

# ***FUTURE MOBILITY IN GEORGIA:***

Meeting the State's Need for Safe and Efficient Mobility

**October 2007**

Prepared by:

TRIP  
1726 M Street, NW, Suite 401  
Washington, D.C. 20036  
202-466-6706 (voice)  
202-785-4722 (fax)  
[www.tripnet.org](http://www.tripnet.org)

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

## Executive Summary

Georgia's extensive system of roads and bridges provides the state's 9.4 million residents and visitors with a high level of mobility. As the backbone of the Peach State's transportation system, roads and bridges play a central role in the state's economy. Georgia's extensive highway transportation system enables residents and visitors to go to work, visit family and friends, move goods to market, and frequent tourist attractions.

It is critical that Georgia develops and maintains a modern transportation system that can accommodate future growth in population, vehicle travel, tourism and economic development. Improving and maintaining the condition of the state's roads and bridges, as well as modernizing Georgia's key highways, is critical to providing the state's residents with a high quality of life.

### **Georgia faces a \$51 billion shortfall through the year 2035 in funding for needed road, highway and bridge repairs and improvements.**

- Numerous road, highway and bridge improvement projects that are currently needed to improve physical conditions, improve traffic safety, enhance economic development opportunities and relieve traffic congestion lack adequate funding to proceed.
- According to the Georgia Department of Transportation (GDOT), through 2035, the state needs to spend \$113 billion to complete highway and bridge projects that are on the existing transportation plans of state, regional and local transportation agencies. These needed projects will allow the state to maintain road and bridge conditions, make needed roadway safety improvements, provide needed traffic congestion relief and enhance economic development opportunities in the state. However, GDOT estimates that anticipated highway funding during this time period will be only \$62 billion.
- Some of the needed but currently unfunded projects in the state include the widening of Interstate 95 from the South Carolina border to the Florida border from six to eight-lanes, the widening of an 85-mile portion of Interstate 75 from Valdosta to the Dooly County Line from four to six lanes, and the widening of portions of Interstate 75 from I-675 to I-475 and from the Barrett Parkway to the Tennessee state line from six to eight lanes. A list of the most-needed but unfunded projects in Georgia (excluding the Atlanta metro area) can be found in the report.
- In the Atlanta area, some of the needed projects that lack adequate funding include: the addition of high occupancy vehicle lanes to carry transit, carpools and vanpools along portions of State Route 400 and Interstates 75, 85 and 285, and the addition of truck-only lanes along a 10-mile portion of Interstate 75. A list of the most-needed but unfunded projects in the Atlanta metro area can be found in the report.
- The cost of roadway improvements is escalating because the price of key materials needed for highway and bridge construction has increased rapidly. Over the last three-and-a-half years, the average cost of materials used for highway construction, including asphalt, concrete, steel, lumber and diesel has increased by 43 percent.

- GDOT estimates that the total funding shortfall for all transportation in the state through 2035 is \$74 billion, including transit, aviation and ports.

**Large increases in population and travel in the state have led to a significant increase in traffic congestion, which threatens to reduce the quality of life of Georgians and impede economic growth.**

- Georgia has had the fifth highest level of population growth in the U.S. since 1990 and the fastest rate of population increase in the U.S. east of the Mississippi River. From 1990 to 2006, Georgia's population has increased by 45 percent from approximately 6.5 million people to 9.4 million, an increase of nearly 3 million people in 16 years.
- Georgia's population is projected to increase by another 45 percent to 13.6 million people in 2035.
- Vehicle travel on all Georgia roadways increased by 56 percent from 1990 to 2005 – from 73 billion vehicle miles to 114 billion vehicle miles traveled.
- Travel on Georgia's highways since 1990 has increased at a rate 10 times greater than new lane capacity was added. From 1990 to 2005, highway lane miles (limited-access routes only) in the state increased by six percent and travel on the state's highways increased by 63 percent.
- TRIP estimates that vehicle travel in Georgia will increase by approximately 50 percent by the year 2020, to 171 billion miles annually.
- Traffic congestion delays in the Atlanta area are expected to more than double by the year 2030, to levels worse than present-day Los Angeles, unless there is significant improvement in the region's transportation system. A new report by the Texas Transportation Institute found that current rush hours trips in the Atlanta region take 34 percent longer to complete than during non-rush hours. But by 2030, the Reason Foundation estimates that rush hours trips in the Atlanta region will take 85 percent longer to complete than non-rush hour trips, unless the region's transportation system is improved significantly.
- Georgia's 2006 long-range transportation plan found that "the inability to meet the State's ever growing transportation needs, and the congestion which will result from this failure, will in all likelihood choke off or greatly reduce forecasted levels of economic growth and degrade the quality of life of its residents."
- Approximately three-quarters of the major roads and highways in the Atlanta region (1,689 of 2,226 miles) are considered congested, carrying levels of traffic that result in significant delays.

