AUGUST 2019

FINAL REPORT

Jackson County Transportation Plan









RESOLUTION

A RESOLUTION OF THE JACKSON COUNTY BOARD OF COMMISSIONERS APPROVING AND ADOPTING THE JACKSON COUNTY TRANSPORTATION PLAN

WHEREAS; In order to maintain current and future projections for transportation needs, and

thereby remain eligible for selected state funding and permitting programs, each local government in Georgia needs to prepare, adopt, maintain, and implement a

transportation plan; and

WHEREAS; Jackson County has prepared a transportation plan, with appropriate opportunity

for involvement and input from stakeholders, an appointed technical committee,

and the general public; and

WHEREAS; The Jackson County Transportation Plan has been prepared in cooperation with

the State of Georgia Department of Transportation, Federal Highway

Administration, and the Gainesville-Hall Metropolitan Planning Organization;

Now, therefore IT IS RESOLVED as follows:

1.

The Jackson County Transportation Plan, dated June 2019, is hereby adopted.

2.

The Clerk of the Board is hereby directed to submit a certified copy of this Resolution to the Gainesville-Hall Metropolitan Planning Organization.

3.

To publicize adoption, the adopted comprehensive plan shall be maintained by the Jackson County Public Development Department.

ADOPTED AND APPROVED, THIS THE 15TH DAY OF JULY, 2019.

Tom Crow, Chairman

Jackson County Board of Commissioners

ATTEST:



Ericka Johnson, Clerk

Erreria Johnson



A Resolution by the Gainesville-Hall Metropolitan Planning Organization Policy Committee Adopting the Jackson County Transportation Plan

WHEREAS, the Gainesville-Hall Metropolitan Planning Organization (GHMPO) is the designated Metropolitan Planning Organization for transportation planning within the Gainesville Metropolitan Area Boundary which includes all of Hall County and a portion of Jackson County following the 2010 Census; and

WHEREAS, the Fixing America's Surface Transportation (FAST) Act directs GHMPO to increase the accessibility and mobility options available;

WHEREAS, the FAST Act furthermore directs GHMPO to enhance the integration and connectivity of the transportation system, across and between modes;

WHEREAS, the Jackson County Transportation Plan makes recommendations to improve the area's accessibility and mobility;

NOW, THERE, BE IT RESOLVED that the Gainesville-Hall Metropolitan Planning Organization adopts the Jackson County Transportation Plan.

A motion was made by PC member <u>Ging Roy</u> and seconded by PC member <u>Teff Stove</u> and approved this the 17th of September, 2019.

Chairman Richard Higgins, Vice-Chairperson

Policy Committee

Subscribed and sworn to me this the September 17, 2019.

Notary Public

My commission expires $\frac{\sqrt{13/23}}{}$

JACKSON COUNTY TRANSPORTATION PLAN

The opinions, findings, and conclusions in this publication are those of the author(s) and not necessarily those of the Department of Transportation, State of Georgia, or Federal Highway Administration.

Prepared in cooperation with the Department of Transportation, Federal Highway Administration.



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Chapter 1

OVERVIEW

1.1 STUDY AREA

Jackson County is located sixty (60) miles northeast of the City of Atlanta and twenty (20) miles northwest of Athens-Clarke County. It is bordered by Barrow, Oconee, Madison, Banks, and Hall Counties and comprised of nine (9) municipalities including Arcade, Braselton, Commerce, Hoschton, Jefferson, Maysville, Nicholson, Pendergrass, and Talmo. Jefferson is the county seat and has the largest population of the municipalities.

Two portions of western Jackson County are within the Gainesville-Hall Metropolitan Planning Organization (GHMPO). **Figure 1** shows a map of Jackson County along with its municipalities and major roadways. And **Figure 2** shows the GHMPO boundary which includes the western portion of Jackson County.

Due to its proximity to the residential, business, and academic centers of Atlanta and Athens as well as Gwinnett and Hall Counties, Jackson County has experienced tremendous growth over the last two decades. Population growth has skyrocketed as residents have sought lower-cost housing on larger plots of land. According to the Georgia Governor's Office of Planning and Budget¹, Jackson County reported 63,492 residents in 2015. This number is up from 41,589 residents in 2000. Additionally, the number of housing permits has grown every year since 2011 with over 1,000 permits issued in 2018.

Related to its highway access, Jackson County is experiencing a tremendous growth in industrial enterprises, especially warehouse and distribution centers, located primarily in the north-eastern portion of the County. Recent development announcements include an Amazon distribution center and SK Innovations manufacturing center which will both bring over 2,000 new jobs. Additionally, a new inland port has recently been announced in neighboring Hall County. Even though it's located outside of Jackson County, this new facility will no doubt increase truck traffic on Jackson County roadways. The Technical Team analyzed the increase in industrial developments and related freight traffic during the Needs Assessment.

¹ https://opb.georgia.gov/



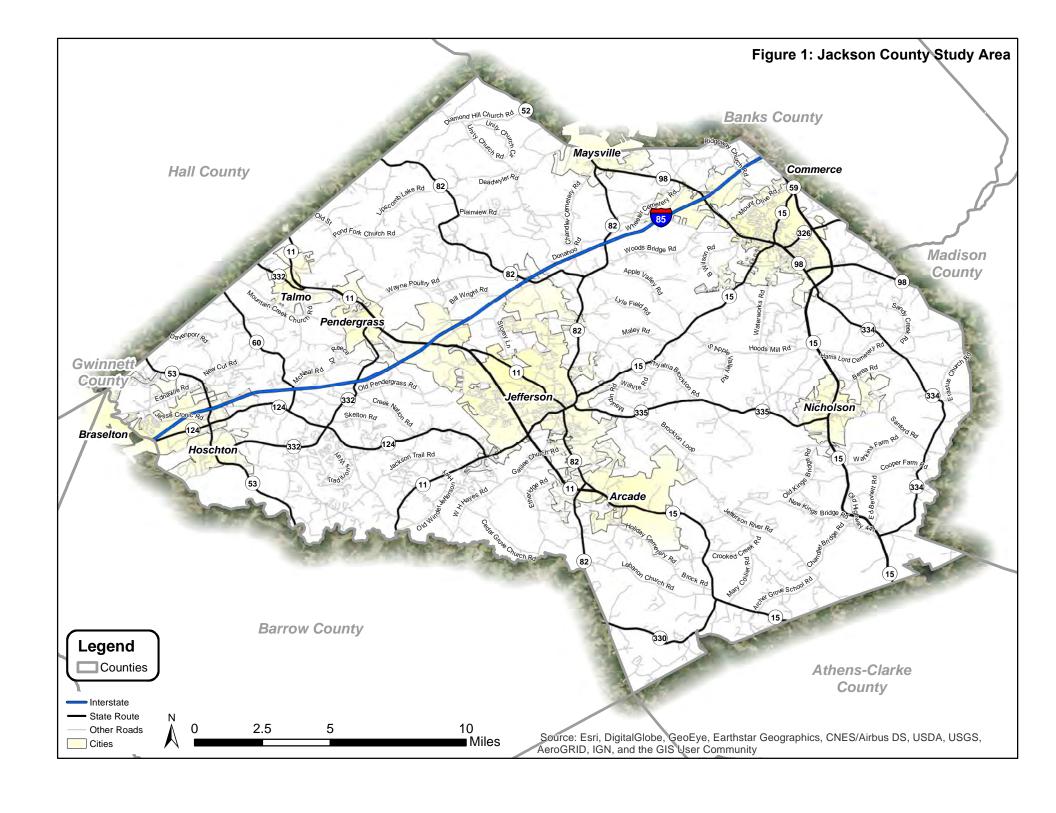
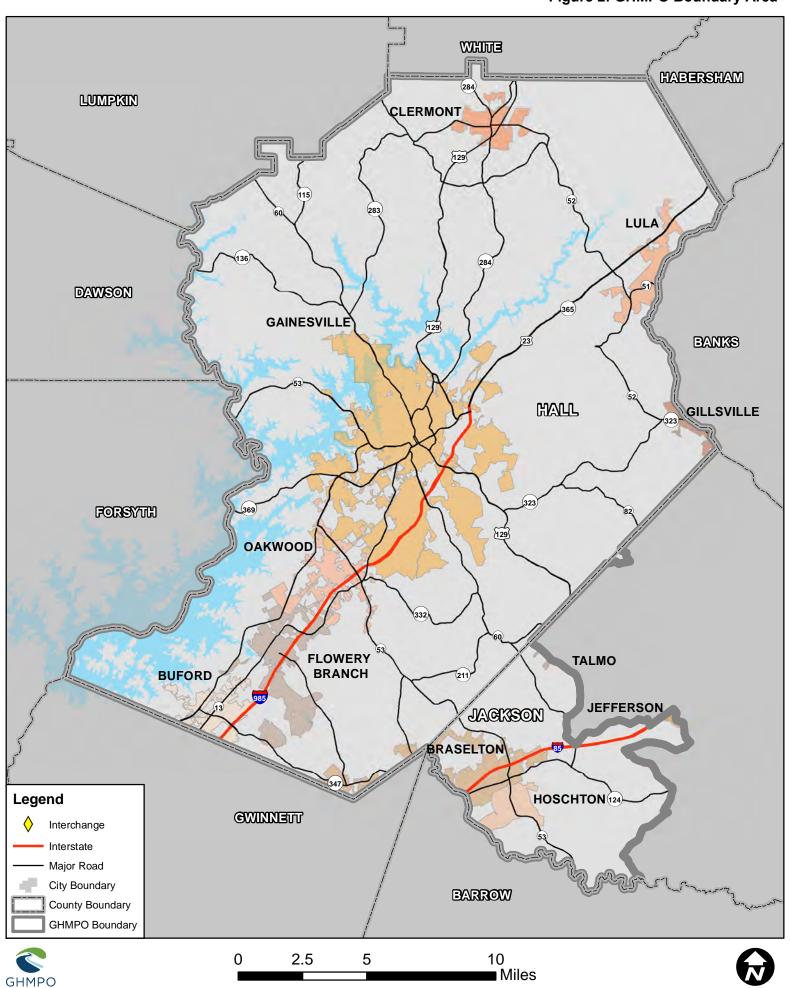


Figure 2: GHMPO Boundary Area



1.2 PAST STUDIES AND PLANS

Numerous studies and plans were collected and reviewed to help the project team better understand existing conditions and efforts underway in the County. The previous Jackson County Transportation Plan was conducted in 2008 and is called the Roadways Plan. This is the first Transportation Plan update since 2008. **Table 1** lists the past studies and plans.

Table 1: Past Studies and Plans

Studies and Plans, by Year
Jackson County
2008 Jackson County Roadways Plan
2009 Jackson County Comprehensive Plan – Transportation Chapter
2011 Connect Jackson-Bike, Ped, Greenways
2011 Jackson County Comprehensive Plan / Community Agenda
2014 Jackson County Board of Commissioners SPLOST 5 Report
2015 Jackson County Comprehensive Plan / Community Agenda
2017-2018 Jackson County – School Locations
2017 Jackson County Comprehensive Annual Financial Report
2017 Jackson County Unified Development Code
Jackson County - Municipalities
2015 Braselton Comprehensive Plan Update
2015 Commerce Comprehensive Plan Update
2015 Hoschton Comprehensive Plan Update
Jefferson Bike and Ped Plan (Under Development)
Gainesville-Hall Metropolitan Planning Organization (GHMPO)
2014 GHMPO Bicycle and Pedestrian Plan
2015 GHMPO Regional Transportation Plan
2018 GHMPO Regional Freight Study
Northeast Georgia Regional Commission (NEGRC)
2018 Northeast Georgia Regional Plan
Statewide Plans
GDOT Statewide Transportation Improvement Program FY 2018-2021
2015 Georgia State Rail Plan

1.3 MAJOR EMPLOYERS

Jackson County has numerous companies with over 100 employees. Many of these are large distribution centers. **Table 2** identifies the top 15 employers in this list by number of employees.



Table 2: Major Employers by Number of Employees

Major Employers	Number of Employees		
Carter's/Oshkosh	1,200		
Kubota Industrial Equipment Corporation	1,050		
Jackson County Board of Education	949		
Jackson EMC	702		
TD Automotive Compressor Georgia LLC	650		
Baker & Taylor Inc.	540		
Bed Bath & Beyond	500		
Haverty's	486		
Jackson County Government	460		
Northridge Medical Center	422		
Mission Foods	416		
Wayne Farms LLC	350		
Toyota Industrial Compressors of America	350		
TenCate Geosynthetics	324		
Roper Pump Company	216		

1.4 COMMUTE PATTERNS

As reported by the 2015 US Census, American Community Survey² five-year update, it is estimated that Jackson County has 23,320 workers residing within the County. This number includes 6,209 (27%) workers who both live and work in Jackson County, and 17,111(73%) workers who reside in Jackson County, but are employed outside the County. Additionally, 14,651 workers have jobs in Jackson County but live in surrounding areas.

The US Census Longitudinal Household-Employer Dynamics³ (LEHD) data shows that Jackson County residents who work outside of the County primarily travel to Gainesville, Athens, Winder, Lawrenceville, and other locations along the I-85 South corridor for their employment. A scatterplot of this information is shown in **Figure 3**.

³ https://onthemap.ces.census.gov/



² https://www.census.gov/programs-surveys/acs/

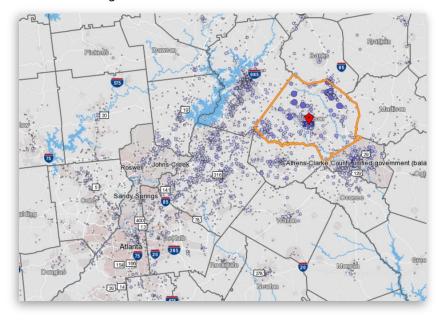


Figure 3: Census LEHD Commute Patterns

In 2016, Jackson County residents reported an average commute time of 29.4 minutes. This is higher than both the US average commute time (25 minutes) and the State of Georgia's average commute time (26 minutes). Over three percent (3%) of Jackson County workers have a "super commute" which is defined as a commute that is over ninety (90) minutes each way.

1.5 ENVIRONMENTAL CONSIDERATIONS

Jackson County existing environmental and historic features have been reviewed and mapped. These considerations include wetlands/waterbodies, known historic properties, and federally endangered animal/plant species. The following sources were used to identify potential environmental concerns. It should be noted that each of these sources provide information at the planning level and individualized studies or surveys may be necessary to assess potential impacts.

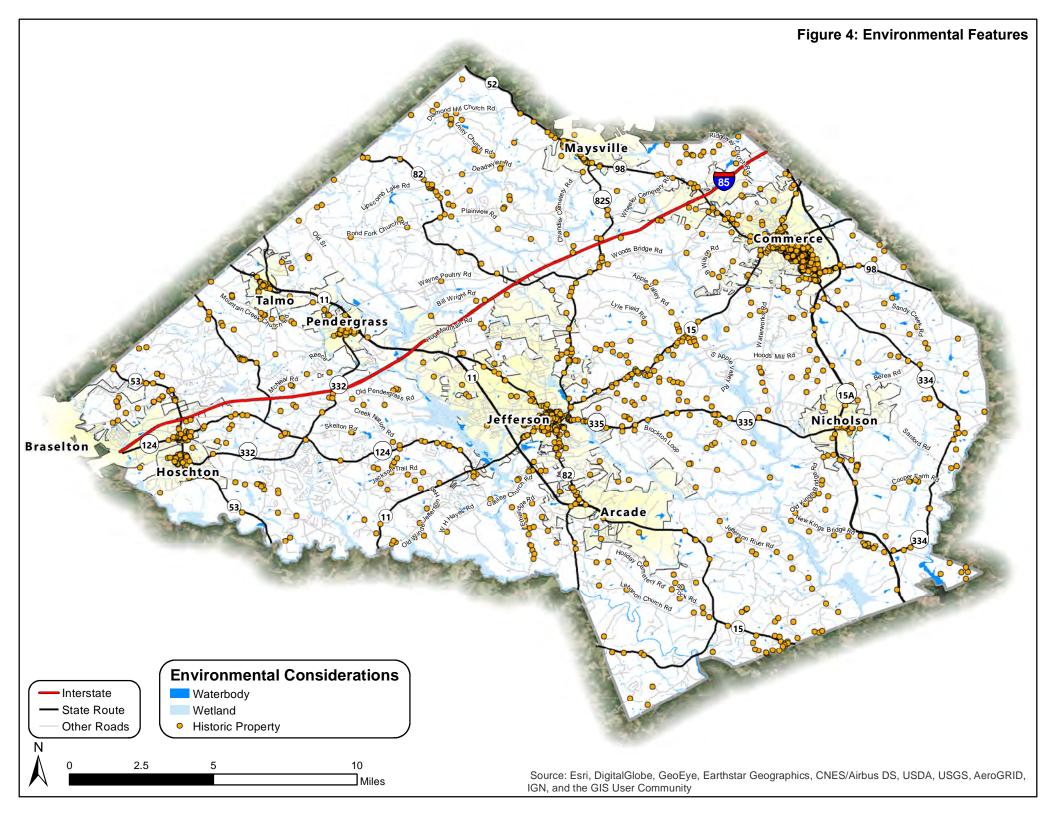
- Georgia Department of Natural Resources Historic Preservation Division
 - o Georgia's Natural, Archeological, and Historic Resources GIS (GNAHRGIS)
- National Wetlands Inventory (NWI)
- US Fish and Wildlife Service (FWS)
 - Environmental Conservation Online System (ECOS)

Currently, Jackson County has a significant number of wetlands/waterbodies that are present throughout the area. The National Wetlands Inventory (NWI) manages a nationwide wetlands database that can be used to display the approximate location of these wetlands/waterbodies for planning purposes. The approximate location of wetlands and waterbodies within the County are depicted within **Figure 4**.

