

# The Economic Impacts of an Annual \$478 Million Increase in Arkansas Highway, Street and Bridge Construction Investment



OCTOBER 2018

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This research was conducted for the Associated General Contractors of Arkansas (AGC Arkansas) by the economics & research team at the Washington, D.C.-based American Road & Transportation Builders Association (ARTBA). This analysis was led by Dr. Alison Premo Black, ARTBA's senior vice president and chief economist. Research Economist Lital Shair Nada and Transportation Investment Advocacy Center Director Carolyn Kramer made significant contributions to this study.

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## **About ARTBA**

ARTBA is a federation whose primary goal is to aggressively grow and protect transportation infrastructure investment to meet the public and business demand for safe and efficient travel. In support of this mission, ARTBA also provides programs and services designed to give its more than 8,000 public and private sector members a global competitive edge.

ARTBA's The Transportation Investment Advocacy Center™ (TIAC) is a first-of-its kind, dynamic education program and Internet-based information resource designed to help private citizens, legislators, organizations and businesses successfully grow transportation investment at the state and local levels through the legislative and ballot initiative processes. It's powered by: [www.transportationinvestment.org](http://www.transportationinvestment.org).

## **About AGC Arkansas**

AGC Arkansas is a voluntary trade association of commercial general contracting firms (highway, building and utility) specialty contractors and supply and service firms. The Arkansas Chapter was established in 1934. Its primary objectives are to pursue skill, integrity and responsibility in the construction industry, to provide training and to serve as the voice of the construction industry in Arkansas.

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# I. Executive Summary

Arkansas is currently investing less than half of the amount needed to maintain and improve the state's highway and bridge network, according to a 2017 report by the Arkansas Legislative Unit. An additional \$478 million annual investment on state highways alone is needed to preserve the current system, make safety improvements, increase capacity and invest in necessary equipment, facility and technology upgrades. **This investment would not only bring the system up to a state of good repair but would also support at least \$1.3 billion in economic activity across the state, supporting 5,729 jobs throughout all sectors of the economy.**

The \$478 million does not include additional funding needed by local governments, which would support even more economic activity. Based on the traditional share of state highway funds that are transferred to cities and counties, Arkansas state officials would need to raise a total of \$600 million in state highway funds to make all needed improvements across state and local roads and bridges.

The highway funding gap in Arkansas has very real consequences for the users of the system, who depend on a safe, reliable and efficient transportation network. Because of this underinvestment, nearly one in four miles of roadway in Arkansas are in failing condition, with the Arkansas Department of Transportation (DOT) giving nearly 60 percent of lane miles a "C" or "D" rating.

This report examines how investing the additional \$478 million needed on the state highway network would create economic benefits throughout the state economy.

We use the sophisticated "Regional Input-Output Modeling System" (RIMS II) developed by the U.S. Department of Commerce to track the complex money flows and interactions that occur between the state's diverse business sectors. This, in tandem with data from the U.S. Census Bureau, allows us to determine how a \$478 million annual increase in highway and bridge construction work would impact the output of key business sectors within the region.

The results show the unique and synergistic nature of transportation capital investments – how they trigger immediate economic activity that creates and sustains jobs and tax revenues, yet yield long-lived capital assets that facilitate economic activity for many decades to come by providing access to jobs, services, materials and markets.

## Immediate Economic Benefits of Increasing Investment

A sustained increase in Arkansas highway, street and bridge investment would help businesses increase output, grow the tax base and support jobs across all major sectors of the state economy.

The construction activity from a \$478 million annual investment increase would yield the following annual benefits:

- Sales and output by businesses in all sectors will increase by \$941.6 million each year.
- These investments will contribute \$482.1 million to the state gross domestic product (GDP). This value added is the difference between the total sales value of goods and services supported by the increased investment and the cost of the intermediate inputs to produce that economic activity.
- State and local tax revenues will grow by \$56.7 million.
- An additional 5,729 jobs would be supported or created throughout the economy, with 51 percent of the employment outside of the construction industry.
- Those workers will earn an average of \$253.0 million per year.

How does this ripple effect work? Highway, street and bridge contractors purchase inputs (such as materials) from Arkansas businesses, in addition to other firms outside of the state, as they complete work on projects. These suppliers then purchase items from other firms, creating an indirect effect.

These employees of the construction firms and supplier industries spend their earnings by purchasing clothing, food and other goods and services, thereby creating induced demand in other sectors of the state economy. As jobs are created or sustained, employees receive additional income and spend more, and businesses increase sales. Subsequently, taxes grow due to larger payroll and sales volumes, providing the state and local municipalities with additional revenues to reinvest in Arkansas.

As repairs and upgrades are made to Arkansas' highway, street and bridge networks, drivers and businesses will save time and money, suggesting that the \$1.3 billion economic impact is conservative. These user benefits are a result of decreased congestion, less money spent on vehicle repairs, safer roads and an improved infrastructure network.

## Arkansas' Neighbors Are Not Waiting

While it has been 19 years since Arkansas' last legislative gas tax increase, neighboring states have made the decision to increase revenues for highway investment in their own states.

In the past five years, seven southern states—Virginia, North Carolina, South Carolina, Georgia, Oklahoma, Tennessee and Kentucky— have raised or adjusted their state gas tax. Six have a variable-rate gas tax, and eight have a passenger electric vehicle registration fee in place.

In the past decade, 14 southern states have also approved \$37.2 billion in state or local ballot measures related to transportation funding.

This additional revenue will support economic growth throughout the region and give states a competitive edge.

## Arkansas Has Significant Transportation Challenges

The challenges facing Arkansas drivers and businesses are well documented. In addition to poor road conditions, some current and future transportation challenges include:

Economic Impacts of \$478 Million in Highway, Street and Bridge Construction Investment in Arkansas	
Total Output	\$941.6 million
Total Value Added (GSP)	\$482.1 million
Earnings	\$253.0 million
Employment	5,729 jobs
Total Tax Revenues	\$56.7 million
State Payroll Tax	\$1.4 million
Federal Payroll Tax	\$19.4 million
State Personal & Corporate Income Tax	\$20.8 million
State & Local Sales Tax	\$15.2 million
<b>Total Impact</b>	<b>\$1.3 billion</b>

- Nearly 550 people lost their lives on Arkansas roads in 2016, according to the National Highway Traffic Safety Administration. Research from the Pacific Institute for Research and Evaluation shows that roadway conditions are a factor in over half of all highway fatalities, costing the Arkansas economy over \$3.5 billion annually.
- The value of truck shipments to and from Arkansas businesses is expected to nearly double in the next 30 years, according to the Federal Highway Administration (FHWA). This demand will increase the wear and tear on the state's highways and add more vehicles in already congested urban areas.
- Traffic congestion costs drivers in Arkansas cities anywhere from \$160 to over \$1,000 per year, according to the Texas Transportation Institute. In some areas, urban drivers spend as much as an additional 43 hours per year in their car or truck because of congestion.

The Arkansas highway network is one of the few government-owned and maintained assets that has a daily impact on business operations and residents' quality of life. When it comes to the safety, condition, reliability and efficiency of the state's highway system, current investment decisions will have a profound effect on the future of the state.

## II. Arkansas' Transportation Needs

Arkansas is facing significant transportation infrastructure challenges, and has numerous needs that must be addressed in order to bring the state's transportation network to a state of good repair. Increasing investment to improve the safety, efficiency and conditions of the Arkansas highway, street and bridge network will help all system users.

- **Road Conditions**—According to the Federal Highway Administration (FHWA), Arkansas has 102,616 miles of roadway.<sup>1</sup> Of the state's 22,585 miles of roadway eligible for federal aid, 9 percent are rated "not acceptable" and need major repairs or replacement.

According to the ARDOT, nearly a quarter of Arkansas lane miles are in failing condition, and 58 percent of lane miles are rated a "C" or "D" grade. These grades are based on the Pavement Condition Index (PCI) of each road, and are categorized by road type, including roads on the Arkansas Primary Highway Network (APHN), which contains the National Highway System (NHS) as well as other critical and high-traffic routes. The full breakdown of Arkansas road conditions by type is available in Appendix 2.<sup>2</sup>

**According to the American Society of Civil Engineers, driving on Arkansas roads in need of repair costs each driver \$589 per year.<sup>3</sup>**

Voters recognize that roads are in poor conditions. A 2016 survey by the Good Roads Foundation found that 90 percent of Arkansas residents agree that Arkansas' highways and roads are in need of repair. Voters also understand the benefits of increased investment; eighty percent of respondents agreed that increased highway revenue and the roads it improves directly contribute to economic growth and private-sector job creation.<sup>4</sup>

- **Deficient Bridges**— Arkansas has 12,864 roadway bridges, captured by the FHWA National Bridge Inventory (NBI) data. FHWA reports 21.2 percent of these bridges are either "structurally deficient" (765 bridges) or "functionally obsolete" (1,959 bridges). This is slightly below the national average of 22 percent. Bridge owners estimate it will cost at least \$2.6 billion to make needed bridge repairs in the state.
- **Road Safety**—The National Highway Traffic Safety Administration (NHTSA) reports there were 488 fatal motor vehicle crashes, resulting in 545 fatalities, in Arkansas during 2016. Of these, 66 percent of fatalities occurred on rural roads and 44 percent occurred on the National Highway System. Motor vehicle crashes are the number one cause of death and permanently disabling injuries for young Americans under age 21.

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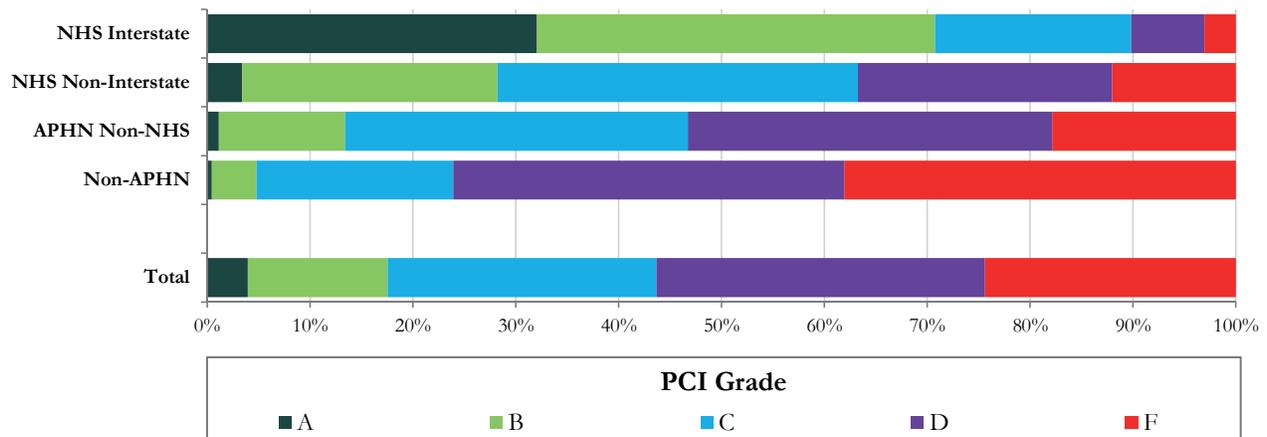
<sup>1</sup> FHWA Highway Statistics 2016 Table HM-10, <<https://www.fhwa.dot.gov/policyinformation/statistics/2016/hm10.cfm>>.

<sup>2</sup> Arkansas Legislative Audit, "Special Report: Arkansas Legislative Audit Review of Sources and Uses of Funds, Arkansas Department of Transportation, For the Period July 1, 2009 through June 30, 2016 and Projected for Fiscal Years 2017 through 2020", Aug. 31, 2017, <<http://www.arkleg.state.ar.us/assembly/2017/Meeting%20Attachments/081/85/Ex.%20E-Arkansas%20Legislative%20Audit%20Special%20Report.pdf>>.

<sup>3</sup> American Society of Civil Engineers, "2017 Infrastructure Report Card," <<https://www.infrastructurereportcard.org/state-item/arkansas/>>.

<sup>4</sup> Gilmore Strategy Group, "A Project for the Good Roads Foundation: Arkansas Statewide Likely Voter Survey, December 12-13, 2016," Jan. 2017.

## Percent of Arkansas Lane Miles, by Road Type and PCI Grade



Source: Arkansas Legislative Audit, "Special Report: Arkansas Legislative Audit Review of Sources and Uses of Funds, Arkansas Department of Transportation, For the Period July 1, 2009 through June 30, 2016 and Projected for Fiscal Years 2017 through 2020," Aug. 31, 2017.

