



Arkansas HIGHWAYS

WINTER 2021

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ARKANSAS DEPARTMENT OF TRANSPORTATION | MAGAZINE

Arkansans Vote “Yes” to Better Roads

RECYCLING
On Highway 18

ARKANSAS GEOLOGY
& Highway Construction

ICONIC BEAVER BRIDGE:
Gets a Facelift

DIRECTOR'S MESSAGE

Dear ARDOT Family,

It is hard to believe that 2020 is over. It seems like just yesterday that I started this journey as Director. And the journey so far has been anything but ordinary!

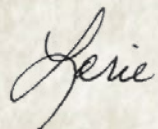
In March, Director Bennett retired, COVID became a reality in Arkansas, and I took over as the new Director. We had to find creative ways to stay productive and provide essential services to Arkansans. It is not business as usual anymore. And, everyone has done a great job in learning new ways of doing business. I would like to take this opportunity to say thank you. Thank you for adhering to the safety precautions we have put into place; thank you for learning new technology; and thank you for continuing to do great work despite the hardships.

In November, Issue 1 passed! Now that is a victory worth celebrating. Thank you for your part in educating voters on Issue 1. I appreciate everyone listening to the presentation on Issue 1 so that you were informed and could inform others. Your help in educating your family, friends and the public was important to Issue 1's success.

I hope you are taking personal pride in the fact that 55 percent of Arkansans voted to continue a tax for better roads. Especially in light of the COVID pandemic, the economy and the uncertainty at the national level. With approval of Issue 1, the majority of Arkansans have said, "ARDOT is doing a good job. We can trust them to use our tax dollars wisely to improve and maintain our roads." And I know if we pull together we will not let them down. ARDOT's employees are truly the backbone of our success.

I hope you and your families had a joyful and peaceful holiday season. We ended 2020 well and I am looking forward to 2021 with much anticipation. We are going to knock it out of the park this year!

All my best,



Lorie H. Tudor, P.E., Director



FRONT COVER:
Scenic view on U.S. Highway 412

BACK COVER:
Construction of a new salt storage facility

EDITOR

David Nilles
David.Nilles@ardot.gov

STAFF WRITER

Britni Padilla-Dumas
Britni.Padilla-Dumas@ardot.gov

GRAPHIC DESIGNERS

Paula Cigainero
Paula.Cigainero@ardot.gov

Marrissa Miller
Marrissa.Miller@ardot.gov

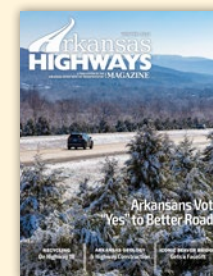
Lamarie Rutelonis
Lamarie.Rutelonis@ardot.gov

PHOTOGRAPHER

Rusty Hubbard
Russell.Hubbard@ardot.gov

Correspondence should be directed to:

ARKANSAS HIGHWAYS
Public Information Office
P.O. Box 2261
Little Rock, AR 72203-2261



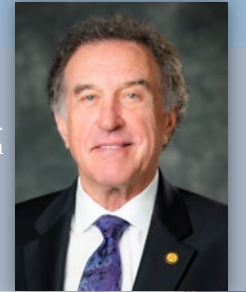
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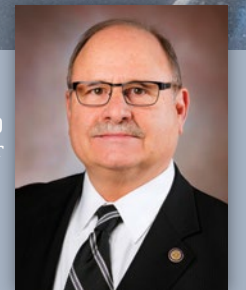
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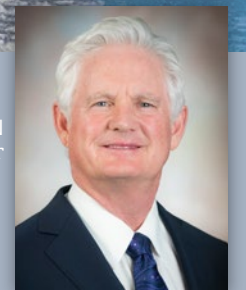
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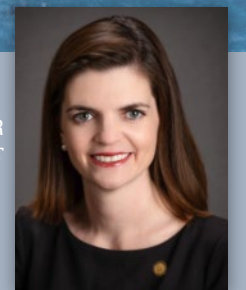
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ARKANSANS VOTE “YES”

FOR BETTER ROADS

BY DAVID NILLES

VOTERS IN ARKANSAS STAMPED THEIR APPROVAL OF A CONSTITUTIONAL AMENDMENT ON NOVEMBER 3 THAT WILL PROVIDE \$205 MILLION-A YEAR FOR OUR STATE’S HIGHWAYS, COUNTY ROADS AND CITY STREETS.

Issue 1 will continue the collection of the current half-cent sales tax that voters approved in 2012 and that is set to expire in June 2023. Tabulation of the final vote found approximately 55% FOR and 45% AGAINST the measure.

“We thank the citizens of Arkansas for their support on Issue 1,” stated Arkansas Highway Commission chairman Robert S. Moore, Jr. “They have given ARDOT a vote of confidence to continue to provide a safe and efficient highway system for motorists as we look to the future.”

ARDOT will now implement a program of construction projects titled “Renew Arkansas Highways” that will result in significant progress towards bringing the State Highway System into a state of good repair. It will also fund some major capital and congestion relief projects. Details of the program can be viewed at www.ardot.gov/Renew.

For months prior to the election, ARDOT made it its mission to visit communities across the state and educate the public on the details of what Issue 1 could provide. In addition to explaining the need for the additional funding, staff worked hard to answer any questions or concerns brought forth by the public.

“First and foremost, thanks go to Governor Asa Hutchinson for his vision for the future when he unveiled his Long Term Highway Funding Plan in 2019 and his continued support and leadership,” ARDOT Director Lorie Tudor shared. “Thanks also go to the voters of Arkansas for understanding the value of good roads. We are committed to delivering the Renew Arkansas Highways program as promised and doing so efficiently and effectively.”

Governor Asa Hutchinson commended the vision of those in the General Assembly.

“I appreciate the courage of the General Assembly in giving the voters a chance to say ‘yes’ to the future. I am personally gratified that Arkansans are willing to invest in our highways and our state’s growth. This is a big victory and gives us a long-term solution for our highways and infrastructure.”



RECYCLING ON HIGHWAY 18

BY DAVID NILLES

IF I WERE TO TELL YOU THAT I TRAVELED TO BLYTHEVILLE TO CHECK OUT A RECYCLING PROJECT ON HIGHWAY 18, YOU WOULD PROBABLY THINK I WAS TALKING ABOUT PICKING UP ALUMINUM CANS OR PAPER WASTE ALONG THE SIDE OF THE ROAD.

However, the recycling I went to investigate was on the highway itself. Almost ten miles of Highway 18, stretching from Blytheville to Dell, were recently resurfaced using a paving technique called "Hot-In-Place Asphalt Recycling" or HIR.

The \$4.5 million project in Mississippi County was completed by Dustrol, Inc. of Towanda, Kansas. Founded in 1973, the company bought its first cold milling machine in 1979 and started focusing exclusively on asphalt recycling and resurfacing.

Dustrol's HIR system utilizes the highway's existing asphalt pavement for in-place rehabilitation, recycling 100% of the road material and aggregates. The system adds a predetermined amount of new asphalt binder to the mixture with a rejuvenating agent. This restores flexibility and quality to the asphalt material.

THE ADVANTAGES OF HOT-IN-PLACE RECYCLING

The resurfacing completed on Highway 18 was the first use of this specific version of HIR resurfacing by ARDOT. The advantages of the procedure were taken into consideration by Department staff as plans were developed.

The advantages of the HIR method include:

- Reduced project costs due to recycling of existing pavement.
- Improved project timeliness because all work is done on site.
- Extreme reduction in hauling of materials for mixing or processing.
- Available project dollars can be spread over more square yards of pavement maintenance.
- Traffic slowdowns last only a few hours.
- The process is fast at 20 to 40 feet per minute, allowing repair of 2 to 4 lane miles per day.

In addition, the HIR method corrects surface defects including cracks, ruts, holes, raveling and bumps. The process does not, however, solve structural problems.

After looking at the advantages, ARDOT administration and District 10 staff made the decision to use the new technique on the 15-year-old surface of Highway 18. District 10 Engineer Brad Smithee, District Construction Engineer Alan Walter and Assistant Resident Engineer Logan Hardin, out of Resident Engineer's Office 05 in Osceola, were instrumental in making the decision to use the HIR process and in making the project a success.

