

FUTURE MOBILITY IN SOUTH CAROLINA:

Meeting the State's Need for Safe and Efficient Mobility

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Executive Summary

South Carolina's extensive system of roads, highways and bridges provide the state's residents, visitors and businesses with a high level of mobility. As the backbone that supports the Palmetto State's economy, South Carolina's surface transportation system provides for travel to work and school, visits to family and friends, and to frequent tourist and recreation attractions. It simultaneously provides businesses with reliable access for customers, suppliers and employees. As South Carolina's population and economy continue to grow, the state must improve its system of roads, highways, bridges and public transit to ensure the safe, reliable mobility needed to improve the quality of life for all South Carolinians.

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

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

The recently approved American Recovery and Reinvestment Act provides approximately \$463 million in stimulus funding for highway and bridge improvements and \$41 million for public transit improvements in South Carolina. This funding can serve as a down payment on needed road, highway, bridge and transit improvements, but it is not sufficient to allow the state to proceed with numerous projects needed to modernize its surface transportation system. Meeting South Carolina's need to modernize and maintain its system of roads, highways, bridges and transit will require a significant, long-term boost in transportation funding at the federal, state or local levels.

In 2009, Congress will deliberate over a long-range federal surface transportation program. The current program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), expires on September 30, 2009. The level of funding and the provisions of a future federal surface transportation program will have a significant impact on future highway and bridge conditions and safety as well as level of transit service in South Carolina, which, in turn, will affect the state's ability to improve its residents' quality of life and enhance economic development opportunities.

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

- South Carolina receives federal funding for its highways, bridges and public transit systems from the Federal Highway Trust Fund, under funding levels and formulas determined by Congress.
- Federal spending levels for highways and public transit are based on the current federal surface transportation program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which was approved by Congress in 2005. The SAFETEA-LU program expires on September 30, 2009.
- From 1998 to 2007, South Carolina has been able to complete numerous highway and bridge projects that have improved safety and enhanced mobility and economic productivity largely due to federal transportation funds.
- From 1998 to 2007, South Carolina received approximately \$5.3 billion in federal funding for road, highway and bridge improvements, and \$295 million for public transit.
- Federal funds provide 56 percent of revenues used annually by the South Carolina Department of Transportation to pay for road, highway and bridge construction, repairs, and maintenance, the highest share in the nation.
- Federal funds provide 35 percent of the revenue used annually to pay for the operation of the state's public transit systems as well as capital improvements to the state's public transit systems, which includes the purchase and repair of vehicles and the construction of transit facilities.
- Recent declines in federal surface transportation revenues, as well as significant increases in the cost of transportation construction materials, will make it more difficult for Congress to authorize new federal surface transportation legislation that adequately funds needed improvements to the nation's roads, highways, bridges and public transit systems.

Population and economic growth in the Palmetto State have resulted in increased demands on the state's major roads and highways.

- South Carolina's population reached 4.48 million in 2008, an increase of 28 percent since 1990. Population is expected to grow another 15 percent by 2030.
- Vehicle travel in South Carolina increased 49 percent from 1990 to 2007 – jumping from 34 billion vehicle miles traveled (VMT) in 1990 to 51 billion VMT in 2007.
- By 2025, vehicle travel in South Carolina is projected to increase by another 45 percent.
- From 1990 to 2007, South Carolina's gross domestic product, a measure of the state's economic output, increased by 47 percent, when adjusted for inflation.

Traffic congestion levels in South Carolina are rising as a result of population and economic growth.

- Forty-eight percent of South Carolina’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 average rush hour trip in Charleston takes approximately 20 percent longer to complete than during non-rush hour. According to a recent report by the Reason Foundation, by the year 2030, unless additional highway capacity is added, traffic congestion delays in Charleston will increase by 70 percent, with the average rush hour trip taking 34 percent longer to complete than during non-rush hour. This level of traffic delay is equivalent what is currently experienced in Atlanta.
- Travel delays in Columbia, Greenville, Spartanburg and Myrtle Beach will more than double by 2030 unless additional capacity is added to those regions’ transportation systems.

In 2007, 28 percent of major roads in South Carolina were in poor or mediocre condition, providing motorists with a rough ride.

- In 2007, seven percent of South Carolina’s roads were rated in poor condition and 21 percent were rated in mediocre condition. This includes Interstates, highways, connecting urban arterials and key urban streets that are maintained by state, county or municipal governments.
- Roads rated in poor condition may show signs of deterioration, including rutting, cracks and potholes. In some cases, poor roads can be resurfaced, but often are too deteriorated and must be reconstructed. Roads rated in mediocre condition may show signs of significant wear and may also have some visible pavement distress. Most pavements in mediocre condition can be repaired by resurfacing, but some may need more extensive reconstruction to return them to good condition.
- Roads in need of repair cost each South Carolina motorist an average of \$262 annually in extra vehicle operating costs – \$784 million state-wide. Costs include accelerated vehicle depreciation, additional repair costs, and increased fuel consumption and tire wear.
- A desirable goal for state and local organizations that are responsible for road maintenance is to have 75 percent of major roads in good condition. Fifty-one percent of South Carolina’s major roads are in good condition.
- The functional life of South Carolina’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. It is critical that roads are fixed before they require major repairs because reconstructing roads costs approximately four times more than resurfacing them.
- This report contains a list of needed roadway preservation projects in South Carolina that would require significant federal funding to be completed.

More than one-fifth – 22 percent – of bridges in South Carolina show significant deterioration or do not meet current design standards. This includes all bridges that are 20 feet or more in length and are maintained by state, local and federal agencies.

- Thirteen percent of South Carolina’s bridges were structurally deficient in 2008. 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.
- Nine percent of South Carolina’s bridges were functionally obsolete in 2008. Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.
- Nearly a quarter of South Carolina’s state-maintained bridges – 23 percent – will need significant repairs, reconstruction or replacement within the next eight years.
- This report contains a list of needed bridge rehabilitation and replacement projects across the state that would require significant federal funding to be completed.

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

- Between 2003 and 2007, 5,210 people were killed in traffic accidents in South Carolina, an average of 1,042 fatalities per year.
- South Carolina’s traffic fatality rate of 2.09 fatalities per 100 million vehicle miles of travel in 2007 was 54 percent higher than the national average of 1.36, the fourth highest rate in the nation.
- The state has the fourth highest fatality rate in the U.S.
- The traffic fatality rate in 2007 on South Carolina’s non-Interstate rural roads was 4.3 traffic fatalities per 100 million vehicle miles of travel, which is approximately five times higher than the traffic fatality rate on all other roads and highways in the state (0.87).
- Several factors are associated with vehicle accidents that result in fatalities, including driver behavior, vehicle characteristics and roadway design. It is estimated that roadway design is an important factor in one-third of fatal traffic accidents.

- Where appropriate, highway improvements such as removing or shielding obstacles, adding or improving medians, adding rumble strips, wider lanes, wider and paved shoulders, upgrading roads from two lanes to four lanes, and 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.

