at LSU.

Jadhav's dissertation was focused on field investigation of coastal wave and storm surge attenuation by salt marsh vegetation. The coastal marshes have been an important natural defense against hurricane surges and wave actions. However, there was a lack of specific research in this area. His research provides better frictional parameterization for the computer models.

Jadhav was instrumental in developing LSU's capability of rapidly installing wave and surge sensors along the coastal wetlands. He collected and analyzed wave and surge data for Tropical Storms Ida (2009), Lee (2011) and Hurricane Isaac (2012) along coastal Louisiana. He presented main findings of the research at the International Conference on Coastal Engineering in Spain earlier this year. The research was also submitted to the Journal of Coastal Engineering in three papers.

He has been with FTN for 17 years and has been at the forefront in numerical modeling of many of Louisiana's coastal restoration projects. Numerical modeling is an indispensable tool for planning and managing coastlines that experience significant land loss, impacting economic

and livelihood resources. He is a registered professional engineer in Louisiana and Arkansas and a founding diplomate of the American Academy of Water Resources Engineers.

Kathryn McCoy, E.I., a graduate water resource/environmental engineer who works in the Fayetteville office, recently completed her master's degree in civil engineering at the University of Arkansas. Her work was done under Dr. Findlay Edwards and involved a comprehensive drainage study of College Branch, a stream flowing through the university's campus into Town Branch, a tributary to the West Fork of the White River.

She compared various methods of runoff analysis and offered a conceptual design for stream restoration. Her paper also included detention volume calculations to provide the necessary storage to return the watershed to predevelopment conditions, conditions of other land uses, and conditions of earlier periods in the university's history.

Her interest in watershed drainage and stream restoration stems from her undergraduate studies at the university, from which she graduated with honors in 2009.



Jadhav



McCoy

Brown Engineers in PSMJ Resources' Circle of Excellence

Brown Engineers, LLC was one of 48 firms nationwide named by PSMJ Resources to its 2012 Circle of Excellence in December.

PSMJ Resources is the premier management consultant for the architecture/engineering/contracting industry. The awards are given to top performers in its Financial Benchmark Survey, which evaluates key performance metrics including overhead, productivity, staff growth and turnover. Arkansas-based Polk Stanley Wilcox Architects also was honored.

"The diversity of these (48) firms is proof that success isn't necessarily defined by the size of a firm, their practice area, geographic location, or even the markets they serve, but instead by a strong commitment to solid business practices," said Kate Allen, P.E., PSMJ's director of A/E/C Industry Surveys. She later added, "The

firms recognized in the Circle of Excellence have thrived despite the recession, proving that success is possible, even in difficult times."

Brown Engineers helps Met Tower save energy money

A design by Brown Engineers is helping the 40-story Metropolitan Tower in Little Rock save \$160,000 annually in energy costs through upgrades of the chiller and related cooling infrastructure.



Flake & Kelley's commercial management team selected the firm after Brown's Mark Eakin, P.E., a specialist in chiller design and mission-critical MEP remediation, used a 3D Building Information Model (BIM) to analyze the existing cooling system and project cooling needs and then test vendor claims for energy savings and ROI. The BIM also allowed Eakin to identify potential design conflicts.

His report identified Flake & Kelley's best options for replacing the existing chillers with new centrifugal, screw, or other technology options that utilize magnetic bearing, oil-less compressors. To ensure the best value, Eakin also supported Flake & Kelley during construction, completed in 2012.

Maggie Hogan, Flake & Kelley's property manager for the Met Tower, is delighted with the results. "I expect it (annual energy savings) to be in the \$160,000 range," she said. "In addition, because of the amount of reduction, we are receiving a large rebate in the program. Combining our chiller savings with our lighting program, we expect around a \$446,000 rebate."

Hawkins-Weir moves to new office

Hawkins-Weir has outgrown its office on River Market Avenue and has purchased a building on Natural Resources Drive. The new address is 211 Natural Resources Drive, Little Rock, AR 72205.

Bills would affect engineers

One proposal would require third party to say suit should proceed

By Steve Brawner
Editor

Now that the campaigning is over, the governing begins, and bills specifically affecting engineers will be introduced in the 2013 state legislative session.

Among the top priorities of the ACEC/A and the ASPE is a certificate of merit statute expected to be introduced by Rep.-elect Andy Davis (R-Little Rock). The bill would require plaintiffs' suits to be reviewed by a third party design professional and found to have a reasonable basis for a claim before a suit can progress.

Davis said the idea came up during his campaign as a priority for engineers, and he has been discussing it with his fellow legislators in preparation for the session.

