FUTURE MOBILITY IN ARKANSAS:

Meeting the State's Need for Safe and Efficient Mobility

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Prepared by:

TRIP
1726 M Street, NW, Suite 401
Washington, D.C. 20036
202-466-6706 (voice)
202-785-4722 (fax)
www.tripnet.org

Founded in 1971, TRIP ®, of Washington, DC is a nonprofit organization that researches, evaluates and distributes economic and technical data on surface transportation issues. TRIP is sponsored by insurance companies, equipment manufacturers, distributors and suppliers; businesses involved in highway and transit engineering, construction and finance; labor unions; and organizations concerned with an efficient and safe highway transportation network.

Executive Summary

Arkansas' extensive system of roads, highways, bridges and public transit provides the state's residents, visitors and businesses with a high level of mobility. As the backbone that supports the Natural State's economy, Arkansas' surface transportation system provides for travel to work and school, visits with family and friends, and trips to tourist and recreation attractions while simultaneously providing businesses with reliable access for customers, suppliers and employees. With an unemployment rate of 7.8 percent, and with the state's population continuing to grow, Arkansas must improve its transportation system to foster economic growth, keep business in the state, and ensure the safe, reliable mobility needed to maintain and improve the quality of life for all residents.

As Arkansas looks to rebound from the current economic downturn, the state will need to improve the physical condition of its surface transportation network and enhance the system's ability to provide efficient and reliable mobility for residents, visitors and businesses. Making needed improvements to Arkansas' roads, highways, bridges and transit could provide a significant boost to the state's economy by creating jobs and stimulating long-term economic growth as a result of improved mobility and access.

The federal government is an essential source of funding for the ongoing modernization of Arkansas' roads, highways, bridges and transit. But recent declines in federal transportation revenues and increases in the cost of construction materials are making it more difficult for the state to maintain and improve its surface transportation system.

Approved in February 2009, the American Recovery and Reinvestment Act provides approximately $352 million in stimulus funding for highway and bridge improvements and $28 million for public transit improvements in Arkansas. This funding can serve as a down payment on needed road, highway, bridge and transit improvements, but it is not sufficient to allow the state to proceed with numerous projects needed to modernize its surface transportation system. Meeting Arkansas' need to improve and maintain its system of roads, highways, bridges and transit will require a significant, long-term boost in transportation funding at the federal, state or local levels.

Congress is currently deliberating over a long-range federal surface transportation program. The current program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), originally scheduled to expire on September 30, 2009, now expires on December 31, 2010 following five short-term extensions. The level of funding and the provisions of a future federal surface transportation program will have a significant impact on future highway and bridge conditions and safety as well as the level of transit service in Arkansas, which, in turn, will affect the state's ability to improve its residents' quality of life and enhance economic development opportunities.

The federal surface transportation program is an essential source of funding for the construction, maintenance and improvement of Arkansas' system of roads, highways, bridges and public transit.

- Federal spending levels for highways and public transit are based on the current federal surface transportation program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which was approved by Congress in 2005. SAFETEA-LU, originally scheduled to expire on September 30, 2009, now expires on December 31, 2010 after five short-term extensions.

- From 1998 to 2008, Arkansas received approximately $5.04 billion in federal funding for road, highway and bridge improvements, and $239 million for public transit, a total of approximately $5.28 billion.

- On average, under SAFETEA-LU, federal funds provide 56 percent of revenues used annually by the Arkansas State Highway and Transportation Department (AHTD) to pay for road, highway and bridge construction, repairs and maintenance.

- Federal funds also provide 42 percent of the revenue used annually to pay for the operation of and capital improvements to the state's public transit systems, which includes the purchase and repair of vehicles and the construction of transit facilities.

- From 1991 to 2008, Arkansas modernized approximately 7,500 miles and widened approximately 1,200 miles of major roadways and built, replaced or significantly reconstructed 1,508 bridges. These transportation projects improved safety and enhanced mobility and economic productivity. Many of the projects were undertaken with federal funds.

- This report contains lists of projects completed throughout Arkansas that used significant federal funding including rehabilitating 91 miles of I-30 from Texarkana to Little Rock and 132 miles of I-40 from the Oklahoma state line to just west of the Faulkner/Pulsaki County line and reconstructing interchanges on I-30 in Texarkana and on Hwy 63 in Crittenden, Pointsett and Craighead counties. Federal funding also helped Arkansas construct I-540, Hwy 549 and U.S. 67 to Interstate standards, widen several freeways, and reconstruct the existing roadway and add lanes on I-30 and I-40.

- While construction materials costs have stabilized somewhat during the current recession, a 58 percent materials cost increase in Arkansas over the past five years, coupled with declines in federal transportation revenues, will make it more difficult for Congress to authorize new federal surface transportation legislation that adequately funds needed improvements to the nation's roads, highways, bridges and public transit systems.

Without a substantial boost in federal or state highway funding, Arkansas will be unable to complete numerous projects to improve the condition and expand the capacity of roads, bridges, highways and public transit, hampering the state's ability to improve mobility and enhance economic development opportunities.

- From 2009 to 2018, Arkansas needs to modernize 3,800 miles of major roadway, add 230 new lane miles, and rebuild, replace or significantly reconstruct 1,452 bridges.

- Needed projects in Arkansas that would require a significant boost in federal or state funding to proceed include major reconstruction, pavement preservation projects and roadway widening on 15 state highways statewide, plus repair or replacement of bridges on I-40 at Lake Dardanelle in Pope County, on I-40 over the White River in Prairie county and on I-540 on the Arkansas River in Sebastian and Van Buren counties. A list of needed projects is included in the report.

- To ensure that federal funding for highways and bridges in Arkansas and throughout the nation continues beyond the expiration of SAFETEA-LU, Congress needs to approve a new long-term federal surface transportation program by December 31, 2010.

- The American Recovery and Reinvestment Act provides approximately $352 million in stimulus funding for highway and bridge improvements and $28 million for public transit improvements in Arkansas.

Despite the current economic slump, Arkansas has experienced significant growth of population, vehicle travel and economic output since 1990. Population and economic growth in the Natural State have resulted in increased demands on the state's major roads and highways.

- Arkansas' population reached 2.9 million in 2009 an increase of 23 percent since 1990. The state's population is expected to grow another 13 percent by 2030, an increase of approximately 385,000 people.

- Vehicle travel in Arkansas increased 52 percent from 1990 to 2008 -- the tenth largest increase in the nation. Vehicle miles of travel (VMT) increased from 21 billion in 1990 to 32 billion VMT in 2008.

- By 2025, vehicle travel in Arkansas is projected to increase by another 40 percent.

- From 1990 to 2008, Arkansas' gross domestic product (GDP), a measure of the state's economic output, increased by 57 percent, when adjusted for inflation.

- Arkansas' unemployment rate rose from 4.8 percent in April 2008 to 7.8 percent in April 2010.

Commuting and commerce in Arkansas are constrained by growing traffic congestion, which will increase in the future unless additional highway capacity is provided. Three of Arkansas' five most significant highway chokepoints are located in the Little Rock area.

- Arkansas faces increasing congestion on its urban Interstates and other highways or freeways. In 2008, 39 percent of the state's urban highways carried a level of traffic that is likely to result in significant delays during peak travel hours.
- According to a report by the Reason Foundation, unless additional highway capacity is added, traffic delays in the Little Rock area will increase 44 percent by 2030.
- According to the Texas Transportation Institute, Little Rock-area drivers were delayed in congestion an average 22 hours in 2007.
- The following list indicates the three most congested highway chokepoints in the state that impede commuting, personal travel or commerce. A full list of the most congested chokepoints is included in the report.

