The Top 50 Highway Projects to Support Economic Growth and Quality of Life in Alabama

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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.

Executive Summary

Alabama's highway system has played a significant role in the state's development, providing mobility and access for residents, visitors, businesses and industry. The state's roads, highways and bridges remain the backbone of the Yellowhammer State's economy. Alabama's transportation system also provides for a high quality of life and makes the state a desirable place to live, visit and do business. Eight years after the nation suffered a significant economic downturn, Alabama's economy continues to rebound. The rate of economic growth in Alabama, which will be greatly impacted by the reliability and condition of the state's transportation system, continues to have a significant impact on quality of life in the Yellowhammer State.

To achieve sustainable economic growth, Alabama must proceed with numerous projects to improve key roads, bridges and highways. Enhancing critical segments of Alabama's transportation system will boost the state's economy in the short-term by creating jobs in construction and related fields. In the long-term these improvements will boost economic competitiveness and improve quality of life for the state's residents and visitors by reducing travel delays and transportation costs, improving access and mobility, improving safety, and stimulating sustained job growth.

Many segments of Alabama's transportation system have significant deterioration, lack some desirable safety features, and do not have adequate capacity to provide the reliable mobility needed to support economic development, creating challenges for Alabama's residents, visitors, businesses and state and local governments. This report looks at the condition and use of Alabama's roads, highways and bridges and provides information on the state's 50 most needed highway improvements to support economic growth and quality of life.

With a wide based economy including agriculture, forestry, manufacturing, natural resource extraction, finance, healthcare, technology, and tourism, the quality of Alabama's transportation system will play a vital role in the state's level of economic growth and quality of life.

The federal government is a significant source of transportation funding for Alabama. In December 2015, Congress passed and the president signed into law a long-term federal surface transportation program that includes modest funding increases and allows state and local governments to plan and finance projects with greater certainty through 2020. The Fixing America's Surface Transportation Act (FAST Act) provides approximately $305 billion for surface transportation with highway and transit funding slated to increase by approximately 15 and 18 percent, respectively, over the five-year duration of the program. While the modest funding increase and certainty provided by the FAST Act are a step in the right direction, , the funding falls far short of the level of needed to improve conditions and meet the nation's mobility needs and fails to deliver a sustainable, long-term source of revenue for the federal Highway Trust Fund.

As Alabama works to build and support a thriving and diverse economy, it will need to modernize its highway system by improving the physical condition of its roads, highways and bridges and enhancing the system's ability to provide efficient, safe and reliable mobility to the state's residents, visitors and businesses. Making needed improvements to Alabama's roads, highways and bridges will provide a significant boost to the state's economy by stimulating short and long-term economic growth.

In this report, TRIP examines recent transportation and economic trends in Alabama and provides information on highway projects in the state that are most needed to support economic

growth. Sources of data include the Alabama Department of Transportation (ALDOT), the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), the U.S. Bureau of Transportation Statistics (BTS), the Bureau of Economic Analysis, the American Association of State Highway and Transportation Officials (AASHTO), the Transportation Research Board (TRB), the Texas Transportation Institute (TTI) and the U.S. Census Bureau. All data used in the report is the latest available.

TRIP has identified the 50 highway projects that are most needed to support Alabama's economic growth. These projects are located throughout the state.

- The most needed highway improvements in Alabama include projects to build, expand or modernize roads, highways and bridges throughout the state. These improvements would enhance economic development opportunities throughout the state by increasing mobility and freight movement, easing congestion, and making Alabama an attractive place to live, visit and do business.

- TRIP evaluated each project based on the following criteria: short-term economic benefits, including job creation; the level of improvement in the condition of the transportation facility, including safety improvements; the degree of improvement in access and mobility; and the long-term improvement provided in regional or state economic performance and competitiveness.

- The needed highway projects identified in the TRIP report would require an investment of $4.6 billion to complete.

- The needed improvements identified in this report include 10 widening projects on 63 miles of Alabama's Interstate highway system. Based on forecast traffic growth, approximately 630 miles of Alabama's Interstate Highway System are currently or will become congested and will need additional capacity to accommodate economic growth in the state.

- Alabama's 20 most needed highway projects to support economic development in the state as determined by TRIP follow. Additional details for these and all 50 projects can be found in the report's Appendix.