Historic properties can be found throughout Jackson County, with primarily concentrations within the municipal boundaries. Through the Georgia Natural, Archeological, and Historic Resources Geographic Information System (GNARHGIS), the approximate location of known and potentially significant historic properties is shown in **Figure 4**.

Several federally identified species have their homes within Jackson County for portions of and in some cases all year. According to the US Fish and Wildlife Service (FWS), eleven (11) migratory bird species and one (1) endangered plant species can be found in Jackson County.

The locations of the wetlands/waterbodies, historic properties, and federally identified species were considered along with planned and programmed transportation projects as to not unnecessarily impact these important environmental considerations.



CHAPTER 2 TRAVEL AND ROADWAY CONDITIONS

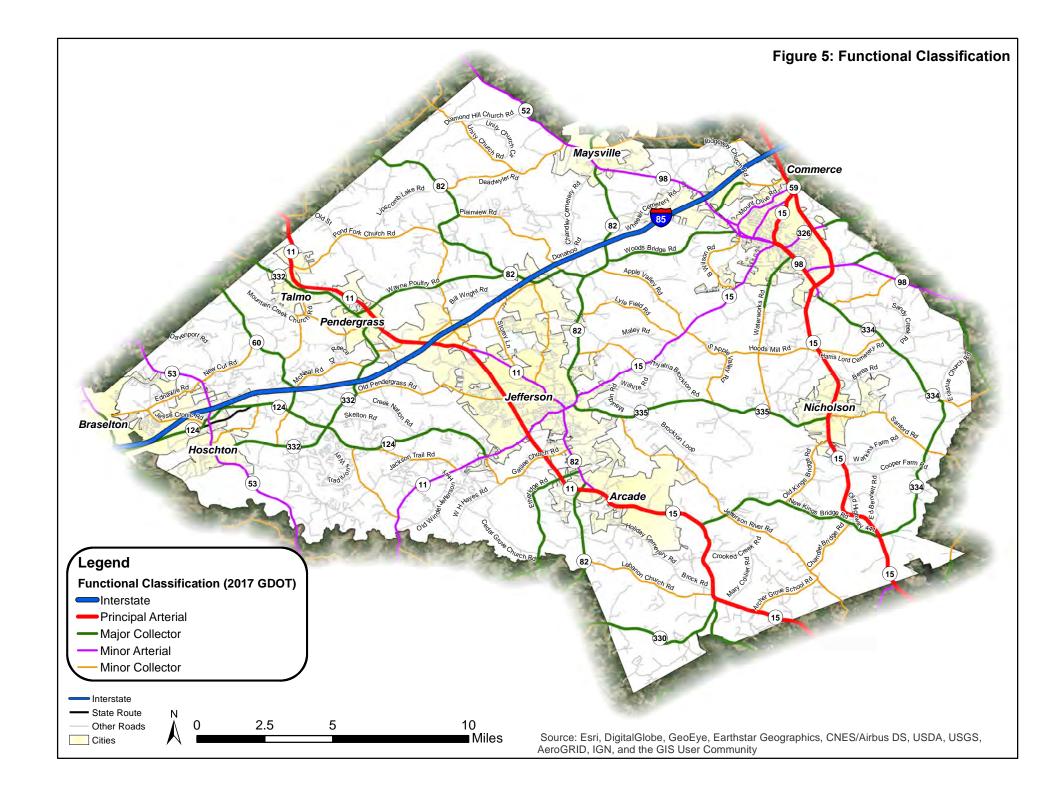
2.3 FUNCTIONAL CLASSIFICATION

The roadway functional classification (FC) provides information about the character of the roadway, the amount of service it provides, and its access to other roadways. According to the Federal Highway Administration (FHWA), principal arterials are typically interstates or highways and provide a high degree of mobility and often connect metropolitan centers. Access on and off principal arterials is controlled, and surrounding land uses cannot be directly accessed. Minor arterials are typically used for shorter trips and provide access to the arterial roadway system. Collectors connect local and arterial roads to provide service between residential neighborhoods and commercial areas.

Based on the GDOT travel demand model, **Figure 5** shows the functional classification for the principal arterials, minor arterials, collectors, and entrance ramps for the county roadways. I-85 is the only interstate in Jackson County, and the principal arterial roads include SR 11, SR 15, SR 59, and SR 98. The principal arterials are oriented in a north-south direction and connect the municipalities in the middle and eastern sections of the County.

⁴https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/sections/se

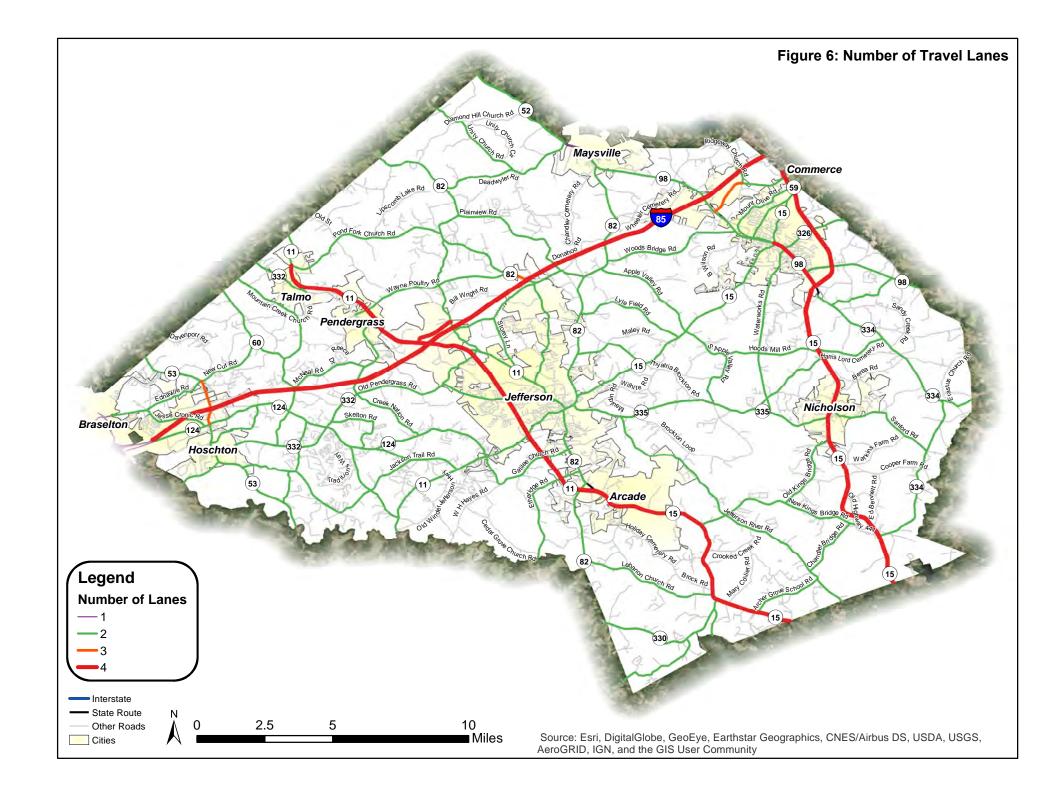




2.4 TRAVEL LANES AND PAVED/UNPAVED MILES

The number of travel lanes is correlated to the roadway functional classification as roads with higher functional classes (such as principal arterials) typically have more travel lanes. **Figure 6** shows the number of travel lanes for the major roads in Jackson County. Most of the roads have one (1) travel lane in each direction (for a total of two (2) travel lanes) with the principal arterials having a total of four (4) travel lanes. There are two roadways in the County that have three (3) travel lanes. One is in the City of Hoschton, and the other is in the City of Commerce.

There are 1,198 roadway miles in Jackson County with 1,050 miles that are paved and 148 miles that are gravel. Most of the unpaved roadways are in the unincorporated portions of the County.

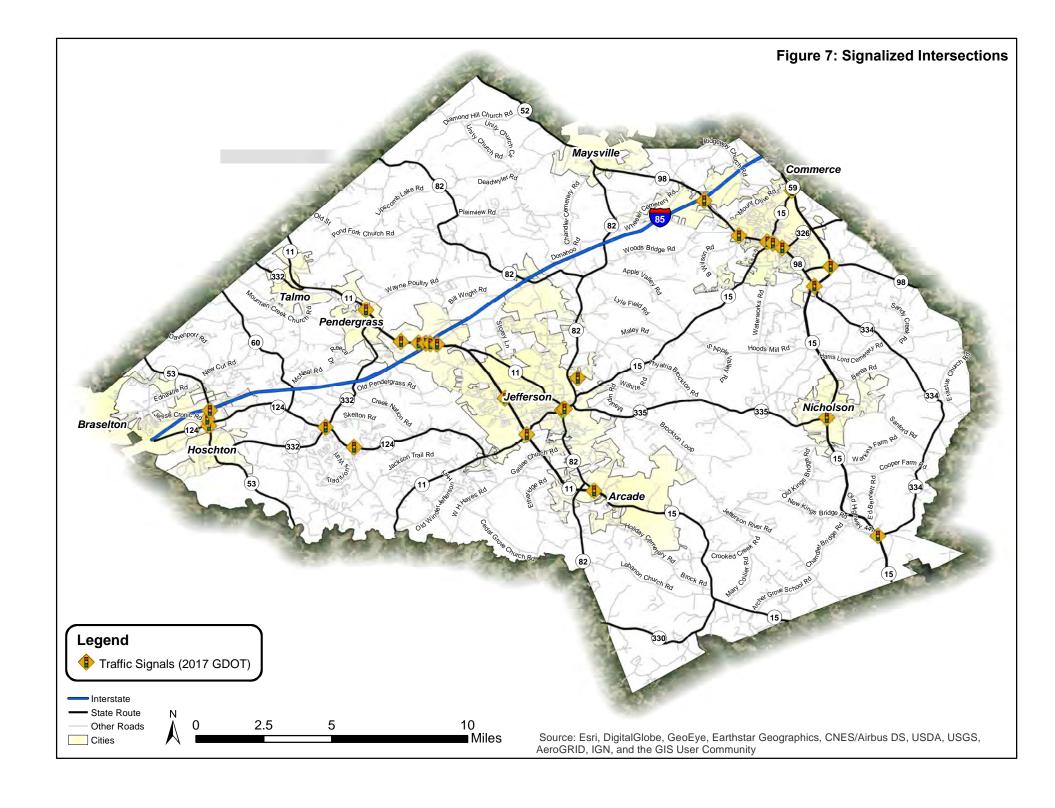


2.5 SIGNALIZED INTERSECTIONS

Based on the 2017 GDOT dataset, there are 37 signalized intersections in the County. As shown in **Figure 7**, on the next page, most of these intersections are located within the Arcade, Braselton, Commerce, Hoschton, Jefferson, Nicholson, and Pendergrass municipal boundaries. **Table 3** shows the number of signalized intersections in each municipality as well as in the unincorporated areas of the County. Most of the signalized intersections are located on principal arterial roads. As part of the Needs Assessment of this project, intersections with high crash numbers will be studied to determine if the addition of a signal could provide safer conditions.

Table 3. Number of Signalized Intersections by Jurisdiction

Jurisdiction	Number of Signalized Intersections			
Arcade	1			
Braselton	3			
Commerce	9			
Jefferson	10			
Nicholson	2			
Pendergrass	1			
Unincorporated	11			
Total	37			



2.6 TRANSIT

Jackson County offers on-demand, shared ride transit service within the County, between Jackson and Athens-Clarke Counties, and between Jackson County and the City of Winder in Barrow County. The County operates four (4) ten (10) passenger vans, three (3) of which are equipped with wheelchair lifts. The transit system services trips ranging from medical, shopping, to social services. The operating schedule is Monday to Friday between 7am – 4pm. **Table 4** shows the typical transit fares.

Table 4: Transit Fares

Transit Fare	sit Fare One-Way / Round Trip / In-County		One-Way / Out of County	Round Trip / Out of County
Total	\$4.00	\$8.00	\$9.00	\$18.00

2.7 BICYCLE AND PEDESTRIAN

The Bicycle and Pedestrian network throughout the County are an important feature when considering the overall transportation network. Though most of the transportation throughout the County is conducted using personal and commercial automobiles, it is vital to provide facilities for alternative modes of transportation. Bike lanes and paved shoulders improve safety and awareness of cyclists using the roadways and sidewalks help reduce pedestrian and vehicle interaction. Paved roadway shoulders are present through Jackson County, but shoulders are not connections and do not create a complete network. According to the 2011 *Connect Jackson* plan, Jackson County is home to over 30 miles of existing sidewalk facilities as **Table 5** depicts.

Table 5: Sidewalk Miles within Jackson County

Municipality	Sidewalk Miles**
Arcade	0.49
Braselton*	2.90
Commerce	3.97
Hoschton	0.73
Jefferson	11.95
Mayville*	0.04
Nicholson	1.46
Talmo	0
Unincorporated	13.34
Total	34.88

^{*}Municipal boundaries extend beyond Jackson County

^{**} Connect Jackson plan

Schools, parks, and residential areas are prime candidates to receive pedestrian and bicycle facility improvements. By increasing the number of facilities in these areas, it will increase the safety of the users and may help reduce the number of vehicles miles traveled within the County. Providing multi use facilities between schools, parks, and homes may reduce the need for motor vehicle use and their impact on the transportation network.

Several of the municipal comprehensive plans list sidewalks, bike lanes, and multi-use trails as important needs within their downtown areas. In addition to comprehensive plans, several documents have been created for the region to highlight existing and potential facilities. The plans listed below depict projects that may connect with or improve bicycle and pedestrian movement within Jackson County.

- Athens in Motion: Bicycle and Pedestrian Master Plan
 - o Tallasse Rd Greenway
 - Old Jefferson Rd Buffered Bike Lane
- Connect Jackson: Biking. Pedestrian. Greenways 2011
 - Connections throughout the County
- GHMPO Bicycle and Pedestrian Plan Update 2014
 - Winder Highway/SR 53 Trail
- Northeast Georgia Plan for Bicycling and Walking 2010
 - Bike Lanes
 - o Greenways

In addition to the local government efforts to create and maintain pedestrian and bicycle infrastructure, residents have engaged the community to raise awareness and provide recreational opportunities. Several long-distance cycling routes have been unofficially identified and the newly created 52-mile mountain biking course near Commerce show that the community desires cycling opportunities. In addition to popular routes and cycling locations, the yearly Jackson County Brevet is a road bike event which draws hundreds of competitors/visitors to the area. Increased ridership and attendance at cycling events will help raise awareness and potentially improve the safety of cyclists on the roadways.

CHAPTER 3 EXISTING PERFORMANCE

3.1 SAFETY / CRASH DATA

Due in part to its suburban and rural character, the number of vehicular crashes in Jackson County is lower than that of other Atlanta region metropolitan counties. The County has been experiencing recent increases in urbanization in the western and eastern portions of the County, significant development in Jefferson, and increases in traffic volume and truck traffic. In response to this growth, the safety of the road network is critically important and a primary goal of this plan.

The Georgia Electronic Accident Reporting System (GEARS) crash data for January 2013 – October 2018 (partial year) shows that Jackson County number of vehicular crashes has followed the trend described below:

- 2013-2015 Number of vehicular crashes increased
- 2015-2016 Number of vehicular crashed decreased
- 2016-2018 Number of vehicular crashed increased

The decrease from 2015-2016 could be due to several factors including a change in reporting procedures, a reduction in roadway construction, or as a result of local/national campaigns to bring focus to the importance of safe driving.

From January to October 2018, there were a total of 1,337 crashes of which 9 (<1%) were fatal crashes and 341 (26%) were injury crashes. Except for 2016, the number of vehicular crashes has trended upward from 2013 through 2018. As shown in **Table 6**, GDOT reports 9,965 crashes over this six-year period. **Figure 8** shows this information for the crash types.