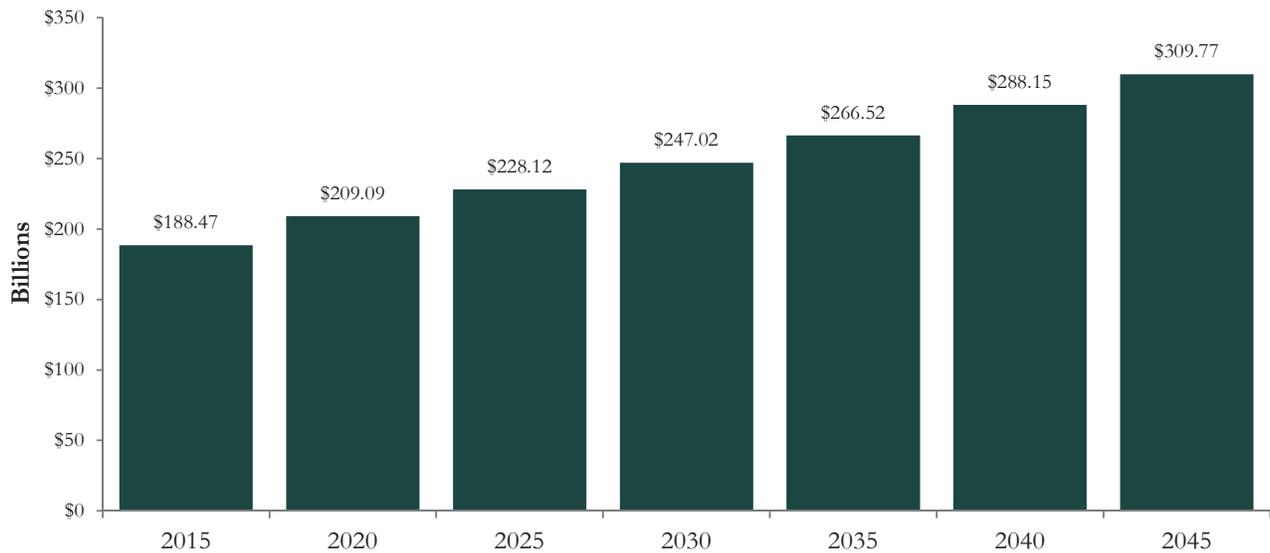
Poor roadway conditions are a contributing factor in more than half—52.7 percent—of roadway fatalities, according to research by the Pacific Institute for Research and Evaluation (PIRE). The PIRE study estimates that road condition related crashes cost Arkansas over \$3.5 billion annually.<sup>5</sup>

- Freight Traffic**—Truck shipments along Arkansas' highway, street and bridge network are vital to the economic growth of the state. The value of total freight shipments to and from Arkansas businesses was \$262.9 billion in 2015. Of this total, 75 percent (\$188.5 billion) was shipped via truck. Truck traffic alone is expected to increase by 64 percent by 2045, reaching \$309.8 billion in value. This will have a significant impact on congestion on Arkansas' road and bridge network.

Nearly \$115 billion (77 percent) of domestic shipments by Arkansas businesses in 2015 were made via truck. Nearly \$60 billion of those truck shipments (52 percent) stayed within the state—the remaining shipments were made to neighboring states (25 percent) and non-neighboring states (23 percent).

<sup>5</sup> Ted Miller and Eduard Zaloshnja, "On a Crash Course: The Dangers and Health Costs of Deficient Roadways," The Pacific Institute for Research and Evaluation (PIRE), May 2009.

## Value of Total Truck Shipments To and From Arkansas Businesses



Source: Federal Highway Administration Freight Analysis Framework

- **Congestion**— Without adequate investment, highway conditions and safety will become a greater challenge for Arkansas. Traffic congestion occurs when the number of vehicles on a roadway is greater than the road was designed to handle. Traffic is not able to move at speed, and the resulting slowdowns have a ripple effect along the roadway. Traffic congestion has adverse impacts on air quality, the quality of life and business activity. In Arkansas, this can cost urban drivers anywhere from \$160 to \$1,080 per year.<sup>6</sup>

Air quality is affected due to increased vehicle emissions from cars and trucks stuck in traffic. Poor air quality has an impact on the health of at-risk populations, including the elderly and small children.

Personal time delays mean that commuters and other system users are behind the wheel longer, rather than spending more time at work or at leisure, impacting their quality of life. This increased traffic congestion means additional costs, which are associated with a reduced service area for business suppliers, customer markets and workforces.

<sup>6</sup>Texas Transportation Institute 2015 Urban Mobility Scorecard

## Annual Cost of Congestion in Arkansas Cities

Urban Area	Cost Per Commuter		Total Cost	
	Annual Hours of Delay Per Commuter	Annual Cost of Congestion Per Commuter	Total Annual Hours of Delay (in thousands)	Total Annual Cost of Congestion (in millions)
Memphis TN-MS-AR	43	\$1,080	37,824	\$939
Little Rock AR	38	\$853	14,799	\$336
Fayetteville-Springdale-Rogers AR-MO	24	\$520	7,564	\$167
Fort Smith AR-OK	16	\$358	2,062	\$46
Texarkana TX-AR	12	\$294	1,014	\$25
Jonesboro AR	15	\$338	1,089	\$24
Conway AR	10	\$229	770	\$17
Hot Springs AR	11	\$232	732	\$15
Pine Bluff AR	7	\$160	626	\$14
<b>Total Arkansas Cities</b>			<b>66,480</b>	<b>\$1,583</b>

Source: Texas Transportation Institute 2015 Urban Mobility Scorecard

A survey of business owners found that typical ways businesses deal with congestion include:<sup>7</sup>

- Costs for additional drivers and trucks due to longer travel times
- "Rescue drivers" to avoid missed deliveries due to unexpected delays
- Loss of productivity due to missed deliveries
- Shift changes to allow earlier production cut off
- Reduced market areas
- Increased inventories
- Costs for additional crews and decentralized operations to serve the same market area
- Businesses that are local can absorb the cost or pass it on
- Trade-oriented businesses can respond by moving their operations

<sup>7</sup> Economic Development Research Group, "The Cost of Congestion to the Economy of the Portland Region," November 2005, <[https://www.edrgroup.com/pdf/trade\\_trans\\_studies\\_cocreport1128final.pdf](https://www.edrgroup.com/pdf/trade_trans_studies_cocreport1128final.pdf)>.

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### III. The Economic Impacts of an Annual \$478 Million Increase in Arkansas Highway, Street and Bridge Construction Investment

A sustained \$478 million increase in Arkansas highway, street and bridge investment will have a significant immediate effect on all sectors of the state economy. Transportation capital investments trigger immediate economic activity that creates and sustains jobs and tax revenues, yet yield long-lived capital assets that facilitate economic growth for the next generation by providing access to jobs, services, materials and markets.

This ripple effect is felt through all sectors of the Arkansas economy – contractors purchase materials and workers spend their earnings while they work on projects, creating demand in other sectors of the state economy. As jobs are created or sustained, these employees earn more and spend more, and businesses increase sales. This results in larger payroll and sales volumes, providing the state and local municipalities with additional tax revenues to reinvest in Arkansas.

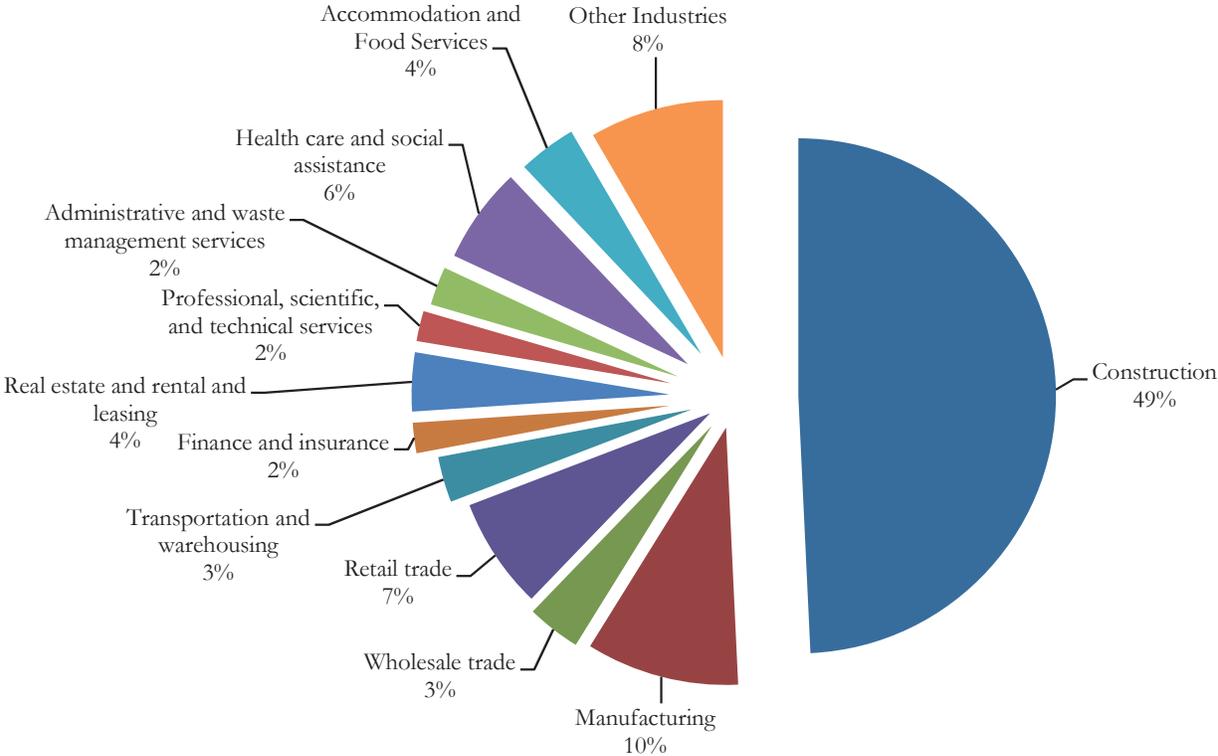
An annual \$478 million increase in Arkansas highway, street and bridge construction investment would generate the following economic benefits each year:

- Generate nearly \$941.6 million annually in additional economic output as businesses throughout the economy sell more goods and services to both other businesses and consumers.
- Increase GSP, or the value added to the overall economy, by over \$482 million per year. GSP is the state equivalent of national Gross Domestic Product (GDP), measuring the value of final goods and services produced within the state.<sup>8</sup>
- Support or create an additional 5,729 jobs on average each year throughout the economy, with 51 percent of the employment outside of the construction industry, including an estimated 546 jobs in manufacturing, 398 jobs in retail trade, 342 jobs in health care and social assistance and 209 jobs in real estate and rental and leasing.
- These workers will earn over \$253 million in wages annually.
- \$56.7 million in additional tax revenues each year. This includes:
  - \$1.4 million in annual state payroll taxes
  - \$19.4 million in annual federal payroll taxes
  - \$20.8 million in annual state individual and corporate income taxes
  - \$15.2 million in annual state and local sales and use taxes

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<sup>8</sup> Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

# Additional Arkansas Jobs Supported/Created by an Annual \$478 Million Increase in Highway, Street and Bridge Construction Investment



**Average Annual Economic Impacts of \$478 Million in Highway, Street and Bridge Construction Investment in Arkansas**

Industry	Impact on Industry Output (in millions)	Jobs Supported/ Created
Agriculture, forestry, fishing, and hunting	\$3.2	23
Mining	\$26.3	119
Utilities	\$12.1	20
Construction	\$481.3	2,802
Manufacturing	\$173.9	546
Wholesale trade	\$37.8	191
Retail trade	\$28.4	398
Transportation and warehousing	\$24.4	163
Information	\$10.6	37
Finance and insurance	\$19.5	108
Real estate and rental and leasing	\$30.6	209
Professional, scientific, and technical services	\$12.7	108
Management of companies and enterprises	\$10.6	43
Administrative and waste management services	\$8.7	138
Educational services	\$3.1	61
Health care and social assistance	\$32.6	342
Arts, entertainment, and recreation	\$1.6	30
Accommodation and Food Services	\$11.2	207
Other services	\$13.2	144
<b>Total industry impact*</b>	<b>\$941.6</b>	<b>5,729</b>

\*Does not include impact on government output.

## IV. Recent Trends in State Transportation Investment

A majority of southern states have been taking action to invest in transportation infrastructure and in their economy. They have done this through a variety of funding options and have also diversified their revenue streams. Thinking about challenges in the future, six southern states have a variable-rate gas tax, and eight have a passenger electric vehicle registration fee in place to ensure these drivers are contributing their fair share.

Drawing on the research and legislative tracking of ARTBA’s Transportation Investment Advocacy Center (TIAC), this section includes a comprehensive analysis of trends in state transportation investment over the last five years, with a particular focus on activity by states in the southern U.S.

Since 2013, seven states in the southern region—Virginia, North Carolina, South Carolina, Georgia, Oklahoma, Tennessee and Kentucky— raised or adjusted their state gas tax. At the same time, it has been 19 years since Arkansas’ last legislative gas tax increase. Significant bonds were approved in four southern states since 2013, and in Texas, voters approved two ballot measures to redirect state revenue into the State Highway Fund. In the past 10 years, 14 southern states have placed 205 state or local transportation funding-related measures on the ballot, with 78.5 percent of them approved by voters.

TIAC is also tracking potential future transportation investment actions in Alabama, Kansas, Kentucky and Louisiana.

### State Transportation Funding in the Southern Region

Southern Region States Approved Transportation Funding Legislation: 2013 – 2018									
State	Year	Gas Tax	Indexed	Electric Vehicle Fee	Registration Fee	Other*	Lockbox/Protect Revenue	Local Funding Permitted	Bond
Alabama									
Arkansas									
Florida									
Georgia	2015/2018	Yes	Yes	Yes		Yes		Yes	Yes
Kansas									
Kentucky	2015	Yes	Yes						
Louisiana	2015						Yes		
Mississippi	2018			Yes		Yes			Yes
Missouri	2018	Pending							
North Carolina	2015/2018	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Oklahoma	2018	Yes		Yes**					
South Carolina	2016/2017	Yes		Yes	Yes	Yes			Yes
Tennessee	2017	Yes		Yes	Yes			Yes	
Texas	2014/2015					Yes			
Virginia	2013/2018	Yes	Yes	Yes		Yes		Yes	
West Virginia	2017	Yes	Yes						Yes

\* Other: commercial truck fees, out-of-state transfer fees, out-of-state motor vehicle purchase fees, hotel tax, vehicle sales tax

\*\* Approved in 2017. Challenged due to the process by which it was approved and revoked later that year.

