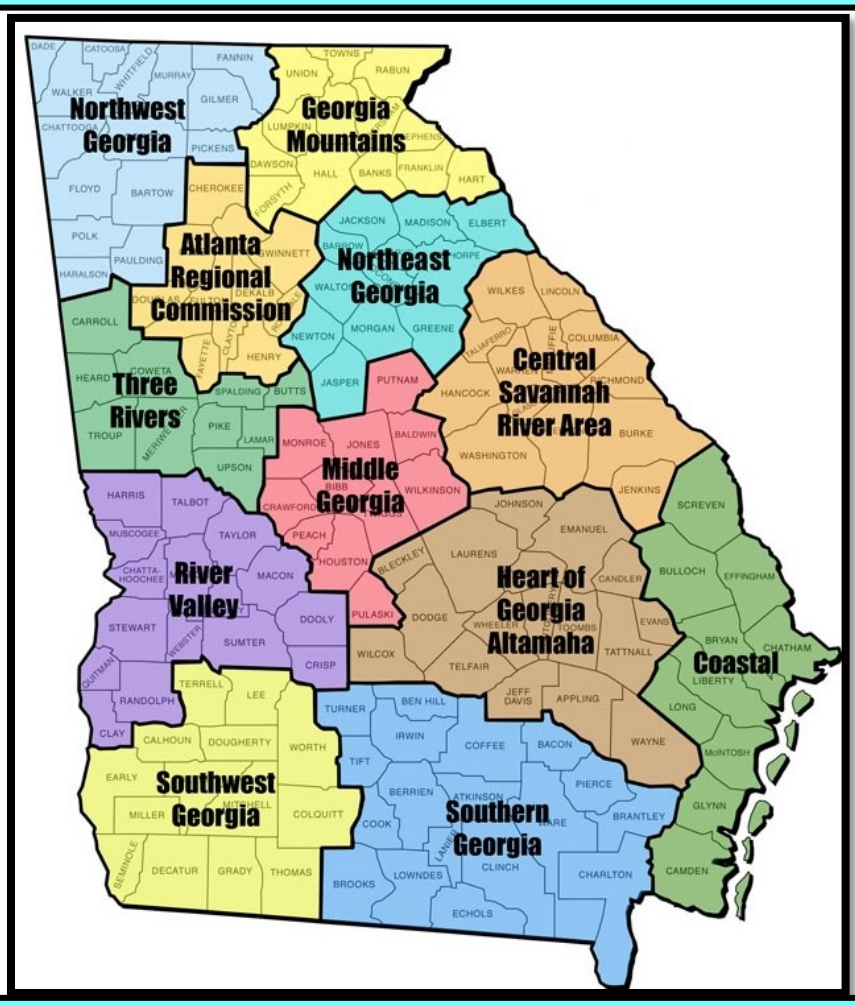
Moving the Northeast Georgia Region Forward:



Road and Bridge Conditions, Traffic Safety, Travel Trends and Funding Needs in the Northeast Georgia Region

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TRIP | A National Transportation Research Nonprofit

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

Introduction

Accessibility and connectivity are critical factors in a region's quality of life and economic competitiveness. The growth and development of a region hinges on the ability of people and businesses to efficiently and safety access employment, customers, commerce, recreation, education and healthcare via multiple transportation modes. The quality of life of residents in the Northeast Georgia region and the pace of the region's economic growth are directly tied to the condition, efficiency, safety and resiliency of its transportation system. The necessity of a reliable transportation system in Georgia has been reinforced during the coronavirus pandemic, which has placed increased importance on the ability of a region's transportation network to support a reliable supply chain.

Providing a safe, efficient and well-maintained 21st century transportation system, which will require long-term, sustainable funding, is critical to supporting economic growth, improved safety and quality of life throughout the area. A lack of reliable and adequate transportation funding could jeopardize the condition, efficiency and connectivity of the region's transportation network and hamper economic growth.