Similar measures have been enacted in about 15 states, according to Art Schwartz, deputy executive director and general counsel of the National Society of Professional Engineers. Those states include California, which passed its statute in 1982, Florida, Georgia and Texas. Hawaii, one of the earliest adopters, originally created a dispute review board before changing its process so that a verifying attorney must certify that an investigation has been done and merit found. Schwartz said most states require the third party firm to be located within the same state as the defendant.

"What has happened with the passage of these laws, many cases have been dismissed for failure to file their certificate of merit. ... It's sort of a peer review of the facts in the case to determine whether a reasonable basis exists, and only then can the complaint move forward," he said.

The laws have been challenged from time to time but largely have been affirmed by the courts. Schwartz said he has not heard of design professionals making a practice of being hired to support plaintiffs' claims.

Rep. Jonathan Barnett (R-Siloam Springs), a former highway commissioner, will introduce a bill that would



over time transfer the existing sales tax on cars, trucks, accessories and repairs to highways. Currently, that money goes into the general fund. The bill would transfer an additional 10 percent each year until 100 percent of revenues are being dedicated to highways.

He expects the proposal to generate opposition.

"Most people feel that probably that money should go back into highways, but when you've got other entities of the state budget, they're all asking for more and more revenue, and they see it as a threat to perhaps some of their revenue stream," he said.

Design-build bill on tap

Barnett also will file a bill being proposed by the Arkansas Highway and Transportation Department that would expand the department's design-build option. That option enables the department to engage with a single contractor without competitive bidding in order to speed the process and, in the right circumstances, save money.

However, the current law, which expires in 2013, is so restrictive that it has

never been used. The department is allowed to undertake a maximum of two projects, each of which must be at least \$50 million in cost.

According to Randy Ort, AHTD spokesman, the department is hoping to extend the program past 2013, lower the cost threshold, and use it on more than two projects. He said it was important to keep the design-build option given that state taxpayers in November approved a half-cent sales tax that will fund \$1.8 billion in road construction.

"We're moving into a period of a tremendous amount of development and construction, and it's probably not the time to take an option off the table if it's going to be beneficial to the state and the taxpayer," he said. "So we want to keep that option available. Right now, that option's about to terminate."

Barnett said that whatever changes occur would not greatly impact the AHTD's current processes. "It will be very limited in scope," he said. "We don't want to get away from competitive bidding in any fashion."

Rep. Davis, who owns New Water Systems, a wastewater system distributor and service provider, is one of at least three licensed professional engineers serving in the state Legislature, the others being House Majority Leader Bruce Westerman (R-Hot Springs) and Sen. Johnny Key, (R-Mountain Home). He said engineers can be effective legislators because of the problem-solving skill sets they learn in their profession.

"I think that's something we really need in the Legislature," he said. "I mean, essentially, you're given a set of problems, and you have a set of knowns and unknowns, and you've got to be able to do the research and fill in the unknowns – as many of them as you can, anyway, and try to make an unbiased, unemotional decision that's best for the client, so to speak. In the case of the Legislature, it's the voters and citizens of Arkansas."



NOW WE HAVE TO SPEND THE MONEY ... AND RAISE MORE. Madison Murphy, then the chairman of the Arkansas Highway Commission, chairs the November meeting after voters passed a half-cent sales tax to fund Arkansas highways. Arkansas Highway and Transportation Department spokesman Randy Ort is at left.

Highway tax passes. Now what?

State, nation still face huge funding shortfall

By **Steve Brawner**
Editor

The passage of a half-cent sales tax for highways could mean a lot of business for Arkansas consulting engineering firms, but long-term highway funding problems still exist as the General Assembly prepares to convene in Little Rock.

Fifty-eight percent of Arkansas voters in November approved Issue #1, a 10-year, half-cent sales tax that will generate \$1.8 billion in highway funding, including through a \$1.3 billion bond issue. The tax will fund 19 projects in various parts of the state. It does not apply to groceries, medicine or motor fuels.

Voters throughout Arkansas say yes to tax

Despite the country's budget woes and general anti-tax environment, voters in Arkansas and across the country are displaying a willingness to vote for highways.