Rank	Urban Area	Route	Chokepoint description
1	Little Rock	I-430/I-630 Interchange	High delays during peak periods. Ramp demands exceed capacity at multiple approaches. I-630 terminates just west of the interchange at a signalized intersection; queues from this extend through the interchange during PM peak period, interfering with normal freeway operations. Queues that form at this interchange extend for miles, subsequently interfering with other interchanges. Safety is a major concern.
2	Bella Vista	Hwy 71B/Co. Rd. 40 Intersection	High commuter traffic in the peak period results in major delay on the approaches and queues that extend for several miles. Queues that form in the northbound direction in the PM peak period extend into the Hwy 71/County Road 40 intersection to the south, creating safety concerns.
3	Jacksonville	Hwy 67/Hwy 440 Interchange	Lack of adequate capacity northeast of the interchange on Hwy 67 (four through lanes) results in queues during peak periods that extend for several miles (and to a lesser extent on the Hwy 440 ramp in the PM peak period).

In 2008, more than a third - 34 percent - of major roads in Arkansas were in poor or mediocre condition, providing motorists with a rough ride.

- In 2008, nine percent of Arkansas' roads were rated in poor condition and 25 percent were rated in mediocre condition. This includes Interstates, highways, connecting urban arterials and key urban streets that are maintained by state, county or municipal governments.

- Roads rated in poor condition may show signs of deterioration, including rutting, cracks and potholes. In some cases, poor roads can be resurfaced, but often are too deteriorated and must be reconstructed. Roads rated in mediocre condition may show signs of significant wear and may also have some visible pavement distress. Most pavements in mediocre condition can be repaired by resurfacing, but some may need more extensive reconstruction to return them to good condition.

- Roads in need of repair cost each Arkansas motorist an average of $308 annually in extra vehicle operating costs – $634 million statewide. Costs include accelerated vehicle depreciation, additional repair costs and increased fuel consumption and tire wear.

- Highways and major roadways in the Little Rock metropolitan area provide even rougher rides. Little Rock roads, 28 percent of which are rated in poor condition and 33 percent of which are rated mediocre, cost motorists an average $483 a year.

- The functional life of Arkansas' roads is greatly affected by the state's ability to perform timely maintenance and upgrades to ensure that structures last as long as possible. It is critical that roads are fixed before they require major repairs because reconstructing roads costs approximately four times more than resurfacing them.

Twenty-two percent of bridges in Arkansas show significant deterioration or do not meet current design standards. This includes all bridges that are 20 feet or more in length and are maintained by state, local and federal agencies.

- In 2009, seven percent of Arkansas' bridges were structurally deficient. A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Structurally deficient bridges are often posted for lower weight or closed to traffic, restricting or redirecting large vehicles, including commercial trucks, school buses and emergency services vehicles.

- In 2009, 15 percent of Arkansas' bridges were functionally obsolete. Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.

- This report contains a list of needed bridge rehabilitation and replacement projects across the state that would require significant federal funding to be completed.

Arkansas' rural traffic fatality rate is significantly greater than the fatality rate on all other roads in the state. Improving safety features on Arkansas' roads and highways would likely result in a decrease in traffic fatalities in the state. Roadway design is an important factor in approximately one-third of all fatal and serious traffic accidents.

- Between 2004 and 2008, 3,271 people were killed in traffic accidents in Arkansas, an average of 654 fatalities per year.

- Arkansas' traffic fatality rate was 1.81 fatalities per 100 million vehicle miles of travel (VMT) in 2008, the fifth highest fatality rate in the country and 44 percent higher than the national average of 1.25.

- The traffic fatality rate in 2008 on Arkansas' non-Interstate rural roads was 2.60 traffic fatalities per 100 million VMT, which is more than double the traffic fatality rate of 1.14 fatalities per 100 million VMT on all other roads and highways in the state.

- Several factors are associated with vehicle accidents that result in fatalities, including driver behavior, vehicle characteristics and roadway design. It is estimated that roadway design is a factor in approximately one-third of fatal traffic accidents.

- Where appropriate, highway improvements can reduce traffic fatalities and accidents while improving traffic flow to help relieve congestion. Such improvements include removing or shielding obstacles; adding or improving medians; adding rumble strips, median cable barriers, wider lanes, wider and paved shoulders; upgrading roads from two lanes to four lanes; and better road markings, signing, traffic signals, and lighting.

- The Federal Highway Administration has found that every $100 million spent on needed highway safety improvements will result in 145 fewer traffic fatalities over a 10-year period.

Two congressionally appointed commissions and a national organization representing state transportation departments have recommended a broad overhaul of the Federal Surface Transportation Program to improve mobility, safety and the physical condition of the nation's surface transportation system by significantly boosting funding, consolidating the program into fewer categories, speeding up project delivery and requiring greater accountability in project selection.

- The National Surface Transportation Policy and Revenue Study Commission (NSTPRSC) and the National Surface Transportation Infrastructure Financing Commission (NSTIFC) were created by Congress to examine the current condition and future funding needs of the nation's surface transportation program, develop a plan to insure the nation's surface transportation system meets America's future mobility needs, and to recommend future funding mechanisms to pay for the preservation and improvement of the nation's roads, highways, bridges and public transit systems.

- The NSTPRSC concluded that it is critical to the future quality of life of Americans that the nation create and sustain the preeminent surface transportation system in the world, one that is well-maintained, safe and reliable.

- The NSTIFC found that the U.S. faces a $2.3 trillion funding shortfall over the next 25 years in maintaining and making needed improvements to the nation's surface transportation system.

- The NSTIFC found that the use of motor fuel fees is not sustainable as a primary source of funding for the nation's surface transportation system because of the shift to a variety of fuel sources and more fuel efficient vehicles.

Key recommendations of the Commissions and the American Association of State Highway Transportation Officials (AASHTO) include:

Program format:

- Consolidate the more than 100 current transportation funding programs into 10 programs focused on key areas of national interest, including congestion relief, preservation of roads and bridges, improved freight transportation, improved roadway safety, improved rural access, improved environmental stewardship, and the development of environmentally-friendly energy sources (NSTPRSC).

- Speed up project development processes to reduce the excessive time required to move projects from initiation to completion by better coordinating the development and review process for transportation projects (NSTPRSC).

- Develop a future federal surface transportation program that would be accountable for results, would make investments based on community needs and would deliver projects on time and on budget (AASHTO).

- Provide a federal surface transportation program that is based on state-driven performance measures and is focused on six objectives of national interest: preservation and renewal, interstate commerce, safety, congestion reduction and connectivity for urban and rural areas, system operations, and environmental protection (AASHTO).

Funding:

- Shift the collection of federal surface transportation revenues from fuel taxes to mileage-based fees, which would charge motorists a fee based on the number of miles driven, with full deployment of a comprehensive system in place by 2020 (NSTIFC).

- Ensure that once implemented, mileage-based fees were indexed to inflation and that they and any other federal transportation charges were set at a rate that would provide enough revenue to provide adequate federal funding to ensure that the nation achieve an integrated national transportation system that is less congested and safer and that promotes increased productivity, stronger national competitiveness, and improved environmental outcomes (NSTIFC).

- Failure to address the immediate funding shortfall and provide adequate long-term funding for surface transportation will lead to unimaginable levels of congestion, reduced safety, costlier goods and services, eroded quality of life and diminished economic competitiveness (NSTIFC).

- In the short term, significantly boost the current federal motor fuel tax and index it to inflation to support increased federal surface transportation investment (NSTIFC).

- Expand the ability to use additional surface transportation funding sources including tolling, state investment banks and public-private partnerships as a supplement to primary sources of funding such as motor fuel fees and eventually a mileage-based fee (NSTIFC).

The efficiency of Arkansas' transportation system, particularly its highways, is critical to the health of the state's economy. Businesses are increasingly reliant on an efficient and reliable transportation system to move products and services. Expenditures on highway repairs create a significant number of jobs. Significant increases in the cost of highway construction materials over the last five years have boosted the cost of road, highway and bridge repairs.

- Annually, $92 billion in goods are shipped from sites in Arkansas and another $78 billion in goods are shipped to sites in Arkansas, mostly by trucks.

- Eighty-five percent of the goods shipped annually from sites in Arkansas are carried by trucks and another four percent are carried by courier services, which use trucks for part of the deliveries. Similarly, 84 percent of the goods shipped to sites in Arkansas are carried by trucks and another eight percent are carried by courier services.

- Commercial trucking in Arkansas is projected to increase 34 percent by 2020.