TRIP's "Moving the Northeast Georgia Region Forward" report examines travel and population trends, road and bridge conditions, traffic safety, congestion, and transportation funding needs in the Northeast Georgia Region, which includes the following 12 counties: Barrow, Clarke, Elbert, Greene, Jackson, Jasper, Madison, Morgan, Newton, Oconee, Oglethorpe, and Walton.

Sources of information for this report include a survey of county governments by TRIP, the Federal Highway Administration (FHWA), the Georgia Department of Transportation (GDOT), the American Road and Transportation Builders Association (ARTBA), the Bureau of Transportation Statistics (BTS), the U. S. Census Bureau, the Center for Transportation Studies, the Texas Transportation Institute (TTI) and the National Highway Traffic Safety Administration (NHTSA). All data used in the report are the most recent available.

Population, Travel and Economic Trends in the Northeast Georgia Region

To foster quality of life and spur continued economic growth in the Northeast Georgia region and throughout Georgia, it will be critical that the state provide an efficient, safe and modern transportation system that can accommodate future growth in population, tourism, business, recreation and vehicle travel.

The 12 counties that comprise the Northeast Georgia region were home to approximately 635,000 residents in 2018, an increase of 13 percent since 2010.[1] Vehicle travel in the Northeast Georgia region totaled 8.1 billion miles in 2018, an increase of 11 percent since 2015.[2]

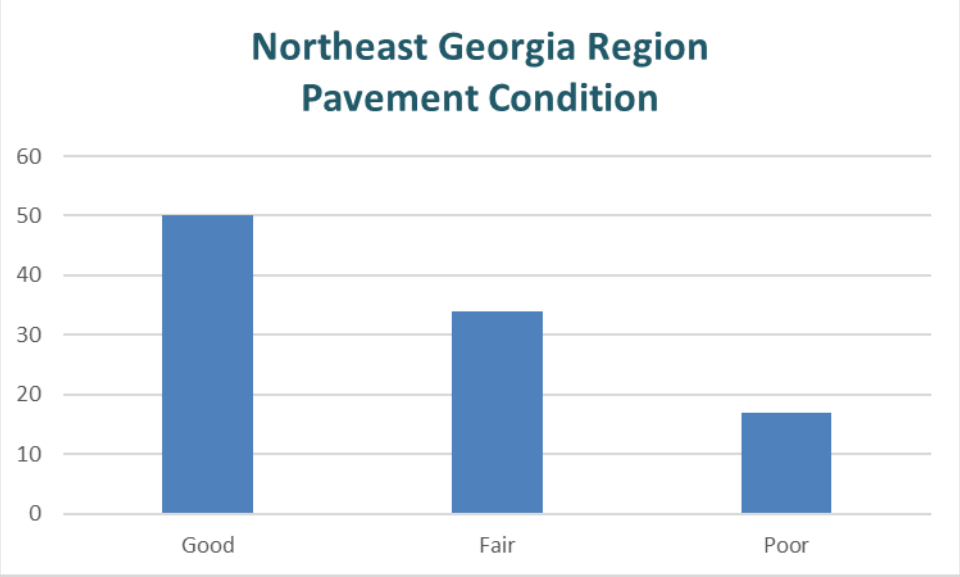
Statewide, Georgia's population grew to approximately 10.5 million residents in 2018, an eight percent increase since 2010.[3] From 2014 to 2018, annual VMT in Georgia increased by 18 percent, to approximately 131 billion miles traveled annually.[4] Due to the Covid-19 pandemic, vehicle travel in Georgia dropped by as much as 38 percent in April 2020 (as compared to vehicle travel during the same month the previous year), but rebounded to 12 percent below the previous year's volume in August 2020.[5]

Pavement Conditions in the Northeast Georgia Region

The life cycle of Georgia's roads is greatly affected by state and local governments' ability to perform timely maintenance and upgrades to ensure that road and highway surfaces last as long as possible.