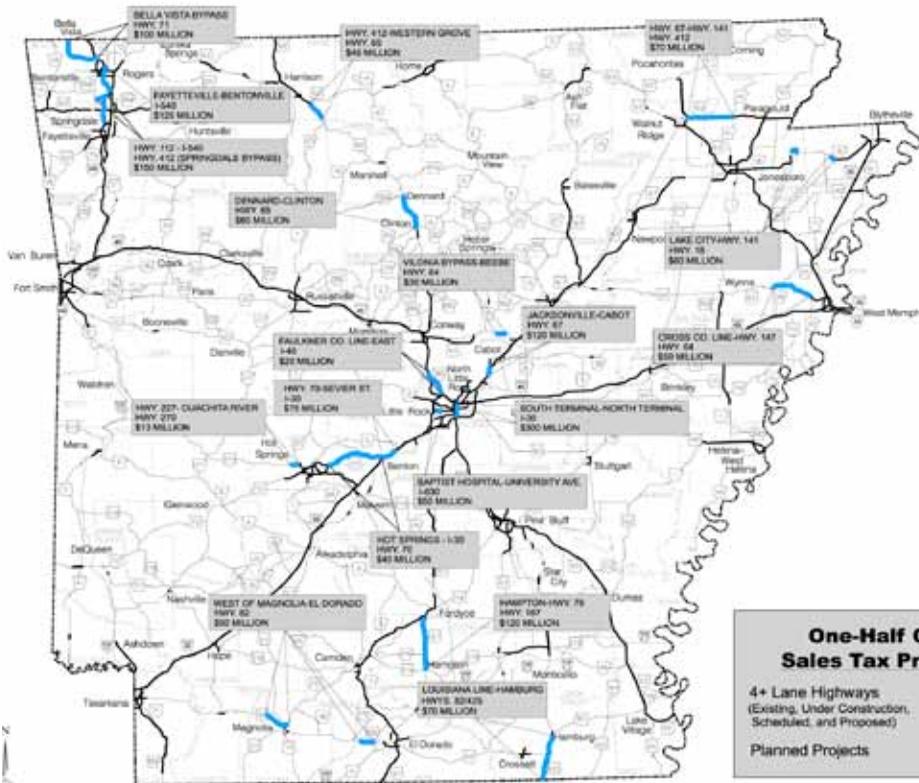
More than 58 percent of Arkansas voters said yes to a half-cent sales tax in November, one year after 81 percent of voters approved the issuance of Ar-

kansas federal highway grant anticipation and revenue vehicle (GARVEE) bonds for interstate rehabilitation. The measure passed in all but seven counties, and in one of those, Polk County, it lost by 15 votes. Seventy-one percent of Union County voters in south Arkansas approved of the measure.

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Another \$700 million will be generated for county roads and city street projects under a formula that divides roadway taxes 70-30 between state and local entities. The tax also funds a \$20 million annual city aid program to be distributed through grants made by a nine-member commission of mayors. A county aid program has been in existence since 1973.

"Now we've got to go spend all the money," Arkansas Highway and Transportation Department Director Scott Bennett, P.E., said in an interview. The department hopes to hire a firm or a team as the program manager in January and will also hire a financial advisor and a bond counsel to begin work on the projects.



Graphic courtesy of Arkansas Highway and Transportation Department

way funding shortfalls. The Highway Department has estimated it has \$23 billion in highway needs over the next 10 years. Prior to the tax's passage, it foresaw only \$4 billion in revenues during that time period. Now it has \$6 billion.

That \$23 billion includes \$5 to \$6 billion that would be needed to complete Interstate 49 across the western half of the state and build Interstate 69 across the southeast corner. Much of the needed funding involves simple maintenance of the state's 16,400 miles of highways and bridges.

"Issue 1 would and does give us a big shot in the arm to be able to do a lot of the higher dollar corridor-type improvements," Bennett told Arkansas Professional Engineer. "The one thing Issue 1 does not do is solve our funding dilemma."

Sources of federal funding remain especially uncertain. Earlier in 2012, Congress passed MAP-21, a two-year federal highway funding program that maintains current funding levels. Unfortunately, motor fuels tax revenues that fund transportation infrastructure are dropping as vehicles become more efficient. The federal government has been transferring general revenue funds to the Highway Trust Fund to make up the shortfall, but given current budget realities, it's uncertain how long that can continue.

Bennett told the Highway Commission in November that the Highway Trust Fund could be insolvent by 2015 or maybe even 2014. After the fund developed a high balance in 1998, a decision

See TAX on page 12

The department has long-term contracts with about 10 Arkansas consulting firms for preliminary design work but will let contracts for all construction projects. Under state law, it is illegal for state-based firms to be given an advantage on highway construction bids.

However, Bennett pointed out, "I think there's going to be more than enough work to go around for Arkansas contractors between our normal program and the interstate rehabilitation program and now this program that was approved by Issue #1."

Could more Arkansas engineering firms be involved in the construction? That question was asked during the November meeting of the state Highway Commission by Commissioner John Burkhalter, P.E. In response, Bennett said that every state engineering firm that is qualified to do the work has already been put on a state contract.

