

MISSISSIPPI TRANSPORTATION BY THE NUMBERS:

Meeting the State's Need for Safe and Efficient Mobility

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

Ten Key Transportation Numbers in Mississippi

\$1.6 billion	TRIP estimates that Mississippi roadways that lack some desirable safety features, have inadequate capacity to meet travel demands or have poor pavement conditions cost the state's residents approximately \$1.6 billion annually in the form of additional vehicle operating costs, the cost of lost time and wasted fuel due to traffic congestion and traffic crashes.
\$1,506 \$1,272	Driving on roads that are congested, deteriorated and that lack some desirable safety features costs the average Jackson area driver \$1,506 annually. In the Gulfport/Biloxi area, the average driver loses \$1,272 each year.
28% 68% 46%	Twenty-eight percent of Mississippi's roads are either in poor or mediocre condition. Sixty-eight percent of Jackson-area major locally and state-maintained urban roads are in poor or mediocre condition. In the Gulfport/Biloxi area, 46 percent of major urban roads are in poor or mediocre condition.
728 3,638 5th	From 2007 to 2011, an average of 728 people were killed annually in Mississippi traffic crashes, a total of 3,638 fatalities. Mississippi's traffic fatality rate of 1.62 fatalities per 100 million vehicle miles of travel in 2011 was the fifth highest level nationally.
2X	The fatality rate on Mississippi's non-interstate rural roads is more than double that on all other roads in the state (2.27 fatalities per 100 million vehicle miles of travel vs. 0.99).
22 %	A total of 22 percent of Mississippi bridges are in need of repair, improvement or replacement. Fourteen percent of the state's bridges are structurally deficient and eight percent are functionally obsolete.
59 % 35 %	Vehicle miles of travel in Mississippi increased 59 percent from 1990 to 2011 and are expected to increase another 35 percent by 2030.
\$470 million	If a lack of adequate revenue into the Federal Highway Trust Fund is not addressed by Congress, funding for highway and transit improvements in Mississippi could be cut by \$470 million for the federal fiscal year beginning October 1, 2014.
\$1.27 51%	From 2007 to 2011, the federal government provided \$1.27 for road improvements in Mississippi for every one dollar paid in federal motor fuel fees. From 2007 to 2011, federal revenues accounted for 51 percent of state spending on Mississippi's roads, highways and bridges.
\$1.00 = \$5.20	The Federal Highway Administration estimates that each dollar spent on road, highway and bridge improvements results in an average benefit of \$5.20 in reduced vehicle maintenance costs, reduced delays, reduced fuel consumption, improved safety, reduced roadway maintenance costs, and reduced emissions.

Executive Summary

Mississippi's extensive system of roads, highways and bridges provides the state's residents, visitors and businesses with a high level of mobility. This transportation system forms the backbone that supports the state's economy. Mississippi's surface transportation system enables the state's residents and visitors to travel to work and school, visit family and friends, and frequent tourist and recreation attractions while providing its businesses with reliable access to customers, materials, suppliers and employees.

As Mississippi looks to retain its businesses, maintain its level of economic competitiveness and achieve further economic growth, the state will need to maintain and modernize its roads, highways and bridges by improving the physical condition of its transportation network and enhancing the system's ability to provide efficient and reliable mobility for motorists and businesses. Making needed improvements to Mississippi's roads, highways and bridges could also provide a significant boost to the state's economy by creating jobs in the short term and stimulating long term economic growth as a result of enhanced mobility and access.

With a current unemployment rate of 8.5 percent and with the state's population continuing to grow, Mississippi must improve its system of roads, highways and bridges to foster economic growth and keep businesses in the state. In addition to economic growth, transportation improvements are needed to ensure safe, reliable mobility and quality of life for all Mississippians. Meeting Mississippi's need to modernize and maintain its system of roads, highways and bridges will require a significant boost in local, state and federal funding.

Signed into law in July 2012, MAP-21 (Moving Ahead for Progress in the 21st Century Act), will fund surface transportation programs in Mississippi at an average of \$469 million annually for fiscal years 2013 and 2014.

While the new federal surface transportation program has improved several procedures that in the past had delayed projects, MAP-21 does not address long-term funding challenges facing the federal surface transportation program. As a result, nationwide federal funding for highways will be cut by almost 100 percent from the current investment level for the fiscal year starting on October 1, 2014 (FY 2015) unless Congress provides additional transportation revenues. This is due to a cash shortfall in the Highway Trust Fund as projected by the [Congressional Budget Office](#).