- The following is a list of the 10 highway sections in the Atlanta metro area that have the highest levels of traffic congestion. A list of the 20 most-congested highway sections in the Atlanta metro area can be found in the body of the report. Although the daily volume-to-capacity ratio may not be the highest in the metro Atlanta area, the 8.6-mile section of I-75 and I-85 from I-85 South to I-85 North experiences the most significant congestion in the metro area because of high traffic volumes and because of special operating conditions including closely spaced interchanges and backup from interchanges needing additional capacity.

Rank	Route	County	From	To	Length in Miles
1	I-75 & I-85 (Common Section north)	Fulton	I-20	I-85 North	4.2
2	I-75 & I-85 (Common Section south)	Fulton	I-85 South	I-20	4.4
3	I-285 North	Fulton, Dekalb	SR 400	I-85 North	6.4
4	I-285 East	Fulton, Dekalb	I-85 North	US 78	5.5
5	SR 400	Fulton	Mansell Rd.	McGinnis Ferry Rd.	7.6
6	I-75 North	Cobb	I-285 North	I-575	9.8
7	SR 400	Fulton	I-285 North	Holcomb Bridge Rd.	8.0
8	I-85 North	Dekalb, Gwinnett	I-285	SR 316	10.6
9	SR 400	Fulton	I-85	I-285 North	7.0
10	SR 400	Fulton	Holcomb Bridge Rd.	Mansell Rd.	1.4

**Traffic fatalities on Georgia’s roadways are occurring at a rate higher than the national average and traffic fatalities on the state’s rural, non-Interstate routes are occurring at a rate significantly higher than on all other roadways in the state. Improving safety features on Georgia’s roads and highways would result in fewer fatal traffic accidents in the state.**

- On average, 1,636 people were killed each year in motor vehicle accidents in Georgia from 2001 to 2005. There were 8,182 traffic fatalities in Georgia from 2001 to 2005.
- In 2005, the traffic fatality rate on Georgia’s rural, non-Interstate routes was 2.05 fatalities per 100 million vehicle miles of travel, 55 percent higher than the 1.32 fatalities per 100 million vehicle miles of travel which occurred on all other roads in Georgia.
- In 2005, Georgia’s overall traffic fatality rate per 100 million vehicle miles of travel was 1.52, which is higher than the national average of 1.45.
- There are several factors associated with vehicle accidents that result in fatalities, including driver behavior, vehicle characteristics and roadway design. It is estimated by highway safety experts that roadway design is an important factor in one-third of all fatal traffic accidents.

- Highway improvements such as adding turn lanes, removing or shielding obstacles, adding medians, widening lanes, widening and paving shoulders, improving intersection layouts, providing better road markings, and installing or upgrading traffic signals, could reduce the severity of serious traffic crashes.
- 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.

**Pavements on Georgia’s major roads are in good condition, but the state faces a challenge in the need to complete significant rehabilitation or reconstruction on large portions of its roadway system over the next 20 years.**

- In 2005 (the latest year for which data is available), Georgia led the nation with 92 percent of its major roads rated in good condition. Five percent of Georgia’s major roads are rated in fair condition and another three percent are rated in mediocre condition.
- The Atlanta urban area also has the best overall pavement conditions on its major roads and highways among cities of at least 500,000 population, with 90 percent of its roads and highways rated in good condition. Seven percent of the Atlanta region’s roads and highways are rated in fair condition and three percent are rated in mediocre condition.
- By 2027, 40 percent - 7,200 of 18,084 miles - of state roads and highways will need significant rehabilitation or reconstruction to allow them to remain in good condition.

**One in five – 20 percent – of bridges in Georgia 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. Georgia faces a significant challenge, with nearly one-third of its bridges due for major repairs over the next 20 years.**

- Seven percent of Georgia’s bridges were structurally deficient in 2006 (the latest year for which data is available). 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 commercial trucks and other larger vehicles including emergency service vehicles.
- Thirteen percent of Georgia’s bridges were functionally obsolete in 2006. Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.
- In the Atlanta urban area, 20 percent of bridges are rated deficient. Five percent of the Atlanta region’s bridges are rated as structurally deficient and 15 percent are rated as functionally obsolete.
- Georgia faces a significant challenge in meeting its need to perform significant repairs on its aging system of bridges over the next 20 years. The Georgia Department of Transportation (GDOT) reports that 9,013 of the 14,439 bridges in the state – 62 percent – will need either significant rehabilitation or reconstruction over the next 20 years.

- The following is a list of the 10 most heavily travelled structurally deficient bridges in Georgia (outside the Atlanta metro area), carrying at least 5,000 vehicles per day. A list of the 20 most heavily traveled roads with structurally deficient bridges in the state is included in the report.