Based on results of a TRIP survey of Georgia counties conducted in late 2019 and early 2020, TRIP has calculated the share of county-maintained roads in the Northeast Georgia region in poor, fair and good condition. Survey responses from the Northeast Georgia region indicate that 17 percent of county-maintained roads are in poor condition, 34 percent are in fair condition, and 50 percent are in good condition.[6]

Chart 1. Share of county-maintained roads in the Northeast Georgia Region in poor, fair or good condition.

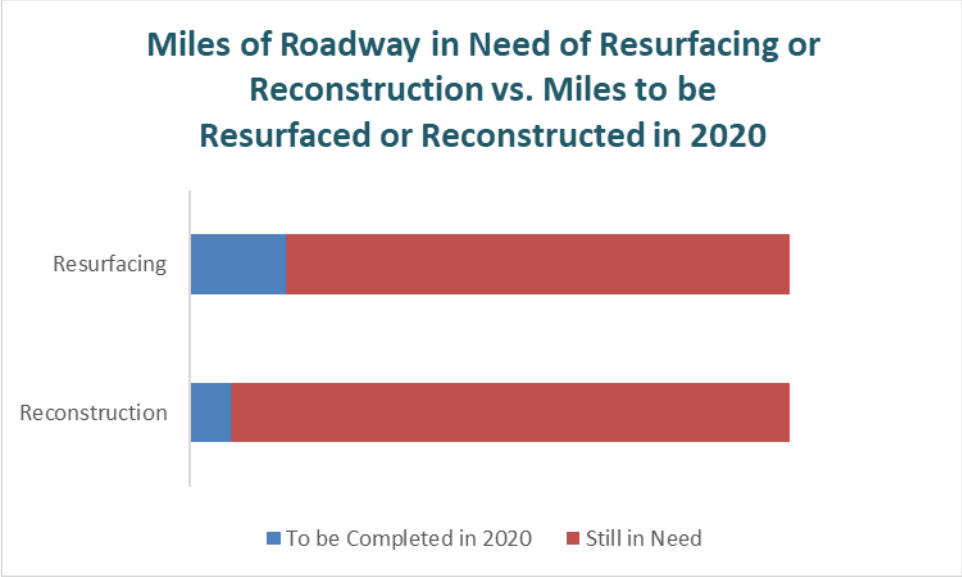


Source: TRIP survey of Georgia counties, conducted December 2019 - February 2020.

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

TRIP's survey of county governments in the Northeast Georgia region found that, of the miles of county-maintained roadway in need of resurfacing, current budgets will only allow for resurfacing of 16 percent of those miles in 2020.[7] And, of the miles of county-maintained roadway in the Northeast Georgia region in need of reconstruction, only seven percent will be able to be reconstructed in 2020 under current funding conditions.[8]

Chart 2. Share of roads in need of resurfacing or reconstruction in the Northeast Georgia region vs. share of Northeast Georgia region roads that are expected to be resurfaced or reconstructed in 2020.