1. **Adding lanes to a portion of I-65 in Shelby County.** This $54 million project would add lanes to 3.5 miles of I-65 from US 31 to CR-52. This suburban commuter route experiences frequent congestion, traffic delays and resulting safety issues. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
2. **Capacity improvements on I-10 from downtown Mobile across the Mobile Bay**. This $850 million project would expand the capacity of 1.5 miles of I-10 in Mobile from Texas Street to the Eastern Shore. I-10 is a critical freight route carrying large volumes from Gulf of Mexico ports across the nation. Traffic is currently constricted by a four-lane tunnel, causing delays, frequent congestion and safety concerns. Added capacity will

facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.

3. **Expand capacity of I-59 in Birmingham.** Improvements are needed to expand capacity and enhance mobility on 8.5 miles of I-59 in Birmingham from 1st Avenue North to Chalkville Road. This urban interstate route is experiencing growth and frequent congestion, delays and safety issues. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
4. **Widening US 98 to four lanes from the Mississippi State Line to Mobile.** This $36 million project would widen 12 miles of US 98 to four lanes from the Mississippi state line to Mobile. This corridor is one of the highest volume two-lane roads in the state. Crashes occur at a high frequency and commuters experience daily delays during peak travel periods. Widening will ease congestion, reduce delays, improve safety and enhance the economic potential for the route.
5. **Expand capacity on a portion of I-59 in Birmingham.** Improvements are needed to expand capacity and enhance mobility on 10 miles of I-59 in Birmingham from I-459 to Valley Road. This route is experiencing growth and congestion. Traffic delays and safety concerns are increasing. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
6. **Adding lanes to US 231 in Dothan.** This $32 million project would add lanes to nearly three miles of US 231 (Ross Clark Circle) in Dothan. This route is experiencing growth, frequent congestion, travel delays and safety issues. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
7. **Widening US-11 in Tuscaloosa.** This $7 million project would widen US-11 (McFarland Boulevard) to four lanes from CR-27 to 36th Avenue. This corridor is one of the highest volume two-lane routes in the state. Commuters experience daily delays during peak periods. Widening to four lanes will ease congestion and reduce travel delays. The four-laning will enhance the economic potential for the route and provide better access to Stillman College.
8. **Widening SR 133 in Shoals.** This $44 million project would widen four miles of SR 133 from SR 20 to SR 184 from two lanes to four lanes. This corridor is one of the highest volume two lane roads in the state. Commuters experience daily delays during peak periods. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
9. **Widening SR 14 in Montgomery.** This $4 million project would widen SR 14 from the end of the current four-lane segment in Millbrook to SR 143. This section is one of the highest volume two lane roads in the state. Commuters experience daily delays during peak periods. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
10. **Adding lanes to a portion of I-65 in Birmingham.** This $86 million project would add lanes to 4.5 miles of I-65 in Birmingham, from CR 87 to US 31. This suburban route is experiencing growth and frequent congestion. Traffic delays are increasing and safety is a concern. Added capacity will facilitate the continued growth in the area, improve mobility, reduce congestion and enhance safety. This route carries a large amount of commuter traffic, serving workers who live in the Shelby County suburbs and commute to downtown Birmingham.

11. **Widening SR 119 from I-65 to US 280 in Birmingham.** This $80 million project would widen eight miles of SR 119 from two lanes to four lanes from I-65 to US 280. This corridor is one of the highest volume two-lane routes in the state, causing delays at peak hours. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
12. **New Freeway Bypass around Montgomery**. This $91 million project would construct a new freeway bypass around Montgomery, from Vaughn Road to US 231. A new bypass will add capacity to the transportation network and improve mobility in the area. A new route will open new areas for economic development and better serve existing industry.
13. **Adding lanes to I-10 from the Mississippi State Line to Mobile.** This $146 million project would add lanes to 15 miles of I-10 from the Mississippi State Line to Carol Plantation Road in Mobile. This interstate route carries very high traffic volumes and experiences frequent congestion and travel delays. I-10 is the southernmost interstate route from California to Florida. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
14. **Adding lanes to I-10 in Eastern Shore.** This $48 million project would add lanes to I-10 from US 98 at the Mobile Bay to SR 181. This interstate route carries commuter traffic between Mobile and Baldwin County, which is experiencing high residential growth, generating high volumes of travel to jobs in Mobile. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
15. **Construct a four-lane route along US 82.** This $110 million project would provide a 20 mile, four-lane route along US 82 from Reform to the Tuscaloosa County Line. Currently, a four-lane connection to the interstate from the populated areas of the county does not exist. A four lane interstate connector will improve mobility and enhance the economic potential of the county.
16. **Widening SR 69 in Cullman County.** This $40 million project would widen 1.1 miles of SR 69 to four lanes from 4th Avenue to Cottage Hill Drive. This section of roadway is one of the highest volume two lane roads in the state. Commuters experience daily delays during peak periods. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
17. **Widening SR 150 in Birmingham.** This $7 million project would widen 0.8 miles of SR 150 from Lakeshore Parkway to Readers Gap Road. This section of roadway is one of the highest volume two lane roads in the state. Commuters experience daily delays during peak periods. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
18. **Widening SR 77 in Gadsden.** This $14 million project would widen 1.3 miles of SR 77 from Enterprise Road to SR 11. This section of roadway is one of the highest volume two lane roads in the state. Commuters experience daily delays during peak periods. Added capacity will facilitate continued growth in the area, improve mobility and reduce traffic delays while enhancing safety.
19. **Widening US 90 in Mobile.** This $22 million project would widen 3.6 miles of US 90 to four lanes from CR 39 to Swedetown Road. Widening US 90 will extend the existing four lane section to the west of Mobile. This section of roadway is one of the highest volume two lane roads in the state and experiences a high rate of crashes. Commuters experience daily delays during peak periods. Added capacity will facilitate continued