When Burkhalter argued that more firms could make investments to do the work since so much work now is available, Bennett said that won't be an option. "With a qualifications-based selection procedure, they've got to show that they're qualified to do the work up front," he said. "You can't say, 'I'm going to give you the work, and then you go out and

hire a bunch of people to do it.' They have to meet the qualifications up front."

However, Frank Vozel, P.E., AHTD deputy director and chief engineer, told the commission those firms not qualified for major highway construction will have an opportunity to do work for cities and counties.

The tax goes into effect July 1 and will last 10 years, with the first deposit to be made in September. The department hopes to assign certain projects to existing on-call design consultants in early 2013, issue bonds in late 2013, and award the first contracts in late 2013, with all projects completed within that decade.

Despite the passage of the half-cent sales tax, the state still faces critical high-

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Tax

Continued from page 11

was made to begin spending down the balance. Funding for obligated highway projects nationwide has been hovering above \$40 billion annually for a number of years. Without an infusion of funds, that would drop to \$6.3 billion in 2015 before returning to less than previous levels the next year. Bennett said that is

a worst-case scenario, and the fund has faced insolvency before. However, it remains the only scenario possible unless Congress acts. "If there is no new money injected into the federal Highway Trust Fund, this is a real possibility that we could just have to skip a year of federal highway funding for all intents and purposes," he told the commission.

After the meeting, Highway Commission Chairman Madison Murphy said in an interview that the state won't be able

to rely on much help from Washington, D.C., and must begin looking for more of its own funding sources.

One possibility would be the phased-in transfer of sales taxes on cars, trucks, accessories and repairs to the highway fund. Currently, that money goes into the general fund.

"A half-cent sales tax is great, but it's not an answer on a long-term basis to a systemically flawed funding system," Murphy said.

Infrastructure must be national priority

Editor's Note: This is the second of a series of articles by members of Arkansas' congressional delegation that will appear in Arkansas Professional Engineer.

If you fill up at a gas pump or buy a product shipped on our highways or through our waterways and airports, then you are paying into our federal transportation programs. Everyone pays federal gasoline taxes, and other taxes are built into the costs of shipping consumer products and commodities. The highway program alone is expected to collect more than \$105 billion for FY2013 and FY2014.

My colleagues in the Arkansas delegation and I have been working very hard to make sure Arkansas communities receive a fair share of transportation and infrastructure investment, whether it comes back to us in highway dollars, investments in our waterways and airports, or improvements in other water infrastructure and irrigation projects.

Building and maintaining a strong transportation infrastructure is vital to the economic progress of our state. You can see the investments in communities throughout Arkansas. Projects like the Bella Vista Bypass, construction of the new Conway airport and improvements to the Arkansas Midland Railroad in southeastern Arkansas are all practical ways we are using federal dollars to help our local economies rebound while laying the groundwork for future growth and development.

Congress made great headway this year with the passage of the bipartisan



by Sen. John Boozman

legislation reauthorizing surface transportation programs. Known as the "Moving Ahead for Progress in the 21st Century Act" (MAP-21), this new law ensures that Arkansas receives its fair share of federal funding over the next two years and makes our highway programs more efficient and economically responsible.

If we can convince the Obama administration to properly implement reforms in the bill, MAP-21 will streamline the lengthy and often duplicative environmental review process. We hope that these reforms will shorten the average review process from 15 years down to seven. Previously our highway programs contained 87 spending categories that could be used to manipulate how funding is allocated. MAP-21 consolidates and simplifies these categories down to 21. While this is far from perfect, we were able to negotiate a number

of improvements that will save time and money.

MAP-21 lays out a plan for the next two years, but I am very concerned about the future. The crushing burden of the national debt threatens to destroy jobs and choke off the ability of our citizens to build needed infrastructure in coming years. We have to address this now, or future infrastructure spending will be severely reduced.

Our national debt stands at a jaw-dropping \$16 trillion. We borrow more than 41 cents of every dollar we spend. This year alone, the federal government will spend \$3.7 trillion while only collecting \$2.2 trillion. We don't have a revenue problem. We have a spending problem, and that impacts how much money Washington can allocate for infrastructure projects.

Frivolous spending by Washington has become all too common because of Congress' lack of fiscal discipline. Did you know it's been nearly four years since the Senate last passed a budget resolution? Voting on this budget blueprint determines how we spend and appropriate money. What we are left with is a blank checkbook system that continues to increase our national debt, which today stands at more than \$51,300 per person.

Washington needs to set spending priorities, and infrastructure spending needs to be on that list. Infrastructure projects create immediate jobs and produce decades of economic opportunity for communities. This is the key to long lasting growth and development.