"With today's high demand on our very limited funding, we must look for ways to make our dollars go further down our roads," stated District 10 Engineer Brad Smithee. "HIR is not for every road but we felt this section to be a great candidate and were allowed by the administration to use this method of pavement preservation."

HOW IT WORKS

The HIR process features a single line of road equipment that is referred to as a "train." The train only takes up one travel lane as work is done, which means less inconvenience for motorists.

The train moves at 20 to 40 feet per minute as the process progresses. At the front of the train are two or more propane-fueled preheaters. The following heater in the train is equipped with grade controlled milling drums, which break up, and form, rows (windrow) of the top one inch of material. The milling heads are capable of milling sections up to fifteen feet wide. Tunnel heaters follow and begin heating the underlying pavement while maintaining the temperature of the windrow. The surface is then milled and heated by up to three more milling heaters followed by tunnel heaters depending on material and depth. The last milling heater in the process has an oil metering system that injects and mixes a rejuvenating agent into the milled asphalt and aggregate. Asphalt binder or emulsion can

(continued on page 8)



The equipment "train" only utilizes one travel lane.

Photos taken by David Nilles, Editor



A propane-fueled preheater preps the road surface.



"Windrows" of the top inch of road surface.

also be added at this stage. This unit performs the last phase in the recycling process. After adding and mixing the rejuvenating agent, the windrow is picked up with a conventional material transfer device. The paving process is performed with a conventional electronic grade control, electric screed paver. The material is rolled using conventional rollers.

The road can typically be reopened to traffic within an hour after the process is complete. The cool off period is very similar to a typical asphalt paving operation.

"The Highway 18 train featured 8 heater tanks," Smithee shared. "We averaged using 8,000 gallons of propane a day. We rehabilitated

approximately three and a half miles of pavement per day."

The HIR process is completed as either a single-lift or a multiple-lift rejuvenation. In the single lift method, scarifiers loosen the heated material to a depth of up to 1 inch. The multiple-lift operation allows the rejuvenation to go to 2 inches or more using milling heads to loosen the material. Both processes conveniently allow added surfacing to be placed the same day, or up to weeks later if necessary.

"The better the road surface you begin with, the better the new surface is going to be," Smithee added. "Micro surfacing is the last step for this project. The micro surfacing makes the HIR visually more attractive, provides good

sealing qualities and a good friction course," Smithee added. "Once micro-surfacing is applied to the work, you are going to have a good, smooth project."

COST SAVINGS

Cost savings made HIR paving a viable alternative for ARDOT. Consider the cost comparison of pavement methods for the Highway 18 project below:

Estimate for HIR & Micro Surfacing

Cost: \$3,758,637 CPM: \$392,342

For HIR@ full lane width/Micro at full shoulder width

Cost: \$3,825,600 CPM: \$399,332

If mill & fill had been performed at just 5 lanes wide (48')

Cost: \$4,338,306 CPM: \$452,850

Overlaid with 2" @ full shoulder width (75')

Cost: \$5,331,131 CPM: \$556,485

*CPM = Cost per mile

"Upon review of the cost options, the HIR work saved roughly \$53,000 per mile or \$512,000 overall as compared to the next closest pricing," Smithee shared. "Of course, this isn't the same as a two-inch overlay but we expect that the new two-inch HIR work will last a relatively equivalent life cycle to an overlay.

"The project turned out exceptionally well," Smithee added. "While trying to learn more about this from neighboring states that have had HIR projects like this in recent years, we were told that they are experiencing good results and are seeing no short term surprises. We must evaluate this type of work as time moves forward but we see and hear that '...it's just asphalt' and believe it will serve us well."

With the success experienced on Highway 18, additional Hot-In-Place asphalt recycling could be in ARDOT's future. ■



Receiving recognition for duty were Officer 1st Class William Cash, Officer 1st Class Sevelta Mackey and Sergeant Jeremy Watkins.

HIGHWAY POLICE RECOGNIZES THREE FOR SERVICE

BY DAVID NILLES

Three members of the Arkansas Highway Police (AHP) were recognized at a recent meeting of the Arkansas Highway Commission for their efforts on the night of June 5.

Officer 1st Class William Cash and Sergeant Jeremy Watkins received Medals of Valor. This marks the first time that the AHP has presented its highest award, which dates back to the 1980s. Officer 1st Class Sevelta Mackey received AHP's Distinguished Service Award.

The three officers were among 47 Highway Police officers assigned to a unified command led by the Arkansas State Police in the vicinity of the State Capitol in Little Rock to monitor protests over the death of George Floyd in Minneapolis this past summer.

Cash and Watkins were partners in a patrol unit on June 5 when they heard a radio call about a fatal shooting and headed to the location given. A suspect in the shooting was fleeing the area and managed to avoid a Highway Police unit trying to intercept his vehicle. Cash steered his vehicle directly into the suspect's vehicle, disabling it. Cash and Watkins held their position and provided cover for a State

Trooper who approached the vehicle and took the suspect into custody without incident.

"The actions taken by Sergeant Watkins and PFC Cash to apprehend a known, armed murder suspect put their lives in imminent danger and displayed gallantry beyond the call of duty," AHP Chief Jay Thompson shared.

Officer First Class Mackey was across town at Baptist Medical Center on the same night to help control grieving family members of a homicide victim. The family was visibly upset and emotional. Mackey was able to convince hospital officials to allow the father to see his deceased son.

"Officer Mackey was able to immediately build a rapport with the father as well as other members of the victim's family while alone in a highly unstable environment," Thompson commented. "PFC Mackey's actions not only restored the peace but placed a profound sense of calmness throughout the entire family during this tragic time."

Officer Cash joined the AHP in January 2019. Sergeant Watkins joined in October 2004 and Officer Mackey in December 2014. ■

ARKANSAS GEOLOGY & HIGHWAY CONSTRUCTION

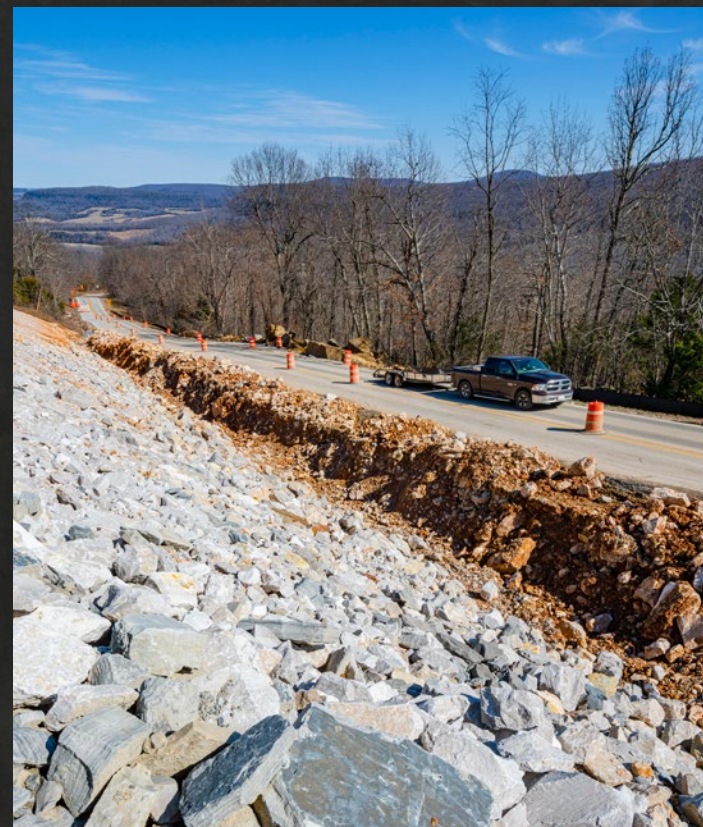
BY DAVID NILLES

A GREAT DEAL GOES INTO THE CONSTRUCTION OF A HIGHWAY ON NEW LOCATION. There are environmental considerations, right of way issues, the laying of the driving surface and more.