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

- Major projects to preserve priority bridges and roadways and new projects to prepare for economic growth and development in South Carolina cannot proceed without a significant boost in federal funding.
- Needed resurfacing or reconstruction of pavement surfaces on many sections of South Carolina's major highways cannot proceed without a boost in funding, including portions of Interstates 20, 26, 77, 85, 95 and other routes. The report includes a list of key sections of the state's highway system in need of resurfacing or reconstruction that would require significant federal funding to be completed.
- Numerous projects to widen existing roadways would enhance mobility and economic development opportunities, yet they cannot proceed without a significant boost in federal funding. The report includes a list of key sections of the state's highway system in need of widening that would require significant federal funding to be completed.
- To ensure that federal funding for highways and bridges in South Carolina and throughout the nation continues beyond the expiration of SAFETEA-LU, Congress needs to approve a new long-term federal surface transportation program by September 30, 2009.
- The recently approved American Recovery and Reinvestment Act provides approximately \$463 million in stimulus funding for highway and bridge improvements and \$41 million for public transit improvements in South Carolina.
- Federal funding for highways and transit in South Carolina may be cut in half later in 2009 as a result of inadequate revenue being collected into the Federal Highway Trust Fund, which funds highway and transit improvements. A severe revenue shortfall in the Highway Trust Fund could result in federal funding for surface transportation being cut in half starting on October 1, 2009, unless Congress takes steps to eliminate the funding shortfall.

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

- The National Surface Transportation Policy and Revenue Study Commission (NSTPRSC) and the National Surface Transportation Infrastructure Financing Commission (NSTIFC) were created by Congress to examine the current condition and future funding needs of the nation's surface transportation program, develop a plan to insure the nation's surface transportation system meets America's future mobility needs and to recommend future funding mechanisms to pay for the preservation and improvement of the nation's roads, highways, bridges and public transit systems.
- The NSTPRSC concluded that it is critical to the future quality of life of Americans that the nation create and sustain the preeminent surface transportation system in the world, one that is well-maintained, safe and reliable.
- The NSTIFC found that the U.S. faces a \$2.3 trillion funding shortfall over the next 25 years in maintaining and making needed improvements to the nation's surface transportation system.
- The NSTIFC found that the use of motor fuel fees is not sustainable as a primary source of funding for the nation's surface transportation system because of the shift to a variety of fuel sources and more fuel efficient vehicles.

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

Program format:

- Allocate funding through outcome-based, performance-driven programs supported by cost/benefit evaluations rather than political earmarking (NSTPRSC).
- Consolidate the more than 100 current transportation funding programs into 10 programs focused on key areas of national interest, including congestion relief, preservation of roads and bridges, improved freight transportation, improved roadway safety, improved rural access, improved environmental stewardship, and the development of environmentally-friendly energy sources (NSTPRSC).
- Speed up project development processes to reduce the excessive time required to move projects from initiation to completion by better coordinating the development and review process for transportation projects (NSTPRSC).

- Develop a future federal surface transportation program that would be accountable for results, would make investments based on community needs and would deliver projects on time and on budget (AASHTO).
- Provide a federal surface transportation program that is based on state-driven performance measures and is focused on six objectives of national interest: preservation and renewal, interstate commerce, safety, congestion reduction and connectivity for urban and rural areas, system operations, and environmental protection (AASHTO).

Funding:

- Shift the collection of federal surface transportation revenues from fuel taxes to mileage-based fees, which would charge motorists a fee based on the number of miles driven, with full deployment of a comprehensive system in place by 2020 (NSTIFC).
- Ensure that once implemented, mileage-based fees were indexed to inflation and that they and any other federal transportation charges were set at a rate that would provide enough revenue to provide adequate federal funding to ensure that the nation achieve an integrated national transportation system that is less congested and safer and that promotes increased productivity, stronger national competitiveness, and improved environmental outcomes (NSTIFC).
- Failure to address the immediate funding shortfall and provide adequate long-term funding for surface transportation will lead to unimaginable levels of congestion, reduced safety, costlier goods and services, eroded quality of life and diminished economic competitiveness (NSTIFC).
- In the short term, significantly boost the current federal motor fuel tax and index it to inflation to support increased federal surface transportation investment (NSTIFC).
- Expand the ability to use additional surface transportation funding sources including tolling, state investment banks and public-private partnerships as a supplement to primary sources of funding such as motor fuel fees and eventually a mileage-based fee (NSTIFC).

The efficiency of South Carolina’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. Expenditures on highway repairs create a significant number of jobs. Significant increases in the cost of highway construction materials over the last five years have boosted the cost of road, highway and bridge repairs.

- Annually, \$143 billion in goods are shipped from sites in South Carolina and another \$129 billion in goods are shipped to sites in South Carolina, mostly by trucks.
- Eighty-eight percent of the goods shipped annually from sites in South Carolina are carried by trucks and another four percent are carried by courier services, which use trucks for part of the deliveries. Similarly, 83 percent of the goods shipped to sites in South Carolina are carried by trucks and another seven percent are carried by courier services, which use trucks for part of their deliveries.

- Commercial trucking in South Carolina is projected to increase 43 percent by 2020.
- Businesses have responded to improved communications and greater competition by moving from a push-style distribution system, which relies on low-cost movement of bulk commodities and large-scale warehousing, to a pull-style distribution system, which relies on smaller, more strategic and time-sensitive movement of goods.
- Increasingly, companies are looking at the quality of a region's transportation system when deciding where to re-locate or expand. Regions with congested or poorly maintained roads may see businesses relocate to areas with a smoother, more efficient and more modern transportation system.
- A 2007 analysis by the Federal Highway Administration found that every \$1 billion invested in highway construction would support approximately 27,800 jobs, including approximately 9,500 in the construction sector, approximately 4,300 jobs in industries supporting the construction sector, and approximately 14,000 other jobs induced in non-construction related sectors of the economy.
- Over the five-year period from March 2004 to March 2009, the average cost of materials used for highway construction – including asphalt, concrete, steel, lumber and diesel – increased by 40 percent.

Sources of information for this study include the South Carolina Department of Transportation (SCDOT), the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the National Surface Transportation Policy and Revenue Study Commission (NSTPRSC), the National Surface Transportation Infrastructure Financing Commission (NSTIFC), the U.S. Census Bureau, the National Highway Traffic Safety Administration (NHTSA), the Reason Foundation and the Texas Transportation Institute (TTI). All data used in the report is the latest available.

Introduction

South Carolina's roads, highways and bridges form vital transportation links for the state's residents, visitors and businesses, providing daily access to homes, jobs, shopping and recreation, as well as to farms, distribution centers, shipping hubs and manufacturing plants.

Today, with the state continuing to experience significant growth in population and travel, the modernization of South Carolina's transportation system is crucial to providing safe and efficient mobility, while improving the economic livelihood of the state and accommodating future growth.

