

Future Mobility in Mississippi:

Meeting the State's Need for Safe and Efficient Mobility

February 2010

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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 highway 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 an efficient and safe highway transportation

Executive Summary

Mississippi's extensive system of roads, highways, bridges and public transit provides the state's residents, visitors and businesses with a high level of mobility. As the backbone that supports the state's economy, Mississippi's surface transportation system provides for travel to work and school, visits with family and friends, and trips to tourist and recreation attractions while simultaneously providing businesses with reliable access for customers, suppliers and employees.

With an unemployment rate of 10.6 percent, and with the state's population continuing to grow, Mississippi must improve its system of roads, highways, bridges and public transit to foster economic growth, keep business in the state, and ensure the safe, reliable mobility needed to improve the quality of life for all residents.

As Mississippi looks to rebound from the current economic downturn, the state will need to enhance 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 residents, visitors and businesses. Making needed improvements to Mississippi's roads, highways, bridges and transit could provide a significant boost to the state's economy by creating jobs and stimulating long-term economic growth as a result of enhanced mobility and access.

Approved in February 2009, one aim of the American Recovery and Reinvestment Act (ARRA) is to stimulate the economy and provide a significant, short-term boost in transportation funding. Mississippi's estimated \$350 million in surface transportation stimulus funding will allow the state to make some needed rehabilitation and improvements to its road, bridge and public transit systems, but it will not allow the state to proceed with numerous projects needed to modernize its surface transportation system. Even with the aid of stimulus funding, Mississippi will still face a sizeable, on-going transportation funding shortfall.

This report examines current road and bridge conditions, traffic congestion levels, traffic safety rates and the funding needs of major roads, highways and bridges in Mississippi. Included in the report are lists of needed but unfunded transportation projects, and the segments of urban roadway with the highest levels of traffic congestion.

Mississippi faces a significant challenge in maintaining, rehabilitating and rebuilding its aging highway system and providing additional lane capacity to meet growing travel demand. The Mississippi Department of Transportation (MDOT) estimates a total funding shortfall of \$6 billion from 2010 to 2019, leaving many needed transportation projects unable to proceed. Funding from the economic stimulus package has provided jobs in Mississippi and allowed additional projects to be completed, but will not be sufficient to fund numerous projects needed to repair and modernize the state's transportation system.

- From 2010 to 2019, MDOT estimates that \$12.5 billion will be needed to significantly improve road and bridge conditions, relieve traffic congestion, enhance economic development opportunities and make roadway safety improvements.
- However, during that time, MDOT estimates that only \$6.5 billion will be available for road and bridge improvements, congestion relief, economic development enhancements and traffic safety improvements.
- The American Recovery and Reinvestment Act (ARRA) has provided a significant, short-term boost in transportation funding in Mississippi, but only represents a down payment towards addressing the state's long-term road and bridge funding shortfall. While the approximately \$350 million in stimulus funding will allow the state to make some needed improvements to its roads, highways, bridges and transit system, it will not be sufficient to allow the state to proceed with numerous projects needed to modernize its transportation system.
- Making needed repairs to the state's transportation system can help boost Mississippi's economy. A 2007 analysis by the Federal Highway Administration found that every \$1 billion invested in highway construction would support approximately 27,800 jobs, including approximately 9,500 in the construction sector, approximately 4,300 jobs in industries supporting the construction sector, and approximately 14,000 other jobs induced in non-construction related sectors of the economy.
- Mississippi's unemployment rate increased from 6.1 percent in December 2007 to 10.6 percent in December 2009.
- Mississippi's funding shortfall has been exacerbated by the escalation of the cost of transportation improvements due to increases in the price of key materials needed for highway and bridge construction. The average cost of materials used for highway construction – including asphalt, concrete, steel, lumber and diesel – increased by 34 percent over the five-year period from November 2004 to November 2009.

Without a substantial boost in federal or state highway funding, numerous projects to improve the condition, safety and efficiency of Mississippi's roads, bridges and highways 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.

