

# **FY 2011 Continuing Appropriations Act**

## **TIGER Discretionary Grant Program**

### **Highway 92 Bridge Replacement Project**

**Project Type:** Highway

**Project Location:** Conway County, Arkansas (2<sup>nd</sup> District)  
Van Buren County, Arkansas (2<sup>nd</sup> District)

**Area Type:** Rural

**Grant Amount Requested:** \$1.544 million



**Submitted by**

**Arkansas State Highway and Transportation Department  
October 31, 2011**

**FY 2011 Continuing Appropriations Act**

**TIGER Discretionary Grant Program**

**Highway 92 Bridge Replacement Project**

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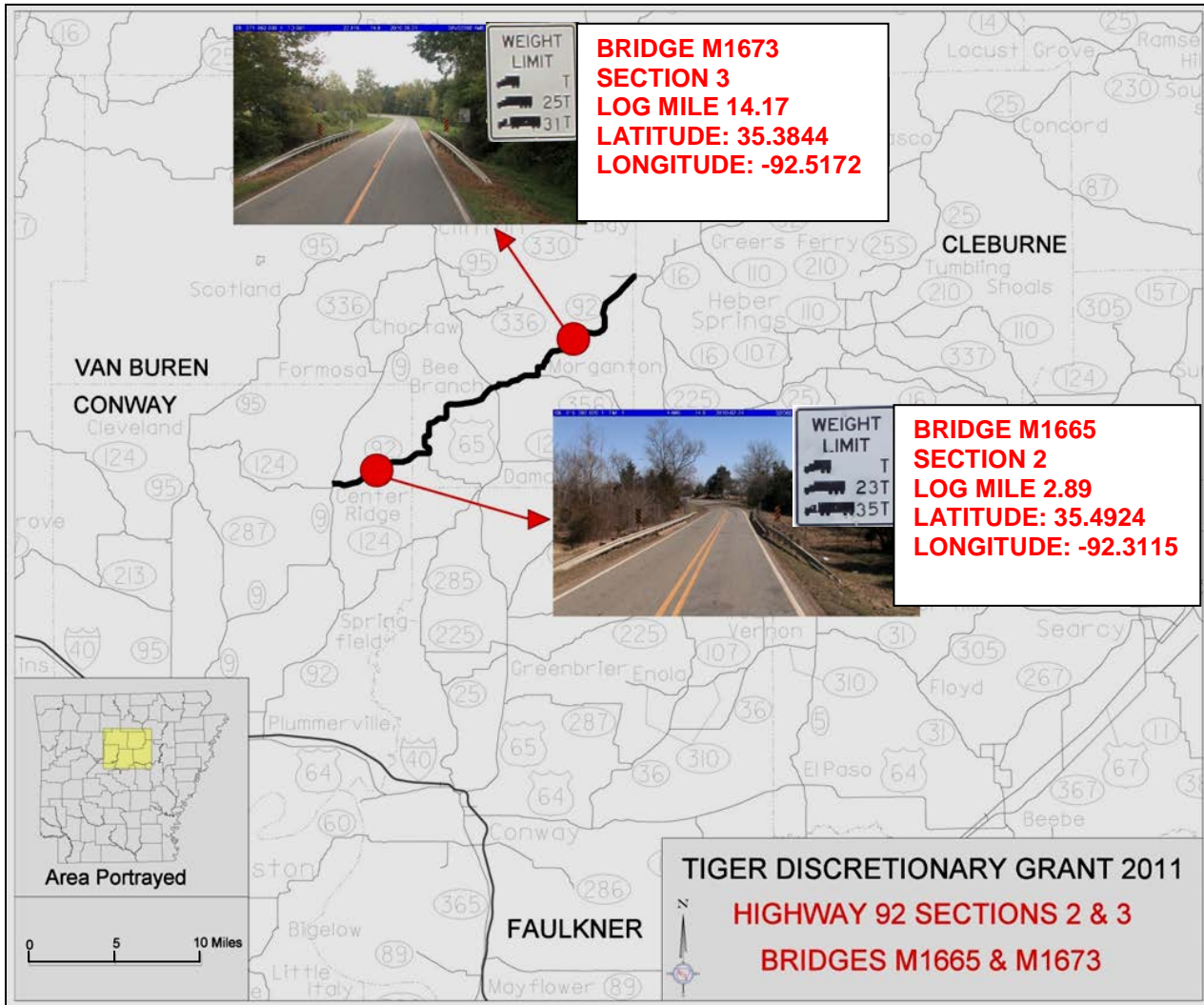
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## I. Project Description

The Arkansas State Highway and Transportation Department (Department) is requesting funding to replace two weight-restricted bridges and widen the lanes and shoulders of the bridge approaches on Highway 92 in rural Conway and Van Buren Counties in north central Arkansas to stimulate rural economic growth. The total cost of the project is \$1.93 million. This application requests \$1.544 million (80 percent of the project cost). The project location is shown in Figure 1.

**Figure 1: Project Location**



Bridge M1665 (located at Section 2, Log Mile 2.89) was constructed in 1965. Originally constructed of concrete, the deck now has an asphalt overlay. The structure has a sufficiency rating of 44.7. The curb-to-curb width is 24 feet with no shoulder on the structure. Bridge M1673 (located at Section 3, Log Mile 14.17) has a curb-to-curb width of 26 feet. This structure

was originally constructed in 1940 with a concrete deck. Currently the deck has an asphalt overlay. The sufficiency rating for this structure is 63.0.

Since 2007, there has been drilling related to natural gas exploration in the north central region of Arkansas in an area geologically known as the Fayetteville Shale area. Drilling activities have led to the region being known as the Fayetteville Shale Play (FSP). These activities have led to the rapid development of over 4,000 new natural gas wells. Each well requires over 1,000 truck trips and 2,400 equivalent single axle loads (ESALs). The public roads and bridges in this area have been subjected to a tremendous amount of heavy traffic loadings for which they were not designed.