Voters

Continued from page 10

Issue 1 was one of 21 transportation-related ballot measures passed by voters across the country out of 31 that were proposed, according to Scott Bennett, P.E., director of the Arkansas Highway and Transportation Department. Eighteen of the 21 were about increasing, extending, or renewing some kind of tax. Three out of four proposed statewide measures passed, with Arkansas' by far the largest.

During an interview following the November meeting of the Arkansas Highway Commission, Chairman Madison Murphy said the way the road program is structured and the way it was explained to the voters helped lead to its passage. The tax is temporary and targeted, with all the money going to roads and all of it being spent on private contractors rather than hiring state employees. It does not

apply to groceries, medicine and motor fuels. According to the Federal Highway Administration, each million dollars spent on roads creates 28 jobs. That means the program was expected to create 40,000 jobs throughout its life.

"I think it's illustrative of the fact that, if you have a temporary tax for specific projects that people believe are important, and you can clearly articulate the needs, where the money is going, I think people get it," Murphy said.



Burkhalter

who served on the state Economic Development Commission before serving on the Highway

Commission, said he had seen the importance of road infrastructure when it comes to industry site selection.

The effort to pass the tax, Move Arkansas Forward, raised more than \$1.1 million, according to its executive director, Craig Douglass. Six different television spots were produced and ran in markets explaining the local benefits. An alliance of statewide organizations, including the Arkansas State Chamber of Commerce, the Arkansas Municipal League, and Arkansas Farm Bureau worked for passage.

Burkhalter, a contractor and developer, said he was encouraged by Arkansas' overwhelming support of the project and said it will be in good hands. "Engineers are conservative, frugal individuals, and they're task oriented, and they're very objective in the decisions they make in their life and what they do," he said. "And you couldn't pick a better group of people, I think, than engineers to be tasked to be good stewards of this money for the state of Arkansas."

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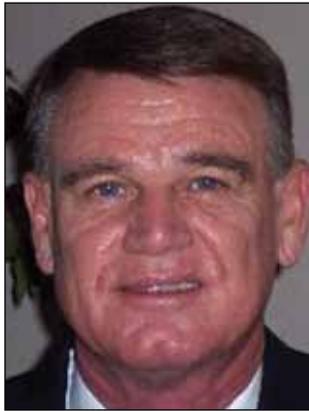
ACEC/A Member Spotlight

Brawley helps plan transport hub

As transportation planner in West Memphis, Eddie Brawley has national role

The population of West Memphis is 26,054, but 100,000 vehicles pass through the city every day, and Eddie Brawley, P.E., helps make it all work.

Brawley, founder of Brawley Consulting Engineers, is the transportation planner for the West Memphis-Marion area and is the study di-



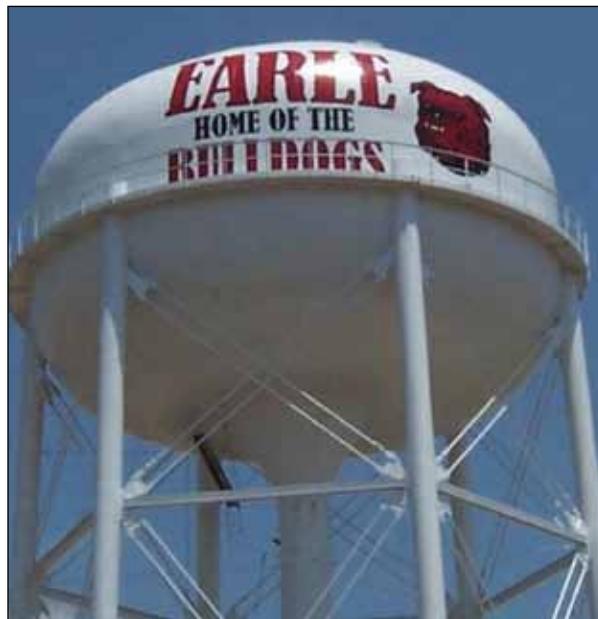
Brawley

rector for the West Memphis Metropolitan Planning Organization.

It's an important regional – even national – responsibility. West Memphis is home to the intersection of Interstates 40 and 55. Marion is home to a major Union Pacific intermodal facility. FedEx's world headquarters is across the Mississippi River in Memphis. The region depends on two bridges across the river and is planning a third. And in addition to all that, Brawley has to keep up with shifting Environmental Protection Agency mandates that currently have the area in nonattainment air quality status.

"We have some of the largest volumes of freight moving through this area of almost any place in the United States. ... We'd be considered quite a hub," Brawley said.