- MDOT has identified several corridors that need to be modernized or expanded, but that currently lack adequate funding for the projects to proceed. These needed projects include the following: expanding MS 15 from two to four lanes from I-20 to the Tennessee state line, in order to provide a major corridor in the area; construction of Hattiesburg Beltway and Jackson Beltway, needed to reduce congestion in each area; construction of four-lane MS 601 from I-10 to Wiggins to provide intermodal connectivity to the Gulf Coast; and construction of four-lane I-69/269 from the Arkansas state line to the Tennessee state line to enhance economic development, improve travel distances and times and provide a safer route.
- In addition to modernizing and expanding several key corridors, the state recognizes a need to modernize and expand approximately 180 miles of roadway throughout the state, including the following projects: four-lane 10 miles of US 49, from Star to I-20 east of Jackson; four-lane several sections of US 15, including 20 miles from Shady Grove to Bay Springs; and four-lane eight miles of SR 603 from Town Road to Hancock; four-lane 16 miles of US 82, from the Mississippi River bridge to US 61.
- Federal spending levels for highways and public transit are based on the current federal surface transportation program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which was approved by Congress in 2005.
- Congress is currently deliberating over a long-range federal surface transportation program. Although SAFETEA-LU was originally set to expire on September 30, 2009, after a series of short-term extensions, the program will now expire February 28, 2010.
- The level of funding and the provisions of a future federal surface transportation program as well as future state and local transportation funding levels will have a significant impact on future highway and bridge conditions and safety as well as the level of transit service in Mississippi, which, in turn, will affect the state's ability to improve its residents' quality of life and enhance economic development opportunities.

Twenty-two percent of major roads in Mississippi are in poor or very poor condition, providing motorists with a rough ride. Roads in need of repair cost the average Mississippi motorist approximately \$394 each year in extra vehicle operating costs - \$774 million statewide.

- In 2008, seven percent of major roads in Mississippi were rated in very poor condition, 15 percent of major roads were rated in poor condition and 37 percent of major roads were rated in fair condition.

- Roads rated in poor or very poor condition may show signs of deterioration, including ruts, cracks and potholes. In some cases, poor or very poor roads can be resurfaced, but often are too deteriorated and must be reconstructed.
- Roads rated in fair 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 or very good condition.
- A desirable goal for state and local organizations that are responsible for road maintenance is to have 75 percent of major roads in good or very good condition. Only 41 percent of Mississippi's major roads are in good or very good condition.
- Driving on roads in need of repair costs the average Mississippi motorist approximately \$394 per-year -- \$774 million statewide – in additional vehicle operating costs. These costs include accelerated vehicle depreciation, additional repair costs and increased fuel consumption and tire wear.

Mississippi has the eighth highest percentage of bridges in the nation that are structurally deficient. One quarter of bridges in Mississippi are structurally deficient or functionally obsolete.

- In 2009 17 percent of Mississippi's bridges (20 feet or longer) were rated structurally deficient, the eighth highest percentage in the nation. 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.
- Eight percent of Mississippi's bridges (20 feet or longer) were functionally obsolete in 2009. Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.
- Bridge deficiencies have an impact on mobility and safety. Restrictions on vehicle weight may cause many vehicles – especially emergency vehicles, commercial trucks, school buses and farm equipment – to use alternate routes to avoid these bridges.
- Narrow bridge lanes, inadequate clearances and poorly aligned bridge approaches reduce traffic safety. Redirected trips lengthen travel time, waste fuel and reduce the efficiency of the local economy.

Traffic congestion levels in Mississippi are rising, as vehicle travel on the state’s roadways has increased 18 times faster than additional roadway capacity has been added. Vehicle travel in Mississippi grew at the fifth fastest rate in the nation from 1990 to 2008.

- Mississippi’s population reached 2.9 million in 2008, a 14 percent increase since 1990. Mississippi’s population is projected to increase by approximately another 105,000 residents by the year 2020.
- Vehicle miles of travel (VMT) on Mississippi’s major highways increased at the fifth highest rate in the nation between 1990 and 2008. VMT rose 71 percent during that time – jumping from 24.4 billion VMT in 1990 to 41.8 billion VMT in 2008.
- Vehicle travel in the state increased at a rate 18 times faster than new capacity was added to the system from 1990 to 2008, as overall lane miles of roads and highways in Mississippi increased by approximately four percent.
- Vehicle travel in Mississippi is expected to increase by another 35 percent by 2020, reaching approximately 56.4 billion VMT.
- Twenty-eight percent of Mississippi’s urban Interstates and other highways or freeways are considered congested because they carry a level of traffic that is likely to result in significant delays during peak travel hours.
- The following table lists the ten sections of roadway in Mississippi that have the highest level of traffic congestion, based on a roadway’s volume to capacity (V/C) ratio. A list of the 30 most congested sections of roadway in the state is included in the report.