Rank	Route	City or County	Route/feature intersected	Daily Traffic	Year Built
1	NORTH OCONEE RIVER	Clarke	NORTH OCONEE RIVER	31,650	1958
2	BULL CREEK	Muscogee	BULL CREEK	26,880	1924
3	BULL CREEK	Muscogee	BULL CREEK	16,530	1950
4	COOPER CREEK	Muscogee	COOPER CREEK	16,530	1930
5	BACK RIVER	Chatham	BACK RIVER	14,840	1954
6	NORFOLK RAILROAD	Sumter	NORFOLK RAILROAD	11,640	1911
7	POTATO CREEK	Lamar	POTATO CREEK	11,150	1967
8	BEAVERDAM CREEK	Bibb	BEAVERDAM CREEK	10,980	1940
9	RAES CREEK	Richmond	RAES CREEK	10,400	1950
10	CANE CREEK	Lumpkin	CANE CREEK	10,360	1955

- The following is a list of the 10 most heavily travelled structurally deficient bridges in the Atlanta metro area carrying at least 5,000 vehicles per day. A list of the 20 most heavily traveled structurally deficient bridges in the Atlanta area is included in the report.

Rank	Route	City or County	Route/feature intersected	Daily Traffic	Year Built
1	NEW HOPE CH ROAD	Walton	ALCOVY RIVER	32,560	1963
2	CONKLE ROAD	Clayton	REEVES CREEK	26,710	1967
3	PONCE DE LEON	Dekalb	LULLWATER CREEK	26,520	1922
4	OLD ROSWELL ROAD	Fulton	FOE KILLER CREEK	22,070	1951
5	SPRING STREET	Fulton	SOU RR-CSX RR (340316X)	21,120	1923
6	SIX FLAGS DRIVE	Cobb	I-20	18,640	1963
7	OLD ALABAMA ROAD	Fulton	JOHNS CREEK	17,650	1956
8	OLD ALABAMA ROAD	Fulton	JOHNS CREEK TRIB.	17,650	1956
9	BANKHEAD AVENUE	Fulton	CSX RAILROAD (ABANDONED)	17,000	1928
10	HUDSON BR ROAD	Henry	PATES CREEK	16,390	1970

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

- Eighty-three percent of the \$271 billion in products shipped annually from sites in Georgia are transported on highways and another eight percent are carried by courier services, which use trucks for part of their deliveries. Similarly, 80 percent of the \$295 billion in goods shipped annually to sites in Georgia are carried by trucks and another nine percent are carried by courier services, which use trucks for part of their deliveries.
- Commercial trucking in Georgia is projected to increase 59 percent by 2020.

- Increasingly, companies are looking at the quality of a region's transportation system when deciding where to re-locate or expand. Regions with congested or poorly maintained roads may see businesses relocate to areas with a smoother, more efficient transportation system.
- Businesses have responded to improved communications and greater competition by moving from a push-style distribution system, which relies on low-cost movement of bulk commodities and large-scale warehousing, to a pull-style distribution system, which relies on smaller, more strategic and time-sensitive movement of goods.

**Sources of information for this study include the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), the U.S. Census Bureau, the National Highway Traffic Safety Administration (NHTSA), the Texas Transportation Institute (TTI), the National Bridge Inventory (NBI), the Reason Foundation and the Georgia Department of Transportation (GDOT).**

## **Introduction**

Georgia's system of roads, highways and bridges is the most critical transportation link for the state's 9.4 million residents and visitors, providing access to homes, employment, shopping and recreation. Today, with population and travel continuing to increase at a rapid rate in the Peach State, further modernization of Georgia's roads, highways and bridges is crucial to providing a safer, more efficient transportation system, while improving the economic livelihood of the state and accommodating future growth. Improved roads, highways and bridges would provide Georgia's residents with greater mobility and traffic safety, which would improve personal and commercial productivity and boost tourism and economic development statewide.

This report examines the condition, use, safety and funding of Georgia's roads and bridges, as well as the state's ability to meet future mobility and traffic safety needs. Sources of information for this study include the U.S. Department of Transportation (USDOT), the Georgia Department of Transportation (GDOT), the Federal Highway Administration (FHWA), the U.S. Census Bureau, the National Highway Traffic Safety Administration (NHTSA), the Reason Foundation and the Texas Transportation Institute (TTI).

## **Population and Travel Trends in Georgia**

Georgia residents rely on a high level of personal and commercial mobility. Rapid growth in the state's population and a significant increase in the miles traveled by the state's residents and visitors have created growing demand on Georgia's key highways and roads, particularly in the Atlanta area. It is critical that Georgia provide and maintain a modern

transportation system that can accommodate future growth in population, tourism, vehicle travel and economic development.

Since 1990, Georgia has experienced the fifth highest level of population growth in the U.S. and the fastest rate of population increase east of the Mississippi River. From 1990 to 2006, Georgia’s population increased by 45 percent, from approximately 6.5 million people to 9.4 million, an increase of nearly 3 million people in 16 years.<sup>1</sup> The population of Georgia is projected to increase by another 45 percent to 13.6 million people in 2035.<sup>2</sup>

**Chart 1. States with largest percentage increase in population 1990 to 2006.**

Nevada	108 %
Arizona	68 %
Utah	48 %
Idaho	46 %
<b>Georgia</b>	<b>45 %</b>

**Source: TRIP analysis of U.S. Census Bureau data**

Georgia’s steady population and economic growth have contributed to a significant increase in vehicle travel in the state. From 1990 to 2005, annual vehicle miles of travel in Georgia increased by 56 percent, from 73 billion annual miles of travel to 114 billion miles of travel.<sup>3</sup> Based on population and other lifestyle trends, TRIP estimates that travel on Georgia’s roads and highways will increase by another 50 percent by 2020, to 171 billion annual vehicle miles of travel.

