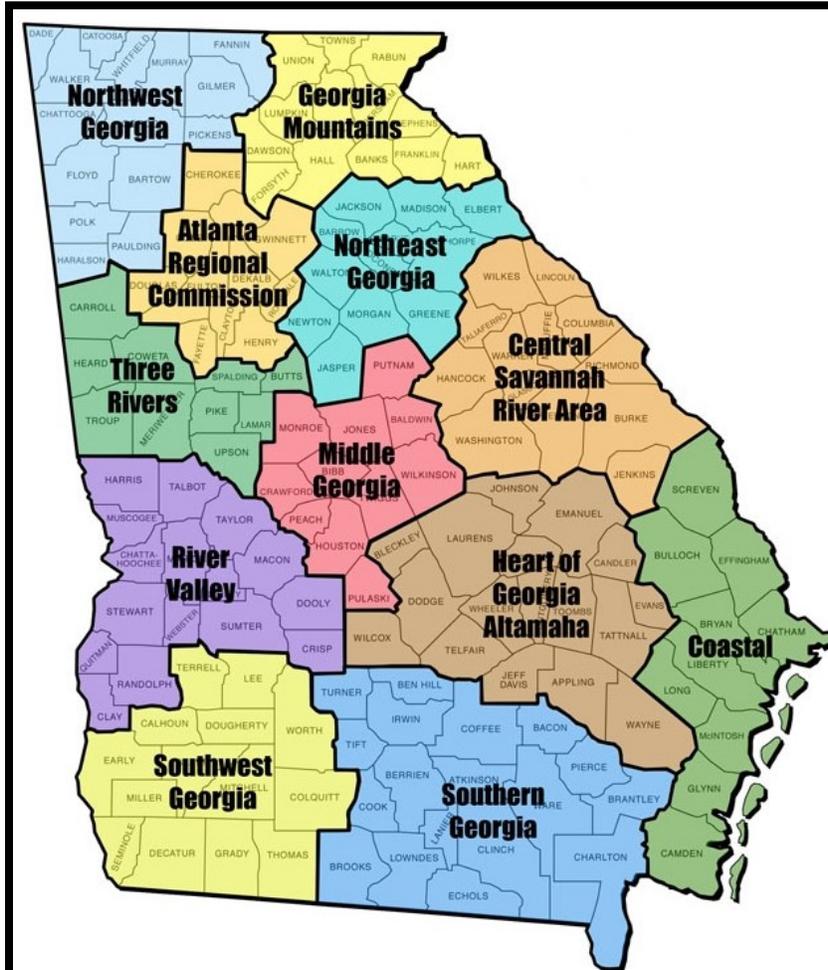


Moving the River Valley Region Forward:



Road and Bridge Conditions, Traffic Safety, Travel Trends and Funding Needs in the River Valley Region

NOVEMBER 2020



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 safely access employment, customers, commerce, recreation, education and healthcare via multiple transportation modes. The quality of life of residents in the River Valley 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 River Valley Region Forward" report examines travel and population trends, road and bridge conditions, traffic safety, congestion, and transportation funding needs in the River Valley Region, which is located in the southwest portion of the state and includes the following 16 counties: Chattahoochee, Clay, Crisp, Dooly, Harris, Macon, Marion, Muscogee, Quitman, Randolph, Schley, Stewart, Sumter, Talbot, Taylor, and Webster.

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 River Valley Region

To foster quality of life and spur continued economic growth in the River Valley 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 16 counties that comprise the River Valley region were home to 367,000 residents in 2018.¹ Vehicle travel in the River Valley region totaled 5.9 billion miles in 2018, an increase of 25 percent since 2015.²

