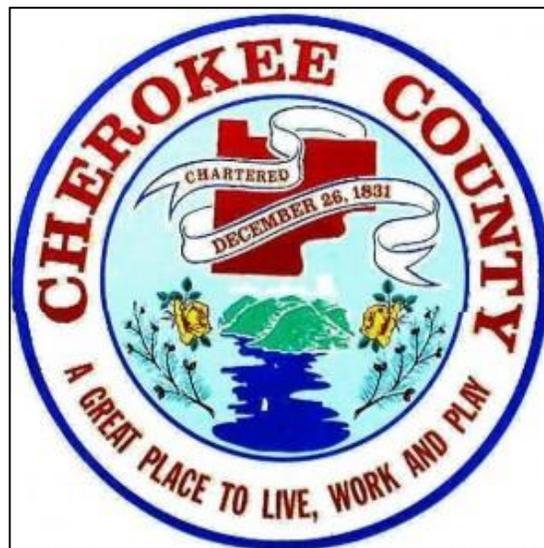




Cherokee County
Comprehensive Transportation Plan:
CATS Baseline Conditions and Needs Assessment



Prepared by:



As a subconsultant to:



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1 INTRODUCTION

Due to its growing population and increasingly urbanized areas, Cherokee County has requested that a 10-Year Sustainable Transit Action Plan be included as part of the Cherokee County Comprehensive Transportation Plan (CTP). As a whole, Cherokee County's population has exceeded the 200,000 person threshold separating small and large urbanized areas. This, along with the increasing County area included as a part of the expanded Atlanta Urbanized Area (UZA), has impacted Cherokee County's eligibility for transit grant funding at the federal and state levels.

The purpose of the 10-Year Sustainable Transit Action Plan is to assess services, identify unmet transit needs, and identify funding sources for operational and capital costs for the Cherokee Area Transit System (CATS) for the coming decade, as sources and grant eligibility change. This document examines the existing transit services within Cherokee County, discusses current transit funding sources, provides peer system examples, and identifies mobility needs within the County.

This document examines existing transit services, finances, and unmet transit needs throughout the County. Identified needs and findings from this document will be used as input to developing future transit system improvement scenarios for CATS. These scenarios will be developed in coordination with the other elements of the CTP, and working closely with County staff.

The action plan will also examine the need for flex route service. The majority of transit trips provided by CATS are demand responsive or subscription, as much of the County does not have the density typically associated with traditional fixed route transit. Flex routes have the ability to combine the schedule of a fixed route with the curb-to-curb service of demand response services, and potentially reducing overall costs in suburban areas.

The final 10-Year Sustainable Transit Action Plan will identify available/eligible funding sources, establish a transit service plan that responds to mobility needs of Cherokee County in a manner that best aligns with projected budgets, and set forth an implementation plan for any recommended service changes.



2 EXISTING SERVICES

CATS provides two fixed routes within the City of Canton, countywide demand response services, mobility services as part of a provision of service contract with the Department of Human Services (DHS), and vanpool coordination. This chapter describes these service offerings, rider demographics, and a stop level analysis of the routes.

2.1 Fixed Routes

Two fixed routes, CATS 100 and CATS 200, provide service in and around the City of Canton, as can be seen in Figure 2-1: CATS Fixed Route Service. Riders can transfer between the two routes at the Canton City Hall or the Canton Walmart. The transit service runs Monday through Friday from 8:00AM until 4:00PM. Routes begin on the hour except for 12:00PM, when the drivers have a lunch break. CATS has two 16-person shuttles for fixed route operation and has one 25-person bus that acts as a spare.