| | Route | From | To | Length in Miles | V/C ratio | Average Daily Traffic |
|-----------|------------------------------|-------------------------|------------------------------|------------------------|------------------|------------------------------|
| 1 | MS 15 | End of 4 lane in Laurel | 2 miles south of Stringer | 9 | 2.13 | 15000 |
| 2 | MS 7 | Holly Springs Bypass | | 10 | 2.04 | 14000 |
| 3 | MS 601 (Canal Rd). | I-10 | US 90 | 5.2 | 1.93 | 13000 |
| 4 | MS 16 | I-55 | MS 43 | 4 | 1.89 | 13000 |
| 5 | MS 43 | Old Kiln Rd | I-59/MS 43N | 4.4 | 1.8 | 13000 |
| 6 | MS 76 (Appalachian Corridor) | MS 342 | MS 145 | 9.3 | 1.8 | 13000 |
| 7 | MS 43 | Kiln Bypass | | 4 | 1.7 | 12000 |
| 8 | MS 57 | I-10 | Vanceleave | 7.8 | 1.7 | 12000 |
| 9 | MS 15 | MS 41 | MS 6 | 5 | 1.7 | 12000 |
| 10 | MS 6 (MS 278) | Dummy Line Rd. | Bates Street (beg of 4-lane) | 6 | 1.6 | 11000 |

Despite a significant drop in traffic fatalities from 2005 to 2008, Mississippi has the sixth highest traffic fatality rate in the nation, with nearly 900 people annually losing their lives on the state's roads from 2004 to 2008. Improving safety features on Mississippi's roads and highways would likely result in a decrease in traffic fatalities in the state. Roadway design is likely a contributing factor in approximately one-third of all fatal and serious traffic accidents.

- From 2004 to 2008, 4,409 people were killed in traffic crashes in Mississippi, an average of 882 fatalities per year.
- Mississippi's traffic fatality rate of 1.79 fatalities per 100 million vehicle miles of travel in 2008 is the sixth highest rate in the nation, 43 percent higher than the national average of 1.25.
- Traffic fatalities in Mississippi have dropped significantly from 2005 to 2008 from 931 to 783 and the rate of traffic fatalities per 100 million vehicle miles of travel dropped from 2.32 to 1.79, the first time the state's traffic fatality rate has ever been below 2.00. Mississippi's Strategic Highway Safety Plan calls for reducing traffic fatalities in the state to less than 700 by 2011.
- The traffic fatality rate on Mississippi's rural, non-Interstate roads is 2.52 fatalities per 100 million vehicle miles of travel. This is approximately two-and-a-half times the traffic fatality rate on all other roads in the state (1.01).
- There are several factors associated with vehicle accidents that result in fatalities, including driver behavior, vehicle characteristics and roadway design.
- TRIP estimates that roadway characteristics, such as lane widths, lighting, signage and the presence or absence of guardrails, paved shoulders, traffic lights, rumble strips, obstacle barriers, turn lanes, median barriers and pedestrian or bicycle facilities, are likely a contributing factor in approximately one-third of all fatal and serious traffic accidents.
- Where appropriate, highway improvements such as removing or shielding obstacles, adding or improving medians, adding rumble strips, widening lanes, widening and paving shoulders, upgrading roads from two lanes to four lanes, and adding better road markings and traffic signals can reduce traffic fatalities and accidents while improving traffic flow to help relieve congestion.
- The Federal Highway Administration has found that every \$100 million spent on needed highway safety improvements will result in 145 fewer traffic fatalities over a 10-year period.

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.

- Approximately \$95 billion in goods are shipped annually from sites in Mississippi and another \$78 billion in goods are shipped annually to sites in Mississippi, mostly by commercial trucks on the state’s highways.
- Eighty-seven percent of the goods shipped annually from sites in Mississippi are carried by trucks and another four percent are carried by courier services, which use trucks for part of the deliveries. Similarly, 76 percent of the goods shipped to sites in Mississippi are carried by trucks and another ten percent are carried by courier services.
- Commercial truck travel in the state is expected to increase significantly over the next decade. Based on federal projections, TRIP estimates that commercial trucking will increase by 38 percent in Mississippi by the year 2020.
- 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 transportation system.
- 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.