Something motorists probably do not consider when traveling a new highway is the work involved below the travel lanes.

What is under the driving surface has a lot to do with how long a travel lane will last. ARDOT engineers study and analyze the soil and prepare the groundwork accordingly.

Arkansas is divided into six regions classified by geology and geography. Each is different requiring highway construction preparation that is unique to the area.



Rock buttresses are used to address slide issues.

THE MISSISSIPPI ALLUVIAL PLAIN



The Mississippi Alluvial Plain Province extends along the eastern edge of Arkansas and is more commonly known as the delta. It is comprised of clay, silt, sand and gravel deposits that formed as rivers meandered across the region.

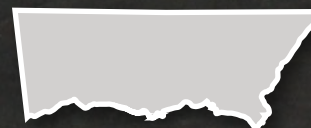
Soft alluvial deposits and extreme seismic risk present unique challenges to ARDOT

engineers as they plan highway construction in this area. Bridge foundations must be designed to extend below saturated sand layers that can liquefy during an earthquake. Bridge approach embankments are often reinforced with synthetic geogrid to ensure bridges remain accessible after a seismic event. (Geogrid is geosynthetic material used to reinforce soils.)

ARDOT geotechnical crews regularly perform soil sampling to depths greater than 100 feet to calculate the seismic risk, identify liquefiable zones and locate suitable bearing strata.

Soft clay and silt deposits make roadway construction challenging. These soils can experience extreme changes in strength and volume at different moisture levels. It is often necessary for crews to remove and replace problematic soils or treat them with lime or cement.

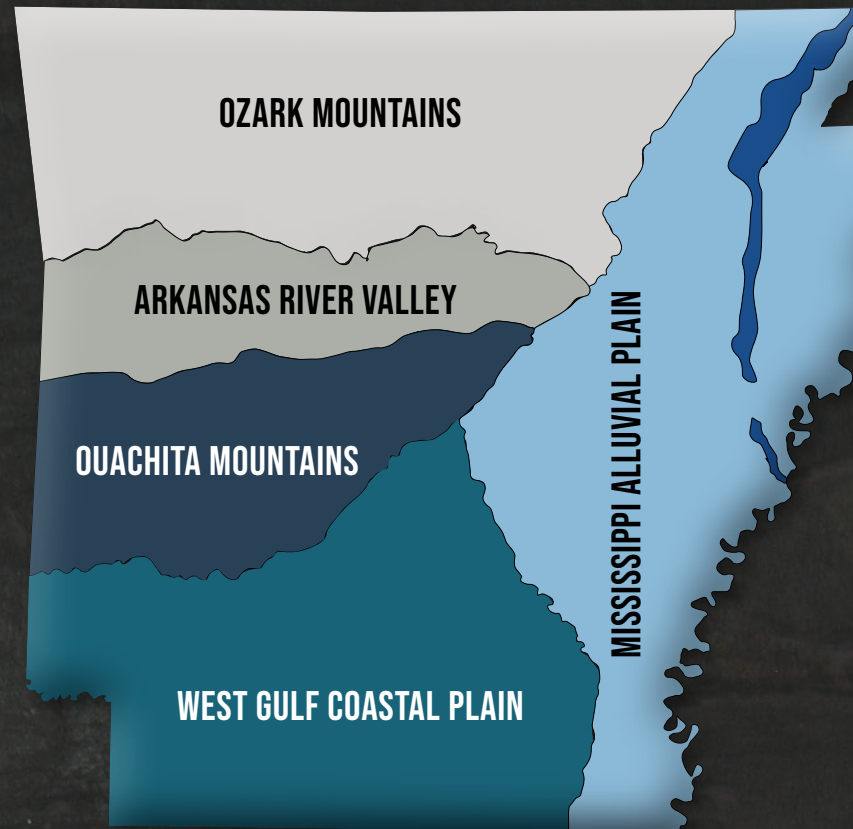
THE OZARK MOUNTAINS



The Ozark Mountains Province extends from Oklahoma to an eastward line stretching from Searcy to northeast of

Pocahontas. The geography is different from that in the delta. The Ozarks were uplifted at the same time as the Ouachita Mountains, each created by the colliding of two continents. As the Ozarks rose, rivers cut deep valleys producing the wonderful vistas we see today.

The Ozark Mountains are composed of three different plateaus: the Salem, Springfield and Boston Mountains.



The Salem Plateau is primarily dolostone, the Springfield Plateau is primarily limestone with some chert, and the Boston Mountains rock is mostly sandstone and shale with a small amount of limestone.

Rock is typically shallow here and for ARDOT crews to get a look under the surface requires wireline rock coring.

The majority of Arkansas' landslides occur in this region. In 2016, the Department performed an inventory of all the landslides affecting Arkansas highways. A total of 230 slides were identified, 176 of which were considered to be a serious threat to Arkansas roadways in this area.

The Department has been aggressively addressing slide issues using conventional rock buttresses and new methods including soil nailing, drilled shaft walls, reaction anchor blocks and drilled railroad rails.

There is also a danger of encountering caves and cavities in areas where the rocks are composed of limestone and dolostone. Identifying these formations is critical especially near bridge footings.

WESTERN GULF COASTAL PLAIN



The Western Gulf Coastal Plain Province is located in south Arkansas between the Ouachita Mountains and the Texas/Louisiana border. The topography consists

(continued on page 12)

ARKANSAS GEOLOGY BY REGION

THE OZARK MOUNTAINS



ARKANSAS RIVER VALLEY



OUACHITA MOUNTAINS



WEST GULF COASTAL PLAIN



MISSISSIPPI ALLUVIAL PLAIN



of low rolling hills and wide stream valleys.

Rock formations were deposited in the shallow Gulf of Mexico when the sea still covered the southern part of Arkansas. The geology consists of poorly lithified rock such as sandstone, limestone and shale underlying unconsolidated soils like sand and clay. Chalk and evaporite deposits, such as gypsum and celestite, are found in this region.

Some of the soils in the Western Gulf Coastal Plain can be particularly problematic when ARDOT crews construct roadways in this area. The midway clay is notoriously problematic and follows closely along a section of the Interstate 30 alignment between Cabot and Malvern. This clay is exceptionally stiff at its optimum moisture condition, but it can quickly lose strength and change volume with seasonal rains, causing roads above it to buckle and crack. Highway

construction inspectors must be wary of this clay because what was initially thought to be a stable construction platform can quickly become a major maintenance issue.

THE ARKANSAS RIVER VALLEY

The Arkansas River Valley Province is located between the Ozark Mountains and the Ouachita Mountains. After these ranges were uplifted, a narrow ocean basin formed filling with sediment that would later become sandstone, shale and coal. The rocks exposed in the Ouachitas and Ozarks span a very long time. By comparison, the rocks of the River Valley span a narrow amount of time.

There is a long history of coal mining in the river valley. At the end of the life of a coalmine, miners remove the coal pillars that supported the roof of the mine. After they are removed,

it is common for the land located above the mines to collapse. Highways located above these mineshafts can also collapse. In one instance, ARDOT worked with the Arkansas Department of Environmental Quality to formulate a plan to pour grout through holes drilled into a mine, creating new pillars to support the subsiding road.

Some of the shales located in the River Valley can be particularly problematic after weathering. Highways cut into outcrops containing this weathered material sometimes fail after heavy periods of rain. The problem is made much worse if culverts carrying runoff away from the roads fail. Drilling and sampling can help ARDOT crews locate failure zones within the subsurface and aid in repair planning.

THE OUACHITA MOUNTAINS

The Ouachita Mountains Province is located in the west central part of the state. Out of the five provinces, the Ouachitas contain the broadest assortment of rock types and minerals. Three rock types can be observed. These include igneous rock, which is crystalline rock formed under extreme heat and pressure; sedimentary rock, which is formed by the cementation of sediments; and metamorphic rock, a sedimentary rock that has been altered by extreme heat and pressure.

