

SEPTEMBER 2020

FINAL REPORT

Jackson County

Transit Feasibility Study



RS&H

**A Resolution by the Gainesville-Hall Metropolitan Planning Organization
Policy Committee Adopting the Jackson County Transit Feasibility Study**

WHEREAS, the Gainesville-Hall Metropolitan Planning Organization 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 Policy Committee (PC) is the recognized decision making body for transportation planning with the Gainesville-Hall Metropolitan Planning Organization (GHMPO); and

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

WHEREAS, the Jackson County Transit Feasibility Study makes recommendations to improve the areas accessibility and mobility;

NOW, THERE, BE IT RESOLVED that the Gainesville-Hall Metropolitan Planning Organization adopts the Jackson County Transit Feasibility Study.

A motion was made by PC member **Mayor Mike Miller** and seconded by PC member **Gina Roy** and approved this the 10th of November, 2020.


Chairman Richard Higgins, Chairperson
GHMPO Policy Committee

Subscribed and sworn to me this the 10th of November, 2020


Notary Public

My commission expires 



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EXECUTIVE SUMMARY

Following the results of the 2010 U.S. Census, the western portion of Jackson County met the population density of “urbanized” by the Census and joined the Gainesville-Hall Metropolitan Planning Organization (GHMPO) for transportation planning purposes. Jackson County planning officials and the GHMPO anticipate that the Census-defined Urbanized Area (UZA), the boundary of the GHMPO, will expand eastward once the results of the 2020 U.S. Census have been tallied. This increase in population and employment has presented new opportunities as well as new challenges for the County.

Urbanizing Jackson County will not only have geographic implications, but the increase in population will shift Jackson County from a designated “rural” transit system to a small “urban” system. This transition will directly impact the type and amount of federal transit funding that will be apportioned to Jackson County through the Georgia Department of Transportation (GDOT) Office of Intermodal. Specifically, Jackson County’s apportionment of Federal Transit Administration’s (FTA) “rural” transit funding (49 U.S.C. 5311 Rural Area Formula Grant), will begin to decrease as the County’s apportioned FTA “urban” transit funding (49 U.S.C. 5307 Urban Area Formula Grant) will begin to increase. The change in these funding streams comes with various system operating requirements that require Jackson County to evaluate future options and costs to match the new federal funding sources.

The JCT Feasibility Study explores potential transit system scenarios with associated costs and funding projections. Key goals of the study assessment and recommendations included the following:

- Serve transit demand
- Enhance transit system efficiencies
- Identify fiscally prudent solutions
- Leverage local funding, and
- Capitalize on long-term funding sources

Jackson County staff including representatives from Jackson County Transit and the GHMPO provided valuable insight and guidance throughout the duration of the study. Transit-specific survey information from the 2019 Jackson County Transportation Plan, was also incorporated into the analysis. JCT staff provided detailed information for a complete assessment of existing conditions including summary of current ridership by location, purpose, and frequency.

Scenarios

Three (3) potential service option scenarios were developed and analyzed as part of the feasibility study, including the following:

- Scenario 1 - Cease all transit service
- Scenario 2 - Transition to a Small Urban System
 - Scenario 2A – Using existing fleet of five (5) vehicles
 - Scenario 2B – Using existing fleet of five (5) vehicles plus two (2) new additional vehicles. Will offer two (2) distinct services (Urban Demand Response and Rural Demand Response) operated by one (1) agency
- Scenario 3 – Development of a new fixed route service with complementary on-demand for rural areas

Study Findings

Benefits and drawbacks were determined for each of the possible service options for Jackson County. We concluded that the least desirable option was Scenario 1 “Cease transit service”. With this option Jackson county residents would continue to pay local, state, and federal taxes, but the population that currently utilizes the transit system would have to pay substantially higher costs for alternative options.

Scenario 3 may be feasible in the long-term, but the substantial capital costs and system investments are not recommended in the short term. As such, Scenarios 2A and 2B are recommended as they provide the most feasible solutions for adjusting to the immediate short-term funding implications that will most likely impact Jackson County Transit over the next several years.

Non-Service Considerations

Service recommendations are key elements within this feasibility study; however, policy and system support considerations may enhance the sustainability of the future JCT agency. The following considerations are offered as potential long-term enhancements should resources be available to support growth of the system.

1. Continue to Participate in Regional Transit Discussions

- With the recent discussions at the state level about increasing transit accessible to all parts of Georgia, Jackson County should continue to take a seat at the table with regional planning partners and neighboring transit agencies to discuss the future potential of regional transit service

2. Enhance Marketing and Outreach Activities and Investments

- Offer ridership training for seniors in coordination with the Jackson County Senior Center
- Develop and offer promotional activities to expand interest in the JCT system and/or include more direct links from individual websites (i.e. cities and/or major employers)

3. Community and Peer Agency Coordination

- Conduct annual surveys / listening sessions to provide citizens with the opportunity to share ideas and issues

1.0 Introduction and Background

1.1 OVERVIEW

In the last decade, Jackson County has experienced unprecedented growth, both in the residential and commercial sectors, due to its proximity to the urbanized areas of Gainesville / Hall County, Atlanta, and Athens. Residents continue to seek the quality of life within Jackson County, resulting in rising numbers of housing permits every year since 2011, with the majority near the urbanized area.

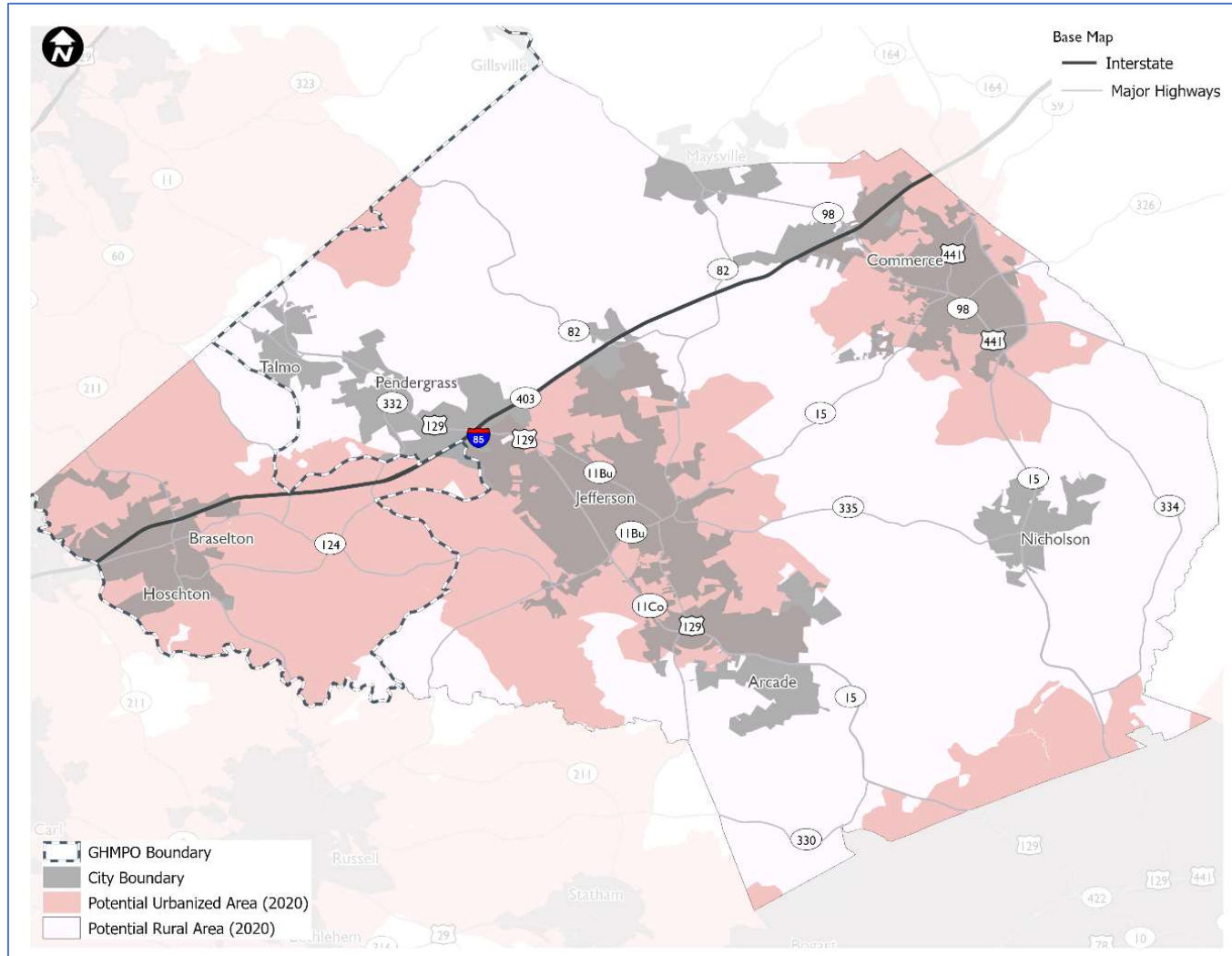
Following the results of the 2010 U.S. Census, the western portion of Jackson County was added to the Gainesville-Hall Metropolitan Planning Organization (GHMPO) for transportation planning purposes. Jackson County planning officials and the GHMPO anticipate that the urbanized area (UZA) of GHMPO within Jackson County will expand eastward once the results of the 2020 U.S. Census have been processed and released, likely in 2022. UZA limits are determined using population density, specifically, wherever there are contiguous tracts of at least 1,000 persons per square mile, these tracts, with all surrounding blocks of at least 500 persons per square mile, are labeled as “urban” areas. Urban areas with populations below 50,000 are called “urban clusters,” and those with populations above 50,000 are called “urbanized areas.”¹ This increase in population and employment has presented new opportunities as well as new challenges for the County.

To address potential statewide transit system implications resulting from the 2020 US Census results, a study was funded by Georgia Department of Transportation (GDOT) and completed by a team led by Dr. Laurie Garrow from the Georgia Institute of Technology (Georgia Tech). The study report, *Statewide Assessment of Public Transit Funding Needs for Counties Trending Urban in Georgia* (December 2019) was conducted to assist the GDOT Office of Intermodal with predictions of future FTA transit funding in urbanizing areas of the state.

Figure 1 presents the potential GHMPO UZA expansion within Jackson County. The dashed line represents the existing GHMPO UZA boundary that has been in place since the completion of the 2010 US Census. The rose-colored area shows the potential UZA expansion area post-completion of the 2020 US Census. The cities within Jackson County are shown in gray and the remainder of the County in white. The implications of the UZA potential expansion on Jackson County Transit’s (JCT) future operations options and associated cost and funding options constitute the major items discussed within this study.

¹ Transit and the Census: It Matters. A Lot. <https://ctaa.org/transit-and-the-census-it-matters-a-lot/>

FIGURE 1: POTENTIAL URBANIZED AREA EXPANSION, POST 2020 US CENSUS



Source for Potential Future 2020 UZA: Dr. Laurie Garrow, Georgia

1.2 CHALLENGES FOR JACKSON COUNTY TRANSIT (JCT)

The major challenge for Jackson County Transit (JCT) is a result of the changing UZA and population which directly impacts the projected type and amount of future federal transit funding. Federal funding is the major source of revenue for JCT outside of local Jackson County funds.

There are two major Federal Transit Administration's (FTA) funding programs most directly linked to JCT both of which are based upon the federal classification of geography classified as either "rural" or "urban":

- **49 U.S.C. 5311 Rural Area Formula Grants:** Federal funds available for capital, planning and operating assistance to states to support transit in rural areas
- **49 U.S.C. 5307 Urbanized Area Formula Grants:** Federal funds available to urbanized areas and state governors for transit capital and operating assistance in urbanized areas

With the forecasted increase in population density and changing UZA, JCT will transition from a *Rural* transit provider (population less than 50,000) to a *Small Urban* transit provider (population between 50,000 and 200,000). As such, the County's expected FTA 5311 Rural Transit funding is expected to diminish after the results of the 2020 US Census, impacting the 2022-2023 FTA apportionment for Jackson County. At that time, available options will include the use of a combination of 5311 and FTA 5307 Urban Transit funds as the 5307 funding increases and 5311 funding decreases. The specific implications of these changes are discussed in more detail in subsequent chapters of this report.

5307 Large Urban

- Population > 200,000

5307 Small Urban

- Population 50,000 – 200,000

5311 Rural

- Population < 50,000



These challenges have come at a time when the system is facing increasing ridership and demand. This increasing demand is coming with little to no formal advertising to the citizens of the County. According to staff data, JCT ridership has increased from approximately 200 trips per month (2012) to over 1,400 trips (2018), a 600% increase over the past six years. This growth indicates the likelihood that there is additional latent demand for transit services that may increase in the future with a growing, and potentially aging, population

2.0 EXISTING CONDITIONS

2.1 EXISTING TRANSIT SERVICE OVERVIEW

2.1.1 Jackson County Transit - Demand Response Service

Jackson County currently operates a demand response public transit system that operates weekdays (Monday – Friday) from 7:00 am to 4:00 pm. JCT provides accessible transportation for all Jackson County residents, regardless of trip purpose. Transit services are all “shared-ride”, which means several individuals may be on-board at any time, bound for various destinations. Service is available anywhere within Jackson County as well as Athens-Clarke County and the NE GA Medical Center and medical offices in Braselton.

JCT trip purposes and locations vary including places of employment, education, nutrition services, healthcare, polling sites, parks & recreation, rehabilitation facilities as well as local, state and federal offices.

Each year, the system provides approximately 16,800 trips to residents across 343 square miles. Without JCT, many residents, older adults, and persons with disabilities would not be able to access basic community services. The system includes five (5) vehicles, four (4) of which are equipped with lifts to serve disabled residents. Each van has a capacity of 10 passengers, so the fleet can carry up to 50 people at any one time.