growth in the area, improve access to the interstate, enhance mobility and reduce traffic delays while enhancing safety.

20. **Widening US 411 in Birmingham.** This $12 million project would widen US 411 to four lanes from Bankhead National Parkway to Cedar Grove Road in Birmingham. This section of road is one of the highest volume two-lane routes in the state. Commuters experience daily delays during peak periods. Widening will ease congestion, reduce delays, enhance safety and allow for economic growth.

Transportation projects that improve the efficiency, condition or safety of a highway provide significant economic benefits by reducing transportation delays and costs associated with a deficient transportation system.

- Improved business competitiveness due to reduced production and distribution costs as a result of increased travel speeds and fewer mobility barriers.

- Improvements in household welfare resulting from better access to higher-paying jobs, a wider selection of competitively priced consumer goods, additional housing and healthcare options, and improved mobility for residents without access to private vehicles.

- Gains in local, regional and state economies due to improved regional economic competitiveness, which stimulates population and job growth.

- Increased leisure/tourism and business travel resulting from the enhanced condition and reliability of a region's transportation system.

- A reduction in economic losses from vehicle crashes, traffic congestion and vehicle maintenance costs associated with driving on deficient roads.

- Transportation projects that expand roadway or bridge capacity produce significant economic benefits by reducing congestion and improving access, thus speeding the flow of people and goods while reducing fuel consumption.

- Transportation projects that maintain and preserve existing transportation infrastructure also provide significant economic benefits by improving travel speeds, capacity, load-carry abilities and safety, and reducing operating costs for people and businesses. Such projects also extend the service life of a road, bridge or transit vehicle or facility, which saves money by either postponing or eliminating the need for more expensive future repairs.

- Highway accessibility was ranked the number two site selection factor behind only the availability of skilled labor in a 2013 survey of corporate executives by Area Development Magazine.

- 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.

Growth in population and vehicle travel has far outstripped the current capacity of Alabama's transportation system. The state's population and economy will continue to grow, bringing mounting challenges for the existing network of roads and bridges.

- From 1990 to 2014, Alabama's population increased by 20 percent, from approximately four million residents to approximately 4.8 million.

- From 1990 to 2013, annual vehicle-miles-of-travel (VMT) in the state increased by 54 percent, from approximately 42.3 billion VMT to 65 billion VMT. Based on travel and population trends, TRIP estimates that vehicle travel in Alabama will increase another 35 percent by 2030.

- Vehicle miles of travel in Alabama for the first ten months of 2015 were 3.4 percent higher than the first ten months of 2014. During the first ten months of 2015, U.S. vehicle miles of travel were 3.4 percent higher than the first ten months of 2014.

- Every year, $183 billion in goods are shipped from sites in Alabama and another $189 billion in goods are shipped to sites in Alabama, mostly by trucks. Seventy-six percent of the goods shipped annually from sites in Alabama are carried by trucks and another 15 percent are carried by parcel, U.S. Postal Service or courier services, which use trucks for part of their deliveries.

Alabama's extensive transportation system has some road and bridge deficiencies, lacks some desirable safety features and experiences congestion in key areas. Improvements to the condition and efficiency of the state's transportation system would enhance quality of life, roadway safety and economic development.

- In 2013, 16 percent of Alabama's major urban roads were in poor condition, 33 percent were in mediocre or fair condition, and 51 percent were in good condition. Six percent of Alabama's rural roads were rated in poor condition in 2013, while 31 percent were rated in mediocre or fair condition and 63 percent were rated in good condition.