The Ouachita Mountains feature some of the most varied, hard and deformed rock in Arkansas. The nature of this rock presents significant challenges for Department crews when new construction projects are planned for this area. Not only is this

rock hard to excavate, it is also hard to core.

As an example, at least five different rock formation types have been excavated for the Hot Springs Bypass extension. One particular rock type, known as Arkansas Novaculite, had to be blasted for this job. This rock is so hard it has been mined and traded since prehistoric times for spearheads and sharpening stones.

In other areas, shales can be difficult to core due to their orientation and to the phenomenon referred to as "poker chipping." This is a process in which the shale separates into poker

chip-sized pieces when cored. It can cause poor sample returns. Shale in the Ouachitas has been compressed and rubbed together so intensely that it has developed very slick surfaces. This can negatively affect the Rock Quality Designation (RQD), which is accounted for when designing bridge foundations.

Another geologic feature complicating construction projects in the Ouachitas is the thousands of faults that exist. The majority of these faults formed as rock was fractured and displaced in response to the enormous amounts of force placed

on the North American craton when the Ouachita Mountains were formed. When drilling in fault areas, it can be challenging to anticipate the type of rock in the subsurface.

Without a doubt, highway construction in each of Arkansas' geographical regions comes with unique and specific road surface preparation requirements. When considering there are over 16,000 miles of highway in our state, credit goes to ARDOT's engineers and construction crews ensuring that new highways are going to stand the test of time. ■



The Arkansas River Valley



The Ouachita Mountains Province is located in



Core sampling helps determine construction requirements.



Core samples await analysis at the ARDOT Materials Lab.

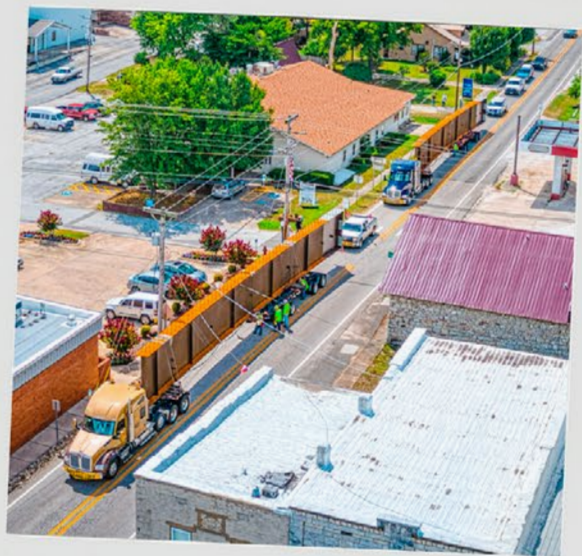
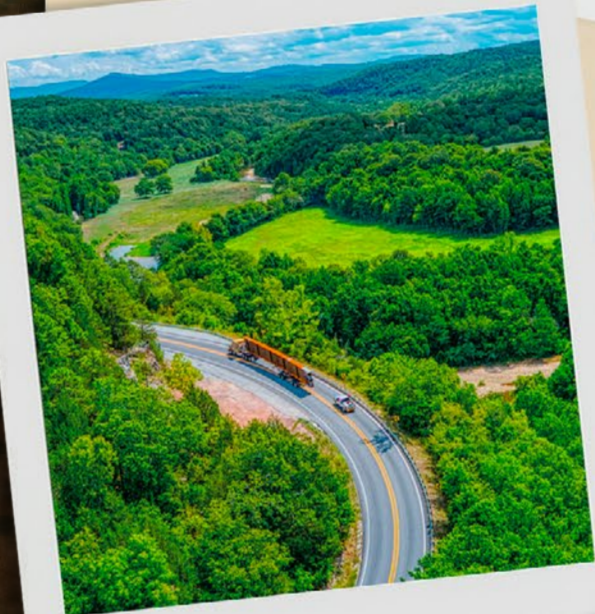


STACY BURGE,
DISTRICT 9 CONSTRUCTION ENGINEER

MISSION ~~IMPOSSIBLE~~

BY BRITNI PADILLA-DUMAS

Good morning, ARDOT. This is your mission, should you choose to accept it. Failure is not an option. Crouse Construction and AFCO will be your point personnel, as usual. Go forth, and continue to preserve and improve Arkansas' transportation system. Emphasize safety, efficiency, quality, trust, and stewardship with a public service-focused workforce. Good luck.



JOB 009784

MISSION: TRANSPORT 40 STEEL BEAMS TO RURAL JOB SITE.

INTEL: ONLY TWO BEAMS CAN BE TRANSPORTED AT A TIME.

ENVIRONMENT: CURVY, MOUNTAINOUS, WOODED TERRAIN\\SEVERAL SMALL TOWNS OCCUPIED BY CIVILIANS

LOCATION: ARKANSAS\\NEWTON COUNTY\\PRUITT

FRIENDLIES: DISTRICT 9\\RE OFFICE NO. 92

BRIEFING

The purpose of this project is to widen Highway 7 and replace two bridges: one over the Buffalo River on Highway 7, and the other over Mill Creek on County Road 213. Crouse Construction Company claimed the \$136 million contract and began work in January of 2019. Crews are ready to install the steel beams of the structure.

THE PACKAGE IS EN ROUTE

ARDOT Resident Engineers Office 92 worked with Crouse Construction and AFCO to ensure that 40 steel beams, many measuring 102 feet long and 10 feet tall, were safely transported from the fabrication plant in Van Buren to the construction site on Highway 7 at the Buffalo River in Pruitt.

"Given the size of some of these beams, hauling them north on Scenic Highway 7 with its sharp curves and mountains was a challenge," reported Staff Engineer Stacy Burge. "The last five beams were hauled north on Highway 65 to Harrison and then down to the job site on Highway 7 because they were too big to fit under the existing bridge."

Diesel engines wove through the Ozarks, heaving tons of forged iron more than 100 miles to their final destination.

"Personnel cleared the town square along Highway 7 in Jasper so that the trucks could negotiate a 90-degree turn," noted Burge. "All of the beams have been delivered and installed."

MISSION: ACCOMPLISHED

Expected completion of this project is EARLY 2021. Motorists should exercise extreme caution when approaching and traveling through all highway work zones.

--- THIS MESSAGE WILL SELF-DESTRUCT IN 5 SECONDS. ---

ARKANSAS' SCENIC BYWAYS:

Taking the Scenic Route

BY DAVID NILLES

Arkansas is the Natural State. Our highways provide incredible vistas that feature lakes, rivers, mountains, forests and much more. Within our borders are a select few highways that stand at the top of the list when it comes to great scenery and local flavor. They are Arkansas' Scenic Byways. This series looks at each one, allowing you to pick a favorite, chart a course and hit the open road.

ROUTE: Highway 7

POINTS: Louisiana State Line to Harrison

LENGTH: 290 miles



Degray Lake

OUR LAST IN A SERIES OF ARTICLES ON ARKANSAS' SCENIC BYWAYS FOCUSES ON HIGHWAY 7. DID YOU KNOW THAT HIGHWAY 7 IS THE LONGEST STATE HIGHWAY IN ARKANSAS STRETCHING NORTH AND SOUTH FOR 290 MILES? IT EXTENDS FROM THE LOUISIANA STATE LINE NEAR NEW CALEDONIA NORTHWARD TO BULL SHOALS LAKE.

Scenic Highway 7, from Arkadelphia northward to Harrison, became Arkansas' first scenic byway in 1993. It was extended to include the portion of the route from Arkadelphia to the Louisiana State Line in 1999 and now totals 290 miles.

Beginning in southern Arkansas, Scenic 7 passes through rolling, forested hills and numerous river valleys dotted with lakes. South of Hot Springs, motorists enter the Ouachita Mountains, the only mountain range whose ridges and valleys are oriented west to east.



Lake Dardanelle State Park



Hot Springs Mountain Tower

Our first stop on this trip is **DEGRAY LAKE RESORT STATE PARK**. The park offers a 96-room lodge, campsites, a championship golf course and plenty of trails for hiking and world-class mountain biking. Save time to hit the lake for a swim or boat ride.