## Condition of Georgia's Roads

The lifecycle of Georgia'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. A desirable goal for state and local organizations that are responsible for road maintenance is to keep at least 75 percent of major roads in good condition.<sup>4</sup>

With 92 percent of its roads rated in good condition in 2005 (the latest year for which data is available), Georgia continued to have the best overall pavement conditions on major roads and highways in the nation. Five percent of Georgia's major roads are rated in fair condition and another three percent are rated in mediocre condition.<sup>5</sup>

Ninety percent of Atlanta's roads and highways are rated in good condition, giving the metro area the best overall pavement conditions on major roads and highways among cities of at least 500,000 population. Seven percent of roads and highways in the Atlanta region are rated in fair condition and three percent are rated in mediocre condition.<sup>6</sup>

Despite the good pavement conditions in Georgia, the state will need to complete significant repairs on 40 percent of its major roads over the next 20 years, as aging roads and highways reach a point where significant rehabilitation and reconstruction become necessary for the long-term preservation of a paved surface. By 2027, 7,200 of Georgia's 18,084 miles of state roads and highways will need significant rehabilitation or reconstruction to allow them to remain in good condition.<sup>7</sup>

## Bridge Conditions in Georgia

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

In 2006, the latest year for which data is available, one-in-five – 20 percent – of Georgia's bridges (20 feet or longer) were rated as deficient. Seven percent of Georgia's bridges (20 feet or longer) were rated structurally deficient.<sup>8</sup> 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.

Thirteen percent of Georgia's bridges were rated functionally obsolete in 2006.<sup>9</sup> Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.

In the Atlanta urban area, 20 percent of the bridges are rated deficient. Five percent of the Atlanta region's bridges are rated as structurally deficient and 15 percent are rated as functionally obsolete.

Nationally, 12 percent of bridges were rated as structurally deficient and 13 percent were rated as functionally obsolete in 2006.<sup>10</sup>

Georgia faces a significant challenge in meeting the need to perform significant repairs on its aging system of bridges over the next 20 years. GDOT reports that 9,013 of the 14,439 bridges in the state – 62 percent – will need either significant rehabilitation or reconstruction over the next 20 years.<sup>11</sup>

GDOT has identified the 20 most heavily traveled roads with structurally deficient bridges in (excluding bridges in the Atlanta area) and the 20 most heavily travelled roads with structurally deficient bridges inside the Atlanta metro area carrying at least 5,000 vehicles per day.<sup>12</sup>

**Chart 2. The 20 most heavily travelled structurally deficient bridges in Georgia carrying at least 5,000 vehicles per day (excluding Atlanta area).**

Rank	Route	City or County	Route/feature intersected	Daily Traffic	Year Built
1	NORTH OCONEE RIVER	Clarke	NORTH OCONEE RIVER	31,650	1958
2	BULL CREEK	Muscogee	BULL CREEK	26,880	1924
3	BULL CREEK	Muscogee	BULL CREEK	16,530	1950
4	COOPER CREEK	Muscogee	COOPER CREEK	16,530	1930
5	BACK RIVER	Chatham	BACK RIVER	14,840	1954
6	NORFOLK RAILROAD	Sumter	NORFOLK RAILROAD	11,640	1911
7	POTATO CREEK	Lamar	POTATO CREEK	11,150	1967
8	BEAVERDAM CREEK	Bibb	BEAVERDAM CREEK	10,980	1940
9	RAES CREEK	Richmond	RAES CREEK	10,400	1950
10	CANE CREEK	Lumpkin	CANE CREEK	10,360	1955
11	NORFOLK-SOUTHERN RR.	Bibb	NORFOLK-SOUTHERN RR.	10,160	1938
12	WALNUT CREEK	Bibb	WALNUT CREEK	9,990	1929
13	SOUTHERN RAILROAD	Muscogee	SOUTHERN RAILROAD	9,910	1940
14	ROCKY CREEK	Bibb	ROCKY CREEK	9,600	1935
15	CEDAR CREEK	Polk	CEDAR CREEK	9,420	1931
16	SPRINGFIELD CANAL	Chatham	SPRINGFIELD CANAL	8,940	1930
17	WALTON BRANCH	Columbia	WALTON BRANCH	8,870	1948
18	SPIRIT CREEK	Richmond	SPIRIT CREEK	8,380	1966
19	LITTLE SWAMP CREEK	Whitfield	LITTLE SWAMP CREEK	8,280	1927
20	LINDSEY CREEK	Muscogee	LINDSEY CREEK	8,030	1978

Source: Georgia Department of Transportation

**Chart 3. The 20 most heavily travelled structurally deficient bridges in inside the Atlanta metro area carrying at least 5,000 vehicles per day.**