The level of funding and the provisions of the federal surface transportation program have a significant impact on highway and bridge conditions, roadway safety, transit service, quality of life and economic development opportunities in Mississippi.

An inadequate transportation system costs Mississippi residents a total of \$1.6 billion every year in the form of additional vehicle operating costs (VOC), congestion-related delays and traffic crashes.

- TRIP estimates that Mississippi roadways that lack some desirable safety features, have inadequate capacity to meet travel demands or have poor pavement conditions cost the state’s residents approximately \$1.6 billion annually in the form of additional vehicle operating costs, the cost of lost time and wasted fuel due to traffic congestion and traffic crashes.
- TRIP has calculated the annual cost to Mississippi residents of driving on roads that are deteriorated, congested and lack some desirable safety features both statewide and in the state’s largest urban area. The following chart shows the cost breakdown for these areas.

Location	VOC	Congestion	Safety	TOTAL
Gulfport/Biloxi	\$531	\$522	\$219	\$1,272
Jackson	\$741	\$594	\$171	\$1,506
Mississippi - Statewide Total	\$627 M	\$432 M	\$573 M	\$1.6 Billion

Population and economic growth in Mississippi have resulted in increased demands on the state’s major roads and highways, leading to increased wear and tear on the transportation system.

- Mississippi’s population reached nearly 3 million in 2012, a 16 percent increase since 1990. Mississippi had 1,926,603 licensed drivers in 2011.
- Vehicle miles traveled in Mississippi increased by 59 percent from 1990 to 2011 – jumping from 24.4 billion vehicle miles traveled (VMT) in 1990 to 38.9 billion VMT in 2011.
- By 2030, vehicle travel in Mississippi is projected to increase by another 35 percent.
- From 1990 to 2011, Mississippi’s gross domestic product, a measure of the state’s economic output, increased by 47 percent, when adjusted for inflation.

Twenty-eight percent of major locally and state-maintained roads and highways in Mississippi have pavement surfaces in poor or mediocre condition, providing a rough ride and costing motorists in the form of additional vehicle operating costs.

- Eight percent of Mississippi’s major roads and highways have pavements in poor condition, while an additional 20 percent of the state’s major roads are rated in mediocre condition. Twenty percent are rated in fair condition and the remaining 52 percent are rated in good condition.

- The pavement data in this report for all arterial roads and highways is provided by the Federal Highway Administration, based on data submitted annually by the Mississippi Department of Transportation (MDOT) on the condition of major state and locally maintained roads and highways in the state.
- In the Jackson urban area, 45 percent of major locally and state-maintained roads are rated in poor condition and 23 percent are rated in mediocre condition. Twelve percent of Jackson's major urban roads are rated in fair condition and 21 percent are rated in good condition.
- Twenty-nine percent of major locally and state-maintained roads in the Gulfport/Biloxi area are rated in poor condition and 17 percent are rated in mediocre condition. Sixteen percent of major urban roads in the Gulfport/Biloxi are rated in fair condition and 38 percent are rated in good condition.
- Roads rated in poor condition may show signs of deterioration, including rutting, cracks and potholes. In some cases, poor roads can be resurfaced, but often are too deteriorated and must be reconstructed. Roads rated in mediocre condition may show signs of significant wear and may also have some visible pavement distress. Most pavements in mediocre condition can be repaired by resurfacing, but some may need more extensive reconstruction to return them to good condition.
- Driving on rough roads costs Mississippi motorists a total of \$627 million annually in extra vehicle operating costs. Costs include accelerated vehicle depreciation, additional repair costs, and increased fuel consumption and tire wear.
- Driving on rough roads costs the average Jackson motorist \$741 annually in extra vehicle operating costs. In the Gulfport/Biloxi area, the average driver loses \$531 each year as a result of driving on deteriorated roads.

More than one-fifth of locally and state-maintained bridges in Mississippi show significant deterioration or do not meet current design standards often because of narrow lanes, inadequate clearances or poor alignment. This includes all bridges that are 20 feet or more in length.

- Fourteen percent of Mississippi's bridges are structurally deficient. A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Structurally deficient bridges are often posted for lower weight or closed to traffic, restricting or redirecting large vehicles, including commercial trucks and emergency services vehicles.
- Eight percent of Mississippi's bridges are functionally obsolete. Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.