When not planning the area's future, Brawley Consulting Engineers has plenty to do in the present. The firm currently is helping design a \$10-\$11 million overpass over a railway that separates most of the city from its northeast section, which includes several residential neighborhoods and the Crittenden County Courthouse. Brawley Consulting also is replac-



LOCAL PROJECTS. While Brawley Consulting Engineers is involved in regional planning efforts in the important West Memphis-Marion area, it also does projects such as Southland Drive, above, and improvements to the water system at Earle, where Brawley grew up.

After graduating in 1967, he went to work for Humble Oil, now Exxon, in New Orleans. He moved closer to home as the Shelby County traffic engineer in Memphis and then became the West Memphis city engineer. From there, he started his own business in 1984.

ing a major water line in Earle. While it focuses on local projects, it also does some work in Tennessee and Mississippi.

Brawley grew up in Earle and decided by high school to be a civil engineer because he liked building things and didn't like to be cooped up inside. He earned a baseball scholarship to Ole Miss, where he won an SEC title playing third base alongside future Major Leaguer Don Kessinger.

"That was always kind of a career plan of mine, to start on my own," he said. "I just decided it was time to make the change, and I stepped out and did it, and the Lord's been very good to me ever since. I'm not saying we didn't have some difficult times, but He carried us through it."

The firm now includes six people, including one other engineer, Guy Sawyer, EIT.

Dwindling funds force river lock out

Corps of Engineers closes two locks for four hours daily in cost-saving move

By Steve Brawner
Editor

Hoping to extend the life of its aging infrastructure in a time of declining budgets, the U.S. Army Corps of Engineers is shutting two locks on the Arkansas River for four hours for maintenance each day and is considering doing so elsewhere.

Starting Oct. 1, the Corps began daily closures of the James W. Trimble Lock and Dam at Fort Smith and the Ozark-Jeta Taylor Lock and Dam at Ozark. That four-hour time period can start later in the morning if traffic conditions warrant.

The two are considered low-use locks. In fiscal year 2012, which ended Sept. 30, 1,045 commercial boats passed through Trimble while 1,009 passed through Ozark. This was the first year that more than 1,000 commercial boats had passed through Trimble since 2009.

John Balgavy, P.E., chief of the operations division of the Little Rock district, said the locks are being closed during work hours so the Corps' limited personnel can focus on maintaining them.

"We're just shifting from operations to maintenance," he said during an interview at a public meeting in Little Rock Nov. 7. "We also call them a lock operator, but actually their first job, they're a dam operator. They operate the spillway to keep the pool, and then they're a lock operator, and then they answer the phone, and then they help with maintenance. So maintenance has been fourth on their list. So we're getting a four-hour window when more than one person is there where maintenance is their primary duty."

Closing the locks might also allow traffic to back up and reduce the number of openings and closings. Traditionally, the Corps has opened the gates for all commercial and recreational traffic – even personal watercraft and canoes – despite the operational costs.

"If we can save 100 swings a year over the next 10 years, that might prolong the life of a lock a year," he said.



CORPS ISSUE. Phyllis Harden, executive assistant at Pine Bluff Sand and Gravel, laughs with John Balgavy, P.E., left, chief of the operations division of the Little Rock District, and Gene Higginbotham, executive director of the Arkansas Waterways Commission. The three spoke during a Corps of Engineers - Little Rock District public meeting Nov. 7.

Extending the lives of the locks is becoming a priority because of the Corps' declining funding. Thanks to federal budget deficits, the district's operations and maintenance budget dropped from \$106 million in 2011 to \$89 million in 2012. Balgavy and Laurie Driver, public affairs specialist, said the Corps expects that funding will not increase.

Travel would be seasonal without the locks. The Arkansas River decreases in elevation 420 feet during its 450-mile path on the McClellan-Kerr Arkansas River Navigation System from Catoosa, Oklahoma, to the Mississippi River.

According to Balgavy, six critical projects on the Arkansas River could fail during the next five years, and if one does, it would shut down navigation at that point. In several locations, the insulation on 45-year-old wiring crumbles when handled. Repairing those six sites would cost \$21.7 million, but projects in other districts have taken priority.

In December, the Corps was forced to close the lock at Montgomery Point Lock and Dam for three weeks for repairs, cutting off the Arkansas River from the Mississippi for three weeks.

Balgavy said the policy could be extended to other areas on the river, such as Murray Lock and Dam in Little Rock. He said the policy will be re-evaluated annually.

Some commercial barge operators aren't happy with the new policy. At a public meeting in Little Rock Nov. 7, Paul Hastings of Little Rock Harbor Service likened it to shutting down Interstate 40 between Little Rock and Memphis four hours a day so road crews can maintain

the highway. Phyllis Harden, executive assistant at Pine Bluff Sand and Gravel, said shippers are wasting fuel and paying idle employees' salaries while their barges sit. Eventually, more goods will be shipped by trucks, she said.