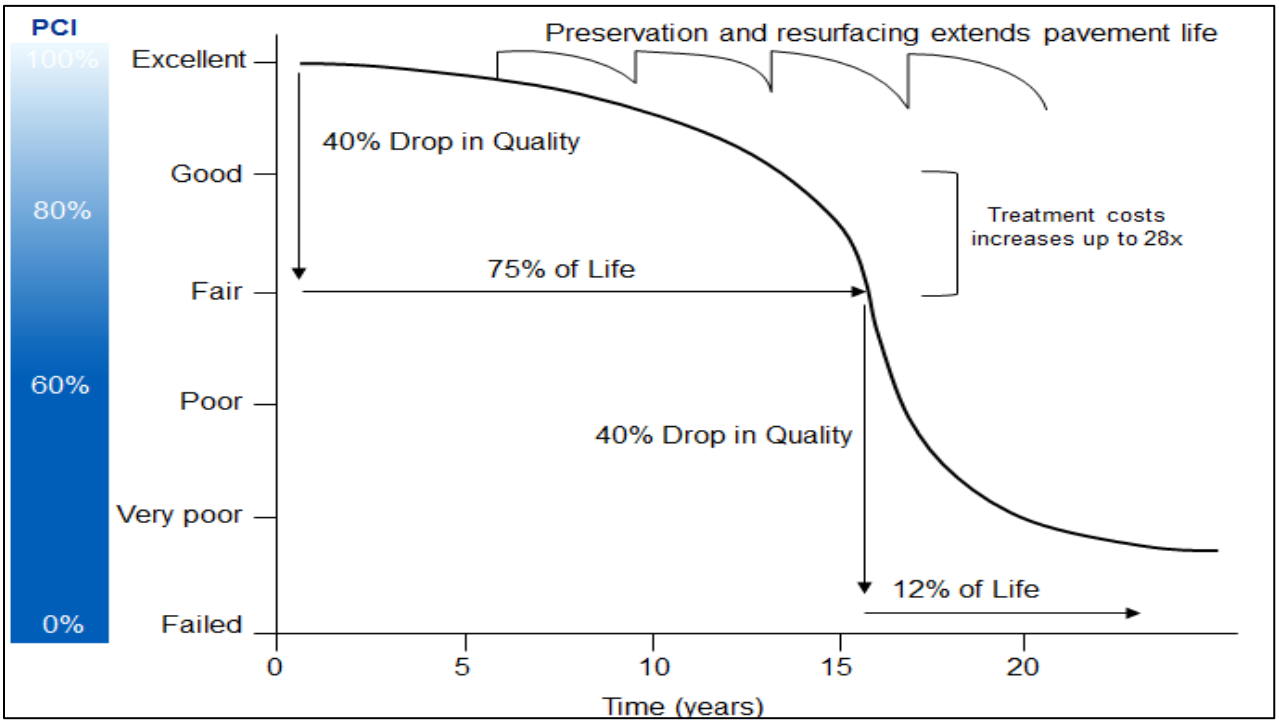


Source: TRIP survey of Georgia counties, conducted December 2019 - February 2020.

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 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 roads and highways continue to age, they will reach a point of deterioration where routine paving and maintenance will not be adequate to keep pavement surfaces in good condition and costly reconstruction of the roadway and its underlying surfaces will become necessary.

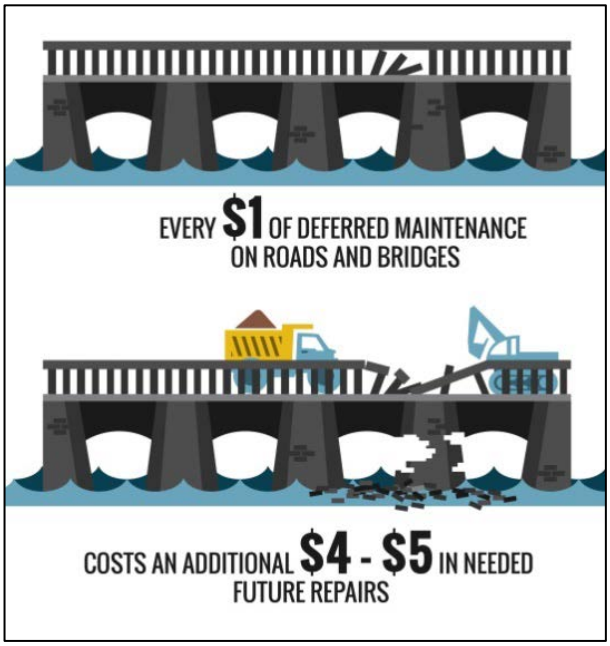
TRIP's survey of Northeast Georgia counties indicates that the amount of money anticipated to be spent in 2020 on roads, highways and bridges is only 50 percent of the total amount that needs to be spent to make significant progress towards achieving a state of good repair for roads, highways and bridges.