Significant levels of traffic congestion cause significant delays in Mississippi, particularly in its larger urban areas, choking commuting and commerce.

- According to the [Texas Transportation Institute](#) (TTI), the average driver in the Jackson urban area loses \$594 each year in the cost of lost time and wasted fuel as a result of traffic congestion. The average commuter in the Jackson urban spends an additional 25 hours per year stuck in traffic as a result of traffic congestion.
- TTI estimates that the average driver in the Gulfport/Biloxi urban area loses \$522 each year in the cost of lost time and wasted fuel as a result of traffic congestion. The average commuter in the Gulfport/Biloxi urban spends an additional 24 hours each year stuck in traffic as a result of traffic congestion.

Mississippi's traffic fatality rate on rural, non-Interstate routes is more than double that on all other roads and highways in the state. Improving safety features on Mississippi's roads and highways would likely result in a decrease in the state's traffic fatalities and serious crashes. Roadway features are likely a contributing factor in approximately one-third of all fatal and serious traffic crashes.

- Between 2007 and 2011 a total of 3,638 people were killed in traffic crashes in Mississippi, an average of 728 fatalities per year.
- Mississippi's overall traffic fatality rate of 1.62 fatalities per 100 million vehicle miles of travel in 2011 is higher than the national average of 1.10, the fifth highest level nationally.
- The fatality rate on Mississippi's rural non-Interstate roads was 2.27 fatalities per 100 vehicle miles of travel in 2011, more than double the 0.99 fatality rate in 2011 on all other roads and highways in the state.
- The cost of serious traffic crashes in Mississippi in 2011 in which roadway features were likely a contributing factor was approximately \$573 million.
- In the Jackson urban area, the cost of serious traffic crashes in which roadway features were likely a contributing factor is approximately \$171 annually per motorist. The cost of serious traffic crashes in the Gulfport/Biloxi area in which roadway features were likely a contributing factor is approximately \$219 per motorist.
- Roadway features that impact safety include the number of lanes, lane widths, lighting, lane markings, rumble strips, shoulders, guard rails, other shielding devices, median barriers and intersection design. The cost of serious crashes includes lost productivity, lost earnings, medical costs and emergency services.
- Several factors are associated with vehicle crashes that result in fatalities, including driver behavior, vehicle characteristics and roadway features. TRIP estimates that roadway features are likely a contributing factor in approximately one-third of fatal traffic crashes.

- Where appropriate, highway improvements can reduce traffic fatalities and crashes while improving traffic flow to help relieve congestion. Such improvements include removing or shielding obstacles; adding or improving medians; improved lighting; adding rumble strips, wider lanes, wider and paved shoulders; upgrading roads from two lanes to four lanes; and better road markings and traffic signals.
- Investments in rural traffic safety have been found to result in significant reductions in serious traffic crashes. A 2012 report by the Texas Transportation Institute (TTI) found that improvements completed recently by the Texas Department of Transportation that widened lanes, improved shoulders and made other safety improvements on 1,159 miles of rural state roadways resulted in 133 fewer fatalities on these roads in the first three years after the improvements were completed (as compared to the three years prior). TTI estimates that the improvements on these roads are likely to save 880 lives over the next 20 years.

The efficiency of Mississippi’s transportation system, particularly its highways, is critical to the health of the state’s economy. Businesses are increasingly reliant on an efficient and reliable transportation system to move products and services. A key component in business efficiency and success is the level and ease of access to customers, markets, materials and workers.

- Annually, \$91 billion in goods are shipped from sites in Mississippi and another \$104 billion in goods are shipped to sites in Mississippi, mostly by truck.
- Seventy-seven percent of the goods shipped annually from sites in Mississippi are carried by trucks and another four percent are carried by courier services or multiple mode deliveries, which include trucking.
- Businesses have responded to improved communications and greater competition by moving from a push-style distribution system, which relies on low-cost movement of bulk commodities and large-scale warehousing, to a pull-style distribution system, which relies on smaller, more strategic and time-sensitive movement of goods.
- Increasingly, companies are looking at the quality of a region’s transportation system when deciding where to re-locate or expand. Regions with congested or poorly maintained roads may see businesses relocate to areas with a smoother, more efficient and more modern transportation system.
- Highway accessibility was ranked the number one site selection factor in a 2011 survey of corporate executives by [Area Development Magazine](#).
- A 2013 report by the American Road & Transportation Builders Association found that the \$1.4 billion spent annually on road, highway and bridge construction and maintenance in Mississippi supports approximately 37,000 full-time jobs, including approximately 18,400 jobs in transportation construction and related activities and approximately 18,600 jobs induced in non-construction related sectors of the economy.