"You can't meet customers' needs that way," she said. "The cost is astronomical. You can trace it all the way back to our farmers in the field, people who are pushing grain. It's not a good plan and proposal at all."



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WELCOMING ADDRESS. Brent Massey, P.E., ACEC/A president, opens the Agency Forum Dec. 7.

Agencies update ACEC/A at forum

Engineering leaders hear what's happened, what's next at annual event

By Steve Brawner
Editor

The engineering community enjoyed some successes in both state and national government in 2012, but legal, political and regulatory challenges remain.

That was the message Dec. 7 at the ACEC/A's annual Agency Forum, this year held at the Garver offices and sponsored by BancorpSouth.

Steve Hall, ACEC's national political director, said infrastructure in some ways enjoyed a better year than some other areas of government. By wide margins, Congress passed the two-year MAP-21 surface transportation bill as well as a four-year aviation bill. "As much as they

fight over everything else, they seem to be able to come together over infrastructure," he said.

MAP-21 maintains current funding by taking money from other parts of the government. However, it does not address the country's real problem when it comes to financing highways – inadequate revenues from the motor fuels tax, which traditionally has paid for highways. Because cars are becoming more fuel efficient, they are using less gas, which means consumers are paying less in gas taxes.

Congress will need to reauthorize a new transportation bill in less than two years. In order to maintain current spending levels for a six-year plan, it would need to find an additional \$76 billion in revenues above what current funding sources would provide.

The bill also consolidates 100 federal transportation programs into five major

program categories and allows tolling for new highway capacity – lanes but not miles, in other words.

Water infrastructure, meanwhile, did not see as much action on Capitol Hill. Hall said funding levels for the Clean Water Act and the Safe Drinking Water Act are stagnant. A bill has been introduced to create a trust fund for water, and while it's a good start, it appears to be a long way from passage.

In other engineering-related activities, Hall pointed to the successful repeal of a policy that withheld three percent of the fees due on a government contract. The policy had been created as a tax enforcement mechanism, but the ACEC successfully fought against it. Meanwhile, Hall said ACEC is working to pass government policies where more U.S. tax dollars go to domestic firms on international projects.

Lorie Tudor, P.E., Arkansas Highway and Transportation Department assistant chief engineer for planning, told engineers that the recent statewide vote for a half-cent sales tax for highways only puts a dent in Arkansas' highway funding needs. Voters in November approved the tax, which will raise about \$1.8 billion for highway construction. However, with that influx, the state still has about \$23 billion in highway needs but only \$6 billion in projected funding. While funding has



Tudor

been flat, costs have been rising. In 1977, \$10 million would lay 400 miles of pavement. Today, that amount would lay 55 miles. Tudor pointed out that the state Highway Department has the second lowest administrative costs in the country at \$1,821 per mile, compared to a national average of \$12,772 per mile. Mike Fugett, AHTD assistant chief engineer for design, also spoke.

Lee Conley, P.E., PMP, with the Army Corps of Engineers' Little Rock District, said the Corps is adjusting its levels of service as a result of flat to declining funding that is uncertain past 2015. A problem with a gate that was under extreme stress forced the Corps to close the Montgomery Point lock for three weeks in December, effectively shutting off all Arkansas River barge traffic from the Mississippi. With funding in short supply, Conley said Corps personnel are discussing what services can be outsourced to the private sector and which ones are inherently governmental.

State water plan being updated

Ed Swaim, an attorney with the Arkansas Natural Resources Commission, reported on efforts to update the state water plan, which is used to make statewide decisions on water management and was last updated in 1990. The state is undertaking a \$5 million update with funding from the General Assembly and the Arkansas Game and Fish Commission. Swaim said a draft summary of the new



STEVE HALL, ACEC national political director, updates members on the MAP-21 surface transportation bill passed last year and other recent events in Washington.

plan will be created in 2014, with a final rulemaking set for November of that year. The goal is to match future needs with water supplies by finding areas of "excess" water for use elsewhere. Groundwater depletion in eastern Arkansas is particularly concerning. "Money will solve most water issues," he said. "As my director says, it will make water run uphill."

Lance Jones, P.E., chief engineer of the Arkansas Department of Health's Engineering Section, told attendees that real estate submittals still have not recovered to pre-recession levels. Reviews by the department fell from 1,965 in fiscal year 2006 to 992 in fiscal year 2011, though they increased somewhat to 1,029 in 2012.

Under state Act 197 of 2011, all community water systems serving more than 5,000 customers are required to fluoridate to optimum levels, though systems are only required to do so if funding is available. The Delta Dental Foundation has offered grants of about \$6 million, but Jones said costs are exceeding estimates. Jones said about 20-25 systems have applied for grants, but some have expressed concerns about the requirement.