All data used in the report is the latest available. Sources of information for this report include the U.S. Department of Transportation, the Federal Highway Administration (FHWA), the U.S. Census Bureau, the National Highway Traffic Safety Administration (NHTSA), the National Bridge Inventory (NBI), and the Mississippi Department of Transportation (MDOT) and the U.S. Bureau of Transportation Statistics (BTS).

Introduction

Mississippi's system of roads and bridges provides the state's residents, businesses and visitors with a high level of mobility. As the backbone of Mississippi's surface transportation system, roads and bridges play a central role in the state's economy and enable residents and visitors to go to work, visit family and friends, move goods to market, and frequent tourist attractions.

Mississippi faces significant challenges in repairing and maintaining its deteriorated system of roads, bridges and public transportation. The modernization of Mississippi's roads and bridges is crucial to providing a safer, more efficient transportation system, while improving the economic livelihood of the state and accommodating future growth. As travel on Mississippi's surface transportation system becomes more efficient and the physical condition of the state's roads, highways and bridges improves, personal and commercial productivity will increase, boosting economic development statewide.

Without a significant commitment to transportation funding at the state and federal level, many needed projects and improvements cannot move forward, jeopardizing Mississippi's future mobility and potential for economic development. Even with the added funding the state has received through the federal economic stimulus package, many key projects remain unfunded at current transportation investment levels.

In addition to evaluating the current condition of Mississippi's surface transportation system, this report evaluates the state's ability to meet future mobility and traffic safety needs. Included in the report are lists of the state's needed but unfunded transportation projects and the segments of urban roadway with the highest levels of traffic congestion.

All data used in the report is the latest available. Sources of information for this study include the U.S. Department of Transportation, the Federal Highway Administration (FHWA), the U.S. Census Bureau, the National Highway Traffic Safety Administration (NHTSA), the National Bridge Inventory (NBI), and the Mississippi Department of Transportation (MDOT).

Population and Travel Trends in Mississippi

Mississippi residents enjoy modern lifestyles that rely on a high level of personal and commercial mobility. Increases in both the state's population and the rate of travel of its residents have created additional demand on the state's transportation system, particularly on its key highways and roads. It is critical that Mississippi develop and maintain a modern transportation system that can accommodate future growth in population, tourism and vehicle travel and foster economic development.

Mississippi's population reached approximately 2.9 million in 2008, an increase of 14 percent and approximately 366,000 people since 1990. Mississippi's population is expected to increase another four percent by 2020, an increase of approximately 105,000 people.¹

From 1990 to 2008, Mississippi experienced the fifth highest increase in vehicle travel in the nation. Annual vehicle-miles-of-travel (VMT) in the state increased by 71 percent, from approximately 24.4 billion VMT to 41.8 billion VMT during that time.² Based on travel and population trends, TRIP estimates that vehicle travel in Mississippi will increase by another 35 percent by 2020, reaching approximately 56.4 billion VMT.³

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 structures last as long as possible.

In 2008, 22 percent of Mississippi's major roads were rated in poor (15%) or very poor (7%) condition, providing motorists with a rough ride.⁴ Thirty-seven percent of Mississippi's major roads were rated in fair condition.⁵ Roads rated poor or very poor may show signs of deterioration, including ruts, cracks and potholes. In some cases, poor or very poor roads can be resurfaced, but often are too deteriorated and must be reconstructed. Roads rated in fair 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 or very good condition.

The pavement condition of the state's major roads are evaluated and typically classified as being in very poor, poor, fair, good or very good condition. A desirable goal for state and local organizations that are responsible for road maintenance is to keep 75 percent of major roads in good or very good condition.⁶ In Mississippi, 41 percent of the state's major roads were in good or very good condition in 2008.⁷

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. Because

reconstructing roads costs approximately four times more than resurfacing them, it is critical that roads are fixed before they require major repairs.⁸

Driving on roads in need of repair costs the average Mississippi motorist approximately \$394 per-year -- \$774 million statewide – in additional vehicle operating costs. These costs include accelerated vehicle depreciation, additional repair costs and increased fuel consumption and tire wear.

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, as well as facilitating commerce, tourism and access for emergency vehicles.