The decision to vote for legislation to increase a state gas tax has little impact on re-election rates for elected officials. TIAC recently found that 92 percent of state legislators who voted for a gas tax increase and stood for re-election were re-elected across the country between 2013 and 2017. In the southern region, 96 percent of the state legislators who voted for a gas tax increase in Georgia and Virginia and stood for re-election were re-elected, and 95 percent of the state legislators who voted for a gas tax increase in South Carolina and Tennessee won their primary election.

### State Gas Taxes

Since 2013, 27 states legislatively increased or adjusted taxes on motor fuel to support needed transportation investments.

Of the 16 states that increased their gas tax during this time, seven states in the southern region—**Virginia, North Carolina, South Carolina, Georgia, Oklahoma, Tennessee** and **Kentucky**—raised or adjusted their state gas tax. An additional state—**Missouri**—will ask voters to approve a 10 cents-per-gallon gas tax increase on the November 2018 statewide ballot.

It has been 19 years since Arkansas’ last legislative gas tax increase. Nationally, 18 states—including Arkansas—have gone a decade or more without increasing their gas tax. Only 12 of those states have gone two decades or more, with at least one—**Missouri**—attempting to increase its state gas tax by the end of the year, and several others taking active steps towards doing so in the next couple of years.

At the same time, Arkansas drivers invest only \$203 per year in their highway system through their gas tax – just over the national average, and a lower per-driver investment than seven other states in the southern region.

Southern State Gas Taxes				
State	Gas Tax Rate (cents-per-gallon)	Year of Last Legislative Adjustment	Variable-Rate Tax?	Per-Driver Investment
West Virginia	35.7	2017	✓	\$309
North Carolina	35.1	2015	✓	\$265
Georgia	26.8	2015	✓	\$230
Kentucky	26	2015	✓	\$247
Tennessee	25	2017		\$173
Kansas	24	2002		\$224
Arkansas	21.5	1999		\$203
Louisiana	20	1990		\$181
South Carolina	20	2017		\$159
Texas	20	1992		\$220
Oklahoma	19	2018		\$55
Mississippi	18	1989		\$215
Florida	17.7	1990	✓	\$176
Missouri*	17	1996		\$164
Virginia	16.2	2013	✓	\$150
Alabama	16	1992		\$170
<b>National</b>	<b>18.4</b>	<b>1993</b>		<b>\$199</b>

\*There is currently a 10 cents-per-gallon gas tax increase on the November 2018 ballot. The per-driver investment is the amount that the average driver in each state spends on highway and bridge investment annually through the gas tax. It is calculated using data from FHWA Highway Statistics 2016 series, tables MF-1 and DL-1C.



### ***Variable Rate Gas Taxes***

A variable-rate gas tax adjusts the cents-per-gallon charge at the pump based on the wholesale price of gasoline, general economic inflation, or a combination of the two. A variable rate is an alternative to a flat excise tax on gasoline, which charges a fixed cents-per-gallon amount on fuel purchases. As a fixed-rate tax, a flat excise tax on gasoline does not respond to external economic factors, such as the rising cost of construction due to inflation.

A variable-rate state gas tax can be implemented in several ways. Some states determine the state gas tax by charging a percentage of the gasoline price at the wholesale level. Several states charge a combination of this percentage-based tax in addition to a flat excise tax on gasoline. Other states consult direct measures of inflation to determine the gas tax, such as the Consumer Price Index (which measures inflation). All of these states recalculate the amount charged by the tax on a regular basis to accommodate any economic changes.

Six states in the south have a variable-rate gas tax.

- **Kentucky's** fuel tax adjusts annually based on a percentage of the average wholesale price of motor fuel. Kentucky has a ceiling in place, meaning the tax cannot increase above a certain limit, and a floor, meaning it cannot fall beneath a certain limit. In Kentucky, this means the gas tax rate cannot increase or decrease more than 10 percent per year from the last quarter of the previous fiscal year and cannot collect less than 26 cents per gallon.
- **Florida's** fuel sales tax is adjusted annually to the percentage change of the Consumer Price Index (as issued by the Department of Labor). A floor is in place, which limits the tax from falling below 6.9 cents per gallon.
- **Georgia's** 26 cents-per-gallon state gas tax is indexed to both the Corporate Average Fuel Economy (CAFE) and the Consumer Price Index. The Consumer Price Index-linked component will sunset after Jul. 1, 2022.

- **North Carolina's** gas tax is calculated based on changes in both the national Consumer Price Index (making up 25 percent of the new tax) and in the state population (making up 75 percent of the tax). The base rate is 34 cents per gallon.
- **Virginia's** gas tax rate is 5.1 percent of the average wholesale price of gasoline. On Feb. 22, 2013, a floor was set to prevent the tax from collecting less than the average wholesale gas and diesel price.
- **West Virginia** has a flat tax gas tax of 20.5 cents per gallon, plus a variable-rate tax of 5 percent of the average wholesale gasoline price. The variable-rate tax floor is set at \$3.04 per gallon, meaning that the resulting calculation will ensure that the variable-rate portion is never less than 15.2 cents per gallon. The tax also cannot fluctuate more than 10 percent from the previous year.

### **Other Taxes and Fees**

#### ***Electric Vehicle Fees***

As the use of electric cars and trucks continues to grow as a share of the U.S. fleet, state governments are relying on a mixture of user fees and taxes to ensure these drivers are contributing their fair share to highway and bridge construction and maintenance programs.

Currently 20 states have an additional registration fee for passenger electric vehicles. Nine of those states also include a separate fee for the registration of hybrid-electric passenger vehicles. Six of the states that have an electric vehicle fee also index this fee, so it grows along with changes to inflation, average vehicle fuel efficiency, population changes, or other factors.

In the south, eight states—**Mississippi, Missouri, Tennessee, Virginia, West Virginia, North Carolina, South Carolina** and **Georgia**—have a passenger electric vehicle registration fee in place, ranging from \$64 annually (Virginia) to \$300 annually (Georgia). **Missouri's** electric vehicle fee was established in 1998—the earliest in the entire country—but the other seven southern states approved their electric vehicle fees between 2013 through 2018.

## Bonds

**West Virginia** voters took to the polls in an Oct. 7, 2017, special election to overwhelmingly approve a measure that will provide \$1.6 billion in bonds over four years to jumpstart the state's road construction plan. The measure, passed just three months after the variable-rate state gas tax formula was adjusted, passed with over 72 percent voter approval and is expected to create 48,000 immediate jobs and provide funding for 500 transportation projects.

Since 2013, significant bonds were also approved in **Mississippi** (2018), **Georgia** (2018), **North Carolina** (2018) and **South Carolina** (2016).

Bonds can be an important tool for investing in major projects and funding state highway programs, but a revenue stream must be identified for bond repayment and debt service, as these repayments can affect future spending.

## Other Significant Revenue

**Texas** voters approved two ballot measures in consecutive years to redirect state revenue from various taxes into the State Highway Fund:

- Proposition 1, on the November 2014 statewide ballot, redirects an estimated \$1.2 billion in oil and gas tax revenues from the state's rainy day fund to the State Highway Fund for the purpose of construction and maintenance of public roads.
- Proposition 7, which appeared on the November 2015 statewide ballot, directs \$2.5 billion into the state's transportation fund once Texas's general sales tax revenue exceeds \$28 billion in the fiscal year. Beginning in September 2019, 35 percent of motor vehicle sales tax revenue over the \$5 billion threshold will be used for transportation projects.

**Mississippi** Gov. Phil Bryant (R) signed legislation into law on Aug. 29, 2018 to increase transportation funding by \$200 million annually. The package will provide revenue through a variety of measures, including a portion of a settlement with BP over the 2010 Deepwater Horizon oil spill off the coast of Mississippi; a newly-created state lottery; \$300 million in bonds; a \$150 annual electric vehicle registration fee and \$75 hybrid vehicle registration fee; 35 percent of sales tax revenue from online purchases; and taxes on newly-legalized sports betting in casinos. The legislation also requires counties to provide a match for the state use tax money.

It should be noted that the new revenue only meets half of the state's transportation funding shortfall. Further action to close the gap is expected in the future.

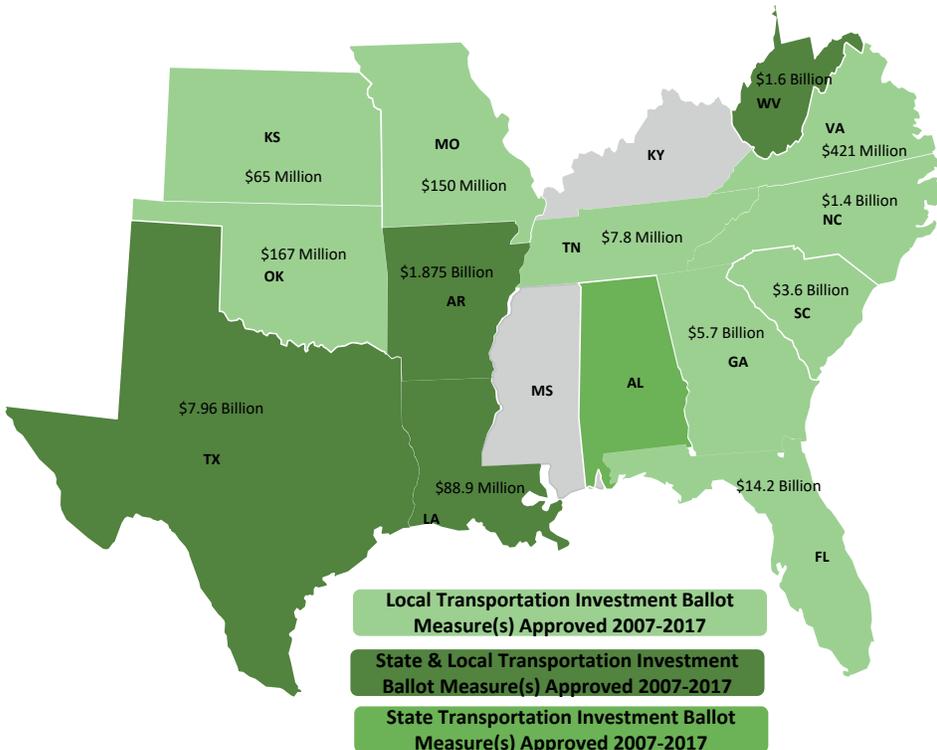
Southern States: Percent Of State Highway Spending on Bond Repayment & Debt Service	
Florida	20%
Texas	18%
Kentucky	15%
Georgia	11%
Kansas	8%
Missouri	7%
Virginia	5%
Louisiana	5%
West Virginia	4%
South Carolina	3%
Mississippi	3%
Oklahoma	3%
Arkansas	3%
North Carolina	3%
Alabama	2%
Tennessee	0%
<b>National Average</b>	<b>11%</b>

Source: FHWA Highway Statistics 2016 series, table SF-2.

## Transportation Ballot Measures

TIAC has tracked over 1,200 state and local transportation investment ballot measures since 2007, with 74 percent approved by voters.

In the past 10 years, 14 states in the southern region have placed 205 state or local transportation funding related measures on the ballot for voter approval, with 78.5 percent approval from voters.



<sup>11</sup> Walsh, Lauren, "Gas tax increase back in talks as Alabama lawmakers descend on capitol", abc 33|40, Jan. 8, 2018, <<http://abc3340.com/news/local/gas-tax-increase-back-in-conversations-as-alabama-lawmakers-return-to-montgomery>>.

<sup>12</sup> Collins, Alan, "New gas tax bill could raise funds for road improvements", WBRC, Jul. 20, 2018, <<http://www.wbrc.com/story/38695180/new-gas-tax-bill-could-raise-funds-for-road-improvements>>.

## Potential Future Transportation Investment Actions in the Southern Region

- **Alabama** Senate President Pro Tem Del Marsh (R- District 12) predicted in January that lawmakers will work on formulating an infrastructure plan in 2018, with a revenue stream developed in 2019.<sup>11</sup> The Association of County Commissions of Alabama confirmed this by reporting on Jul. 20, 2018, that a gas tax proposal is in development for the 2019 legislative session.<sup>12</sup>

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- **Kansas** lawmakers approved a May 2018 bill to create a legislative task force that will evaluate the current system condition of the state transportation system, including roads and bridges; the current uses of the state highway fund dollars, including fund transfers for other purposes outside of infrastructure improvements; current transportation funding to determine whether it is sufficient to not only maintain the transportation system in its current state, but also to ensure that it serves the future transportation needs of Kansas residents; and identify additional necessary transportation projects, especially projects with a direct effect on the economic health of Kansas and its residents. The task force will make recommendations on current and future transportation system needs and the structure of the highway fund, with any reports due to the legislature on or before Jan. 31, 2019.

- **Kentucky** has a backlog of more than \$1 billion in road paving projects, plus at least 1,000 bridges that need to be repaired or replaced, but the fund the state uses to pay for those projects has not increased since 2014. State lawmakers on Apr. 14, 2018, warned that the state will need to provide new transportation revenue in the next two years to preserve federal funding.<sup>13</sup> Several state lawmakers concurred and stated their intent to explore adjusting or increasing the state gas tax for new revenue in the 2019 legislative session.<sup>14 15</sup>

- **Louisiana** will ask voters this November to remove the state police from the transportation fund. This is the latest of several ballot measures going back to 2014 that asked voters to protect the transportation funding from diversion to non-transportation related purposes (failed in 2014, approved in 2015 and 2017) or utilize other revenues for transportation purposes (excess mineral revenues in 2016).