Table 6: Jackson County Vehicular Crashes for 2013 – 2018 (partial year)

Vehicular Crashes	2013	2014	2015	2016	2017	2018 (partial)	Total
Total	1,497	1,670	1,870	1,651	1,940	1,337	9,965

Source: GEARS Crash Data, 2013-2018

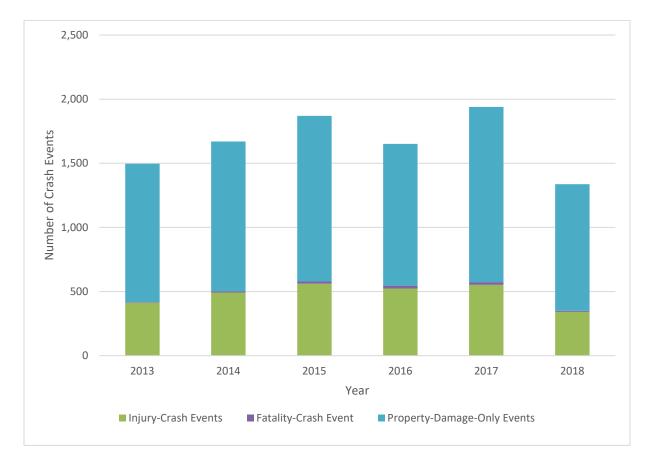
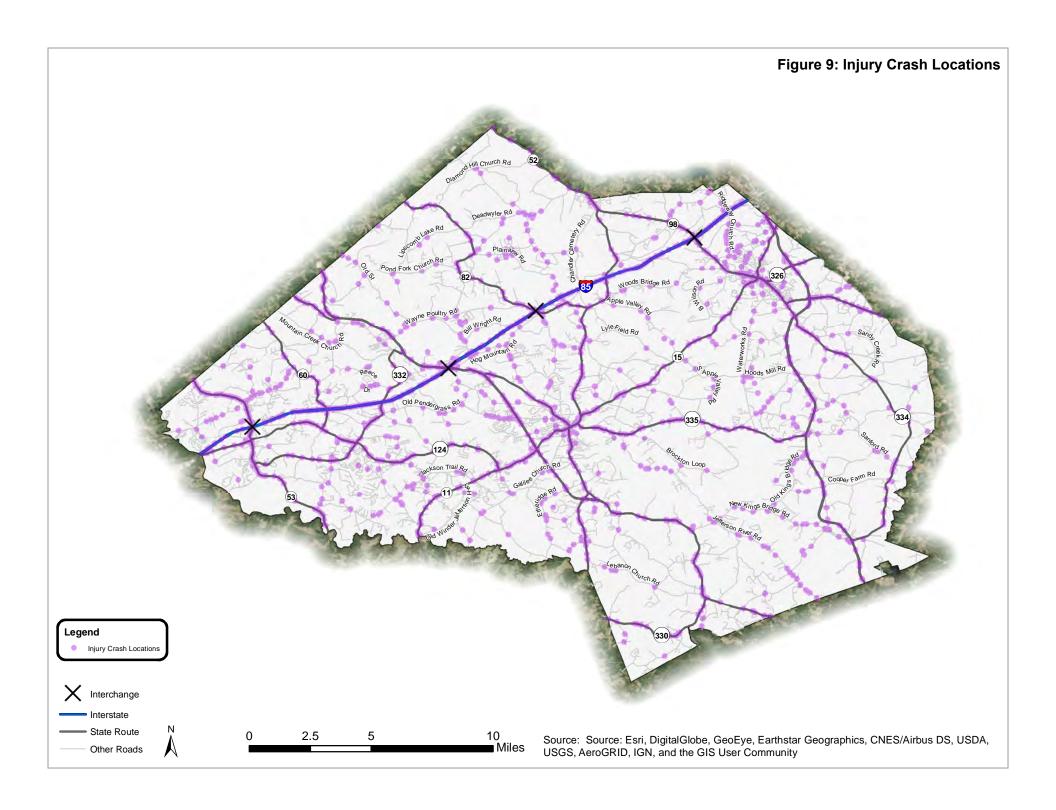
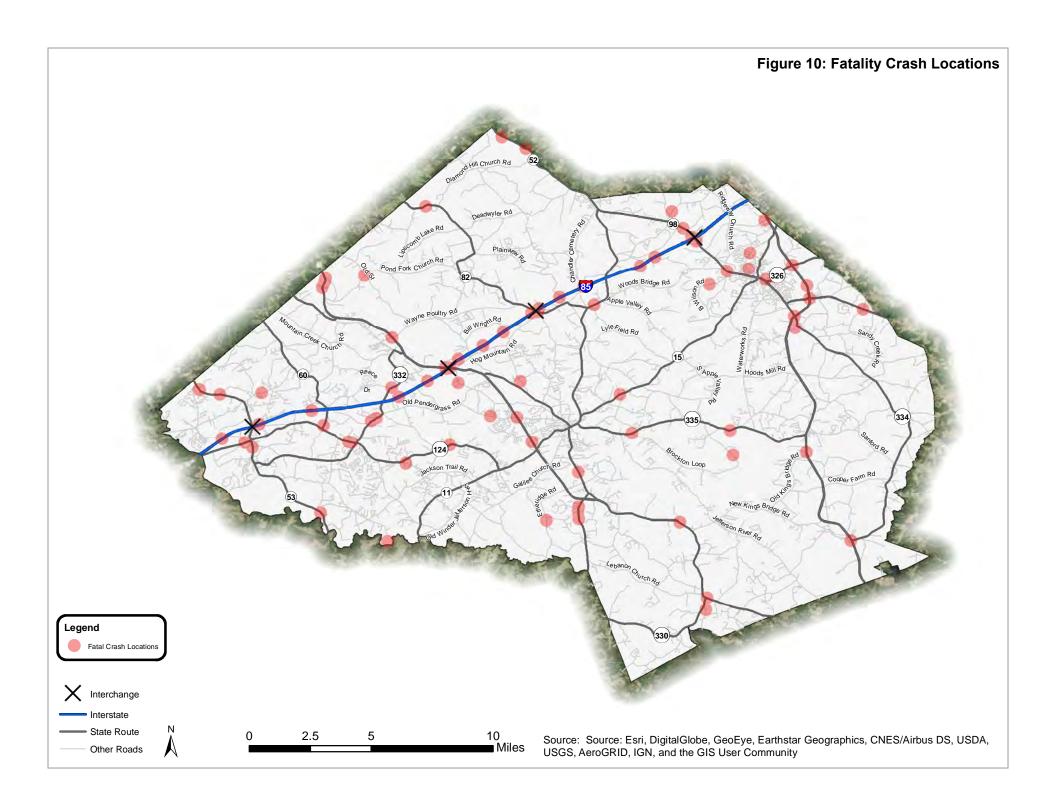


Figure 8: Jackson County Vehicular Crash Types for 2013 – 2018 (partial year)

Source: GEARS Crash Data 2013-2018

Injury and fatality crashes are geographically spread across the County with higher numbers of crashes occurring on higher volume roadways. **Figure 9** and **Figure 10** show the approximate location of injury and fatality crashes between 2013 and 2018 (partial year), respectively.





Clusters of crashes are located on the higher volume roadways. **Figure 11**, on the next page, is a heat map which illustrates all crashes between January 2013 – October 2018 (partial year) with crash hotspots shaded in yellow, orange, and red where a higher density of crashes has occurred. The red locations show the highest density of crashes. These crash hotspots are located primarily nearby intersections and corridors where higher traffic volumes and turning movements are more likely to occur.

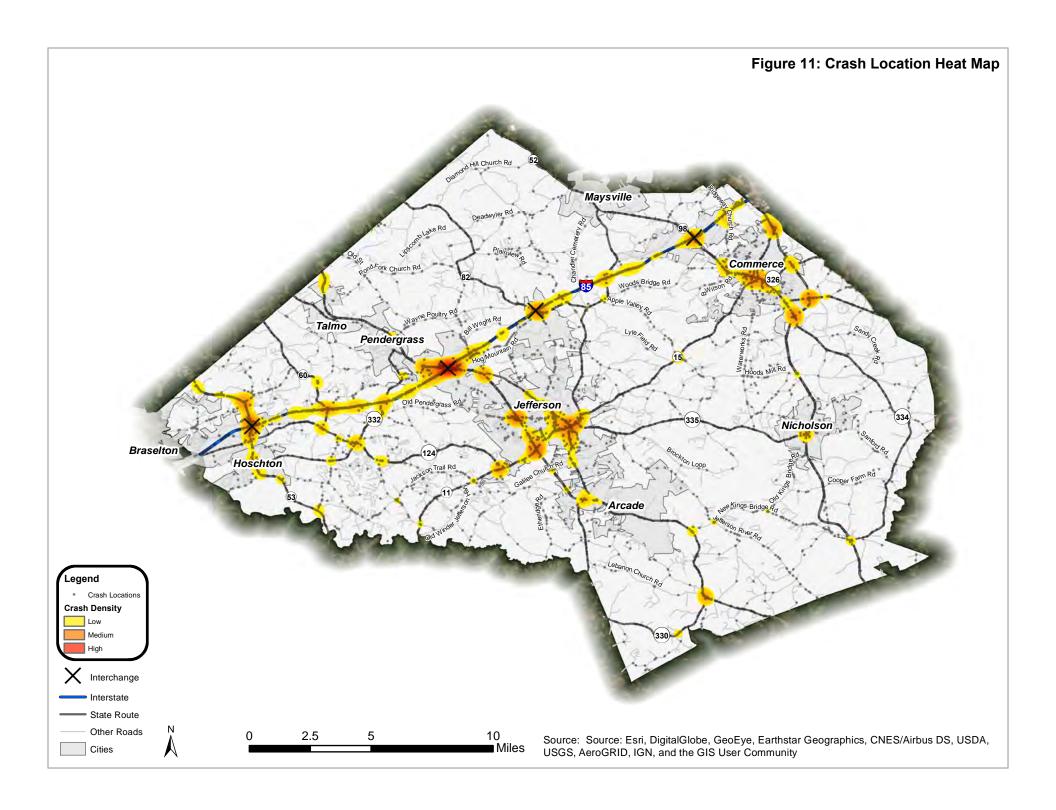
Major crash hotspots include the following interchanges and intersections:

- SR 53 at Ednaville Road / New Cut Road
- I-85 at SR 53 / Green Street
- SR 124 and SR 60
- SR 11 / Winder Highway and Galilee Church Road
- I-85 at US 129/SR 82
- US 129/Jefferson Bypass at Old Swimming Pool Road
- US 129/Jefferson Bypass at SR 11/Winder Highway
- US 129/Jefferson Bypass at SR 82
- Lee Street/Sycamore Street and US 129 Business/Washington Street/Gordon Street
- Jefferson Street/Homer Road and North Elm Street/North Broad Street
- SR 15/US 441/Veterans Memorial Parkway and Allen Road
- Mt Olive Road and SR 15/US Highway 441/Homer Road
- SR 98 and US 441/Veterans Memorial Parkway
- I-85 at SR 82
- I-85 at Maysville Road/SR 98

Appendix A includes safety fact sheets for the above listed locations. The fact sheets include a summary of the total number of crashes for the five (5) year period listed above (2014-2018) including number of injury and fatality crashes. Each of the locations includes a map showing the specific crashes, in addition to the following information:

- Crash type
- Vehicle type
- Vehicle movement
- Traffic control
- Contributing factor
- First harmful event
- Light condition





Following the crash density analysis, the interchanges / intersections with the highest numbers of crashes (injury and fatality) were evaluated. A list of twenty-six (26) serious hotspots were developed and ranked into Tiers with Tier 1 representing the interchange / intersection locations with the highest number of crashes and Tier 6 representing the lowest. **Table 7** and **Figure 12** identify these locations with their rank and tier.

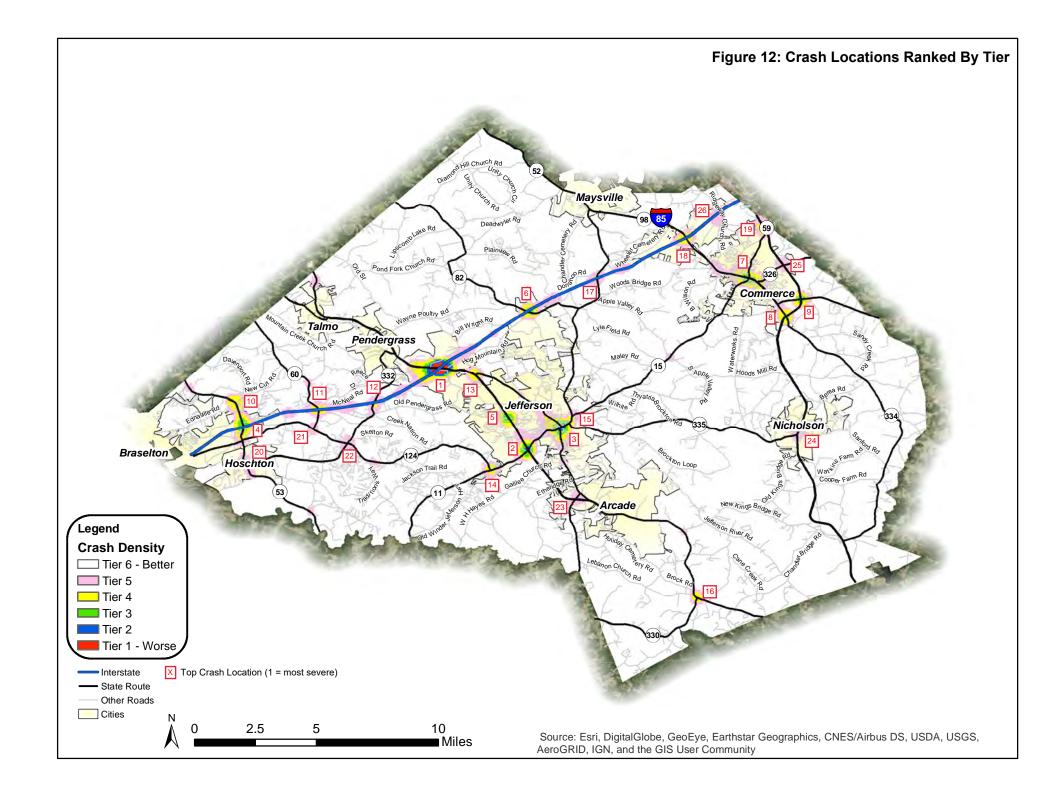
Table 7: Jackson County Top Crash Hotspots, by Tier

Index*	Tier**	Intersection Street 1	Intersection Street 2
1	Tier 1	I-85	US 129
2	Tier 2	GA 11 (Winder Hwy)	US 129
3	Her 2	Lee St	US 129 Business
4		I-85	Hwy 53
5		Old Pendergrass Rd	US 129
6	Tier 3	I-85	GA 82 N (Dry Pond Rd)
7	Her 5	Jefferson St	N Elm St
8		US 441 S (Veterans Memorial Pkwy)	Allen Rd
9		GA 98 (Ila Rd)	US 441 S (Veterans Memorial Pkwy)
10		Ednaville Rd / New Cut Rd	Hwy 53
11		I-85	Hwy 60
12		I-85	GA 332
13		US 129 Business	US 129
14	Tier 4	GA 11 (Winder Hwy)	GA 124 (Galilee Church Rd)
15	Her 4	Sycamore St / Commerce Rd	GA 82 N / Peach Hill Dr
16		GA 330	US 129
17		I-85	GA 82 N
18		I-85	GA 98 (Maysville Rd)
19		GA 59	US 441 S (Homer Rd)
20		Pendergrass Rd	Hwy 53
21		Hwy 60	GA 124
22		GA 332	GA 124
23	Tier 5	US 129	GA 82 N
24		Jefferson Dr / Mulberry St	US 441 S
25		GA 326 (Old Carnesville Rd)	US 441 S (Veterans Memorial Pkwy)
26		I-85	Ridgeway Church Rd

Source: GEARS Crash Data 2013-2018

^{*}Data within each tier are not sorted

^{**}Tier 1 indicates higher crash density (worse); Tier 5 indicates lower crash density (better)



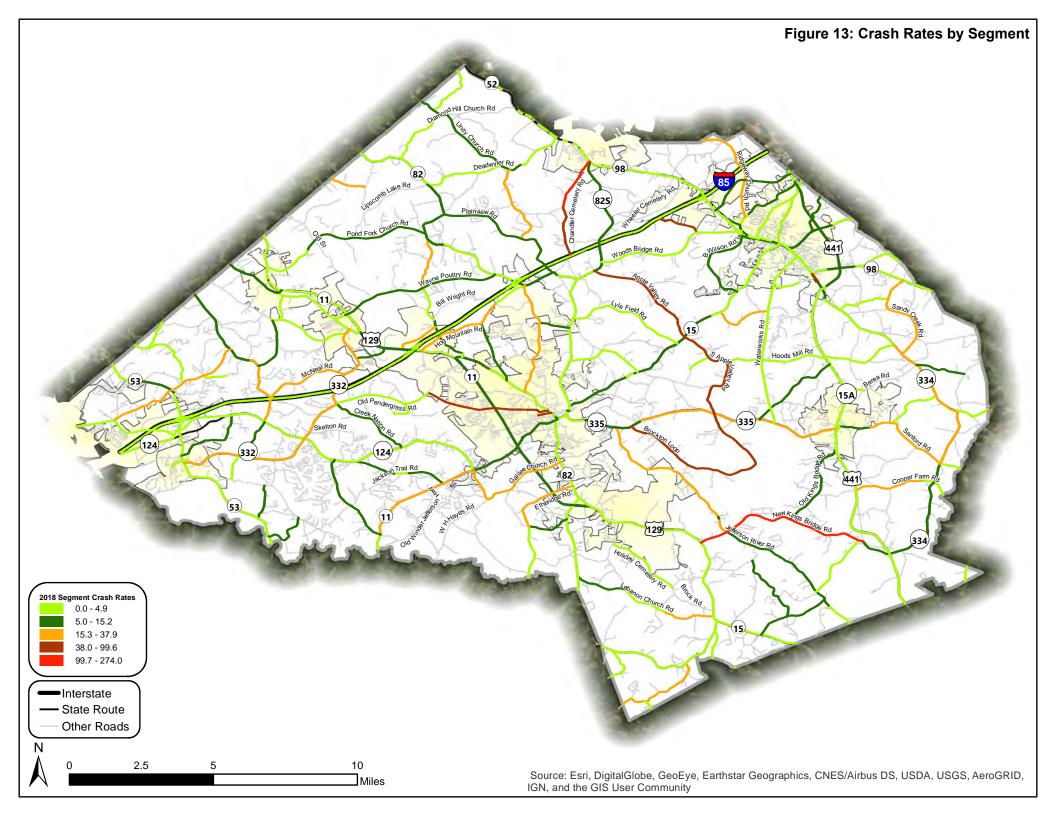
3.2 CRASH RATES

In addition to analyzing the crash hotspots based on number of crashes, a rate analysis was performed using GDOT 2017 volume data along with the 2013 – 2018 (partial) crash data. The rate analysis considers the roadway volume as well as the number of crashes in order to normalize the number of crashes. The results of the analysis show the following roadways have high crash rates:

- Apple Valley Road
- New Kings Bridge Road
- Lords Mill Road

Figure 13 illustrates the crash rates for roadways throughout the County.