Rank	Route	City or County	Route/feature intersected	Daily Traffic	Year Built
1	NEW HOPE CH ROAD	Walton	ALCOVY RIVER	32,560	1963
2	CONKLE ROAD	Clayton	REEVES CREEK	26,710	1967
3	PONCE DE LEON	Dekalb	LULLWATER CREEK	26,520	1922
4	OLD ROSWELL ROAD	Fulton	FOE KILLER CREEK	22,070	1951
5	SPRING STREET	Fulton	SOU RR-CSX RR	21,120	1923
6	SIX FLAGS DRIVE	Cobb	I-20	18,640	1963
7	OLD ALABAMA ROAD	Fulton	JOHNS CREEK	17,650	1956
8	OLD ALABAMA ROAD	Fulton	JOHNS CREEK TRIB.	17,650	1956
9	BANKHEAD AVENUE	Fulton	CSX RAILROAD (ABANDONED)	17,000	1928
10	HUDSON BR ROAD	Henry	PATES CREEK	16,390	1970
11	NORTHSIDE DRIVE	Fulton	PEACHTREE CREEK	15,400	1926
12	US 78 WBL	Walton	APALACHEE RIVER	14,960	1938
13	SR 74	Fayette	FLAT CREEK	14,120	1959
14	RIVERSIDE ROAD	Fulton	BIG CREEK	12,920	1958
15	McGINNIS FERRY RD	Fulton	JOHNS CREEK	12,350	1962
16	BROAD AVENUE	Dougherty	FLINT RIVER	11,550	1920
17	SR 113	Bartow	RICHLAND CREEK	11,480	1947
18	SR 113	Bartow	RACCOON CREEK	11,480	1947
19	CRUSE ROAD	Gwinnett	SWEETWATER CREEK	11,070	1968
20	ROCKBRIDGE ROAD	Dekalb	STONE MOUNTAIN CREEK	10,450	1958

**Source: Georgia Department of Transportation**

## **Traffic Congestion in Georgia**

Traffic congestion in Georgia is a growing burden, threatening to impede the state's economic development. Congested highways often carry traffic volumes that result in significant delays. Highways that carry high levels of traffic are also more vulnerable to experiencing significant traffic delays as a result of traffic crashes or other incidents.

Traffic congestion is getting worse on Georgia's roadways because vehicle travel is increasing at a rate significantly greater than new roadway capacity is being added. From 1990

to 2005, vehicle travel on Georgia’s highways and freeways increased by 63 percent while lane miles of highways and freeways in the state increased by only six percent. Thus travel on Georgia’s highways increased at a rate 10 times faster than new lane capacity was added.

The Texas Transportation Institute found in their 2007 urban mobility report that rush hours trips in the Atlanta area take 34 percent longer to complete compared to trips taken during non-peak periods of the day.<sup>13</sup> In addition, a recent report from the Reason Foundation determined that traffic congestion in the Atlanta area is expected to more than double by the year 2030 unless the region’s transportation system is expanded. According to the Reason Foundation report, if transportation capacity is not expanded in the Atlanta area by 2030, the average rush hour trip will take 85 percent longer to complete than during non-peak hours, a level of traffic congestion that is worse than present-day Los Angeles.<sup>14</sup>

The state’s major highways and streets are rated based on their level of service using letter grades A, B, C, D, E or F. Roads rated D, E, or F are considered moderately to severely congested. The following is a definition of each level of service designation:

**Chart 4. Traffic level of service classification.**

A	Free flow of traffic with operation of individual vehicles largely unaffected by presence of other vehicles
B	Stable flow of traffic with slight decline in freedom to maneuver
C	Stable flow of traffic, but vehicle operation is significantly affected by presence of other vehicles in traffic stream
D	Crowded roadway with some decline in speeds. Large number of vehicles restrict mobility and stable traffic flow
E	Unstable, slow traffic flow with virtually no gaps in traffic stream, subject to traffic flow breakdowns
F	Stop-and-go traffic with low speeds and little or poor maneuverability

Approximately three-quarters (76 percent) of the major roads and highways in the Atlanta region (1,689 of 2,226 miles) are considered congested, with levels of service classified as either D, E or F because they frequently experience delays because the volume of traffic carried by these routes exceeds the level of traffic these roads and highways were designed to carry.<sup>15</sup>

Statewide, approximately 18% (2,009 of 11,089 miles) of major roads and highways, excluding metro-Atlanta, are considered congested.<sup>16</sup>

GDOT has provided the following list of the 20 most-congested sections of highways in the Atlanta area. Each of these routes has a level of service rating of F. The rankings are based on a comparison of the volume of traffic carried on each route compared to its design capacity.