- A 2007 analysis by the Federal Highway Administration found that every $1 billion invested in highway construction would support approximately 27,800 jobs, including approximately 9,500 in the construction sector, approximately 4,300 jobs in industries supporting the construction sector, and approximately 14,000 other jobs induced in non-construction related sectors of the economy.

- Over the five-year period from December 2004 to December 2009, the average cost of materials used for highway construction in Arkansas – including asphalt, concrete, steel, lumber and diesel – increased by 58 percent.

All data used in the report is the latest available. Sources of information for this report include the Arkansas State Highway and Transportation Department (AHTD), the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the National Surface Transportation Policy and Revenue Study Commission (NSTPRSC), the National Surface Transportation Infrastructure Financing Commission (NSTIFC),The American Association of State Highway and Transportation Officials (AASHTO), the U.S. Census, The Bureau of Transportation Statistics (BTS), the National Highway Traffic Safety Administration (NHTSA), the Reason Foundation and the Texas Transportation Institute (TTI).

Introduction

Arkansas' roads, highways and bridges form vital transportation links for the state's residents, visitors and businesses, providing access to homes, jobs, shopping and recreation.

Arkansas is struggling to accommodate a growing population and the increased demands put on the state's surface transportation system. Keeping up with this growth is crucial to providing safe and efficient mobility, while improving the economic livelihood of the state and accommodating future growth.

Arkansas, like the rest of the country, faces tremendous economic challenges, with state unemployment rising from 4.8 percent in April 2008 to 7.8 percent in April 2010.[1] As Arkansas and the nation look to rebound from the current economic downturn, the improvement of Arkansas' transportation system could play an important role in improving the state's economic well being by providing critically needed jobs in the short term and by improving the productivity and competitiveness of the state's businesses in the long term.

While state and local governments are responsible for maintaining most of Arkansas' roadways, bridges and public transit systems, the federal government plays a significant role in funding the repairs and improvements to many of the state's most heavily used roads, highways, bridges and public transit systems. As Arkansas faces the challenge of preserving and improving its surface transportation system, the future level of federal highway funding will be a critical factor in whether the state's residents, businesses and visitors continue to enjoy access to a safe and efficient transportation network.

This report examines the condition, use and safety of Arkansas' roads, highways, bridges and public transit systems, the role of federal funding in the maintenance and improvement of the state's surface transportation system, and the future mobility needs of the state. Included in the

report are lists of highway, bridge and transit projects that have been completed with the help of federal funding, and needed transportation projects that will require significant federal funding to proceed.

All data used in the report is the latest available. Sources of information for this report include the Arkansas State Highway and Transportation Department (AHTD), the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the National Surface Transportation Policy and Revenue Study Commission (NSTPRSC), the National Surface Transportation Infrastructure Financing Commission (NSTIFC), the U.S. Census, the Bureau of Transportation Statistics (BTS), the American Association of State Highway and Transportation Officials (AASHTO), the National Highway Traffic Safety Administration (NHTSA), the Reason Foundation and the Texas Transportation Institute (TTI).

Population, Travel and Economic Trends in Arkansas

Arkansas residents and businesses require a high level of personal and commercial mobility. Despite the current economic condition, over the past decade renewed population growth and economic growth in the Natural State have resulted in a significant increase in the demand for mobility as well as an increase in vehicle miles of travel (VMT). To foster a high quality of life for residents and visitors, it will be critical that the state provide and preserve a safe and modern transportation system that can accommodate future growth in population, vehicle travel and economic development.

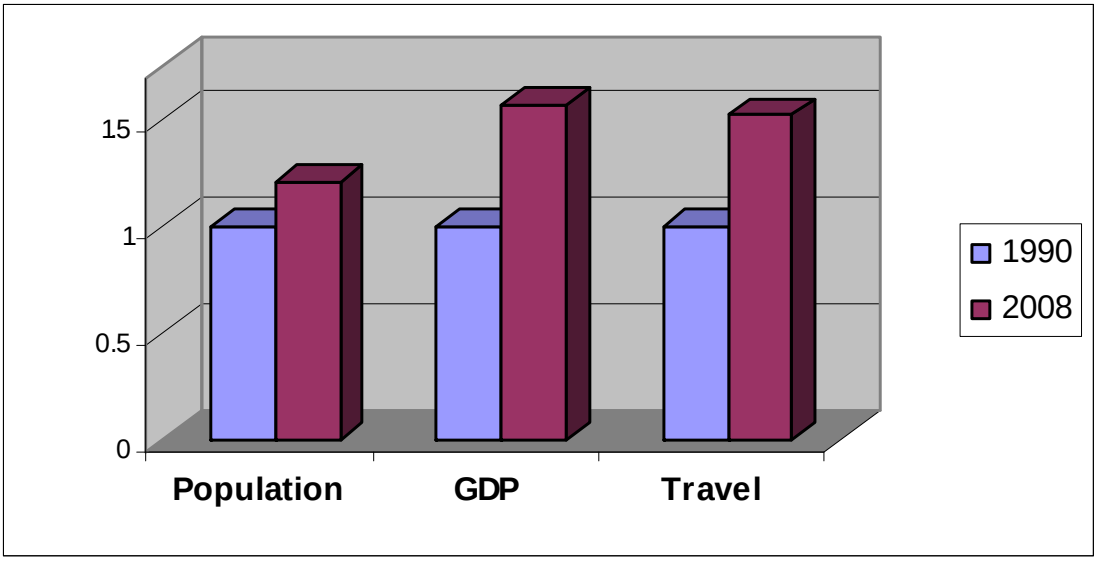
Arkansas' population grew 23 percent between 1990 and 2009, increasing from 2.35 million in 1990 to 2.9 million residents in 2009.[2] Between 2009 and 2030, the population of

Arkansas is projected to increase more than 13 percent, an increase of approximately 385,000 people.[3]

Arkansas experienced significant economic growth since 1990. From 1990 to 2008, Arkansas' gross domestic product (GDP), a measure of the state's economic output, increased by 57 percent, when adjusted for inflation, above the national average of 52 percent.[4]

Long-term economic growth in Arkansas has contributed to a significant increase in vehicle travel in the state. From 1990 to 2008, annual vehicle miles of travel in Arkansas increased 52 percent, from 21 billion miles traveled annually to 32 billion miles traveled annually – the tenth largest increase in the nation.[5] Based on population and other lifestyle trends, TRIP estimates that travel on Arkansas' roads and highways will increase 40 percent by 2025, to approximately 45 billion miles of travel.[6]

Chart 1. Arkansas' population, GDP and Vehicle Travel increase 1990-2008 (1 = 1990 level; population figure is 2009).



Source: TRIP analysis of federal data

Condition of Arkansas Roads

The life cycle of Arkansas' roads is greatly affected by the state's ability to perform timely maintenance and upgrades to ensure that road and highway surfaces last as long as possible. The pavement condition of the state's major roads is evaluated and classified as being in poor, mediocre, fair or good condition.

In 2008, 34 percent of Arkansas' major roads were rated in poor or mediocre condition, providing motorists with a rough ride.[7] Nine percent of Arkansas' major roads were rated in poor condition and 25 percent were rated in mediocre condition.[8] Roads rated poor may show signs of deterioration, including rutting, cracks and potholes. In some cases, poor roads can be resurfaced but often are too deteriorated and must be reconstructed. Roads rated in mediocre condition may show signs of significant wear and may also have some visible pavement distress. Most pavements in mediocre condition can be repaired by resurfacing, but some may need more extensive reconstruction to return them to good condition.

Chart 2. Pavement conditions in Arkansas.