3.3 BRIDGE CONDITION

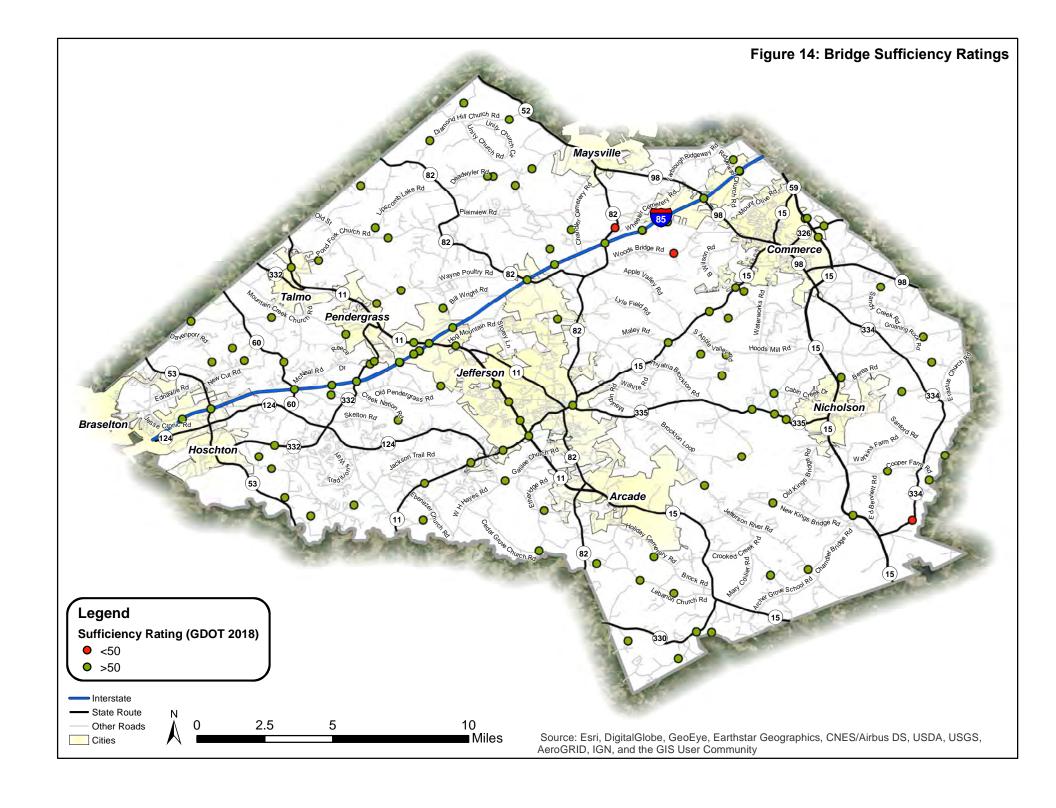
The GDOT bridge inventory dataset contains bridge sufficiency information for one-hundred and twenty-seven (127) bridges in Jackson County. While there are numerous bridges located on primary roads, there are also a significant number located on collector and arterial roads. The bridge sufficiency rating is on a scale of zero (0) to one hundred (100) with 0 being the lowest and 100 being the highest score and is used to prioritize bridges in need of maintenance or repair. In Georgia, a bridge with a sufficiency rating below 50 is considered structurally deficient (although not necessarily a threat to drivers). While the GDOT dataset shows five (5) bridges with a sufficiency rating lower than 50, the Technical Team has confirmed that two of these bridges are currently under-going or scheduled for repair. These two bridges are the following:

- Sanford Road at Sandy Creek / 2.6 miles SE of Nicholson
- Chandler Cemetery Road at North Oconee River / 7.9 miles N of Jefferson

Table 8 lists the remaining three (3) bridges and their sufficiency rating. And **Figure 14** shows these bridges on the map, shaded in red.

Table 8: Jackson County Bridges with a Sufficiency Rating < 50

Bridge Location	Sufficiency Rating
SR 334 at Sandy Creek / 11.5 miles SE of Jefferson	49.8
SR 82 Spur at North Oconee River / 6.8 miles N of Jefferson	43.0
Woods Bridge Road at North Oconee River / 3.5 miles W of Commerce	36.2



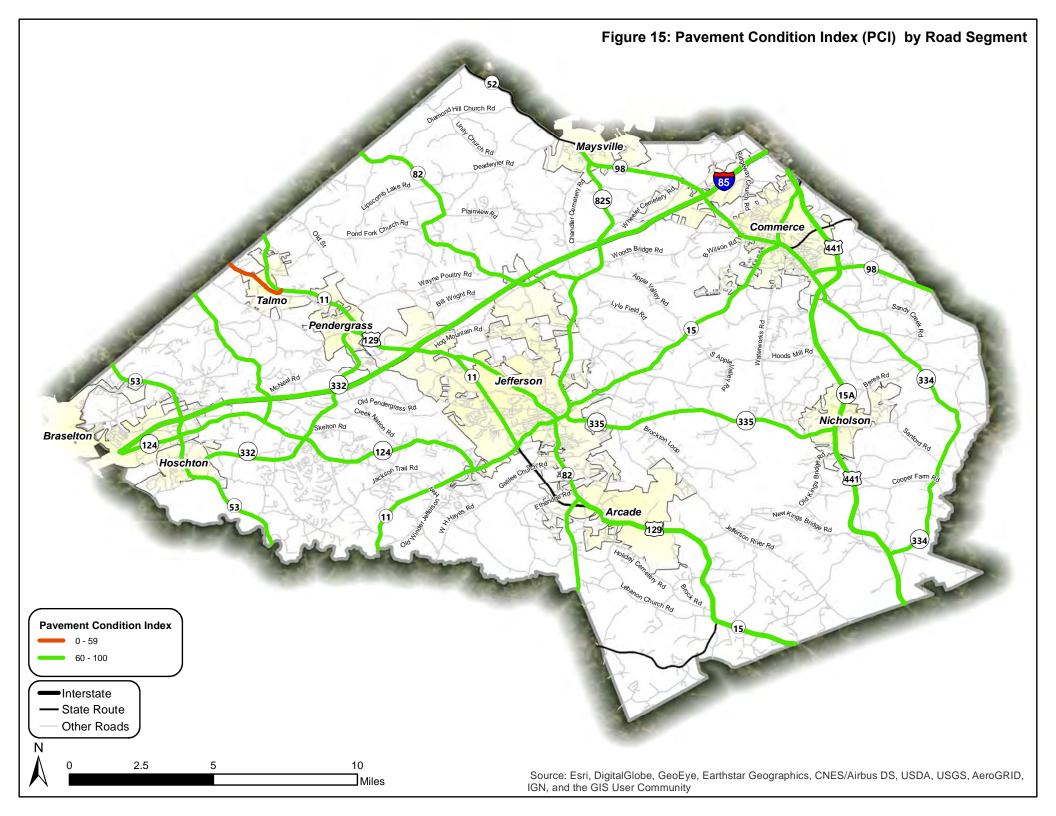
3.4 PAVEMENT CONDITION

The Pavement Condition Index (PCI) is a numerical value that identifies the need for improvement of the pavement based on regular monitoring by the Georgia Department of Transportation. The PCI value ranges from zero (0) to one hundred (100) and are based on an evaluation of pavement rutting, depressions, edge cracking, as well as other surface deficiencies 5. A rating of 60 or above indicates that the pavement is in good condition.

Based on the GDOT pavement condition dataset, **Figure 15** shows the PCI values for many of the primary roads throughout the County. Most roadways have a satisfactory PCI rating above 60. The only roadway with a PCI rating less than 60 is SR 332 located in Talmo. GDOT reports that the PCI rating for this stretch of SR 332 is 58.

⁵ See ASTM D6433-18 *Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys* https://www.astm.org/Standards/D6433.htm



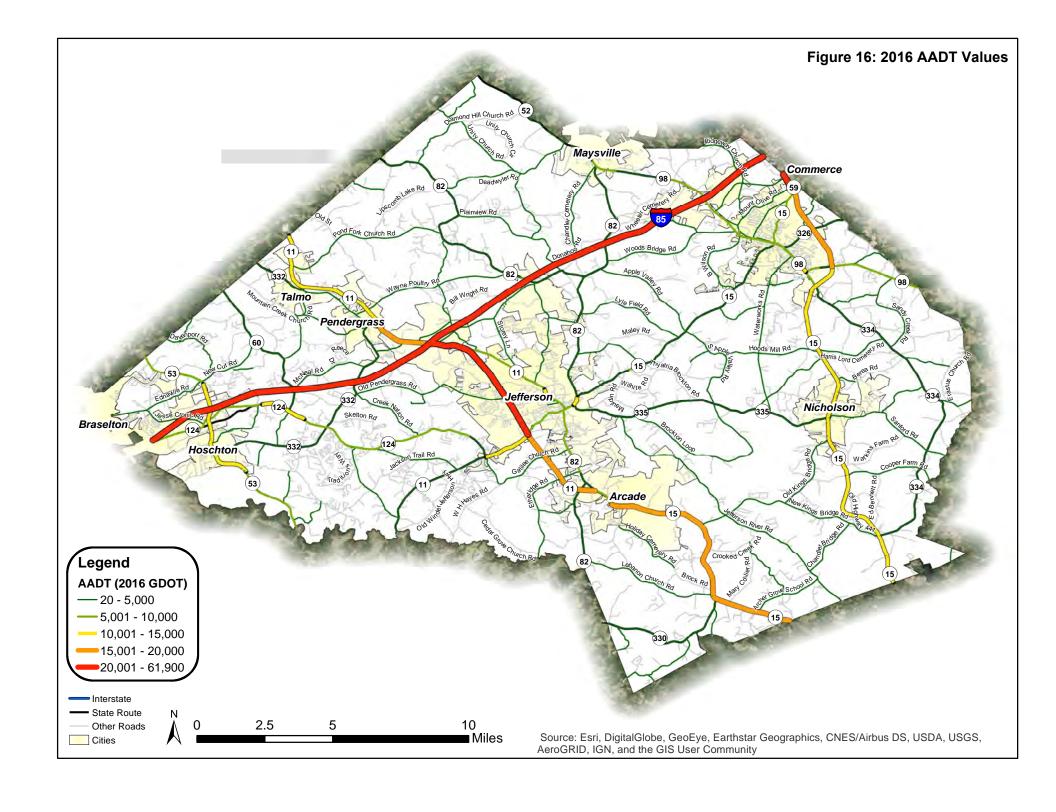


3.5 TRAFFIC VOLUMES

Traffic volumes, typically expressed as annual average daily traffic (AADT), represent the number of vehicles which travel on a road daily. Typically, tube or manual counts are preferred, but travel demand models provide better coverage of roadways and can be used to study changes based on population and employment growth. **Figure 16**, on the next page, illustrates Jackson County's 2016 AADT. As would be expected, the roadways with the highest AADT also have the highest number of travel lanes and are limited access. **Table 9** depicts the roads with the highest AADT along with starting and ending intersections.

Table 9: Jackson County Roadways AADT over 15,000

Roadway	Area of County	Location	AADT
I-85	Northern	Crosses Entire County	52,800-61,900
SR 11	Jefferson	I-85 to Winder Hwy	22,300-25,000
SR 15/US 441	Commerce	US 441 Business to County Line	23,000
GA 11	Jefferson – Arcade –	Winder Hwy to County Line	15,700-18,300
Connector/GA 15	Southeast portion of the		
Alt	County		
US 441	Commerce	County Line to Ila Road	17,700
GA 331/US	West of I-85 / South of	Old Gainesville Hwy to I-85	18,700
129/SR 11	Pendergrass		



3.6 LEVEL OF SERVICE

Level of Service (LOS) provides an indication of traffic conditions. LOS ranges from A to F, with A representing unrestricted flow, and F representing heavy congestion. **Figure 17** illustrates the LOS concept and the general conditions for each facility type.

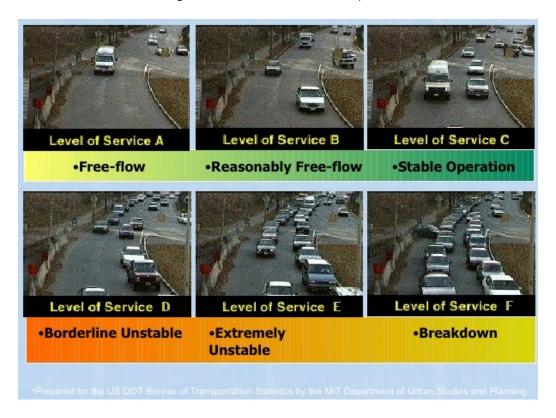


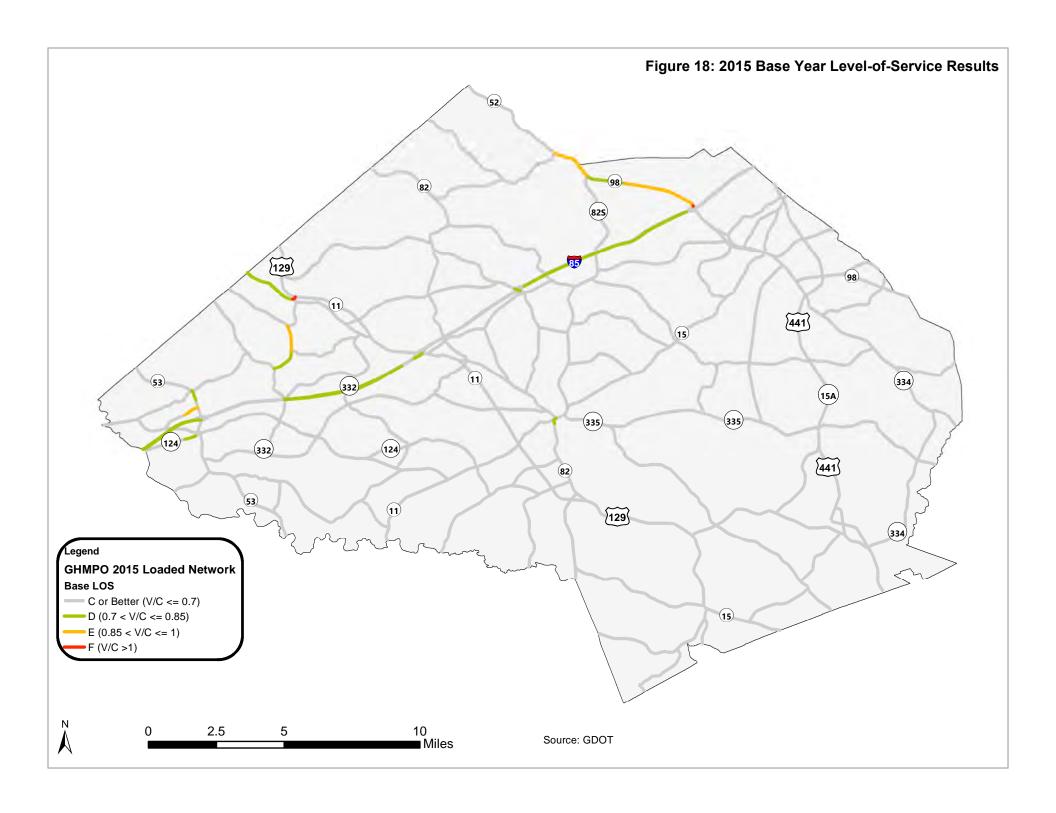
Figure 17: Level of Service Description

The LOS was calculated based on the modeled volume-to-capacity (V/C) ratios. The V/C compares the number of vehicles on a section of roadway to its respective capacity. As more vehicles use the roadway, the speed is reduced and travel speeds decrease. Though conceptually a V/C greater than one (1.0) would not be possible, V/C's greater than one (1.0) are calculated by the travel demand model and indicate extreme congestion and poor LOS.

The travel demand model used for this project is the GDOT Gainesville-Hall MPO (GHMPO) model, which was developed as part of the previous 2015 GHMPO RTP Update. The 2015 GHMPO model has proved to have some limitations for Jackson County, specifically regarding several roadway links that have volumes that appear to be too high and are not representative of actual daily volumes. **Figure 18** shows the 2015 base year Level of Service. There are sections of I-85 and SR 53, in the western portion of the County, that have a Level of Service D. Additionally SR 124 just south of I-85 and Braselton Parkway, just north of I-85, also report a LOS D.

Based on the travel demand model results, roadways near Talmo and Maysville show LOS values in of D, E, and F. The Technical Team believes these latter LOS results are not fully representative of the specific rural segments within these segments of the County. Upon further review of the GDOT travel demand model, the roadway capacities coded into these links appears to be unrealistic leading to the unrealistic LOS results. Since the resources were not available with this study to fully re-do the travel demand model, the Technical Team agreed that the model results would be used strategically knowing the issues associated with certain coded roadway capacities. With that said, these areas of growing and will have increased truck traffic in coming years as a result of the new inland port in Hall County, which will be incorporated into the full update of the GHMPO travel demand model for the 2020 RTP update.