More than 800 miles of highways and 1,000 bridges in Arkansas have been adversely affected by the increased traffic loadings in the FSP area. Acceleration of pavement and structural deterioration has led to the need for improved transportation infrastructure to continue rural economic development.

In response to the rapid infrastructure deterioration in the FSP area, several routes were recommended to be weight restricted in an effort to extend the life of the pavement. When these weight restricted routes were proposed, State legislators in the affected area became concerned about the economic impacts. In response to their concerns, the Arkansas Highway Commission met with the local State legislators to gather more information.

The Department was directed to hold public meetings to discover how weight restricting some of the routes could impact the area's industries, in particular timber and poultry. Because of the concerns expressed at these meetings, the Department decided not to weight restrict Highway 92 from 84,000 lb to 64,000 lb. Instead, the Department resurfaced Highway 92 to strengthen the roadway. However, it was found that two bridges on Highway 92 cannot support these heavy loads and needed to be weight restricted. Bridge M1665 was restricted to vehicles less than 35 tons, and Bridge M1673 was restricted to vehicles less than 31 tons. This has adversely impacted the ability to transport timber and farm products.

The images in Figure 2 highlight the progression of deterioration on a typical route within the FSP area. In 2006, there was no noticeable damage to the roadway or shoulders. The 2008 image shows the recent overlay. By 2010, rutting, bleeding, and cracking began to affect the roadway and surface. The image from 2011 shows the latest condition of this facility with rutting, cracking, raveling, and deterioration of the pavement edge.

These images are of the roadway conditions but the bridges along the routes are also subject to similar stresses leading to deterioration of the deck and substructure. Many highways and bridges in the FSP area are now weight-restricted due to excessive loadings and rapid deterioration, which not only impairs the mobility of the local community, but Arkansas as a whole.

**Figure 2: Deterioration of a Typical Facility in the Fayetteville Shale Play Area**

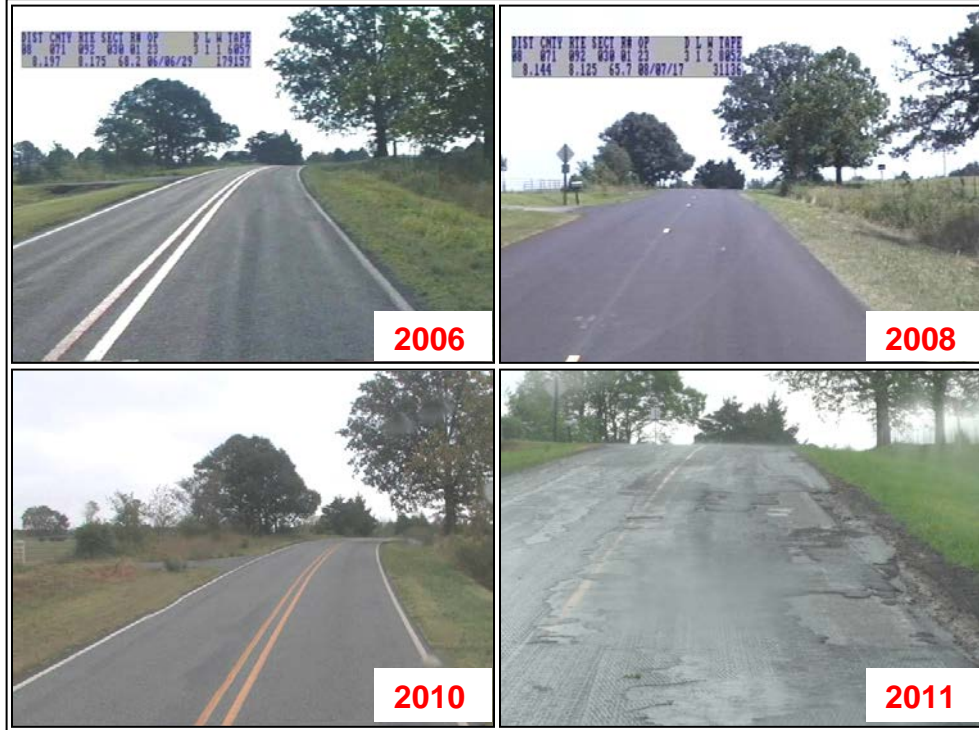
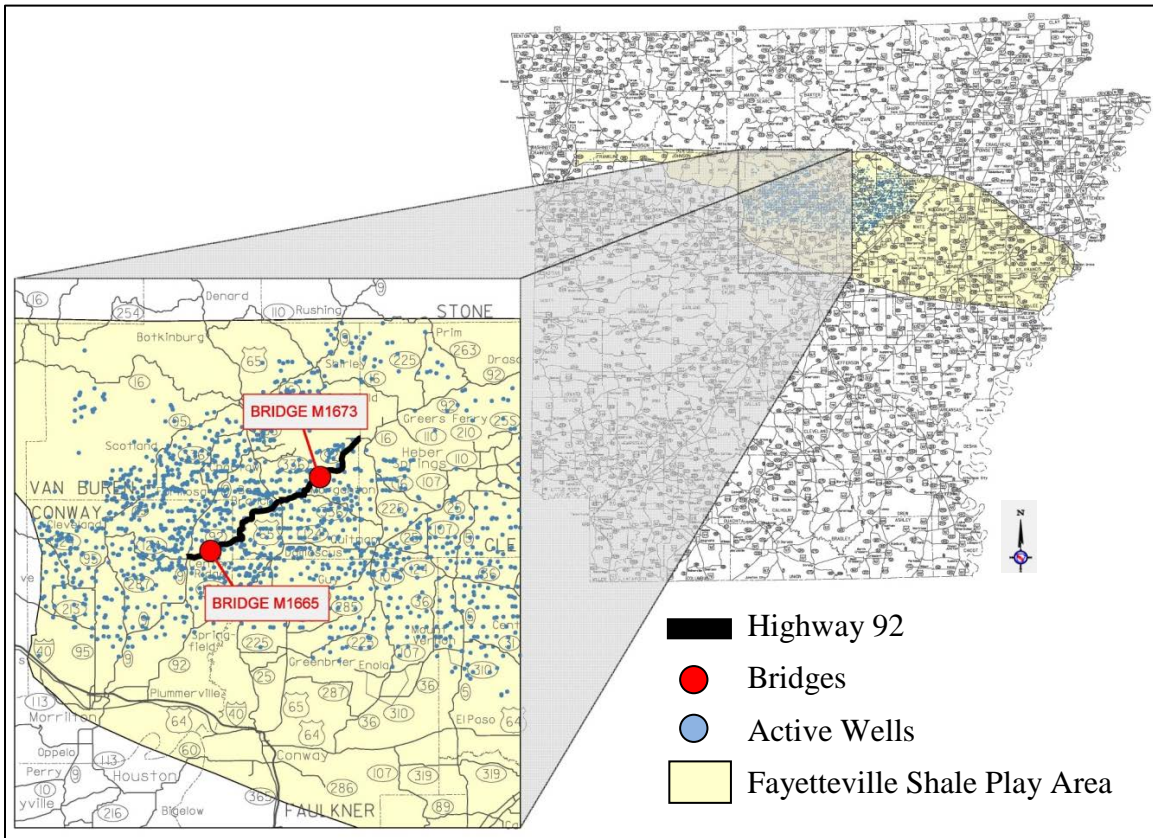