In 2009, 17 percent of Mississippi’s bridges (20 feet or longer) were rated structurally deficient – the eighth highest rate in the nation.⁹

Chart 1. Bridge Conditions in Mississippi, 2009.

| Bridge Condition | Number of Bridges | Percent Deficient |
|-------------------------|--------------------------|--------------------------|
| Structurally Deficient | 2,891 | 17 |
| Functionally Obsolete | 1,310 | 8 |
| Total Bridges | 17,023 | |

Source: Federal Highway Administration, National Bridge Inventory

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 bridges (20 feet or longer) were functionally obsolete in 2009.¹⁰ Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.

Traffic Congestion in Mississippi

Traffic congestion in Mississippi is a growing burden in key urban areas and threatens to impede the state's economic development. Congestion on Mississippi's urban highways is growing, in part, as a result of increases in vehicle travel and population, without a corresponding increase in roadway capacity.

From 1990 to 2008, vehicle travel on Mississippi's roadways increased by 71 percent, the fifth largest increase in the nation during that time.¹¹ During the same period, lane miles of roads and highways in Mississippi increased by approximately four percent. Thus, vehicle travel in the state increased at a rate nearly 18 times faster than new roadway capacity was added to the system.

In 2007 28 percent of Mississippi's urban highways were congested, carrying traffic volumes that result in significant rush hour delays.¹² Highways that carry high levels of traffic are also more vulnerable to experiencing significant traffic delays as a result of accidents or other incidents.

The following is a list of the 30 segments of Mississippi's urban highways or major roads (between 2-10 miles in length) that have the highest levels of traffic congestion, based on a roadway's volume to capacity (V/C) ratio. The V/C ratio compares the current volume of traffic carried by a roadway with the traffic capacity that the structure was originally designed to accommodate.

Chart 2: The 30 most congested segments of Mississippi highways.

| Rank | Route | From | To | Length in Miles | V/C ratio | Average Daily Traffic |
|------|-----------------------------------|-------------------------|--------------------------------|-----------------|-----------|-----------------------|
| 1 | MS 15 | End of 4 lane in Laurel | 2 miles south of Stringer | 9 | 2.13 | 15000 |
| 2 | MS 7 | Holly Springs Bypass | | 10 | 2.04 | 14000 |
| 3 | MS 601 (Canal Rd.) | I-10 | US 90 | 5.2 | 1.93 | 13000 |
| 4 | MS 16 | I-55 | MS 43 | 4 | 1.89 | 13000 |
| 5 | MS 43 | Old Kiln Rd | I-59/MS 43N | 4.4 | 1.80 | 13000 |
| 6 | MS 76 (Appalachian Corridor) | MS 342 | MS 145 | 9.3 | 1.80 | 13000 |
| 7 | MS 43 | Kiln Bypass | | 4.5 | 1.70 | 12000 |
| 8 | MS 57 | I-10 | Vancleave | 7.8 | 1.70 | 12000 |
| 9 | MS 15 | MS 41 | MS 6 | 5 | 1.70 | 12000 |
| 10 | MS 6 (MS 278) | Dummy Line Rd. | Bates Street (beg of 4-lane) | 6 | 1.60 | 11000 |
| 11 | MS 15 | US 80 | North City Limits of Decatur | 9 | 1.56 | 11000 |
| 12 | MS 15 | US 78 | 6 miles south of the Tippah CL | 4.3 | 1.56 | 11000 |
| 13 | MS 15 | Union CL | 1 mile north of MS 4 | 12.4 | 1.56 | 11000 |
| 14 | MS 76/MS 6 (Appalachian Corridor) | MS 342 | Natchez Trace | 5.8 | 1.53 | 11000 |
| 15 | I-20 | MS 468 | MS 475 (Rural Interstate) | 3 | 1.43 | 70000 |
| 16 | MS 7 | MS 9W | MS 6 | 7 | 1.40 | 9600 |
| 17 | MS 7 (MS 4) | MS 4 | Beg of 4-lane south of US 78 | 1 | 1.32 | 9300 |
| 18 | MS 15 | MS 42 west | MS 42 east (all in Richton) | 0.5 | 1.31 | 9200 |
| 19 | MS 15 | SR 6 | US 78 | 12 | 1.29 | 9100 |
| 20 | I-55 | Church Road | MS 302 | 2 | 1.23 | 60000 |