HOT SPRINGS NATIONAL PARK is just 45 minutes up the road. The highway leads to downtown and Bathhouse Row featuring eight bathhouse buildings that were constructed between the years of 1892 and 1923. Each bathhouse is on the National Historic Register. Be sure to check out the thermal water flowing out of the ground in various areas at a scorching 143 degrees! Nearby is the **HOT SPRINGS MOUNTAIN TOWER** offering panoramic views of the Ouachita Mountains, Hot Springs Mountain and Lake Hamilton. Visitors can spend several days seeing all there is to do in the Spa City and the tri-lakes area.

Continuing northward, motorists pass through the Ouachita National Forest. Cradled between the Ouachita and Ozark Mountains is **NIMROD LAKE**. The lake is popular with fishermen and hunters alike. Six parks nestled along the lake provide modern camping facilities and an opportunity to relax amid the groves of tall pine trees.

Scenic Highway 7 crosses the Arkansas River in the area of Dardanelle and Russellville. Adventurers will want to camp along the shore at **LAKE DARDANELLE STATE PARK**. The park is located in two areas along the lake and offers camping, fishing, boating and swimming. Five minutes away, in Pottsville, history buffs can visit the **POTTS INN MUSEUM**. This Greek Revival architectural style house was built in the 1850s. It served as the home of Kirkbride Potts and his family. In addition to calling it home, the family offered it as an inn to travelers on the Butterfield Stagecoach Line. Potts Inn is the only surviving stagecoach stop of the Butterfield Overland mail route in Arkansas.

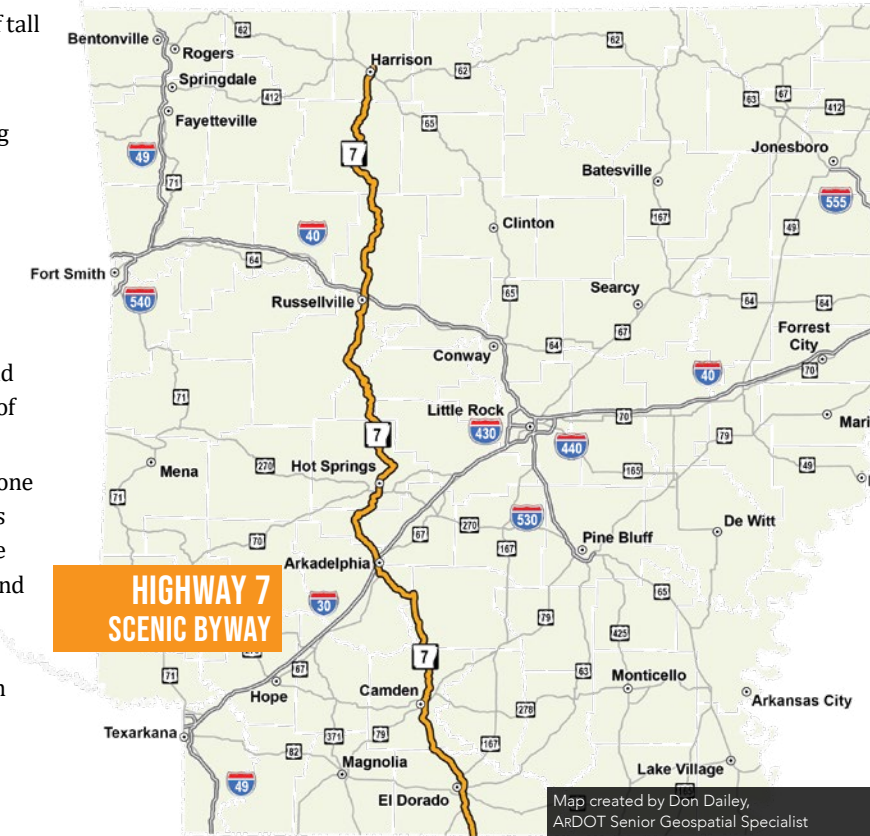
Leaving the river valley, Scenic 7 enters the Ozark Mountains, one of the best places to see fall foliage in the state. Spectacular views of the Ozarks are everywhere in this area. Keep an eye out for the **ROTARY ANN ROADSIDE PARK** near Dover. Here you will find 180-degree views of the mountains. Just before winding its way into Jasper, the highway offers incredible mountain views of the **GRAND CANYON OF THE OZARKS** near the Cliff House Inn and Restaurant.

The town of Jasper features a small town square offering several antique shops. Be sure to visit the square's Ozark Café, a legendary diner featuring famous chocolate gravy. For dessert,

cross the square to the Blue Mountain Café and try an assortment of cupcakes, muffins and cinnamon rolls.

North of Jasper, the highway crosses the **BUFFALO NATIONAL RIVER**. At 153 miles in length, this Arkansas treasure was the first national river to be designated in the United States. Enjoy the massive bluffs as you float the running rapids and quiet pools. The river is ideal for hiking, floating and camping.

Scenic Highway 7 officially comes to an end at Harrison. Drive into downtown and take time for Harrison's National Historic District. Learn more about the area on the historic walking tour. While you explore, count how many art murals you spot along the way. They are part of the city's Natural Art Mural Tour. It is a bright, colorful way to close out a visit along Arkansas' longest State highway. ■