2.1.2 Other Limited Transit Service

There are other providers of transit that offer Coordinated Transportation services to the Jackson County population through the Georgia Department of Human Resources (DHS). DHS includes Division of Aging Services (DAS), Division of Family and Children Services (DFCS), and Division of Child Support Services (DCSS). The Georgia Vocational Rehabilitation Agency (GVRA) and the Department of Behavioral Health and Developmental Disabilities (DBHDD) are also served by the DHS Coordinated Transportation System². One primary federal source of funding for Coordinated Transportation is FTA 42 U.S. Code § 5310-Enhanced Mobility of Seniors & Individuals with Disabilities. Section 5310 funding provides formula funding to states for the purpose of assisting private nonprofit groups in meeting the transportation needs of the elderly and disabled.

The Jackson County Senior Center provides membership opportunities to residents of Jackson County that are 60 years of age (or older), or a spouse of a member who is 60 years of age³. The following services and activities are provided by the Senior Center for members:

- Daily Lunch
- Bingo Daily (except on Tuesday)

² GA DHS – Office of Facilities and Support Services – Transportation Services Section – Coordinated Transportation System Transportation Manual (MASN1425) Revised 5-31-2019.

³ <http://www.jacksoncountygov.com/339/Senior-Center>

- Guest Speakers and entertainment
- Excursions to Local Festivals, Concerts, and Attractions
- Arts & Crafts
- Quilting
- Board and Table Games
- Card Games and Puzzles
- Wellness Checks
- Exercise Classes
- Health and Nutritional Workshops
- Legal Counsel
- Ongoing Education

Limited transportation is available to transport members to and from the Senior Center within established routes. In addition to services at the Senior Center facility, outreach is also available to homebound seniors including Home delivery meals (Meals-on-Wheels), friendly visits, and telephone reassurances for socialization.

2.2 EXISTING TRANSIT OPERATIONS

A summary of existing JCT service operations has been completed and divided into two key areas: summary of existing ridership and a summary of existing operational and fiscal metrics.

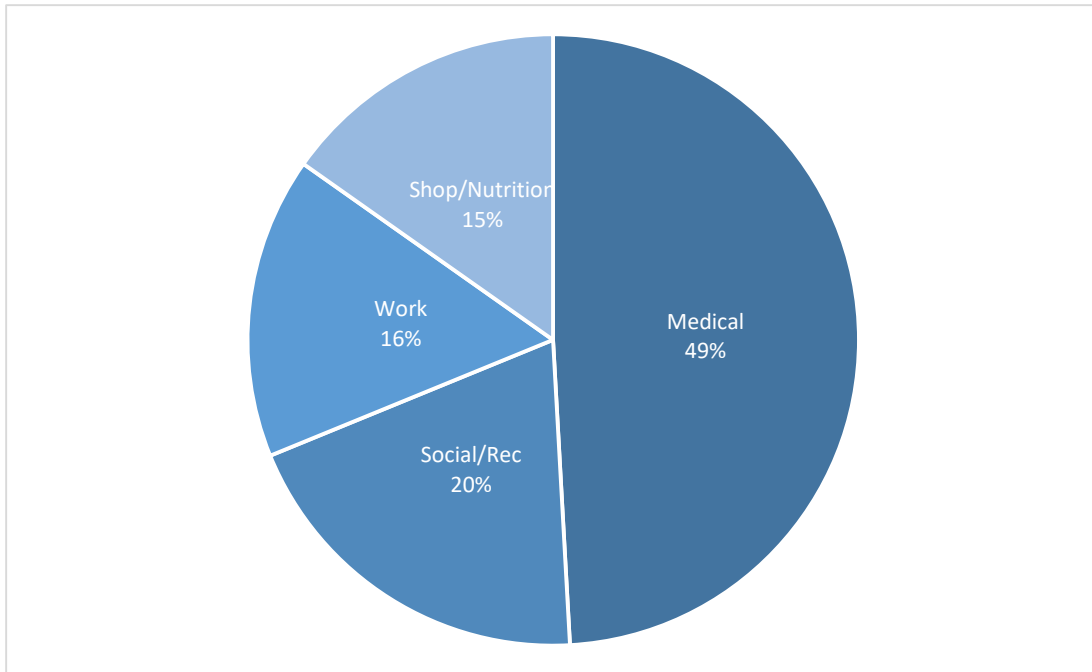
2.2.1 Existing Transit Ridership

The existing transit ridership analysis was based on JCT ridership information for trips taken between November 30, 2018 and November 30, 2019. The data revealed approximately 11,000 passenger trips during the 12-month period. Of all trips during the period, approximately 49 percent were for medical purposes, followed by 20 percent for social/recreation, 16 percent for work trips and 15 percent for shopping/groceries.

Figure 2 presents the breakdown of trip purpose by percentage with **Figure 3** presents the number of trips by type. **Appendix A** presents a list of all top origin-destination pairs.

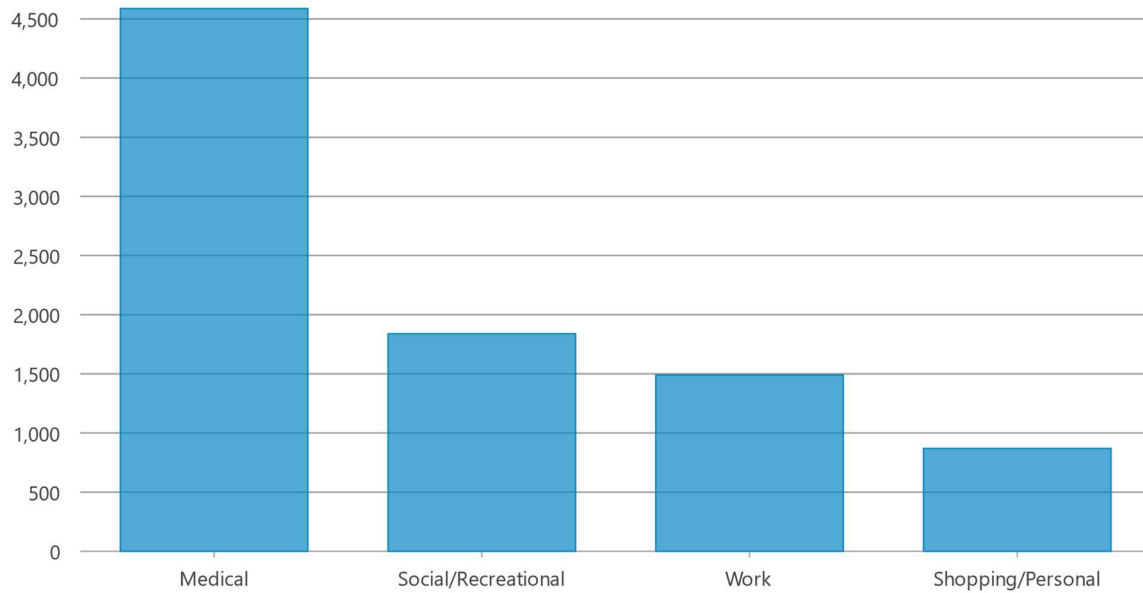
A trip origin and destination analysis was completed using the Jackson County data for the same period (Nov. 2018 – November 2019). Trip paths were created using the origins and destinations to help visualize point-to-point demand. A series of “spider line” maps were created for trips both within and traveling to external locations to Jackson County to help show “as the crow flies” origins to destinations. Individual spider line maps are presented in **Appendix B**.

FIGURE 2: TRIPS BY PURPOSE



Source: Jackson County Transit

FIGURE 3: TOP TRIPS BY TYPE



Tables 1 – 3 present the top destinations for medical, social, and work-related trips.

TABLE 1. MEDICAL TRIPS: TOP DESTINATIONS

Rank	Location	City
1	Jackson Creative Center (Mental Health Service)	Commerce
2	NE GA Medical Center	Braselton
3	Advantage Behavioral Health	Jefferson
4	Classic City Dialysis	Athens
5	Athens Renal	Athens

TABLE 2. SOCIAL TRIPS – TOP DESTINATIONS

Rank	Location	City
1	Jackson County's Senior Citizen's Center	Jefferson
2	Residential to Residential Trips	Hoschton

TABLE 3. WORK TRIPS – TOP DESTINATIONS

Rank	Location	City
1	Wayne Farms LLC	Pendergrass
2	Kubota Industrial Equipment, Corp	Pendergrass
3	Valentine Industrial Area	Pendergrass

The dataset of all origins and destinations was consolidated into a series of maps showing trip occurrence. **Figure 4** presents the origin and destination data like the “spider map” format; however, showing demand across the existing road network to replicate actual trip patterns. Similarly, **Figure 5** presents the top destination locations based upon occurrence.

FIGURE 4: EXISTING TRANSIT TRIPS BY DEMAND FREQUENCY

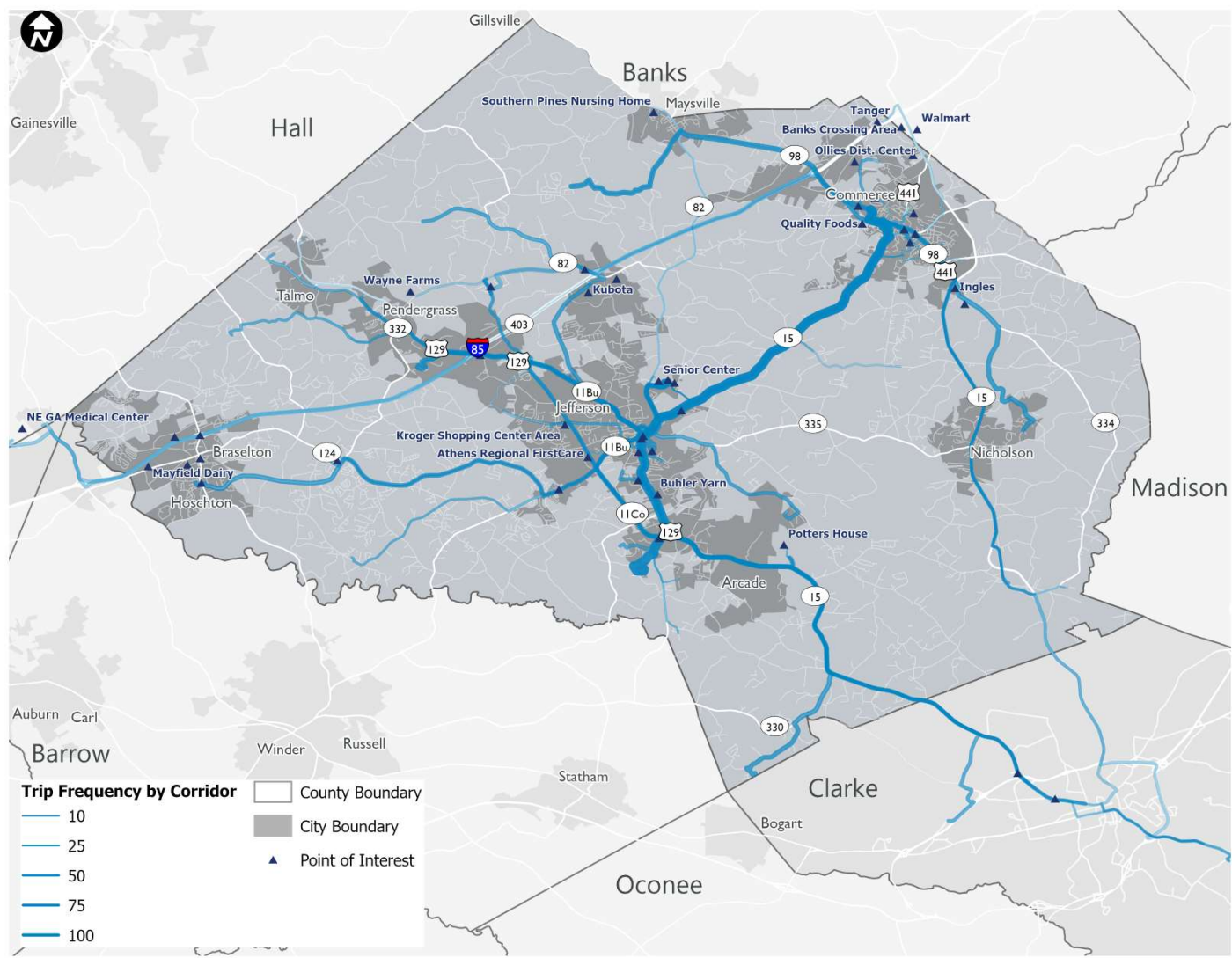
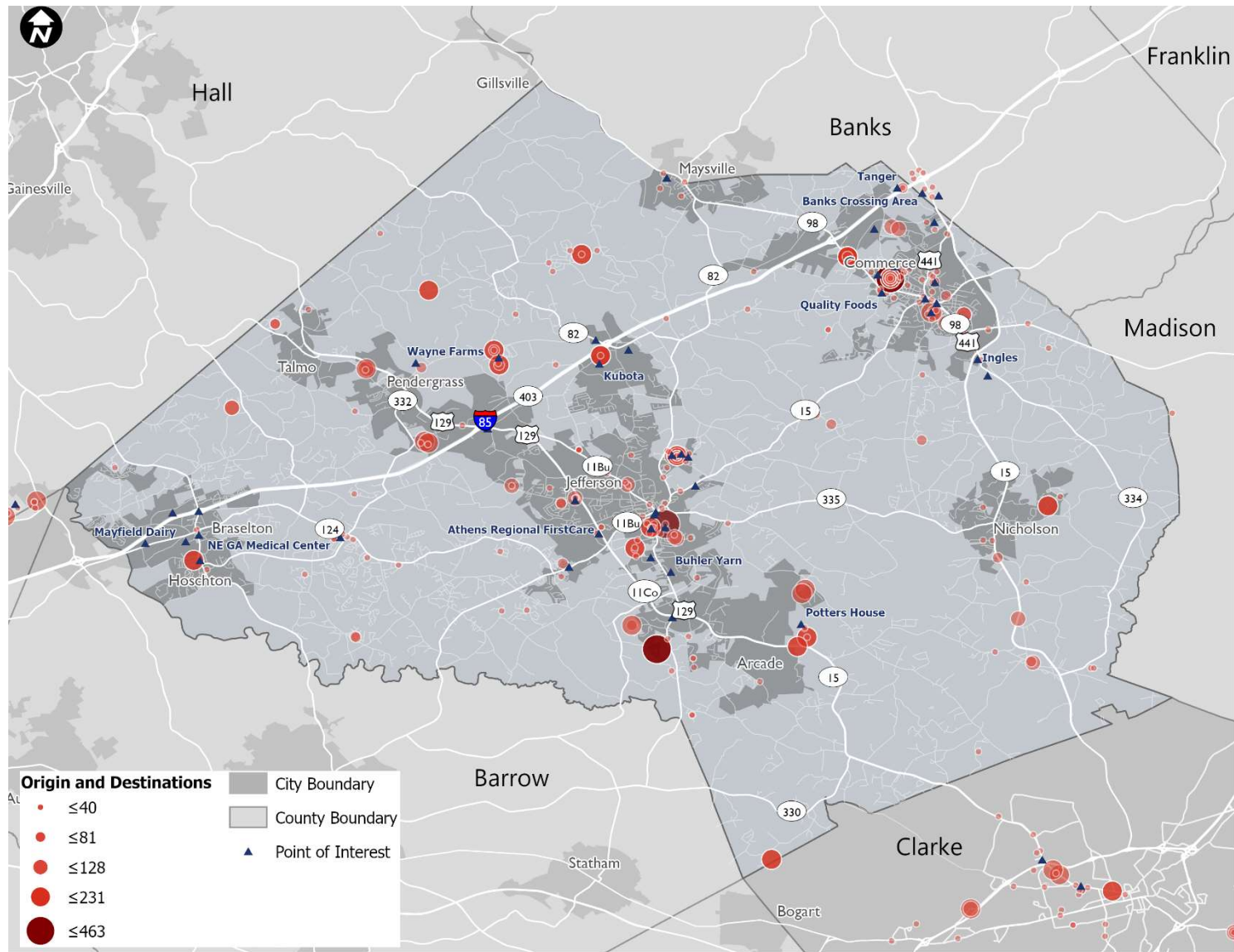