**Chart 5. The 20 most-congested sections of highways in the Atlanta area**

Rank	Route	County	From	To	Length in Miles
1	I-75 & I-85 (North)	Fulton	I-20	I-85 North	4.2
2	I-75 & I-85 (South)	Fulton	I-85 South	I-20	4.4
3	I-285 North	Fulton, Dekalb	SR 400	I-85 North	6.4
4	I-285 East	Fulton, Dekalb	I-85 North	US 78	5.5
5	SR 400	Fulton	Mansell Rd.	McGinnis Ferry Rd.	7.6
6	I-75 North	Cobb	I-285 North	I-575	9.8
7	SR 400	Fulton	I-285 North	Holcomb Bridge Rd.	8.0
8	I-85 North	Dekalb, Gwinnett	I-285	SR 316	10.6
9	SR 400	Fulton	I-85	I-285 North	7.0
10	SR 400	Fulton	Holcomb Bridge Rd.	Mansell Rd.	1.4
11	I-285 East	Dekalb	US 78	I-20 East	7.5
12	I-20 East	Dekalb	I-285	Evans Mill Rd.	7.6
13	I-85 South	Fulton	I-285 (South)	I-75 South	7.1
14	I-285 West	Cobb, Fulton	I-20 West	I-75 North	9.6
15	I-75 South	Clayton	SR 54	I-285	5.2
16	I-85 North	Fulton, Dekalb	I-75/85 North	I-285	11.0
17	I-285 North	Cobb, Fulton	I-75 North	SR 400	6.5
18	I-575	Cobb / Cherokee	I-75	Sixes Road	11.4
19	I-85 South	Fulton	Jonesboro Rd.	I-285 South	4.7
20	I-75 North	Fulton, Cobb	I-75/85 North	I-285 North	8.1

**Source: Georgia Department of Transportation**

## Traffic Safety in Georgia

There are three major factors 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 traffic accidents. From 2001 to 2005, an average of 1,636 people were killed each year in motor vehicle accidents in Georgia; a total of 8,182 people were killed in traffic accidents between 2001 and 2005 in Georgia, according to the National Highway Transportation Safety Administration.<sup>17</sup>

Roads that have poor geometry, are too narrow, or have insufficient clearance, pose greater risks to motorists, pedestrians and bicyclists. Roads that lack turn lanes, have inadequate shoulders for the posted speed limits, or have poorly laid out intersections or interchanges also have increased rates of serious traffic accidents. Rural roads often lack safety features found on urban roads; in Georgia, 28 percent of all vehicle travel takes place on rural, non-Interstate routes.<sup>18</sup> Since rural roads have fewer intersections than urban roads and are more likely to provide travel between urban areas, they also often have higher speed limits than many urban routes. In Georgia, 44 percent of traffic fatalities occur on rural, non-Interstate routes.<sup>19</sup> The traffic fatality rate on Georgia's rural, non-Interstate routes is 55 percent greater than the fatality rate on all other roads in the state (2.05 fatalities per 100 million vehicle miles of travel versus 1.32 fatalities).<sup>20</sup> The statewide traffic fatality rate per 100 million vehicle miles of travel in Georgia was 1.52 in 2005, higher than the national average of 1.45.<sup>21</sup>

Rural routes often have been constructed over a period of years and as a result may have inconsistent design features for lane widths, curves, shoulders and clearance zones along roadways.<sup>22</sup> Many rural roads have been built with narrow lanes, limited shoulders, excessive

curves and steep slopes alongside roadways.<sup>23</sup> With passenger vehicle, heavy truck and commercial farming traffic increasing, the safety inadequacies of these rural roads are contributing to the higher rate of fatal accidents on rural roads.

Improving safety on Georgia’s highway system can be achieved through further improvements in vehicle safety, improvements in driver, pedestrian, and bicyclist behavior, and a variety of improvements in roadway safety features. Roadway improvements such as adding turn lanes, removing or shielding obstacles, adding or improving medians, widening lanes, widening and paving shoulders, improving intersection layout, providing better road markings, and upgrading or installing traffic signals could reduce the severity of serious traffic crashes. The Federal Highway Administration has found that every \$100 million spent on needed highway safety improvements will result in 145 fewer traffic fatalities over a 10-year period.<sup>24</sup>

The following chart shows the average reduction in fatal accident rates experienced over a 20-year period on sections of roadways where needed safety improvements were made.<sup>25</sup>

**Chart 6. Reduction in fatal accident rates after roadway improvements.**

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

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

## **Importance of Transportation to Economic Growth**

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

Highways are vitally important to continued economic development in Georgia. As the economy expands, creating more jobs and increasing consumer confidence, the demand for consumer and business products grows. In turn, manufacturers ship greater quantities of goods to market to meet this demand, a process that adds to truck traffic on the state's highways and major arterial roads. An analysis of commodity transport by the U.S. Bureau of Transportation Statistics (BTS) and the U.S. Census Bureau underscored the economic importance of Georgia's road system. The BTS report found that in Georgia, 83 percent of the \$271 billion in products shipped annually from sites in Georgia are transported on highways and another eight percent are

carried by courier services, which use trucks for part of their deliveries.<sup>26</sup> Similarly, 80 percent of the \$295 billion in goods shipped annually to sites in Georgia are carried by trucks and another nine percent are carried by courier services, which use trucks for part of their deliveries.<sup>27</sup>