- Nine percent of Alabama's bridges were rated structurally deficient in 2014. A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Structurally deficient bridges are often posted for lower weight or closed to traffic, restricting or redirecting large vehicles, including commercial trucks, school buses and emergency services vehicles.

- In 2014, 13 percent of Alabama's bridges were rated as functionally obsolete. Bridges that are functionally obsolete no longer meet current highway design standards or are

inadequate to accommodate current traffic levels, often because of narrow lanes, inadequate clearances or poor alignment.

- 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. A total of 4,293 people died on Alabama's highways from 2010 through 2014, an average of 859 annually.

- Alabama's overall traffic fatality rate of 1.31 fatalities per 100 million vehicle miles of travel in 2013 is significantly higher than the national average of 1.09.

- The fatality rate on Alabama's rural non-Interstate roads was 2.11 fatalities per 100 million vehicle miles of travel in 2013, approximately two-and-a-half times the 0.83 fatality rate on all other roads and highways in the state.

- 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.

According to a 2012 national report, improved access as a result of capacity expansions provides numerous regional economic benefits. Those benefits include higher employment rates, higher land value, additional tax revenue, increased intensity of economic activity, increased land prices and additional construction as a result of the intensified use.

- The report, "Interactions Between Transportation Capacity, Economic Systems and Land Use," prepared by the Strategic Highway Research Program for the Transportation Research Board, reviewed 100 projects, costing a minimum of $10 million, which expanded transportation capacity either to relieve congestion or enhance access.

- The projects analyzed in the report were completed no later than 2005 and included a wide variety of urban and rural projects, including the expansion or addition of major highways, beltways, connectors, bypasses, bridges, interchanges, industrial access roads, intermodal freight terminals and intermodal passenger terminals.

- The expanded capacity provided by the projects resulted in improved access, which resulted in reduced travel-related costs, faster and more reliable travel, greater travel speeds, improved reliability, and increased travel volume.

- The report found that improved transportation access benefits a region by: enhancing the desirability of an area for living, working or recreating, thus increasing its land value; increasing building construction in a region due to increased desirability for homes and businesses; increasing employment as a result of increased private and commercial land use; and increasing tax revenue as a result of increased property taxes, increased employment and increased consumption, which increases sales tax collection.

- The report found that benefits of a transportation capacity expansion unfolded over several years and that the extent of the benefits were impacted by other factors including: the presence of complimentary infrastructure such as water, sewer and telecommunications; local land use policy; the local economic and business climate; and whether the expanded capacity was integrated with other public investment and development efforts.

- For every $1 million spent on urban highway or intermodal expansion, the report estimated that an average of 7.2 local, long-term jobs were created at nearby locations as a result of improved access. An additional 4.4 jobs were created outside the local area, including businesses that supplied local businesses or otherwise benefited from the increased regional economic activity.

- For every $1 million spent on rural highway or intermodal expansion, the report estimated that an average of 2.9 local, long-term jobs were created at nearby locations as a result of improved access. An additional 1.6 jobs were created outside the local area, including businesses that supplied local businesses or otherwise benefited from the increased regional economic activity.

- The report found that highway and intermodal capacity projects in urban areas created a greater number of long-term jobs than in rural areas, largely due to the more robust economic environment and greater density in urban communities.

Investment in Alabama's roads, highways and bridges is funded by local, state and federal governments. The recently approved five-year federal surface transportation program includes modest funding increases and provides states with greater funding certainty, but falls far short of providing the level of funding needed to meet the nation's highway and transit needs. The bill does not include a long-term and sustainable revenue source.

- From 2009 to 2013, the federal government provided $1.28 for road improvements in Alabama for every dollar the state paid in federal motor fuel fees.

- Signed into law in December 2015, the Fixing America's Surface Transportation (FAST) Act, provides modest increases in federal highway and transit spending, allows states greater long-term funding certainty and streamlines the federal project approval process.

But the FAST Act does not provide adequate funding to meet the nation's need for highway and transit improvements and does not include a long-term and sustainable funding source.

- The five-year, $305 billion FAST Act will provide approximately a 15 percent boost in highway funding and an 18 percent boost in transit funding over the duration of the program, which expires in 2020.

- In addition to federal motor fuel tax revenues, the FAST Act will also be funded by $70 billion in U.S. general funds, which will rely on offsets from several unrelated federal programs including the Strategic Petroleum Reserve, the Federal Reserve and U.S. Customs.