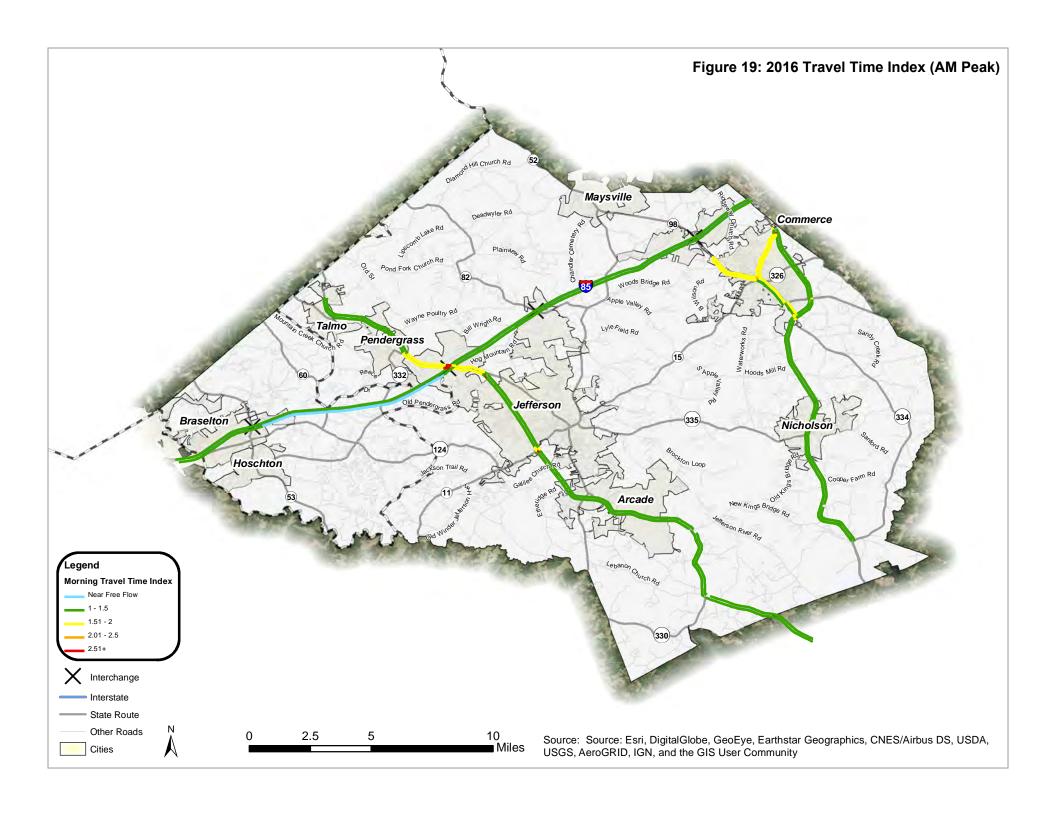
3.7 TRAVEL TIME INDEX

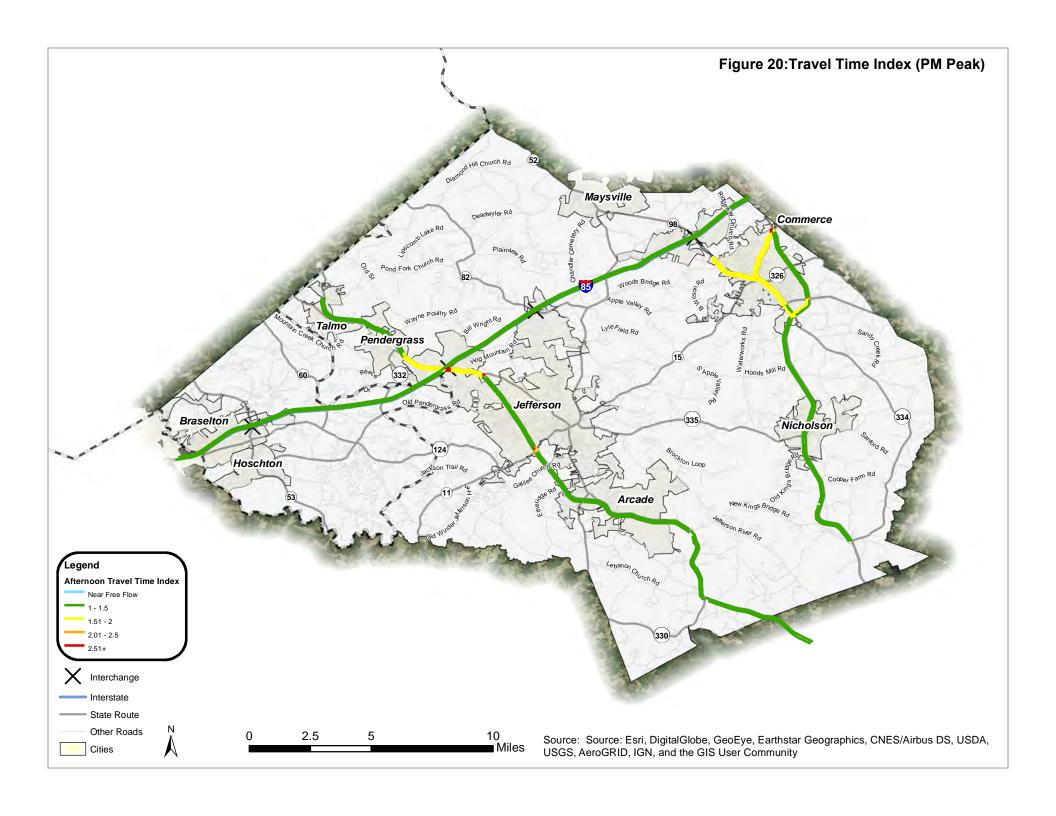
Travel Time Index (TTI) is a method of quantifying the difference in time between free flow and peak traffic conditions and is a part of the National Performance Management Research Data Set (NPMRDS) The Bureau of Transportation Statistics describes TTI as "the ratio of travel time in the peak period to the travel time at free-conditions." Free-flow conditions are represented by "1", where anything greater than "1" represents a slower travel time and greater TTI. A Travel time of 2.0 would indicate travel that is taking twice as long as normal free-flowing traffic through a segment. This dataset primarily contains information for the national highway and interstate systems which prevents it from showing all locations of increased travel time. Most of the available roadways have TTIs less than 1.5 representing generally good traffic flow. **Figure 19** and **Figure 20** illustrate the TTI for the morning and afternoon/evening periods throughout 2018. The peak hours have been defined as the following:

- Morning Peak Period 6AM to 10AM
- Afternoon Peak Period 3PM to 7PM

The majority of the monitored Travel Time Index network appears to be performing well, except for selected road segments within the urbanized areas. Using the data from 2017, the AM and PM TTI travel conditions are very similar, the major areas with indicated slowdowns are as follows:

- US 129 / SR 11 Intersection with I-85
- US 129 / SR 11 Intersection Business US 129
- US 98 / Elm Street
- SR 15 / Homer Rd





3.8 BOTTLENECKS

The NPMRDS - INRIX dataset provides information regarding traffic bottlenecks or intersections that have a history of recurring congestion. The bottlenecks are calculated based on an impact factor as shown below.

Impact Factor = Average duration of congestion * Maximum length of congestion queue * Number of occurrences

Figure 21 below depicts how the base impact and congestion measures are developed through the INRIX data analysis.

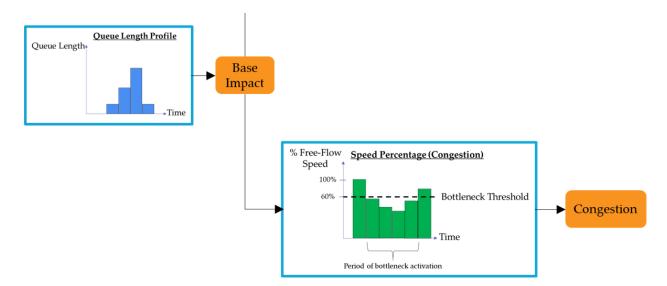


Figure 21: INRIX Base Impact and Congestion Measure Diagram

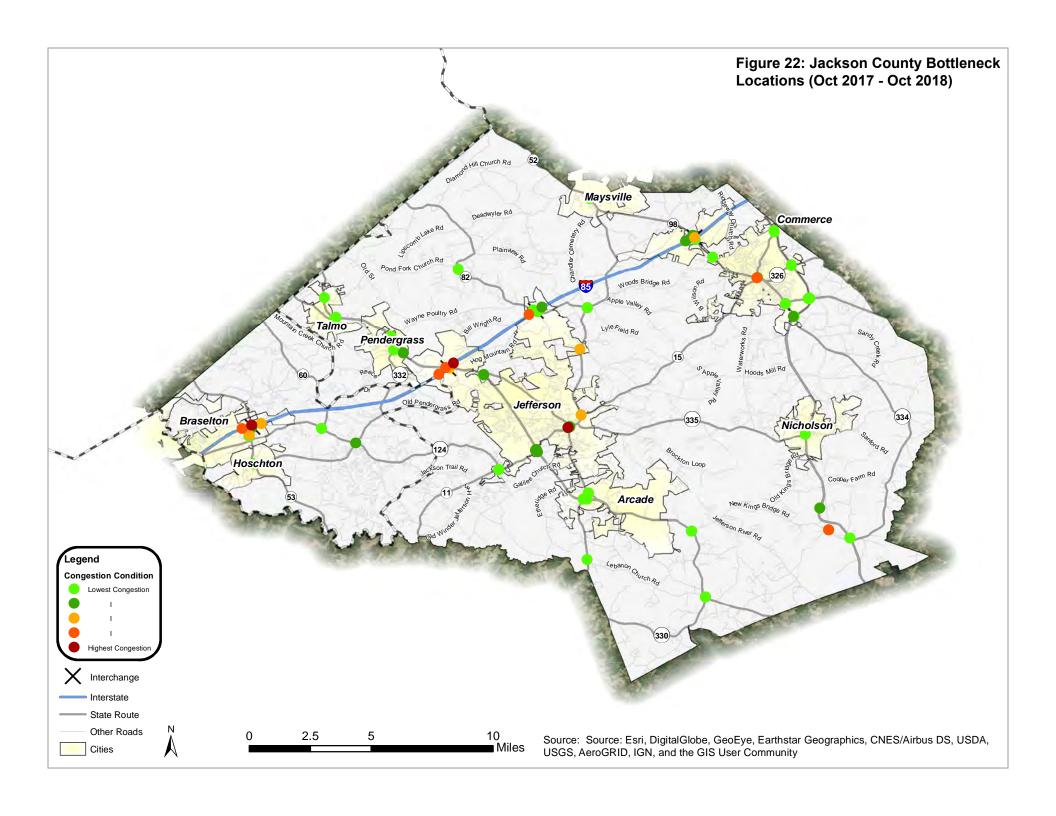
Source: INRIX Probe Data Analytics Suite

The INRIX bottleneck data was collected for 12 months between October 2017 and October 2018. Therefore, the statistics, including the number of occurrences, reflect conditions over that time period. Often there are multiple instances of an intersection in the INRIX data based on the nature of the roadway network and how INRIX's algorithms identify bottlenecks. INRIX uses the term Base Impact (sum of que lengths over the duration of the bottleneck) to rank the intersections within the County. **Table 10** displays the top ten bottleneck areas in the County.

Table 10: Top 10 Bottleneck Locations Ranked by Base Impact Factor

Rank	Location	Base Impact Factor	Average Maximum Queue Length (Miles)	Average Daily Duration	Number of Occurrences
1	GA-53 W @ I-85/GA-403	87,051.36	0.67	5 h 30 m	6
2	GA-82/US-129 BUS/GA-15 ALT S @ GA- 11 BUS/LEE ST	70,361.18	0.5	7 h 42 m	7
3	I-85 N @ GA-63/MARTIN BRIDGE RD/EXIT 154	49,345.10	9.16	19 m	1,245
4	GA-98 E @ US-441 BUS/GA-15 ALT/SHORT ST	47,713.40	1.83	1 h 07 m	5
5	US-441 S @ CR-432/NEW KINGS BRIDGE RD	42,813.90	1.11	1 h 40 m	6
6	US-129 N @ I-85/GA-403	40,213.61	1.36	1 h 15 m	43
7	I-85 N @ US-129/GA-11/EXIT 137	36,603.75	8.23	10 m	812
8	US-129 S @ I-85/GA-403	27,479.20	0.88	1 h 18 m	85
9	GA-82 S @ US-129 BUS/GA-11 BUS/GORDON ST	25,674.18	0.61	1 h 47 m	7
10	I-85 S @ GA-53/EXIT 129	24,444.90	8.16	7 m	372

Utilizing INRIX data, congestion/traffic bottleneck locations have been categorized in order of severity. **Figure 22** below was developed through the analysis of the road network between October 2017 and October 2018 showing areas of bottlenecking throughout the County. The point locations on the map are intended to show approximate areas of congestion but do not show the exact location as this will vary throughout the year. This data allows for the identification and prioritization of individualized studies to determine the cause and possible remedies for areas of higher congestion and bottlenecking.



3.9 FREIGHT CONDITIONS

Freight is an important component of this project due to the increasing volume of truck traffic traveling into and out of the Atlanta region and specifically the growth of warehouses and distribution centers in Jackson County. The expansion of the Port of Savannah coupled with the inland port in Hall County, expected to open in 2021, will only serve to increase the amount of freight traffic on Jackson County roads.

There are currently projects listed in the Statewide Transportation Improvement Program (STIP) which will have positive ramifications for truck traffic, including the following:

- Short-Term (2018-2023)
 - GH-109: I-85 Widening (SR 211 to SR 53)
 - GH-110: I-85 Widening (SR 53 to SR 11/US 129/Lee St)
- Mid-Term (2024-2032)
 - GH-102: I-85 at SR 60 New Interchange
 - GH-111: SR 60/Candler Road Widening from SR 124 to I-985 (Hall Co.)
- Long-Term (2033-2042)
 - GH-040: SR 53 Widening from I-85 to SR 211 (Hall Co.)

Additionally, Jackson County currently has 309 truck parking spaces, as determined through *the Atlanta Regional Truck Parking Assessment Study* completed by the Atlanta Regional Commission (ARC) in 2018. Within Jackson County, trucks are often parked on interstate ramps and in strip shopping mall parking lots, indicating there is a disconnect between drivers and potential truck parking facilities within Jackson County. This is an issue that many counties across metro Atlanta and Georgia are facing and needs to be addressed with the increase of freight traffic related to new industrial / manufacturing centers as well as the inland port. The following strategies were developed as part of the *Truck Parking Assessment Study*, some of which are directly applicable to the dynamic truck parking challenges within Jackson County.

- Add / expand truck parking supply
- Develop truck parking policies
- Develop truck parking partnerships
- Improve sharing of truck parking information
- Monitor / integrate future technology

CHAPTER 4 ASSESSMENT OF FUTURE NEEDS

4.0 ASSESSMENT OF FUTURE MOBILITY

Future travel conditions for Jackson County were assessed using the travel demand model for the Gainesville-Hall Metropolitan Planning Organization (GHMPO). The travel demand model incorporates 2015 base year and 2050 future year. The socio-economic (SE) data input parameters for the model include population, households, employment and student enrollment. The SE data is entered into the model using specific geographic areas, designated Traffic Analysis Zones (TAZs) with boundaries such as major roads or environmental features, such as creeks and streams.

Table 11 presents the SE data control totals for 2015 and 2050 within Jackson County.

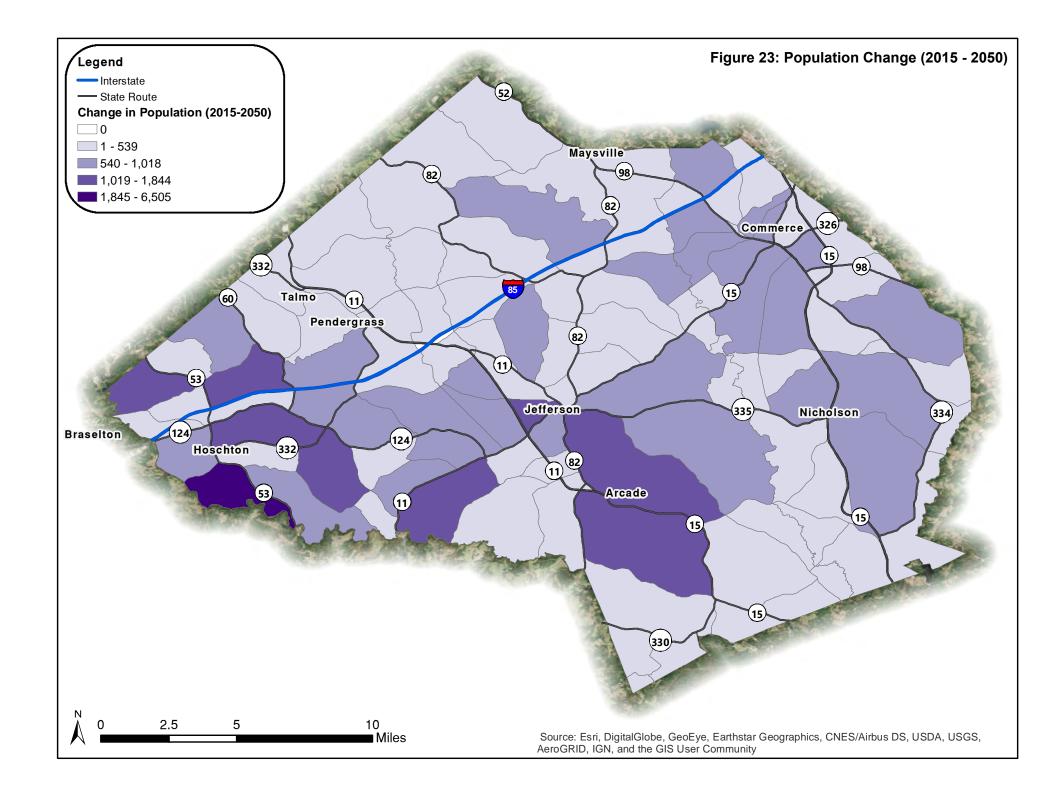
Table 11: Summary of 2015 and 2050 SE Data Control Totals