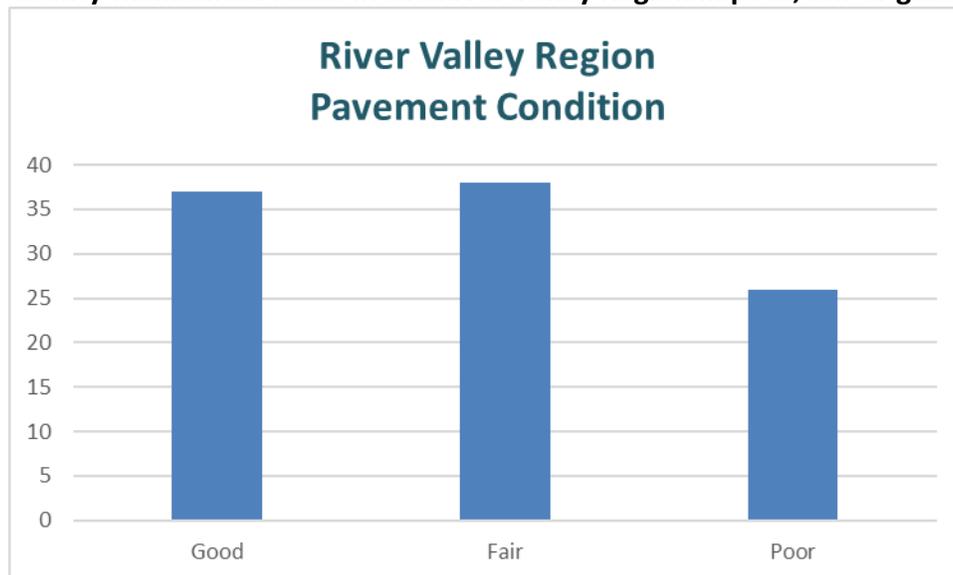
Statewide, Georgia's population grew to approximately 10.5 million residents in 2018, an eight percent increase since 2010.³ From 2014 to 2018, annual VMT in Georgia increased by 18 percent, to approximately 131 billion miles traveled annually.⁴ Due to the Covid-19 pandemic, vehicle travel in Georgia 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 River Valley 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 River Valley region in poor, fair and good condition. Survey responses from the River Valley region indicate that 26 percent of county-maintained roads are in poor condition, 38 percent are in fair condition, and 37 percent are in good condition.⁶

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

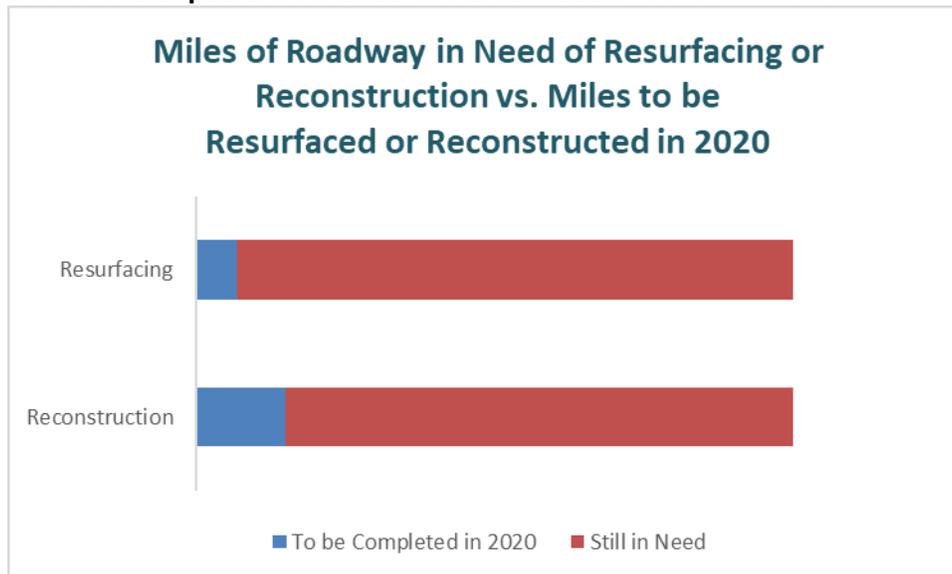


Source: TRIP survey of Georgia counties, conducted December 2019 - February 2020.