- According to the 2015 AASHTO Transportation Bottom Line Report, a significant boost in investment in the nation's roads, highways, bridges and public transit systems is needed to improve their condition and to meet the nation's transportation needs.

- AASHTO's report found that annual investment in the nation's roads, highways and bridges needs to increase 36 percent, from $88 billion to $120 billion, to improve conditions and meet the nation's mobility needs, based on an annual one percent rate of vehicle travel growth. Investment in the nation's public transit system needs to increase from $17 billion to $43 billion.

- The 2015 AASHTO Transportation Bottom Line Report found that if the national rate of vehicle travel increased by 1.4 percent per year, the needed annual investment in the nation's roads, highways and bridges would need to increase by 64 percent to $144 billion. If vehicle travel grows by 1.6 percent annually the needed annual investment in the nation's roads, highways and bridges would need to increase by 77 percent to $156 billion.

Sources of data for this report include the Alabama Department of Transportation (ALDOT), the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), the U.S. Bureau of Transportation Statistics (BTS), the Bureau of Economic Analysis, the American Association of State Highway and Transportation Officials (AASHTO), the Transportation Research Board (TRB), the Texas Transportation Institute (TTI) *and the U.S. Census Bureau. All data used in the report is the latest available.*

Introduction

Alabama's highway system serves as the backbone of the Yellowhammer State's economy, providing mobility to the state's residents, visitors and businesses. Alabama's transportation system has allowed the state's residents to travel to work and school and to access recreation, healthcare, social and commercial activities. The system has also allowed the state's businesses to access customers, suppliers and employees.

But, Alabama's roads, highways and bridges have deficiencies that could prevent the state from reaching its full economic potential. In order to insure that the state's economy recovers from the recession and returns to significant and sustained growth, Alabama must improve and expand key highway routes, which will ease congestion, improve traffic safety and enhance access throughout the state.

Alabama must make infrastructure investments that will stimulate job growth and support the state's long-term economic goals by improving access for the state's diversified economy. Alabama's economy and quality of life could be adversely affected if its transportation system cannot provide for the efficient movement of goods and people. The completion of needed transportation improvements is a key component of any region's ability to induce sustained economic growth.

Because it impacts the time it takes to transport people and goods, as well as the cost of travel, the reliability and physical condition of a region's transportation system plays a significant role in long-term economic growth, productivity and competitiveness. Investment in expanding the capacity or improving the condition of existing transportation facilities is critical to a region's ability to stimulate short-term and long-term economic growth.

In this report, TRIP identifies the 50 highway projects in Alabama that are most needed to spur the state's economic growth and support quality of life. The most needed transportation improvements in Alabama include projects to build, expand or modernize highways or bridges.

Transportation Projects Impact the Economy

When a state or region's transportation system lacks adequate capacity, is deteriorated or lacks some desirable safety features, it impedes economic performance by slowing commerce and commuting, increasing transport costs and burdening an economy with future transportation investment needs.

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. In fact, highway accessibility was ranked the number two site selection factor behind only the availability of skilled labor in a 2013 survey of corporate executives by Area Development Magazine.[1]

To prepare this report, TRIP analyzed data provided by the Alabama Department of Transportation (ALDOT) on the highway projects in the state most needed to support economic growth. The projects include the reconstruction, expansion, or improvement of existing transportation facilities or the construction of new transportation facilities. ALDOT provided information on projects including route, location, current level of use, the type of improvement needed, the estimated cost of the improvement, a description of the importance of the facility to regional mobility and an explanation of the economic benefits provided by the project.

The 50 Highway Projects

Most Needed to Support Alabama's Economy

TRIP has identified the 50 highway projects that are most needed to support Alabama's economic recovery and growth.

TRIP evaluated the projects based on the following categories:

- ✓ Short-term economic benefits, including job creation.
- ✓ Improvement in the condition of transportation facility, including safety improvements.
- ✓ Improved access and mobility.
- ✓ Long-term improvement in regional or state economic performance and competitiveness.

The needed projects identified in the TRIP report would require an investment of $4.6 billion to complete.[2] The improvements identified in this report include 10 widening projects on 63 miles of Alabama's Interstate highway system. Based on forecast traffic growth, approximately 630 miles of Alabama's Interstate Highway System are currently or will become congested and will need additional capacity to accommodate economic growth in the state.[3] Information for the top 20 projects is below. Further details for these and all 50 projects can be found in the Appendix.

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20. **Widening US 411 in Birmingham.** This $12 million project would widen US 411 to four lanes from Bankhead National Parkway to Cedar Grove Road in Birmingham. This section of road is one of the highest volume two-lane routes in the state. Commuters experience daily delays during peak periods. Widening will ease congestion, reduce delays, enhance safety and allow for economic growth.