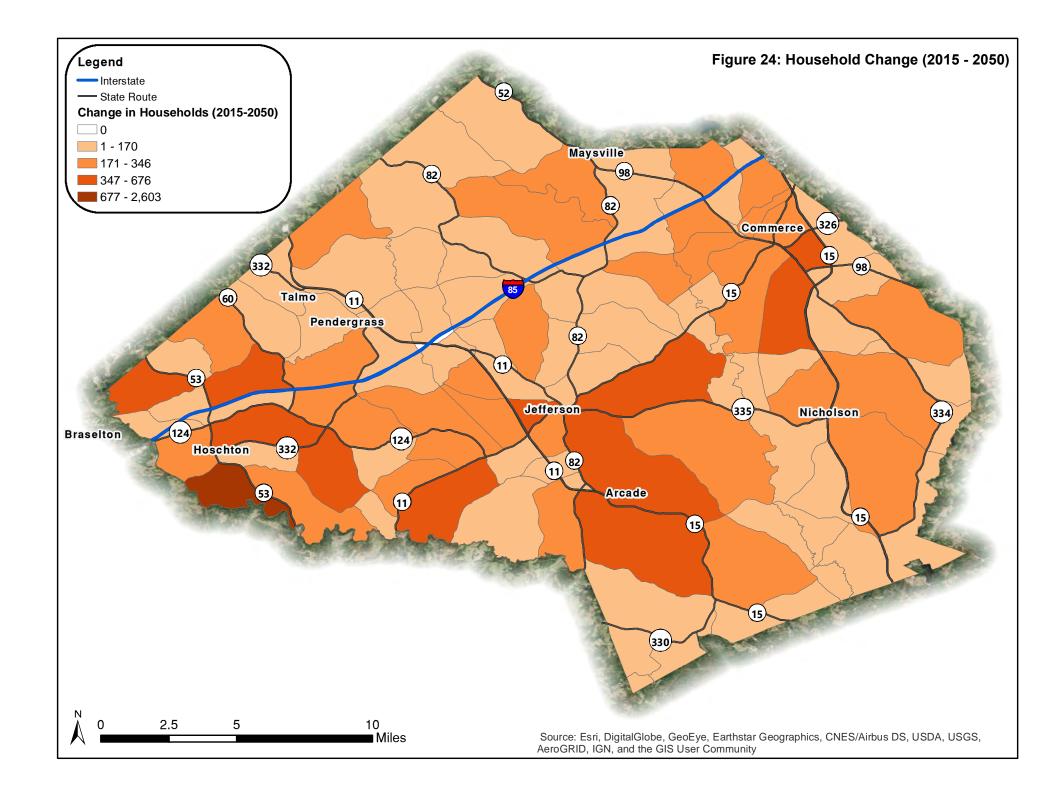
Year	Population	Households	Employment
2015 Base Year	62,208	24,248	27,162
2050 Future Year	114,752	47,252	35,743
2015 to 2050 Change	+ 52,299	+ 22,522	+ 8,686

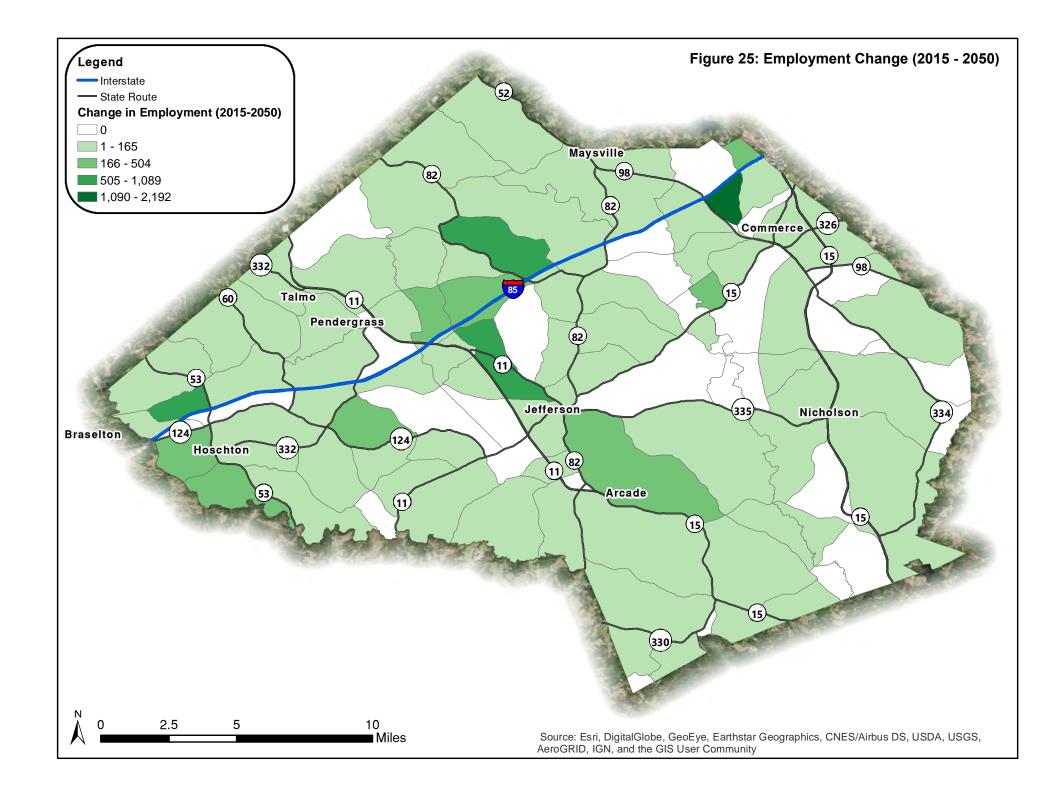
The SE data control totals show estimated increases in population of 52,299 people (84.5% increase), 22,522 (94.9% increase) in additional households and 8,686 (31.6% increase) in additional jobs.

Figures 23 through **25** present the change in population, households and employment between year 2015 and year 2050. Socio-economic development memos for the 2015 and 2050 SE data are presented as **Appendix B**.

As part of the development of the 2050 RTP update for GHMPO, the final SE data approved by the technical committee was submitted to GDOT for review and incorporation into the regional GHMPO model.





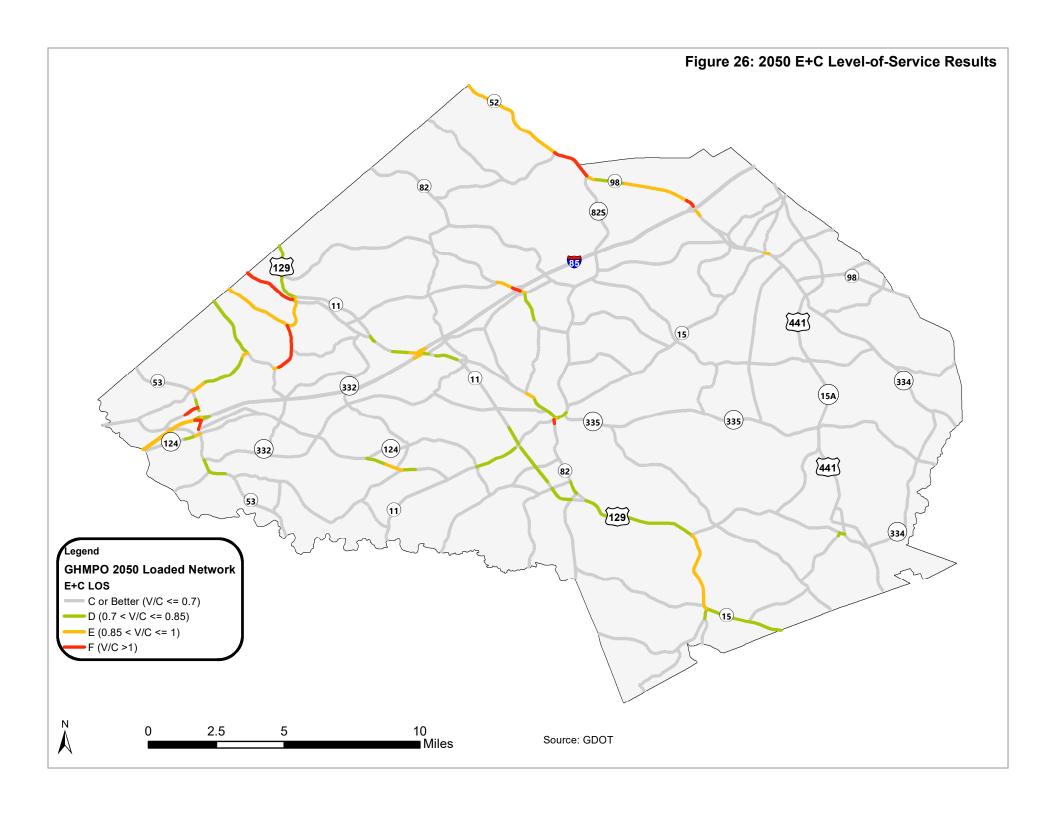


4.1 TRAVEL DEMAND MODEL RESULTS

Like the assessment of the existing conditions, the 2050 SE data was incorporated into the GDOT model similarly to assess future congestion. The model network comprised of roadway segments was updated to account for projects designated as Existing + Committed (E+C). The E+C projects are those that have been constructed, under construction or have right-of-way funded through year 2021.

The model was run using the 2050 SE data and the E+C roadway network with results presented as **Figure 26**. As indicated in Chapter 3, the 2015 model the results for the 2015 base year model exhibited a few segments with questionable results, particularly near Talmo and Maysville that appear to be the result of inaccurate road capacities incorporated into the initial model development. Total overhaul of the model was not feasible for the plan update, so the Technical Committee agreed to use the results sparingly.

Except for the segments discussed, the travel demand model results for the 2050 E+C scenario show a few minor areas of congestion at LOS E and even fewer locations at LOS F. The locations depicting LOS F are primarily associated with several interchanges along I-85 including SR 53, Holly Springs Road/Jett Roberts Road, and SR 98/Maysville Road as well as within downtown Jefferson along SR 82 Business / Athens Street.



4.2 PROJECT DEVELOPMENT AND PRIORITIZATION

The project development process for the Jackson County Transportation Plan was completed over the life of the study. The initial project list was developed by reviewing previous and existing plans including the 2008 Jackson County Transportation Plan. The list was further refined and modified based upon extensive input received from the study Technical Committee.

During the project evaluation process, the Technical Committee met several times with various planning partners, including the Jackson County Economic Development Office, staff from Jackson County Transit, and representatives from District One of the Georgia Department of Transportation (GDOT). The following lists the intersections that have recently been studied or assessed by GDOT.

- SR 11/Winder Highway at Lewis Roberts/Ebenezer Church Road
- US 129/SR 11/Jefferson Bypass at Old Swimming Pool
- US 441/SR 15 at SR 98 / Ila Road
- US 441/SR 15 at Hoods Mill Road
- US 129/SR 11/Jefferson Bypass at Old Pendergrass Road
- Jackson Trail Road at Gum Springs Church Road
- I-85 Interchange at SR 82/Dry Pond Road
- US 129/SR 15 at SR 330
- SR 82/Dry Pond Road at Jett Roberts Road
- US 129/SR 15 at New Kings Bridge Road
- SR 11/Winder Highway at SR 124/Galilee Church Road

Appendix C includes a summary of project information received from GDOT for the above listed intersections.

Additionally, the study team reviewed recommendations proposed by various applicants of planned Developments of Regional Impact (DRIs) and other major developments. These locations are summarized in **Table 12**.

Table 12: Summary of Proposed Jackson County DRIs

Year	DRI Number, Name Description				
2011	DRI #2213: Arcade Meadows Master Plan				
2013	DRI #2368: Commerce Center (Walton Communities with Paulson Mitchell, Inc.)				
	DRI #2687: Jackson-85 Distribution Center				
	DRI #2711: Circle K at Dry Pond Road at Jett Roberts				
	DRI #2728: Dry Pond Road Site				
2017	DRI #2729: Hog Mountain Rd at Possum Creek Rd Industrial Site for Trammel Crow				
	Company				
	DRI #2753: Braselton Logistics Center Phase II				
	DRI #2781: Chateau Village Braselton				
	DRI #2787: Commerce Light Industrial Site for Wood Commerce Group (SK)				
2018	DRI #2790: Speedway Truck Stop Development				
	DRI #2816: Jackson Logistics Center Wayne Poultry Road in Pendergrass				

Appendix D includes a summary of proposed recommendations for the planned DRIs and major developments. The DRI recommended projects have been incorporated into the study recommendations.

4.2.1 Project Prioritization Methodology

A project prioritization methodology was developed by the study team in coordination with the Technical Committee. This methodology relies on the interpretation of the available data and was applied objectively to the proposed Jackson County projects excluding those planned and programmed by GDOT.

The methodology was developed to provide a quantitative baseline for the project evaluation process. Other qualitative information including local knowledge and citizen input were also considered in the overall prioritization process.

Each of the projects was prioritized using available information. These data points provided for an objective data-driven evaluation that were combined to develop the specific methodology to develop the recommended project needs by Tier. The following metrics and representative scoring values were included in the final project prioritization methodology.

- **Problem Intersection** (2 Points): Locations identified through Technical Committee input and operational data.
- **Fatal Crash Location** (2 Points): Locations where vehicle crashes have resulted in one or more fatalities
- **Injury Crash Location** (1 Point): Locations where vehicle crashes have resulted in one or more injuries.

- **Top Crash Location** (2 Points): Locations with the highest frequency of historic crashes.
- **AADT** (0.5 Points): Projects along roadways with an Annual Average Daily Traffic (AADT) over 10,000 vehicles per day where identified for their higher volumes.
- **Development Connection** (0.5 Points): These projects have the potential to influence or positively impact development within the County. Projects connecting cities, commercial/industrial land uses and known developments were included.
- **Survey Comments:** Although not assigned a score, comments received from the study survey were also evaluated and incorporated into the project evaluation and prioritization process. A summary of the outreach program is included in the following pages with details included in **Appendix E**.

Each potential project was evaluated with points assigned based upon the above metrics. The points were then tallied to determine the rank of the specific project. Projects were then grouped by the total points, with those having the most points falling into Tier 1, followed by Tier 2, and then Tier 3 having the lowest ranking. The numeric demarcations for the three tier levels are presented below.

- Tier 1: Point total greater than 6.5
- Tier 2: Point total between 3.5 and 6.5
- Tier 3: Point total less than 3.5

GDOT Planned and Programmed Projects have not been scored and are presented separately due to their planning and funding status as part of GDOT's State Transportation Improvement Program (STIP). **Chapter 5** includes a summary of the study recommendations.

4.2.2 Technical Committee Coordination

The study team coordinated extensively with the Technical Committee and additional planning partners throughout the development of the project, including representatives from the following jurisdictions:

- Jackson County
- GHMPO
- City of Jefferson
- Town of Braselton
- City of Commerce
- City of Hoschton
- City of Pendergrass
- City of Talmo
- City of Arcade
- City of Nicholson

The study team conducted 14 meetings over the 12-month study period meeting monthly with the Technical Committee. Specific meeting dates are listed below with meeting minutes included as **Appendix F**.

- July 11, 2018
- August 08, 2018
- August 20, 2018 Meeting with City of Jefferson
- September 12, 2018
- October 03, 2018
- November 14, 2018 (including meeting with Adjacent Jurisdictions)
- December 12, 2018
- January 09, 2019
- February 13, 2019
- March 13, 2019
- April 10, 2019
- April 24, 2019 Meeting with GDOT District One Staff
- May 24, 2019 Follow-Up Meeting with GDOT District One Staff
- June 12, 2019

The study team and Technical Team also met with GDOT District One on three occurrences (October 3, 2018, April 24, 2019 and May 24, 2019) to discuss GDOT specific facilities and past studies conducted by the Department. The Technical Team also met with representatives from the adjacent jurisdictions on November 14, 2018 to better understand transportation needs and proposed improvements near the borders of Jackson County. Minutes of these meetings are also included within **Appendix F**.

4.2.3 Elected Official Coordination

The study team presented periodic updates to elected officials within Jackson County during the study. Specifically, interim status presentations were given to the Mayors of the municipalities within Jackson County, the Jackson County Commission and the steering committee for the City of Jefferson Comprehensive Plan on the following dates:

•	Jackson County Mayor's Luncheon	March 4, 2019
•	Jackson County Commission	March 4, 2019
•	Jefferson Comprehensive Plan Steering Committee	March 18, 2019

The study team presented the results and recommendations of the study to the elected officials of Jackson County and the Cities of Commerce and Jefferson on the following dates:

•	City of Commerce	July 1, 2019
•	Jackson County Commission	July 15, 2019
•	City of Jefferson	July 22, 2019

4.2.4 Public Outreach Program

The outreach effort completed for the Jackson County Transportation Plan was one of the most comprehensive in the County's history. The program included an extensive online program as well as inperson events.

4.2.4.1 Online Component

The interactive survey utilized for the Jackson County Transportation Plan provided respondents the opportunity to both "show" and "tell" the study team about known transportation challenges as well as recommend potential improvements to mitigate those deficiencies. The "show" component of the survey included a mapping component where respondents could drop pins and identify locations and issues of concern. The "tell" component included various multiple choice and open-ended questions.

The survey was advertised and published using modern technological features such as geofencing and online applications such as Facebook®, Twitter® and Instagram® over approximately three (3) months during fall 2018. The response to the survey exceeded expectations with nearly 1,000 participants providing just under 12,000 responses including over 650 written comments. **Table 13** summarizes the survey participation statistics with specific details provided within **Appendix E**.

Table 13: Survey Participation Results

Participation Element	Involvement Level
Views	13,683
Individual Responses	11,799
Survey Participants	951
Written Comments	658
Subscribers	163

4.2.4.2 Outreach Events

The outreach program for the Jackson County Transportation Plan also included several in-person events to help spread the word about the study and advertise the online survey. Members of the study team attended the following three (3) events in the fall 2018:

• Bands, Brews, and BBQ: October 20, 2018

A project booth was set up during the Bands, Brews, and BBQ Festival held on Main Street in Commerce, GA. This event catered to the citizens and stakeholders living in Jackson County Commission Districts 1 and 4. The project team spoke to approximately 70 participants and handed out 55 project postcards and business cards.



Fretting the Foothills Festival - October 20, 2018

A project booth was set up at the Fretting the Foothills Festival on Braselton's Town Green. This event catered to the citizens and stakeholders living in Jackson County Commission District 3. The project team spoke to approximately 40 participants and handed out 60 project postcards and business cards.



Jackson County/City of Jefferson Employee Health Fair: October 25, 2018

A project booth was set up at the Jackson County and City of Jefferson Health Fair in Jefferson, GA. This event catered to Jackson County employees living and working in Commission District 2. The project team spoke to approximately 250 participants and handed out 150 project postcards and business cards.



Additional details and results of the outreach for the study including responses and findings are summarized in **Appendix E**.

CHAPTER 5 RECOMMENDATIONS

The study recommendations are presented within this chapter organized by mode including roadway improvements, non-motorized transportation facilities and transit service.