Chart 3. Pavement Condition Cycle Time with Treatment and Cost



Source: North Carolina Department of Transportation (2016). 2016 Maintenance Operations and Performance Analysis Report

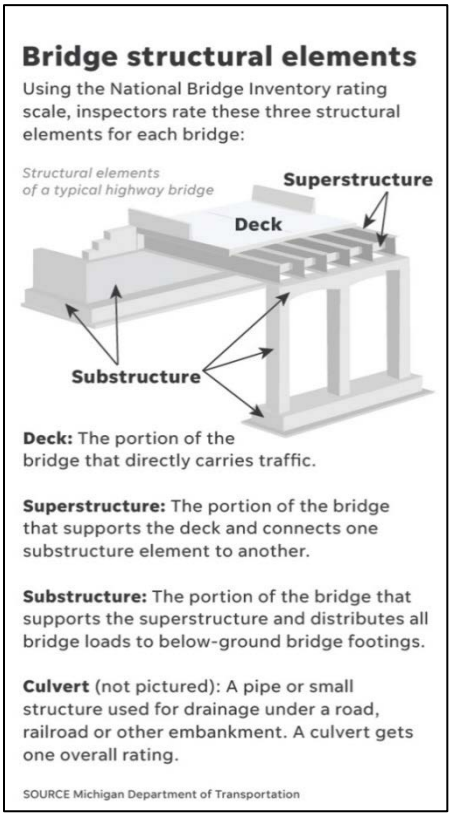
Long-term repair costs increase significantly when road and bridge maintenance is deferred, as road and bridge deterioration accelerates later in the service life of a transportation facility and requires more costly repairs. A report on maintaining pavements found that every $1 of deferred maintenance on roads and bridges costs an additional $4 to $5 in needed future repairs.[10]



Bridge Conditions in the Northeast Georgia Region

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

In the Northeast Georgia region, a total of 12 percent (127 of 1,022) of locally and state-maintained bridges are rated as deficient.[11] This includes all bridges that are 20 feet or more in length. Each day, 218,000 vehicles travel over deficient bridges in the Northeast Georgia region.[12]



A bridge is deemed deficient if it meets at least one of the following criteria: The physical condition of a bridge deck, superstructure or substructure is rated a 4 or below on a scale of nine, indicating significant deterioration of a major component of the bridge; A bridge is restricted to carrying only lighter-weight vehicles; A bridge has a carrying capacity of 18 tons or less which restricts it from carrying larger commercial vehicles.

In the Northeast Georgia region, 18 bridges received a score of 4 or below for the condition of the bridge deck, superstructure or substructure; 93 bridges have a carrying capacity of 18 tons or less; and 115 bridges are restricted to carrying only lower-weight vehicles.[13]

Statewide, ten percent (1,551 of 14,799) of Georgia's locally and state-maintained bridges are rated in deficient condition.[14]

Bridges that are 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. Bridges that have a carrying capacity below 18 tons largely are unable to carry large commercial vehicles, which can harm a region's economic competitiveness by restricting access for commercial goods.

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

The chart below ranks the 40 most deficient bridges (carrying a minimum of 500 vehicles per day) in the Northeast Georgia region based on the number of categories where the bridge ranked "deficient" (P =

physical condition of deck, superstructure or substructure based on a rating of 4 or below for its deck, substructure or superstructure; C = the carrying capacity of the bridge is 18 tons or less; R = the bridge is restricted to only carrying lighter -weight vehicles), and average daily traffic (ADT).

Chart 4. Most deficient bridges in the Northeast Georgia region.