- The [Federal Highway Administration](#) estimates that each dollar spent on road, highway and bridge improvements results in an average benefit of \$5.20 in the form of reduced vehicle maintenance costs, reduced delays, reduced fuel consumption, improved safety, reduced road and bridge maintenance costs and reduced emissions as a result of improved traffic flow.

The federal government remains a critical source of funding for Mississippi's roads, highways and bridges and provides a significant return to Mississippi in road and bridge funding based on the revenue generated in the state by the federal motor fuel tax.

- The MAP-21 program, approved by Congress in July 2012, greatly increased funding flexibility for states and streamlined project approval processes to improve the efficiency of state and local transportation agencies in providing needed transportation improvements in the state.
- MAP-21 does not provide sufficient long-term revenues to support the current level of federal surface transportation investment. Nationwide federal funding for highways is expected to be cut by almost 100 percent from the current investment level for the fiscal year starting October 1, 2014 (FY 2015) unless Congress provides additional transportation revenues. This is due to a cash shortfall in the Highway Trust Fund as projected by the [Congressional Budget Office](#).
- If the funding shortfalls into the federal Highway Trust Fund are addressed solely by cutting spending it is estimated that federal funding for highway and transit improvements in Mississippi will be cut by \$470 million for the federal fiscal year starting October 1, 2014, unless Congress provides additional transportation revenues.
- From 2007 to 2011, the federal government provided \$1.27 for road improvements in Mississippi for every one dollar paid in federal motor fuel fees.
- From 2007 to 2011, federal revenues accounted for 51 percent of state spending on Mississippi's roads, highways and bridges.

Sources of information for this report include the Mississippi Department of Transportation (MDOT), the Federal Highway Administration (FHWA), the Bureau of Transportation Statistics (BTS), the U.S. Census Bureau, the Texas Transportation Institute (TTI) and the National Highway Traffic Safety Administration (NHTSA).

Introduction

Mississippi's roads, highways and bridges form vital transportation links for the state's residents, visitors and businesses, providing daily access to homes, jobs, shopping, natural resources and recreation. Today, with the Magnolia State hoping to foster quality of life improvements and economic competitiveness, the modernization of Mississippi's transportation system is crucial, particularly to critical areas of the state's economy including tourism, agriculture and manufacturing.

As the U.S. and Mississippi look to rebound from the recent economic downturn, the preservation and modernization of the state's transportation system could play an important role in retaining Mississippi's economic competitiveness and improving its economic well-being by providing critically needed jobs in the short term and by improving the productivity and competitiveness of the state's businesses in the long term. As Mississippi faces the challenge of preserving and modernizing its transportation system, the future level of federal, state and local transportation funding will be a critical factor in whether the state's residents and visitors continue to enjoy access to a safe and efficient transportation network.

Meeting Mississippi's need to modernize and maintain its system of roads, highways and bridges will require a significant boost in local, state and federal funding.

Signed into law in July 2012, MAP-21 (Moving Ahead for Progress in the 21st Century Act), will fund surface transportation programs in Mississippi at approximately \$469 million annually for fiscal years 2013 and 2014.¹

While it makes provisions to improve the efficiency of procedures that in the past delayed projects, MAP-21 does not address long-term funding problems facing surface transportation programs.

The level of funding and the provisions of the federal surface transportation program have a significant impact on highway and bridge conditions, roadway safety, transit service, quality of life and economic development opportunities in Mississippi.

This report examines the condition, use and safety of Mississippi's roads, highways and bridges, federal, state and local funding needs, and the future mobility needs of the state. Sources of information for this study include the Mississippi Department of Transportation (MDOT), the Federal Highway Administration (FHWA), the U.S. Census Bureau, the Texas Transportation Institute (TTI), the Bureau of Transportation Statistics (BTS), and the National Highway Traffic Safety Administration (NHTSA).

Population, Travel and Economic Trends in Mississippi

Mississippi residents and businesses require a high level of personal and commercial mobility. Population increases and economic growth in the state have resulted in an increase in the demand for mobility as well as an increase in vehicle miles of travel (VMT). To foster a high quality of life and spur economic growth in Mississippi, it will be critical that the state provide a safe and modern transportation system that can accommodate future growth in population, tourism, recreation and vehicle travel.