Taking steps to protect the state's transportation fund is often a precursor before a transportation funding increase to assure the public that their taxes and fees are being used for their intended purpose. Support for a state gas tax tends to increase once voters are confident that their taxes and fees are being used to perform needed work that will improve their daily lives.

The upcoming 2019 Louisiana legislative session will likely be too short to accomplish a major legislative victory, but advocates are preparing campaigns now for a potential 2020 measure.

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<sup>13</sup> Williams, Chris, "Talk of new taxes to pay for Kentucky roads", WHAS 11 abc, May 10, 2018, <<https://www.whas11.com/article/news/politics/talk-of-new-taxes-to-pay-for-kentucky-roads/417-550984545>>.

<sup>14</sup> Pitts, Jaqueline, "Change in gas tax and road funding formula must be done in order to fix potholes, bridges, and other road issues, House Transportation Committee Chair explains", Kentucky Chamber Bottom Line, Sept. 12, 2018, <<https://kychamberbottomline.com/2018/09/12/change-in-gas-tax-and-road-funding-formula-must-be-done-in-order-to-fix-potholes-bridges-and-other-road-issues-house-transportation-committee-chair-explains/>>.

<sup>15</sup> Capps, Thomas, "Kentucky considers raising state gas tax", WPSD Local 6, Sept. 17, 2018, <<https://www.wpsdlocal6.com/2018/09/17/kentucky-considers-raising-state-gas-tax/>>.

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## Re-election of State Lawmakers Who Voted on a Gas Tax Increase Bill

The decision to vote for legislation to increase a state gas tax has little impact on the re-election rates for elected officials, according to a new TIAC analysis of election results for over 2,500 state legislators between 2013 and 2017.

Sixteen states increased their gas tax rates or equivalent measures between 2013 and 2016—Georgia, Iowa, Idaho, Massachusetts, Maryland, Michigan, Nebraska, New Hampshire, New Jersey, Pennsylvania, Rhode Island, South Dakota, Utah, Virginia, Vermont, Washington and Wyoming.

**Nearly all (92 percent) of the 1,354 state legislators who voted for a gas tax increase and stood for re-election between 2013 through 2017 were sent back to the state house by voters.** Of the 712 elected officials who voted against a gas tax increase, 93 percent were also given another term.

Politicians on both sides of the aisle have voted for increasing transportation investment in recent years. Legislation to raise the gas tax was approved in 13 states with a Republican governor and Republican majority legislature, and six states with a Democratic governor and Democratic majority legislature.

Of the six governors who approved a gas tax increase and ran for re-election, five (three Democrats and two Republicans) won their re-election campaign.

For Republican state legislators who supported a gas tax increase, 95 percent were reelected. This is exactly the same re-election rate as those officials who voted against the gas tax increase—95 percent of them won another term. For Democrats, 90 percent of those officials who voted for a gas tax increase were reelected, compared to 87 percent who voted against the same legislation.

In the south, two states—Georgia and Virginia—have held general elections since 359 total lawmakers voted on a gas tax increase. Of the 313 lawmakers who voted on a gas tax and ran for re-election, 225 legislators had voted yes and 96 percent—215 lawmakers—returned to their seats. Of the 215 lawmakers who voted yes on a gas tax and won their election, 117 were Republican (94 percent won their race) and 98 were Democratic (97 percent won their race). Only 88 lawmakers voted against a gas tax increase in Georgia and South Carolina and ran for re-election, with 99 percent—87 lawmakers—winning their election.

Two southern states—South Carolina and Tennessee—that approved a gas tax increase have lawmakers facing re-election in 2018. In their primary election leading up to the general election, 95 percent of the 149 lawmakers who voted yes on a gas tax increase won their race. Ninety-four percent of the 32 lawmakers who voted no also won their primary.

## V. Transportation Investment is Key to Business Success and Economic Growth

Arkansas' highway, street and bridge network is integral to the success of the state economy—facilitating the shipment of nearly \$115 billion in goods produced by Arkansas businesses. The efficient and safe movement of goods and people is critical to the economic competitiveness of Arkansas and the quality of life for its citizens. Every employee, customer and business pays a price when the system is congested, unsafe or in poor condition.

In addition to spurring immediate economic growth, investment in Arkansas' infrastructure creates tangible assets that are long-lived and facilitates economic activity for many years to come by providing access to jobs, services, materials and markets. An improved transportation network results in reduced operating costs and increased market access for Arkansas businesses. Sustained investment in highways, streets and bridges is critical to making the best use of these capital assets.

The importance of a robust transportation network has been well documented by business analysts, economists and the research community.<sup>16</sup> Overall estimates are that every \$1 increase in the highway, street and bridge capital stock generates a total of 30 cents in business savings.<sup>17</sup>

Some of these specific benefits include:

- **Staying Competitive:** The overall business environment in the United States is changing, and there is likely to be a greater importance placed on logistics and global transportation networks.<sup>18</sup> The value of total truck freight shipments on Arkansas roads is expected increase from \$188.47 billion in 2015 to \$309.77 billion in 2045. Truck shipments of Arkansas goods for export alone are estimated to increase from \$3.15 billion in 2015 to \$14.36 billion—an increase of over 355 percent.<sup>19</sup>
- **Access to Labor:** A better transportation system means that it is easier for employees to get to work and businesses are able to recruit from a larger pool of potential workers. Investment in highways, streets and bridges allows businesses to benefit from an expanded labor pool of specialized workers, which means access to more productive employees.<sup>20 21</sup>

<sup>16</sup> Glen Weisbrod, Don Very, & George Treyz, "Measuring Economic Costs of Urban Traffic Congestion to Business."

<sup>17</sup> Nadiri, M. Ishaq and Theofanis P. Mamuneas, "Contribution of Highway Capital to Output and Productivity Growth in the U.S. Economy and Industries," Federal Highway Administration, 1998.

<sup>18</sup> Ronald McQuaid, Malcom Greig, Austin Smith, & James Cooper, "The Importance of Transport in Business' [Location Decisions](http://stopstanstedexpansion.com/documents/sse10_appendix_9.pdf)," January 2004, <[http://stopstanstedexpansion.com/documents/sse10\\_appendix\\_9.pdf](http://stopstanstedexpansion.com/documents/sse10_appendix_9.pdf)>.

<sup>19</sup> FHWA Freight Analysis Framework

<sup>20</sup> Daniel Graham, "Agglomeration Economies and Transport Investments," [Imperial College](http://www.imperial.ac.uk), December 2007.

<sup>21</sup> Weisbrod, 20.

- **Increased Market Share & More Customers:** A good transportation system means that Arkansas businesses can reach a greater pool of customers. For example, if a pharmaceutical company can count on better roads for its employees and key product delivery and supply routes, the company will be able to increase employment and its market access to hospitals and other linked industries. Local industries will benefit from these larger markets and reduced transaction costs.<sup>22</sup>
- **Business Expansion:** Arkansas businesses will increase their output of goods and services at higher levels of investment. A modern transportation system enables business growth, expansion and increased hiring. Reducing congestion has a demonstrable impact on shipping volume and on prices, with a rate of return of about 10 percent a year, as a conservative estimate.<sup>23</sup>
- **Increase in Demand for Inputs:** As the economy expands, businesses will purchase more goods from their suppliers and will increase their demand for private capital. This includes buying more vehicles, equipment, office supplies or even building new plants and factories.<sup>24</sup>
- **Reducing Production Costs:** Economic studies show that reduced costs for inputs is one of the main business benefits from an increase in transportation investment. Typically businesses pay less for inputs when they have access to larger markets.<sup>25</sup>
- **Agglomeration Economies:** Firms benefit by locating near one another, even if they are competitors. This is known as the agglomeration of market activity. This happens because a group of firms will attract a greater number of suppliers and customers than one company alone. Lower transportation costs are a key factor for agglomeration, and will be important in attracting new firms to an area.<sup>26</sup> Increasing returns to local industries can be anticipated in areas with intermodal linkages or intra-modally, as between major highways.
- **More Efficient Operations:** With an efficient transportation system, businesses can make better decisions about their products, inputs and workforce without worrying about poor roadways or congestion. Businesses respond in a variety of ways to congestion. Some businesses may change their mix of labor and capital, reduce the daily deliveries made by a driver or serve a smaller, more specialized market. All of these adjustments can mean a loss for business productivity and market share.<sup>27</sup>

<sup>22</sup> McQuaid, 29.

<sup>23</sup> Zhigang Li and Yu Chen, "Estimating the Social Return to Transport Infrastructure: A Price-Difference Approach Applied to a Quasi-Experiment," 2013, *Journal of Comparative Economics*, Vol. 41 (3), pg. 669-683.

<sup>24</sup> The magnitude of the effect of highway capital on output will differ by industry, with the largest difference observed between manufacturing and non-manufacturing industries.

<sup>25</sup> It is an industry standard to use elasticities of supply and demand for materials as a measure of the impact of a change in transportation infrastructure investment. Based on a study conducted by the FHWA, the output elasticity of materials is usually the largest. The elasticity of labor and capital inputs is the second largest.

<sup>26</sup> Jean-Paul Rodrigue, "Transport and Location," *The Geography of Transport Systems*, 2017, <<https://people.hofstra.edu/geotrans/eng/ch2en/conc2en/ch2c4en.html>>.

<sup>27</sup> Weisbrod, 4.

- **Intra-Industry Linkages:** Arkansas industries are heavily interlinked, relying on other industries for the supply of inputs or for final processing. These linkages rely on an efficient network of well-maintained highways, roads, bridges and railways.
- **Fostering Innovation:** Transportation infrastructure investment is closely linked with economic competitiveness. Research suggests that highway investment results in industry growth and innovation.<sup>28</sup> Innovation results from infrastructure better supporting business activity. Infrastructure also attracts research and development firms for the large return on investment it offers.
- **Emergency Management Operations:** A well-invested transportation system will ensure that evacuation routes remain efficient and accessible during natural disasters. In addition, the proper transportation investments will ensure that road networks are resilient to future super storms.
- **Spillover Savings:** In addition to the cost-lowering impact of reducing road roughness, increasing average speed and reducing total user and travel time costs on firms, reducing congestion has a demonstrable impact on shipping volume and on prices, with a return of about 10 percent a year, as a conservative estimate.<sup>29</sup> Lower transport costs also have a quantifiable effect on firm choices with respect to suppliers and relatively improve firm hiring ability. Reducing transportation costs will have a significant spillover effect on all industries in the state and can be expected to be reflected in relatively lowering the cost of goods within the state, for both consumers and businesses.<sup>30</sup>

Consider the benefits to a business in Arkansas when the state makes transportation improvements. The increase in construction activity will mean more demand for products and services in the area. A local business will sell more of its products and may even hire additional employees to increase output. The business will also have lower distribution costs because of the improved highways, streets and bridges in the area. More customers will be able to reach the business, and the owner may be able to hire more talented, educated and skilled workers that live further away. With an improved transportation network, local businesses on the many main streets in Arkansas will thrive.

An improved highway, street and bridge network results in lower operating costs, allowing businesses to increase investment in other capital outlays and expand their operations. Commuters spend less time in traffic and congestion as mobility increases, and safety enhancements help save lives and reduce injuries.

<sup>28</sup> Katherine Bell. "Investing in Infrastructure Means Investing in Innovation." *Harvard Business Review*, March 2012. In 2011, researchers at the University of Texas A&M found a critical link between the forecasted growth of the industry and investment in the transportation infrastructure system, using standard supply and demand analysis (Rosson 2011)

<sup>29</sup> Li, 669-683.

<sup>30</sup> ICF Consulting, "Economic Effects of Transportation: The Freight Story," 2002.

## Benefits of Highway Investment Well Documented: Support from Economic Literature

The overall economic benefits of transportation investment to a state's economic activity are well documented in the economics literature. There are numerous studies that have found a positive correlation between transportation infrastructure investment and economic development. Although the exact impact of the investment has varied among studies, the fact that there is a positive relationship is widely accepted.<sup>31</sup>

Some of the main findings include:

- A 2016 study by the Good Roads Foundation analyzed the economic impact of highway spending in Arkansas, and found that the \$1.43 billion invested in highway construction and maintenance in 2014 generated \$2.47 billion in overall economic output, supported or created 15,538 private-sector jobs and generated \$665 million in earnings. This report also calculates the return on Arkansas investment as 75 percent for highway construction and 71 percent for maintenance and repair spending.<sup>32</sup>
- A recent study commissioned by the U.S. Treasury Department found that for every **\$1 in capital spent on select projects, the net economic benefit ranged between \$3.50 and \$7.00.**<sup>33</sup> Released in December 2016, "40 Proposed U.S. Transportation and Water Infrastructure Projects of Major Economic Significance" also explores some of the challenges of completing the work. The report found that a lack of public funding was "by far the most common factor hindering the completion" of the projects.
- A 2005 report by Dr. Robert Shapiro and Dr. Kevin Hassett found that the U.S. transportation network provides more than **\$4 in direct benefits for every \$1 in direct costs** that taxpayers pay to build, operate and maintain this system.<sup>34</sup> These economic benefits include lower costs and higher productivity for businesses, and time savings and additional income for workers. The authors noted that the estimate substantially understates the full net benefits of the U.S. transportation network and does not take into account the increased benefit from better access to schools and hospitals, or other ways these investments support economic growth and allow American workers and companies to compete successfully on the global stage.