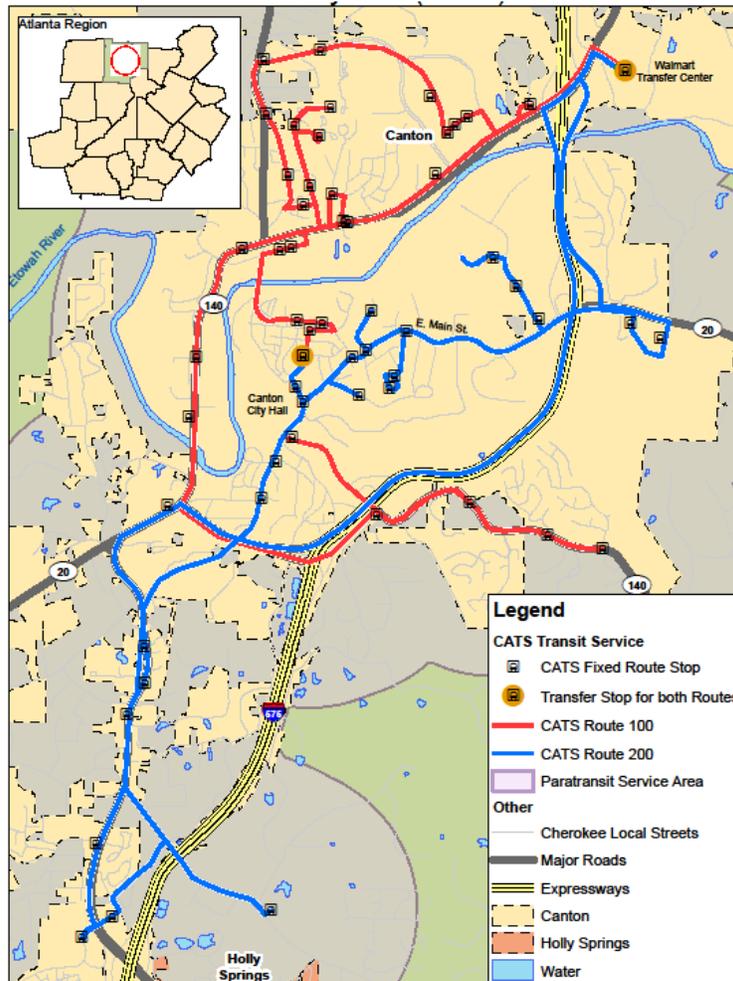


Figure 2-1: CATS Fixed Route Service



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2.1.1 Ridership

In 2013, there were a total of 28,505 riders on the two CATS fixed routes. This grew to 32,036 in 2014. In 2013, Route 100 carried 50.2% of riders and Route 200 carried 49.8%, an almost even split between routes. Beginning in 2014, ridership was not broken out by route or stop. Daily averages and annual totals for 2014 can be seen in Table 2-1: CATS 2014 Weekday Averages and Year Totals and Table 2-2: Stop Type Boardings.

Table 2-1: CATS 2014 Weekday Averages and Year Totals
 Source: Summary of CATS 2014 Monthly Trip Tables

	Average Weekday (242 Weekdays in 2014)	2014 Total
Vehicles in Operation	2	-
Total Vehicle Revenue Miles	261	63,074
Total Vehicle Revenue Hours	14	3,389
Passenger Miles	235	56,781

2.1.2 Rider Demographics

CATS conducted an on-board ridership survey of 625 riders on the two fixed routes in April and May of 2014. Figure 2-2 summarizes the findings.