As the nation looks to rebound from the current economic downturn, the improvement of South Carolina's transportation system could play an important role in improving the state's economic wellbeing by providing critically needed jobs in the short term and by improving the productivity and competitiveness of the state's businesses in the long term.

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

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

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

Population, Travel and Economic Trends in South Carolina

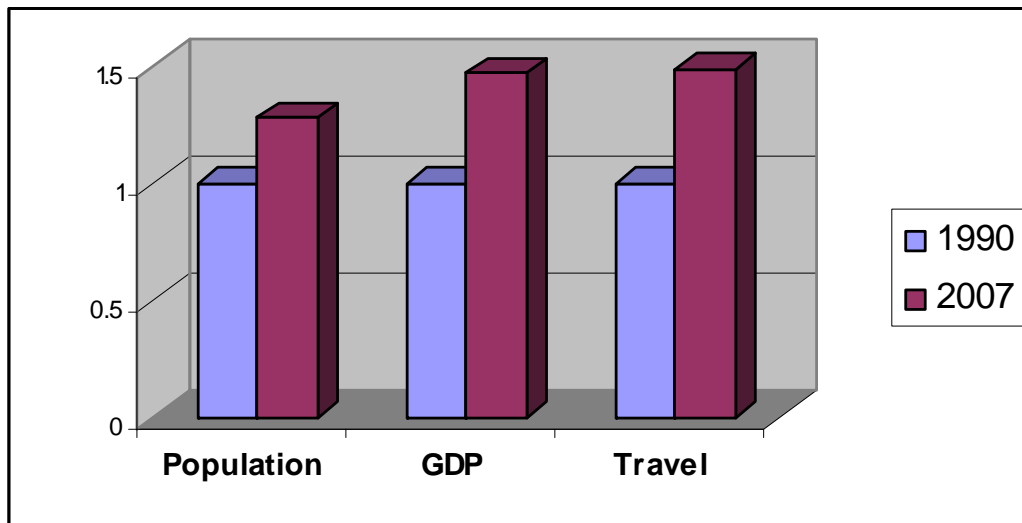
South Carolina residents and businesses require a high level of personal and commercial mobility. Continued population and economic growth in the Palmetto State has resulted in a significant increase in the demand for mobility as well as an increase in vehicle miles of travel (VMT). To foster a high quality of life in South Carolina, it will be critical that the state provide and preserve a safe and modern transportation system that can accommodate future growth in population, vehicle travel and economic development.

According to the U.S. Census Bureau, South Carolina was the tenth fastest growing state in 2008, adding nearly 75,000 people between 2007 and 2008.¹ South Carolina's population grew 28 percent between 1990 and 2008, increasing from 3.49 million in 1990 to approximately 4.48 million residents in 2008.² The population of South Carolina is projected to increase another 15 percent by 2030, to approximately 5.15 million residents, an increase of approximately 670,000 people.

South Carolina also has experienced significant economic growth since 1990. From 1990 to 2007, South Carolina's gross domestic product (GDP), a measure of the state's economic output, increased by 47 percent, when adjusted for inflation.

Steady population and economic growth in South Carolina have resulted in a significant increase in vehicle travel in the state. From 1990 to 2007, annual vehicle miles of travel in South Carolina increased 49 percent, from 34 billion miles traveled annually to 51 billion miles traveled annually.³ Based on population and other lifestyle trends, TRIP estimates that travel on South Carolina's roads and highways will increase 45 percent by 2025, to approximately 74 billion miles of travel.⁴

Chart 1: South Carolina's population, GDP and Vehicle Travel increase 1990-2007 (1 = 1990 level).



Source: TRIP analysis of federal data

Condition of South Carolina's Roads

The life cycle of South Carolina'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 2007, 28 percent of South Carolina's major roads were rated in poor or mediocre condition, providing motorists with a rough ride.⁵ Seven percent of South Carolina's major roads were rated in poor condition and 21 percent were rated in mediocre condition.⁶ Roads rated poor may show signs of deterioration, including rutting, cracks and potholes. In some cases, poor roads can be resurfaced but often are too deteriorated and must be reconstructed. Roads rated in mediocre condition may show signs of significant wear and may also have some visible pavement distress. Most pavements in mediocre condition can be repaired by resurfacing, but some may need more extensive reconstruction to return them to good condition.

A desirable goal for state and local organizations that are responsible for road maintenance is to keep 75 percent of major roads in good condition.⁷ In South Carolina, 51 percent of the state's major roads were in good condition in 2007.⁸

Chart 2. Pavement conditions in South Carolina.

<i>Pavement Rating</i>	<i>Percentages</i>
Poor	7%
Mediocre	21%
Fair	21%
Good	51%

Pavement failure is caused by a combination of traffic, moisture and climate. Moisture often works its way into road surfaces and the materials that form the road's foundation. Road surfaces at intersections are even more prone to deterioration because the slow-moving or standing loads occurring at these sites subject the pavement to higher levels of stress. It is critical that roads are fixed before they require major repairs because reconstructing roads costs approximately four times more than resurfacing them.⁹

As South Carolina's roads and highways continue to age, they will reach a point where routine paving and maintenance will not be adequate to keep pavement surfaces in good condition and costly reconstruction of the roadway and its underlying surfaces will become necessary. SCDOT reports that by the year 2017,-- 65 percent -- of state-maintained roads and highways, 26,954 miles of the state's 41,470 miles, will need significant reconstruction or rehabilitation.¹⁰

Many critical projects needed to improve the condition of the state's major roads and highways will not proceed without substantial federal funding. The following chart lists 25 sections of South Carolina roadways that have regional or statewide importance that would require significant federal funding to be completed.

Chart 3. Needed road and highway reconstruction projects of regional or statewide importance that would require significant federal funding to be completed.

Route Name	From	To	Length in Miles	Average Daily Traffic	Total project cost in millions
I-85	US Route 29	I-85 Business	3	92,100	4.0
I-95	SC Route 327	SC Route 9	44	37,200	40.0
I-95 Northbound Lanes	US Route 301	S-527: various locations	13	26,500	24.0
I-85	SC Route 153	Near I-185	6	92,100	7.0
I-85	US Route 29	SC Route 153	19	70,400	12.0
I-20 Eastbound Lanes	US Route 378	US Route 321	10	102,000	9.0
I-26 Eastbound Lanes	NC State Line	SC Route 11	5	27,000	5.0
I-20 Eastbound Lanes	US Route 1	West of US Route 178	6	29,800	9.0
I-585	US Route 221	S-124 (California Ave.)	3.3	28,600	4.0
I-385	I-26	SC Route 92	30	19,700	57.0
I-385 Northbound Lanes	SC Route 418	S-453 (Fairview St)	1	33,600	2.0
I-77 Southbound Lanes	SC Route 12	US Route 1	2	49,500	2.0
I-95 Northbound Lanes	Mile Post 99	Mile Post 100	1	32,200	3.0
I-20 Westbound Lanes	S-70	SC Route 6	2	43,200	2.0
I-26	Mile Post 110	Mile Post 125	15	62,300	36.0
I-26	Mile Post 209	Mile Post 218	9	129,300	10.0
I-95 Southbound Lanes	Mile Post 114	Mile Post 119	5	28,100	8.0
I-20	Mile Post 37	Mile Post 53	16	29,400	15.0
I-26 Westbound Lanes	Mile Post 17	Mile Post 18	1	45,600	2.0
I-26 Eastbound Lanes	Mile Post 5	Mile Post 11	6	28,600	6.0
I-385 Northbound Lanes	Mile Post 30	Mile Post 36	6	57,500	8.0
I-385 Southbound Lanes	Mile Post 22	Mile Post 25	2	30,700	8.0
I-20 Westbound Lanes	Mile Post 60	Mile Post 75	15	53,288	15.0
I-95	Mile Post 86	Mile Post 99	13	30,544	34.0
I-26	Mile Post 44	Mile Post 59	15	30,338	12.0