Pavement Rating	*Percentages*
Poor	**9%**
Mediocre	**25%**
Fair	**26%**
Good	**39%**

Source: TRIP analysis of Federal Highway Administration Data

Pavement failure is caused by a combination of traffic, moisture and climate. Moisture often works its way into road surfaces and the materials that form the road's foundation. Road surfaces at intersections are even more prone to deterioration because the slow-moving or standing loads occurring at these sites subject the pavement to higher levels of stress. It is

critical that roads are fixed before they require major repairs because in Arkansas reconstructing roads costs approximately seven times more than resurfacing them.[9]

As Arkansas' roads and highways continue to age, they will reach a point where routine paving and maintenance will not be adequate to keep pavement surfaces in good condition and costly reconstruction of the roadway and its underlying surfaces will become necessary. AHTD estimates that the 3,800 miles of state-maintained roadways need to be widened, enhanced with improved or paved shoulders, realigned, or completely reconstructed.[10]

Many critical projects needed to improve the condition of the state's major roads and highways will not proceed without substantial federal funding. The following chart gives an overview of reconstruction and pavement preservation needs in Arkansas that would require significant federal funding or a boost in state funding to proceed.

Chart 3. Needed Arkansas reconstruction and pavement preservation projects that would require significant federal funding to be completed.

Route Name	County or Closest City
Highway 8	Ashley, Bradley, Chicot, Clark, Dallas, Montgomery, Pike, Polk
Highway 17	Arkansas, Jackson, Monroe, Woodruff
Highway 33	Arkansas, Jackson, Monroe, Prairie, Woodruff
Highway 35	Chicot, Cleveland, Desha, Drew, Grant, Saline
Highway 53	Clark, Lafayette, Nevada
Highway 57	Columbia, Ouachita, Union
Highway 67	Clark, Clay, Hempstead, Hot Spring, Jackson, Lawrence, Lonoke, Miller, Pulaski, Randolph, Saline, White
Highway 70	Crittenden, Garland, Hot Spring, Lonoke, Monroe, Pike, Prairie, Pulaski, Sevier, St. Francis
Highway 84	Clark, Hot Spring, Howard, Pike, Polk
Highway 96	Franklin, Sebastian
Highway 98	Columbia
Highway 160	Ashley, Bradley, Calhoun, Chicot, Columbia, Lafayette, Miller, Union
Highway 229	Dallas, Grant, Saline
Highway 298	Garland, Montgomery, Saline
Highway 355	Columbia, Hempstead, Howard, Nevada

Source: AHTD response to TRIP survey

The Costs to Motorists of Roads in Inadequate Condition

TRIP has calculated the additional cost to motorists of driving on roads in poor or unacceptable condition. Roads in poor condition – which may include potholes, rutting or rough surfaces – increase the cost to operate and maintain a vehicle. These additional vehicle operating costs include accelerated vehicle depreciation, additional vehicle repairs, increased fuel consumption and increased tire wear. TRIP estimates that additional vehicle operating costs borne by Arkansas motorists as a result of poor road conditions is $634 million annually, or $308 per motorist.[11]

Highways and major roadways in the Little Rock metropolitan area provide even rougher rides. Little Rock roads, 28 percent of which are rated in poor condition and 33 percent of which are rated mediocre, cost motorists an average $483 a year. [12]

Additional vehicle operating costs have been calculated in the Highway Development and Management Model (HDM), which is recognized by the U.S. Department of Transportation and more than 100 other countries as the definitive analysis of the impact of road conditions on vehicle operating costs. The HDM report is based on numerous studies that have measured the impact of various factors, including road conditions, on vehicle operating costs.[13]

The HDM study found that road deterioration increases ownership, repair, fuel and tire costs. The report found that deteriorated roads accelerate the pace of depreciation of vehicles and the need for repairs because the stress on the vehicle increases in proportion to the level of roughness of the pavement surface. Similarly, tire wear and fuel consumption increase as roads deteriorate since there is less efficient transfer of power to the drive train and additional friction between the road and the tires.

TRIP's additional vehicle operating cost estimate is based on taking the average number of miles driven annually by a motorist, calculating current vehicle operating costs based on AAA's 2008 vehicle operating costs and then using the HDM model to estimate the additional vehicle operating costs paid by drivers as a result of substandard roads.[14] Additional research on the impact of road conditions on fuel consumption by the Texas Transportation Institute (TTI) is also factored into TRIP's vehicle operating cost methodology.

Bridge Conditions in Arkansas

Arkansas' bridges form key links in the state's highway system, providing communities and individuals access to employment, schools, shopping and medical services, and facilitating commerce and access for emergency vehicles. In 2009, approximately 22 percent of Arkansas' bridges (20 feet or longer) were rated as structurally deficient or functionally obsolete.[15]

Seven percent of Arkansas' bridges were rated as structurally deficient in 2009.[16] A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Bridges that are structurally deficient may be posted for lower weight limits or closed if their condition warrants such action. Deteriorated bridges can have a significant impact on daily life. Restrictions on vehicle weight may cause many vehicles – especially emergency vehicles, commercial trucks, school buses and farm equipment – to use alternate routes to avoid posted bridges. Redirected trips also lengthen travel time, waste fuel and reduce the efficiency of the local economy.

In 2009, 15 percent of Arkansas' bridges were rated functionally obsolete.[17] Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment with the approaching roadway.

Arkansas' bridges are aging. Many bridges were built in the 1950s and 1960s, and they are not designed for modern vehicles and trucks, or for the demands placed on them for access. The service life of bridges can be extended by performing routine maintenance such as resurfacing decks, painting surfaces, insuring that a facility has good drainage and replacing deteriorating components. But most bridges will eventually require more costly reconstruction or major rehabilitation to remain operable. AHTD estimates that by 2018 1,452 bridges in the state will need to be rebuilt, replaced or significantly reconstructed.[18]

With current levels of funding, Arkansas has been able to undertake numerous preservation projects but can not initiate other, critically needed projects without a substantial boost in federal or state funding. The following chart lists three bridges of regional or statewide importance that need to be repaired or replaced to enhance safety and provide congestion relief in Arkansas. These bridge projects would require a significant boost in federal or state funding to proceed.

Chart 4. Needed bridge repair or replacement projects in Arkansas that would require additional state or federal funding to proceed.

Route Carried	County or Closest City
Interstate 40	Lake Dardanelle - Pope County
Interstate 40	White River - Prairie County
Interstate 540	Arkansas River – Sebastian and Crawford Counties

Source: AHTD response to TRIP survey

Traffic Congestion in Arkansas

Traffic congestion in Arkansas is a growing burden in key urban areas and threatens to impede the state's economic development. Congestion on Arkansas' urban highways is growing as a result of increases in vehicle travel and commerce.

In 2008, 39 percent of Arkansas' urban highways were congested, carrying traffic volumes that result in significant rush hour delays.[19] Highways that carry high levels of traffic are also more vulnerable to lengthy traffic delays as a result of traffic accidents or other incidents.

Traffic congestion in the Little Rock metro area is likely to worsen significantly unless the state is able to improve its transportation system. According to the Texas Transportation Institute, Little Rock-area drivers were delayed in congestion an average of 10 hours in 1997.[20] This delay more than doubled to an average 22 hours of delay in 2007.[21] A recent report by the Reason Foundation found that without significant improvements to its regional highway system that traffic congestion in the Little Rock area will increase by 44 percent by the year 2030.[22]

While many Arkansas cities do not have severe congestion today, unless additional highway capacity is added, traffic congestion levels in some cities are projected to nearly double over present levels by 2030. Rush hour delays in the Little Rock metro area will be similar to what drivers currently experience in Memphis or Oklahoma City. Unless capacity is added to the transportation system, by 2030 travel delays in Fort Smith and Fayetteville-Springdale may resemble delays now experienced in Little Rock.[23]

Addressing growing highway congestion in Arkansas will require that the state provide additional roadway capacity to relieve transportation chokepoints. The AHTD estimates that by

2018, 230 miles of state-maintained roads and highways need to be widened with additional lanes to add capacity.[24]

The following chart lists congested roadway chokepoints in the state that impede commuting, personal travel or commerce. The list includes interchanges, highways and non-freeway arterials.

Chart 5. The most congested urban roadway chokepoints in the state that impede commuting, personal travel or commerce.