Mississippi's population grew to nearly 3 million residents in 2012, a 16 percent increase since 1990.² Mississippi has 1,926,603 licensed drivers.³ From 1990 to 2011, Mississippi's gross domestic product (GDP), a measure of the state's economic output, increased by 47 percent, when adjusted for inflation.⁴

From 1990 to 2011, annual vehicle miles of travel in Mississippi increased by 59 percent, from 24.4 billion miles traveled annually to 38.9 billion miles traveled annually.⁵ Based on population and other lifestyle trends, TRIP estimates that travel on Mississippi's roads and highways will increase by another 35 percent by 2030.⁶

Condition of Mississippi's Roads

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

Throughout the state, 28 percent of major locally and state- maintained roads and highways have deficient pavements, providing motorists with a rough ride.⁷ Eight percent of Mississippi's major roads and highways have pavements rated in poor condition.⁸ Another 20 percent of Mississippi's major roads are rated in mediocre condition, while 20 percent are rated in fair condition and the remaining 52 percent are rated in good condition.⁹

The pavement data in this report for all arterial roads and highways is provided by the Federal Highway Administration, based on data submitted annually by the Mississippi Department of Transportation (MDOT) on the condition of major state and locally maintained roads and highways in the state.

Roads rated poor may show signs of deterioration, including rutting, cracks and potholes. In some cases, poor roads can be resurfaced but often are too deteriorated and must be reconstructed. Roads rated in mediocre condition may show signs of significant wear and may

also have some visible pavement distress. Most pavements in fair condition can be repaired by resurfacing, but some may need more extensive reconstruction to return them to good condition.

Pavement failure is caused by a combination of traffic, moisture and climate. Moisture often works its way into road surfaces and the materials that form the road's foundation. Road surfaces at intersections are even more prone to deterioration because the slow-moving or standing loads occurring at these sites subject the pavement to higher levels of stress. It is critical that roads are fixed before they require major repairs because reconstructing roads costs approximately four times more than resurfacing them.¹⁰ As roads and highways continue to age, they will reach a point of deterioration where routine paving and maintenance will not be adequate to keep pavement surfaces in good condition and costly reconstruction of the roadway and its underlying surfaces will become necessary.

In the Jackson urban area, 45 percent of major locally and state- maintained roads are rated in poor condition, 23 percent are rated in mediocre condition, 12 percent are rated in fair condition and 21 percent are rated in good condition.¹¹

Twenty-nine percent of major locally and state-maintained roads in the Gulfport/Biloxi area are rated in poor condition and 17 percent are rated in mediocre condition.¹² Sixteen percent of major urban roads in the Gulfport/Biloxi are rated in fair condition and 38 percent are rated in good condition.¹³

The Costs to Motorists of Roads in Inadequate Condition

TRIP has calculated the additional cost to motorists of driving on roads in poor or unacceptable condition. When roads are in poor condition – which may include potholes, rutting

or rough surfaces – the cost to operate and maintain a vehicle increases. These additional vehicle operating costs include accelerated vehicle depreciation, additional vehicle repair costs, increased fuel consumption and increased tire wear. TRIP estimates that additional vehicle operating costs borne by Mississippi motorists as a result of poor road conditions is \$627 million annually.

Driving on rough roads costs the average motorist in the Jackson area \$741 annually in extra vehicle operating costs.¹⁴ In the Gulfport/Biloxi urban area, the average driver loses \$531 each year due to driving on deficient roads.¹⁵

Additional vehicle operating costs have been calculated in the Highway Development and Management Model (HDM), which is recognized by the U.S. Department of Transportation and more than 100 other countries as the definitive analysis of the impact of road conditions on vehicle operating costs. The HDM report is based on numerous studies that have measured the impact of various factors, including road conditions, on vehicle operating costs.¹⁶

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

TRIP's additional vehicle operating cost estimate is based on taking the average number of miles driven annually by a motorist, calculating current vehicle operating costs based on AAA's 2012 vehicle operating costs and then using the HDM model to estimate the additional vehicle operating costs paid by drivers as a result of substandard roads.¹⁷ Additional research on

the impact of road conditions on fuel consumption by the Texas Transportation Institute (TTI) is also factored into TRIP's vehicle operating cost methodology.