Source: SCDOT response to TRIP survey.

The Costs to Motorists of Roads in Inadequate Condition

TRIP has calculated the additional cost to motorists of driving on roads in poor or unacceptable condition. When roads are in poor condition – which may include potholes, rutting or rough surfaces – the cost to operate and maintain a vehicle increases. These additional vehicle operating costs include accelerated vehicle depreciation, additional vehicle repair costs,

increased fuel consumption and increased tire wear. TRIP estimates that additional vehicle operating costs borne by South Carolina motorists as a result of poor road conditions is \$784 million annually, or \$262 per motorist.

Additional vehicle operating costs have been calculated in the Highway Development and Management Model (HDM), which is recognized by the U.S. Department of Transportation and more than 100 other countries as the definitive analysis of the impact of road conditions on vehicle operating costs. The HDM report is based on numerous studies that have measured the impact of various factors, including road conditions, on vehicle operating costs.¹¹

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

TRIP's additional vehicle operating cost estimate is based on taking the average number of miles driven annually by a motorist, calculating current vehicle operating costs based on AAA's 2008 vehicle operating costs and then using the HDM model to estimate the additional vehicle operating costs paid by drivers as a result of substandard roads.¹² Additional research on the impact of road conditions on fuel consumption by the Texas Transportation Institute (TTI) is also factored into TRIP's vehicle operating cost methodology.

Bridge Conditions in South Carolina

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

In 2008, a total of 22 percent of South Carolina's bridges (20 feet or longer) were rated as structurally deficient or functionally obsolete. Thirteen percent of South Carolina's bridges (20 feet or longer) were rated as structurally deficient.¹³ This is the sixteenth highest percentage of structurally deficient bridges 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. 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.

Nine percent of South Carolina's bridges were rated functionally obsolete in 2008.¹⁴ Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment with the approaching roadway.

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

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

South Carolina’s bridges are aging. Many bridges were built in the 1950s and 1960s, and they are not designed for modern vehicles and trucks, or for the demands placed on them for access. SCDOT reports that 1,925 of the 8,339 state-maintained bridges – 23 percent -- will need significant repairs, reconstruction or replacement by 2017.¹⁵

South Carolina has been able to undertake numerous preservation projects – notably the Ben Sawyer Bridge rehabilitation – but can not initiate other, critically needed projects without substantial levels of federal funding. The following chart lists bridges of regional or statewide importance that need to be replaced. These bridge projects would require significant federal funding to be completed by 2017.

Chart 4. Needed bridge replacement projects that require significant federal funding to proceed.

Route Carried	County	Route or feature intersected	Average Daily Traffic	Total Project Cost
SC 5	Lancaster	Catawba River & S.C.L. Railroad	7900	22,960,000.00
SC 5	York	Catawba River Relief Bridge	10400	(combined with above)
SC 171	Charleston	Folly River	14900	14,056,000.00
SC 703	Charleston	Intercoastal Waterway	14100	33,100,000.00
SC 171	Charleston	Sol Legare Creek	14900	11,349,000.00
US 601	Calhoun & Richland	Congaree River	3200	30,512,627.75
US 601	Richland	Congaree River Swamp	3200	(combined with above)
US 601	Richland	Congaree River Swamp	3200	(combined with above)
US 601	Richland	Congaree River Swamp	3200	(combined with above)
US 378	Horry & Marion	Little Pee Dee River	5200	36,565,531.00
US 378	Marion	Little Pee Dee River Swamp	5200	(combined with above)
US 378	Marion	Little Pee Dee River Swamp	5200	(combined with above)
US 378	Marion	Little Pee Dee River Swamp	5200	(combined with above)
US 378	Marion	Little Pee Dee River Swamp	5200	(combined with above)
US 378	Marion	Little Pee Dee River Swamp	5200	(combined with above)
US 378	Horry	Little Pee Dee Swamp	5200	(combined with above)
US 15	Sumter	S.C.L. Railroad & Street	14600	12,500,000.00
US 378	Florence & Marion	Great Pee Dee River	6800	39,090,370.80
US 21	York	Catawba River	20200	25,650,000.00
US 176	Richland	Broad River	21900	27,525,574.69

Chart 4. Needed bridge replacement projects that require significant federal funding to proceed.

Route Carried	County	Route or feature intersected	Average Daily Traffic	Total Project Cost
SC 41	Berkeley	Wando River	3400	39,401,300.00
US 701	Georgetown & Horry	Great Pee Dee River	4100	26,396,000.00
US 701	Georgetown	Yauhannah Lake	4100	(combined with above)
US 701	Horry	Great Pee Dee River Overflow	7600	(combined with above)
SC 174	Charleston	Store Creek	4400	4,966,000.00

Source: SCDOT response to TRIP survey.

Traffic Congestion in South Carolina

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

In 2007, 48 percent of South Carolina’s urban highways were congested, carrying traffic volumes that result in significant rush hour delays.¹⁶ Highways that carry high levels of traffic are also more vulnerable to experiencing lengthy traffic delays as a result of traffic accidents or other incidents.

Traffic congestion in South Carolina’s largest urban areas is likely to worsen significantly unless the state is able to improve its transportation system. The average rush hour trip in the Charleston area takes approximately 20 percent longer to complete than during non-rush hour.¹⁷ According to the Reason Foundation, by the year 2030, unless additional highway capacity is added, traffic congestion delays will jump by 70 percent, with the average rush hour trip in the

Charleston area taking 34 percent longer to complete than during non-rush hour.¹⁸ This level of traffic delay is equivalent to what drivers currently experience in Atlanta.

Unless capacity is added to the transportation system, travel delays will increase sharply in South Carolina’s other urban areas, notably in Columbia (250 percent increase) and Myrtle Beach (600 percent increase).¹⁹

The following chart shows the current travel time index for key urban areas in South Carolina, and the projected travel time index in 2030 if additional highway capacity is not added in these regions. (A travel time index of 1.20 indicates that a trip taken during peak hours would take 20 percent longer than a trip taken during non-rush hours.)