Population, Travel and Economic Trends in Alabama

Alabama residents rely on a high level of personal and commercial mobility. The state continues to experience population and economic growth, which is resulting in an increase in the demand for mobility and a large increase in vehicle miles of travel. To maintain and improve quality of life and support the state's economic growth, it will be critical that Alabama invest in a well-maintained, modern transportation system that can accommodate future growth in population, tourism, vehicle travel and economic development.

Alabama's population increased by 20 percent between 1990 and 2014, increasing from approximately four million residents in 1990 to approximately 4.8 million residents in 2014.[4]

Population and economic growth in Alabama have resulted in a significant increase in vehicle travel. From 1990 to 2013, annual vehicle miles of travel (VMT) in Alabama increased by 54 percent, from 42.3 billion miles traveled annually to 65 billion miles traveled annually.[5] During the first ten months of 2015, vehicle miles of travel in Alabama were 3.4 percent higher than the first ten months of 2014.[6] Similarly, U.S. vehicle miles of travel were 3.4 percent higher during the first ten months of 2015 than the first ten months of 2014.[7] Based on population and other lifestyle trends, TRIP estimates that travel on Alabama's roads and highways will increase another 35 percent by 2030.

Condition of Alabama's Roads and Bridges

Alabama's extensive network of roads and highways has some deficiencies and experiences congestion in key areas. Improvements to the condition and efficiency of the state's transportation system would enhance quality of life and support economic development.

The life cycle of Alabama'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 is evaluated and classified as being in poor, mediocre, fair or good condition.

In 2013, 16 percent of Alabama's major urban roads were in poor condition, 33 percent were in mediocre or fair condition, and 51 percent were in good condition.[8] Six percent of Alabama's rural roads were rated in poor condition in 2013, while 31 percent were rated in mediocre or fair condition and 63 percent were rated in good condition.[9]

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. Most pavements in mediocre condition can be repaired by resurfacing, but some may need more extensive reconstruction to return them to good condition.

In addition to deteriorated pavement condition, a total of 22 percent of Alabama's bridges are in need of repair or replacement. [10]

In 2014, more than one-fifth of Alabama's bridges (20 feet or longer) were rated as structurally deficient or functionally obsolete.[11] Nine percent of Alabama's bridges were rated structurally deficient.[12] 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. Thirteen percent of Alabama's bridges were rated functionally obsolete.[13] Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment or lack adequate capacity to accommodate current traffic levels.

The service life of bridges can be extended by performing routine maintenance such as resurfacing decks, painting surfaces, ensuring that a facility has good drainage and replacing deteriorating components. However, most bridges will eventually require more costly reconstruction or major rehabilitation to remain operable.

Roadway Safety in Alabama

In addition to deteriorated roads and bridges, some segments of Alabama's transportation system lack needed safety improvements that would make the driving environment safer and reduce the occurrence of crashes and fatalities.

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.

A total of 4,293 people died on Alabama's highways from 2010 through 2014, an average of 859 annually.[14] Alabama's overall traffic fatality rate of 1.31 fatalities per 100 million vehicle

miles of travel in 2013 is significantly higher than the national average of 1.09.[15] The fatality rate on Alabama's non-Interstate rural roads was 2.11 fatalities per 100 million vehicle miles of travel in 2013, approximately two-and-a-half times the fatality rate of 0.83 on all other roads and highways in the state.[16]

Improving safety on Alabama'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.

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.[17]

The Importance of Transportation to Alabama's Economy

Supporting Alabama's economic growth will require that the state build and maintain a transportation system that provides reliable and safe mobility to enhance business competitiveness.

Highways, rail, ports and public transit are vitally important to fostering economic development in Alabama. 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, $183 billion in goods are shipped from sites in Alabama and another $189 billion in goods are shipped to sites in Alabama, mostly by trucks.[18] Seventy-six percent of the goods shipped annually from sites in Alabama are carried by trucks and another 15 percent are carried by parcel, U.S. Postal Service, courier services or by multiple modes, which use trucks for part of the deliveries.[19]

How Transportation Improvements Support Economic Growth

Because it impacts the time it takes to transport people and goods, as well as the cost of travel, the level of mobility provided by a transportation system and its physical condition play a significant role in determining a region's economic effectiveness.

Alabama's businesses are dependent on an efficient, safe and modern transportation system. Today's business culture demands that an area have a well-maintained and efficient

system of roads, highways, bridges and public transportation if it is to be economically competitive. 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 e-commerce. 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.