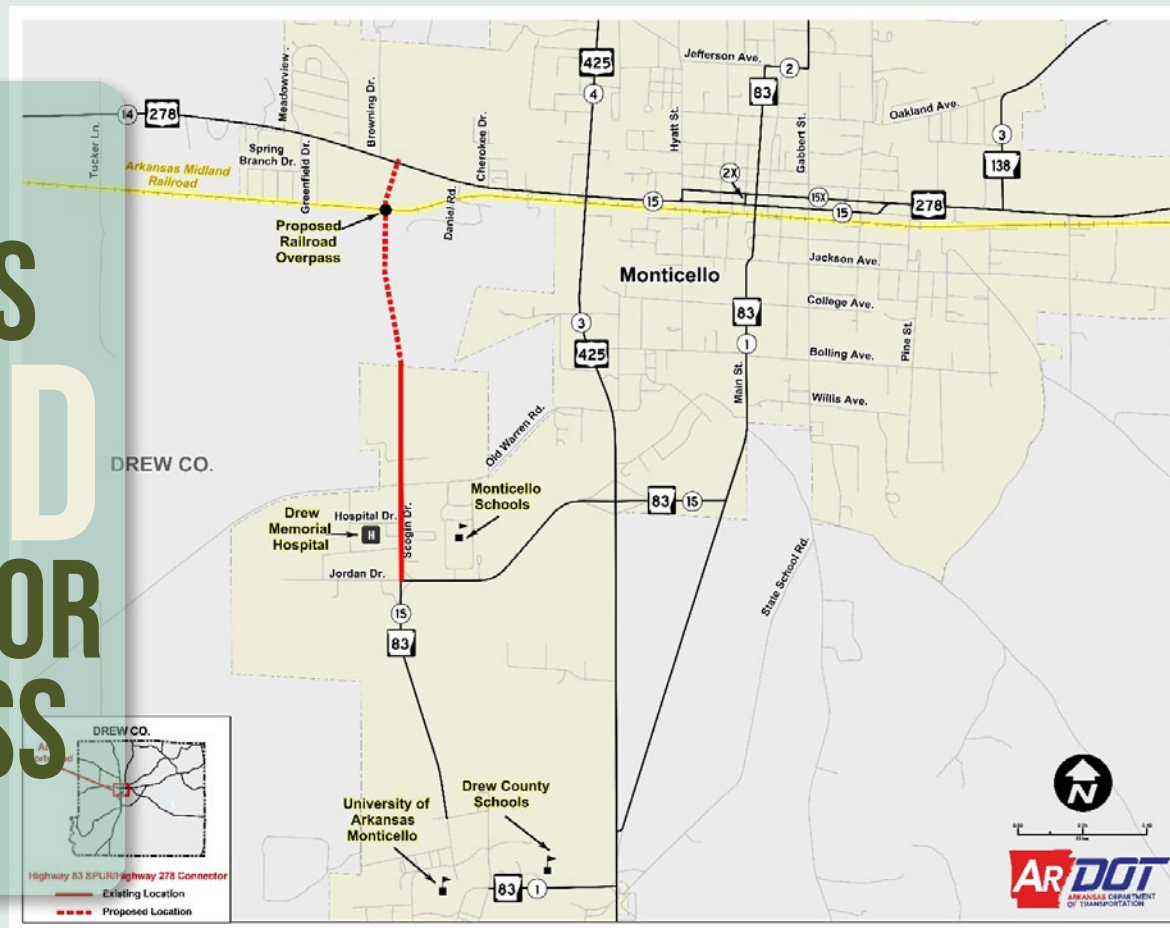


**HIGHWAY 7
SCENIC BYWAY**

Map created by Don Dailey,
ARDOT Senior Geospatial Specialist

ARDOT RECEIVES BUILD GRANT FOR OVERPASS

BY DAVID NILLES



A \$4 MILLION BUILD GRANT (BETTER UTILIZING INVESTMENTS TO LEVERAGE DEVELOPMENT) FROM THE U.S. DEPARTMENT OF TRANSPORTATION HAS BEEN AWARDED TO ARDOT TO PROVIDE FOR A RAILROAD OVERPASS AS PART OF A PROPOSED EXTENSION OF SCOGIN DRIVE IN MONTICELLO.

The overpass is part of a project that will build a north-south connector between the Highway 83 Spur and Highway 278. The connector will extend, on new location, south from Highway 278 to Scogin Drive and then along Scogin Drive to the Highway 83 Spur (Jordan Drive).

The proposed project will alleviate congestion experienced on the west side of Monticello due to nearby facilities, including the Drew Memorial Hospital and the Southeast Arkansas Regional Intermodal Facility. It is hoped that the connector will also alleviate traffic on Highway 425, which runs parallel to the connector east of the project.

City and County stakeholders in Monticello requested the addition of a railroad overpass as part of the connector. Concerns exist because of the interruption of north-south travel across town by the presence of trains. With the healthcare facilities located south of the railroad tracks, the multiple at-grade crossings can be blocked, resulting in delays to emergency services. The overpass will provide north-south travel with no delays.

The proposed connector will consist of two twelve-foot travel

lanes with eight-foot shoulders. With project completion, motorists will have access to the Health and Education Complex via the Highway 83 Spur and Scogin Drive. In addition, traffic could travel east on the Highway 83 Spur to Highway 425 to access the south side of the City.

The advantages of the connector are many. It will create a safer and more efficient traffic system within the Health and Education Complex, will alleviate hazardous bottlenecks, will provide emergency vehicles a reliable and shorter route to health facilities and will be utilized by an estimated 3,400 vehicles daily. Safety on alternate north-south routes will be enhanced by reducing traffic congestion.

The BUILD Transportation Discretionary Grant program provides a unique opportunity for the U.S. Department of Transportation to invest in road, rail, transit and port projects that promise to achieve national objectives. Previously known as Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grants, Congress has dedicated nearly \$7.9 billion for eleven rounds of National Infrastructure Investments to fund projects that have a significant local or regional impact.

The Monticello BUILD grant will supplement local partnership funds provided by the City of Monticello and by Drew County. The City and County have committed to providing \$4,900,000 for the project.

Construction is slated to begin in late 2021. ■



SCENIC GUARDRAILS GET A MAKEOVER

BY BRITNI PADILLA-DUMAS

MOST OF US HAVE USED THE COLLOQUIAL PHRASE, "TAKING THE SCENIC ROUTE," BUT THAT'S PRETTY EASY TO DO IN THE NATURAL STATE WITH ITS 11 SCENIC BYWAYS. FOR A HIGHWAY TO BE OFFICIALLY DESIGNATED AS A SCENIC BYWAY, IT MUST CONTAIN ABUNDANT SCENIC, CULTURAL, RECREATIONAL AND/OR HISTORIC QUALITIES THAT WOULD BE OF INTEREST TO TOURISTS.

Arkansas' Scenic Byways Program was established shortly after Congress passed the Intermodal Surface Transportation Efficiency Act of 1991. This federal legislation created the framework to develop a

network of National Scenic Byways and All American Roads. The Act also encouraged each state to develop its own state scenic byway program.

ARDOT Engineers recently began working on a new bridge rail design for the state's scenic routes. The new look is more aesthetically pleasing and was created with the goal of softening the contrast between the natural elegance of the surrounding area and a man-made bridge suitable for heavy traffic.

"The new design fits the context of the area so well," said Assistant Chief Engineer of Design Mike Fugett. "I really like that they resemble the infrastructure from the Works Progress Administration (WPA) and the Civilian Conservation Corps (CCC) era from the 1940s."

Instead of traveling across plain concrete and steel, onlookers can coast along a simple, sleek rock and lumber bridge that blends with the surrounding beauty.

"The woodgrain on the rail looks so natural that you almost have to touch it to know it isn't wood," Fugett admired.

"It's important that we preserve the artistry of the environment whenever we can," commented ARDOT Director Lorie Tudor. "Our state is naturally beautiful and designing an aesthetically pleasing transportation system is one of our goals."

Roadway Design engineers began working on the new look last year. The first bridge to be completed by contractors is on Highway 7, north of Hot Springs Village. ■

ICONIC BEAVER BRIDGE GETS A FACELIFT

BY DAVID NILLES

THERE ARE VERY FEW BRIDGES IN ARKANSAS AS UNIQUE AS THE HIGHWAY 187 BEAVER BRIDGE OVER THE WHITE RIVER AT TABLE ROCK LAKE.

By driving a few minutes outside of Eureka Springs and crossing over the bridge, you quickly become convinced of that. Maybe it is the fact that it is a one-lane suspension bridge or, more likely, it is the sound of the clickety clack as you drive over the bridge's wooden timbers.

Known as the "Golden Gate of the Ozarks," it is an Arkansas treasure. ARDOT engineers appreciate how unique the bridge is and work hard to be certain it is maintained in top condition.

That includes occasionally replacing those famous timbers. Crews with ARDOT's Heavy Bridge section began working on the timbers in early September of 2020.

"Between the weather and the traffic, there has been deterioration of the wood over the years," stated District 9 Engineer Steve Lawrence.

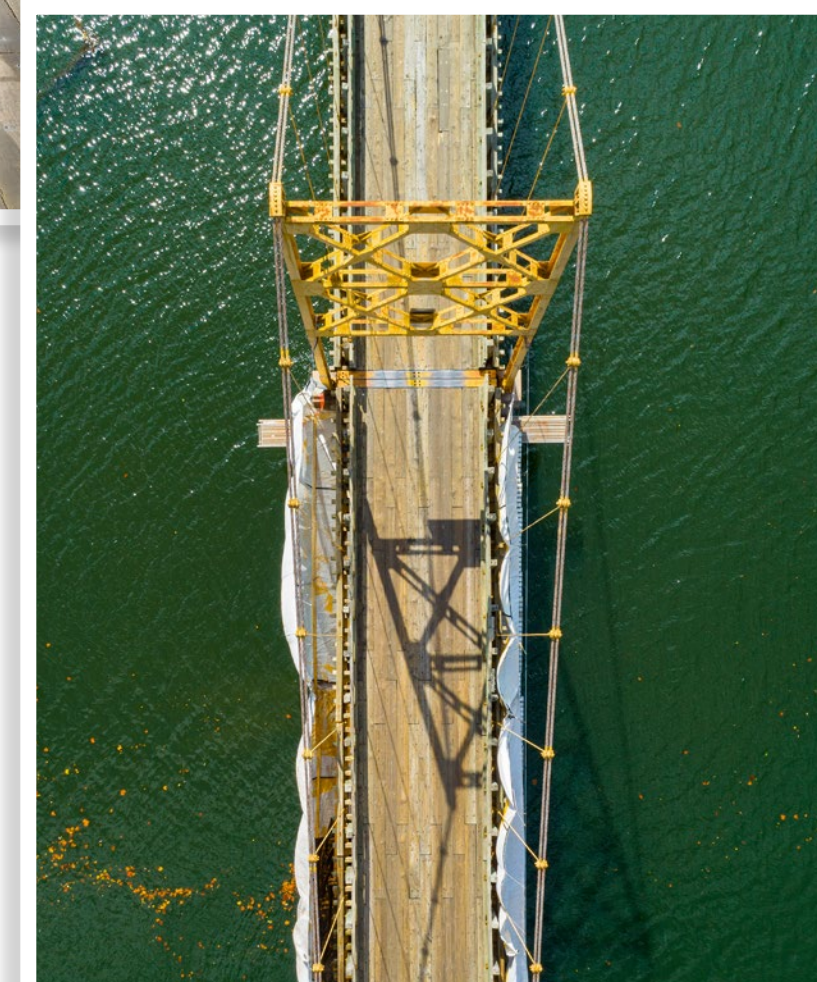
Hundreds of vehicles cross the bridge each day and it has survived flooding a few times. In fact, the bridge was closed

from May 24 to July 22 of 2020 due to high water.