<sup>31</sup> Economic studies have found output elasticities ranging from as high as 0.56 (Aschauer 1989) to a low of 0.04 (Garcia-Mila and McGuire 1992). This means that a 1 percent increase in highway investment will result in between 0.04 to 0.56 percent increase in output. Most of this variation is because studies have a different focus—looking at different types of investment measures and output at either the national, state or county level.

<sup>32</sup> Watson, Nathan, "New Study Shows Positive Economic Impact from Highway Spending", Good Roads Foundation, Sept. 2, 2016, <<http://www.argoodroads.com/blog--new-study-shows-positive-economic-impact-from-highway-spending.html>>.

<sup>33</sup> Report available at <https://www.treasury.gov/connect/blog/Pages/Importance-of-Infrastructure-Investment-for-Spurring-Growth.aspx> as of February 2017.

<sup>34</sup> R. Shapiro and K. Hassett, "Healthy Returns: The Economic Impact of Public Investment in Surface Transportation," 2005.

- According to an analysis by TRIP, a national transportation research group, the average **return to every \$1 spent on highway, street and bridge investment is \$5.20**, which takes the form of lower maintenance costs, fewer delays, improved safety and less congestion. This analysis is based on the U.S. Department of Transportation’s Conditions and Performance Report.
- A study by Dr. Alicia Munnell of the Federal Reserve Bank of Boston concluded that states that invested more in infrastructure tended to have greater output, more private investment and more employment growth.<sup>35</sup> Her work found that **a 1 percent increase in public capital will raise national output by 0.15 percent.**<sup>36</sup> She further notes that the major impact of public capital output is from investment in highways and water and sewer systems. Other public capital investments, such as school buildings and hospitals, had virtually no measureable impact on private production.<sup>37</sup> Munnell also concludes that public capital and infrastructure investment have a significant positive impact on a state’s private employment growth and private sector output.
- Federal Highway Administration economist Theresa Smith reached similar conclusions, finding that **a 10 percent increase in highway capital stock will increase a state’s gross state product by 1.2 to 1.3 percent.**<sup>38</sup> This means a \$1 billion increase in Arkansas’ highway capital stock will increase state productivity between \$1.21 million to \$1.27 million.
- Additional studies have found that transportation infrastructure investments have an impact on the attractiveness of local communities, which helps determine local economic activity and land values. In general, most studies find that locations close to large transportation infrastructure investment have higher land values.<sup>39</sup>

<sup>35</sup> Alicia Munnell, “How Does Public Infrastructure Affect Regional Economic Performance,” [New England Economic Review](#), September/October 1990.

<sup>36</sup> Munnell’s elasticity for private capital is 0.31, so that a 1 percent increase in private capital will raise national output by 0.31 percent. This is in line with other studies of returns from private capital investment.

<sup>37</sup> Munnell says she is not implying that government-provided education and health services have no effect on productivity, but rather “the stock of buildings ... may not be the best indicator of the quality of education services; teachers’ salaries, for example, might be a better measure.”

<sup>38</sup> Theresa Smith, “The Impact of Highway Infrastructure on Economic Performance,” [Public Roads](#) Vol. 57 – No. 4 (Spring 1994).

<sup>39</sup> A synopsis of these studies are available in the Transportation Research Board’s *Expanding Metropolitan Highways: Implications for Air Quality and Energy Use – Special Report 245*, 1995

- M. Ishaq Nadiri of New York University and the National Bureau of Economics Research and Theofanis P. Mamuneas of New York University find significant cost structure and productivity performance impacts on the U.S. manufacturing industry as a result of highway investment. Their work shows that the rate of return on highway investment can be greater than private investment.

Some major findings include:<sup>40</sup>

- Over the period 1950 to 1989, U.S. industries realized production cost savings averaging 18 cents annually for each \$1 invested in the road system.
- Investments in non-local roads yield even higher production cost savings – estimated at 24 cents for each \$1 of investment.
- Although the impact of highway investment on productivity has declined since the early 1970s and the initial construction of the Interstate, evidence suggests that highway infrastructure investments more than pay for themselves in terms of industry cost savings.
- The U.S. highway network’s contribution to economic productivity growth was between 7 and 8 percent over the time period 1980 to 1989.
- The net social rate of return on investment in the non-local road system during the 1980s was 16 percent, and the rate of return for the entire road network was 10 percent.<sup>41</sup>
- This rate of return was significantly higher than the prevailing rate of return on private capital and the long-term interest rate during this time period.
- The higher return to highway capital is due to its network feature, since the benefits are shared by all industries.

Overall, the benefits from investing to maintain and improve a state’s transportation network are greater than the cost, and can help support economic growth throughout the economy for years to come.

<sup>40</sup> Summary provided by U.S. Department of Transportation, *Productivity and the Highway Network: A Look at the Economic Benefits to Industry from Investment in the Highway Network*.

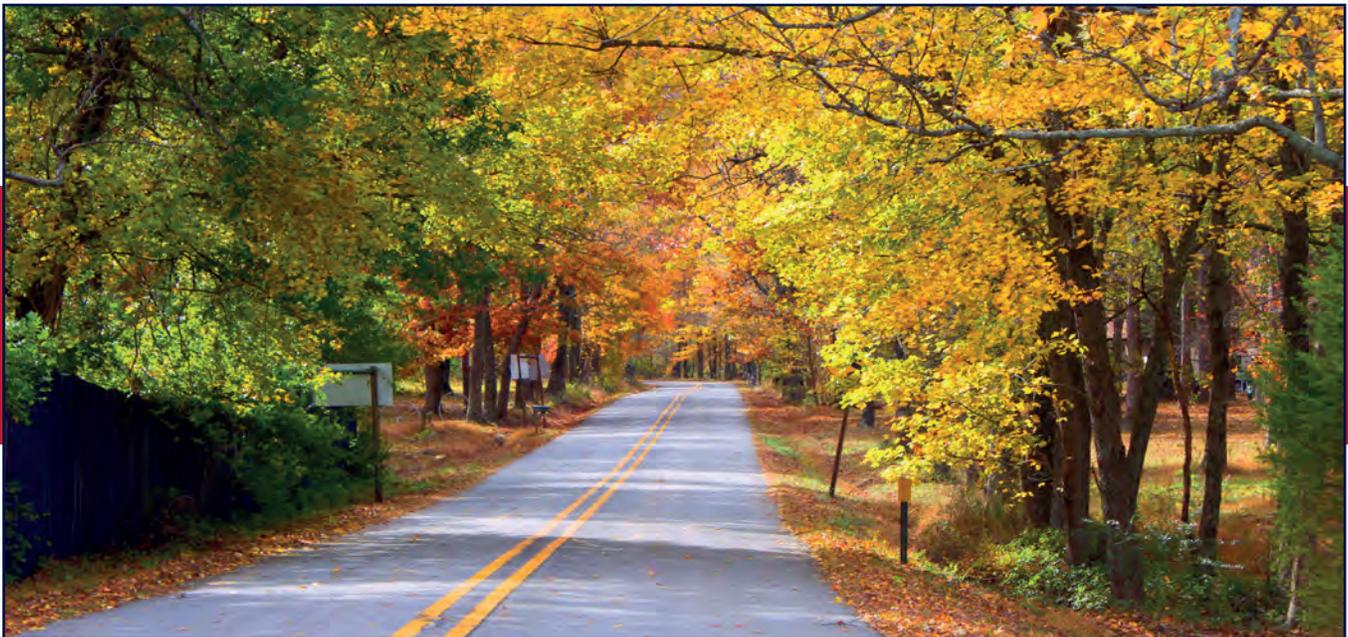
<sup>41</sup> The net social rate of return is an estimate of the benefits to private industries derived from the shared use of public highways.

## VI. The Economic Impacts of an Annual \$478 Million Increase in Highway, Street and Bridge Construction Investment on Major Industry Sectors

An annual \$478 million increase in highway, street and bridge investment will have a significant immediate effect on all sectors of the state economy, which will impact every sector in the Arkansas economy. This is the demand that is created when economic activity is stimulated across the state.

For the construction sector specifically, this should help an industry where the recovery from the downturn of the Great Recession in 2008 has lagged other sectors of the Arkansas economy. Real GSP in Arkansas was up 28 percent from pre-recession 2007 levels.<sup>42</sup> The Arkansas construction industry has also grown, but at a much slower rate. Compared to 2007, real GSP in 2017 was only up by 8 percent in the construction sector. At the same time, 2017 construction employment levels were still 10 percent below pre-recession levels.<sup>43</sup>

In this section, the economic impact of an annual \$478 million increase in highway, street and bridge investment is calculated for each of the 19 major industry sectors in Arkansas.



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<sup>42</sup> U.S. Bureau of Economic Analysis

<sup>43</sup> U.S. Department of Labor Bureau of Labor Statistics Local Area Unemployment Statistics

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

# Agriculture, forestry, fishing, and hunting

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Agriculture, Forestry, Fishing, and Hunting sector each year:

- Over \$3 million in additional economic output
- A \$1.2 million increase in gross state product (GSP)
- Supporting or creating an additional 23 jobs. These workers will earn \$717 thousand in wages.
- \$149.7 thousand in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$3.2 million
Value Added (contribution to GSP)	\$1.2 million
Employment	23 people
Total Payroll	\$717.0 thousand
Total Tax Revenues	\$149.7 thousand
State Payroll Tax Contribution	\$3.9 thousand
Federal Payroll Tax Contribution	\$54.9 thousand
State Individual & Corporate Income Tax Contribution	\$87.5 thousand
State & Local Sales Tax Contribution	\$3.4 thousand

## SECTOR OVERVIEW

Agriculture, forestry, fishing, and hunting in Arkansas contributed \$2.9 billion to state economic activity in 2017, accounting for 2.3% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$5.1 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 2,111 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$516.4 million. These businesses contribute an estimated \$42.3 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$40,738 each year. The Agriculture, Forestry, Fishing and Hunting sector comprises establishments primarily engaged in growing crops, raising animals, harvesting timber, and harvesting fish and other animals from a farm, ranch, or their natural habitats.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$5.1 billion	15	2.3%
Value Added (contribution to GSP)	\$2.9 billion	15	2.3%
Establishments	2,111 businesses	13	3.2%
Employment	12,676 people	15	1.2%
Average Annual Salary	\$40,738	12	
Total Payroll	\$516.4 million	15	1.2%
Total Tax Revenues	\$99.1 million	16	0.9%
State Payroll Tax Contribution	\$2.8 million	15	1.2%
Federal Payroll Tax Contribution	\$39.5 million	15	1.2%
State Individual & Corporate Income Tax Contribution	\$48.5 million	16	1.3%
State & Local Sales Tax Contribution	\$8.3 million	16	0.2%

Agricultural sector employment data is from the U.S. Department of Labor's Bureau of Labor Statistics Quarterly Census of Employment and Wages, since County Business Patterns data (which is used for all other sectors in this report) excludes agricultural production employment. Data for the Quarterly Census of Employment and Wages are derived from quarterly tax reports submitted to State workforce agencies by employers (subject to State unemployment insurance laws) and from Federal agencies (subject to the Unemployment Compensation for Federal Employees program).

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

### Mining

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Mining sector each year:

- Over \$26 million in additional economic output
- A \$16.7 million increase in gross state product (GSP)
- Supporting or creating an additional 119 jobs. These workers will earn \$4 million in wages.
- \$1.2 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$26.3 million
Value Added (contribution to GSP)	\$16.7 million
Employment	119 people
Total Payroll	\$4.2 million
Total Tax Revenues	\$1.2 million
State Payroll Tax Contribution	\$22.9 thousand
Federal Payroll Tax Contribution	\$318.1 thousand
State Individual & Corporate Income Tax Contribution	\$738.9 thousand
State & Local Sales Tax Contribution	\$108.7 thousand

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

### SECTOR OVERVIEW

Mining in Arkansas contributed \$1.7 billion to state economic activity in 2017, accounting for 1.4% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$3.0 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 350 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$315.3 million. These businesses contribute an estimated \$25.9 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$59,811 each year. The Mining, Quarrying, and Oil and Gas Extraction sector comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$3.0 billion	17	1.4%
Value Added (contribution to GSP)	\$1.7 billion	17	1.4%
Establishments	350 businesses	19	0.5%
Employment	5,271 people	19	0.5%
Average Annual Salary	\$59,811	4	
Total Payroll	\$315.3 million	18	0.8%
Total Tax Revenues	\$69.9 million	17	0.6%
State Payroll Tax Contribution	\$1.7 million	18	0.8%
Federal Payroll Tax Contribution	\$24.1 million	18	0.8%
State Individual & Corporate Income Tax Contribution	\$32.6 million	17	0.9%
State & Local Sales Tax Contribution	\$11.4 million	14	0.3%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

### Utilities

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Utilities sector each year:

- Over \$12 million in additional economic output
- A \$6.3 million increase in gross state product (GSP)
- Supporting or creating an additional 20 jobs. These workers will earn \$2 million in wages.
- \$1.2 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$12.1 million
Value Added (contribution to GSP)	\$6.3 million
Employment	20 people
Total Payroll	\$1.8 million
Total Tax Revenues	\$1.2 million
State Payroll Tax Contribution	\$10.0 thousand
Federal Payroll Tax Contribution	\$139.0 thousand
State Individual & Corporate Income Tax Contribution	\$225.3 thousand
State & Local Sales Tax Contribution	\$831.1 thousand

### SECTOR OVERVIEW

Utilities in Arkansas contributed \$3.1 billion to state economic activity in 2017, accounting for 2.4% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$5.3 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 354 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$661.4 million. These businesses contribute an estimated \$54.2 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$93,451 each year. The Utilities sector comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$5.3 billion	14	2.4%
Value Added (contribution to GSP)	\$3.1 billion	14	2.4%
Establishments	354 businesses	18	0.5%
Employment	7,077 people	18	0.7%
Average Annual Salary	\$93,451	2	
Total Payroll	\$661.4 million	14	1.6%
Total Tax Revenues	\$537.0 million	7	4.8%
State Payroll Tax Contribution	\$3.6 million	14	1.6%
Federal Payroll Tax Contribution	\$50.6 million	14	1.6%
State Individual & Corporate Income Tax Contribution	\$79.8 million	14	2.1%
State & Local Sales Tax Contribution	\$402.9 million	3	10.3%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

# Construction

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Construction sector each year:

- Over \$481 million in additional economic output
- A \$249.6 million increase in gross state product (GSP)
- Supporting or creating an additional 2,802 jobs. These workers will earn \$136 million in wages.
- \$26.4 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$481.3 million
Value Added (contribution to GSP)	\$249.6 million
Employment	2,802 people
Total Payroll	\$135.9 million
Total Tax Revenues	\$26.4 million
State Payroll Tax Contribution	\$747.7 thousand
Federal Payroll Tax Contribution	\$10.4 million
State Individual & Corporate Income Tax Contribution	\$11.3 million
State & Local Sales Tax Contribution	\$4.0 million

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

## SECTOR OVERVIEW

Construction in Arkansas contributed \$4.9 billion to state economic activity in 2017, accounting for 3.9% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$8.5 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 5,293 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$2.1 billion. These businesses contribute an estimated \$174.3 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$46,616 each year. The Construction sector comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems).