Chart 5. Current and projected travel delays in South Carolina urban areas

Urban Area	Current Travel Time Index	2030 Travel Time Index	Increase by 2030
Charleston	1.20	1.34	70%
Columbia	1.06	1.21	250%
Greenville	1.05	1.12	140%
Spartanburg	1.04	1.10	150%
Myrtle Beach	1.04	1.28	600%
Anderson	1.04	1.08	100%
Rock Hill	1.04	1.08	100%
Florence	1.04	1.08	100%
Sumter	1.04	1.08	100%

Source: Texas Transportation Institute and the Reason Foundation

Numerous projects needed to increase the capacity of the state’s major roads and highways to relieve traffic congestion, improve safety and support economic development opportunities in South Carolina cannot proceed without significant federal funding. The following is a list of 25 of these needed capacity-enhancing projects.

Chart 6. Needed roadway widening projects of regional or statewide importance that would require significant federal funding to be completed by 2017.

Route Name	County	From	To	Length in Miles	Average Daily Traffic	Total project cost in millions
S-1240 Glens Bay Rd	Horry	US 17	US 17 Business	0.71	17,900	41
S-62 College Park Rd	Berkeley	S-1093 Crowfield Blvd	US 17 Alternate	3.84	21,200	23
S-107 Butler Rd	Greenville	Maudlin High School	Bridges Road	1.81	18,000	2.5
SC 120 Alice Drive	Sumter	Wise Drive	US 521	2.10	15,100	14
US Route 21	York	Fort Mill N. BP	SC 51	2.10	34800	14
S-347 Hudson Rd	Greenville	Pleham Road	Devenger Road	1.26	16,100	5
US Route 176	Spartanburg	Springfield Road	SC 56/US 176	0.63	24,400	3
SC 160 Steele Rd	Lancaster	S-157	York County Line	2.30	10800	15
S-107 Butler Rd	Greenville	Bridges Road	US 276 Main Street	1.70	16,300	12
SC Route 14	Greenville	Bethel Road	SC 296 Five Forks Rd	0.19	12,100	1.5
US Route 178	Dorchester	S-58 Jedburg Road	Berlin Myers Pkwy	7.90	16,800	37
US 76 Dutch Fork Rd	Richland	Near SC Route 6	S-1403 in Hilton	3.96	15,700	17
SC 165 Bacons Br. Rd	Dorchester	S-9 Stallsvill Loop	SC 61 Beech Hill Road	6.42	17000	23
SC 1252 Atomic Rd	Aiken	East Buena Vista Ave	US 1-78 Jefferson Davis Highway	3.18	14,100	8
SC 118 Hitchcock Pkwy	Aiken	US Route 1	SC Route 302	4.85	15,300	16
S-34 Whitehall Rd	Anderson	SC 28 Pearman Dairy Road	S-103 Old Ashbury Rd	5.36	12100	16
US Route 17	Horry	8th Avenue North	SC 9 Sea Mountain Hwy	2.80	46,600	5
SC-164 Dorchester Rd	Dorchester	US 17 Alt. Boone Hill Road	S- 259 Parlor Drive	10.91	23,000	41
US Route 17 BP	Horry	29th Avenue North	US 17 Business	5.82	50,000	27.5
SC Route 700 Maybank Highway	Charleston	Bohicket Road	Stono Road	4.74	21,000	46
US Route 123	Pickens	SC Route 93	SC Route 153	2.15	38,100	15
S-57 Bees Ferry Rd	Charleston	US Route 17	SC Route 61	4.63	16,400	18
S-31 Cannons Campground Rd	Spartanburg	Drayton Road	I-85	3.18	15,100	16.5
US Route 17	Charleston	SC 517 Isle of Palms Connector	Lieben Road	5.38	42,000	18
S-83 Hardscrabble Rd	Richland	SC 555 Farrow Road	S-93 Clemson Road	2.80	17,200	19.5

Source: SCDOT response to TRIP survey

Traffic Safety in South Carolina

A total of 5,210 people were killed in motor vehicle accidents in South Carolina from 2003 through 2007, an average of 1,042 fatalities per year.²⁰

In 2007, South Carolina had the fourth highest fatality rate in the country. South Carolina's traffic fatality rate of 2.09 fatalities per 100 million vehicle miles of travel in 2007 was 54 percent higher than the national average of 1.36.

Chart 7. Traffic fatalities in South Carolina from 2003 – 2007.

<i>Year</i>	<i>Fatalities</i>
2003	968
2004	1,046
2005	1,093
2006	1,037
2007	1,066
Total	5,210

Source: National Highway Traffic Safety Administration

South Carolina's rural, non-Interstate roads have a fatality rate significantly higher than other roads in the state. The traffic fatality rate in 2007 on South Carolina's non-Interstate rural roads was 4.3 traffic fatalities per 100 million vehicle miles of travel, which is nearly five times greater than the 0.87 traffic fatalities per 100 million vehicle miles of travel on all other roads and highways in the state.²¹

A disproportionate share of highway fatalities occur on South Carolina's rural, non-Interstate roads. In 2007, 73 percent of traffic fatalities in South Carolina occurred on rural, non-Interstate routes, while only 35 percent of vehicle travel in the state occurred on these roads.²²

Three major factors are associated with fatal vehicle accidents: 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 South Carolina’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 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 where appropriate.

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.²³

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

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

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

Importance of Transportation to Economic Growth

A combination of industries have boosted the Palmetto State's gross domestic product by 47 percent since 1990.²⁴ Agriculture and manufacturing continue to drive South Carolina's economy, and travel and tourism are growing. The travel and tourism industry now generates 10 percent of South Carolina's employment, and visitors to the state spent \$9.7 billion in 2007.²⁵

All the state's businesses are dependent on an efficient, safe, and modern transportation system, one that will foster continued business diversification and opportunity.

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

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

Highways are vitally important to continued economic development in South Carolina. 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, \$143 billion in goods are shipped from sites in South Carolina and another \$129 billion in goods are shipped to sites in South Carolina, mostly by trucks.²⁶ Eighty-eight percent of the goods shipped annually from sites in South Carolina are carried by trucks and another four percent are carried by courier services, which use trucks for part of their deliveries. Similarly, 83 percent of the goods shipped to sites in South Carolina are carried by trucks and another seven percent are carried by courier services, which use trucks for part of their deliveries.²⁷

Trucking is a crucial part of South Carolina's economy, as commercial trucks move goods from sites across the state to markets inside and outside the state. Commercial truck travel in South Carolina is expected to increase significantly over the next decade. Based on federal projections, TRIP estimates that commercial trucking will increase by 43 percent in South Carolina by 2020.²⁸

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.²⁹

The Funding of South Carolina's Surface Transportation System

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

South Carolina's primary surface transportation funding source is the motor fuel tax. The State's 16-cent-per-gallon user fee on gasoline was last raised in 1987.