FIGURE 5: TOP TRIP DESTINATION LOCATIONS



2.2.2 Americans with Disabilities Act (ADA) Ridership

The Americans with Disabilities Act (ADA) applies to all ground transportation systems that are regulated by the U.S. Department of Transportation (USDOT), including the Federal Transit Administration (FTA). JCT receives federal funding from FTA; therefore, must comply with ADA requirements.

As noted previously, four (4) of JCT's five (5) 10-person vans are equipped with lifts to serve disabled residents. The system provides a critical service to many physically and mentally disabled persons within the County, with approximately 75 percent of all trips classified as ADA trips between November 2018 – November 2019. **Table 4** presents a summary of the number of ADA trips by disability type within Jackson County. **Figure 6** presents the ADA trip destination locations by number of trips.

TABLE 4: ADA TRIPS BY TYPE (NOV. 2018 – NOV. 2019)

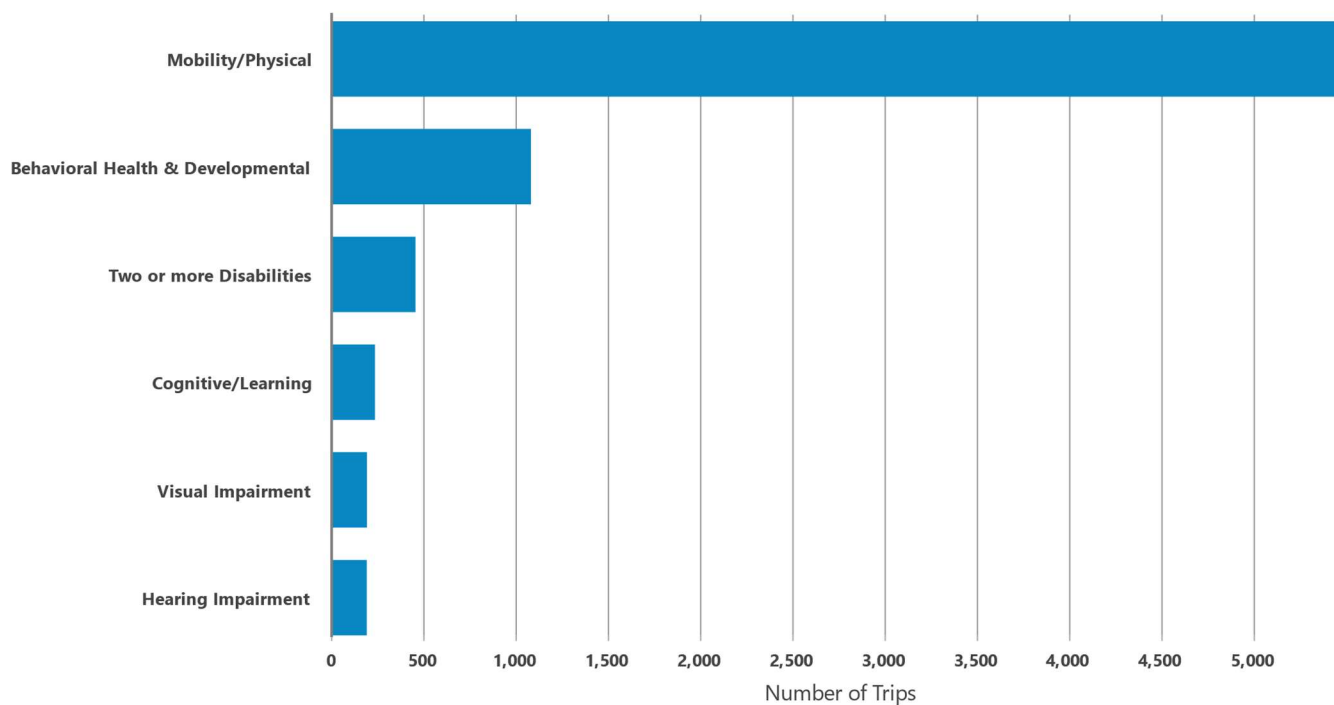
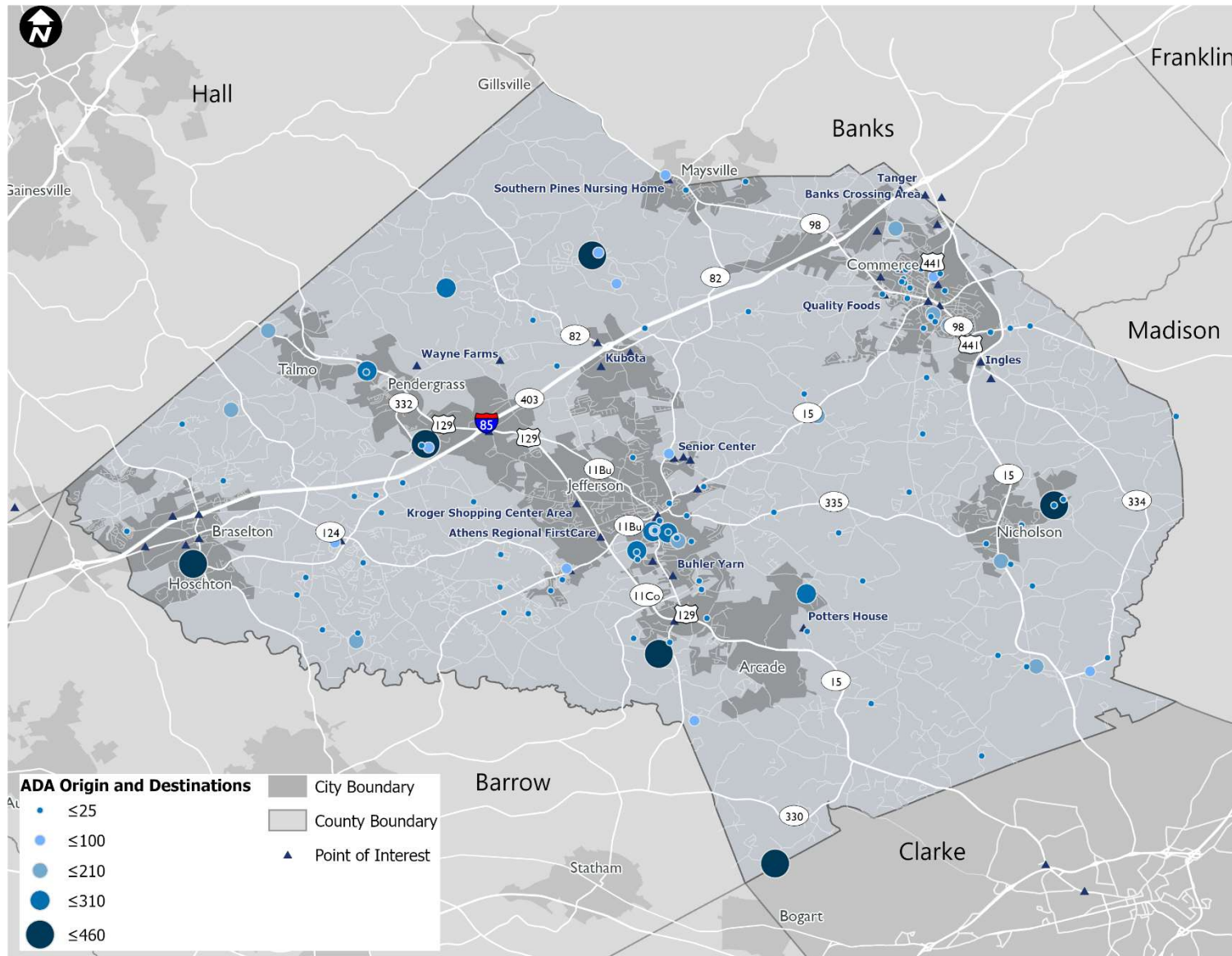


FIGURE 6: JACKSON COUNTY ADA TRIPS (NOV. 2018 – NOV. 2019)



2.2.3 Existing Transit Service Operations

To understand the changes in the JCT performance, a five-year trend analysis was completed for the JCT on-demand service using published FTA National Transit Database (NTD) reports for years 2014-2018. A summary of the 2014-2018 NTD reports is included in **Appendix C**.

2.2.3.1 Operating Cost Analysis

The operating cost analysis show varied results when evaluation historic operations of the JCT system.

Recovery ratio is defined as the proportion of operating expenses that are paid for by fare revenues, also known as farebox recovery. Since 2014, the trend for the JCT system has primarily been positive with increased in the percent of operating expenses covered by fare revenues. **Figure 7** presents the summary from 2014 – 2018.

Revenue speed is defined as the ratio between Vehicle Revenue Miles (VRM) and Vehicle Revenue Hours (VRH). Revenue speed reflects the average speed while a transit vehicle is in service. In simpler terms, revenue speed is one measure of service efficiency. Since 2014, revenue speed improved from 2014-2016, but turned in a negative direction between 2016 – 2018. Simultaneously, JCT experiencing a general increase in fares with average fare price increases of approximately 57 percent since 2014. **Figure 8** presents a summary of the revenue speed values and fare prices.