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$8.5 billion	9	3.9%
Value Added (contribution to GSP)	\$4.9 billion	9	3.9%
Establishments	5,293 businesses	6	8.1%
Employment	45,609 people	8	4.5%
Average Annual Salary	\$46,616	8	
Total Payroll	\$2.1 billion	9	5.1%
Total Tax Revenues	\$436.1 million	9	3.9%
State Payroll Tax Contribution	\$11.7 million	9	5.1%
Federal Payroll Tax Contribution	\$162.6 million	9	5.1%
State Individual & Corporate Income Tax Contribution	\$183.1 million	9	4.9%
State & Local Sales Tax Contribution	\$78.6 million	10	2.0%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

# Manufacturing

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Manufacturing sector each year:

- Nearly \$174 million in additional economic output
- A \$57.3 million increase in gross state product (GSP)
- Supporting or creating an additional 546 jobs. These workers will earn \$29 million in wages.
- \$5.5 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$173.9 million
Value Added (contribution to GSP)	\$57.3 million
Employment	546 people
Total Payroll	\$29.4 million
Total Tax Revenues	\$5.5 million
State Payroll Tax Contribution	\$161.9 thousand
Federal Payroll Tax Contribution	\$2.3 million
State Individual & Corporate Income Tax Contribution	\$2.2 million
State & Local Sales Tax Contribution	\$950.5 thousand

## SECTOR OVERVIEW

Manufacturing in Arkansas contributed \$18.8 billion to state economic activity in 2017, accounting for 15.1% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$32.7 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 2,561 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$7.1 billion. These businesses contribute an estimated \$578.7 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$45,843 each year. The Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$32.7 billion	1	15.1%
Value Added (contribution to GSP)	\$18.8 billion	1	15.1%
Establishments	2,561 businesses	11	3.9%
Employment	153,952 people	2	15.0%
Average Annual Salary	\$45,843	9	
Total Payroll	\$7.1 billion	2	16.9%
Total Tax Revenues	\$1.5 billion	2	13.6%
State Payroll Tax Contribution	\$38.8 million	2	16.9%
Federal Payroll Tax Contribution	\$539.9 million	2	16.9%
State Individual & Corporate Income Tax Contribution	\$613.5 million	1	16.5%
State & Local Sales Tax Contribution	\$312.1 million	5	7.9%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

### Wholesale trade

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Wholesale Trade sector each year:

- Nearly \$38 million in additional economic output
- A \$25.6 million increase in gross state product (GSP)
- Supporting or creating an additional 191 jobs. These workers will earn \$12 million in wages.
- \$2.9 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$37.8 million
Value Added (contribution to GSP)	\$25.6 million
Employment	191 people
Total Payroll	\$11.8 million
Total Tax Revenues	\$2.9 million
State Payroll Tax Contribution	\$64.7 thousand
Federal Payroll Tax Contribution	\$899.5 thousand
State Individual & Corporate Income Tax Contribution	\$981.0 thousand
State & Local Sales Tax Contribution	\$940.7 thousand

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

### SECTOR OVERVIEW

Wholesale trade in Arkansas contributed \$9.2 billion to state economic activity in 2017, accounting for 7.4% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$16.0 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 3,396 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$2.6 billion. These businesses contribute an estimated \$211.2 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$54,417 each year. The Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$16.0 billion	5	7.4%
Value Added (contribution to GSP)	\$9.2 billion	5	7.4%
Establishments	3,396 businesses	8	5.2%
Employment	47,341 people	7	4.6%
Average Annual Salary	\$54,417	7	
Total Payroll	\$2.6 billion	5	6.2%
Total Tax Revenues	\$793.7 million	5	7.2%
State Payroll Tax Contribution	\$14.2 million	5	6.2%
Federal Payroll Tax Contribution	\$197.1 million	5	6.2%
State Individual & Corporate Income Tax Contribution	\$243.6 million	5	6.6%
State & Local Sales Tax Contribution	\$338.9 million	4	8.6%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

### Retail trade

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Retail Trade sector each year:

- Over \$28 million in additional economic output
- A \$18.9 million increase in gross state product (GSP)
- Supporting or creating an additional 398 jobs. These workers will earn \$10 million in wages.
- \$4.9 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$28.4 million
Value Added (contribution to GSP)	\$18.9 million
Employment	398 people
Total Payroll	\$10.0 million
Total Tax Revenues	\$4.9 million
State Payroll Tax Contribution	\$55.2 thousand
Federal Payroll Tax Contribution	\$767.9 thousand
State Individual & Corporate Income Tax Contribution	\$729.3 thousand
State & Local Sales Tax Contribution	\$3.4 million

### SECTOR OVERVIEW

Retail trade in Arkansas contributed \$9.2 billion to state economic activity in 2017, accounting for 7.4% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$16.0 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 10,851 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$3.8 billion. These businesses contribute an estimated \$314.6 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$25,992 each year. The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$16.0 billion	4	7.4%
Value Added (contribution to GSP)	\$9.2 billion	4	7.4%
Establishments	10,851 businesses	1	16.5%
Employment	147,616 people	3	14.4%
Average Annual Salary	\$25,992	14	
Total Payroll	\$3.8 billion	4	9.2%
Total Tax Revenues	\$2.2 billion	1	20.1%
State Payroll Tax Contribution	\$21.1 million	4	9.2%
Federal Payroll Tax Contribution	\$293.5 million	4	9.2%
State Individual & Corporate Income Tax Contribution	\$270.7 million	4	7.3%
State & Local Sales Tax Contribution	\$1.6 billion	1	41.7%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

# Transportation and warehousing

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Transportation and Warehousing sector each year:

- Over \$24 million in additional economic output
- A \$11.9 million increase in gross state product (GSP)
- Supporting or creating an additional 163 jobs. These workers will earn \$8 million in wages.
- \$1.3 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$24.4 million
Value Added (contribution to GSP)	\$11.9 million
Employment	163 people
Total Payroll	\$7.6 million
Total Tax Revenues	\$1.3 million
State Payroll Tax Contribution	\$41.5 thousand
Federal Payroll Tax Contribution	\$577.8 thousand
State Individual & Corporate Income Tax Contribution	\$610.5 thousand
State & Local Sales Tax Contribution	\$60.5 thousand

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

## SECTOR OVERVIEW

Transportation and warehousing in Arkansas contributed \$5.1 billion to state economic activity in 2017, accounting for 4.1% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$8.9 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 2,386 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$2.4 billion. These businesses contribute an estimated \$194.9 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$44,458 each year. The Transportation and Warehousing sector includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$8.9 billion	8	4.1%
Value Added (contribution to GSP)	\$5.1 billion	8	4.1%
Establishments	2,386 businesses	12	3.6%
Employment	53,468 people	6	5.2%
Average Annual Salary	\$44,458	10	
Total Payroll	\$2.4 billion	6	5.7%
Total Tax Revenues	\$421.2 million	10	3.8%
State Payroll Tax Contribution	\$13.1 million	6	5.7%
Federal Payroll Tax Contribution	\$181.8 million	6	5.7%
State Individual & Corporate Income Tax Contribution	\$200.3 million	7	5.4%
State & Local Sales Tax Contribution	\$25.9 million	11	0.7%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

# Information

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Information sector each year:

- Nearly \$11 million in additional economic output
- A \$5.9 million increase in gross state product (GSP)
- Supporting or creating an additional 37 jobs. These workers will earn \$2 million in wages.
- \$787.4 thousand in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$10.6 million
Value Added (contribution to GSP)	\$5.9 million
Employment	37 people
Total Payroll	\$2.0 million
Total Tax Revenues	\$787.4 thousand
State Payroll Tax Contribution	\$11.0 thousand
Federal Payroll Tax Contribution	\$153.6 thousand
State Individual & Corporate Income Tax Contribution	\$190.3 thousand
State & Local Sales Tax Contribution	\$432.5 thousand

## SECTOR OVERVIEW

Information in Arkansas contributed \$3.6 billion to state economic activity in 2017, accounting for 2.9% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$6.3 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 1,085 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$1.4 billion. These businesses contribute an estimated \$115.2 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$55,500 each year. The Information sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$6.3 billion	11	2.9%
Value Added (contribution to GSP)	\$3.6 billion	11	2.9%
Establishments	1,085 businesses	15	1.7%
Employment	25,303 people	13	2.5%
Average Annual Salary	\$55,500	6	
Total Payroll	\$1.4 billion	12	3.4%
Total Tax Revenues	\$509.5 million	8	4.6%
State Payroll Tax Contribution	\$7.7 million	12	3.4%
Federal Payroll Tax Contribution	\$107.4 million	12	3.4%
State Individual & Corporate Income Tax Contribution	\$128.6 million	10	3.5%
State & Local Sales Tax Contribution	\$265.7 million	6	6.8%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

# Finance and insurance

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Finance and Insurance sector each year:

- Over \$19 million in additional economic output
- A \$10.7 million increase in gross state product (GSP)
- Supporting or creating an additional 108 jobs. These workers will earn \$5 million in wages.
- \$1.0 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$19.5 million
Value Added (contribution to GSP)	\$10.7 million
Employment	108 people
Total Payroll	\$4.9 million
Total Tax Revenues	\$1.0 million
State Payroll Tax Contribution	\$27.1 thousand
Federal Payroll Tax Contribution	\$376.6 thousand
State Individual & Corporate Income Tax Contribution	\$620.2 thousand
State & Local Sales Tax Contribution	\$18.8 thousand

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

## SECTOR OVERVIEW

Finance and insurance in Arkansas contributed \$5.6 billion to state economic activity in 2017, accounting for 4.5% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$9.7 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 4,410 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$2.3 billion. These businesses contribute an estimated \$185.6 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$61,458 each year. The Finance and Insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$9.7 billion	6	4.5%
Value Added (contribution to GSP)	\$5.6 billion	6	4.5%
Establishments	4,410 businesses	7	6.7%
Employment	36,831 people	12	3.6%
Average Annual Salary	\$61,458	3	
Total Payroll	\$2.3 billion	7	5.4%
Total Tax Revenues	\$407.0 million	11	3.7%
State Payroll Tax Contribution	\$12.4 million	7	5.4%
Federal Payroll Tax Contribution	\$173.2 million	7	5.4%
State Individual & Corporate Income Tax Contribution	\$211.5 million	6	5.7%
State & Local Sales Tax Contribution	\$9.8 million	15	0.3%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

# Real estate and rental and leasing

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Real Estate and Rental and Leasing sector each year:

- Nearly \$31 million in additional economic output
- A \$21.7 million increase in gross state product (GSP)
- Supporting or creating an additional 209 jobs. These workers will earn \$5 million in wages.
- \$2.0 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$30.6 million
Value Added (contribution to GSP)	\$21.7 million
Employment	209 people
Total Payroll	\$5.4 million
Total Tax Revenues	\$2.0 million
State Payroll Tax Contribution	\$29.4 thousand
Federal Payroll Tax Contribution	\$409.6 thousand
State Individual & Corporate Income Tax Contribution	\$1.4 million
State & Local Sales Tax Contribution	\$176.5 thousand

## SECTOR OVERVIEW

Real estate and rental and leasing in Arkansas contributed \$13.6 billion to state economic activity in 2017, accounting for 10.9% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$23.7 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 3,003 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$468.1 million. These businesses contribute an estimated \$38.4 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$37,476 each year. The Real Estate and Rental and Leasing sector comprises establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$23.7 billion	2	10.9%
Value Added (contribution to GSP)	\$13.6 billion	2	10.9%
Establishments	3,003 businesses	9	4.6%
Employment	12,490 people	16	1.2%
Average Annual Salary	\$37,476	13	
Total Payroll	\$468.1 million	16	1.1%
Total Tax Revenues	\$229.5 million	15	2.1%
State Payroll Tax Contribution	\$2.6 million	16	1.1%
Federal Payroll Tax Contribution	\$35.8 million	16	1.1%
State Individual & Corporate Income Tax Contribution	\$80.7 million	13	2.2%
State & Local Sales Tax Contribution	\$110.5 million	8	2.8%