The economic benefits of a well-maintained, efficient and safe transportation system can be divided into several categories, including the following.

Improved competitiveness of industry. An improved transportation system reduces production and distribution costs by lowering barriers to mobility and increasing travel speeds. Improved mobility provides the manufacturing, retail and service sectors improved and more reliable access to increased and often lower-cost sources of labor, inventory, materials and customers.[20] An increase in travel speeds of 10 percent has been found to increase labor markets by 15 to 18 percent. A 10 percent increase in the size of labor markets has been found to increase productivity by an average of 2.9 percent.[21]

Improved household welfare. An improved transportation system gives households better access to higher-paying jobs, a wider selection of competitively priced consumer goods, and additional housing and healthcare options. A good regional transportation system can also

provide mobility for people without access to private vehicles, including the elderly, disabled and people with lower incomes.[22]

Improved local, regional and state economies. By boosting regional economic competitiveness, which stimulates population and job growth, and by lowering transport costs for businesses and individuals, transportation improvements can bolster local, regional and state economies. Improved transportation also stimulates urban and regional redevelopment and reduces the isolation of rural areas.[23]

Increased leisure/tourism and business travel. The condition and reliability of a region's transportation system impacts the accessibility of activities and destinations such as conferences, trade shows, sporting and entertainment events, parks, resort areas, social events and everyday business meetings. An improved transportation system increases the accessibility of leisure/tourism and business travel destinations, which stimulates economic activity.[24]

Reduced economic losses associated with vehicle crashes, traffic congestion and driving on deficient roads. When a region's transportation system lacks some desirable safety features, is congested or is deteriorated, it increases costs to the public and businesses in the form of traffic delays, increased costs associated with traffic crashes, increased fuel consumption and increased vehicle operating costs. Transportation investments that improve roadway safety, reduce congestion and improve roadway conditions benefit businesses and households by saving time, lives and money.

Needed transportation projects that expand capacity and preserve the existing transportation system generate significant economic benefits. Transportation projects that provide additional roadway lanes, expand the efficiency of a current roadway (through improved signalization, driver information or other Intelligent Transportation Systems), or provide

additional transit capacity, produce significant economic benefits by reducing congestion and improving access, thus speeding the flow of people and goods.[25]

Similarly, transportation projects that maintain and preserve existing transportation infrastructure also provide significant economic benefits. The preservation of transportation facilities improves travel speed, capacity, load-carry abilities and safety, while reducing operating costs for people and businesses.[26] Projects that preserve existing transportation infrastructure also extend the service life of a road, bridge or transit vehicle and save money by postponing or eliminating the need for more expensive future repairs.[27]

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.[28]

Study on Impact of U.S. Highway Capacity Additions

A national report that studied the economic results of 100 highway capacity expansion projects provides significant new insights into how enhancing regional mobility provides long-term economic benefits. The 2012 report, "Interactions Between Transportation Capacity, Economic Systems and Land Use," was prepared by the Strategic Highway Research Program for the Transportation Research Board, which is a program of the National Academy of Sciences. The report reviewed 100 projects, costing a minimum of $10 million, which expanded transportation capacity either to relieve congestion or enhance access.

The projects were carefully selected to ensure a wide range of project types and land use settings. The projects, completed no later than 2005, included a wide variety of urban and rural projects, including the provision or expansion of intercity highways, local access roads, interchanges, bridges, bypasses and intermodal facilities. The projects expanded or added major highways, beltways, connectors, bypasses, bridges, interchanges, industrial access roads, intermodal freight terminals and intermodal passenger terminals. The expanded capacity provided by the projects resulted in improved access, which resulted in reduced travel-related costs, faster and more reliable travel, greater travel speeds, improved reliability and increased travel volume.

The report found that the improved access as a result of capacity expansions provided numerous regional economic benefits, including increased employment, increased land value, increased tax revenue, increased intensity of economic activity, increased land prices and additional construction as a result of the intensified use.[29]

The report further noted that improved transportation access benefits a region by: enhancing the desirability of an area for living, working or recreating, thus increasing its land value; increasing building construction in a region due to increased desirability for homes and businesses; increasing employment as a result of increased private and commercial land use; and increasing tax revenue as a result of increased property taxes, increased employment and increased consumption, which increases sales tax collection.[30]

According to the report, "transportation projects lead to multifaceted forms of economic development impact, which may include effects on employment, income, land use, property values or business construction."[31]