| | | | | | | |
|----|------------------------|----------------------------------|--|-----|------|--------|
| 21 | MS 18 (Brandon bypass) | Greenfield Rd. | Star Rd | 3.5 | 1.22 | 8600 |
| 22 | US 49 | Florence Bypass | | 10 | 1.19 | 52000 |
| 23 | I-55 | High Street | MS 25/Lakeland Dr. (Urban Interstate) | 2.2 | 1.18 | 132000 |
| 24 | I-20 | I-55 South | US 49 (Urban Interstate) | 3.1 | 1.18 | 126000 |
| 25 | MS 15 | MS 485 | Philadelphia Bypass | 2 | 1.18 | 8,300 |
| 26 | I-20 | MS 475 | Brandon Crossgates Exit (Rural Interstate) | 2.5 | 1.17 | 57000 |
| 27 | MS 35 | End of 4-lane north of I-20 | Hillsboro | 6 | 1.14 | 8200 |
| 28 | MS 15 | North City Limits of Bay Springs | Louin | 6.5 | 1.14 | 8000 |
| 29 | MS 16 | MS 43 | MS 17 | 13 | 1.13 | 7800 |
| 30 | US 49 E | Sidon | End of 4-lane south of US 82 | 7 | 1.13 | 7800 |

Source: Mississippi Department of Transportation

Traffic Safety in Mississippi

A total of 4,409 people were killed in motor vehicle crashes in Mississippi from 2004 through 2008, an average of 882 fatalities per year.¹³ Mississippi's traffic fatality rate of 1.79 fatalities per 100 million vehicle miles of travel in 2008 is the sixth highest in the nation and 43 percent higher than the national average of 1.25.

Traffic fatalities in Mississippi have dropped significantly from 2005 to 2008 from 931 to 783 and the rate of traffic fatalities per 100 million vehicle miles of travel dropped from 2.32 to 1.79, the first time the state's traffic fatality rate has ever been below 2.00. Mississippi's Strategic Highway Safety Plan calls for reducing traffic fatalities in the state to less than 700 by 2011.¹⁴

The traffic fatality rate on Mississippi's rural, non-Interstate roads is 2.52 fatalities per 100 million vehicle miles of travel. This is approximately two-and-a-half times the traffic fatality rate on all other roads in the state (1.01).¹⁵ Higher speeds and fewer roadway safety amenities may contribute to the higher fatality rate on rural roads.

Chart 3. Traffic fatalities and traffic fatalities per 100 million vehicle miles of travel in Mississippi from 2004 – 2008.

| Year | Fatalities | Fatality Rate |
|------|------------|---------------|
| 2004 | 900 | 2.28 |
| 2005 | 931 | 2.32 |
| 2006 | 911 | 2.20 |
| 2007 | 884 | 2.04 |
| 2008 | 783 | 1.79 |

Source: National Highway Traffic Safety Administration.

Three major factors are associated with fatal vehicle crashes: driver behavior, vehicle characteristics and roadway design. It is estimated that roadway design is an important factor in one-third of all fatal and serious traffic accidents. Improving safety on Mississippi’s roads and highway system can be achieved through further improvements in vehicle safety; improvements in driver, pedestrian, and bicyclist behavior; and a variety of improvements in roadway safety features.

Where appropriate, roadway improvements such as adding turn lanes, removing or shielding obstacles, adding or improving medians, widening lanes, widening and paving shoulders, improving intersection layout, providing better road markings, and upgrading or installing traffic signals could reduce the severity of serious traffic crashes. The Federal Highway Administration estimates that every \$100 million spent on needed highway safety improvements will result in 145 fewer traffic fatalities over a 10-year period.¹⁶

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

The following chart shows the correlation between specific needed road improvements and the reduction of fatal accident rates nationally.¹⁷

Chart 4. Reduction in fatal accident rates after roadway improvements

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

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

Importance of Transportation to Economic Growth

The new culture of business demands that a region have well-maintained and efficient roads, highways and bridges if it wants 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 greater necessity 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 away 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. 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.