Figure 3 shows active gas well drilling sites surrounding the two bridges on Highway 92 in the FSP area. This yellow region includes 7,439 square miles and 1,759 miles of the State Highway System. This is 14% of the total land mass of Arkansas and over 10% of the State Highway System. Accelerated deterioration of the highways and bridges creates a tremendous challenge for the Department to maintain the serviceability of these facilities that are vital to the economy of the region.

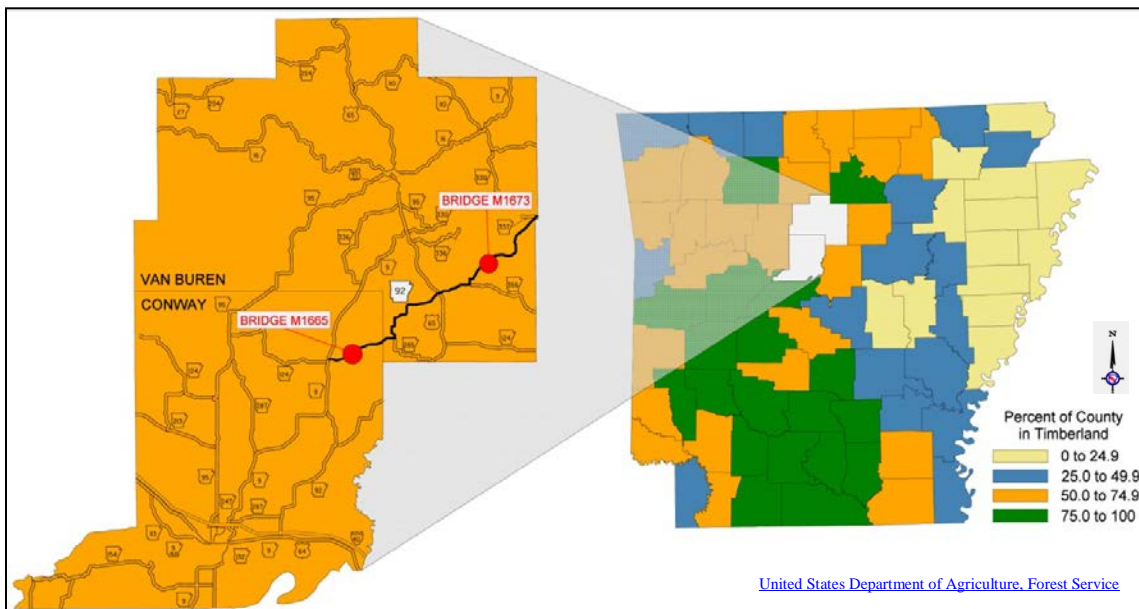
Before the natural gas exploration began in 2007, the north central region of Arkansas already had many established industries and businesses. One large economic driver in Arkansas, especially in Conway and Van Buren Counties, is the forest production industry. Arkansas is the fourth largest timber-producing state in the country and the largest timber-producing state in the south, as reported by the [Arkansas Forest Research Center](#). Over 50 percent of Conway and Van Buren Counties' land area is timberland. Figure 4 shows the percentage of each county covered in timber.