Trucking is a crucial part of Georgia's economy, as commercial trucks move goods from sites across the state to markets inside and outside the state. Commercial truck travel in Georgia is expected to increase significantly over the next two decades. Based on federal projections, TRIP estimates that commercial trucking will increase by 59 percent in Georgia by 2020.<sup>28</sup>

## **Highway Funding in Georgia**

Georgia's long-range transportation plan, released in 2006, found that the state faces a significant shortfall over the next 30 years in funding for needed transportation repairs and improvements. The 2005-2035 Georgia Statewide Transportation Plan estimated the amount of anticipated funding available for improvements to the state's transportation system, including highways, transit, bike lanes, aviation and maritime, and compared it to the amount needed to complete the existing transportation plans and programs of state, regional and local transportation agencies. The report found that anticipated transportation revenues through 2035 are \$86 billion and that identified transportation needs during the period are \$160 billion, resulting in a \$74 billion shortfall.<sup>29</sup> The total amount of revenue anticipated strictly for road, highway and bridge repairs and improvements through 2035 is \$62 billion and identified needs

for road, highway and bridge repairs and improvements amounts to \$113 billion, leaving a highway funding shortfall through 2035 of \$51 billion.<sup>30</sup>

If Georgia is unable to close its transportation funding shortfall, the lack of needed transportation improvement projects will result in a significant increase in traffic congestion and will hurt economic growth in the state, the long-range transportation plan found. “The inability to meet the State’s ever growing transportation needs, and the congestion which will result from this failure, will in all likelihood choke off or greatly reduce forecasted levels of economic growth and degrade the quality of life of its residents,” the report found.<sup>31</sup>

The Georgia Department of Transportation has identified numerous key road, highway and bridge projects in the Atlanta area and statewide that are needed to relieve congestion, enhance economic development and improve traffic safety, but lack adequate funding to proceed. These projects include the widening of Interstate 95 from the South Carolina border to the Florida border from six to eight-lanes, the widening of an 85-mile portion of Interstate 75 from Valdosta to the Dooly County Line from four to six lanes, and the widening of portions of Interstate 75 from I-675 to I-475 and from the Barrett Parkway to the Tennessee state line from six to eight lanes.<sup>32</sup> In the Atlanta area, some of the needed projects that lack adequate funding include: the addition of high occupancy vehicle lanes to carry transit, carpools and vanpools along portions of State Route 400 and Interstates 75, 85 and 275, and the addition of truck-only lanes along a 10-mile portion of Interstate 75. Critically needed, but not fully funded highway improvement projects in both the Atlanta area and outside of the Atlanta region are listed in the following two charts. The completion of these projects would relieve traffic congestion, improve economic productivity and improve traffic safety in Georgia.

**Chart 7. Unfunded, Needed Highway Projects in Georgia (excluding Atlanta Metro area)**

Route	From	To	Length/ (Miles)	Project description
I-16 & I-75	N/A	N/A	2.7	Reconstruct interchange
Old Petersburg Road, Augusta	Baston Road	Washington Road	2.5	Widen from 2-4 lanes
SR 4/15th Street, Augusta	Milledgeville Road	Government Street	1.6	Widen SR 4 from 2-4 lanes
I-95	South Carolina	Florida	112	Widen I-95 from 6-8 lanes
I-16	Old River Rd., Effingham Co.	Montgomery St.	17	Widen I-16 from 4-6 lanes
I-75	Florida State Line	Valdosta	2.4	Reconstruct interchanges
SR 204	US 17	Harry Truman Pkwy.	9	Widen from 6-8/limit access
SR 234	Eight Mile Road	Lockett Station	2.2	Widen from 2-4 lanes
US 27/Veterans Pkwy	Old Moon Rd., Muscogee Co.	SR 315, Harris Co.	18	Widen from 2-4 lanes
Leesburg North Bypass	SR 3	SR 195	6	New location bypass
I-185/Buena Vista Rd, Columbus	At interchange		1.8	Reconstruct interchange
I-75	Valdosta	Dooly/Crips County Line	85	Widen from 4-6 lanes
Corder Rd, Houston Co.	Watson Blvd	Russell Pkwy	2.3	Widen from 2-4 lanes
St Mary's Road, Columbus	Robin Drive	Northstar Drive	1.2	Widen from 2-4 lanes
Harry Truman Pkwy, Savannah	Whitfield	Abercorn St/SR 204	2	New location highway
I-75	I-675	I-475	50	Widen from 6-8 lanes
I-75	Barrett Pkwy	Tennessee	83	Widen from 6-8 lanes
I-85	SR 34	I-185	26	Widen from 6-8 lanes
I-95/SR 21	At interchange		2	Reconstruct interchange