An analysis of commodity transport by the U.S. Bureau of Transportation Statistics (BTS) and U.S. Census Bureau underscores the economic importance of Mississippi's road system. The BTS report found \$95 billion in goods are shipped annually from sites in Mississippi and another \$78 billion in goods are shipped to sites in Mississippi, mostly by commercial trucks on the state's highways.¹⁸ Eighty-seven percent of the goods shipped annually from sites in Mississippi are carried by trucks and another four percent are carried by courier services, which use trucks for part of the deliveries. Similarly, 76 percent of the goods shipped to sites in Mississippi are carried by trucks and another ten percent are carried by courier services.¹⁹

Trucking is a crucial part of Mississippi's economy, as commercial trucks move goods from sites across the state to markets inside and outside the state. Commercial truck travel in the state is expected to increase significantly over the next decade. Based on federal projections, TRIP estimates that commercial trucking will increase by 38 percent in Mississippi by the year 2020.²⁰

Making needed repairs to the state's transportation system can help boost Mississippi's economy. A 2007 analysis by the Federal Highway Administration found that every \$1 billion

invested in highway construction would support approximately 27,800 jobs, including approximately 9,500 in the construction sector, approximately 4,300 jobs in industries supporting the construction sector, and approximately 14,000 other jobs induced in non-construction related sectors of the economy.²¹

Mississippi's unemployment rate has increased from 6.1 percent in December 2007 to 10.6 percent in December 2009.²²

Sources of Transportation Funding in Mississippi

The construction, repair and upkeep of Mississippi's roads, bridges and highways are paid for by local, state and federal governments, and the system is maintained largely by state and local governments.

Federal funding for Mississippi's highways and bridges comes from the Federal Highway Trust Fund, under funding levels and formulas determined by Congress. Federal spending levels for highways are based on the current federal surface transportation program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which was approved by Congress in 2005. Following a series of short term extensions, the SAFETEA-LU program is set to expire on February 28, 2010.

Transportation Funding and Future Needs in Mississippi

Mississippi faces a significant challenge in maintaining, rehabilitating or rebuilding its aging highway system and providing additional routes and added lane capacity to meet growing travel demand.

The Mississippi Department of Transportation (MDOT) estimates a total funding shortfall of \$6 billion from 2010 to 2019. MDOT estimates that \$12.5 billion will be needed to significantly improve road and bridge conditions, relieve traffic congestion, enhance economic development opportunities and make roadway safety improvements, from 2010 to 2019. However, MDOT estimates that only \$6.5 billion will be available during that time for road and bridge improvements, congestion relief, economic development enhancements and traffic safety improvement.

MDOT has identified several corridors where the existing roadways need to be improved to four-lane highways or where a four-lane highway needs to be built, that currently lack adequate funding. These needed improvements include the following: expanding 200 miles of MS 15 from two to four lanes from I-20 to the Tennessee state line, in order to provide a major corridor in the area, at an estimated cost of \$1.2 billion; construction of Hattiesburg Beltway and Jackson Beltway, needed to reduce congestion in each area; construction of 30 miles of four-lane MS 601 from I-10 to Wiggins to provide intermodal connectivity to the Gulf Coast, at a cost of \$700 million; and construction of 100 miles of four-lane I-69/269 from the Arkansas state line to the Tennessee state line in order to enhance economic development, improve travel distances and times and provide a safer route, at a cost of nearly \$2.5 billion.

MDOT has also identified more than 200 miles of routes that need to be expanded to four lane facilities. Through 2019, the following needed projects currently lack adequate funding to proceed.

Chart 5: Needed projects in Mississippi that currently lack adequate funding to proceed.