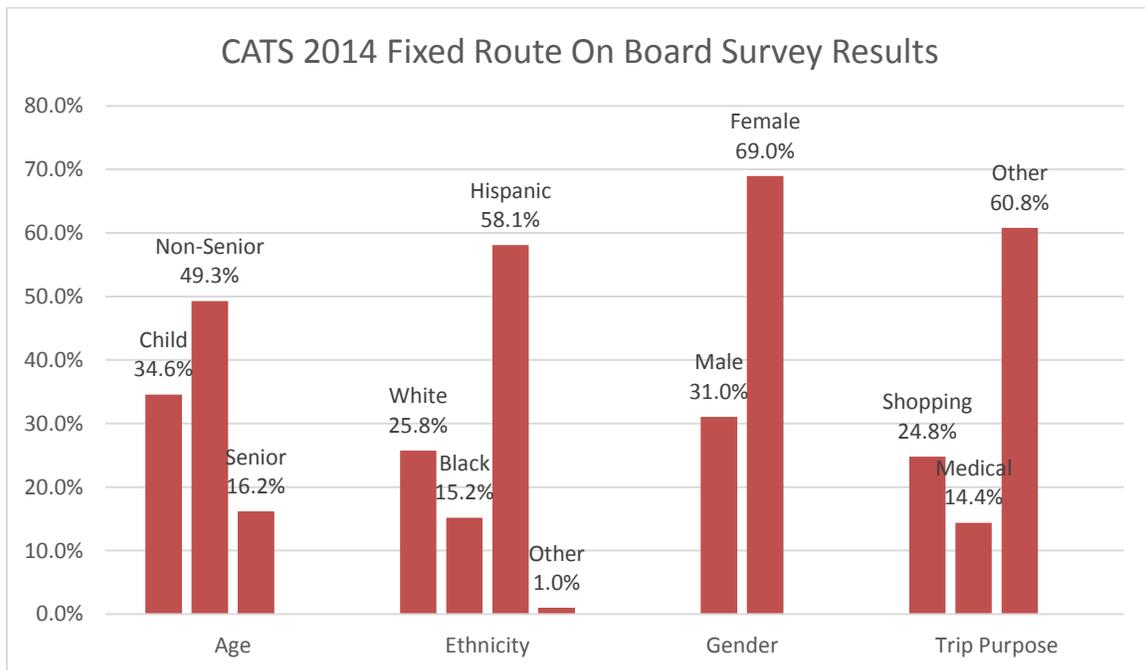


Figure 2-2: CATS Fixed Route On Board Survey Results
 Source: CATS On-Board Survey April-May, 2014



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With regards to ethnicity and gender, the majority of fixed route riders are Hispanic and female respectively. Additionally, Non-Senior adults make up almost half of the fixed route ridership. The survey only provided three options for the trip purpose, “Shopping”, “Medical”, and “Other”. The majority of trips fell into the “Other” category.

CATS Route 100 provides service to the Cherokee High School, which may account for some of the riders considered children and a trip purpose of education, which was not included as an option on the survey and would fall under “Other”. The “Other” category potentially could include education, employment, social services, recreation, or others. When the Atlanta Regional Commission (ARC) conducted the regional on-board survey, fourteen surveys were completed by riders on board CATS routes. Of these fourteen, nine trips were taken to various stores and retail locations, three were taken to get to work, and two were taken to social services. While this survey provides insight into what trip purposes may fall into the “Other” category in Canton, it is important to note that this ARC survey is not a significant sample of CATS fixed route riders. All of these surveys were collected on October 6, 2009 between the hours of 9AM and 5PM.

A lack of comprehensive demographic data on CATS fixed route riders (i.e., income, vehicle availability, disability) make it difficult to determine the proportion of riders who are transit-dependent and those who are choice riders.

2.1.3 Stop Level Analysis

As previously mentioned, 2014 ridership data were not collected at the stop level. The following stop level analysis is based on 2013 ridership. Figure 2-3: CATS 2013 Ridership by Stop Type shows the types of stops and annual ridership for both routes. Data for 2013 were used because data are no longer collected by stop with the new RouteMatch scheduling software. CATS classifies stops as City/County Services, Medical Services, Residential, Restaurant/Retail, School, Social Services, and Other. The stops with the most boardings and alightings are the Walmart (served by both routes), Target, and City Hall (served by both routes) stops. Table 2-2 shows boardings at each type of stop.

Table 2-2: Stop Type Boardings, 2013

Stop Type	Number of Stops	Boardings
School	2	183
Social Services	4	769
Medical Services	4	1,386
City/County Services	3	2,461
Other	18	4,644
Residential	12	5,281
Restaurant/Retail	13	13,801
TOTAL	56	28,505

Almost half of the boardings are at stops classified by CATS as restaurant/retail. In the on board survey previously mentioned, 24.8% of respondents replied that their trip purpose was



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shopping, 14.4% was medical, and 60.8% were other. While there are 13,801 boardings at stops classified as restaurant/retail, this may not have necessarily been the trip origin. It is also important to keep in mind that these are boardings, and not final destinations.