Bridge Conditions in Mississippi

Mississippi's bridges form key links in the state's highway system, providing communities and individuals access to employment, schools, shopping and medical facilities, and facilitating commerce and access for emergency vehicles.

Twenty-two percent of Mississippi's locally and state- maintained bridges (20 feet or longer) are currently rated as structurally deficient or functionally obsolete.

Fourteen percent of Mississippi's locally and state- maintained bridges are rated as structurally deficient.¹⁸ A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Bridges that are structurally deficient may be posted for lower weight limits or closed if their condition warrants such action. Deteriorated bridges can have a significant impact on daily life. Restrictions on vehicle weight may cause many vehicles – especially emergency vehicles, commercial trucks, school buses and farm equipment – to use alternate routes to avoid posted bridges. Redirected trips also lengthen travel time, waste fuel and reduce the efficiency of the local economy.

Eight percent of Mississippi's locally and state- maintained bridges are rated functionally obsolete.¹⁹ Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment with the approaching roadway.

The service life of bridges can be extended by performing routine maintenance such as resurfacing decks, painting surfaces, insuring that a facility has good drainage and replacing

deteriorating components. But most bridges will eventually require more costly reconstruction or major rehabilitation to remain operable.

Traffic Congestion in Mississippi

Commuting and commerce in Mississippi are constrained by growing traffic congestion, which will increase in the future unless additional highway and transit capacity is provided. Vehicle travel in Mississippi has increased dramatically in recent years, without a corresponding increase in roadway lane miles. As a result, the state's roads have become increasingly congested, choking commuting and commerce.

According to the [Texas Transportation Institute](#) (TTI), the average driver in the Jackson urban area loses \$594 each year in the cost of lost time and wasted fuel as a result of traffic congestion.²⁰ The average commuter in the Jackson urban area spends an additional 25 hours annually each year stuck in traffic because of traffic congestion.²¹ TTI estimates that in the Gulfport/Biloxi area, the average driver loses \$522 each year in the cost of wasted fuel and lost time due to traffic congestion.²² The average Gulfport/Biloxi commuter spends an additional 24 hours annually stuck in traffic due to traffic congestion.²³

The total cost of traffic congestion annually in Mississippi is \$432 million in lost time and wasted fuel.²⁴

Traffic Safety in Mississippi

A total of 3,638 people were killed in motor vehicle crashes in Mississippi from 2007 through 2011, an average of 728 fatalities per year.²⁵

Chart 1. Traffic fatalities in Mississippi from 2007 – 2011.

<i>Year</i>	<i>Fatalities</i>
2007	884
2008	783
2009	700
2010	641
2011	630
Total	3,638

Source: National Highway Traffic Safety Administration

Three major factors are associated with fatal vehicle crashes: driver behavior, vehicle characteristics and roadway features. It is estimated that roadway features are likely a contributing factor in approximately one-third of fatal traffic crashes. Roadway features that impact safety include the number of lanes, lane widths, lighting, lane markings, rumble strips, shoulders, guard rails, other shielding devices, median barriers and intersection design.

Mississippi's overall traffic fatality rate of 1.62 fatalities per 100 million vehicle miles of travel in 2011 is significantly higher than the national average of 1.10 and the fifth highest level nationally, behind only Montana (1.79), West Virginia (1.78), South Carolina (1.70) and Arkansas (1.62).²⁶ Mississippi's traffic fatality rate on rural, non-Interstate routes is more than twice as high as the rate on all other roads and highways in the state. The fatality rate on Mississippi's non-Interstate rural roads was 2.27 fatalities per 100 million vehicle miles of travel in 2011, more than double the fatality rate of 0.99 on all other roads and highways in the state.²⁷ And, while 50 percent of vehicles miles of travel in Mississippi in 2011 occurred on rural, non-Interstate routes, 69 percent of all traffic fatalities in the state in 2011 occurred on rural, non-Interstate roads.²⁸

The annual cost of serious traffic crashes in Mississippi, in which roadway features were likely a contributing factor, was approximately \$573 million.²⁹ In the Jackson urban area, the

cost of serious traffic crashes in which roadway features were likely a contributing factor is approximately \$171 annually per motorist.³⁰ The cost of serious traffic crashes in the Gulfport/Biloxi area in which roadway features were likely a contributing factor is approximately \$219 annually per motorist.³¹

Improving safety on Mississippi's roadways can be achieved through further improvements in vehicle safety; improvements in driver, pedestrian, and bicyclist behavior; and a variety of improvements in roadway safety features.