| Route | County | Project Limits | Type of Project | Distance (miles) | Cost (millions) |
|------------------------------|---------------|--|-----------------|------------------|-----------------|
| MS 15 | Jones, Jasper | End of 4 lane in Laurel to 2 miles south of Stringer | Four-lane | 9 | 48.9 |
| MS 7 | Marshall | Holly Springs Bypass (NL) | Four-lane | 10 | 44.6 |
| (MS 601) Canal Rd. | Harrison | Port to 33rd Street (NS) | Four-lane | 2 | 72.0 |
| (MS 601) Canal Rd. | Harrison | 33rd Street to Existing Canal Rd (MB) | Four-lane | 3 | 50.8 |
| (MS 601) Canal Rd. | Harrison | I-10/SR 601 interchange (PB) | Four-lane | 1 | 45.0 |
| MS 16 | Madison | I-55 to MS 43 (NL) | Four-lane | 4 | 28.3 |
| MS 43 | Pearl River | Old Kiln Rd to I-59/SR43N (NL) | Four-lane | 4.4 | 75.0 |
| Appalachian Corridor (MS 76) | Pontotoc, Lee | SR 342 to SR 145 | Four-lane | 9.3 | 74.5 |
| MS 43 | Hancock | Kiln Bypass (NL) | Four-lane | 4 | 53.3 |
| MS 57 | Jackson | I-10 to Vancleave | Four-lane | 7.8 | 51.2 |
| MS 15 | Pontotoc | SR 41 to SR 336 | Four-lane | 3 | 39.0 |
| MS 15 | Pontotoc | SR 336 to SR 6 | Four-lane | 2 | 8.8 |
| MS 6 (MS 278) | Panola | Dummy Line Rd. to Bates Street (beg of 4-lane) | Four-lane | 6 | 139.0 |
| MS 15 | Newton | US 80 to NCL of Decatur | Four-lane | 9 | 32.0 |
| MS 7 | Lafayette | MS 9W to MS 6 | Four-lane | 7 | 64.0 |
| I-55 | Desoto | Church Road to SR 302 | Add Four Lanes | 2 | 57.0 |
| MS 18 (Brandon bypass) | Rankin | Greenfield Rd. to Star Road | Four-lane | 3.5 | 14.0 |
| US 49 | Rankin | Florence Bypass (NL) | Four-lane | 10 | 95.0 |
| I-55 | Desoto | SR 304 to Church Road | Add Four Lanes | 4 | 68.0 |
| MS 19 | Neshoba | MS 492 to MS 16 | Four-lane | 12 | 53.0 |
| MS 9 | Pontotoc | MS 6 to US 78 | Four-lane | 10 | 62.0 |

Source: Mississippi Department of Transportation

The challenge faced by Mississippi in funding needed projects could be made more difficult by the cost of highway construction materials. While construction materials costs have stabilized somewhat during the current recession, over the five-year period from November 2004 to November 2009, the average cost of materials used for highway construction – including asphalt, concrete, steel, lumber and diesel – increased by 34 percent.

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 rebound from the current economic downturn, Mississippi will need to modernize its surface transportation system by improving its physical condition 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.

Approval of the federal stimulus package has provided a helpful down payment for the improvement of Mississippi's surface transportation system. However, without a substantial boost in long-term federal, state or local highway funding, numerous projects to improve the condition and expand the capacity of Mississippi's roads, bridges and highways 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

¹ Mississippi Office of Policy, Research and Planning. Mississippi Population Projections 2010, 2015 and 2020.

² U.S. Department of Transportation - Federal Highway Administration: Highway Statistics 2008.

³ U.S. Department of Transportation - Federal Highway Administration: Highway Statistics 1990, 2008.

⁴ Mississippi Department of Transportation.

⁵ Ibid.

⁶ Why We Must Preserve our Pavements, D. Jackson, J. Mahoney, G. Hicks, 1996 International Symposium on Asphalt Emulsion Technology.

⁷ Mississippi Department of Transportation..

⁸ Selecting a Preventative Maintenance Treatment for Flexible Pavements. R. Hicks, J. Moulthrop. Transportation Research Board. 1999. Figure 1.

⁹ Federal Highway Administration – National Bridge Inventory.

¹⁰ Ibid.

¹¹ TRIP analysis of Federal Highway Administration data. Highway Statistics 1990, 2007. Chart VM-2.

¹² TRIP analysis of FHWA data, Highway Statistics 2007, Chart HM-61. Urban Interstate and Urban other freeways and expressways with a volume-service flow ratio of .71 and above are classified as congested.

¹³ U.S. Department of Transportation - Federal Highway Administration: Highway Statistics 2004-2008 www.fhwa.dot.gov and www-fars.nhtsa.dot.gov.

¹⁴ Mississippi Department of Transportation.

¹⁵ Ibid.

¹⁶ Highway Safety Evaluation System, 1996 Annual Report on Highway Safety Improvement Programs, U.S. Department of Transportation.

¹⁷ Highway Safety Evaluation System; 1996 Annual Report on Highway Safety Improvement Programs; U.S. Department of Transportation.

¹⁸ 2002 Commodity Flow Survey, U.S. Census Bureau – Bureau of Transportation Statistics. www.census.gov.

¹⁹ Ibid.

²⁰ U.S. Department of Transportation: Office of Freight Management and Operations. www.fhwa.dot.gov.

²¹ Federal Highway Administration (2008). Employment Impacts of Highway Infrastructure Investment.

²² Bureau of Labor Statistics (2010). <http://www.bls.gov/lau>