Significant federal funding for highways and transit is provided to both state and local governments. South Carolina's federal transportation funds are used primarily for construction and generally cannot be used for maintenance. About half of South Carolina's state-owned highway system is eligible for federal highway funds; the rest of the roads must be maintained and improved with state dollars.³⁰

Federal funding for South Carolina's highways and bridges comes from the Federal Highway Trust Fund, under funding levels and formulas determined by Congress. Federal spending levels for highways and public transit are based on the current federal surface transportation program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which was approved by Congress in 2005. The SAFETEA-LU program expires on September 30, 2009.

From 1998 to 2007, South Carolina received approximately \$5.3 billion in federal funding for road, highway and bridge improvements, and \$295 million in funding for public transit – a total of approximately \$5.6 billion in federal surface transportation funding during the 10-year period.³¹

This federal funding is a critical source of revenue for South Carolina's roadways and bridges. Federal funds provide 56 percent of all revenues used by the South Carolina Department of Transportation (SCDOT) to pay for road, highway and bridge construction, repairs and maintenance, the highest share of all states in the nation.³²

Federal funds also provide 35 percent of the revenue used annually to pay for the operation of the state's public transit systems as well as capital improvements to the state's public transit systems, which includes the purchase and repair of vehicles and the construction of transit facilities.

As a result of this level of federal support, since 1998 South Carolina has been able to complete numerous projects on the state's highway system, rehabilitate deteriorated roadways and bridges, and expand transit systems and access to improve traffic safety, relieve traffic congestion and enhance economic development opportunities.

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

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

Route Name	County	From	To	Length in Miles	Year Work Completed	Average Daily Traffic	Total Project Cost (millions)
US Route 17	Colleton	Gardens Corner	Jacksonboro	17	1999	10,000	7.4
US Route 52	Berkeley	Powerhouse Road	State Road 6	16	1998	4,300	8.7
I-26	Spartanburg	Mile Post 24	Mile Post 42	18	2006	27,700	18.7
I-385	Laurens	Mile Post 14	Mile Post 22	8	2007	22,900	31.0
I-77	Lexington/Richland	Gills Creek	I-26	12	2004	67,800	13.8
I-85 Northbound	Anderson	Mile Post 21	Mile Post 34	13	2000	53,300	10.5
I-95	Colleton	Mile Post 62	Mile Post 68	8	2005	39,500	4.8
I-20	Richland	US Route 321	Mile Post 77	7	2005	79,400	7.4
I-20	Lexington	Mile Post 37	Mile Post 54	17	2006	33,900	8.2
I-26	Lexington s	Broad River	US Route 176	4	2006	49,600	6.7
I-85	Greenville	Mile Post 47	Mile Post 54	6	2004	102,800	13.2
I-385	Greenville	Mile Post 37	Mile Post 42	5	1998	82,600	2.1
I-77	Chester/York	Mile Post 65	NC State Line	13	2004	73,100	10.7
I-85	Cherokee	Mile Post 86	Mile Post 106	20	2001	50,200	5.5
I-85	Cherokee	Mile Post 83	Mile Post 105	22	1998	50,200	3.5
I-20	Aiken	Mile Post 6	Mile Post 22	16	1999	30,100	6.0
I-26	Laurens	SC Route 66	SC Route 34	22	1998	33,500	5.7
I-26	Newberry	Lexington County Line	Mile Post 75	14	1998	38,300	2.6
I-26	Newberry	Laurens County Line	SC Route 34	13	1999	35,500	5.7
I-77	Richland	Mile Post 6	Mile Post 13	7	2008	59,500	5.6
I-26/I-126	Richland	Broad River	US Route 76	6	2006	104,300	6.7
I-95	Sumter	Mile Post 134	Mile Post 147 NBL	13	2004	26,500	5.5
I-26	Dorchester	Mile Post 181	Mile Post 199	18	1999	32,300	10.2
I-20 Westbound	Aiken	Mile Post 22	Mile Post 37	15	2006	29,800	7.0
I-85	Anderson	Mile Post 10	Mile Post 18	8	2009	41,500	12.2

Source: SCDOT response to TRIP survey

Similarly, numerous major bridges have been rehabilitated due largely to federal transportation funding since 1998, including new bridges over the Cooper River on US Route 17, over the Monkey Springs Branch on SC Route 35, and over the Savannah River and US Route 1 on the new Palmetto Parkway, I-520. Federal funding was also critical in the replacement and

widening of an existing bridge in Beaufort County over the Broad River and the replacement of an existing bridge on SC Route 700 in Charleston County over the Stono River.³³

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

Route Carried	County and route or feature intersected	Benefits	Average Daily Traffic	Year Completed	Total Project Cost (millions)
US Route 17	Charleston/Cooper River	Safety and Congestion	78,100	2005	635.0
SC Route 35	Lexington/Monkey Springs Branch	Economic Development	7,200	2003	20.4
I-520 Palmetto Parkway	Aiken/Savannah River and US Route 1	Economic Development	10,900	2004	40.1
SC Route 9	Horry/Lumber Swamp	Preservation	4,700	2007	8.8
US Route 17	Berkeley/Santee River	Preservation	4,800	1999	10.4
SC Route 41	Florence/Lynches River	Preservation	7,100	2007	10.0
SC Route 170	Beaufort/Broad River	Preservation and Congestion	21,300	2004	80.2
US Route 17	Beaufort/Combahee River	Safety and Congestion	12,000	2008	14.3
I-85	Spartanburg/Pacolet River	Preservation/Congestion	58,300	1999	7.3
SC Route 11	Spartanburg/Pacolet River	Preservation	3,700	1999	4.1
SC Route 700	Charleston/Stono River	Preservation	5,600	2000	41.6
US Route 123	Greenville/Saluda River	Preservation	20,700	2004	7.1
S-20	Charleston/Stono River	Preservation	22,000	2006	21.0
SC Route 34	Greenwood & Newberry/Saluda River	Preservation	3,400	2004	5.0
SC Route 34	Newberry/I-26	Preservation/Economic Dev	7,300	2002	5.3
SC Route 34	Newberry/Brush River	Preservation	5,700	2005	6.6
US Route 76	Newberry/CSX Railroad	Safety and Preservation	2,800	2006	5.4
US Route 76	Oconee/Chattooga River	Safety/System Preservation	1,750	2007	4.0
SC Route 93	Oconee/Lake Keowee	Congestion/Preservation	9,900	2003	8.5
US Route 29	Cherokee/Broad River	Preservaion	7,400	2007	7.4
I-85	Cherokee/Broad River	Preservation	48,300	2004	10.7
I-85	Cherokee/Cherokee Creek	Preservation	25,100	2003	19.6
I-85	Cherokee/Thicketty Creek	Preservation	55,100	2002	10.6
SC Route 11	Greenville/Saluda River	Preservation	3,400	2007	5.5
SC Route 72	Chester/Broad River	Preservation	3,000	2007	9.6

Source: SCDOT response to TRIP survey

Accommodating population growth and providing opportunities for economic development require transportation enhancements. The following chart shows major projects undertaken to provide additional capacity on South Carolina’s roadway system, which were completed since 1998 and for which federal funds were a significant source of funding. Many of

the capacity-adding projects modernized South Carolina state routes, bringing them up to Interstate highway standards, which opens access to greater goods movement and economic development.