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

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

Investments in rural traffic safety have been found to result in significant reductions in serious traffic crashes. A 2012 report by the [Texas Transportation Institute](#) (TTI) found that improvements completed recently by the Texas Department of Transportation that widened lanes, improved shoulders and made other safety improvements on 1,159 miles of rural state roadways resulted in 133 fewer fatalities on these roads in the first three years after the improvements were completed (as compared to the three years prior). TTI estimates that the improvements on these roads are likely to save 880 lives over the next 20 years.³²

Transportation Funding

Investment in Mississippi's roads, highways and bridges is funded by local, state and federal governments. The federal government provides funding for the state's transportation system largely as part MAP-21(Moving Ahead for Progress in the 21st Century Act), the current two-year federal surface transportation program, which expires in September 2014.

The federal government remains a critical source of funding for Mississippi's roads, highways and bridges and provides a significant return to Mississippi in road and bridge funding based on the revenue generated in the state by the federal motor fuel tax. From 2007 to 2011, the federal government provided \$1.27 for road improvements in Mississippi for every one dollar paid in federal motor fuel fees.³³ And from 2007 to 2011, federal revenues accounted for 51 percent of state spending on Mississippi's roads, highways and bridges.³⁴ MAP-21 will fund surface transportation programs in Mississippi at an average of \$469 million annually for fiscal years 2013 and 2014.³⁵

While MAP-21 program, approved by Congress in 2012, increased funding flexibility for states and improved project approval processes to improve the efficiency of state and local transportation agencies in providing needed transportation improvements, it did not provide sufficient long-term revenues to support the current level of federal surface transportation investment. Nationwide, federal funding for highways is expected to be cut by almost 100 percent from the current investment level for the fiscal year starting October 1, 2014 (FY 2015) unless Congress provides additional transportation revenues. This is due to a cash shortfall in the Highway Trust Fund as projected by the [Congressional Budget Office](#).

If the funding shortfalls into the federal Highway Trust Fund are addressed solely by cutting spending it is estimated that federal funding for highway and transit improvements in Mississippi will be cut by \$470 million for the federal fiscal year starting October 1, 2014, unless Congress provides additional transportation revenues.³⁶

Increasing investment in the state's roads, highways and bridges could boost Mississippi's economy by creating jobs. A 2013 report by the American Road & Transportation Builders Association found that the \$1.4 billion spent annually on road, highway and bridge construction and maintenance in Mississippi supports approximately 37,000 full-time jobs, including approximately 18,400 jobs in transportation construction and related activities and approximately 18,600 jobs induced in non-construction related sectors of the economy.³⁷

Importance of Transportation to Economic Growth

Today's culture of business demands that an area have well-maintained and efficient roads, highways and bridges if it is to remain economically competitive. The advent of modern national and global communications and the impact of free trade in North America and elsewhere have resulted in a significant increase in freight movement. Consequently, the quality of a region's transportation system has become a key component in a business's ability to compete locally, nationally and internationally.

Businesses have responded to improved communications and the need to cut costs with a variety of innovations including just-in-time delivery, increased small package delivery, demand-side inventory management and by accepting customer orders through the Internet. The result of these changes has been a significant improvement in logistics efficiency as firms move from a

push-style distribution system, which relies on large-scale warehousing of materials, to a pull-style distribution system, which relies on smaller, more strategic movement of goods. These improvements have made mobile inventories the norm, resulting in the nation's trucks literally becoming rolling warehouses.

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

Every year, \$91 billion in goods are shipped from sites in Mississippi and another \$104 billion in goods are shipped to sites in Mississippi, mostly by trucks.³⁸ Seventy-seven percent of the goods shipped annually from sites in Mississippi are carried by trucks and another six percent are carried by courier services or multiple-mode deliveries, which include trucking.³⁹

The cost of road and bridge improvements are more than offset by the reduction of user costs associated with driving on rough roads, the improvement in business productivity, the reduction in delays and the improvement in traffic safety. The [Federal Highway Administration estimates](#) that each dollar spent on road, highway and bridge improvements results in an average benefit of \$5.20 in the form of reduced vehicle maintenance costs, reduced delays, reduced fuel consumption, improved safety, reduced road and bridge maintenance costs and reduced emissions as a result of improved traffic flow.⁴⁰

Increasingly, companies are looking at the quality of a region's transportation system when deciding where to re-locate or expand. Regions with congested or poorly maintained roads

may see businesses relocate to areas with a smoother, more efficient and more modern transportation system.