FIGURE 7: OPERATING EXPENSE VS. RECOVERY RATIO

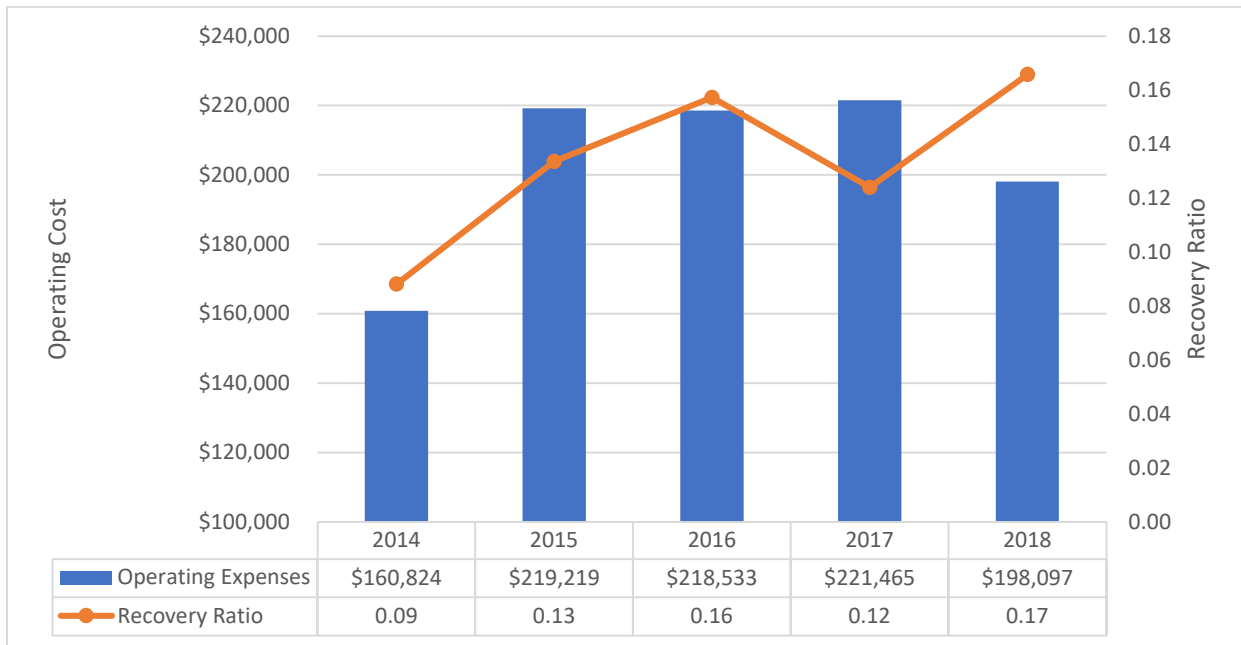
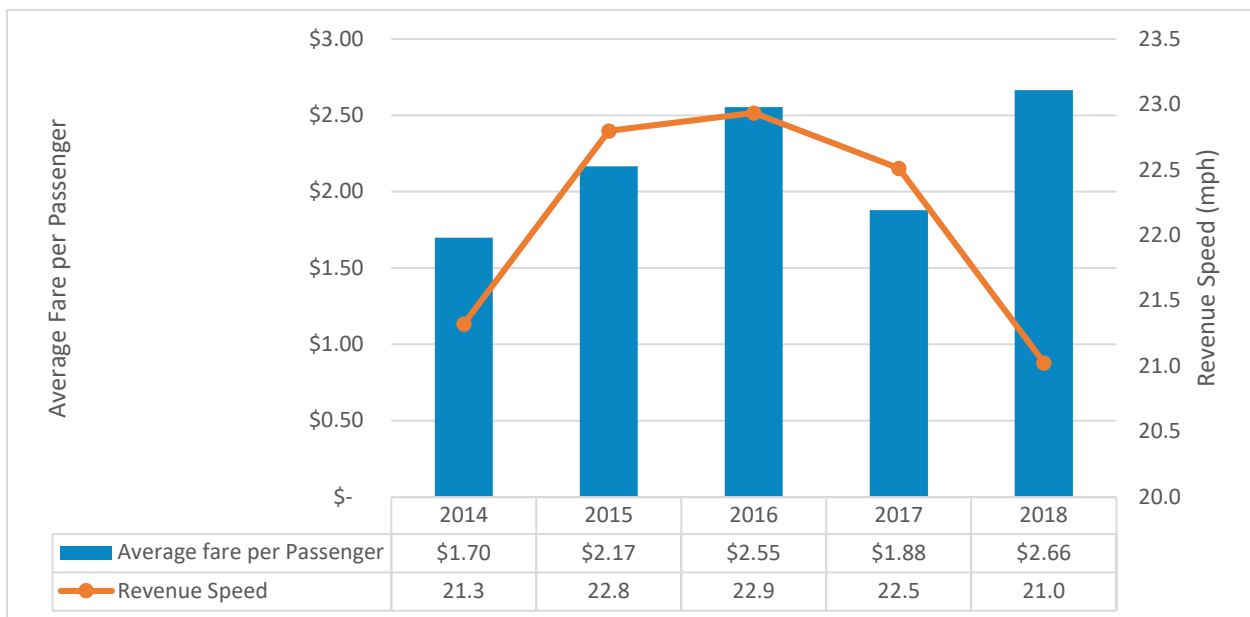
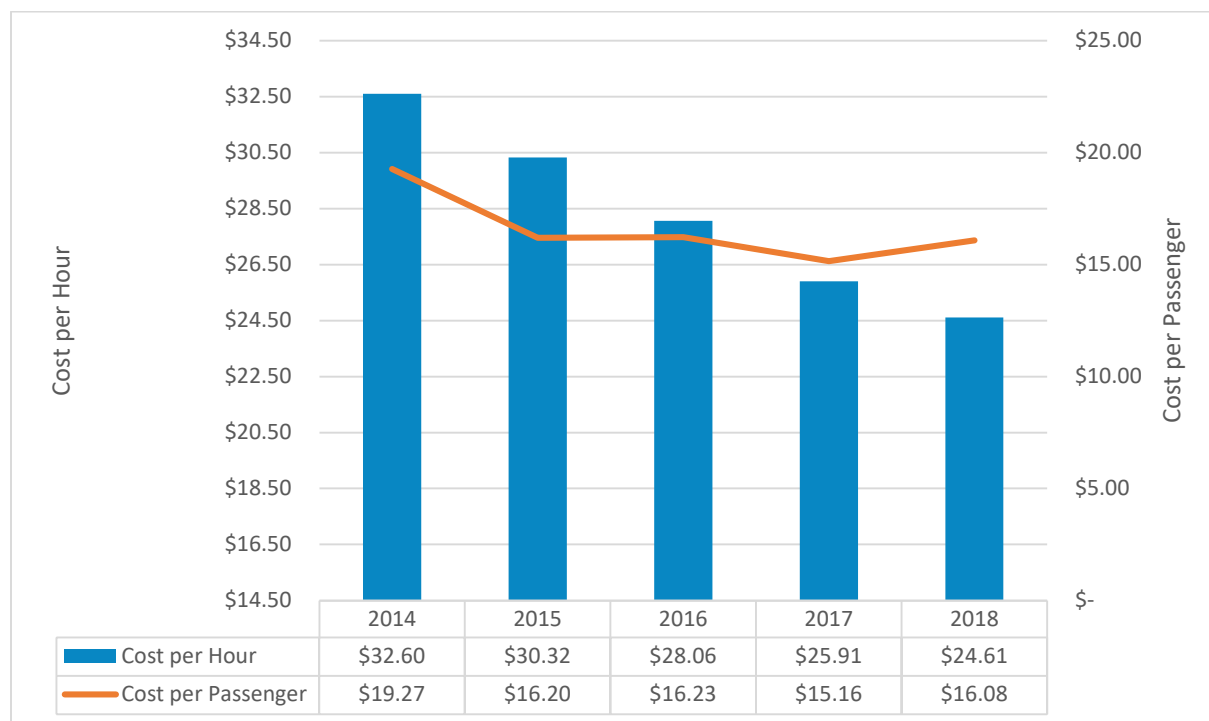


FIGURE 8: AVERAGE FARE VS. REVENUE SPEED



Other metrics for JCT show positive trends. Since 2014, there has been a 12 percent annual increase in ridership with a four (4) percent annual decrease in operating costs. **Figure 9** presents these values.

FIGURE 9: COST PER HOUR



2.3 REVIEW OF OTHER PLANNING STUDIES

The local governments in Jackson County are committed to ongoing mobility improvements for the communities they serve. In keeping with this common goal, several transportation planning efforts have been conducted in recent years to identify a variety of community issues, and to define strategies and solutions to resolve these issues.

2.3.1 Jackson County Transportation Plan (2019)

The Jackson County Transportation Plan was completed in 2019 as a roadmap of projects and policies to support the future success of the County. The plan was funded with “Special Project PL Funds” allocated to the Gainesville-Hall Metropolitan Planning Organization (GHMPO) with a local contribution from Jackson County and several municipalities within the County. As noted earlier, a portion of western Jackson County is included as part of the GHMPO and the UZA boundary that defines its limits.

2.3.1.1 Transit-Related Survey Responses

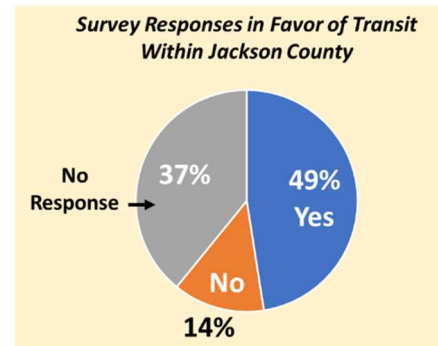
A survey was conducted in fall 2018 as part of the Jackson County Plan that included specific questions related to transit within Jackson County. The interactive survey provided respondents the opportunity to provide input regarding their desire for potential transit improvements within the County. The survey included a mapping component where respondents could drop pins and identify locations and areas of concern. The survey also included a multiple choice and open-ended questions.

Survey Analysis

Approximately 49 percent of the survey respondents stated that they were in favor of transit within Jackson County.

Respondents were able to choose multiple desired bus stop when asked where they would go travel if transit were made available. Most of the locations were in or near the municipalities of Jefferson, Hoschton, Braselton or Commerce. Additionally, many respondents identified destinations external to Jackson County as desired destinations. These external locations include South Hall County, Athens-Clarke County, **Figure 11** presents the identified desired transit stop location identified as part of the Countywide Transportation Plan.

**FIGURE 10. TRANSIT QUESTION
RESPONSE FROM JACKSON
COUNTY TRANSPORTATION PLAN**



2.3.2 2050 Jackson County Comprehensive Plan (Estimated Completion October 2020)

Since 2019, Jackson County has been working on the 5-year update to the 2045 Comprehensive Plan to maintain Qualified Local Government (QLG) Status with the Georgia Department of Community Affairs (GA DCA). The 2050 Comprehensive Plan Update is slated to be completed in October 2020. As part of the 2050 Comprehensive Plan Update, Jackson County Public Development staff have conducted various public outreach activities, including an online survey, like the survey conducted for the Countywide Transportation Plan.

According to Jackson County staff, over 7,000 responses to the online survey have been received to date. The survey results indicate that respondents identified increasing traffic and congestion as the second biggest issue facing the county in the near term, as shown in **Figure 12**. Currently, JCT primarily serves the transportation disadvantaged, that is those without access or means to transport themselves; however, future JCT service could expand to serve others within the Jackson County community.

FIGURE 11: SURVEY RESPONSE RESULTS, 2018

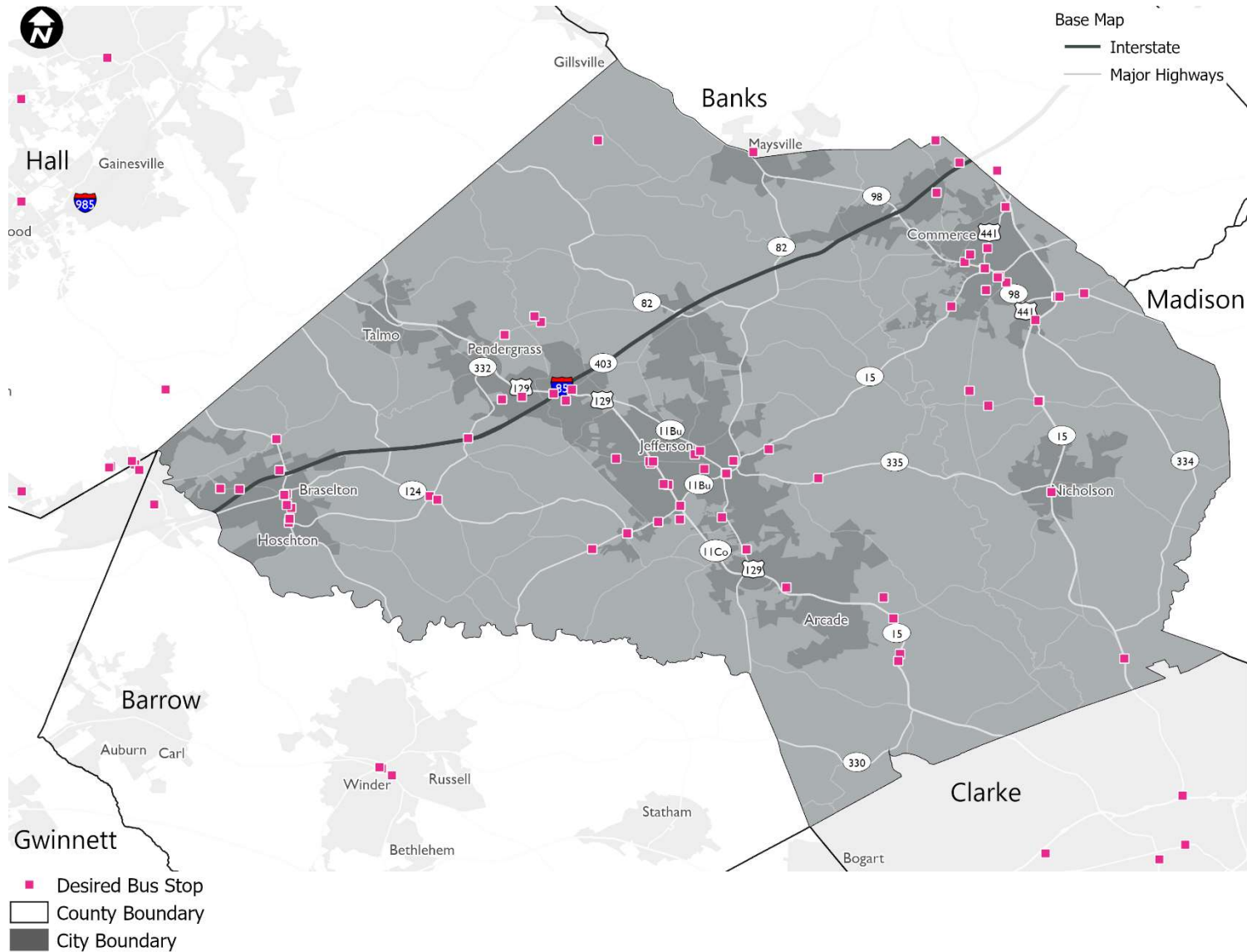


FIGURE 12. SURVEY RESPONSES - JACKSON CO. COMP PLAN

Rate the importance of the following issues/trends in planning for the future of unincorporated Jackson County					
	Very Important	Important	Somewhat Important	Not at all Important	Neutral/No opinion
Tractor-trailer parking	13% Very important	16% Important	27% Somewhat Important	30% Not at all important	14% Neutral/No opinion
Affordability of housing	29% Very important	28% Important	27% Somewhat Important	12% Not at all important	5% Neutral/No opinion
Options for housing (i.e., townhouses, apartments, single-family homes, etc.)	17% Very important	19% Important	27% Somewhat Important	34% Not at all important	3% Neutral/No opinion
Traffic / Congestion	77% Very important	18% Important	5% Somewhat Important	- Not at all important	- Neutral/No opinion
Bicycle and pedestrian safety and access	36% Very important	22% Important	31% Somewhat Important	9% Not at all important	1% Neutral/No opinion
Aesthetics of developments along gateway corridors.	43% Very important	26% Important	22% Somewhat Important	7% Not at all important	2% Neutral/No opinion
Access or availability of parks and recreational facilities	60% Very important	23% Important	12% Somewhat Important	4% Not at all important	1% Neutral/No opinion
Increasing access to broadband internet in unserved or underserved areas	71% Very important	20% Important	7% Somewhat Important	1% Not at all important	1% Neutral/No opinion
Protection of the natural environment	78% Very important	17% Important	4% Somewhat Important	- Not at all important	1% Neutral/No opinion

2.3.3 Statewide Assessment of Public Transit Funding Needs for Counties Trending Urban in Georgia

A study funded by Georgia Department of Transportation (GDOT) was completed by a team led by Dr. Laurie Garrow from the Georgia Institute of Technology (Georgia Tech). The study report, *Statewide Assessment of Public Transit Funding Needs for Counties Trending Urban in Georgia* (December 2019) was conducted to assist The GDOT Office of Intermodal with predictions of future FTA transit funding in urbanizing areas of the state. Both state and county wide models were utilized. Model results classified

outputs with probability ranging from conservative (likely) to aggressive (less likely). The study specifically highlights Jackson County as one of the “trending urban” counties within Georgia. The model output produced robust predictions for future federal transit funding; the sensitivity analysis helped the team propose that reformulation was required based on key assumptions using a base year 2019 apportionment.