GETTING TO WORK

The last time the timbers were replaced was in 2001. New timbers for the bridge were shipped in from Lake Charles, Louisiana. In addition to replacing the timbers on the bridge, the railings will be replaced as well. Steel beams on the bridge will be cleaned and inspected, and the familiar yellow towers will receive a fresh coat of paint. It is estimated the work will take three months to complete.

"I would estimate the new timbers will last between 15 and 20 years," Lawrence added. "The bridge has been going under water more frequently in the past 10 years due to heavy rains and flooding, and that has undoubtedly affected the condition of the current deck timbers. If this trend continues, it will most likely affect the lifespan of the new ones being placed."



A HISTORY OF THE BRIDGE

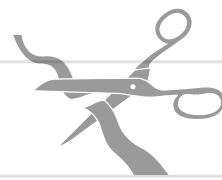
Crews with Carroll County constructed the first bridge over the White River at Beaver in 1926. Prior to that, a ferryboat, established by Wilson A. Beaver in 1850, carried vehicles across the water. After a flood destroyed the original bridge in 1943, the Arkansas Highway Commission approved construction of the bridge that we see today. The Pioneer Construction Company of Malvern completed the work.

Here are a few fun facts about the bridge. As a suspension bridge, how much weight would you guess it could hold? The bridge has a weight limit of

10 tons. It was added to the National Register of Historic Places in 1990. The bridge was featured in the 2005 movie *Elizabethtown* that included a scene of Orlando Bloom on the bridge dropping ashes from an urn into the water below. Today, the bridge is known as the "Bridge to Nostalgia" and is the last suspension bridge of its type open to vehicular traffic in Arkansas.

With new timbers in place, the Golden Gate of the Ozarks is ready to serve motorists for many more years to come. ■

SPECIAL EVENTS AROUND THE STATE



BY BRITNI PADILLA-DUMAS
& DAVID NILLES

VETERANS MEMORIAL BRIDGE | PULASKI COUNTY

People gathered near Dickey Stephens Park Wednesday, October 21 to dedicate the Highway 70 Broadway Bridge as the Veterans Memorial Bridge.

The Arkansas Veterans Coalition (AVC) collaborated with the cities of Little Rock, North Little Rock and ARDOT to rename the bridge to recognize the commitment and service of our armed forces in Arkansas.

The original Broadway Bridge was dedicated to veterans of World War I in 1923. After 90 years of useful service, the bridge was replaced in 2017. The new bridge is dedicated to all Arkansas Veterans—past, present, and future—for their selfless service and dedication to duty while serving in the Armed Forces of the United States.



U.S. HIGHWAY 82 | ASHLEY COUNTY

Local dignitaries, ARDOT staff and Highway Commissioners came together south of Hamburg to cut a ribbon on the completion of the widening of a section of Highway 82. The five-mile project widened Highway 82 to four lanes beginning at County Road 411 near Hamburg and extending southward to Highway 425. JB James Construction, LLC, was awarded the \$26.7 million contract in September 2018.

"When I look at a map of this newly widened highway and plans for it to the west, it assures me that ARDOT is indeed achieving its goal of widening and improving highways in every corner of this state," Arkansas Highway Commission Chairman Robert S. Moore, Jr. of Arkansas City told the crowd.

An additional project currently under construction is widening Highway 82 to four lanes extending from Highway 425 westward towards Crossett.

HIGHWAY 412 PARAGOULD BYPASS | PARAGOULD

A crowd that included Governor Asa Hutchinson gathered for a ribbon cutting on the western section of the Highway 412 Bypass in Paragould. The new five-mile section connects with the eastern section to complete the ten-mile, two-lane route south of town. Dumey Contracting, Inc. completed the construction at a cost of \$12.7 million.

"It takes vision and perseverance to complete highway projects such as this," stated Highway Commission Chairman Robert S. Moore, Jr.

Governor Hutchinson told the crowd that he appreciates value and working hard for economic development in Arkansas.

"The Highway 412 corridor is a key part of our future growth plans in Arkansas," Hutchinson added. "Whether it is farm to market, or school buses driving on safe roads, or our tourism industry, they all need the benefit of good highway infrastructure. Whenever we cut a ribbon, it says 'go' and to me 'go' means growth and opportunity. So let's get ready to 'go' when we cut this ribbon."



Blanchard Springs Caverns



Cosmic Cavern



Mystic Cavern & Crystal Dome

WHAT LIES BENEATH THE PAVEMENT: CAVES OF ARKANSAS

BY BRITNI PADILLA-DUMAS

AS YOU TRAVEL A BEAUTIFULLY PAVED HIGHWAY THAT WINDS ITS WAY THROUGH ARKANSAS FORESTS, HAVE YOU EVER WONDERED, "WHAT IS UNDER ME, RIGHT HERE, RIGHT NOW?"

No? Just me? That's fine—we're going to dig a little deeper, anyway.

Highways are known to stretch across valleys, fields, bodies of water, swamps, marshes, mountains and rock formations. But what about cruising above the unseen?

Arkansas is home to several living caves hidden beneath our driving surface. Many of these caves are located in or near the Ozark National Forest in Northwest Arkansas.

Blanchard Springs Caverns • Below Highway 14 Fifty Six, Arkansas

Blanchard Springs Caverns is located in the Ozark National Forest, just 15 miles northwest of Mountain View on Arkansas Highway 14. Pitch a tent in the campgrounds and choose which underground trail you will explore. This living cave is a constant 58 degrees Fahrenheit, so dress accordingly.

Cosmic Cavern • Beneath Highway 21 North Berryville, Arkansas

The state's warmest cave clocks in at 64 degrees Fahrenheit. Discovered in 1845, it is home to two cave lakes, neither known to have a bottom. The trout that have lived in the lake for nearly 50 years have lost their eyesight and coloring because the water is so dark and deep.

Mystic Cavern & Crystal Dome • Under Highway 7 Harrison, Arkansas

Travel 110 feet below the surface to a cave discovered in 1967. The "Pipe Organ" in this underground chamber is one of the most spectacular calcite formations, standing 30 feet tall and 12 feet thick!

Old Spanish Treasure Cave • Below Highway 59 Sulphur Springs, Arkansas

If "watch a movie inside a treasure cave" is on your bucket list, you're in luck! Featured on an episode of *Unexplained* and *Unexplored* on the Discovery Science Channel, the Old Spanish Treasure Cave boasts legends of buried treasure by the Spanish Conquistadors. It is believed that the treasure is still here.

War Eagle Cavern • Beneath Highway 12 War Eagle, Arkansas

While visiting the historic War Eagle area, experience the largest cave entrance located along a lakeshore with your furry, four-legged children. The cavern tours are pet-friendly as long as everyone is on their best behavior. A portion of the film *Frank and Jesse* starring Rob Lowe, Bill Paxton and Randy Travis was filmed inside the cave. Can you find evidence of Travis' visit?