Deficiency Noted	Rank	County	Facility Carried	Feature Intersected	Location	Year Built	ADT
PCR	1	Barrow	PATRICK MILL ROAD	APALACHEE RIVER	3.6 MI S OF CARL	1956	735
CR	2	Clarke	NORTH AVENUE	NORTH OCONEE RIVER	UNDER RR TRUSSEL BRIDGE	1974	19,950
CR	3	Newton	BROWN BRIDGE ROAD	YELLOW RIVER	2.5 MI W OF COVINGTON	1961	14,220
CR	4	Newton	BROWN BRIDGE ROAD	SNAPPING SHOALS CREEK	4.5 MI W OF PORTERDALE	1963	10,410
CR	5	Clarke	EAST BROAD STREET	NORTH OCONEE RIVER	0.5 MI E OF ATHENS SQ	1971	7,590
CR	6	Newton	BETHANY ROAD	SNAPPING SHOALS CREEK	3 MI SW OF PORTERDALE	1959	4,155
CR	7	Barrow	STATHAM ROAD	MIDDLE OCONEE RIVER	5 MI NE OF STATHAM	1967	2,865
CR	8	Newton	HENDERSON MILL RD.	BEAR CREEK	1 MI N OF JASPER CO LINE	1965	2,655
CR	9	Walton	JERSEY SOC. CIR RD	ALCOVY RIVER	3.2 M NW OF SOCIAL CIRCLE	1958	2,520
CR	10	Clarke	SANFORD DRIVE	TANYARD CK-UGA PARK LOT	SANFORD STADIUM	1963	2355
CR	11	Jasper	LAKE JACKSON ROAD	HERDS CREEK	8.7 MI W OF MONTICELLO	1957	2265
CR	12	Jackson	SR 334	SANDY CREEK	11.5 MI SE OF JEFFERSON	1961	2250
CR	13	Morgan	HIGH SHOALS ROAD	JACKS CREEK	2.2 MI N OF BOSTWICK	1950	2100
CR	14	Newton	DIAL MILL ROAD	LITTLE HAYNES CREEK	AT THE ROCKDALE CO LINE	1970	1995
CR	15	Jackson	WOODS BRIDGE ROAD	NORTH OCONEE RIVER	3.5 MI W OF COMMERCE	1961	1935
CR	16	Newton	FAS 1246	WEST BEAR CREEK	2.5 MI W OF MANSFIELD	1956	1770
CR	17	Oglethorpe	CRAWFORD-SMITHSONIA RD	BIG CLOUDS CREEK	5.2 MI N OF CRAWFORD	1958	1725
CR	18	Greene	VEAZEY ROAD	BEAVERDAM CREEK	4 MI SE OF GREENSBORO	1959	1635
CR	19	Elbert	SR 77	FALLING CREEK	6.1 MI S OF ELBERTON	1948	1530
CR	20	Clarke	CLEVELAND ROAD	CSX RAILROAD (639922K)	1.25 MI E OF BOGART	1971	1350
CR	21	Walton	SNOWS MILL ROAD	APALACHEE RIVER	5 MI NE OF GOOD HOPE	1957	1260
CR	22	Jackson	ETHRIDGE RD.	MIDDLE OCONEE RIVER	5.4 MI S OF JEFFERSON	1967	1065
CR	23	Jackson	VALENTINE INDUSTRIAL PKWY	I-85 (SR 403)	4.5 MI NW OF JEFFERSON	1964	900
CR	24	Jackson	SANFORD ROAD	SANDY CREEK	2.6 MI SE OF NICHOLSON	1964	900
CR	25	Jackson	O. PENDERGRASS RD	MIDDLE OCONEE RIVER	3.2 MI SE OF PENDERGRASS	1960	900
CR	26	Jackson	DEADWYLER ROAD	NORTH OCONEE RIVER	8.8 MI NW OF JEFFERSON	1959	900
CR	27	Jackson	COOPER BR ROAD	WALNUT CREEK	4 MI N OF BRASELTON	1998	900
CR	28	Jasper	GOOLSBY ROAD	CEDAR CREEK	8 MI SE OF MONTICELLO	1971	900
CR	29	Jasper	POST ROAD	PITTMAN CREEK	8.7 MI N OF MONTICELLO	1948	765
CR	30	Barrow	BOSS HARDY ROAD	LITTLE MULBERRY RIVER	3.6 MI NE OF AUBURN	1963	735
CR	31	Barrow	MANNING GIN ROAD	MARBURY CREEK	4.6 MI SW OF STATHAM	1958	735
CR	32	Barrow	ROBERTSON BR ROAD	BARBER CREEK	1.5 MI SW OF STATHAM	1986	735
CR	33	Barrow	HANCOCK ROAD	MULBERRY RIVER	6.2 MI NE OF WINDER	1980	735
CR	34	Barrow	O THOMPSON MILL RD	LITTLE MULBERRY RIVER	6.2 MI NW OF WINDER	1966	735
CR	35	Greene	JERNIGAN BRIDGE RD	BRUCE CREEK	3.6 MI SW OF WHITE PLAINS	1972	735
CR	36	Madison	DOVE-DRAKE ROAD	MILL SHOAL CREEK	10 MI N OF COMER	1962	735
CR	37	Madison	ROGERS MILL ROAD	SOUTH FORK BROAD RIVER	2.5 MI SE OF ILA	1959	735
CR	38	Madison	COLBERT DANIELSVILLE RD	BRUSH CREEK	APP 2 MI N OF COLBERT	1960	735
CR	39	Madison	COLBERT DANIELSVILLE RD	SOUTH FORK BROAD RIVER	4 MI N OF COLBERT	1960	735
CR	40	Oconee	CLOTFELTER ROAD	BARBER CREEK	3 MI S OF BOGART	1964	735