The detailed results of the study included future projections of FTA 5311 and 5307 funding. With limited national data available linking urban counties to rural providers, high-level estimates were used by the Georgia Tech team based upon readily available FTA National Transit Database (NTD) data.

Several differences were identified between Jackson County existing data and assumptions from the Georgia Tech study. Specifically, large variances were identified for the 2019 base year. **Table 5** presents the Georgia Tech values and Jackson County data from the 2019 NTD Reporting Year (RY).

TABLE 5. ACTUAL VS. GEORGIA TECH STUDY 5307 & 5311 FUNDING VALUES (RY 2019)

Source	2019 Base Year	
	5307	5311
Jackson County (Actual) ⁴	\$ 24,126	\$ 63,126
Georgia Tech Model	\$ 41,301	\$ 341,984
Percent Error (%)	-71%	-442%

The Georgia Tech study forecasted values for 2022 include a low and high estimate for 5307 funds and a single value for 5311, showing a 35% decrease from the 2019 value. These values are presented as **Table 6**.

TABLE 6. ACTUAL VS. GEORGIA TECH STUDY 5307 & 5311 FUTURE FUNDING (RY 2022)

Source	2022 Modeled Year	
	5307	5311
Georgia Tech Model	\$ 93,661 to \$200,775	\$ 221,705

Although the Georgia Tech analysis included a sensitivity analysis for the 5307 funding, as mentioned earlier, the reporting year (2019) base year assumptions varied from the actual NTD reported values. Therefore, the projections from the Georgia Tech study were not used as potential targets in the RS&H analysis. However, the methodology from the Georgia Tech study was assessed and used as another layer of insight for the formulation of expected future funding, discussed in later sections of this report.

⁴ NTD Reporting Year 2019

2.3.4 Georgia Statewide Transit Plan

The Georgia Statewide Transit Plan (GSWTP) has been underway since January 2019 with a Draft report completed in May 2020. Currently, GDOT is conducting a virtual public open house for the month of July 2020.

Several highlights from the plan include a summary of existing travel trends and future needs, as well as recommendations spanning several key areas from funding to improved administration between federal, state and local transit partners.

In Jackson County, the GSTP notes that transit is primarily used to access healthcare, jobs, and other community resources. The GSTP also estimated a theoretical unmet transit demand in Jackson County between 45,439 and 90,584 trips in 2017, far lower than existing JCT service. The GSTP projected an increase in theoretical unmet transit demand to over 100,000 annual trips by 2050 as the county population grows. The GSTP recommends that to meet this growing transit need, JCT should increase service frequency or capacity, improve communication of service changes, and garner public support for transit investment.

“By 2050, growth in travel demand between the ATL Region and adjacent counties is projected to continue, with a 98% increase in the number of trips to/from Jackson County”

Source: Georgia Statewide Transit Plan (Draft, May 2020)

3.0 TRANSIT DEMAND ASSESSMENT

3.1 TRANSIT PROPENSITY ANALYSIS

Population and employment densities, along with other socio-economic characteristics, are often used as indicators for public transportation demand. Transit propensity measures the likelihood that members of a community may use public transit. At its core, propensity is an economic term used to estimate or predict potential consumer behavior. A higher propensity toward an action suggests a greater likelihood to take the action. As a tool, transit propensity analysis helps identify geographic locations within a community where transit service would best serve the population. The percentages of the specific demographic and socio-economic factors were compiled and compared with Jackson County's total population, presented as **Table 7**, and by total number of Jackson County households in **Table 8**. The data in both tables represents year 2018, as obtained from the American Community Survey (ACS).

TABLE 7: CONCENTRATION BY TOTAL COUNTY POPULATION

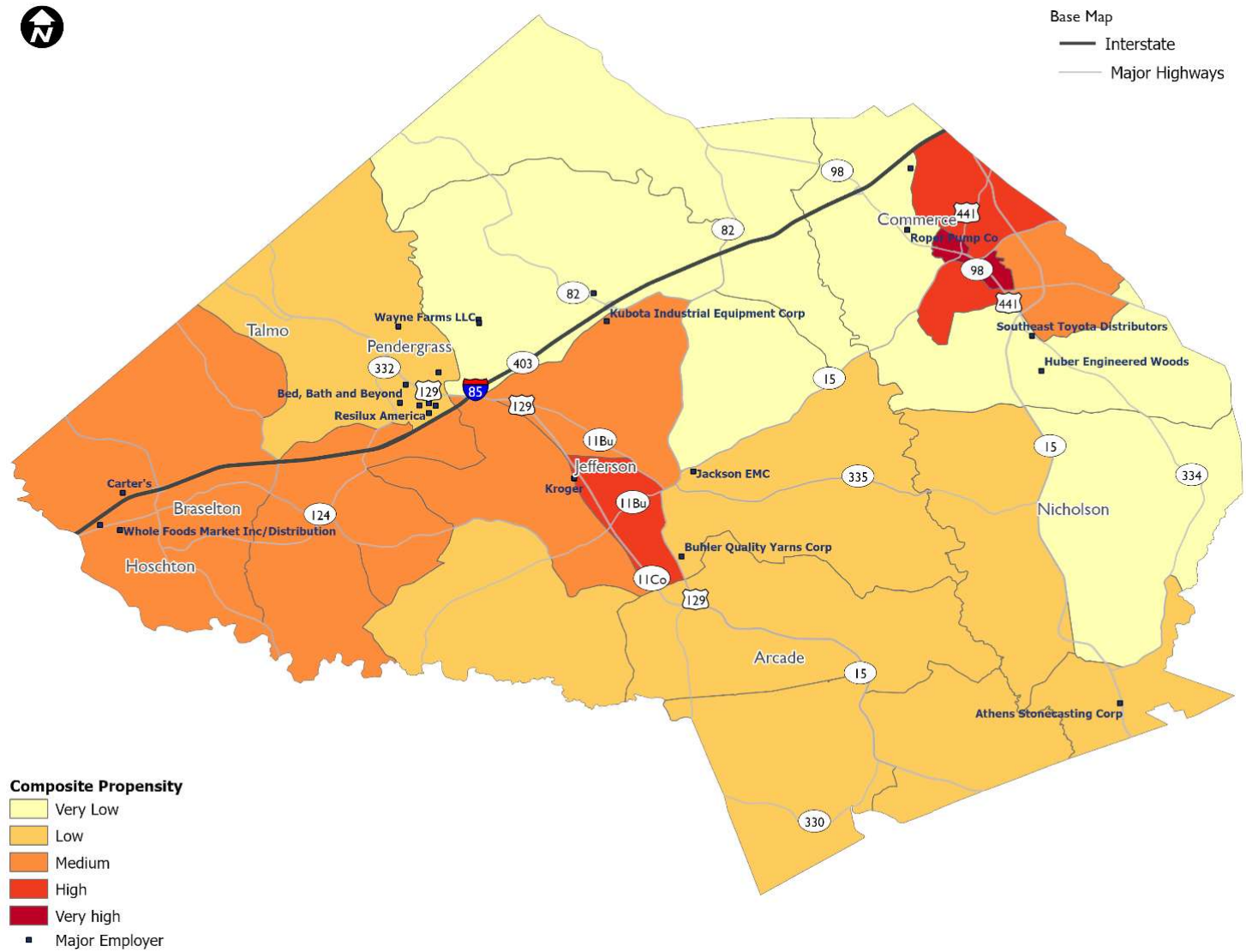
Group	Jackson County Population	2018 ACS 5yr Estimates	% of Population
Minority	63,851	11,268	18%
Female	63,851	32,312	51%
Persons with Disabilities (workers)	63,851	4,033	6%
Persons with mobility limitations	63,851	14,385	23%
Recent Immigrants	63,851	1,154	2%
Workers age 65 and older	63,851	25,849	40%

TABLE 8: CONCENTRATION BY NUMBER OF COUNTY HOUSEHOLDS

Group	Number of County Households	2018 ACS 5yr Estimates	% of Households
Households with Zero Cars	21,785	964	4%
Households living below poverty	21,785	2,723	12%

Appendix D includes figures depicting each individual socio-economic and demographic group listed above. **Figure 13** presents the final composite transit propensity compiling all groups.

FIGURE 13: JACKSON COUNTY COMPOSITE TRANSIT PROPENSITY, 2018



The transit propensity within the City of Commerce and the City of Jefferson resulted in the highest propensity for transit. Other areas of West Jackson County and East Jackson (near Commerce) show moderate propensity for future transit.

3.2 EMPLOYMENT DENSITY

Employment density is another key indicator of the help identify potential areas of higher transit propensity. There are several published industry guidelines that identify specific employment density thresholds that may impact the potential for future transit propensity and specifically, the potential success of a fixed route transit system. The Transportation Research Board (TRB) Transit Cooperative Research Program (TCRP) Report 165: Transit Capacity and Quality of Service Manual (TCQSM), Third Edition states "...the more people and the more jobs that are within easy access distance of transit service, the more potential customers there are to support high-quality service". The TCQSM cites four (4) jobs per gross acre as the minimum employment density to consider that could support hourly bus service.

To assess employment densities, socio-economic data for the Transportation Analysis Zones (TAZs) from the Jackson County Transportation Plan travel demand model were utilized to identify base year (year 2015) and future year (year 2050) employment densities.

Figure 14 presents the TAZ-level employment densities for 2015 within Jackson County, while **Figure 15** presents the same data for future year 2050. It should be noted that the 2050 projections were completed as part of the Jackson County Transportation Plan in 2018 before the announcement of SK Innovation. Since that time, there has been a good deal of proposed new development and interest in the vicinity of SK and also just to the north across I-85. The figures for both 2015 and 2050 show that only a handful of areas within the Jackson County municipalities and Industrial Areas along the I-85 corridor would be candidates for fixed route transit, although no areas met the four jobs per acre threshold.