Local, regional and state economic performance is improved when a region's surface transportation system is expanded or repaired. This improvement comes as a result of the initial job creation and increased employment created over the long-term because of improved access, reduced transport costs and improved safety Highway accessibility was ranked the number one site selection factor in a [2011 survey](#) of corporate executives by [Area Development Magazine](#).⁴¹

Conclusion

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

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

Without a substantial boost in federal, state and local highway funding, numerous projects to improve the condition and expand the capacity of Mississippi's roads, highways and

bridges will not be able to proceed, hampering the state's ability to improve the condition of its transportation system and to enhance economic development opportunities in the state.

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Endnotes

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- ¹ Federal Highway Administration (2013). FY 2013 and FY 2014 MAP-21 Apportionment tables. <http://www.fhwa.dot.gov/map21/>
- ² U.S. Census Bureau (2012).
- ³ Highway Statistics (2011). Federal Highway Administration. DL-1C
- ⁴ TRIP analysis of Bureau of Economic Analysis data.
- ⁵ U.S. Department of Transportation - Federal Highway Administration: Highway Statistics 1990 and 2011.
- ⁶ TRIP calculation based on U.S. Census and Federal Highway Administration data.
- ⁷ Federal Highway Administration (2013). Pavement condition data is for 2011.
- ⁸ Ibid.
- ⁹ Ibid.
- ¹⁰ Selecting a Preventative Maintenance Treatment for Flexible Pavements. R. Hicks, J. Moulthrop. Transportation Research Board. 1999. Figure 1.
- ¹¹ Federal Highway Administration (2013). Pavement condition data is for 2011.
- ¹² Ibid.
- ¹³ Ibid.
- ¹⁴ TRIP calculation.
- ¹⁵ Ibid.
- ¹⁶ Highway Development and Management: Volume Seven. Modeling Road User and Environmental Effects in HDM-4. Bennett, C. and Greenwood, I. 2000.
- ¹⁷ Your Driving Costs. American Automobile Association. 2012.
- ¹⁸ Federal Highway Administration (2012). National Bridge Inventory.
- ¹⁹ Ibid.
- ²⁰ Texas Transportation Institute. 2012 Urban Mobility Report.
- ²¹ Ibid.
- ²² Texas Transportation Institute data.
- ²³ Ibid.
- ²⁴ TRIP estimate based on analysis of FHWA and TTI data.
- ²⁵ TRIP analysis of National Highway Traffic Safety Administration data (2012).
- ²⁶ TRIP analysis of National Highway Traffic Safety Administration and Federal Highway Administration data (2012).
- ²⁷ Ibid.
- ²⁸ Ibid.
- ²⁹ TRIP estimates based on National Highway Traffic Safety Administration (NHTSA) data.
- ³⁰ Ibid.
- ³¹ Ibid.
- ³² Adding Highway Shoulders, Width, Reduce Crash Numbers and Save Lives (August 9, 2012). Texas Transportation Institute.
- ³³ TRIP analysis of Federal Highway Administration data. 2007 to 2011 Highway Statistics sf-1.
- ³⁴ TRIP analysis of Federal Highway Administration data. 2007 to 2011 Highway Statistics fe-221.
- ³⁵ Federal Highway Administration (2013). FY 2013 and FY 2014 MAP-21 Apportionment tables. <http://www.fhwa.dot.gov/map21/>
- ³⁶ U.S. Senate Committee on Environment and Public Works (2013). http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=cf1dfe4e-8e60-4506-a9e0-205fe809f314
- ³⁷ American Road & Transportation Builders Association, 2013. The Economic Impact of the Highway and Bridge Construction Industry in Mississippi.
- ³⁸ Bureau of Transportation Statistics (2010), U.S. Department of Transportation. 2007 Commodity Flow Survey, State Summaries.

http://www.bts.gov/publications/commodity_flow_survey/2007/states/

³⁹ Ibid.

⁴⁰ FHWA estimate based on its analysis of 2006 data. For more information on FHWA's cost-benefit analysis of highway investment, see the 2008 Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance.

⁴¹ Area Development Magazine (Winter, 2012). 26th Annual Survey of Corporate Executive Results.