5.1 ROADWAY IMPROVEMENTS

The recommendations for roadway infrastructure serving licensed road vehicles including automobiles, trucks and motorcycles have been grouped into the category of "roadway improvements". Specific projects within this group include:

- New roadways
- Roadway extensions
- Roadway realignments
- Intersection realignments
- Intersection operational improvements
- Bridge projects

Within the roadway improvement group, projects have been developed and assessed in two sub-groups based primarily upon facility control and previous planned, programmed and funded projects. These two groups include:

- **Georgia Department of Transportation (GDOT) Planned and Programmed Projects** Those projects on interstates, state roads and/or local bridges with previous GDOT funding
- **Jackson County Ranked Projects** Other projects recommended by the Technical Committee incorporating local knowledge, technical assessment and public input. These projects have also been ranked into the following three (3) tiers:
 - o Tier 1 Greatest Need
 - Tier 2 Moderate Need
 - Tier 3 Lesser Need

For convenience, the recommended projects have been split into "linear" and "point" projects for road segment projects and intersection/interchange/bridge projects, respectively.



Tables 14 through **19** and **Figures 27** through **30** present the recommended projects. **Appendix G** includes detailed project costs for the recommended projects.

Table 14. Jackson County Tier 1 Point Projects

	r 1 Point Project ID and Description	Project Type	Tier 1 Recommendations	Construction ⁶ Cost Estimate
9P	I-85 at SR 98/Maysville Rd	Intersection Improvement	Short-range: Signage improvements, potential access management improvements. Mid-to-long-range: Intersection reconstruction to accommodate demands from SK and other developments.	\$50,000
11P	US 441/SR 15 at SR 98/Ila Road	Intersection Improvement	Per GDOT TE Study (Oct. 2018), left turn phase improvements are recommended including a leading left turn phase for the US 441/SR 15 southbound approach and a lagging left turn for the SR 98 westbound approach. Signal improvements on GDOT's list to complete.	\$10,000
15P	US 129 / SR 11/ Jefferson Bypass at Old Pendergrass Rd	Intersection Improvement	Per GDOT evaluation (Nov. 2017), a lagging left turn phase from southbound US 129/Jefferson Bypass was recommended and installed. City of Jefferson has developed a concept for an RCUT on Old Pendergrass Road just west of US 129 removing crossover between CVS and Kroger. City should coordinate with GDOT with implementation of improvement.	\$250,000
36P	I-85 at US 129	Interchange Study	Coordination between GDOT, Jackson County and City of Jefferson to implement GDOT recommended improvements.	\$100,000
41P	US 441/SR 15/Veterans Memorial Parkway and Allen Road	Intersection Improvement	Implement GDOT recommendations; assess need to remove right-turn channelization such that the right-turning traffic is required to stop at the intersection before turning.	\$100,000
51P	Dry Pond Road at Jett Roberts and Horace Head Rd (plans completed for Circle K)	Roundabout	Per DRI #2711 (Sept. 2017), no improvements needed but to continue monitoring intersection. DRI #2687 (June 2017) completed for the Jackson-85 Distribution Center (just north of I-85 off Holly Springs Road) stated that the Dry Pond / Jett Roberts intersection warranted a signal. A roundabout concept has been developed by Circle K for the intersection and recommended.	\$700,000

⁶ Cost estimates include construction costs only; except for studies



Table 15. Jackson County Tier 2 Point Projects

Tier 2 Point Project ID and Description		Project Type	Tier 2 Recommendations	Construction Cost Estimate
5P	SR 11/US 129/Jefferson Bypass at Old Swimming Pool Rd	Intersection Improvement	Per GDOT TE Studies (Jun 2017 and Nov 2018), a traffic signal is not warranted at this intersection; however, an RCUT is recommended. Coordinate with GDOT to discuss merits of RCUT will local officials and stakeholders.	\$250,000
6P	Hog Mountain Rd / Storey Lane	Intersection Improvement	Evaluate feasibility of roundabout or alternative improvement to correct horizontal skew	\$2,547,250
8P	I-85 at SR 82 Spur	New Interchange	Complete Interchange Access Report (IAR)	\$250,000
10P	US 441 / State Street (in Commerce)	Intersection Improvement	Conduct signal warrant analysis to determine if full signalization is required.	\$50,000
12P	US 441/SR 15 at Hoods Mill Rd	Intersection Improvement	Per GDOT TE Study (Apr. 2017), a traffic signal is not warranted; however, flashing traffic beacons and an RCUT are both recommended. Beacons have been installed. RCUT has received resistance from school officials. Coordinate with GDOT to meet with school officials to discuss benefits of RCUT and/or evaluate other improvements.	\$250,000
37P	US 129/Jefferson Bypass and Winder Hwy	Intersection Improvement	School entrance is very close to US 129 bypass. Circulation analysis should be evaluated. Possible installation of RCUT / right-in-right out or signal warrant analysis.	\$1,876,800

Table 15. Jackson County Tier 2 Point Projects

Tie	er 2 Point Project ID and Description	Project Type	Tier 2 Recommendations	Construction Cost Estimate
38P	Jefferson Bypass and GA 82	Intersection Improvement	Add turn lanes and conduct signal warrant analysis.	\$1,500,000
39P	Lee Street/Sycamore Street and US 129 Business / Washington Street / Gordon Street	Intersection Improvement	Several comments about congestion and some regarding parking and circulation. Conduct parking and circulation study.	\$10,000
40P	Jefferson Street/Homer Road (SR Alt 15) and North Elm Street/North Broad Street / SR 98	Intersection Improvement	Conduct signal timing analysis	\$13,800
42P	Mt Olive Road and State Route 15/US Highway 441/Homer Road	Intersection Improvement	Signal warrant analysis and access management improvements	\$250,000
43P	I-85 Interchange at SR 82	Interchange Study	Per GDOT safety review, (Feb. 2019), several interchange improvements were identified: 1) NB & SB off ramps from yield to stop-controlled; 2) Reduce speed limits; 3) install lighting; 4) Realign Bill Wright Road with Logistics Center Parkway; 5) Re-profile roadway. Several DRIs are either constructed, under construction or proposed within vicinity of interchange area with inconsistent recommendations. Cumulative impacts of all proposed developments should be evaluated in coordination with intersection.	\$500,000

Table 16. Jackson County Tier 3 Point Projects

	Tier 3 Point Project ID and Description	Project Type	Tier 3 Project Recommendations	Construction Cost Estimate
2P	SR 332 / Old Pendergrass Rd. / Creek Nation Rd.	Intersection Improvement	Evaluate feasibility of roundabout or alternative improvement to correct horizontal skew	\$2,547,250
4P	SR 11/Winder Hwy at Lewis Roberts/Ebenezer Church Road	Intersection Improvement	Per GDOT Traffic Engineering (TE) Study (Feb. 2017), GDOT plans to program a project at this intersection to improve sight distance. Likely needs right-of-way and detailed Project Justification Statement submitted to GDOT Planning.	\$1,250,000
7P	Holly Springs Rd/SR 82 at Lipscomb Lake Rd	Intersection Improvement	Monitor safety and operations; potential future roadway realignment; however, cemetery is present on west side.	\$250,000
16P	SR 319/Etheridge Road at Middle Oconee River 5.4 mile south of Jefferson (Bridge ID 157-0023-0). Bridge is posted.	Bridge	Coordinate with GDOT regarding replacement	\$3,500,000
19P	SR 124 at Gum Springs Church Rd Intersection Improvement	Intersection Improvement	Construct additional thru lane along eastbound and westbound approaches of SR 124. Optimize signal timings in year 2030.	\$2,500,000
21P	SR 11/Winder Highway at Gum Springs Church Rd Intersection Improvement	Intersection Improvement	Evaluate need for signage and/or warnings to alert drivers traveling southbound on Winder Hwy / SR 11 about traffic entering at intersection of Gum Springs Church Road / Old Mill Road intersection	\$5,000
24P	County Farm Rd at SR 82 Intersection Improvement	Intersection Improvement	Potential realignment and signal warrant analysis.	\$300,000
26P	SR 53 at Jackson Trail Road Intersection Improvement	Intersection Improvement	Evaluate as part of Hoschton/Braselton Bypass Study (Project 33L)	

Table 16. Jackson County Tier 3 Point Projects

	Tier 3 Point Project ID and Description	Project Type	Tier 3 Project Recommendations	Construction Cost Estimate
27P	SR 82 Spur at Maley Road	Intersection Improvement	Potential realignment and signal warrant analysis.	\$300,000
29P	SR 11/Winder Highway at Jackson Trail Road Intersection Improvement	Intersection Improvement	Evaluate feasibility of roundabout or alternative improvement to correct horizontal skew	\$3,500,000
47P	New Kings Rd and Old Hwy 441	Intersection Improvement	Correct horizontal skew in roadway alignment	\$250,000
48P	US 129/SR 15 at SR 330	Intersection Improvement	Per GDOT TE Study (Dec. 2018), intersection signal warrant study conducted. Results were very close, so will be reevaluated in on/after August 2019 when school is back in session.	\$150,000
56P	Hospital Road Connector	Intersection Improvement	Realign intersection pending future development	\$2,989,999
17P	Woods Bridge Road at North Oconee River 3.5 miles W of Commerce (Bridge ID 157- 0050-0). Bridge is posted.	Bridge	Inquire with GDOT about repair/replacement	\$3,500,000
18P	Cooper Bridge Road at Walnut Creek 4 miles north of Braselton (Bridge ID 157-5074-0). Bridge is posted.	Bridge	Inquire with GDOT about repair/replacement	\$3,500,000
23P	Liberty Church / Thompson Mill Road at Mulberry River 7.0 miles north of Auburn on Barrow/Jackson Co. line.	Bridge	Inquire with GDOT about repair/replacement	\$3,500,000

Table 16. Jackson County Tier 3 Point Projects

(Intersections, Interchanges and Bridges)

	Tier 3 Point Project ID and Description	Project Type	Tier 3 Project Recommendations	Construction Cost Estimate
	(Bridge ID# 013-5009-0). Bridge is posted.			
57P	Conduct Feasibility Study for New Interchange at I-85 and Ridgeway Church Road	Study	Interchange Access Report (IAR) Study	\$200,000
58P	US 129 at New Kings Bridge Road	Intersection Improvement	Per GDOT TE Study (Feb. 2019), the intersection does not warrant a signal and the number and rates of crashes have decreased since 2015. No recommendations for improvements. There are concerns from locals regarding future safety impacts of traffic with a single access point along New Kings Bridge Road that will need to cross an atgrade railroad line just east of US 129. Corridor and intersection should be monitored with increasing traffic expected from planned development.	\$25,000
59P	Steve Reynolds Industrial Parkway at Ridgeway Church Road	Intersection Improvement	Monitor intersection for issues - potential signal warrant analysis and access management improvements	\$50,000
1P	Jesse Cronic Rd & Thompson Mill Rd.	Intersection Improvement	Construct project as designed. Phase as part of overall Jesse Cronic Roadway Improvement (L6)	\$2,990,000
3P	Jackson Trail Road at Lewis Roberts Road	Intersection Improvement	Correct horizontal skew in roadway alignment	\$250,000
49P	Apple Valley Road @ Jefferson Rd/SR 15 Alt.	Intersection Improvement	Vertical and horizontal sight constraints for hill along SR 15 south of intersection. Currently two-way stop controlled. Determine need for all way stop and/or roundabout.	\$2,547,250

Table 16. Jackson County Tier 3 Point Projects

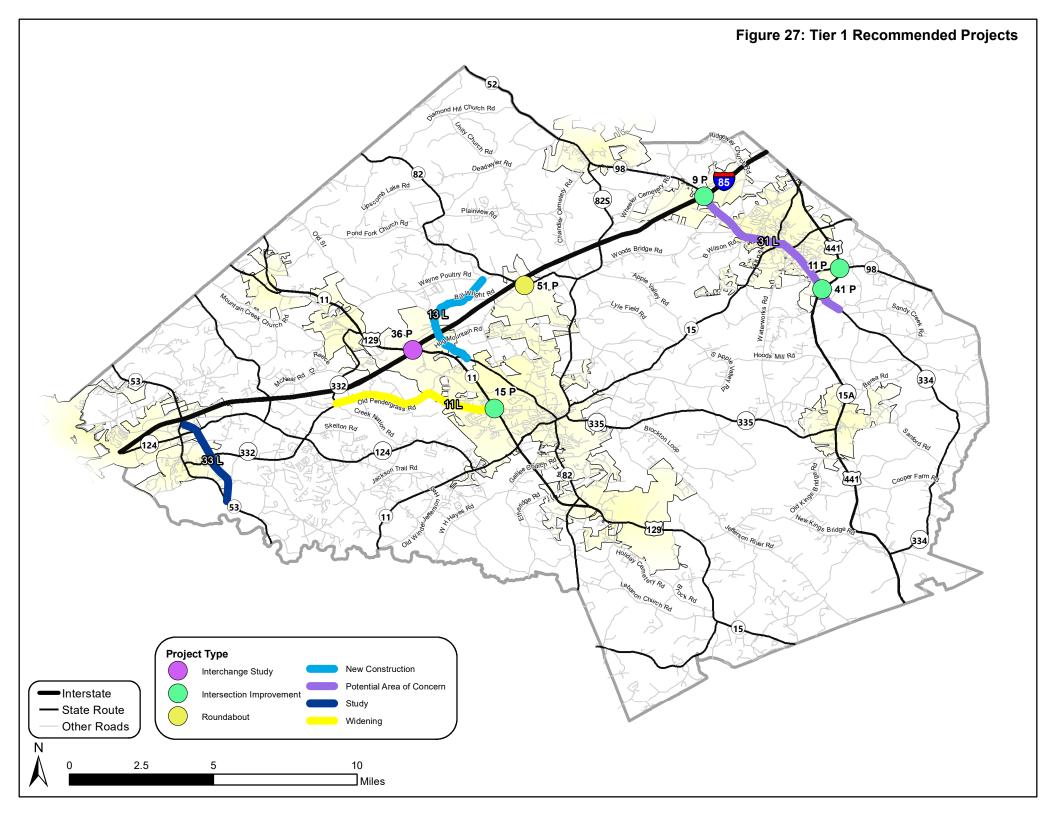
(Intersections, Interchanges and Bridges)

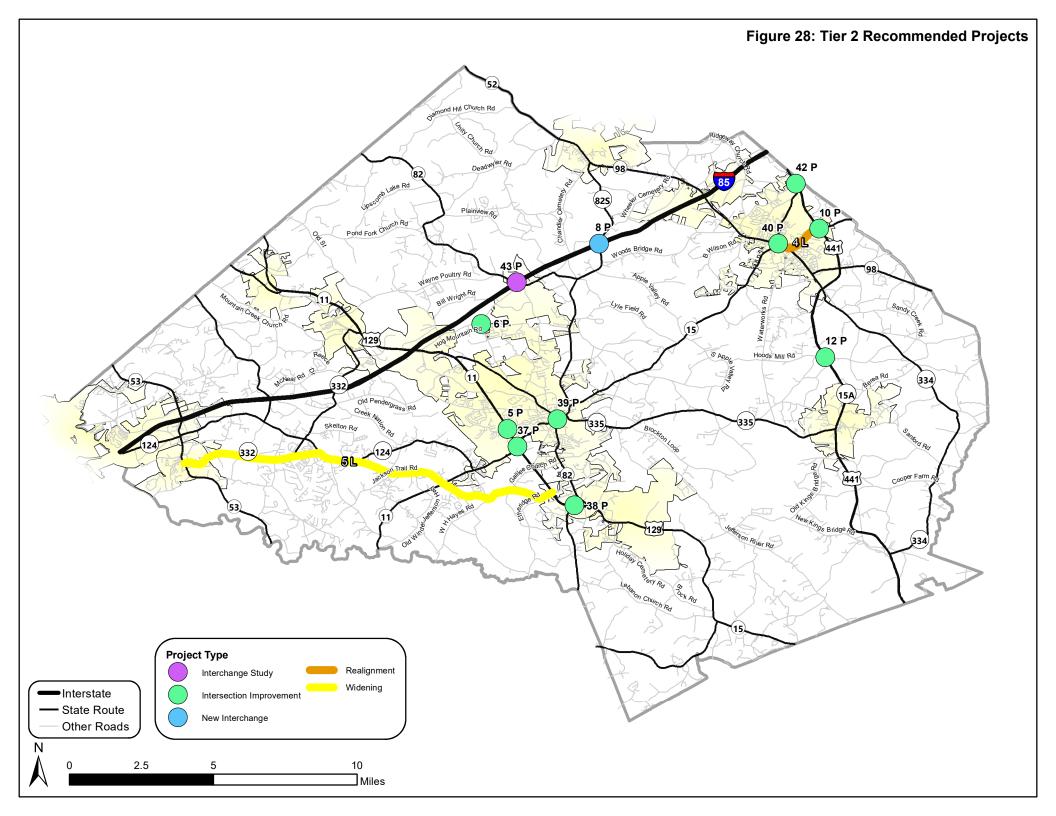
Tier 3 Point Project ID and Description		Project Type	Tier 3 Project Recommendations	Construction Cost Estimate
20P	Jackson Trail Road at Gum Springs Church Road	Intersection Improvement	Per GDOT TE Study (Mar 2019), the conversion of the intersection to an All Way Stop Control (AWSC) intersection in late 2016 has demonstrated a reduction in crashes as no crashes were reported in the year 2017. Several short-term safety measures were recommended including: 1) installing "STOP" and "STOP AHEAD" pavement markings to all approaches, and 2) trimming any vegetation within the ROW limiting sight distance. The intersection should continue to be monitored after installation of short-term improvements and with growth in traffic likely from anticipated future development.	\$15,000
25P	Hoods Mill Rd at Waterworks Rd Intersection Improvement	Intersection Improvement	Signal warrant analysis / detailed safety analysis	\$50,000
28P	Doster Road at Jackson Trail Road Intersection Improvement	Intersection Improvement	Potential realignment and signal warrant analysis.	\$300,000
13P	New Kings Bridge Rd / Jefferson River Rd	Intersection Improvement	Conduct signal warrant analysis to determine if full signalization is required.	\$50,000