Some of the capacity-adding projects shown below include 28 miles of new roadway, SC 22, in Horry County; 12 miles of new/relocated roadway for the Carolina Bays Parkway in Horry County; 30 miles of widened roadway on SC Route 72 in Abbeville and Laurens counties; and 16 miles of relocated roadway on I-185 in Greenville County.

Chart 11. South Carolina highway capacity projects completed since 1998, largely due to federal surface transportation funds.

Route Name	County	From	To	Length in Miles	Average Daily Traffic	Improvements Made	Year Completed	Total Project Cost (millions)
I-85	Anderson	Mile Post 19	Mile Post 34	15.0	53,300	Additional Lanes	2002	74.0
I-77	York	SC Route 161 and	US Route 21	5.0	60,000	Interchange/ Interstate Improvement	2005	37.0
I-77	York	S-100	SC/NC State Line	6.0	95,000	Additional Lanes	2001	29.0
SC 22 Veterans Highway	Horry	US Route 17	US Route 501	28.0	12,900	New Location Roadway	2001	390.0
US Route 501	Horry	Forest Brook Road	Intercostal Waterway	3.0	67,400	New Location Roadway	2004	89.0
Carolina Bays Parkway	Horry	SC Route 22	US Route 501	12.0	21,800	New Location Roadway	2002	252.0
US Route 52	Berkeley	S-6	SC Route 375	6.0	4,300	Widening	2000	32.0
US Route 52/US Route 78	Berkeley	Interchange		9.0	63,200	Interchange	2004	31.0
I-95	Florence	Interstate 20	SC Route 327	15.0	46,800	Additional Lanes	2004	56.0
US Route 378	Clarendon & Florence	S-595	East of US 52	10.0	4,800	Widening	2007	35.0
US Route 521	Clarendon & Sumter	South Guignard Parkway	US Route 301	12.0	4,800	Widening	2006	40.0
Northern Arterial	Richland	US Route 1	I-77	5.0	18,600	Widening and New Location	2006	44.0

Chart 11. South Carolina highway capacity projects completed since 1998, largely due to federal surface transportation funds.

Route Name	County	From	To	Length in Miles	Average Daily Traffic	Improvements Made	Year Completed	Total Project Cost (millions)
Northern Arterial	Richland	US Route 1	I-77	5.0	18,600	Widening and New Location	2006	44.0
SC 80 VernSmith Parkway	Spartanburg	SC Route 101	SC Route 14	5.0	6,200	New Location Roadway	2006	55.0
SC Route 296	Spartanburg	SC Route 290	SC Route 295	9.0	22,200	Widen Existing Roadway	2006	55.0
I-85	Spartanburg	SC Route 101	SC Route 129	8.0	80,500	Widen Existing Roadway	2001	45.0
SC Route 295	Spartanburg	SC Route 296	SC Route 56	6.0	12,300	Widen Existing Roadway	2007	34.0
I-185	Greenville	US Route 29	I-385	16.0	8,700	New Location Roadway	2001	191.0
SC Route 72	Abbeville & Larurens	S-46	Georgia State Line	30.0	11,000	Widening	2008	119.0
SC Route 5	Cherokee	US Route 29	York County Line	7.0	4,700	Widening	2007	43.8
I-385	Greenville	I-85	US Route 278	6.0	82,600	Widening	2005	110.0
SC 183 Western Corridor	Greenville	SC Route 253	SC Route 123	4.0	28,000	Widening and New Location	2005	46.0
I-85	Greenville	Pelham Road	SC Route 101	5.0	77,200	Widening	2001	32.0
SC Route 9	Chester	SC Route 72	US Route 21	19.0	11,000	Widening	2004	43.0
US Route 278	Beaufort	Simmonsville Road	Fording Island Road	4.0	60,000	Widening	2006	18.0
SC Route 118	Aiken	SC Route 19	SC Route 4/302	4.0	5,200	Widening to 4 lanes and new location	2004	10.1

Source: SCDOT response to TRIP survey

Federal funding provided for public transit in South Carolina since 1998 has assisted 20 general transportation public providers statewide. Federal funding allowed South Carolina to provide many new transit routes, add services for commuters, and study additional routes that would better serve the state’s population. The following chart shows major transit and rail improvements completed between 1998 and 2007 for which federal funds were a significant source of funding.

Chart 12. Transit and Rail Improvements with regional or statewide significance that were completed since 1998 and for which federal funds were a significant source of funding.

County or Closest City	Type of Project	Project Description	Total Project cost (millions)	Year Completed	Project Benefit
TriCounty Link/ Berkeley Dorchester Counties	Commuter Express	Commuter Express Route	Ongoing	2008	Congestion Relief
Laurens County	Transit	Transit Feasibility Study	\$0.05	Ongoing	Transit Provision
Greenwood/Saluda/ Abbeville Counties	Transit	Transit Feasibility Study	\$0.05	Ongoing	Transit Provision
City of Florence/Florence Transit System	Transit	New Fixed Route	Estimated \$0.150	2008	Linked city bus service; congestion; air quality; eco. dev.
Chesterfield-Cheraw Bennettsville	Transit	New Fixed Route	Estimated \$0.150	2008	Linked rural fixed route; economic development; TEC
Bennettsville-Cheraw-Chesterfield	Transit	New Fixed Route	Estimated \$0.150	2008	Linked rural fixed route; economic development; TEC
Lake City /Florence County	Transit	New Fixed Route	Estimated \$0.150	2008	Work transportation
Florence-Marion-Myrtle Beach	Transit	New Fixed Route	Estimated \$0.150	2008	Work transportation; recreation
Dillon-Latta-Myrtle Beach	Transit	New Fixed Route	Estimated \$0.150	2008	Work transportation; recreation
Lake City-Florence	Transit	New Fixed Route	Estimated \$0.150	2008	Linked JARC; recreation
Dillon-Florence	Transit	New Fixed Route	Estimated \$0.150	2008	Linked JARC; TEC; recreation
Marion-Florence	Transit	New Fixed Route	Estimated \$0.150	2008	Linked JARC; TEC; recreation
Hilton Head/Beaufort County	Transit	Expanded Fixed Route	\$2.5	Ongoing	Economic development; improved general public access to community amenities; reduce congestion on U.S. 278
Lexington - Richland Counties	Transit	Commuter Transit Services	\$0.6		Congestion management / Economic Development
Greenville	Rail	High Speed Rail Corridor	\$2.75M to \$2.54 M	Ongoing	Safety, Economic Development, Congestion
Charleston	Rail	Commuter Rail	\$100M	Ongoing	Safety, Economic Development, Congestion
Columbia	Rail/Transit	Commuter Rail/ Bus Rapid Transit	\$100M+	Ongoing	Safety, Economic Development, Congestion
Florence, Myrtle Beach, Charleston	Rail/Transit	Commuter Rail/ Bus Rapid Transit	\$100M+	Ongoing	Safety, Economic Development, Congestion
Spartanburg	Rail	Blackstock Rd. over High Speed Rail	\$15M	Ongoing	Safety, Economic Development, Congestion

Source: SCDOT response to TRIP survey

Future Federal Surface Transportation Program

To ensure that federal funding for highways and public transit in South Carolina and throughout the nation continues beyond the expiration of the current federal surface transportation program (SAFETEA-LU), Congress will need to approve new long-term federal surface transportation legislation by September 30, 2009.