Source: List of deficient bridges provided by Georgia Department of Transportation. Rankings calculated by TRIP.

Traffic Safety in the Northeast Georgia Region

A total of 516 people were killed in traffic crashes in the Northeast Georgia region from 2014 to 2018, an average of 103 fatalities per year.[15] The Northeast Georgia region had a traffic fatality rate of 1.37 fatalities per 100 million vehicle miles of travel in 2018, higher than the statewide fatality rate of 1.14 fatalities per 100 million vehicle miles of travel in 2018.[16]

Chart 5. Traffic Fatalities in the Northeast Georgia region, 2014 – 2018.

Year	Fatalities
2014	67
2015	109
2016	124
2017	105
2018	111
Average	**103**
Total	**516**

Source: TRIP analysis of National Highway Traffic Safety Administration data.

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

Improving safety on Georgia's roadways can be achieved through further improvements in vehicle safety; improvements in driver, pedestrian, and bicyclist behavior; and, a variety of improvements in roadway safety features. The severity of serious traffic crashes could be reduced through roadway improvements, where appropriate, such as converting intersections to roundabouts; removing or shielding roadside objects; the addition of left-turn lanes at intersections; the signalization of intersections; adding or improving median barriers; improved lighting; adding centerline or shoulder rumble strips; providing appropriate pedestrian and bicycle facilities, including sidewalks and bicycle lanes; providing wider lanes, wider and paved shoulders; upgrading roads from two lanes to four lanes; providing better road and lane markings; and updating rail crossings.

The U.S. has a $146 billion backlog in needed roadway safety improvements, according to a 2017 report from the AAA Foundation for Traffic Safety. The report found implementing these cost-effective and needed roadway safety improvements on U.S. roadways would save approximately 63,700 lives and reduce the number of serious injuries as a result of traffic crashes by approximately 350,000 over 20 years.

Importance of Transportation System to Development in the Northeast Georgia Region

Reliable highway access is critical to the economic development of the Northeast Georgia region. At a time when a significant increase in freight deliveries are forecast for Georgia, the quality of a region's transportation system will have a significant impact on its ability to attract economic development

The amount of freight transported in Georgia and the rest of the U.S. is expected to increase significantly as a result of further economic growth, changing business and retail models, increasing international trade, and rapidly changing consumer expectations that place an emphasis on faster deliveries, often of smaller packages or payloads.