Table 17. Jackson County Linear Projects (Tiers 1, 2 and 3)

(New Roads, Road Extensions, Widenings and Realignments)

Line	(New Roads, Road Extensions	Duois et Turns	Project Tier			Length
ID	Description	Project Type	1	2	3	(Miles)
11L	Old Pendergrass Road Improvements	Widening (2 to 4 lane)	Х			4.90
13L	Possum Creek Road Connection	New Construction (2 lane) and Realignment	Х			3.88
31L	SR 98/SR 334 From I-85 To Joe Bolton Rd	Potential Area of Concern	Х			5.84
33L	Conduct Feasibility Study for Braselton / Hoschton Bypass including analysis of the SR 53 intersections at Jefferson Street, SR 332(Pendergrass Road) and Peachtree Road	Study	Х			N/A
4L	State Street Improvements	Realignment and Termini Intersection Improvements		Х		1.19
5L	Braselton And Hoschton To Arcade Connection Improvement (Pendergrass Rd / SR 332 to SR 124, to Doster Road to Jackson Trail Road)	Widening (2 to 4 lane)		х		11.74
1L	Skelton Rd / SR 332 / SR 124	Realignment			Х	2.55
2L	Sam Freemen Road Extension	New Construction (2 lane)			Х	1.13
3L	Galilee Church Road Improvements	Realignment			Х	1.21
6L	Jessie Cronic Road and Thompson Mill Road Improvements	Widening (2 to 4 lane)			Х	3.19
7L	Braselton Pkwy Extension	New Construction (2 lane)			Х	6.09
8L	Braselton To Talmo Connection Improvement	New Construction (2 lane) and Widening (2 to 4 lane)			Х	7.31
9L	Braselton To Pendergrass Connection Improvement	Widening (2 to 4 lane)			Х	8.65
10L	Braselton To Maysville Connection Improvement (Wayne Poultry to Chandler Cemetery)	Widening (2 to 4 lane) and New Construction (4 lane)			х	9.79
32L	Realignment of Hog Mountain Rd / McClure Industrial / Possum Creek Road to bring up to industrial standards	Realignment			Х	TBD





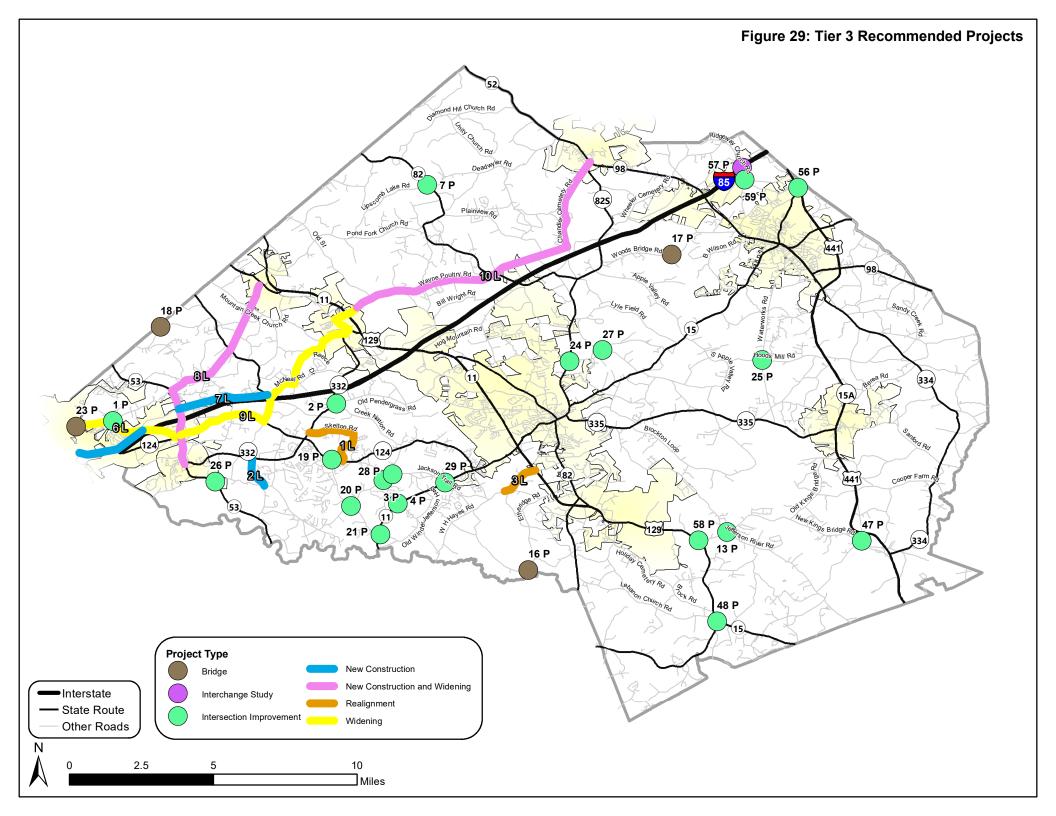


Table 18. GDOT Planned/Programmed Point Projects

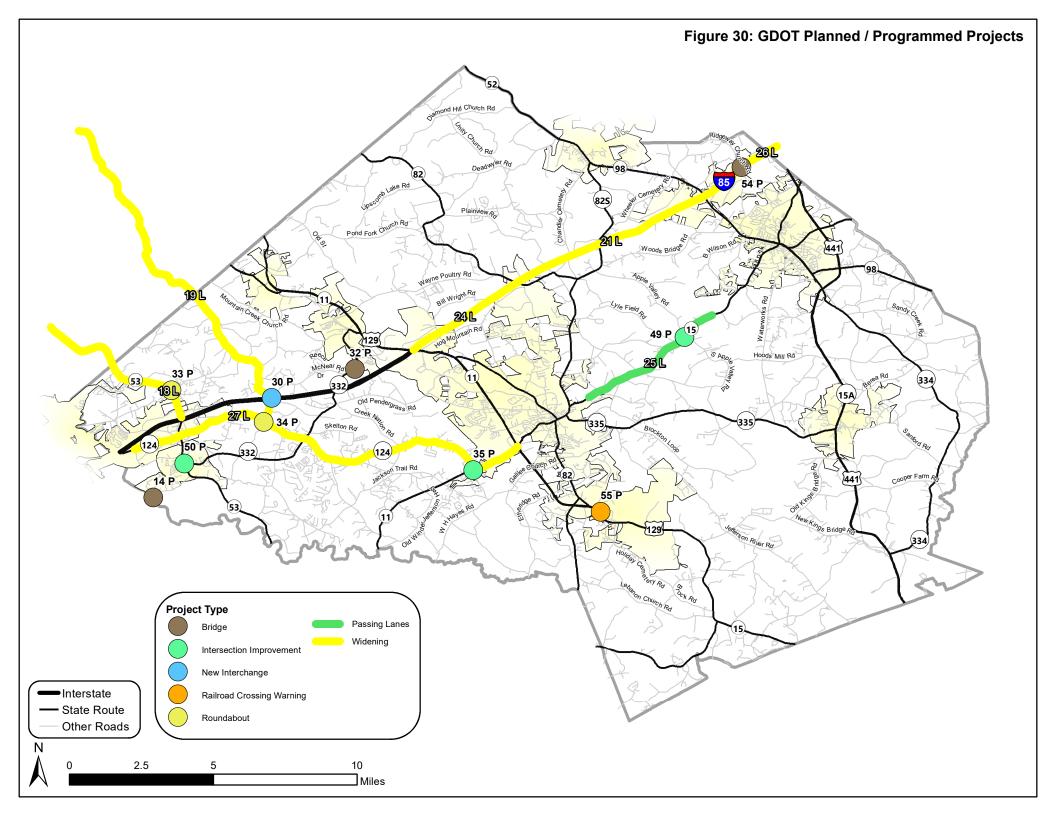
(Intersections, Interchanges and Bridges)

Point			GDOT	GHMPO
ID	Description	Project Type	ID	ID
14P	Peachtree Rd / Jackson County Line / Covered Bridge Road Bridge (SR 82 at Middle Oconee River 5 mi NE of Statham)		0013819	
30P	New Interchange located at I-85 and SR 60	New Interchange	0013086	GH-102
32P	SR 332/Poplar Springs Road at Walnut Creek Bridge Bridge Replacement		0013609	GH-028
33P	SR 53 at New Cut Road / Ednaville Road Roundabout Roundabout		0016065	
34P	SR 60 / SR 124 / Sam Freeman Road Roundabout Roundabout		0016166	
35P	SR 11/Winder Hwy and SR 124/Galilee Church Road	Roundabout	0015592	1
50P	SR 53 at SR 332 / Pendergrass Road	Intersection Improvement to be studied as part of Hoschton/Braselton Bypass Study	S010874	ł
54P	I-85 NB and SB Bridges over CR 296/Ridgeway Church Road Replace two bridges		0014076	
55P	Railroad Crossing Warning at Rock Forge Road in Arcade	Railroad Crossing Warning	0015476	

Table 19. GDOT Planned/Programmed Linear Projects

(New Roads, Road Extensions, Widenings and Realignments)

Linear Project ID	Description	Project Type	GDOT PI	Project Source ID	Approx. Length (Miles)
18L	SR 53 From I-85/Jackson County to SR 211/Hall County	Widening (2 to 4 lane)	0013310	GH-040	2.60
19L	SR 60/Candler Road from South Of I-985 To SR 124	Widening (2 to 4 lane)		GH-111	12.58
20L	I-85 From North of SR 53/Green Street to North of SR 11/US 129/Lee Street	Widening (4 to 6 lane)	0013545	GH-109	6.70
21L	I-85 From N of SR 82 To N of SR 98	Widening (4 to 6 lane)	0015246		6.19
24L	I-85 From N of US 129/SR 11 To N of SR 82	Widening (4 to 6 lane)	0015245		3.79
25L	Eastbound & Westbound Pass Lanes on SR 15 Alt Bet Commerce & Jefferson	Passing Lanes	0000402		4.68
26L	I-85 From N of SR 98/Jackson To N of SR 15/Banks	Widening (4 to 6 lane)	0015247		2.73
27L	SR 124 From CR 171/Josh Pirkle Road to SR 11 / Winder Highway	Widening (2 to 4 lane)	0007663		8.31
28L	SR 53 From I-85 To CR 167/Tapp Wood Road	Widening (2 to 4 lane)	0008434	GH-115	5.40



5.2 NON-MOTORIZED SYSTEM RECOMMENDATIONS

The development of the Jackson County Transportation Plan included an assessment of existing bicycle and pedestrian facilities in Chapter 2 of this report, as well as existing challenges and needs. The public survey also included questions about the non-motorized transportation system across Jackson County. This section includes generalized recommendations based upon previous planning efforts, input received from the Technical Committee and the general public as well as current state and federal standards.

Several previous plans have been developed within Jackson County including:

- Northeast Georgia Plan for Bicycling and Walking (2010)
- Connect Jackson: Biking-Pedestrian-Greenways (2011)
- Bicycle and Pedestrian Plan Update GHMPO (2014)
- City of Jefferson Pedestrian, Bicycle and Multi-Use Path Master Plan



June 2011

The 2011 plan includes a detailed assessment of existing sidewalks, shared use paths and wide paved shoulders. The plan also includes proposed locations of new sidewalks and shared use paths as well as conservation corridors for potential greenways and/or off-road shared use paths. Specifics of this plan should serve as the framework for future recommendations. **Appendix H** includes copies of the recommendations from this plan detailed for Braselton/Hoschton, Jefferson, Commerce as well as a comprehensive figure for all of Jackson County. **Appendix I** includes components from the Jefferson Pedestrian, Bicycle and Multi-Use Path Master Plan including a detailed current inventory of sidewalks within the City of Jefferson.

A strategic step in the development of a detailed Countywide bicycle and pedestrian plan would be the development of a Bicycle-Pedestrian Task Force. Members of such a task force would potentially include representatives from the following:

- Jackson County and its Cities
- **Jackson County and City Schools**
- **GHMPO**
- Senior Centers
- Transportation Disadvantaged
- **NEGRC**
- **Adjacent Counties**
- Georgia Bikes
- Elected Officials and Other "Champions"
- Other stakeholders including owners of bicycle, walking and running establishments and/or recreational clubs.

Under the direction of Jackson County, municipalities and task force, a detailed bicycle and pedestrian plan would provide specific corridor-level recommendations based upon the other recommendations of this Transportation Study, the framework presented as part of the Connect Jackson bike-ped plan, and





public input with a more targeted purpose and strategy. The plan would focus on key connections within Jackson County including:

- Schools, Parks, Recreation Facilities
- Town Centers
- Other Attractions / Destinations
- Historic & Tourism
- Facilities in adjacent counties



The plan would also provide a specific action plan to capitalize on specific opportunities within Jackson County. Templates could be developed to ensure that bicycle and pedestrian facilities / connections would be considered as part of the rapidly developing parts of the County including:

- Roadway Widening / Expansion Projects
- New and Expanding Developments
- Existing and Proposed Utility Corridors
- Public / Private Opportunities

The plan could also provide a benefit-to-cost analysis or economic impact assessment of the return on investments for non-motorized transportation facilities. Peer areas similar in size to Jackson County, such as Carrollton GreenBelt in Carrol County, GA could serve as an example for Jackson County and its cities.



Jackson County is fortunate to have several existing trail segments, including those listed in **Table 20**, for which a pilot trail system could be developed. Examples include the Curry Creek Trail in Jefferson or the Fox Trails in Commerce.

Table 20. Existing Jackson County Trails

Trail Name	Location		
Fox Smallwood Drive Trails	875 Smallwood Drive Commerce, GA 30529		
American Veterans Memorial Park Trail	204 Carson St Commerce, GA 30529		
Curry Creek Reservoir Trail	65 Kissam St - Jefferson, GA 30549		
East Jackson Park Walking Trail	225 Lakeview Dr Nicholson, GA 30565		
South Jackson Elementary Nature Trail	1630 New Kings Bridge Rd Athens, GA 30607		
Hurricane Shoals Nature Trail	416 Hurricane Shoals Rd Maysville, GA 30558		
Sells Mill Nature Trail	8783 Jackson Trail Rd Hoschton, GA 30558		
Hoschton Park	4727 Hwy 53 Hoschton, GA 30558		
Sandy Creek Park Walking Trail	400 Bob Holman Rd Athens, GA 30607		
Braselton Riverwalk Trail	945 Liberty Church Rd Braselton, GA 30517		

5.3 TRANSIT SYSTEM RECOMMENDATIONS

The existing transit system within Jackson County is an "on-demand" dial-a-ride system funded through the Section 5311 program of the Federal Transit Administration (FTA). The system includes four (4) vans that provide service to the following locations:

- Anywhere within Jackson County
- Anywhere in Athens-Clarke County
- City of Winder
- South Hall County (NE GA Medical Center)

There are no restrictions regarding who may ride or for trip purpose. Fares are \$4.00 one-way (\$8.00 round trip) within Jackson County and \$9.00 one-way (\$18.00 round-trip) to/from locations outside of Jackson County. Currently, Jackson County receives approximately \$63,000 annually to operate the system. Ridership has grown extensively over the past decade increasing from 200 to 1,400 trips per month between 2012 and 2018. County transit staff reported that the system is operating at capacity.

Several challenges exist within Jackson County regarding the future of the Jackson County transit system. With the system operating at capacity, no existing dedicated funding sources exist to expand the current system. There is currently no advertising for the system, which likely has latent demand within across the county. Based upon results of survey conducted for this transportation plan,

Survey Responses in Favor of Transit within Jackson County

No Response

No Yes

No 14%

Source: Jackson County Transportation Plan Survey, Fall 2018

approximately 49 percent of respondents stated that they favor transit within Jackson County.

Another challenge for transit in Jackson County is the growing population and the likely impacts on the current Section 5311 transit funding received through FTA, which is expected to diminish over the next couple years as Section 5307 transit funding increases. The County is "trending urban" regarding transit funding, with Section 5311 "rural transit funding" decreases as the county population grows and Section 5307 "urban funding" increases. In order to take advantage of the 5307 funds, Jackson County would need to create and operate a fixed route system with at least two routes and a published schedule with identified stops.

Financially, Jackson County may be better off funding the on-demand system versus starting and operating a fixed-route system in order to maintain the same level of service to transit dependent populations. A feasibility study is recommended to fully assess the financial and service trade-offs between the two systems considering the dynamic transit funding environment. A feasibility study would help to answer several questions including:

- Demand (transit propensity) for fixed-route route system
- Cost of a fixed-route system with small vans that would not require hard-to-find drivers with commercial vehicle licenses (CVLs)
- Cost of fixed-route service versus fare box recovery (revenue) from such a service
- Cost to continue the existing on-demand system with increased level of county funding

In addition to traditional transit options, technological changes have opened the door to new options including shared-ride alternatives (such as Uber® and Lyft®). Also known as "micro-transit", supplementing traditional transit services with a mix of ride-sharing options subsidized with public dollars is a trend many local transit agencies across the nation are investigating. This is certainly an option that Jackson County should consider in a transit feasibility analysis.

Finally, traditional vanpools with major employers across Jackson County and to neighboring counties also should be considered, particularly with the influx of thousands of new jobs to Jackson County in the coming years. Although Jackson County is not a participant within the Georgia Commute Options Program, vanpool connections to counties that are included in the program (including Hall, Gwinnett and Barrow) could be established through creation and management of vanpool registration / database system.

The future of transit within the State of Georgia is changing with each state legislative session. Future options and opportunities are more likely, as the state, and Jackson County continue to grow and prosper.