Rank	Urban Area	Route	Chokepoint description
1	Little Rock	I-430/I-630 Interchange	High delay during peak periods. Ramp demands exceed capacity at multiple approaches. I-630 terminates just west of the interchange at a signalized intersection; queues from this extend through the interchange during PM peak period, interfering with normal freeway operations. Queues that form at this interchange extend for miles, subsequently interfering with other interchanges. Safety is a major concern.
2	Bella Vista	Hwy 71B/Co. Rd. 40 Intersection	High commuter traffic in the peak period results in major delay on the approaches and queues that extend for several miles. Queues that form in the northbound direction in the PM peak period extend into the Hwy 71/County Road 40 intersection to the south, creating safety concerns.
3	Jacksonville	Hwy 67/Hwy 440 Interchange	Lack of adequate capacity northeast of the interchange on Hwy 67 (four through lanes) results in queues during peak periods that extend for several miles (and to a lesser extent on the Hwy 440 ramp in the PM peak period).
4	Little Rock	I-30 (including Arkansas River Bridge)	Due to lack of adequate capacity on I-30 within this five mile segment, congestion, which typically extend for several miles in multiple directions during the peak periods, occurs not only on I-30 but on adjacent freeways and highways. These freeways and highways include I-40, SH 10, I-630, I-440, and I-530. Some of the congestion that forms at these closely spaced interchanges is partly due to lack of adequate ramp capacity. However, all are attributable to greater demand for I-30 than its capacity allows. The Arkansas river bridge, due to lack of shoulders and a vertical crest, reduces capacity on I-30.

5	Bentonville	I-540/Hwy 102/62 Interchange	High commuter traffic associated with the world's largest retailer and heavy truck traffic associated with nearby industrial parks result in major delay on the arterial during peak travel periods. Queues often extend several miles in both directions. Also, queues on the I-540 northbound exit ramp extend into the mainlines during the AM peak period due to the heavy demand.
6	Fayetteville	I-540 at Hwy 71B and Hwy 112 Interchanges	High northbound traffic volumes in the morning peak period due to a lack of mainline capacity and heavy diverging demand immediately downstream of a merge result in congestion extending for several miles on I-540. A different problem happens during the afternoon peak period, where the southbound outside lane becomes an exit lane only, and traffic must make a lane change in a heavy weave area. This latter situation is a major safety concern.
7	Fort Smith	I-540/Hwy 22 Interchange	Although SH 22 is congested for a several mile long segment in the vicinity of its interchange with I-540, this interchange predominately serves as the bottleneck for the highway. Extreme delay on the highway occurs during the peak period for both directions.
8	West Memphis	I-40/I-55/Hwy 77 Interchange (including BNSF Railroad crossings)	Due to a major increase in rail traffic by BNSF and UP, and because of the unusual configuration of the interchange and rail crossings (effectively a series of traffic signals along a "square-about" divided by a railroad), traffic on SH 77 and the I-40/I-55 frontage roads have to stop for train cars. One of the resulting queues periodically extends onto the eastbound freeway ramp and mainlines, creating a potential dangerous situation.

Source: AHTD response to TRIP survey

The demand for mobility on Arkansas' roadways is mounting. The following capacity-enhancing projects would help future mobility needs by relieving traffic congestion, improving safety and supporting economic development, yet they can not proceed without significant federal funding or a boost in state funding.

Chart 6. Needed roadway widening projects in Arkansas that cannot proceed without either significant federal funding or a boost in state funding.

Route Name	County or Closest City
Highway 412	Benton, Washington, Carroll, Boone, Marion, Baxter, Randolph
Interstate 40	Faulkner, Pulaski, Crittenden
Interstate 540	Washington, Sebastian, Crawford, Benton
Interstate 30	Pulaski, Saline
Highway 7	Hot Spring, Garland, Yell, Pope
Highway 5	Garland, Saline, Pulaski, Lonoke, Baxter
Highway 70	Sevier, Pike, Garland, Saline
Highway 67	Clark, Hot Spring, Saline, Pulaski, Lonoke, Jackson, Randolph, White
Highway 22	Yell, Logan, Franklin, Sebastian
Highway 65	Boone, Van Buren, Desha
Highway 367	Saline, Pulaski, Lonoke, White
Highway 64	Crawford, Franklin, Johnson, Pope, Faulkner, White, Crittenden
Interstate 430	Pulaski
Highway 63	Fulton, Lawrence, Jefferson, Poinsett
Highway 71	Miller, Sevier, Sebastian, Crawford, Benton

Source: AHTD response to TRIP survey

Traffic Safety in Arkansas

A total of 3,271 people were killed in motor vehicle accidents in Arkansas from 2004 through 2008, an average of 654 fatalities per year.[25]

Arkansas' traffic fatality rate was the fifth highest in the nation in 2008. The rate was 1.81 fatalities per 100 million vehicle miles of travel in 2008, 44 percent higher than the national average of 1.25.[26]

Chart 7. Traffic fatalities in Arkansas from 2004 – 2008.

Year	***Fatalities***
2004	703
2005	654
2006	665
2007	649
2008	600
Total	**3,271**

Source: National Highway Traffic Safety Administration

Arkansas' rural, non-Interstate roads have a fatality rate significantly higher than other roads in the state. The traffic fatality rate in 2008 on Arkansas' non-Interstate rural roads was 2.60 traffic fatalities per 100 million vehicle miles of travel, which is more than double the rate of 1.14 traffic fatalities per 100 million vehicle miles of travel on all other roads and highways in the state.[27]

A disproportionate share of highway fatalities occur on Arkansas' rural, non-Interstate roads. In 2008, 66 percent of traffic fatalities in Arkansas occurred on rural, non-Interstate routes, while only 46 percent of vehicle travel in the state occurred on these roads.[28]

Three major factors are associated with fatal vehicle crashes: driver behavior, vehicle characteristics and roadway design. It is estimated that roadway design is a contributing factor in one-third of all fatal and serious traffic accidents. Improving safety on Arkansas' roadways can be achieved through further improvements in vehicle safety; improvements in driver, pedestrian, and bicyclist behavior; and a variety of improvements in roadway safety features.

Where appropriate, the severity of serious traffic crashes could be reduced through roadway improvements such as adding turn lanes, removing or shielding obstacles, adding median cable barriers, improving medians, widening lanes, widening and paving shoulders, improving intersection layout, and providing better road markings, signing and lighting, and upgrading or installing traffic signals.

Roads with poor geometry, with insufficient clear distances, without turn lanes, inadequate shoulders for the posted speed limits, or poorly laid out intersections or interchanges, pose greater risks to motorists, pedestrians and bicyclists.

The following chart shows the correlation between specific needed road improvements and the reduction of fatal accident rates nationally.[29]

Chart 8. Reduction in fatal accident rates after roadway improvements.

Type of Improvement	Reduction in Fatal Accident Rates after Improvements
New Traffic Signals	53%
Turning Lanes and Traffic Signalization	47%
Widen or Modify Bridge	49%
Construct Median for Traffic Separation	73%
Realign Roadway	66%
Remove Roadside Obstacles	66%
Widen or Improve Shoulder	22%

Source: TRIP analysis of U.S. Department of Transportation data

Importance of Transportation to Economic Growth

Many diverse industries contributed to boosting the state's gross domestic product by 57 percent from 1990 to 2008, when adjusted for inflation.[30] Alongside traditional industries such as agriculture, food processing, and manufacturing, new industries have emerged, including technology, automotive manufacturing, green energy and building materials manufacturing. Travel and tourism have been called "a major economic development engine for Arkansas."[31] Visitors travel to all corners of "The Natural State" for recreation and sport, from the Delta to the Ozarks.

All the state's businesses depend on an efficient, safe, and modern transportation system. The new culture of business demands that an area have well-maintained and efficient roads, highways and bridges if it is to remain economically competitive. The advent of modern national and global communications and the impact of free trade in North America and

elsewhere have resulted in a significant increase in freight movement. Consequently, the quality of a region's transportation system has become a key component in a business's ability to compete locally, nationally and internationally.

Businesses have responded to improved communications and the need to cut costs with a variety of innovations including just-in-time delivery, increased small package delivery, demand-side inventory management and by accepting customer orders through the Internet. The result of these changes has been a significant improvement in logistics efficiency as firms move from a push-style distribution system, which relies on large-scale warehousing of materials, to a pull-style distribution system, which relies on smaller, more strategic movement of goods. These improvements have made mobile inventories the norm, resulting in the nation's trucks literally becoming rolling warehouses.