Route 100 has 32 stops while Route 200 has 26. With two stops serving both routes, there is a total of 56 stops in the system. Each stop has a sign to indicate their location, three of which also have a shelter and bench, as shown in Figure 2-4: CATS Sign and Shelter Example. The CATS bus stop signs provide only the stop location and the system, CATS, providing service. There are no schedules or route names/numbers to assist customers with identifying their location or the associated schedule. While the shelters that are currently installed do have a concrete pad to meet requirements of the Americans with Disabilities Act (ADA), they do not all connect with a sidewalk in the surrounding area. Stops are not equipped with trash cans, and therefore litter was observed around stop locations.

It should be noted that the CATS fixed routes do not serve the GRTA *Xpress* stop at Boling Park.



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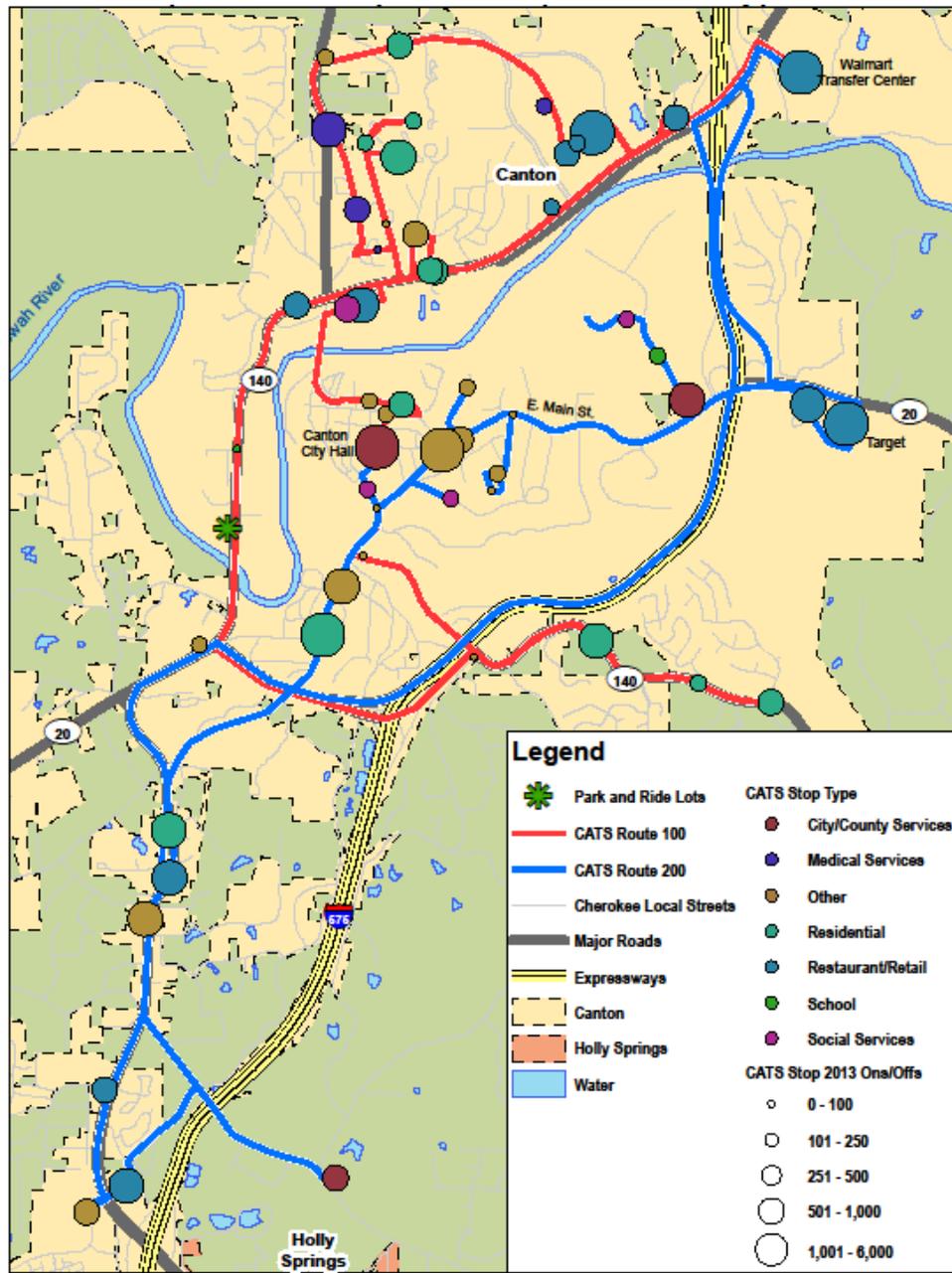