**Figure 3: Fayetteville Shale Play Area**

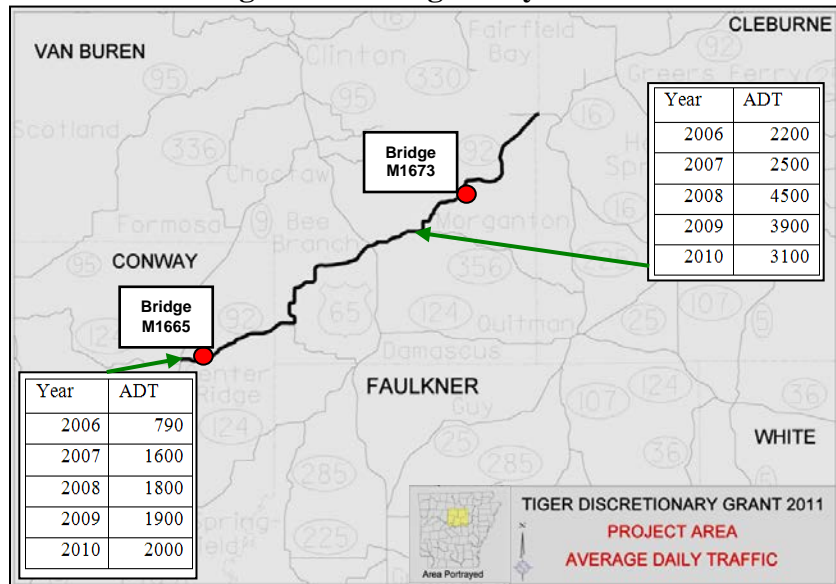


**Figure 4: Percent of County in Timberland**



The two bridges on Highway 92 in Conway and Van Buren Counties are essential to connect the roadway network in the region. Figure 5 illustrates the location of Highway 92 and the two bridges. Highway 92 (highlighted in black in Figure 5) has experienced significant growth in traffic. At Bridge M1665, traffic has grown from 790 vehicles per day (vpd) in 2006 to 2,000 vpd in 2010 due to the recent natural gas drilling exploration activities in the area. At Bridge M1673, traffic has increased from 2,200 vpd in 2006 to 3,100 vpd in 2010. This represents an annual growth of 26.14 percent and 8.95 percent respectively, while the average annual statewide growth rate is 2 percent. Since 2007, it is estimated that there have been over 335,000 ESALs on sections 2 and 3 of Highway 92. This route was designed for 115,540 ESALs. The increased ESALs have caused rapid deterioration of the route.

**Figure 5: Average Daily Traffic**



## **II. Project Parties**

In 1913, the 39<sup>th</sup> Arkansas General Assembly appointed the first State Highway Commission, under Act 302, to address the transportation needs of the state. Amendment 42 of the Constitution of Arkansas, passed by a vote of the people in November 1952, established the present five-member State Highway Commission that is appointed by the Governor. Under Amendment 42, the State Highway Commission was vested with the power of administering Arkansas' State Highway System. In 1977, Act 192 created the Arkansas State Highway and Transportation Department by adding the responsibility for coordination public and private transportation activities and the implementation of a safe and efficient intermodal transportation system.



The Department is the sole applicant for of this project. The primary point of contact for this grant application is:

Lorie H. Tudor, P.E.  
 Assistant Chief Engineer – Planning  
 Arkansas State Highway and Transportation Department  
 P.O. Box 2261  
 Little Rock, AR 72203  
 Phone: (501)569-2241  
 E-mail: Lorie.Tudor@ahtd.ar.gov  
 DUNS: 809873235

### **III. Grant Funds and Sources/Uses of Project Funds**

The Department requests \$1.544 million to fund the project. The total cost of the project is \$1.93 million; the grant request amount represents 80% of the total project cost. The remainder of the project cost, \$0.386 million, will be funded using state construction funds. The use of project funds is given in Table 1. This project is not suitable for TIFIA funding because the total cost is less than \$50 million. The Department has long been committed to the improvement of highways in the FSP area. Since natural gas exploration began in 2007, the Department has expended more than \$143 million on 52 projects in the region.

**Table 1: Use of Project Funds**

<b>Task</b>	<b>Funds Requested (Federal)</b>	<b>State Match</b>	<b>Total</b>
Preliminary Engineering	\$60,800	\$15,200	\$76,000
Right of Way Acquisition	\$48,800	\$12,200	\$61,000
Construction Engineering	\$184,000	\$46,000	\$230,000
Construction	\$1,250,400	\$312,600	\$1,563,000
<b>TOTAL</b>	<b>\$1,544,000</b>	<b>\$386,000</b>	<b>\$1,930,000</b>