*The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...*

## Professional, scientific, and technical services

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Professional, Scientific, and Technical Services sector each year:

- Nearly \$13 million in additional economic output
- A \$8.1 million increase in gross state product (GSP)
- Supporting or creating an additional 108 jobs. These workers will earn \$6 million in wages.
- \$1.1 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$12.7 million
Value Added (contribution to GSP)	\$8.1 million
Employment	108 people
Total Payroll	\$5.6 million
Total Tax Revenues	\$1.1 million
State Payroll Tax Contribution	\$30.8 thousand
Federal Payroll Tax Contribution	\$427.8 thousand
State Individual & Corporate Income Tax Contribution	\$565.8 thousand
State & Local Sales Tax Contribution	\$35.9 thousand

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

### SECTOR OVERVIEW

Professional, scientific, and technical services in Arkansas contributed \$4.3 billion to state economic activity in 2017, accounting for 3.5% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$7.5 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 5,847 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$2.2 billion. These businesses contribute an estimated \$179.3 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$57,825 each year. The Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$7.5 billion	10	3.5%
Value Added (contribution to GSP)	\$4.3 billion	10	3.5%
Establishments	5,847 businesses	4	8.9%
Employment	37,811 people	11	3.7%
Average Annual Salary	\$57,825	5	
Total Payroll	\$2.2 billion	8	5.2%
Total Tax Revenues	\$396.2 million	12	3.6%
State Payroll Tax Contribution	\$12.0 million	8	5.2%
Federal Payroll Tax Contribution	\$167.3 million	8	5.2%
State Individual & Corporate Income Tax Contribution	\$197.7 million	8	5.3%
State & Local Sales Tax Contribution	\$19.3 million	13	0.5%

*The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...*

## Management of companies and enterprises

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Management of Companies and Enterprises sector each year:

- Nearly \$11 million in additional economic output
- A \$6.4 million increase in gross state product (GSP)
- Supporting or creating an additional 43 jobs. These workers will earn \$4 million in wages.
- \$865.2 thousand in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$10.6 million
Value Added (contribution to GSP)	\$6.4 million
Employment	43 people
Total Payroll	\$4.3 million
Total Tax Revenues	\$865.2 thousand
State Payroll Tax Contribution	\$23.7 thousand
Federal Payroll Tax Contribution	\$329.1 thousand
State Individual & Corporate Income Tax Contribution	\$512.5 thousand
State & Local Sales Tax Contribution	\$0.0

### SECTOR OVERVIEW

Management of companies and enterprises in Arkansas contributed \$5.2 billion to state economic activity in 2017, accounting for 4.2% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$9.1 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 1,134 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$4.2 billion. These businesses contribute an estimated \$343.4 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$106,883 each year. The Management of Companies and Enterprises sector comprises (1) establishments that hold the securities of (or other equity interests in) companies and enterprises for the purpose of owning a controlling interest or influencing management decisions or (2) establishments (except government establishments) that administer, oversee, and manage establishments of the company or enterprise and that normally undertake the strategic or organizational planning and decision making role of the company or enterprise.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$9.1 billion	7	4.2%
Value Added (contribution to GSP)	\$5.2 billion	7	4.2%
Establishments	1,134 businesses	14	1.7%
Employment	39,186 people	10	3.8%
Average Annual Salary	\$106,883	1	
Total Payroll	\$4.2 billion	3	10.0%
Total Tax Revenues	\$808.7 million	4	7.3%
State Payroll Tax Contribution	\$23.0 million	3	10.0%
Federal Payroll Tax Contribution	\$320.4 million	3	10.0%
State Individual & Corporate Income Tax Contribution	\$465.3 million	3	12.5%
State & Local Sales Tax Contribution	\$0.0	18	0.0%

*The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...*

## Administrative and waste management services

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Administrative and Waste Management Services sector each year:

- Nearly \$9 million in additional economic output
- A \$5.5 million increase in gross state product (GSP)
- Supporting or creating an additional 138 jobs. These workers will earn \$4 million in wages.
- \$676.3 thousand in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$8.7 million
Value Added (contribution to GSP)	\$5.5 million
Employment	138 people
Total Payroll	\$3.6 million
Total Tax Revenues	\$676.3 thousand
State Payroll Tax Contribution	\$20.0 thousand
Federal Payroll Tax Contribution	\$277.9 thousand
State Individual & Corporate Income Tax Contribution	\$235.2 thousand
State & Local Sales Tax Contribution	\$143.2 thousand

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

### SECTOR OVERVIEW

Administrative and waste management services in Arkansas contributed \$3.4 billion to state economic activity in 2017, accounting for 2.7% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$5.8 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 2,704 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$1.6 billion. These businesses contribute an estimated \$130.1 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$24,920 each year. The Administrative and Support and Waste Management and Remediation Services sector comprises establishments performing routine support activities for the day-to-day operations of other organizations.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$5.8 billion	13	2.7%
Value Added (contribution to GSP)	\$3.4 billion	13	2.7%
Establishments	2,704 businesses	10	4.1%
Employment	63,655 people	5	6.2%
Average Annual Salary	\$24,920	16	
Total Payroll	\$1.6 billion	10	3.8%
Total Tax Revenues	\$325.5 million	13	2.9%
State Payroll Tax Contribution	\$8.7 million	10	3.8%
Federal Payroll Tax Contribution	\$121.4 million	10	3.8%
State Individual & Corporate Income Tax Contribution	\$108.6 million	11	2.9%
State & Local Sales Tax Contribution	\$86.9 million	9	2.2%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

### Educational services

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Educational Services sector each year:

- Over \$3 million in additional economic output
- A \$1.9 million increase in gross state product (GSP)
- Supporting or creating an additional 61 jobs. These workers will earn \$1 million in wages.
- \$232.1 thousand in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$3.1 million
Value Added (contribution to GSP)	\$1.9 million
Employment	61 people
Total Payroll	\$1.4 million
Total Tax Revenues	\$232.1 thousand
State Payroll Tax Contribution	\$7.9 thousand
Federal Payroll Tax Contribution	\$109.7 thousand
State Individual & Corporate Income Tax Contribution	\$96.8 thousand
State & Local Sales Tax Contribution	\$17.6 thousand

### SECTOR OVERVIEW

Educational services in Arkansas contributed \$665.0 million to state economic activity in 2017, accounting for 0.5% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$1.2 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 616 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$384.1 million. These businesses contribute an estimated \$31.5 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$24,013 each year. The Educational Services sector comprises establishments that provide instruction and training in a wide variety of subjects.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$1.2 billion	18	0.5%
Value Added (contribution to GSP)	\$665.0 million	18	0.5%
Establishments	616 businesses	17	0.9%
Employment	15,997 people	14	1.6%
Average Annual Salary	\$24,013	17	
Total Payroll	\$384.1 million	17	0.9%
Total Tax Revenues	\$63.2 million	18	0.6%
State Payroll Tax Contribution	\$2.1 million	17	0.9%
Federal Payroll Tax Contribution	\$29.4 million	17	0.9%
State Individual & Corporate Income Tax Contribution	\$25.4 million	18	0.7%
State & Local Sales Tax Contribution	\$6.3 million	17 (tied)	0.2%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

# Health care and social assistance

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Health Care and Social Assistance sector each year:

- Nearly \$33 million in additional economic output
- A \$19.5 million increase in gross state product (GSP)
- Supporting or creating an additional 342 jobs. These workers will earn \$15 million in wages.
- \$2.4 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$32.6 million
Value Added (contribution to GSP)	\$19.5 million
Employment	342 people
Total Payroll	\$14.8 million
Total Tax Revenues	\$2.4 million
State Payroll Tax Contribution	\$81.5 thousand
Federal Payroll Tax Contribution	\$1.1 million
State Individual & Corporate Income Tax Contribution	\$1.2 million
State & Local Sales Tax Contribution	\$11.6 thousand

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

## SECTOR OVERVIEW

Health care and social assistance in Arkansas contributed \$10.6 billion to state economic activity in 2017, accounting for 8.5% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$18.4 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 7,653 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$7.4 billion. These businesses contribute an estimated \$605.8 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$43,260 each year. The Health Care and Social Assistance sector comprises establishments providing health care and social assistance for individuals.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$18.4 billion	3	8.5%
Value Added (contribution to GSP)	\$10.6 billion	3	8.5%
Establishments	7,653 businesses	2	11.7%
Employment	170,777 people	1	16.7%
Average Annual Salary	\$43,260	11	
Total Payroll	\$7.4 billion	1	17.7%
Total Tax Revenues	\$1.2 billion	3	10.9%
State Payroll Tax Contribution	\$40.6 million	1	17.7%
Federal Payroll Tax Contribution	\$565.2 million	1	17.7%
State Individual & Corporate Income Tax Contribution	\$598.2 million	2	16.1%
State & Local Sales Tax Contribution	\$6.3 million	17 (tied)	0.2%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

# Arts, entertainment, and recreation

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Arts, Entertainment, and Recreation sector each year:

- Nearly \$2 million in additional economic output
- A \$860.4 thousand increase in gross state product (GSP)
- Supporting or creating an additional 30 jobs. These workers will earn \$526 thousand in wages.
- \$115.2 thousand in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$1.6 million
Value Added (contribution to GSP)	\$860.4 thousand
Employment	30 people
Total Payroll	\$525.8 thousand
Total Tax Revenues	\$115.2 thousand
State Payroll Tax Contribution	\$2.9 thousand
Federal Payroll Tax Contribution	\$40.2 thousand
State Individual & Corporate Income Tax Contribution	\$40.5 thousand
State & Local Sales Tax Contribution	\$31.6 thousand

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

## SECTOR OVERVIEW

Arts, entertainment, and recreation in Arkansas contributed \$621.0 million to state economic activity in 2017, accounting for 0.5% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$1.1 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 810 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$203.1 million. These businesses contribute an estimated \$16.7 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$20,635 each year. The Arts, Entertainment, and Recreation sector includes a wide range of establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$1.1 billion	19	0.5%
Value Added (contribution to GSP)	\$621.0 million	19	0.5%
Establishments	810 businesses	16	1.2%
Employment	9,844 people	17	1.0%
Average Annual Salary	\$20,635	18	
Total Payroll	\$203.1 million	19	0.5%
Total Tax Revenues	\$52.6 million	19	0.5%
State Payroll Tax Contribution	\$1.1 million	19	0.5%
Federal Payroll Tax Contribution	\$15.5 million	19	0.5%
State Individual & Corporate Income Tax Contribution	\$13.1 million	19	0.4%
State & Local Sales Tax Contribution	\$22.8 million	12	0.6%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

# Accommodation and Food Services

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Accommodation and Food Services sector each year:

- Over \$11 million in additional economic output
- A \$6.2 million increase in gross state product (GSP)
- Supporting or creating an additional 207 jobs. These workers will earn \$4 million in wages.
- \$1.2 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$11.2 million
Value Added (contribution to GSP)	\$6.2 million
Employment	207 people
Total Payroll	\$3.6 million
Total Tax Revenues	\$1.2 million
State Payroll Tax Contribution	\$19.7 thousand
Federal Payroll Tax Contribution	\$274.3 thousand
State Individual & Corporate Income Tax Contribution	\$161.4 thousand
State & Local Sales Tax Contribution	\$766.2 thousand

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

## SECTOR OVERVIEW

Accommodation and Food Services in Arkansas contributed \$3.4 billion to state economic activity in 2017, accounting for 2.7% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$5.9 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 5,750 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$1.6 billion. These businesses contribute an estimated \$129.1 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$14,882 each year. The Accommodation and Food Services sector comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$5.9 billion	12	2.7%
Value Added (contribution to GSP)	\$3.4 billion	12	2.7%
Establishments	5,750 businesses	5	8.8%
Employment	105,795 people	4	10.3%
Average Annual Salary	\$14,882	19	
Total Payroll	\$1.6 billion	11	3.8%
Total Tax Revenues	\$628.9 million	6	5.7%
State Payroll Tax Contribution	\$8.7 million	11	3.8%
Federal Payroll Tax Contribution	\$120.4 million	11	3.8%
State Individual & Corporate Income Tax Contribution	\$82.3 million	12	2.2%
State & Local Sales Tax Contribution	\$417.5 million	2	10.6%

## The Economic Benefits of a \$478 Million Increase in Arkansas' Annual Investment in Highway, Street and Bridge Capital Outlays ...

### Other services

A \$478 million annual increase in Arkansas highway, street and bridge investment will generate the following economic benefits to the Other Services sector each year:

- Over \$13 million in additional economic output
- A \$7.3 million increase in gross state product (GSP)
- Supporting or creating an additional 144 jobs. These workers will earn \$5 million in wages.
- \$1.1 million in additional tax revenues

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating Arkansas' highways, streets and bridges. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

	Average Annual Impacts of an Additional \$478 Million
Industry Output	\$13.2 million
Value Added (contribution to GSP)	\$7.3 million
Employment	144 people
Total Payroll	\$5.1 million
Total Tax Revenues	\$1.1 million
State Payroll Tax Contribution	\$27.9 thousand
Federal Payroll Tax Contribution	\$387.6 thousand
State Individual & Corporate Income Tax Contribution	\$260.3 thousand
State & Local Sales Tax Contribution	\$402.2 thousand

\* GSP is the value added by an industry to the overall economy. Arkansas' GSP was \$124.92 billion in 2017, according to the U.S. Bureau of Economic Analysis. That is the difference between total sales and the intermediate goods. Gross output is the measure of total industry sales for both intermediate and final goods. Arkansas' gross output in 2017 is estimated to be \$217.16 billion.