Thomas Rheume, P.E., permit branch manager in the air division at the Arkansas Department of Environmental Quality, said the federal Environmental Protection Agency is becoming very strict in regulating emissions in a number of

areas, including emissions of greenhouse gases despite congressional inaction on that issue. "The feds have been putting out rules like crazy for all sorts of things. ... Practically any new engine you put anywhere is going to have an EPA standard," he said.

His fellow ADEQ engineer with the Water Division, John Bailey, P.E., said the EPA has been developing more stringent runoff guidelines. By Feb. 2, 2014, anyone disturbing 10 or more acres must monitor and limit sediment runoff.

Scott Hamilton with the Arkansas Energy Office reported that \$50 million in stimulus grants have ended, and there is no more money for incentives for solar and wind production. However, the office is working through the Energy Efficiency Arkansas Program to educate Arkansans, promote alternative fuel vehicles, and make state government more energy efficient. Act 1494 calls for a 20 percent reduction in energy use in state buildings by 2013, and some buildings have already reached that goal. "We strongly believe if we're not cleaning up our own house, how can we ask others to do it?" he said.



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GETTING IT STRAIGHT. Max Good, P.E., right, an engineer with Brown Engineering, practices his communications skills at a public relations seminar with the Arkansas Engineering Emerging Leaders Program. Chuck Wipf, P.E., center, from Crafton Tull and Adam Lesso, P.E., from CEI listen.

Program teaches ‘right brain’ skills

Communication and leadership are focus of Emerging Leaders program

By Steve Brawner
Editor

Anyone with half a brain knows you need both halves of your brain. That’s why, four years ago, the ACEC/A and ASPE jointly created the Arkansas Engineering Emerging Leaders Program.

The program engages engineers in a series of sessions designed to improve their right-brain creative and communication skills, as opposed to the left-brain computational skills where engineers get most of their training.

This year’s class involves five engineers: Adam Roberson, P.E., Garver; Max Good, P.E., Brown Engineering; Blake Martin, P.E., Garver; Chuck Wipf, P.E., Crafton Tull; Adam Lesso, P.E., CEI.

The five are completing seven sessions, each about four hours long. Those sessions include a leadership and ropes/team-building course at the Jones Center for Families in Springdale; a conflict resolution class; a public speaking class; a roundtable discussion with senior engineering leaders; a state government session at the Capitol, and a class regarding contracts and risk reduction. Participants also attend an ACEC/A business meeting.

The sessions are open to anyone over age 25 who is an ASPE member and/or an employee of an ACEC/A firm, and they are not limited to engineers. Participants earn 16 professional development hours. The cost is \$795, but Emerging Leaders alumni can attend any session except the ropes/team-building course at no additional charge.

Roberson, 30, a project manager in Garver’s aviation department, said classes like the public speaking session are a use-

ful refresher for members of a profession that doesn’t spend much time practicing those skills but needs them in order to succeed.

“We’re used to designing projects, but we have to go out there and explain all of our projects and perform presentations to our clients,” he said. “You have to be a good public speaker in our business. You’ve got to be able to explain what you’re doing.”

Sarah Carter, director of marketing and operations for Dale Carnegie Training of the Mid-South, has been conducting the public speaking class for three years. She said classes are tailored to the engineering profession and that the assumption is made that engineers are competent and detail-oriented but not always experts in explaining what they know to non-engineers.

That means they need practice in communicating complex information in say, a

city council meeting by relying less on data and more by using story-telling skills.

“It’s really important for us to get what’s in our hearts and minds into the hearts and minds of other people, to motivate people to do what we need them to do,” she said. “And what we talked about through this day is really trying to figure out, how do we word things and say things in a way where people understand the point I’m trying to get across? How do we show people what’s in it for them, so they’re motivated to do what we need them to do?”

Carter said that participants can improve their skills in one three-and-a-half-hour class, and Lesso would agree. He said the class helped him better prepare himself for whatever he needs to communicate. “It’s the kind of things that I’ve probably done a little bit before, but it puts it in a structure that I’ve never thought of. So having a structure to plan in advance how to say and answer questions is helpful,” he said.

Carter said the biggest surprise she has had in teaching the course is how much fun engineers are to work with. She said it’s obvious they enjoy their jobs.

The classes help participants not only in their profession but in other areas. For example, the conflict resolution course can help participants manage issues in their personal relationships.

The graduates will receive their certificates at the ASPE Annual Conference in April.



IT’S NOT ALL WORK. Blake Martin, P.E., with Garver participates in the discussion.

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