The recently approved American Recovery and Reinvestment Act provides approximately \$463 million in stimulus funding for highway and bridge improvements and \$41 million for public transit improvements in South Carolina. This funding can serve as a down payment on needed road, highway, bridge and transit improvements, but it is still not sufficient to allow the state to proceed with numerous projects needed to modernize its surface transportation system.

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

Federal funding for highways and transit in South Carolina may be cut in half later in 2009 as a result of inadequate revenue being collected into the Federal Highway Trust Fund, which funds highway and transit improvements. House Transportation & Infrastructure Committee Chairman James Oberstar sent a letter in March, 2009 to his House colleagues warning that a severe revenue shortfall in the Highway Trust Fund could result in federal funding for surface transportation could be cut in half starting on October 1, 2009, unless Congress takes steps to eliminate the funding shortfall.

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

Over the five-year period from March 2004 to March 2009, the average cost of materials used for highway construction – including asphalt, concrete, steel, lumber and diesel – increased by 40 percent.

Recommendations for the Nation's Surface Transportation System

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

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

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

In January, 2008 the NSTPRSC released its findings. The Commission found that at the current level of investment in surface transportation in the U.S., the nation's highways and bridges would further deteriorate, traffic casualties would increase and traffic congestion would increase, jeopardizing the nation's economic leadership due to an erosion of transportation reliability.³⁴ The Commission concluded that it is critical to the future quality of life of Americans that the nation create and sustain the preeminent surface transportation system in the world, one that is well-maintained, safe and reliable.³⁵

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

Key recommendations by the Commission include:

- ✓ Allocate funding through outcome-based, performance-driven programs supported by cost/benefit evaluations rather than political earmarking.
- ✓ Consolidate the more than 100 current transportation funding programs into 10 programs focused on key areas of national interest, including congestion relief, preservation of roads and bridges, improved freight transportation, improved roadway safety, improved rural access, improved environmental stewardship and the development of environmentally-friendly energy sources.

- ✓ Speed up the project development process to reduce the excessive time required to move projects from initiation to completion by better coordinating the development and review process for transportation projects.
- ✓ Significantly boost federal funding for surface transportation. Options for increasing federal surface transportation revenues include reduced evasion of federal motor fuel taxes, moving costs of exemptions from motor fuel fees to the general fund, indexing the motor fuel tax, increasing the motor fuel tax, additional tolling, congestion pricing, increased use of public-private partnerships and freight fees.

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

In February, 2009, the NSTIFC released its findings. The NSTIFC found that the U.S. faces a \$2.3 trillion funding shortfall through 2035 in maintaining and making needed improvements to the nation's surface transportation system.³⁶ The Commission found that failure to address the immediate funding shortfall and provide adequate long-term funding for the nation's surface transportation system will lead to unimaginable levels of congestion, reduced safety, costlier goods and services, and eroded quality of life and diminished economic competitiveness.³⁷

The Commission found that the current federal surface transportation funding structure, which relies primarily on taxes imposed on petroleum-derived vehicle use, is not sustainable.

Instead, the Commission recommended that the nation's future surface transportation investment be funded largely by a charge on motorists based on the number of miles driven. The NSTIFC recommended that a full deployment of a mileage-based federal transportation fee be completed by 2020 and that the federal motor fuel tax eventually be phased out as revenue from a federal motor fuel fee was replaced by a mileage fee.³⁸ Once implemented, the NSTIFC recommended that mileage charges be set at a rate that would provide enough revenue to provide adequate federal funding to ensure that the nation achieve an integrated national transportation system that is less congested and safer and that promotes increased productivity, stronger national competitiveness, and improved environmental outcomes.³⁹ The NSTIFC also recommended that in the short term, the nation's federal motor fuel tax be boosted significantly and indexed to inflation to allow the federal surface transportation program to be funded at an adequate level until the transition to a mileage-based federal transportation fee.

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

AASHTO has recommended that a future federal surface transportation program be developed that would be accountable for results, would make investments based on community needs and would deliver projects on time and on budget. AASHTO has also called for a federal surface transportation program that is based on state-driven performance measures and focused on six objectives of national interest: preservation and renewal, interstate commerce, safety, congestion reduction and connectivity for urban and rural areas, system operations and environmental protection.

Conclusion

Roads and bridges are the backbone of the Palmetto State's transportation system. Today South Carolina's transportation system is under multiple pressures from aging roads and bridges, increasing traffic congestion and the rising cost of construction.

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

Without the federal surface transportation program (SAFETEA-LU), South Carolina would not have been able to fund key projects on major components of the state's transportation network. These projects have supported the state's economic development and created new opportunities for the state's residents. This progress may slow without a strong transportation program to take the place of SAFETEA-LU when it expires September 30, 2009.

The state has an immediate need to move forward with numerous bridge, rehabilitation, expansion and transit projects, but without a substantial level of federal funding, South Carolina will be unable to fund dozens of vital projects.

Enhanced federal transportation funding, particularly for highways, would permit the state to upgrade important sections of South Carolina Interstate highways, improve safety, replace obsolete bridges, and expand transit services statewide. Preservation work, such as rehabilitation and maintenance, performed on South Carolina's network of roads and bridges will pay off in future years by protecting South Carolina's past investment in transportation and extending the life of its aging infrastructure.

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

As the nation looks to rebound from the current economic downturn, the U.S. will need to modernize its surface transportation system, improve the physical condition of its transportation network and enhance the system's ability to provide efficient and reliable mobility for motorists and businesses. Making needed improvements to South Carolina'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 on an improved transportation system. However, without a substantial boost in state and federal highway funding, numerous needed projects to expand capacity and upgrade the condition of South Carolina's roads, bridges, highways and transit will not move forward, hampering the state's ability to enhance not only mobility, but also economic development statewide. The future provisions and funding levels of the next federal surface transportation program will be a critical factor in whether South Carolina is able to reap the benefits of a modern surface transportation system.

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Endnotes

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