### SECTOR OVERVIEW

Other services in Arkansas contributed \$2.9 billion to state economic activity in 2017, accounting for 2.3% of the state's Gross State Product (GSP).<sup>\*</sup> Total sales in the industry were an estimated \$5.0 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 6,647 establishments and sole proprietorships in Arkansas with an existing payroll valued at \$1.0 billion. These businesses contribute an estimated \$84.8 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$25,339 each year. The Other Services (except Public Administration) sector comprises establishments engaged in providing services not specifically provided for elsewhere in the classification system, including equipment and machinery repairing, promoting or administering religious activities, grantmaking, advocacy, drycleaning and laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services.

	Current Value	Arkansas Ranking	Percentage of State Total
Industry Output	\$5.0 billion	16	2.3%
Value Added (contribution to GSP)	\$2.9 billion	16	2.3%
Establishments	6,647 businesses	3	10.1%
Employment	40,828 people	9	4.0%
Average Annual Salary	\$25,339	15	
Total Payroll	\$1.0 billion	13	2.5%
Total Tax Revenues	\$318.2 million	14	2.9%
State Payroll Tax Contribution	\$5.7 million	13	2.5%
Federal Payroll Tax Contribution	\$79.1 million	13	2.5%
State Individual & Corporate Income Tax Contribution	\$73.7 million	15	2.0%
State & Local Sales Tax Contribution	\$159.6 million	7	4.1%

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## VII. Methodology and Sources

The impact of an increase in transportation construction spending is calculated using the U.S. Department of Commerce Regional Input-Output Modeling System (RIMS II). RIMS II is based on input output (I-O) tables. For a given industry, the I-O tables show the industrial distribution of inputs purchased and outputs sold.

Research shows that RIMS II multipliers are similar to other regional I-O models based on in-depth and often expensive surveys. According to the U.S. Department of Commerce, RIMS multipliers have been used to estimate such things as the regional impact of military base closings, tourist expenditures, new energy facilities, offshore drilling and the opening or closing of manufacturing plants and other facilities. The highway, street and bridge construction multipliers in this report are used frequently to analyze the impact of new construction projects, including transportation construction. The construction multipliers are specific to Arkansas and are based on benchmark regional data from 2015 and industry data from the 2007 benchmark series, as published by the U.S. Department of Commerce. These multipliers are standard for this type of analysis and are the latest information available.

Industry value added (contribution to GSP) for Arkansas is the most recent data from the U.S. Bureau of Economic Analysis GSP estimates for the state, broken out by industry, for 2017. Industry output for Arkansas was estimated by taking Arkansas' percent share of national GSP for each industry and multiplying it by national gross output by industry.

The state payroll tax rate is calculated using the average employer tax rate as a percent of total wages. The source for this information is the National Association of State Workforce Agencies (NASWA) and the U.S. Department of Labor Employment Training Administration (ETA) Financial Handbook 394. The federal payroll tax rate is estimated to be 7.65 percent.

Total individual and corporate income tax contributions are for calendar year 2017, received via a special inquiry from the Arkansas Department of Finance and Administration. In 2017, Arkansas individual income tax revenue totaled \$3.28 billion and corporate income tax revenue totaled \$433.93 million. To estimate the amount of individual income tax contributions attributable to each industry, the estimated individual income tax collections paid by the average worker in each sector was calculated by using the Arkansas 2017 tax rate schedule for net taxable income, then multiplied by the number of workers in each industry to arrive at the total estimated individual income tax collections for each industry. The amount of individual income tax contributions attributable to each industry was then estimated by multiplying the total statewide individual income tax contributions amount (\$3.28 billion) by the percentage of total estimated individual income tax collections for each industry. The amount of corporate income tax contributions attributable to each industry was estimated by multiplying the total statewide corporate income tax contributions amount (\$433.93 million) by the percentage of total GSP for each industry.

Total state and local sales and use tax revenues are the actual collections of state and local sales and use tax in calendar year 2017, and are the annual totals from the Arkansas Department of Finance and Administration monthly tax collections reports. State sales and use tax collections comprise state sales tax collections (which totaled \$2.24 billion in 2017) and state use tax collections (which totaled \$417.89 million). The total value of local sales and use tax collections is \$1.27 billion, and is the annual total from the Local Distribution Report 2017. The amount of state and local sales and use

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contributions attributable to each industry was then estimated by multiplying the total statewide state and local sales and use contributions amount (\$3.93 billion) by the percentage of total state sales and use collections for each industry provided on page 196 of the 2017 Arkansas Comprehensive Annual Financial Report. This methodology was developed with guidance by the Arkansas Department of Finance and Administration. In 2017, Arkansas had a 6.5 percent combined sales and use tax rate, as well as additional local sales and use taxes levied by individual cities and counties.

Employment and economic impact of the public sector is not included in the 19 sector analysis.

Employment and establishment data was calculated using the U.S. Census Bureau's County Business Patterns. All payroll data has been adjusted for inflation to 2017 dollars using the Bureau of Labor Statistics Consumer Price Index.

All bridge information, including conditions, is from FHWA's National Bridge Inventory and is for 2017 (data released in January 2018), the latest year that data is available.

Fatality and crash information is from the National Highway Traffic Safety Administration for 2016, the latest year that data is available.

State data on freight shipments is from the FHWA Freight Analysis Framework and is for 2015, the latest year that data is available.

In this report, we estimate the impact of a \$478 million annual increase in Arkansas highway, street and bridge construction investment on various sectors of the economy.

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# Appendix 1: Arkansas Identified Needs

Arkansas’ transportation needs are significant and have been documented for many years in a variety of sources. Current available funding for the state’s roads and bridges provides for less than half of \$925 million in documented needs; \$478 million in construction and maintenance needs remains unfunded.

An August 2017 report by the Arkansas Legislative Unit analyzed Arkansas Department of Transportation (ARDOT) state revenues, expenditures and projections to determine the amount of additional revenues that would be needed to facilitate the agency’s proposed construction and maintenance program. After reviewing ARDOT’s available funds from all sources, the Arkansas Legislative Unit determined that an additional **\$478 million is needed annually to meet the state’s highway and bridge construction and maintenance needs** over a 10-year period. This includes \$277 million for system preservation, \$148 million for capacity relief, \$42 million for safety improvements and \$11 million for maintenance. The full breakdown of these identified needs is provided below.<sup>44</sup>

ARDOT Arkansas Annual State Funds Needed to Meet Proposed Highway Construction Plan Over a 10-Year Period (in millions)			
Description	Annual Funds Needed for Highway Construction Plan	Annual Funds Available for Highway Construction	Additional Annual State Revenues Needed for Highway Construction Plan
<b>System Preservation</b>	<b>\$504</b>	<b>\$227</b>	<b>\$277</b>
Pavement	\$387	\$137	\$250
Bridges	\$117	\$90	\$27
<b>Capacity Relief</b>	<b>\$305</b>	<b>\$157</b>	<b>\$148</b>
<b>Safety Improvements</b>	<b>\$86</b>	<b>\$44</b>	<b>\$42</b>
<b>Maintenance</b>	<b>\$30</b>	<b>\$19</b>	<b>\$11</b>
Equipment upgrades	\$19	\$19	\$0
Facilities upgrades	\$8	\$0	\$8
Intelligent Transportation Systems (ITS)	\$3	\$0	\$3
<b>Totals</b>	<b>\$925</b>	<b>\$447</b>	<b>\$478</b>

<sup>44</sup> Arkansas Legislative Audit, “Special Report: Arkansas Legislative Audit Review of Sources and Uses of Funds, Arkansas Department of Transportation, For the Period July 1, 2009 through June 30, 2016 and Projected for Fiscal Years 2017 through 2020”, Aug. 31, 2017, <<http://www.arkleg.state.ar.us/assembly/2017/Meeting%20Attachments/081/85/Ex.%20E-Arkansas%20Legislative%20Audit%20Special%20Report.pdf>>.

This needs assessment builds upon the December 2015 Short-Term Recommendation from the Governor’s Working Group on Highway Funding. After hearing testimony from the Arkansas State Highway and Transportation Department (AHTD, today’s Arkansas Department of Transportation) about transportation needs that could be met at various funding levels, the working group estimated total annual investment needs at \$400 million to address critical, mid-term and long-term needs. Meeting the state’s “ultimate needs” and bringing all roads and bridges to a state of good repair would cost an additional \$1.68 billion annually. The working group then proposed an investment level of \$160 million to meet the most critical needs for the next one to three years.<sup>45</sup>

The full analysis submitted by the working group included four different needs analyses based on different timelines:

- Short-term needs were estimated at \$110 million annually to address AHTD’s most critical needs over the next three years.
- Mid-term needs were estimated at an additional \$140 million annually to allow AHTD to match federal aid as well as implement an Enhanced Maintenance Program for existing highways in three to five years.
- Long-term needs were estimated at an additional \$150 million annually to allow AHTD to match federal aid, better maintain the existing system and undertake an Economic Development Improvement Program in six to nine years.
- Ultimate needs were estimated at an additional \$1.68 billion annually to complete the entire Four-Lane Grid System (a system which includes the Interstate system, High Priority Corridors and other regionally significant routes, with the goal of spurring economic development and allowing for the movement of people and goods across the state) and bring all roads and bridges to a state of good repair in 10 years.

In reference to the above \$400 million shortfall identified to address short-term, mid-term and long-term needs, ARDOT Director Scott Bennett said an additional \$204 million is necessary for the share provided to cities and counties. This would bring the total identified shortfall up to \$604 million.<sup>46</sup>

<sup>45</sup> Governor’s Working Group on Highway Funding, “Governor’s Working Group on Highway Funding Short-Term Recommendation”, Dec. 15, 2015, <[https://governor.arkansas.gov/images/uploads/HFWG\\_FINAL\\_Short-Term\\_Recommendation\\_.pdf](https://governor.arkansas.gov/images/uploads/HFWG_FINAL_Short-Term_Recommendation_.pdf)>.

<sup>46</sup> Kramer, Carolyn, “Sept. 8: State Transportation Funding News Roundup”, TIAC, Sept. 8, 2017, <<https://transportationinvestment.org/sept-8-state-transportation-funding-news-roundup/>>.

In 2010, the Blue Ribbon Committee on Highway Finance Final Report found that an additional \$200 million is needed annually, at minimum, over the next decade just to maintain the highway “status quo” and keep highway and bridge congestion and conditions at current levels. However, the total shortfall for state highways was estimated at \$19.5 billion in 2009, with \$23.6 billion in total needs and only \$4.1 billion in available funds. The total needs included:<sup>47</sup>

- \$3.7 billion in capacity needs, including widening and new construction related to congestion relief;
- \$10.8 billion in system preservation needs, including reconstruction, rehabilitation, resurfacing and bridge rehabilitation and replacement;
- \$7.5 billion in needs for High Priority Corridors;
- and \$1.6 billion in needs for identified Economic Development Connectors.

This report then highlights different revenue proposals to address this shortfall.

This report does not include the over \$450 million in identified needs to repair the highways impacted by natural gas and production activities in the Fayetteville Shale. Additionally, the report finds that the estimated cost to develop the Four-Lane Grid System is approximately \$10.4 billion.

The Blue Ribbon Committee report also includes a historical overview of state highway needs and revenues. In 2006, this total highway shortfall was estimated at \$15.0 billion, in 2003 it was estimated at \$11.8 billion, and in 1998, it was estimated at \$10.3 billion.

<sup>47</sup> Blue Ribbon Committee on Highway Finance, “Final Report”, Dec. 1, 2010, <[https://governor.arkansas.gov/images/uploads/BRC-Final\\_Report\\_12-1-2010.pdf](https://governor.arkansas.gov/images/uploads/BRC-Final_Report_12-1-2010.pdf)>.

History of Arkansas Highway Needs vs. Revenue (in billions)							
Year	Needs					Funds Available	Total Shortfall
	Capacity	System Preservation	Economic Development Connectors	High Priority Corridors	Total Needs		
1998	\$7.2		3.4*	\$3.6	\$14.2	\$3.9	\$10.3
2003	\$3.1	\$7.0	\$1.3	\$4.7	\$16.1	\$4.3	\$11.8
2006	\$3.4	\$8.8	\$1.7	\$5.2	\$19.1	\$4.1	\$15.0
2009	\$3.7	\$10.8	\$1.6	\$7.5	\$23.6	\$4.1	\$19.5

\*These were based on public involvement and are not explicitly Economic Development related improvements

Source: Blue Ribbon Committee on Highway Finance, “Final Report”, Dec. 1, 2010.

## Appendix 2: Arkansas Highway System Conditions

ARDOT Arkansas Highway System Conditions as of June 20, 2017					
PCI Grade	Lane Miles				
	Arkansas Primary Highway Network (APHN)			Non-APHN	Total
	National Highway System (NHS)		Non-NHS		
	Interstate	Non-Interstate			
A	1,027	260	113	79	1,479
B	1,239	1,907	1,206	718	5,070
C	611	2,689	3,282	3,176	9,758
D	228	1,896	3,483	6,318	11,925
F	98	923	1,757	6,322	9,100
Total Lane Miles	3,203	7,675	9,841	16,613	37,332

Source: Arkansas Legislative Audit, "Special Report: Arkansas Legislative Audit Review of Sources and Uses of Funds, Arkansas Department of Transportation, For the Period July 1, 2009 through June 30, 2016 and Projected for Fiscal Years 2017 through 2020," Aug. 31, 2017.