FIGURE 14. BASE YEAR EMPLOYMENT DENSITY – YEAR 2015

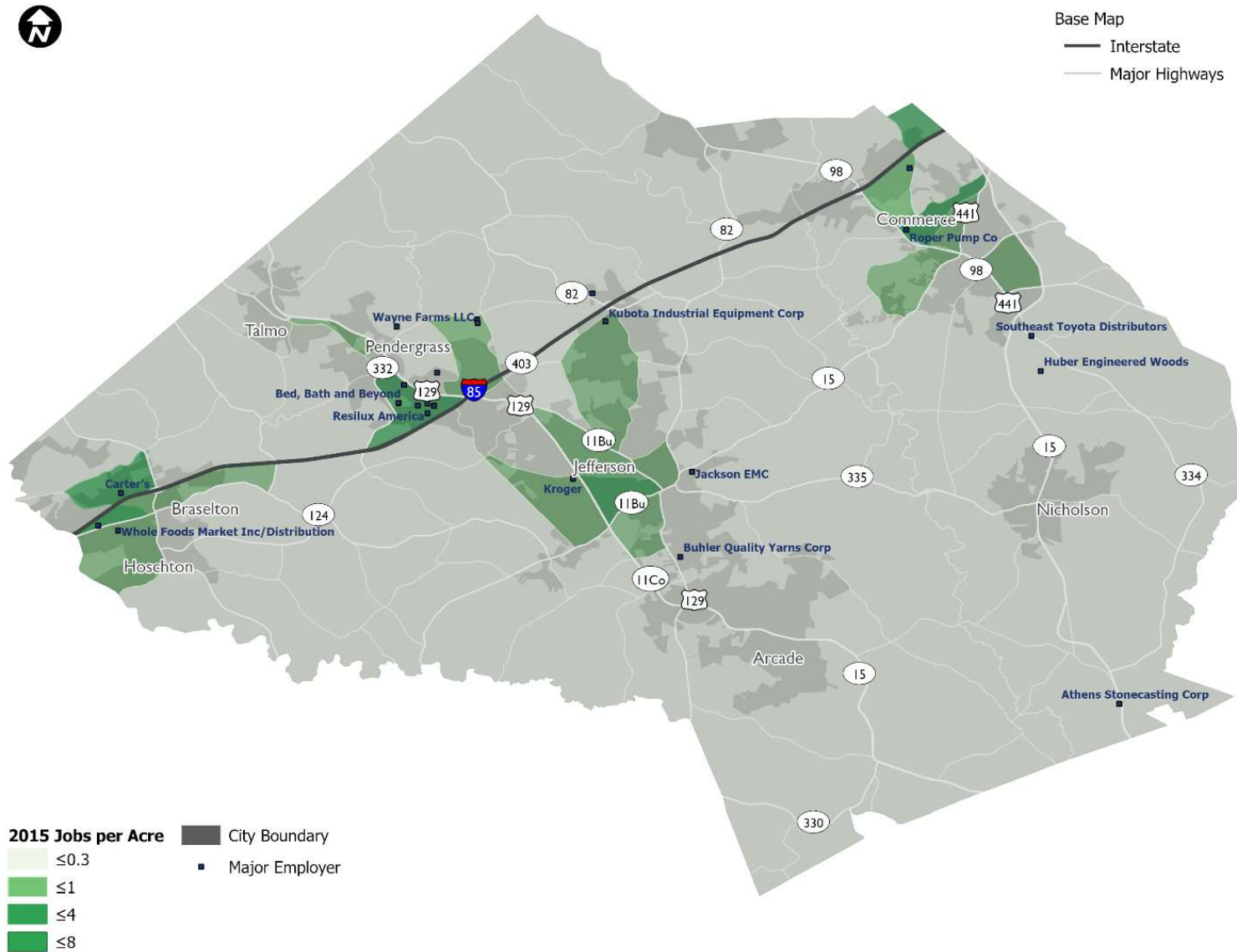
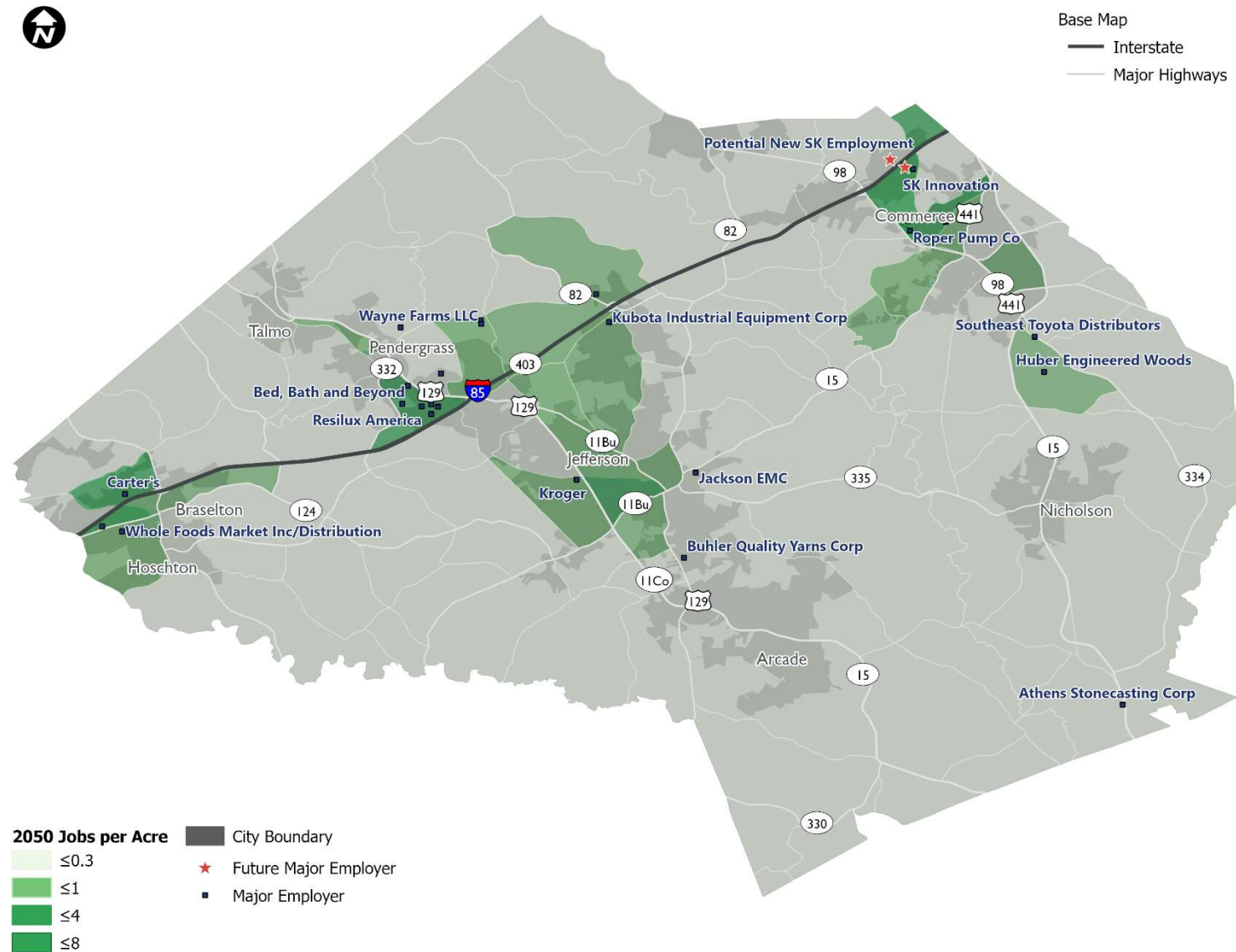


FIGURE 15: FUTURE YEAR EMPLOYMENT DENSITY – YEAR 2050



3.3 POTENTIAL FUTURE RIDERSHIP

Based on the results of the propensity analysis, it is possible to determine estimates of potential transit ridership by block group for the Census-defined urban areas within Jackson County. Potential transit ridership was not estimated for the Census-defined rural areas within Jackson County. The transit ridership estimates should not be considered as a formal ridership forecast, but at a level sufficient for planning and policy analysis purposes for considering future investments.

The “Arkansas Model” is one of several models used by transit planners to estimate annual transit ridership. For smaller urban transit systems, such as Jackson County, the Arkansas Model predicts the actual ridership with the most accuracy. This method was incorporated to estimate potential transit ridership for a fixed-route bus system within Jackson County.

To determine the potential future demand for a potential fixed-route transit system, a two-step process was followed. First, the Arkansas Model was utilized to estimate the potential ridership using the following demographic groups:

- *Elderly population*
- *Disabled population and*
- *Low-income population*

The ridership estimated by the Arkansas Model was compared to the actual demand response ridership to estimate a usage rate factor. The calculation for the Arkansas Model is shown below:

$$8.4 \times \text{Population 65 years and older} + 30.0 \times \text{Disabled population less than 65 years old} \\ + 14.5 \times \text{low income, non disabled population less than 65 years old}$$

The second step involved extrapolating the current usage rate to year 2022 based on population projections completed as part of the Jackson County Transportation Plan.

The total estimated ridership (potential trips) was estimated as 40,358. Using a capture rate of 10%, future ridership within the Census-defined urban areas of Jackson County is estimated at just over 40,000. Trips, as shown in **Table 9**.

TABLE 9: LATENT DEMAND FOR POTENTIAL FIXED-ROUTE TRANSIT SYSTEM

Group	Factor	Population	Estimated Ridership (Within US Census-defined Urban Area)
Disabled	8.4	9,033	7,588
Elderly	30	8,060	24,180
Low Income	14.5	5,924	8,590
Total		23,017	40,358

3.4 REVIEW OF PEER JURISDICTIONS

In determining the feasibility of a potential fixed-route transit system for Jackson County, a peer review of communities of similar size with fixed-route systems within Georgia were reviewed. The systems and communities include:

- *Rome Transit -- Rome, Georgia*
- *Athens Transit -- Athens, Georgia*
- *Albany Transit -- Albany, Georgia*
- *Liberty Transit -- Hinesville, Georgia*

Various operational information from each system was compiled and reviewed including type of service, operating budgets, and various performance measures and factors including type of service (modified fixed-route, demand-response, etc.), local fare policies, and quality of capital equipment. The results of the peer review analysis provide a service and performance overview of similar fixed-route systems. Additional details for each peer review system follows.

3.4.1 Rome Transit-Fixed Route

Rome Transit Department provides fixed-route services that consist of fixed route and paratransit demand response services within the city of Rome, Georgia. The system operates a total of 35 buses, at peak service, Monday through Friday from 5:40 am to 6:30 pm. Rome transit's paratransit service operates up to $\frac{3}{4}$ of a mile from the fixed route lines on a curb to curb service for the disabled and elderly populations. The cost for regular fare is \$1.25 with a reduced fare of \$0.60 for disabled/ and elderly riders. Transfers are free, and children under the age of five years old traveling with an adult are also free. Ride cards are available for 50 and 10 trips, for both regular and paratransit services.

Source: <https://www.romefloyd.com/departments/transit%E2%80%90department>.

3.4.2 Athens Transit-Fixed Route

Athens Transit Systems (ATS) provides service to Athens-Clarke County, Georgia via a fixed-route service with paratransit demand response service available to individuals with mobility impairment. Service hours for ATS are Monday through Sunday, from 6:00 am to 9:45 pm. The fare for riders between the ages of 18-64 is \$1.75. Fares for the elderly and disabled are \$1.00 during peak hour and \$0.85 during off peak hours. All children 17 and younger ride for free. ATS offers passes for 22 rides without time restrictions and free transfers at a cost of \$31.00 for riders aged 18-64 and \$18.00 for senior citizens and disabled riders. The ATS system also has a partnership with University of Georgia students, faculty and staff, which add to its ridership, operations and constituent a major difference with other city-county transit systems in Georgia.

Source: <https://www.athensclarkecounty.com/199/Transit>

3.4.3 Albany Transit-Fixed Route

Albany Transit System provides fixed-route service within the City of Albany, Georgia. The system includes nine (9) fixed routes at a full base fare of \$1.50 per ride per adult. Seniors, disabled, and children ages 6 to 12 pay \$0.50 per ride. On-demand paratransit riders pay \$2.50 per one-way trip. Free transfers are available to all riders. Children five years and younger ride for free. Albany Transit also offers unlimited weekly and monthly passes at a cost of \$12.00 and \$45.00, respectively. Discounted monthly passes for seniors and the disabled are available for \$20.00, and \$35.00 for students.

3.4.4 Liberty Transit-Fixed Route

Liberty Transit is a fixed-route transit system that operates three (3) fixed routes which operate between 6:00 am and 7:30 pm Monday through Friday. The regular fare for one-way service is \$1.00 with discounted rates available for senior citizens and Medicare card holders. Curb-to-Curb demand response service is available for eligible passengers at a rate of \$2.00 for a one-way trip. The Liberty Transit system operates a fleet of three (3) buses, each equipped with ADA compliant wheelchair lifts and tie downs, as well as bicycle racks for multimodal passengers.

Source: <https://libertytransit.org/>

4.0 POTENTIAL FUTURE FUNDING

A future transit system will require the identification of secure funding sources with sufficient revenue capacity to support the system implementation and operations. This section presents a summary of potential federal, state, and local sources of revenue that may be expected to fund the capital and operating costs of a future transit system within Jackson County.

4.1 FEDERAL FUNDING SOURCES

As noted previously, JCT is eligible to receive formula grants from the Federal Transit Administration (FTA). After the 2020 US Census results are summarized and reported, it is expected that the Jackson County urbanized area will have a population between 50,000 and 199,999. Many of the federal formula grants are first apportioned to states by the FTA; the monies are then distributed by the states to their small transit providers. FTA funds are generally available for three (3) years after the first fiscal year in which the amount is apportioned. The federal funds also require a non-federal match component. The non-federal funding match may be from state or local sources and can vary by program and purpose (i.e. capital vs. operating). The primary sources of federal funds for which JCT is eligible are discussed below.

4.1.1 Federal Section 5307 Urbanized Area Formula Program

The FTA's Section 5307 Urbanized Area Formula program is one of the most critical funding components applicable to future transit operations within Jackson County. The Section 5307 program provides formula funding on an annual basis. This program provides grants to urbanized areas for public transit capital, planning, and job access, as well as operating assistance in certain circumstances. All preventative maintenance and some ADA complementary paratransit service are considered capital costs. For urbanized Areas under 200,000 in population, the Section 5307 apportionments are distributed by a formula which is based on population and population density.

The FY 2018 Section 5307 Urbanized Area Formula Illustrated Apportionments for Georgia urbanized areas with fewer than 200,000 in populations are summarized in **Table 10**. The population, population density per square mile, and population ranks are from the US list of Census-defined Urbanized Areas in 2010. The total number of urbanized areas in 2010 was 498. The peer jurisdictions presented in Section 3.0 of this report were used as a benchmark to calculate the average apportionment per population. The calculated average was then utilized to determine the expected FY 2022 5307 funding apportionment for Jackson County.

TABLE 10: ILLUSTRATIVE SMALL URBANIZED AREA SECTION 5307 APPORTIONMENTS, 2018

Urbanized Area	Population ⁵	Density	Pop. Rank	Apportionment
Albany	76,616	1,352	309	\$1,330,126
Athens-Clarke County	119,980	1,309	249	\$2,380,347
Liberty	33,437	1,672	486	\$748,859
Rome	36,159	1,277	444	\$1,624,982

⁵ Population is representative of urban service area only

The FY 2022 apportionment of section 5307 funds for the Jackson County urbanized area is estimated to be approximately \$1.8 million. This estimate takes into account the existing urbanized boundary based upon 2010 Census population density. As presented on **Figure 1**, the urbanized area boundary within Jackson County is expected to grow once the results of the 2020 Census have been processed; therefore, actual 5307 apportionments are likely to vary.