### **IV. Selection Criteria**

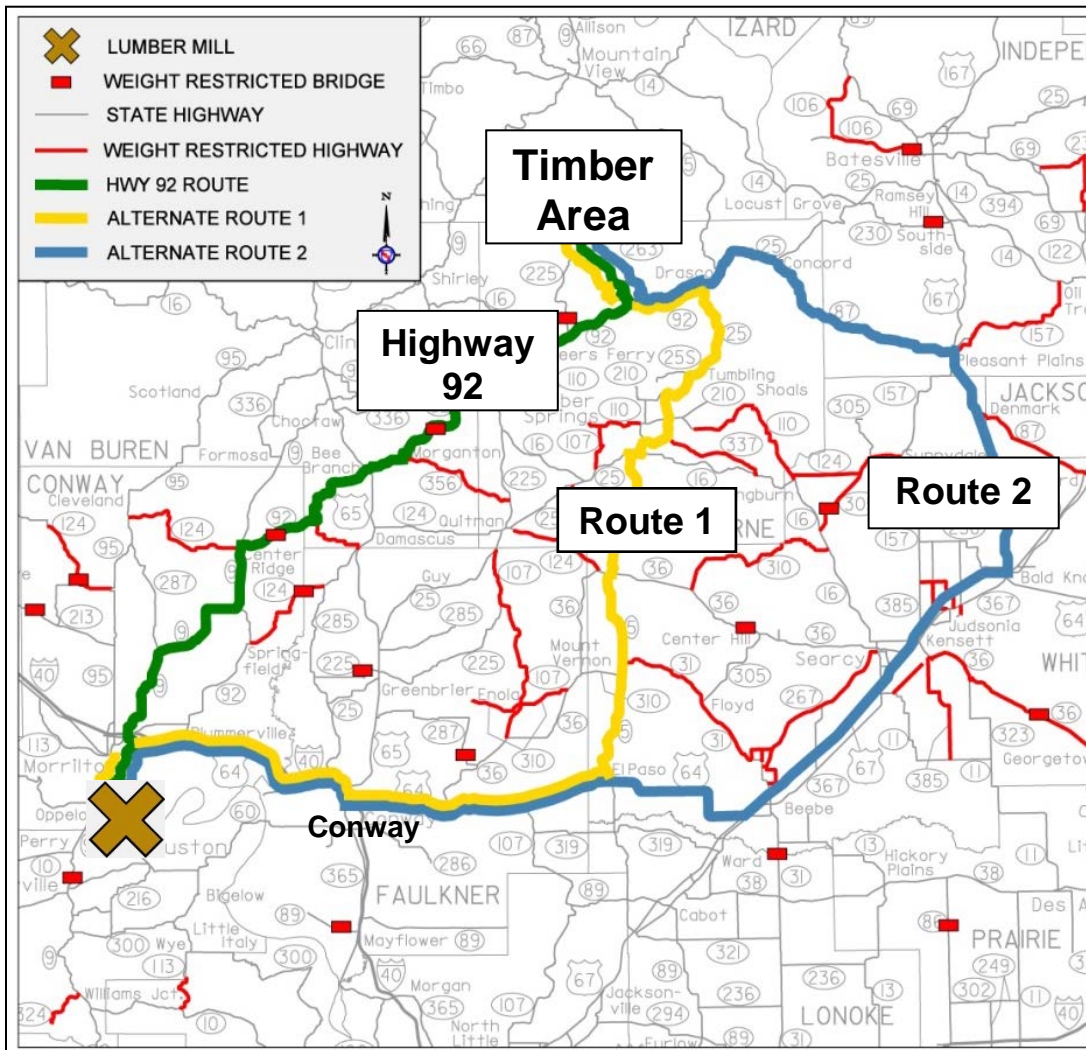
#### **A. Long-Term Outcomes**

##### *i. State of Good Repair*

Due to the geography of the region, existing routes are sometimes circuitous due to the natural terrain. The following map, Figure 6, shows typical alternate routes that are currently being used by the local timber industry to accommodate the weight restriction of these two bridges on Highway 92. Also shown on this figure is a representative location of the timber mill where the timber is being transported. This location is the largest mill in the area and it is used to calculate detour distances and travel times. The highways and bridges highlighted in red are weight restricted due to the increased traffic loading related to the natural gas exploration

activities. Replacement of the two bridges on Highway 92 will provide a more direct route between the timber area and the mill.

**Figure 6: Alternate Routes**



The approximate mileage between the north central Arkansas timber area and the mill along Route 1 is 105 miles. The approximate mileage along Route 2 is 132 miles. However, the mileage can be reduced drastically to 76 miles if the two bridges on Highway 92 are replaced. The replacement of the two bridges will decrease the mileage traveled along Route 1 and Route 2 by 28% and 42%, respectively. It should be noted that Alternate Routes 1 and 2 both go through the City of Conway in Faulkner County. Issues resulting from this are discussed in detail in Safety Section Criteria.

According to members of the logging industry, there are approximately 100 truck trips per day between the timber area and the local mill. Improvements to the Highway 92 structures will allow these commercial vehicles to travel the shorter route and will decrease the travel in the region between 2,900 and 5,600 vehicle-miles per day. For these 100 truck trips, this represents

a daily reduction of diesel fuel between 645 and 1,245 gallons. This is based on average fuel efficiency for a forestry truck of 4.5 miles per gallon.

The need to improve the transportation network in the FSP area is not a new or recent development. With the onset of the increase in commercial vehicle traffic in this area, the roadway and bridge network began to exhibit accelerated deterioration. In 2007, the Department began working to address issues such as public safety with the weight-restriction on certain routes and structures until repairs, rehabilitation, or replacements could be made. The Table 2 displays the history of projects completed in the FSP area, projects currently under construction, and projects currently programmed for construction.

Since 2008, the Department has collected Roadway Maintenance Assessment fees from the natural gas exploration companies to offset the damage to the State Highway System. The fees are calculated based on pavement deflection analyses. These fees range from \$18,000 to \$50,000 per well on a weight restricted route. The total amount of fees collected from 2008 to 2011 is \$6.6 million. These funds are used for maintenance activities and are assigned to the specific route where the well is located. Highway 92 is currently not weight restricted, except for the bridges, due to the importance of the route to the local economy. Therefore, excessive loadings have continued along this route, causing additional deterioration. It is estimated that allowing this route to remain open to the free flow of all traffic has forced the Department to spend several million dollars a year in additional maintenance activities with no compensation.

**Table 2: Fayetteville Shale Play Area Projects**

<b>Status (number of projects)</b>	<b>Amount Expended or Committed</b>	<b>Length (miles)</b>
Complete (36)	\$60,701,750	84.32
Under Construction (16)	\$82,550,631	50.90
Programmed (37)	\$293,157,000	62.71

*ii. Economic Competitiveness*

The bridges on Highway 92 are weight-restricted, which is preventing the region from reaching its full economic potential. There is not an extensive transportation network in this region with pavement conditions that allow for the free movement of commercial vehicles transporting products in and out of the FSP area. Rural industries will thrive with the improved access in this area and the availability of transportation services throughout the region.

Replacement of the two bridges on Highway 92 will improve the transportation network and provide more opportunity for these rural communities. This project will not only improve the competitiveness of the region, but it will improve the competitiveness of the United States by connecting the natural resources of the local economy to larger national markets.

As part of the efforts to solicit input from the local residents and business owners regarding the weight-restriction of facilities in the region, the Department sponsored a series of three public meetings in the Spring of 2011.