Highways are vitally important to continued economic development in Arkansas. As the economy expands, creating more jobs and increasing consumer confidence, the demand for consumer and business products grows. In turn, manufacturers ship greater quantities of goods to market to meet this demand, a process that adds to truck traffic on the state's highways and major arterial roads.

Every year, $92 billion in goods are shipped from sites in Arkansas and another $78 billion in goods are shipped to sites in Arkansas, mostly by trucks.[32] Eighty-five percent of the goods shipped annually from sites in Arkansas are carried by trucks and another four percent are carried by courier services, which use trucks for part of their deliveries. Similarly, 84 percent of the goods shipped to sites in Arkansas are carried by trucks and another eight percent are carried by courier services.[33]

Trucking is a crucial part of Arkansas' economy, as commercial trucks move goods from sites across the state to markets inside and outside the state. Commercial truck travel in the

Natural State is expected to increase significantly over the next decade. Based on federal projections, TRIP estimates that commercial trucking in Arkansas will increase by 34 percent between 2009 and 2020.[34]

A 2007 analysis by the Federal Highway Administration found that every $1 billion invested in highway construction would support approximately 27,800 jobs, including approximately 9,500 in the construction sector, approximately 4,300 jobs in industries supporting the construction sector, and approximately 14,000 other jobs induced in non-construction related sectors of the economy.[35]

The Funding of Arkansas' Surface Transportation System

The construction, repair and upkeep of Arkansas' roads, bridges, highways and public transit systems are paid for by local, state and federal governments. Roads and highways are maintained largely by state and local governments, and transit systems are operated largely by local transit agencies.

In addition, significant federal funding for highways and transit is provided to both state and local governments. Federal funding for Arkansas' highways and bridges comes from the Federal Highway Trust Fund, under funding levels and formulas determined by Congress. Federal spending levels for highways and public transit are based on the current federal surface transportation program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which was approved by Congress in 2005. Although SAFETEA-LU was originally set to expire on September 30, 2009, the legislation is now set to expire on December 31, 2010.

From 1998 to 2008, Arkansas received approximately $5.04 billion in federal funding for road, highway and bridge improvements, and $239 million in funding for public transit, a total of approximately $5.28 billion in federal surface transportation funding.[36]

Federal funding is a critical source of revenue for Arkansas' roadways and bridges. On average, federal funds provided by SAFETEA-LU provide 56 percent of all revenues used by AHTD to pay for road, highway and bridge construction, repairs and maintenance.[37]

Federal funds also provide 42 percent of the revenue used annually to pay for the operation of and capital improvements to the state's public transit systems, including the purchase and repair of vehicles and the construction of transit facilities. This is the tenth highest share in the nation.[38]

As a result of this level of federal support, since 1998 Arkansas has been able to complete numerous projects which have improved mobility and traffic safety, relieved traffic congestion, and enhanced economic development opportunities for Arkansans.

The following chart shows major highway rehabilitation projects completed in Arkansas since 1998 for which the federal government was a significant source of funding. These system preservation projects include a variety of reconstruction and modernization elements as well as significant resurfacing to enhance safety and extend the life span of the roadway.

Chart 9. Arkansas highway rehabilitation/preservation projects completed since 1998, largely due to federal surface transportation funds.

Route Name	County or Closest City	From / To	Length (Mi.)	Average Daily Traffic	Total Project Cost	Year Complete	Improvements Made
30	Miller, Nevada, Hempstead, Clark, Hot Spring, Saline & Pulaski	Texarkana to Little Rock	91.0	25,000 to 79,000	$185.0	Various 1995-2007	Rehabilitation
40	Monroe, St. Francis & Crittenden	Brinkley to West Memphis	67.0	30,000 to 40,000	$166.0	Various 1998-2005	Rehabilitation
40	Pulaski & Lonoke	Little Rock to Carlisle	45.0	32,000 to 63,000	$117.0	Various 1996-2006	Rehabilitation
40	Crawford, Franklin, Johnson, Pope, Conway & Faulkner	Oklahoma state line to West of Faulkner / Pulsaki county line(Fort Smith, Ozark, Clarksville, Russellville, Morrilton, Conway)	132.0	19,000 to 63,000	$311.0	Various 2001-2006	Rehabilitation
55	Crittenden & Mississippi	Mississippi River bridge to I-40 and Highway 63 (Lake David) to Blytheville	47.0	17,000 to 29,000	$92.0	Various 2000-2005	Rehabilitation
8	Bradley	Hwy. 63-Johnsville (Selected Sections)	8.5	1,200	$9.9	2006	Reconstruction
63	Union	Hwy. 129 - Hwy. 275	10.2	1,700	$6.6	1999	Reconstruction
67	White	Hwy. 157-Hwy. 167 (Phase I)	4.3	17,000	$8.6	2002	Reconstruction (NB lanes)
69	Independence	Newark-North & Hwy. 122-East	10.4	2,900	$16.0	2006	Reconstruction (Relocation @ Newark)
72	Benton	Bentonville-West	6.3	4,400	$5.8	1998	Reconstruction
160	Lafayette	Red River-Hwy. 29	11.0	1,000	$8.9	2008	Reconstruction
174	Hempstead	Hwy. 355-Hope (Reconstruction)	6.2	1,900	$7.2	2006	Reconstruction
45	Sebastian	Hwy. 45 Realignment (Backbone Mountain)	1.2	4,000	$7.1	2008	Reconstruction (Realignment)
59	Washington & Benton	Cincinnati-Illinois (Resurface & shoulders)	5.7	1,800	$5.9	2003	Reconstruction

133	Ashley	Louisiana State Line-Crossett	7.9	4,200	$6.6	2002	Reconstruction / Rehabilitation

Source: AHTD response to TRIP survey

Some of Arkansas' more significant bridge projects made possible by federal transportation funding since 1998 are listed below.

Chart 10. Major bridge projects completed in Arkansas since 1998 in which federal funds were a significant source of revenue.

Route Carried	County or Closest City	Route or feature intersected	Average Daily Traffic	Total Project Cost	Year Complete	Improvements & Benefits
30	Miller	I-30 Interchanges @ Texarkana	23,000	$13.1	2008	Reconstruction / Rehabilitation of existing bridge: *Safety, congestion relief*
63	Crittenden, Poinsett, Craighead	Highway 63 interchanges	10,000 to 9,000	$81.0	Various 1995-2008	New interchange & ramp construction at Gilmore, Tyronza, Marked Tree & Jonesboro: *Safety, congestion, upgrade route to Interstate standards*
31	Jefferson	Lock & Dam No. 4 approach structures	2,900	$36.7	1995	Construct new approaches to lock & dam bridge structure; structure on dam constructed by Corps: *Safety, additional north access to Pine Bluff; economic development*
70	Prairie	White River Bridge (Devalls Bluff)	1,800	$20.2	2005	Relocate bridge and approaches: *Safety; relocated existing truss bridge and constructed new realigned new bridge over the White River to provide safety for highway and barge travel*
30	Saline	Raymar Road Crossover	88,000	$6.1	1999	Construct new bridge: *Safety, economic development, provide access to residential and commercial development with conversion of one-way frontage roads.*
30	Saline, Pulaski	Vimy Ridge & Springhill Road Crossovers	88,000	$12.3	2002	Construct new bridge: *Safety, economic development, provide access to residential and commercial development with conversion of one-way frontage roads.*
30	Saline	Highway 5 Crossover	70,000	$6.4	2003	Construct new bridge: *Safety, economic development, provide access to residential and commercial development with conversion of one-way frontage roads.*
30	Clark	Hwy. 7 & Caddo River structures & approaches (Arkadelphia)	26,000	$12.0	1998	Replace and reconstruct existing bridge: *Safety, preservation*