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 River Valley region found that, of the miles of county-maintained roadway in need of resurfacing, current budgets will only allow for resurfacing of seven percent of those miles in 2020.⁷ And, of the miles of county-maintained roadway in the River Valley region in need of reconstruction, only 15 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 River Valley region vs. share of River Valley region roads that are expected to be resurfaced or reconstructed in 2020.

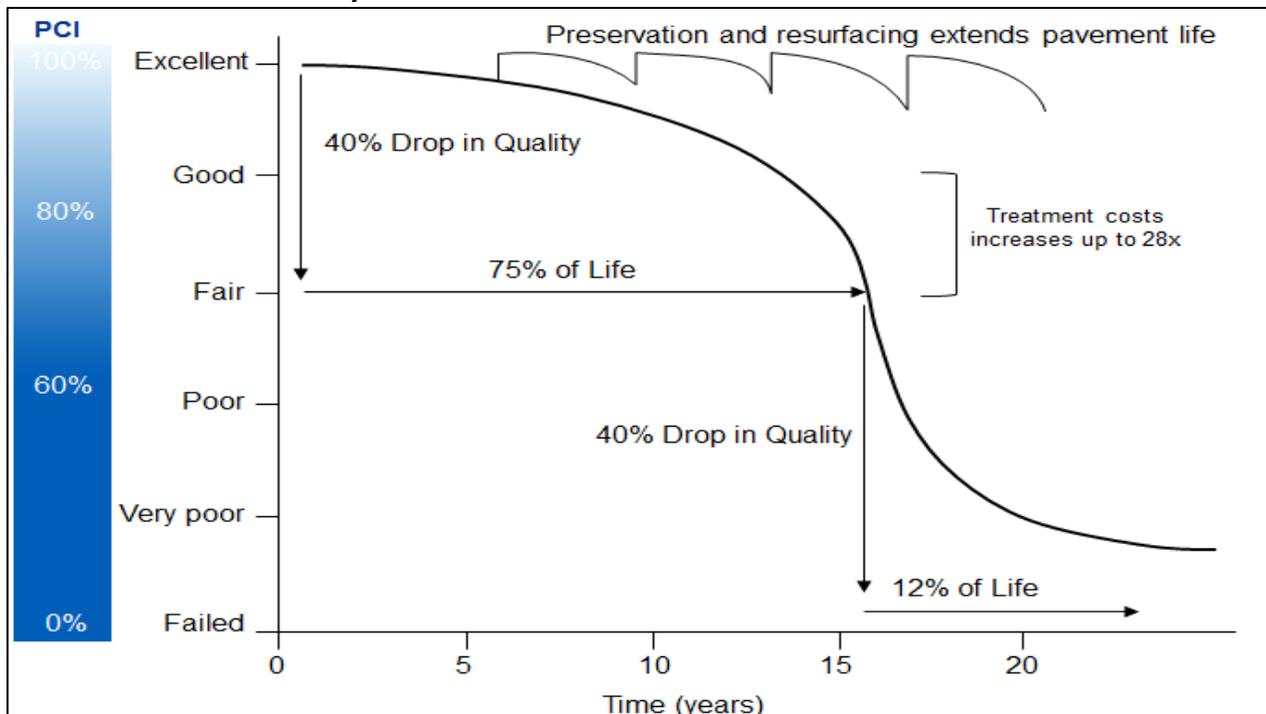


Source: TRIP survey of Georgia counties, conducted December 2019 - February 2020.

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 River Valley counties indicates that the amount of money anticipated to be spent in 2020 on roads, highways and bridges is only 22 percent of the total amount that needs to be spent annually 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 River Valley 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 River Valley region, a total of 13 percent (136 of 1,024) 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, 192,000 vehicles travel over deficient bridges in the River Valley 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.