The purpose of the meetings was to share information regarding the Department's plans in the area as well as to receive feedback from the public. Over 285 people attended the six hours of public meetings. Countless comments were submitted to the Department regarding the weight-restricted roadways and bridges in the region. Members of the public expressed very strong opinions regarding the importance of Highway 92 for the region's economic well-being. One meeting attendee was quoted saying, "Not being able to transport goods on Highway 92 can put some of these industries and businesses on the razor's edge between profit and loss." Other attendees reported:

*"We are trying to balance the needs of people to have a nice place to live and raise their family also with the industry that is here"*

*"You are interrupting too much of their lives"*

*"Timber and farming is a big industry in Arkansas."*

*"It's the timber industry. It's the farm industry. And you put these guys out of business"*

*"You're fixing to put [people] out of business because [they] can't get poultry feed"*

*"I hope you are not going to be the one responsible for shutting down business in this area."*

*"A guy with a \$1.2 million facility located on that road just can't pick it up and move it somewhere and ya'll were saying he can't even get in and out of his own driveway; so that just doesn't make sense..."*

*"And for us, Highway 92 is the major thing that would impact us. When we haul, we haul down [Highway] 92 to Morrilton."*

*"If we leave out our trucks coming to Batesville, what they will do is travel down [Highway] 167, cross [Highway] 64 right down here in the middle of [the City of] Conway. And I don't know if any of you have been through [the City of] Conway lately, but it's a nightmare for all big trucks. So that's the way all of our trucks will have to go. If they take a different route to be able to carry the weight. So far as safety, I think there's going to be a lot more people walking down the sidewalks in [the City of] Conway. I didn't see too many people walking down the road on [Highway] 92. So I think that's a major safety issue right there."*

*"I think the most people would be impacted are the farm people [and] poultry people."*

*“Highway 92 has been a main thoroughfare for years, not only for me, but for all the logging industry, and everybody else. If you drop that there, it’s going to have a big bearing on a lot of people.”*

*“I’ll have to drive all the way to Beebe from across [Highway] 64 over to [the Cities of] Conway or Morrilton and come back up to get to the job site, and, at \$4 a gallon diesel fuel, that’s going to be a huge cost.”*

*“I adjudicate Highway 92 and you want to raise/lower the weight restriction on that, but if I go through a lot of these towns, which I see is really congested with people and cars. Like [the City of] Conway, you have the college there, you have kids. It really concerns me going through there because one of them kids or a car pulls out in front of you. You know a life ain’t worth a whole lot but it’s worth a lot to their families and the people to safety. Safety is the most important thing to me. [Highway] 92 is the simplest way and shortest route for me to get down south.”*

*“For us, we are a timber business and [Highway] 92 is a major thoroughfare for us. It has been for many, many years. As the gentleman awhile ago said; for us, if we are not going down [Highway] 92 to get to Morrilton and Cadron Creek and those other mills then that puts us going down [Highway] 167 off of [Highway] 64 right through the middle of Conway. Like he said that is a major public safety issue right there.”*

Complete transcripts of the three meetings can be found at [www.ahtd.ar.gov/TIGER/III/92/public\\_meetings](http://www.ahtd.ar.gov/TIGER/III/92/public_meetings) .

### *iii. Livability*

By allowing traffic to travel on the bridges, it will decrease the miles of travel by as many as 56 miles. Likewise, it will lower motor fuel consumption, resulting in a potential increase in family income. The reduction in the trip length will also lower the length of time for each round-trip traveled, thus allowing each hauler to transport more loads in a day. Many of the timber haulers are independent contractors. Each loaded trip that can travel on the shorter route will help decrease the financial burden for these contractors. Additionally, if independent contractors are able to maintain their chosen rural lifestyle, more communities will remain intact with enhanced economic opportunities.

Van Buren County currently has an unemployment rate of 9.9 percent, which is above the national unemployment rate of 9.5 percent. Even though the unemployment rate in Conway County of 7.9 percent is below the national average, it is still higher than the State unemployment rate of 7.8 percent. The per capita income in Van Buren County is \$27,281, which is more than 30 percent below the national average of \$39,635. The per capita income in Conway County is \$31,679. This is 20 percent below the national average. The unemployment rates and low per capita incomes are noted by in Table 3.

**Table 3: Unemployment Rates and Median Incomes (as of August 2011)**

County	Median Income	Unemployment
Conway	\$31,679	7.9%
Van Buren	\$27,281	9.9%
Arkansas	\$32,315	7.8%
United States	\$39,635	9.5%

Source: [42 USC 38 Subchapter III, Section 3161](#)  
[Arkansas Department of Workforce Services](#)

*iv. Sustainability*

Unlike other regions of the United States, Arkansas climate allows timber to grow relatively quickly. This has led to Arkansas being the fourth largest timber-producing state in the country and the largest timber-producing state in the south, as reported by the [Arkansas Forest Research Center](#). The favorable climate combined with modern sustainable logging and foresting practices has led to an industry that will remain viable in this region for the foreseeable future. Improvement to these two structures along Highway 92 will help ensure the continuation of the timber industry in the region with efficient routes between the forests, sawmills, factories, and other industry-related facilities in the area.

*v. Safety*

With the highways and bridges deteriorating in the FSP region, it is critical that work continue to provide a safe and sound roadway network for the public. Commercial vehicles in excess of the posted limits on the regional roadways present both a maintenance and safety hazard. If these vehicles continue to use these restricted facilities, there is a risk of roadway or bridge failure.

The most commonly used detour route that avoids weight-restricted facilities is longer and more congested. In addition to the challenges of steep grades, these drivers are often faced with conditions of urban congestion in the cities of Searcy and Conway. Both cities are regional hubs for commercial businesses, medical services, and educational institutions. Industry representatives have provided information regarding the most common detour routes along Highway 87 or Highway 5, with both routes accessing Highway 64 east of the City of Conway.

In the City of Conway, there is robust commercial development along Highway 64. The timber trucks are forced to make maneuvers with tight turning radii. Additionally, Highway 64 is located through the middle of the Hendrix College campus. There are high numbers of pedestrians in the area. Recent safety and mobility improvements in the City of Conway have led to the construction of two round-about intersections in the vicinity of Hendrix College. When the logging trucks use the alternate route along Highway 64, they are forced to navigate these round-about intersections while paying special attention to the pedestrian population. Figure 7 displays the alternate routes through the City of Conway as well as the limits of Hendrix College and the location of the two round-about intersections.