Table 11 presents a five-year projected apportionment of Section 5307 funds for FY 2022 to FY 2026. The estimates are calculated using an assumed revenue inflation rate of 1.25%, typical for the state of Georgia.

**TABLE 11: JACKSON COUNTY URBANIZED AREA
SECTION 5307 FUNDING PROJECTIONS⁶, FY 2022-2026**

Fiscal Year	Section 5307 Funds
2022	\$1,799,108
2023	\$1,844,367
2024	\$1,867,421
2025	\$1,890,764
2026	\$1,914,399

The federal share for planning and capital assistance projects is generally 80% of the net project cost⁷. Net project cost is that portion of the cost of the project that cannot reasonably be financed from revenues. There are some exceptions to the 80% federal share for capital projects. For example, an 85% federal share is allowed for the cost of vehicles to comply with ADA or the Clean Air Act, and a 90% federal share is allowed for the cost of vehicle-related equipment and facilities to comply with the ADA or the Clean Air Act.

It should also be noted that the FTA definition of a capital project continues to include preventative maintenance and the provision of ADA demand response paratransit service. However, the amount that may be used to pay for ADA paratransit operating costs continues to be limited to 10% of the apportioned Section 5307 funds.

GDOT generally provides one-half of the 20% non-federal share for capital projects (10%). That is, most capital projects would be funded 80/10/10 or 80 percent Section 5307 Federal funds, 10 percent state funds and 10 percent local funds, respectively.

In urbanized areas with a population less than 200,000, including Jackson County, the federal share may not exceed 50% of the net project costs for operating expenses. The state of Georgia currently does not provide

⁶ Unlike existing FTA 5311 funding, the local match for FTA 5307 funding will depend upon how much federal money is used and requested for reimbursement. The 5307 funds shown are estimates based upon peer Georgia transit systems and represent maximums comprised of both capital and operating funds. Note that federal contributions will not exceed 90% for capital costs and 50% for operating expenses. Updated funding amounts will be available in 2023 based upon 2022 dollars.

⁷ Net project cost is that portion of the cost of a project that cannot reasonably be financed from revenues.

transit systems with funds for operating assistance. Therefore, the revenues from fares (farebox) and other local funds were assumed for the remaining 50 percent of operating costs.

4.1.2 Federal Section 5311 Non-urbanized Area Formula

The existing transit system operating within Jackson County is an “on-demand” dial-a-ride system funded through the FTA section 5311 program and local funds. This FTA program provides planning, capital, and operating assistance to states to support public transit in Census-defined rural areas, or areas with populations less than 50,000. Eligible Section 5311 activities have been expanded to include planning and job access. Funds are apportioned primarily to rural areas.

The rural area funds are apportioned to states using a formula that is based primarily on rural land area and population, while also considering land area, revenue-vehicle miles, and the population of low-income persons within the rural area. The non-federal matching ratios for Section 5311 are the same as Section 5307. That is, the federal share is 80% for capital projects, 50% for operating assistance, and 80% for ADA paratransit up to 10% of a recipient’s apportionment.

Section 5311 service within Jackson County provides critical connections to medical and personal needs for many in the community. JCT does provide service to Jackson County residents who need to travel to select locations outside of the County, including the Northeast Georgia Medical Centers and supporting medical facilities in and around Braselton, and locations within Athens-Clarke County. The JCT rural transit services is not meant to be duplicative of other transportation services within the Athens-Clarke urbanized area. FY 2018 Section 5311 Federal Non-Urbanized Area formula apportionment for Jackson County is set at \$99,128 annually, which includes both capital and operating expenses. This study takes a conservative approach and estimates no change to the Section 5311 funding forecast for FY 2022 through FY 2026 as presented in **Table 12**.

**TABLE 12: JACKSON COUNTY NON-URBANIZED AREA
SECTION 5311 FEDERAL FUNDING PROJECTIONS, 2022-2026**

Fiscal Year	Section 5311 Funds
2022	\$99,128
2023	\$99,128
2024	\$99,128
2025	\$99,128
2026	\$99,128

Table 13 below summarizes the projected federal funding of Jackson County in FY 2022.

TABLE 13: PROJECTED FEDERAL FUNDING, 2022

Unit cost	Projected Federal Funding		
	5307 (Urban)	5311 (Rural)	Total
Total	\$ 1,799,108	\$99,128	\$1,922,362

4.2 STATE FUNDING SOURCES

Georgia Code Title 46. *Public Utilities and Public Transportation* authorizes GDOT to assist with the facilitation of transit services within Georgia, including serving as the direct recipient for federal funding for Georgia's rural and small urban transit systems, including Jackson County. However, the state of Georgia has very limited funds designated for transit purposes. GDOT has provided funding for transit capital projects, such as park and ride lots, and for assistance with the non-federal matching share of capital and preventative maintenance projects. GDOT provides this funding through State General Fund budget requests and in the future through the recently adopted House Bill 105, also known as the Shared Ride Bill. Typically, GDOT can allocate State General Funds for one-half of the non-federal match, or 10 percent of the 20 percent comprising the non-federal match requirement for capital projects.

4.3 FAREBOX REVENUES

A healthy transit system collects a portion of its needed funding revenues through fare collections. Although the farebox portion of all revenues varies greatly from one system to another, a recent study for the Atlanta Regional Commission Transit Governance Committee referenced 25 percent⁸; however, the systems for urban and rural areas are vastly different. As included in **Appendix C**, the average farebox recovery for JCT is approximately 15 percent. Farebox revenues cover a portion of the operating costs, but other sources are needed to supplement and cover remaining costs and the local funding match. **Table 14** below summarizes the existing fare structure for JCT.

TABLE 14: JACKSON COUNTY FARE STRUCTURE

Type	Fare Cost
One way in county	\$ 4.00
Round trip in county	\$ 8.00
One way out of county	\$ 9.00
Round trip out of county	\$ 18.00

4.4 LOCAL FUNDS

Local funds will be necessary to provide the local match share of the federal capital grant amount, operating costs not covered by the passenger farebox revenue or federal operating assistance. Besides

⁸ Source: ARC Transit Governance Presentation, 2017

passenger farebox revenues, local general funds are typically the primary local funding source for Georgia transit agencies like Jackson County.

There are number of different mechanisms to raise local funding for transit service. While general fund appropriations, property taxes or sales taxes are the most common sources to fund transit systems. The Georgia legislature has discussed the potential for developing a transit dedicated version of the Transportation Special Purpose Local Option Sales Tax (T-SPLOST), but as of the 2020 session, no such option is available.

5.0 FUTURE SYSTEM SCENARIOS

Through a collaborative workshop on February 6, 2020, Jackson County staff, representatives from the GHMPO and study team developed a set of potential future transit scenarios within the context of the approximate urban area expansion, projected funding, and future ridership estimates.

5.1 SCENARIO DEVELOPMENT ASSUMPTIONS

Several assumptions were incorporated into the development process for the various transit scenarios. The level of confidence for several assumptions is presented in **Table 15**.

TABLE 15. SCENARIO DEVELOPMENT ASSUMPTIONS

Level of Confidence	Assumptions
High	<ul style="list-style-type: none"> ○ Revenues: Section 5311 funds based upon federal funding formula allocations ○ Operation: Based upon typical transit system characteristics ○ Costs: Existing JCT system and estimates from peer cities ○ Ridership: Existing and estimated future
Less Certain	<ul style="list-style-type: none"> ○ 2020 US Census: Geographic Expansion of Urbanized Area ○ Funding: Section 5307 is largely dependent upon funding availability from federal and/or state programs

Other assumptions were also incorporated based upon specific other critical factors:

- Calculation of annual future funding: Based upon existing JCT funds with comparisons to unit costs from peer transit agencies
 - Section 5307 funding of \$1.79 M
 - Section 5311 funding at \$99,128
 - Total Funding: Approximately \$1.92 M
- Total costs include operating and capital expenditures
- Five-year cost projections begin in year 2022 based upon FTA funding timeline, which states: *"Operators will be prevented from using FTA 5307 Funds for the first two years after the 2020 Census while they wait for their 5307 operations to become certified"*

- The potential service options are based upon two major elements: (1) determination of operating and maintenance costs (O&M); and (2) determination of possible revenue streams
- Operation and Maintenance (O&M) unit rates were forecasted, or derived from peers, and applied to the specified quantities to determine total project costs. Upon calculation of projected O&M costs for each of the potential service options, expected revenues from farebox, state, and federal (5307 and 5311) were applied and projected using a 5-year linear regression model. Local contribution was then determined as the difference between total project costs and revenues for each year in our financial analysis

5.2 TRANSIT SERVICE SCENARIOS

Four (4) future transit scenarios were developed and assessed to provide Jackson County with information to plan and program resources once the 2020 US Census results are processed and the federal funding streams begin to shift. The first scenario includes ceasing all transit service. The three (3) remaining scenarios include a variation of system types and options. **Table 16** presents a summary of the four (4) transit options developed for Jackson County and a brief overview of each.

TABLE 16. POTENTIAL FUTURE SYSTEM SCENARIOS

Scenario	Service Specifics	Additional Service Details
1	Cease transit service	Jackson County residents will continue to pay taxes but will not recoup their allotted federal transit funds, which will be directed to other jurisdictions. Additionally, Jackson County residents who currently rely on JCT would be forced to pay out of pocket additional costs and hire private transportation service.
2A	Continue operation of single demand-response system serving both urban and rural areas, operating with one (1) existing fleet	Continue to operate a rural (Section 5311) funded system with the likely reality that Section 5311 funds will decrease proportionately with the increase in Section 5307 urban system funds. However, for the purposes of this analysis, a conservative approach was taken and the existing annual 5311 funds were kept constant.
2B	Two (2) separate fleets providing demand-response service: one fleet for urban areas and the second fleet for rural areas	Two (2) separate fleets each with separate operators and dispatchers – one serving rural areas with Section 5311 funds and the other serving urban areas with Section 5307 funds
3	New fixed route service for urban areas with demand-response service for rural areas	New fixed route service for urban areas with continued demand-response for rural areas will continue uninterrupted

5.2.1 Scenario 1: Cease Transit Service

Scenario 1 presents the option to terminate the existing on-demand transit system and dispose of capital assets following federal and state guidelines. The assumptions, benefits, and drawbacks for Scenario 1 are presented in the following.

5.2.1.1 Scenario 1: Assumptions

- Considers future rider out-of-pocket costs
- Considers expected County impacts should system be disbanded:
 - Loss of part-time jobs for current drivers
 - Loss of full-time job for dispatcher
 - Loss of busses, which are state assets valued at \$177,863

5.2.1.2 Scenario 1: Benefits

- Time savings for Jackson County staff and cost savings for Jackson County from General Fund

5.2.1.3 Scenario 1: Drawbacks

- Jackson County residents will continue to pay their federal, state, and local taxes, but without the available transit option. Apportioned federal transit funding that formerly allocated to Jackson County would be re-apportioned and benefit other Georgia transit agencies in the form of Small Transit Intensive Cities (STIC) funds and other discretionary programs
- Residents, older adults, and persons with disabilities without affordable transportation options would lose access to critical community services and/or be forced to pay higher out of pocket costs for private transportation services (cabs / Uber/ Lyft etc)

5.2.2 Scenario 2A: Demand Response Service for Urban and Rural Service (One Fleet)

Scenario 2A includes the continued operation of the Section 5311 funded system with the expectation that 5311 (rural) transit funding will decrease proportionately with the increase in Section 5307 (urban) transit funding.

5.2.2.1 Scenario 2A: Assumptions

- Both Scenarios 2A and 2B offer two (2) distinct services (Urban Demand Response and Rural Demand Response) operated by one agency. Will require administrative documentation and dispatching assets based upon trip type servicing areas (urban or rural areas)
- Administrative & Operating Costs: split based on current proportion of urban and rural trips, 35% and 65%, respectively
- Ridership: 4% annual increase based on current operating analysis
- Trips remain constant compared to existing service – split using 35% urban and 65% rural (from O+D data)
- Utilizes average fare revenue reported on Section 5311 grant application of \$3.06
- This scenario would require:
 - Hiring of a Mobility manager
 - Bus replacement based on Section 5311 grant application documented need

5.2.2.2 Scenario 2A: Benefits

- Vehicle type will remain the same (Existing van/lift vehicles)
- Door-to-door demand response service for rural areas will continue uninterrupted

5.2.2.3 Scenario 2A: Drawbacks

- Requires administrative documentation of trip type and/or mobility manager to carefully track all trips, and use of transit assets, based upon whether they are serving designated urban or rural areas

5.2.2.4 Scenario 2A: Financial Summary

A summary of costs was generated for Scenario 2A and compared against projected federal, state and farebox revenues. Remaining funding shortfalls were allocated to the local funding column. The scenario analysis includes both operating and capital costs per assumptions listed previously. **Table 17** presents the financial summary for Scenario 2A.