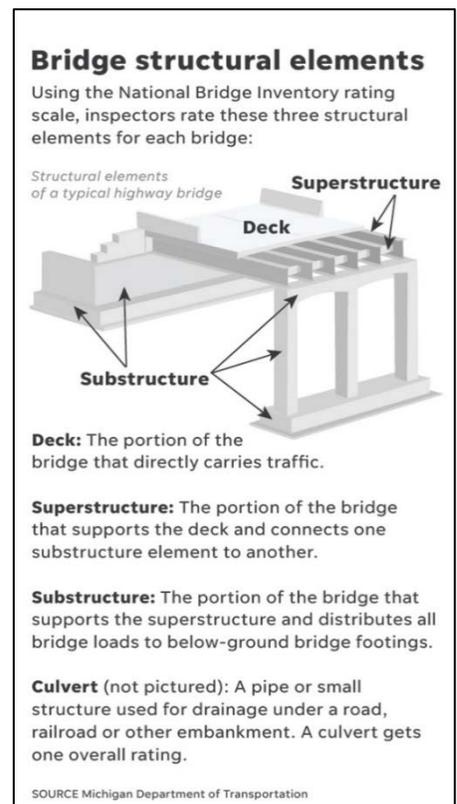
In the River Valley region, 42 bridges received a score of 4 or below for the condition of the bridge deck, superstructure or substructure; 86 bridges have a carrying capacity of 18 tons or less; and 107 bridges are restricted to carrying only lower-weight vehicles.¹³

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 River Valley 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 River Valley region.

Deficiency Noted	Rank	County	Facility Carried	Feature Intersected	Location	Year Built	ADT
PCR	1	Quitman	FLORENCE STREET	CHATTAHOOCHEE RIV TRIB	GEORGETOWN CITY LIMITS	1977	1,440
PCR	2	Quitman	FLORENCE STREET	CHATTAHOOCHEE RIV TRIB	GEORGETOWN CITY LIMITS	1963	1,440
PCR	3	Randolph	CR 27	PUMPKIN CREEK	7 MI NW OF CUTHBERT	1983	1,215
PCR	4	Marion	HARBUCK POND RD	HARDAGE FORD CREEK	5 MI NE OF BUENA VISTA	1960	900
PCR	5	Harris	BETHLEHEM CH. RD	BETHLEHEM CREEK	4.5 MI WSW OF SHILOH	1955	735
PCR	6	Harris	"R" STREET	GRANT CREEK	1 MI S OF ROOSERVELT PARK	1950	735
PCR	7	Talbot	PATTERSON ROAD	BAKER CREEK	7 MI WSW OF GENEVA	1960	735
PCR	8	Macon	CR 281	CEDAR CREEK	CITY LIMITS IDEAL	1988	705
CR	9	Muscogee	6TH AVE.	NS RAILROAD	W CENTRAL COLUMBUS FAM RTE	1911	7,935
CR	10	Muscogee	MIDTOWN DRIVE	LINDSEY CREEK	COLUMBUS-S OF MACON RD	1960	2652
CR	11	Sumter	JACKSON STREET	TOWN CREEK	IN AMERICUS	1950	1440
CR	12	Dooly	SHILOH ROAD	GUMM CREEK TRIB.	4.7 MI SE OF VIENNA	1930	990
CR	13	Macon	CR 305	BEAVER CREEK	N.E. MONTEZUMA	1964	900
CR	14	Macon	HAMILTON ROAD	BEAVER CREEK	CITY LIMITS MONTEZUMA	1960	900
PR	15	Taylor	FEAGEN ROAD	PATSILIGA CREEK	6 MI NE OF BUTLER	1960	900
CR	16	Randolph	FAS 1189	PACHITLA CREEK	6 MILES NORTHEAST OF CARNEGIE	1962	825
PC	17	Sumter	SALTER MILL ROAD	MUCKALOOCHEE CREEK	5.3 MI SE OF PLAINS	1966	750
CR	18	Crisp	STORY ROAD	N BRANCH SWIFT CR TRIB	6 MLES WEST OF ARABI	1940	735
CR	19	Crisp	BROCK ROAD	REEDY CREEK	1.1 MI S OF JCT SR 90	1930	735
CR	20	Dooly	FINDLEY ROAD	I-75 @ 113.31	3 MI S OF PINEHURST	1960	735
CR	21	Dooly	GODWIN BRIDGE ROAD	TURKEY CREEK OVERFLOW	3.3 MI SW OF LILLY	1955	735
CR	22	Dooly	BOWEN ROAD	SANDY MOUNT CREEK	3 MI NE OF VIENNA	1932	735
CR	23	Harris	HARRIS ROAD	OSSAHATCHIE CREEK	3.2 MI SW OF WAVERLY HALL	1958	735
CR	24	Stewart	HERNDON ROAD	BRIER CREEK	8 MI S OF LUMPKIN	1965	735
CR	25	Sumter	TALLENT STORE RD	MUCKALEE CREEK	4.3 MI NW OF AMERICUS	1959	735
CR	26	Talbot	BONNIE HAWKINS RD	LAZER CREEK	2 MI SW OF WOODLAND	1970	735
PC	27	Harris	FORTUNE HOLE RD	WILLIAMS CREEK	2.5 MI SE OF HAMILTON	1960	735
PC	28	Talbot	GORMAN ROAD	CSX RAILROAD	N CITY LMT OF TALBOTTON	1940	735
P	29	Muscogee	BUENA VISTA ROAD	BULL CREEK	CENTRAL COLUMBUS	1924	40770
P	30	Muscogee	US 80	FLATROCK CREEK	N COLUMBUS BYPASS	1988	40380
C	31	Muscogee	SR 85	NS RR & RR STREET	WEST CENTRAL COLUMBUS	1997	21060
P	32	Sumter	S. LEE STREET	NS RAILROAD	IN AMERICUS	1911	14805
P	33	Taylor	SR 128	PATSILIGA CREEK	.7 MI N OF REYNOLDS	1937	2685
P	34	Muscogee	CHATTSWORTH RD	DOZIER CREEK	EAST COLUMBUS	1925	2652
P	35	Webster	US 280	KINCHAFOONEE CREEK O/F	1.4 MI W OF PRESTON	1953	2625
P	36	Macon	DRAYTON ROAD	SPRING CREEK	MONTEZUMA CITY LIMITS	1967	2025
R	37	Quitman	HILL PLACE ROAD	SMITHEE JACK CREEK	NORTHWEST OF MORRIS	1962	900
R	38	Taylor	CALLAHAN ROAD	CEDAR CREEK	4 MI SW OF RUPERT	1959	900
R	39	Marion	PINEVILLE ROAD	KINCHAFOONEE CREEK	5 MI SW OF BUENA VISTA	1965	750
R	40	Sumter	SALTER MILL ROAD	LITTLE MUCKALOOCHEE CRK	4.5 MI SE OF PLAINS	1966	750