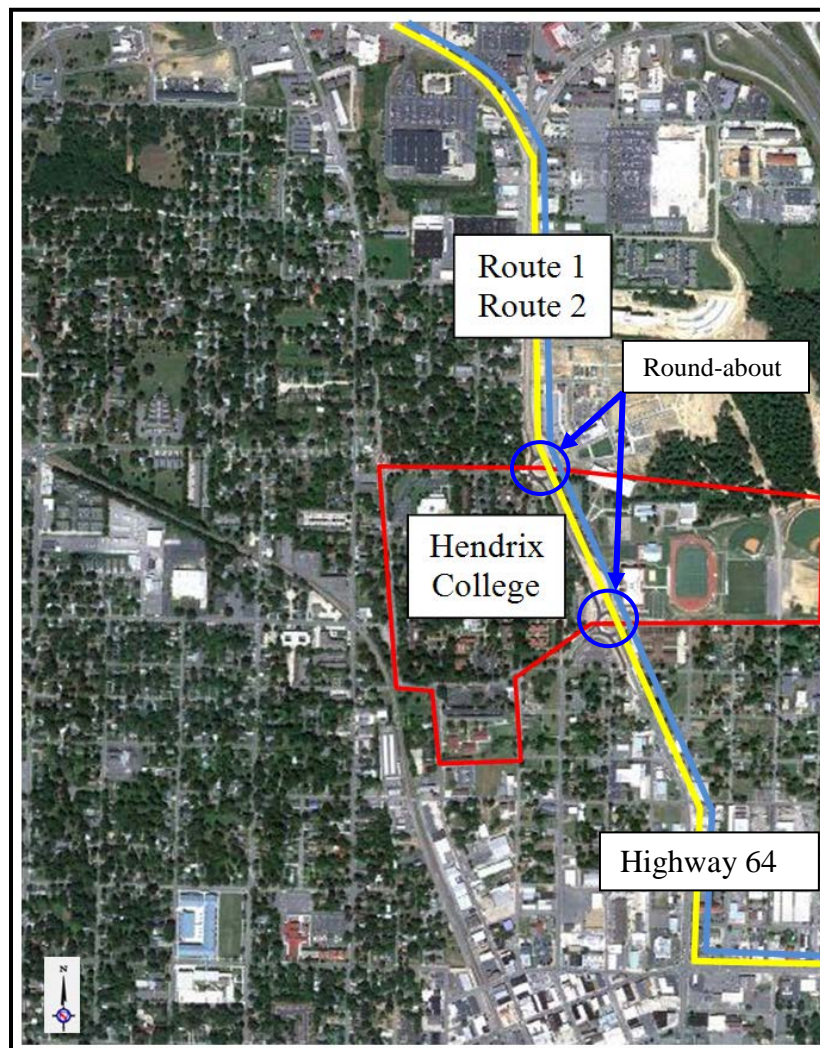
Improvement to the Highway 92 structures will have a positive impact on the safety of the road users along Highway 92 as well as the safety along Highway 64 in Conway and all of the other routes currently carrying detoured traffic. By reconstructing the two structures on Highway 92, timber industry vehicles are provided additional alternatives for travel between the



timber area and the mill. Truck traffic will no longer need to go through the busy commercial and high pedestrian area in the City of Conway.

The crash rate along Highway 64 through Hendrix College is 11.68 crashes per million vehicles miles (mvm) traveled. The statewide average crash rate for similar types of facilities is 5.19 crashes per mvm traveled. The crash rate on Highway 64 is more than double the statewide average. The presence of these commercial vehicles in the high pedestrian area increases the exposure and possibility of crashes along the detour route. Construction of the bridges along Highway 92 will reduce the opportunities for truck crashes near Hendrix College as well as along the outer congested detour routes.

**Figure 7: Alternate Routes Through the City of Conway Along Highway 64**



**B. Job Creation and Near-Term Economic Activity**

One immediate benefit of this project will be the creation of jobs during construction of the bridges. Based on research conducted by the Federal Highway Administration (FHWA) and

the American Association of State Highway and Transportation Officials (AASHTO), this project is expected to directly or indirectly support 56 jobs. According to AASHTO, for every \$1 million spent on a project there are 27.5 jobs created. Table 4 shows the jobs supported by TIGER Investment.

**Table 4: Jobs Supported by TIGER Investment**

Quarter/Calendar Year	Construction Jobs	Supporting Industry Jobs	Non-Construction Jobs	TOTAL Employment
2012 Q3	2	1	3	5
2012 Q4	2	1	3	5
2013 Q1	2	1	3	5
2013 Q2	3	1	4	8
2013 Q3	3	1	4	8
2013 Q4	3	1	4	8
2014 Q1	3	1	4	8
<b>PROJECT TOTAL</b>	<b>24</b>	<b>7</b>	<b>25</b>	<b>56</b>

As mentioned previously, allowing the free flow of commercial traffic on Highway 92 is essential to the region. Replacement of the bridges will reduce the need for detour routes and will, in turn, reduce the current operating expenses of the timber industry. As a result, companies can hire more employees and independent timber haulers can continue to work.

**C. Innovation**

To decrease the impact on traffic as much as possible, the new bridges will be built adjacent the existing bridges. By doing this, the roadway will not have to be closed while the new bridges are being constructed.

**D. Partnership**

Due to the location of this facility in north central Arkansas and the fact that it is a State Highway, the Department is the sole applicant for this project.

**E. Results of Benefit-Cost Analysis**

The Benefit Cost Analysis (BCA) [[www.ahtd.ar.gov/TIGER/III/92/92\\_BCA](http://www.ahtd.ar.gov/TIGER/III/92/92_BCA)] was performed in accordance with the American Recovery and Reinvestment (ARRA) guidance provided in the Federal Register. These benefits and costs were quantified in accordance with the Federal Register Volume 75, Number 104, Docket No. DOT-OST-2010-0076 and Circulars A-4 and A-94 (See <http://www.whitehouse.gov/omb/circulars/>). See Appendix A.