**Source: Georgia Department of Transportation**

**Chart 8. Unfunded, Needed Highway Projects in the Atlanta Metro area**

<b>Route</b>	<b>From</b>	<b>To</b>	<b>Length/ (Miles)</b>	<b>Project description</b>
SR 400	I-285 North	Holcomb Bridge Rd.	8.0	Add HOV lanes
SR 400	Holcomb Bridge Rd.	Mansell Rd.	1.4	Add HOV lanes
SR 400	Mansell Rd.	McGinnis Ferry Rd.	7.6	Add HOV lanes
I-85 South	Jonesboro Rd.	I-285 South	4.7	Add HOV lanes
I-85 South	I-285 (South)	I-75 South	7.1	Add HOV lanes
I-75 South	SR 54	I-285	5.2	Add HOV lanes
I-75 North	I-285 North	I-575	9.8	Truck lanes
I-285 West	I-20 West	I-75 North	9.6	Add HOV lanes
I-285 North	I-75 North	SR 400	6.5	Add HOV lanes
I-285 North	SR 400	I-85 North	6.4	Add HOV lanes
I-285 East	I-85 North	US 78	5.5	Add HOV lanes
I-285 East	US 78	I-20 East	7.5	Add HOV lanes
I-20 East	I-285	Evans Mill Rd.	7.6	Add HOV lanes
I-575	I-75	Sixes Road	11.4	Add HOV lanes

**Source: Georgia Department of Transportation**

Another factor that will make it even more difficult for Georgia to fund needed roadway improvements is the escalating costs of materials used for highway construction. From December 2003 to August 2007, the national average cost of materials used for highway construction, including asphalt, concrete, steel, lumber and diesel fuel has increased by 43 percent.<sup>33</sup>

## **Conclusion**

Georgia’s extensive system of roads and bridges provides its residents and visitors with a high level of mobility. As the backbone of the Peach State’s transportation system, roads and bridges play a central role in the state’s economy.

A modernized highway system in Georgia is critical to the state's ability to accommodate future growth safely and efficiently as the state's population increases. Additional transportation funding, particularly for highways, would permit the state to move forward with numerous highway projects designed to increase mobility, enhance economic development and improve traffic safety statewide, boosting the quality of life for residents and visitors alike.

## Endnotes

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<sup>1</sup> U.S. Census Bureau annual population estimate.

<sup>2</sup> Ibid.

<sup>3</sup> U.S. Department of Transportation - Federal Highway Administration: Highway Statistics 2005. [www.fhwa.dot.gov](http://www.fhwa.dot.gov).

<sup>4</sup> Why We Must Preserve our Pavements, D. Jackson, J. Mahoney, G. Hicks, 1996 International Symposium on Asphalt Emulsion Technology.

<sup>5</sup> TRIP analysis of Highway Statistics, 2005, Federal Highway Administration. Charts HM-63 and HM-64.

<sup>6</sup> 2005 Federal Highway Administration data.

<sup>7</sup> Georgia DOT response to TRIP survey, 2007

<sup>8</sup> U.S. Department of Transportation - Federal Highway Administration: National Bridge Inventory 2006.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</sup> Georgia DOT response to TRIP survey, 2007.

<sup>12</sup> GeorgiaDOT response to TRIP survey, 2007.

<sup>13</sup> 2007 Urban Mobility Report. Texas Transportation Institute.

<sup>14</sup> Hartgen, D., Fields, M., "Building Roads to Reduce Traffic Congestion in America's Cities: How Much and at What Cost?" 2006, Reason Foundation.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> National Highway Traffic Safety Administration. [www.nhtsa.gov](http://www.nhtsa.gov).

<sup>18</sup> TRIP analysis of Federal Highway Administration and National Highway Traffic Safety Administration data.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Rural Road Safety: A Global Challenge. Public Roads September/October 1999. Federal Highway Administration. P. 4.

<sup>23</sup> County Engineers Adopt Rural Road Safety Program. Minnesota Local Technical Assistance Program. 200

<sup>24</sup> Highway Safety Evaluation System, 1996 Annual Report on Highway Safety Improvement Programs, U.S. Department of Transportation.

<sup>25</sup> Highway Safety Evaluation System; 1996 Annual Report on Highway Safety Improvement Programs; U.S. Department of Transportation.

<sup>26</sup> 2002 Commodity Flow Survey, U.S. Census Bureau – Bureau of Transportation Statistics. [www.census.gov](http://www.census.gov).

<sup>27</sup> Ibid.

<sup>28</sup> U.S. Department of Transportation: Office of Freight Management and Operations. [www.fhwa.dot.gov](http://www.fhwa.dot.gov).

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- <sup>29</sup> Georgia Department of Transportation, 2006. 2005-2035 Georgia Statewide Transportation Plan Update. P. E-1.
- <sup>30</sup> Georgia Department of Transportation, 2006. TRIP analysis of the 2005-2035 Georgia Statewide Transportation Plan. Highway revenue data is based on Figure ES.1 on page E-2 and the needs data is from page E-17.
- <sup>31</sup> Georgia Department of Transportation, 2006. 2005-2035 Georgia Statewide Transportation Plan Update. P. E-1.
- <sup>32</sup> Georgia DOT response to TRIP survey, 2007
- <sup>33</sup> Simonson, K., AGC's Construction Inflation Alert. October, 2007. The Associated General Contractors of America.