41	Little River	Red River & relief br. & approaches	2,900	$6.4	1999	Replace and reconstruct existing bridge: *Safety, preservation*
64	Cross	St. Francis Bayou bridge & approaches	4,900	$5.7	2005	Replace and reconstruct existing bridge: *Safety, preservation*
64	Woodruff	White River structure & approaches (Augusta)	5,800	$18.8	2003	Replace and reconstruct existing bridge: *Safety, relocated and widened (replaced existing two-lane truss bridge*
64	Woodruff	Cache River structure & approach (Patterson)	4,600	$5.2	2005	Replace and reconstruct existing bridge: *Safety, preservation*
160	Miller / Lafayette	Red River & relief bridge approaches (Spring Bank)	770	$5.5	1995	Construct new bridge: *Safety, replace ferry with new bridge*
67	Miller	Swan Creek; Union Pacific & Red River Relief Strs & Apprs.	2,500	$7.1	2001	Replace and reconstruct existing bridge: *Safety, preservation*
412	Washington	White River Bridge (Beaver Lake)	11,000	$11.6	2001	Replace and reconstruct existing bridge: *Safety, preservation*

Source: AHTD response to TRIP survey

Accommodating population growth and providing opportunities for economic development require transportation enhancements. The following chart shows 15 major projects undertaken to provide additional capacity on Arkansas' roadway system that were completed since 1998 and for which federal funds were a significant source of funding. These projects provided congestion relief and improved safety.

Chart 11. Arkansas highway capacity-enhancing projects completed since 1998, largely due to federal surface transportation funds.

Route Name	County or Closest City	From /To	Length in Miles	Average Daily Traffic	Total Project Cost (millions)	Year Complete	Description
30	Saline & Pulaski	Benton to Little Rock	17.25	88,000	$168	2006	Reconstruct existing roadway; construct additional lane
40	Pulaski	I-430 - I-30 & Springhill Drive Interchange (NLR)	6.38	74,000	$75	2008 & 1999	Reconstruct existing roadway; construct additional lane & construct interchange & ramps
440	Pulaski	I-40 East - Hwy. 67	4.04	24,000	$64	2004	Construct new highway to Interstate standards
530	Jefferson	Pine Bluff Bypass	11.36	29,000	$83	1999	Construct new highway to Interstate standards
540	Crawford & Washington	I-40- Fayetteville	37.11	17,000	$369	1999	Construct new highway to Interstate standards
549	Miller	Doddridge-Texarkana	37.52	5,000	$173	2006	Construct new highway to Interstate standards
1	Lee, St. Francis & Cross	Marianna to Poinsett County line	31.50	5,000	$41	2006	Major widening to four lanes and passing lanes
18	Craighead & Mississippi	Jonesboro to Blytheville	17.07	7,000	$45	2008	Major widening to four/five lanes
49	Craighead & Greene	Jonesboro-South & Jonesboro - Paragould	14.49	21,000	$28	2005	Major widening to four/five lanes
62	Benton & Washington	Illinois River – Hwy. 170 & Hwy 71B - Avoca	9.65	20,000	$22	2005	Major widening to four/five lanes
63	Craighead & Lawrence	Bono to Hoxie	19.00	16,000	$39	2007	Major widening to four/five lanes
65	Jefferson, Lincoln, Drew, Desha & Chicot	Hwy. 425 (So. of Pine Bluff) to Lake Village	63.81	6,500	$127	2009	Major widening to four/five lanes
67	Jackson	Newport to Tuckerman	14.84	5,500	$85	2008	Construct new highway to Interstate standards

71B	Benton	Hwy. 71 – Dixieland & I-540 West	4.94	30,000	$16.1	2003	Major widening to four/five lanes
94	Benton	Hwy. 71B – 540	3.26	18,000	$9.6	2004	Major widening to four/five lanes
102	Benton	Hwy. 71 – Greenhouse Road	3.94	16,000	$13.5	2008	Major widening to four/five lanes
112	Benton & Washington	Selected improvements in Bentonville and Fayetteville	2.71	14,000	$11.0	2008	Major widening to four/five lanes
167	Independence & White	Velvet Ridge to Batesville	22.48	6,000	$57	2004	Major widening to four/five lanes
412	Benton, Washington & Madison	Siloam Springs to Alpena	41.74	17,000	$119	2006	Major widening to four/five lanes
412	Greene	Paragould to Missouri state line	12.19	7,000	$46	2009	Major widening to four/five lanes

Source: AHTD response to TRIP survey

Future Federal Surface Transportation Program

To ensure that federal funding for highways and public transit in Arkansas and throughout the nation continues beyond the expiration of the current federal surface transportation program (SAFETEA-LU), Congress will need to approve new long-term federal surface transportation legislation by December 31, 2010.

The American Recovery and Reinvestment Act provides approximately $352 million in stimulus funding for highway and bridge improvements and $28 million for public transit improvements in Arkansas, a total of $380 million.[39] ARRA funds can serve as a down payment on needed road, highway, bridge and transit improvements, but they are not sufficient to allow

the state to proceed with numerous projects needed to improve and enhance its surface transportation system.

The crafting of a new federal highway and transit program is occurring during a time when the nation's surface transportation program faces numerous challenges, including significant levels of deterioration, increasing traffic congestion, a high number of traffic deaths, high construction costs and a decline in revenues going into the Federal Highway Trust Fund.

In addition to declines in federal surface transportation revenues, significant increases in the cost of transportation construction materials will likely make it more difficult for Congress to authorize a new federal surface transportation program that adequately funds needed improvements to the nation's roads, highways, bridges and public transit systems.

While construction materials costs have stabilized somewhat during the current recession, over the five-year period from December 2004 to December 2009, the average cost of materials used for highway construction in Arkansas – including asphalt, concrete, steel, lumber and diesel – increased by 58 percent.[40]

Recommendations for the Nation's Surface Transportation System

When Congress approved SAFETEA-LU in 2005, it recognized the tremendous challenge the nation would continue to face in maintaining and improving its highway and transit systems in order to meet the country's future mobility needs. The 2005 legislation stipulated that two national commissions be created to examine the condition of the nation's surface transportation system and its future needs, and to make recommendations about the future of the nation's surface transportation program.

The National Surface Transportation Policy and Revenue Study Commission (NSTPRSC) was created by Congress to examine the current condition and future funding needs of America's surface transportation program, develop a plan to ensure the nation's surface transportation system meets the nation's future mobility needs and examine funding alternatives for adequately funding the nation's future highway and transit needs.

Comprised of transportation officials, business leaders and members of academia, the Commission held numerous field hearings, was advised by a panel of transportation experts, commissioned numerous reports and held 12 executive sessions in preparing its report.

In January, 2008 the NSTPRSC released its findings. The Commission found that at the current level of investment in surface transportation in the U.S., the nation's highways and bridges would further deteriorate, traffic casualties would increase and traffic congestion would increase, jeopardizing the nation's economic leadership due to an erosion of transportation reliability.[41] The Commission concluded that it is critical to the future quality of life of Americans that the nation create and sustain the preeminent surface transportation system in the world, one that is well-maintained, safe and reliable. [42]

The Commission recommended a broad overhaul of the Federal Surface Transportation Program that would significantly boost funding, consolidate the program into fewer funding categories, speed up the project delivery process, require greater accountability in project selection and expand the use of alternate funding sources.

Key recommendations by the Commission include:

- ✓ Allocate funding through outcome-based, performance-driven programs supported by cost/benefit evaluations rather than political earmarking.

- ✓ Consolidate the more than 100 current transportation funding programs into 10 programs focused on key areas of national interest, including congestion relief, preservation of roads and bridges, improved freight transportation, improved roadway safety, improved rural access, improved environmental stewardship and the development of environmentally-friendly energy sources.
- ✓ Speed up the project development process to reduce the excessive time required to move projects from initiation to completion by better coordinating the development and review process for transportation projects.
- ✓ Significantly boost federal funding for surface transportation. Options for increasing federal surface transportation revenues include reduced evasion of federal motor fuel taxes, moving costs of exemptions from motor fuel fees to the general fund, indexing the motor fuel tax, increasing the motor fuel tax, additional tolling, congestion pricing, increased use of public-private partnerships and freight fees.