The purpose of the BCA is to systematically compare the benefits and costs of replacing two structures along Highway 92 in Conway and Van Buren Counties, Arkansas. The BCA compared the cost of replacing these two structures to the cost of not doing anything outside of standard maintenance. The analysis considers a twenty-year project life (2012 through 2032) for purposes of the BCA.

The analysis considered standard features of roadway construction and maintenance costs in Arkansas. Table 5 summarizes the findings of the BCA analysis. Road User Benefits that were

considered include the value of travel time savings provided by the improved facility, vehicle operating cost benefits, and the value to society of enhancing the safety within the improved highway network.

Many benefits of this project do not easily lend themselves to simple quantification. The economic benefits of connecting timber rich areas of north central Arkansas to the mills and other secondary industries as well as providing a safe and efficient transportation network for the region cannot be easily quantified beyond the impacts of construction activities and travel time savings. Providing an improved transportation network in the region does make an impact in terms of improving the per capita income in areas of the country that are below the national average, which is a goal of the TIGER Discretionary Grant program.

The construction cost estimate for the improvement of these two structures along Highway 92 is \$1.93 million. These costs reflect basic construction costs that would be incurred if the project were built using traditional construction methods and schedules. A 3 percent inflation rate was applied to calculate future costs and benefits. Additionally, a 3 percent discount rate was used to bring future benefits and costs to present value.

When examined as a single segment of improvements made within this corridor, the proposed bridge replacements along Highway 92 exhibits a net positive economic impact of 17.03. The summary table from the Benefit Cost Analysis is shown below.

**Table 5: Benefit Cost Analysis Results**

Year	Activity	Construction and Maintenance Costs		Travel Time Benefit		Vehicle Operation Cost Benefit		Safety Benefits	
		Non-Disc.	Discounted	Non-Disc.	Discounted	Non-Disc.	Discounted	Non-Disc.	Discounted
2013	(Construction)	\$1,916,000	\$1,916,000	\$0	\$0	\$0	\$0	\$0	\$0
2014		-\$8,240	-\$8,000	\$418,226	\$406,044	\$933,599	\$906,407	\$188,135	\$182,655
2015		-\$8,487	-\$8,000	\$430,772	\$406,044	\$961,607	\$906,407	\$193,779	\$182,655
2016		-\$8,742	-\$8,000	\$443,696	\$406,044	\$990,455	\$906,407	\$199,592	\$182,655
2017		-\$9,004	-\$8,000	\$457,006	\$406,044	\$1,020,169	\$906,407	\$205,580	\$182,655
2018		-\$9,274	-\$8,000	\$470,717	\$406,044	\$1,050,774	\$906,407	\$211,747	\$182,655
2019		-\$9,552	-\$8,000	\$484,838	\$406,044	\$1,082,297	\$906,407	\$218,100	\$182,655
2020		-\$9,839	-\$8,000	\$499,383	\$406,044	\$1,114,766	\$906,407	\$224,643	\$182,655
2021		-\$10,134	-\$8,000	\$514,365	\$406,044	\$1,148,209	\$906,407	\$231,382	\$182,655
2022		-\$10,438	-\$8,000	\$529,796	\$406,044	\$1,182,655	\$906,407	\$238,323	\$182,655
2023		-\$10,751	-\$8,000	\$545,690	\$406,044	\$1,218,135	\$906,407	\$245,473	\$182,655
2024		-\$11,074	-\$8,000	\$562,060	\$406,044	\$1,254,679	\$906,407	\$252,837	\$182,655
2025		-\$11,406	-\$8,000	\$578,922	\$406,044	\$1,292,320	\$906,407	\$260,422	\$182,655
2026		-\$11,748	-\$8,000	\$596,290	\$406,044	\$1,331,089	\$906,407	\$268,235	\$182,655
2027		-\$12,101	-\$8,000	\$614,178	\$406,044	\$1,371,022	\$906,407	\$276,282	\$182,655
2028		-\$12,464	-\$8,000	\$632,604	\$406,044	\$1,412,152	\$906,407	\$284,570	\$182,655
2029		-\$12,838	-\$8,000	\$651,582	\$406,044	\$1,454,517	\$906,407	\$293,108	\$182,655
2030		-\$13,223	-\$8,000	\$671,129	\$406,044	\$1,498,153	\$906,407	\$301,901	\$182,655
2031		-\$13,619	-\$8,000	\$691,263	\$406,044	\$1,543,097	\$906,407	\$310,958	\$182,655
2032		-\$14,028	-\$8,000	\$712,001	\$406,044	\$1,589,390	\$906,407	\$320,287	\$182,655
2033		-\$14,449	-\$8,000	\$733,361	\$406,044	\$1,637,072	\$906,407	\$329,895	\$182,655
TOTAL			\$1,756,000		\$8,120,885		\$18,128,139		\$3,653,099
			\$29,902,123	Discounted Benefit					
			\$1,756,000	Discounted Costs					
			17.03	Overall B/C					

**V. Project Readiness and NEPA**

Due to the scope of the project, a Tier II Categorical Exclusion is expected without any significant environmental issues. It is anticipated that environmental clearance can be obtained within 180 days. Pending full funding of this grant application, Federal Highway Administration authorization to begin construction can be obtained within 9 months.

**VI. Federal Wage Rate Certification**

The Federal Wage Rate Certification statement is included in Appendix B [[www.ahtd.ar.gov/TIGER/III/92/Davis\\_Bacon](http://www.ahtd.ar.gov/TIGER/III/92/Davis_Bacon)].

**VII. Changes to the Pre-Application**

There are no changes from the Pre-Application to the current final application.