The report found that benefits of a transportation capacity expansion unfolded over several years and that the extent of the benefits were impacted by other factors including: the presence of complimentary infrastructure such as water, sewer and telecommunications; local land use policy; the local economic and business climate; and whether the expanded capacity was integrated with other public investment and development efforts. "In some cases, an area with a higher growth trend may tend to be better positioned to take advantage of new highway connections or capacity," the report found.[32]

The report provided estimates on the average number of long-term jobs created as a result of increased transportation capacity, both within the local area and also outside of the immediate area of the improved access. For every $1 million spent on increased transportation capacity, the report estimated that an average of seven local, long-term jobs were created at nearby locations as a result of improved access. An additional 4.2 jobs outside the local area were created, including businesses that supplied local businesses or otherwise benefited from the increased regional economic activity.[33]

Highway and other intermodal capacity projects in urban areas created a greater number of long-term jobs than in rural areas, largely due to the more robust economic environment and greater density in urban communities.[34] Every $1 million spent on urban highway or intermodal expansion projects was found to result in an additional 7.2 local long-term jobs and an additional 4.4 non-local, long-term jobs, while every $1 million spent on rural highway or intermodal expansion projects was found to result in an additional 2.9 local, long-term jobs and an additional 1.6 non-local, long-term jobs.[35]

Transportation Funding in Alabama

Alabama faces a funding shortfall in the amount needed just to maintain the transportation system in its current condition, let alone make needed expansions or undertake new projects. Unless transportation funding is increased at the local, state and federal levels, Alabama will not be able to address many of its top transportation challenges.

Investment in Alabama's roads, highways and bridges is funded by local, state and federal governments. The federal government is an important source of funding for Alabama's roads, highways, bridges and transit systems and provides a significant return to Alabama in road and bridge funding based on the revenue generated in the state by the federal motor fuel tax. From 2009 to 2013, the federal government provided $1.28 for road improvements in Alabama for every dollar that motorists in the state paid in federal motor fuel fees.[36]

Federal funds for highway and transit improvements in Alabama are provided through the federal Highway Trust Fund (HTF), which raises revenue through federal user fees, including an 18.4 cents-per-gallon tax on gasoline and a 24.4 cents-per-gallon tax on diesel fuel. Since 2008, revenue into the federal Highway Trust Fund has been inadequate to support legislatively set funding levels. As a result, Congress has transferred approximately $53 billion in general funds and an additional $2 billion from a related trust fund into the federal Highway Trust Fund.[37]

Signed into law in December 2015, the Fixing America's Surface Transportation (FAST) Act, provides modest increases in federal highway and transit spending. The five-year bill also provides states with greater funding certainty and streamlines the federal project approval process. But the FAST Act does not provide adequate funding to meet the nation's need for

highway and transit improvements and does not include a long-term and sustainable funding source.

The five-year, $305 billion FAST Act will provide approximately a 15 percent boost in highway funding and an 18 percent boost in transit funding over the duration of the program, which expires in 2020.[38]

In addition to federal motor fuel tax revenues, the FAST Act will also be funded by $70 billion in U.S. general funds, which will rely on offsets from several unrelated federal programs including the Strategic Petroleum Reserve, the Federal Reserve and U.S. Customs.

According to the 2015 AASHTO Transportation Bottom Line Report, a significant boost in investment in the nation's roads, highways, bridges and public transit systems is needed to improve their condition and to meet the nation's transportation needs. The AASHTO report found that annual investment in the nation's roads, highways and bridges needs to increase by 36 percent, from $88 billion to $120 billion to improve conditions and meet the nation's mobility needs.[39]. Investment in the nation's public transit system needs to increase from $17 billion to $43 billion.[40] .

The 2015 AASHTO Transportation Bottom Line Report found that if the rate of vehicle travel increased by 1.4 percent per year, the needed annual investment in the nation's roads, highways and bridges would need to increase by 64 percent, to $144 billion. If vehicle travel grows by 1.6 percent annually the needed annual investment in the nation's roads, highways and bridges would need to increase by 77 percent, to $156 billion.[41]

Conclusion

Alabama's transportation system plays a critical role as the backbone of the state's economy by providing mobility to residents, visitors and businesses. As Alabama works to expand its economy, the improvement of its transportation system will allow the state to support further economic growth. Needed transportation improvements will provide Alabama's residents with a high quality of life and afford its businesses and industries a high level of economic competitiveness.

Moving forward with the transportation projects in Alabama most needed to support economic development and quality of life in the state will support future economic growth and increase competitiveness, helping to ensure that Alabama remain an attractive place to live, visit, work and do business.

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