TABLE 17: FINANCIAL SUMMARY (SCENARIO 2A)

Fiscal Year	Total Cost	Reimbursement (Federal & State)	Revenues (Farebox & Contracts)	Local
2022	\$ 311,447	\$ 155,724	\$ 36,976	\$ 118,748
2023	\$ 317,676	\$ 158,838	\$ 37,438	\$ 121,400
2024	\$ 330,510	\$ 165,255	\$ 37,906	\$ 127,349
2025	\$ 350,740	\$ 175,370	\$ 38,380	\$ 136,990
2026	\$ 379,653	\$ 189,826	\$ 38,860	\$ 150,966

5.2.3 Scenario 2B: Demand Response Service for Urban and Rural Service (Two Fleets)

5.2.3.1 Scenario 2B: Assumptions

- New administrative & operating costs will be funded by Section 5307. Rural operating cost will remain stable and funded by Section 5311
- Includes the capital cost for bus replacement from Scenario 2A
- Ridership: 4% annual increase based on current operating analysis
- Administrative & Operating Costs: split based on current proportion of urban and rural trips, 35% and 65%, respectively
- Utilizes average fare revenue reported on Section 5311 grant application of \$3.06
- Scenario 2B will offer two (2) distinct services (Urban Demand Response and Rural Demand Response) operated by one agency. Will require administrative documentation and dispatching assets based upon trip type servicing areas (urban or rural areas)
- Scenario 2B assumes the following acquisitions:
 - Securing a mobility manager
 - Hiring two (2) additional bus drivers

- Purchasing of two (2) additional shuttle van/lift vehicles

5.2.3.2 Scenario 2B: Benefits

- Vehicle type will remain the same (existing van/lift vehicles)
- Door-to-door for rural areas will continue uninterrupted

5.2.3.3 Scenario 2B: Drawbacks

- Requires administrative documentation of trip type and/or dispatcher chaining of trips split between designated urban and rural assets
- Dispatcher will need to chain trips according to specific origins and destinations of each requested total trip

5.2.3.4 Scenario 2B: Financial Summary

A summary of costs was generated for Scenario 2B and compared against projected federal, state and farebox revenues. Remaining funding shortfalls were allocated to the local funding column. The scenario analysis includes both operating and capital costs per assumptions listed previously. **Table 18** presents the financial summary for Scenario 2B.

TABLE 18: FINANCIAL SUMMARY (SCENARIO 2B)

Fiscal Year	Total Cost	Reimbursement (Federal & State)	Revenues (Farebox & Contracts)	Local
2022	\$ 425,645	\$ 250,054	\$ 36,976	\$ 138,614
2023	\$ 339,216	\$ 169,608	\$ 37,438	\$ 132,170
2024	\$ 352,921	\$ 176,460	\$ 37,906	\$ 138,554
2025	\$ 374,522	\$ 187,261	\$ 38,380	\$ 148,881
2026	\$ 405,395	\$ 202,697	\$ 38,860	\$ 163,838

5.2.4 Scenario 3: New Fixed Route Service (Urban Areas) & Demand Response (Rural Areas)

5.2.4.1 Scenario 3: Assumptions

- New fixed route service operates “closed door service” (does not stop) in rural areas; however, there is the potential for collaborative agreements with GDOT and FTA to identify and allow for stops within the periphery of the fixed-route spines.
- The urban areas⁹ will be served by fixed route with complimentary paratransit service requirement (3/4 mile buffer)
- Hours of Operation:
 - Weekdays: 8 hours each day
 - Weekends: 8 hours each day
- Ridership: Estimated using Arkansas model discussed in **Section 3** of this report

⁹ Defined by new Urbanized Area boundary after 2020 Census results have been processed

- Cost Assumptions:
 - Operating unit costs were determined from average revenue per hours from peer review of \$82.64 based on population density
 - Revenue cost inflation of 1.25% with cost inflation of 2%
 - Administrative costs remained stable from costs estimated in Scenario 2B, which includes mobility manager
 - Utilizes rural operating and capital costs from estimates generated in Scenario 2A
- Scenario 3 assumes the following acquisitions:
 - Securing a mobility manager
 - Purchase of four (4) additional transit vehicles right sized for the specific needs of Jackson County
 - Hiring of five (5) new part-time bus drivers:
 - One (1) for demand response
 - Four (4) for new fixed route service
 - One (1) additional dispatcher
- Capital improvements include:
 - New transit center
 - New bus shelters and bus stops for fixed route service
- Operational specifics:
 - Existing on-demand service
 - Fixed route with complimentary ADA paratransit service requirement (3/4 mile buffer on either side of proposed fixed routes)

5.2.4.2 Scenario 3: Benefits

- Door-to-door for rural areas will continue uninterrupted
- Fixed route service offers city connections to common areas of interest and employment centers (hospital area/South Hall)
- Connection to Athens Transit System (ATS) in Athens-Clarke County
- ADA paratransit service for spine routes
- Services Jackson County's high transit propensity areas:
 - Commerce (N Broad/N Elm St from Roosevelt Blvd to Ila Rd)
 - Jefferson Bypass (Old Pendergrass Rd to SR 319)
- Trip predictability: user has a schedule (no advance 24-hour trip scheduling)
- Less expensive (cost/trip)

5.2.4.3 Scenario 3: Drawbacks

- Not door to door; last mile connectivity issues
- Some perceive as a degraded service (first and last mile challenges not pleasant and may be burdensome)
- More infrastructure demand (i.e. maintenance)

5.2.4.4 Scenario 3: Financial Summary

A summary of costs was generated for Scenario 3 and compared against projected federal, state and farebox revenues. The costs shown represent implementation of a phase 1 (or phased) approach.

Remaining funding shortfalls were allocated to the local funding column. **Table 19** presents the financial summary for Scenario 3.

TABLE 19: LOCAL CONTRIBUTION SUMMARY (SCENARIO 3)

Fiscal Year	Total Cost	Reimbursement (Federal & State)	Revenues (Farebox & Contracts)	Local
2022	\$ 723,423	\$ 422,762	\$ 77,125	\$ 223,536
2023	\$ 1,007,196	\$ 528,648	\$ 125,163	\$ 353,385
2024	\$ 993,912	\$ 673,353	\$ 129,312	\$ 191,246
2025	\$ 1,552,329	\$ 821,215	\$ 223,698	\$ 507,416
2026	\$ 1,968,530	\$ 1,029,315	\$ 290,496	\$ 648,719

Figure 16 presents an overview of the proposed new fixed route service, including four (4) color coded routes.

5.2.5 Preferred Scenario

The purpose of this study was to determine the feasibility of implementing transit service in the Jackson County area. The study efforts included:

- Identification of service needs based on transit propensity
- Identification of potential bus stop stops based public input about transit service and destinations desired
- Cost analysis of potential transit service scenarios
- Identification of funding source

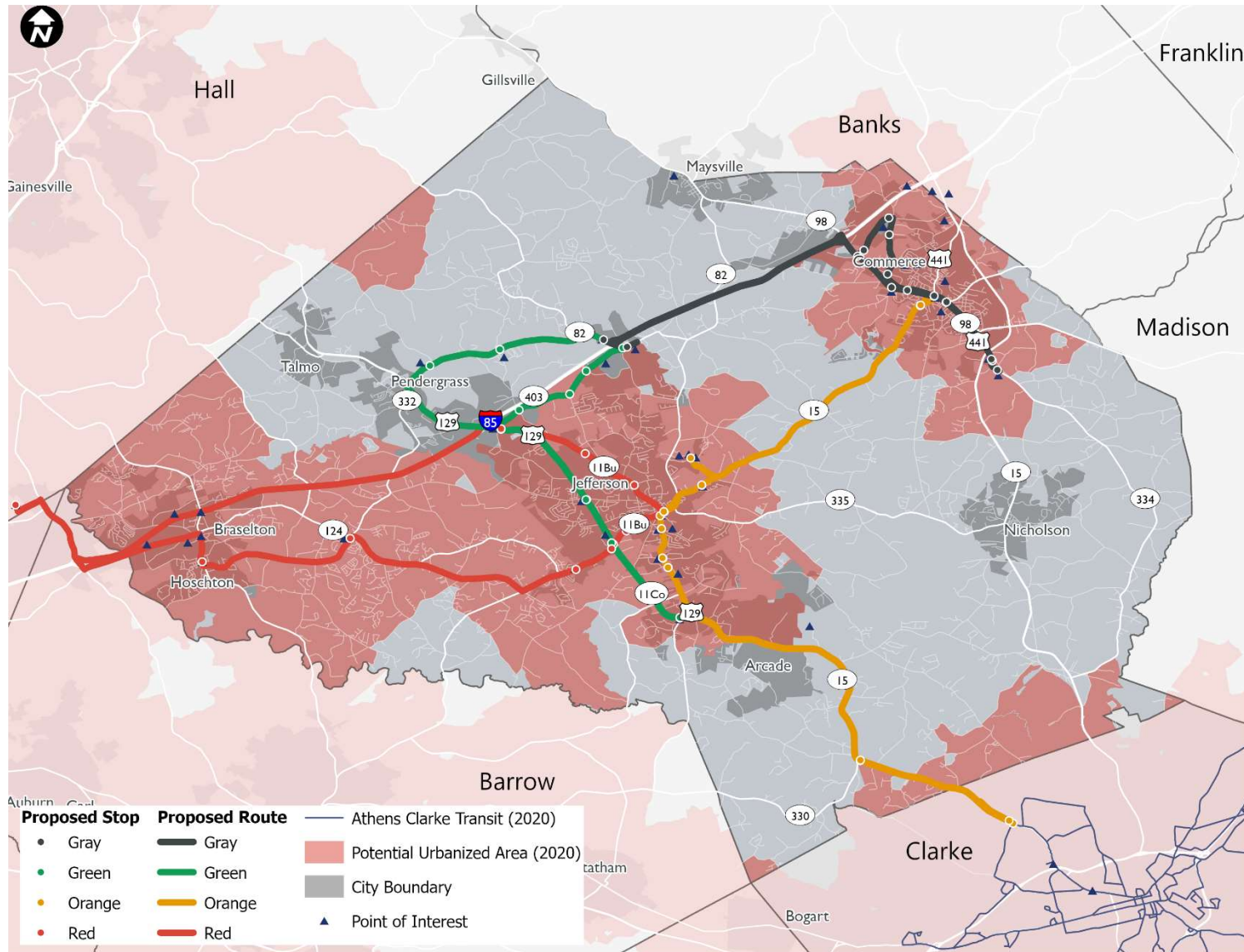
The analysis completed shows a desire for transit to serve medical, social/recreational, and work trips. The primary destinations indicated medical, social/recreational, and work comprise approximately 85 percent of desired transit trips. The top destinations from our analysis include:

- Jackson Creative Center
- NE GA Medical Center
- Advantage Behavioral Health Center
- Jackson County's Senior Citizen Center
- Wayne Farms, LLC
- Kubota Industrial Equipment, Corp
- Valentine Industrial Area

Benefits and drawbacks were determined for each of the possible service options for Jackson County. We concluded that the least desirable option was scenario 1 "Cease transit service". With this option Jackson county residents would continue to pay local, state, and federal taxes, but the population that currently utilizes the transit system would have to pay substantially higher costs for alternative options.

Scenario 3 may be feasible in the long-term, but the substantial capital costs and system investments are not recommended in the short term. As such, **Scenarios 2A** and **2B** are recommended as they provide the most feasible solutions for adjusting to the immediate short-term funding implications that will most likely impact Jackson County Transit over the next several years.

FIGURE 16: NEW FIXED ROUTE SERVICE FOR URBAN AREAS WITH DEMAND RESPONSE SERVICE IN RURAL AREAS



5.3 SERVICE RECOMMENDATIONS

JCT formerly utilized Automatic vehicle location (AVL) technology with a previous ride matching / dispatching software system. The new system, procured as part of a statewide contract by GDOT, does not include AVL tracking. The lack of the technology is a challenge to JCT transit management identifying the location of each vehicle without assistance from radio communications from the operators. AVL would help supervisors and dispatchers easily track system vans, improve scheduling and overall service, and improve service. Benefits and anticipated challenges are summarized below.

- Benefits
 - Increasing schedule adherence and enabling agencies to easily monitor bus driver performance
 - Reduce response time by improving communication between bus drivers and dispatchers
 - Dispatchers can handle communication of larger volumes of vehicles
- Challenges
 - Work with GDOT to determine future opportunity and feasibility to bring back AVL to JCT
 - Training staff
 - May require additional staff specifically with IT to fulfill greater information technology need

5.4 NON-SERVICE RECOMMENDATIONS

Service recommendations are key elements within this feasibility study; however, policy and system support considerations may enhance the sustainability of the future JCT agency. The following considerations are offered as potential long-term enhancements should resources be available to support growth of the system.

- 1. Continue to Participate in Regional Transit Discussions**
 - With the recent discussions at the state level about increasing transit accessible to all parts of Georgia, Jackson County should continue to take a seat at the table with regional planning partners and neighboring transit agencies to discuss the future potential of regional transit service
- 2. Enhance Marketing and Outreach Activities and Investments**
 - Offer ridership training for seniors in coordination with the Jackson County Senior Center
 - Develop and offer promotional activities to expand interest in the JCT system and/or include more direct links from individual websites (i.e. cities and/or major employers)
- 3. Community and Peer Agency Coordination**
 - Conduct annual surveys / listening sessions to provide citizens with the opportunity to share ideas and issues

5.5 IMPLEMENTATION AND FUNDING

The financial plan projections presented in **Appendix E** balance estimated capital and operating expenses against projected revenues. The capital and operating costs are inflated by 1.25% per year to represent year of expenditure dollars. As transit services takes 12 to 24 months before its full ridership potential is realized, the financial plan assumes somewhat lower farebox revenues in the first year of service.

Federal FTA Section 5307 funding estimates funding projects were presented earlier in this report. Including the assumption that JCT will continue to receive a constant flow of Section 5311 funding from current levels until the 2022 reapportionment occurs. It is important to note that the federal funding amounts are subject to change. The capital expenses are assumed to be funded primarily with 80 percent FTA Section 5307 formula funds. The non-federal share is assumed to be 10% local funds. For the operating expenses, the route farebox revenues are applied against the operating costs, then the remaining operating deficit is funded with 50% FTA Section 5307 formula funds and 50% local funds.

Financial Partnerships

As mentioned previously, Jackson County should continue to take part in discussions and future consideration of financial partnerships with adjoining counties and large employment centers. Memorandums of understandings would be required should new fixed route service be initiated within other urbanized service areas, such as adjacent Athens-Clarke County.