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

Traffic Safety in the River Valley Region

A total of 295 people were killed in traffic crashes in the River Valley region from 2014 to 2018, an average of 59 fatalities per year.¹⁵ The River Valley region had a traffic fatality rate of 1.28 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 River Valley region, 2014 – 2018.

Year	Fatalities
2014	49
2015	43
2016	66
2017	70
2018	67
Average	59
Total	295

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 River Valley Region

Reliable highway access is critical to the economic development of the River Valley 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 River Valley 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 River Valley 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 River Valley residents, the success and growth of businesses and the positive experience of its visitors.

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ENDNOTES

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- 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/>.
- ¹⁸ [Ibid.](#)
- ¹⁹ [Ibid.](#)
- ²⁰ American Road & Transportation Builders Association (2015). The 2015 U.S. Transportation Construction Industry Profile. https://www.transportationcreatesjobs.org/pdf/Economic_Profile.pdf
- ²¹ [Ibid.](#)
- ²² [Ibid.](#)
- ²³ Area Development Magazine (2020). 34th Annual Survey of Corporate Executives: Availability of Skilled Labor New Top Priority. <https://www.areadevelopment.com/Corporate-Consultants-Survey-Results/Q1-2020/34th-annual-corporate-survey-16th-annual-consultants-survey.shtml>