Every year, $843 billion in goods are shipped to and from sites in Georgia, mostly by trucks.[17] Seventy-six percent of freight delivered to or from sites in Georgia are shipped by truck and another 14 percent are shipped by multiple modes, including trucking.[18] The value of freight shipped to and from sites in Georgia, in inflation-adjusted dollars, is expected to increase 115 percent by 2045 and by 89 percent for goods shipped by trucks.[19] But the ability of the Northeast Georgia region's freight transportation system to efficiently and safely accommodate the growing demand for freight movement could be hampered by deficient roads and bridges, including bridges that are not able to carry large commercial vehicles.

The need to improve the region's freight network is occurring at a time when the nation's freight delivery system is being transformed by advances in vehicle autonomy, manufacturing, warehousing and supply chain automation, increasing e-commerce, and the growing logistic networks being developed by Amazon and other retail organizations in response to the demand for a faster and more responsive delivery and logistics cycle.

Investments in transportation improvements in Georgia play a critical role in the state's economy. A report by the American Road & Transportation Builders Association found that the design, construction and maintenance of transportation infrastructure supports the equivalent of approximately 110,000 full-time jobs across all sectors of the state economy, earning these workers approximately $3.9 billion annually.[20] These jobs include approximately 55,000 full-time jobs directly involved in transportation infrastructure construction and related activities. Spending by employees and companies in the transportation design and construction industry supports an additional 55,000 full-time jobs in Georgia.[21] Transportation construction in Georgia contributes an estimated $703 million annually in state and local income, corporate and unemployment insurance taxes and the federal payroll tax.[22]

Approximately 1.9 million full-time jobs in Georgia in key industries like tourism, retail sales, agriculture and manufacturing are dependent on the quality, safety and reliability of the state's transportation infrastructure network.

Local, regional and state economic performance is improved when a region's surface transportation system is expanded or repaired. This improvement comes as a result of the initial job creation and increased employment created over the long-term because of improved access, reduced transport costs and improved safety.

Increasingly, companies are looking at the quality of a region's transportation system when deciding where to re-locate or expand. Regions with congested or poorly maintained roads may see businesses relocate to areas with a smoother, more efficient and more modern transportation system. Highway accessibility was ranked the number one site selection factor in a 2020 survey of corporate executives by Area Development Magazine.[23]

Conclusion

As the Northeast Georgia region looks to support further economic and population growth, it will be critical that the region is able to provide a well-maintained, safe and efficient 21st century network of roads, highways, bridges and transit that can accommodate the mobility demands of a modern society.

A robust and reliable transportation system that is maintained in good condition, can accommodate large commercial vehicles, and is reliable and safe is vital to the quality of life of Northeast Georgia residents, the success and growth of businesses and the positive experience of its visitors.

# # #

ENDNOTES

[1] U.S. Census Bureau (2018).
[2] Georgia Department of Transportation.
[3] U.S. Census Bureau (2018).
[4] U.S. Department of Transportation - Federal Highway Administration: Highway Statistics 2000 and 2018.
[5] Federal Highway Administration – Traffic Volume Trends.
[6] TRIP survey of Georgia counties, December 2019-February 2020.
[7] Ibid.
[8] Ibid.
[9] Selecting a Preventative Maintenance Treatment for Flexible Pavements. R. Hicks, J. Moulthrop. Transportation Research Board. 1999. Figure 1.
[10] Pavement Maintenance, by David P. Orr, PE Senior Engineer, Cornell Local Roads Program, March 2006.
[11] Georgia Department of Transportation.
[12] Ibid.
[13] Ibid.
[14] Ibid.
[15] Federal Highway Administration National Highway Traffic Safety Administration, 2014-2018.
[16] Federal Highway Administration National Highway Traffic Safety Administration, 2014-2018. County VMT data comes from the Georgia Department of Transportation.
[17] TRIP analysis of Federal Highway Administration's Freight Analysis Framework data (2018). Data is for 2016. https://faf.ornl.gov/fafweb/.
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[20] American Road & Transportation Builders Association (2015). The 2015 U.S. Transportation Construction Industry Profile. https://www.transportationcreatesjobs.org/pdf/Economic_Profile.pdf
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