Similarly, the National Surface Transportation Infrastructure Financing Commission (NSTIFC) was created by Congress to re-envision the way the federal government funds and finances the nation's surface transportation infrastructure. Comprised of individuals from diverse backgrounds, including economics, finance, government, industry, law and public policy, the NSTIFC sought out the best ideas, the latest data and the strongest research before deliberating over a variety of potential financing options.

In February, 2009, the NSTIFC released its findings. The NSTIFC found that the U.S. faces a $2.3 trillion funding shortfall through 2035 in maintaining and making needed improvements to the nation's surface transportation system.[43] The Commission found that failure to address the immediate funding shortfall and provide adequate long-term funding for

the nation's surface transportation system will lead to unimaginable levels of congestion, reduced safety, costlier goods and services, and eroded quality of life and diminished economic competitiveness.[44]

The Commission found that the current federal surface transportation funding structure, which relies primarily on taxes imposed on petroleum-derived vehicle use, is not sustainable. Instead, the Commission recommended that the nation's future surface transportation investment be funded largely by a charge on motorists based on the number of miles driven. The NSTIFC recommended that a full deployment of a mileage-based federal transportation fee be completed by 2020 and that the federal motor fuel tax eventually be phased out as revenue from a federal motor fuel fee was replaced by a mileage fee.[45] Once implemented, the NSTIFC recommended that mileage charges be set at a rate that would provide enough revenue to provide adequate federal funding to ensure that the nation achieve an integrated national transportation system that is less congested and safer and that promotes increased productivity, stronger national competitiveness, and improved environmental outcomes.[46] The NSTIFC also recommended that in the short term, the nation's federal motor fuel tax be boosted significantly and indexed to inflation to allow the federal surface transportation program to be funded at an adequate level until the transition to a mileage-based federal transportation fee.

Another organization that has presented a vision for the nation's future surface transportation program is the American Association of State Highway and Transportation Officials (AASHTO), which represents the nation's state transportation departments.

AASHTO has recommended that a future federal surface transportation program be developed that would be accountable for results, would make investments based on community needs and would deliver projects on time and on budget. AASHTO has also called for a federal

surface transportation program that is based on state-driven performance measures and focused on six objectives of national interest: preservation and renewal, interstate commerce, safety, congestion reduction and connectivity for urban and rural areas, system operations and environmental protection.

Conclusion

Roads and bridges are the backbone of the Natural State's surface transportation system. Today, Arkansas' transportation system is under multiple pressures from aging roads and bridges, increasing traffic congestion and the high cost of construction materials.

As it looks to enhance and build a thriving, growing and dynamic state, it will be essential that Arkansas is able to provide a 21st century network of roads, highways, bridges and public transit that can accommodate the mobility demands of a modern society.

Without the federal surface transportation program, Arkansas would not have been able to fund key projects on major components of the state's surface transportation network. These projects have supported the state's economic development and created new opportunities for its residents.

The state has an immediate need to move forward with numerous bridge, rehabilitation, expansion and transit projects. But, without a substantial level of federal funding or a significant increase in state funding, Arkansas will be unable to fund dozens of vital projects.

Enhanced federal transportation funding would allow Arkansas to upgrade important sections of its Interstate highways, improve traffic safety, replace obsolete bridges and expand transit services statewide. Preservation work, such as rehabilitation and maintenance, performed

on Arkansas' network of roads and bridges will pay off in future years by protecting the state's past investment in transportation and extending the life of its aging infrastructure.

A modernized highway system in Arkansas will help the state accommodate continuing population growth and offer congestion relief. Completing critical, unfunded projects would increase mobility, better support commerce and tourism, enhance economic development and improve traffic safety statewide, boosting the quality of life for residents, visitors and businesses.

As the nation looks to rebound from the current economic downturn, the U.S. will need to modernize its surface transportation system, improve the physical condition of its transportation network and enhance the system's ability to provide efficient and reliable mobility for motorists and businesses. Making needed improvements to Arkansas' roads, highways, bridges and transit could provide a significant boost to the state's economy by creating jobs in the short term and stimulating long-term economic growth as a result of enhanced mobility and access.

The federal stimulus package has provided a helpful down payment on an improved transportation system. However, without a substantial boost in federal or state surface transportation funding, numerous needed projects to expand capacity and upgrade the condition of Arkansas' roads, bridges, highways and transit will not move forward, hampering the state's ability to enhance not only mobility, but also economic development statewide. The future provisions and funding levels of the next federal surface transportation program will be a critical factor in whether Arkansas is able to reap the benefits of a modern surface transportation system.

# # #

Endnotes

[1] Bureau of Labor Statistics
[2] U.S. Census Bureau annual population estimate.
[3] U.S. Census Bureau. Interim Projections of Total Population for the United States and States: April 1, 2000 to July 1, 2030.
[4] TRIP analysis of Bureau of Economic Analysis data.
[5] U.S. Department of Transportation - Federal Highway Administration: Highway Statistics 1990 and Federal Highway Administration's preliminary estimates of 2008 state VMT.
[6] TRIP calculation based on U.S. Census and Federal Highway Administration data.
[7] Federal Highway Administration. Highway Statistics 2008. Charts HM-63, HM-64.
[8] Ibid.
[9] AHTD.
[10] AHTD response to TRIP survey (2009).
[11] TRIP analysis based on 2008 Federal Highway Administration data.
[12] Ibid.
[13] Highway Development and Management: Volume Seven. Modeling Road User and Environmental Effects in HDM-4. Bennett, C. and Greenwood, I. 2000.
[14] Your Driving Costs. American Automobile Association. 2008.
[15] U.S. Department of Transportation - Federal Highway Administration: National Bridge Inventory 2009.
[16] Ibid.
[17] Ibid.
[18] AHTD response to TRIP survey.
[19] TRIP analysis of Federal Highway Administration data. Highway Statistics 2007, Table HM-61. Interstate and Other Freeways and Expressways will a volume-service flow ratio above .70, which is the standard for mild congestion, are considered congested.
[20] Urban Mobility Report, 2009. Texas Transportation Institute.
[21] Ibid.
[22] Building *Roads to Reduce Traffic Congestion in America's Cities: How Much and at What Cost?* Detailed State-by-State Analysis of Future Congestion and Capacity Needs. The Reason Foundation, 2006.
[23] TRIP analysis of Texas Transportation Institute and Reason Foundation data.
[24] AHTD response to TRIP survey.
[25] U.S. Department of Transportation - Federal Highway Administration: Highway Statistics 2004-2008 www.fhwa.dot.gov and www-fars.nhtsa.dot.gov.
[26] Ibid.
[27] TRIP analysis of 2008 NHTSA and FHWA data.
[28] Ibid.
[29] Highway Safety Evaluation System; 1996 Annual Report on Highway Safety Improvement Programs; U.S. Department of Transportation.
[30] Source: TRIP analysis of Bureau of Economic Analysis data.
[31] Arkansas Economic Development Commission: http://www.arkansasedc.com/business-development/targeted-industries/tourism.aspx
[32] Bureau of Transportation Statistics, U.S. Department of Transportation. 2002 Commodity Flow Survey, State Summaries.
[33] Ibid.
[34] TRIP analysis based on U.S. Department of Transportation: Office of Freight Management and Operations data. www.fhwa.dot.gov.
[35] Federal Highway Administration, 2007. Employment Impacts of Highway Infrastructure Investment.
[36] TRIP analysis based on data obtained from the Federal Highway Administration and the Federal Transit Administration.
[37] AHTD.
[38] TRIP analysis of Federal Transit Administration data.
[39] U.S. Department of Transportation.
[40] AHTD response to TRIP.

[41] National Surface Transportation Policy and Revenue Study Commission. Transportation for Tomorrow, December 2007. P. 3.
[42] National Surface Transportation Policy and Revenue Study Commission. Transportation for Tomorrow, December 2007. P. 7.
[43] Paying Our Way. February, 2009. The National Transportation Infrastructure Financing Commission. P3. Summary Findings.
[44] Ibid. P. 12.
[45] Paying Our Way. February, 2009. The National Transportation Infrastructure Financing Commission.
[46] Ibid. P. 12.