Photo credits: Blanchard Springs Caverns courtesy of Arkansas Parks & Tourism; Cosmic Cavern courtesy of CosmicCavern.com; Mystic Cavern & Crystal Dome courtesy of MysticCaverns.com

THE TOAD SUCK FERRY RETURNS HOME

BY DAVID NILLES



147 YEARS. That is how long a ferryboat operated at Toad Suck, Arkansas, carrying passengers across the Arkansas River between Faulkner and Perry Counties. When Lock and Dam #8 and the Highway 60 Bridge were dedicated on September 27, 1970, the modern day ferry made its last trip across the river. The vessel's years of service were not over, however. The Arkansas Department of Transportation (ARDOT) moved the ferry to Peel to transport passengers across Bull Shoals Lake. After many years of operation in northern Arkansas, the faithful vessel recently returned home to Toad Suck.

A HISTORY OF RIVER CROSSINGS

The first ferry to operate at Toad Suck began service in 1823 when a postal route to Hot Springs was established. It

was just large enough for an operator, and a horse and rider and was pushed across the water with a pole.

In the years that followed, numerous methods were used to assist the ferry across. A cable was stretched from shore to shore towards turn of the 20th century to pull the ferry to the other side. Soon, two low-powered motors were used to guide the boat.

The ferry was privately owned through most of its history. Senator Guy "Mutt" Jones of Conway, Representative Paul Van Dalsem, Conway businessman Dave Ward and the Conway Y.B.M.A. (Young Business Men's Association) were among the various owners.

Representative Van Dalsem recalled that during his ownership in the 1930s, it was a wooden barge. He hired Conway mechanic Dave Ward to build a steel barge and jon boat. The jon boat towed the ferry until the late 1940s and

is on display today at Toad Suck Ferry Damsite Park.

In 1953, Senator Jones received a \$20,000 legislative appropriation for state operation of the ferry. H.B. Smith Welding Company of Dumas built a new ferry made of steel in 1956. A replica of the ferry and its actual motor can be seen at the Faulkner County Museum. Today, the actual ferry has returned as well.

THE JOURNEY HOME

The Toad Suck Ferry began operation on Bull Shoals Lake in 1970. After many years of carrying motorists in northwest Arkansas, it was retired. The vessel still had one final trip to make, one that would take it back home to Toad Suck.

"The City of Conway and Faulkner County first contacted ARDOT about acquiring the barge in late 2015 after the Christmas Barge was put

into service at Peel," recalled Steve Lawrence, District 9 Engineer.

Plans soon began to materialize for a move back to Toad Suck. The journey would require the efforts of ARDOT District 9 personnel, Arkansas Highway Police, the City of Conway and the offices of Faulkner County. A checklist for moving day would require a lowboy trailer, a crane to lift the barge onto the trailer, crews to make the move and law enforcement escorts for the 130-mile trip back to Toad Suck.

On October 22, 2020, the ferry began its final journey. ARDOT crews traveled to Peel, lifted the vessel onto a flatbed truck and drove to District 9 Headquarters in Harrison. On October 25, the boat was transported back to Faulkner County.

"The move went very well due to superb planning and coordination between District forces and Highway Police personnel," Lawrence shared.

"We moved the barge from Peel to

the District 9 Headquarters on October 22. That was a good opportunity for us to make sure everything was going to function as we were anticipating. It also helped us with traffic control planning for the bigger move down Highway 65 on October 25."

Personnel started gathering early that Sunday and crews left at about 7:00 a.m.

"The portion of Highway 65 between Western Grove and Marshall was the most challenging part of the move due to the narrowness of the road," Lawrence added. "We had vehicles out front stopping and flagging traffic so we could "hopscotch" the barge down the road without encountering oncoming vehicles. Once we got to Marshall, we were able to move without stopping traffic. We did have to pull over occasionally to let traffic by that was caught behind us.

"The Highway Police did a great job of controlling traffic when we approached narrow bridges and traffic lights. That allowed the move to continue with a

minimum number of stops. Getting the barge there safely was our number one goal and crews did a great job of that!"

District crews involved included: the Peel Ferry, District Shop, Bridge, and Sign crews. Highway Police had officers from AHP Districts 2 and 4 helping with the move. The barge arrived at the park around noon that day.

Today, the ferry stands in Old Ferry Landing Park, a matter of yards from the Arkansas River where it once operated. The boat will be restored to its original appearance with a fresh coat of orange paint, a new wheelhouse and paddlewheels.

Those that rode the ferry in days gone by can see the barge and recall those earlier rides across the river.

Old Ferry Landing Park is located off Highway 60 on the eastern bank of the Arkansas River. ■

**Historical information for this article was provided by the Faulkner County Historical Society and Cindy Beckman, editor of the "Faulkner Facts and Fiddlings" journal.*





MAINTENANCE CREWS: ON LOCATION

DISTRICT 10



“The ability to hold and store salt in larger quantities helps to make sure we can be equipped for winter events when needed,” Smithee added. “When we see multiple events follow one another, our supply can deplete rapidly and having larger storage capacity helps during those unfortunate times. Additionally, by building larger facilities and strategically locating them, this allows us to be able to transport materials around our District during times we find it difficult to receive deliveries from our supplier.”

The Greene County facility is ideally located very near the District 10 headquarters. Crews begin their shifts by loading at the Paragould area headquarters before heading to their designated routes.

“In addition, Greene County is our crew that manufactures our brine and has our largest tank farm for brine storage. The ability to store more salt will simply help to assure more materials are available for all needs,” Smithee added.

Bulk pretreated rock salt for the new storage facility will be supplied by Oakley Fertilizer in North Little Rock in accordance with current Department supply contracts.

Smithee commented on the importance of storing adequate supplies of salt.

“When I started with the Department over 32 years ago, winter weather was something we just didn’t have to address often. We had events that lasted for a few days, but our citizens knew that it would melt away soon. Today, those ideas are long gone and, statewide, we place a huge emphasis on our efforts, equipment and materials for possible winter weather events. While there are many materials that can be used to pre-treat and fight roadways and bridges that find themselves becoming slippery during icy weather, bulk salt has been, and will be, the most widely used product in the effort to improve conditions on our transportation system.”

Estimated cost of the new storage facility in Greene County is approximately \$137,000. ■

A NEW SALT STORAGE FACILITY IS BEING CONSTRUCTED IN PARAGOULD AT DISTRICT 10'S GREENE COUNTY AREA HEADQUARTERS.

The old storage structure was 25 years old and the salt it held had taken a toll on the facility.

“The walls had deteriorated, the roof shingles were past their usefulness and the decking had many bad panels,” District Engineer Brad Smithee shared.

The concrete floor and walls of the new building were constructed by Palmer Construction of Pocahontas. ARDOT maintenance crews are installing the ClearSpan fabric/truss roof. The entire building process is expected to take approximately eight weeks.

The new facility will be bigger and better, holding up to 2,000 cubic yards of salt, a significant increase over the old one.

DISTRICT 2

CONSTRUCTION



Intersection of Highway 82 and Highway 425

CORNER

Three construction projects in Ashley County are improving Highways 82 and 425 near Hamburg and Crossett.

A ribbon cutting took place October 1 on a project that widened five miles of Highway 82 to four lanes between Hamburg and Highway 425 to the south. J.B. James Construction, LLC, completed the project at \$26.7 million.

“These improvements in southeast Arkansas are all a part of providing the best highway system possible for motorists,” stated Commission Chairman Robert S. Moore, Jr. at a ribbon cutting ceremony. “Highways that are safer, that have less congestion and that are part of improving economic opportunities within our borders.”

The project on Highway 82, between Hamburg and Highway 425, is part of ARDOT’s Connecting Arkansas Program.

Widening continues on Highway 82 to the west of the junction with Highway 425. Crews with Johnsville Company, LLC, are widening a five-mile section that extends westward into Crossett. Work on this section of the highway is to be completed in late 2020.

Another Connecting Arkansas Program project in the same area is widening approximately ten miles of Highway 425 from Highway 82 southward to the Louisiana border. Diamond B Construction Company, LLC, was awarded the contract at approximately \$44.6 million. These improvements are scheduled to be complete in the summer of 2022. ■



Leveling the surface on Highway 82



Laying asphalt on Highway 82



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