Figure 2-3: CATS 2013 Ridership by Stop Type
 Source: Summary of 2013 Monthly Trip Tables



Figure 2-4: CATS Sign and Shelter Example

2.1.4 Information Technologies

Currently, CATS customers can check the fixed route schedule using the recently updated CATS website or the printed brochure. This includes estimated stop times for each stop on both fixed routes.

There are no real-time data available for customers to check. Customers can call the CATS dispatcher to ascertain whether a bus has already passed a stop, in the case a bus does not come at the scheduled time. For the dispatcher to answer, this requires calling the fixed route drivers to locate the bus.

While CATS is a small fixed route system, headways of an hour present a problem for passengers who miss the bus due to early arrivals.



2.2 Demand Response Service

CATS provides Department of Human Services (DHS) coordinated transportation subscription service within Cherokee County as well as service to the general public. This service begins at 6:30AM and ends at approximately 4:00PM. Start and end times for each vehicle vary based on trips scheduled each day. CATS has only one contract through the DHS, which covers trips to the Cherokee Training Center, Cherokee Senior Services, the Department of Family and Children Service (DFCS), Vocational Rehabilitation, and Briggs & Associates. Table 2-3: DHS Contracted Trip Rates shows the rate DHS is charged for various trip types.

Table 2-3: DHS Contracted Trip Rates
Source: 2014 Contract Year Invoice with DHS

Trip Description	2014 Rate
Cherokee Training Center	\$5.75
Cherokee Senior Center	\$4.75
Cherokee DFCS	\$11.75
Vocational Rehabilitation	\$12.50
Briggs & Associates	\$12.50 (6AM-6PM) or \$25.00 (6PM-6AM)

In addition to these rates, the Cherokee Senior Center and the Cherokee Training Center each provide matches for trips. The Cherokee Senior Center matches \$2.00 per trip and the Cherokee Training Center matched 45% of trip costs.

CATS has twelve vehicles available for demand response service, but typically has nine vehicles in service at any one time. Anyone can schedule trips for any trip purpose so long as the origin and destination are within Cherokee County. However, trips must be scheduled at least 24 hours in advance, and service is not restricted to residents only. CATS demand response and subscription routes are managed via RouteMatch Software. RouteMatch Software provides route scheduling and optimization, dispatching, system reporting, vehicle tracking, and billing functions in order to better manage the system. This allows CATS to schedule rides efficiently and maximize riders per day for both contracted service and the general public.



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2.2.1 Ridership

In 2014 CATS provided 47,006 trips curb-to-curb within the County, up from 46,719 in 2013. Figure 2-5: CATS Demand Response Trip Purpose, 2014 shows a breakdown of trip purposes, with the Cherokee Training Center as the most popular at 66.5% and the Senior Center the second most popular destination at 11.8% of rides. Of all rides provided, 25.6% were for elderly customers. The Cherokee Training Center provides support services and training for County residents with developmental disabilities and the Senior Center provides activities and meals for County seniors.

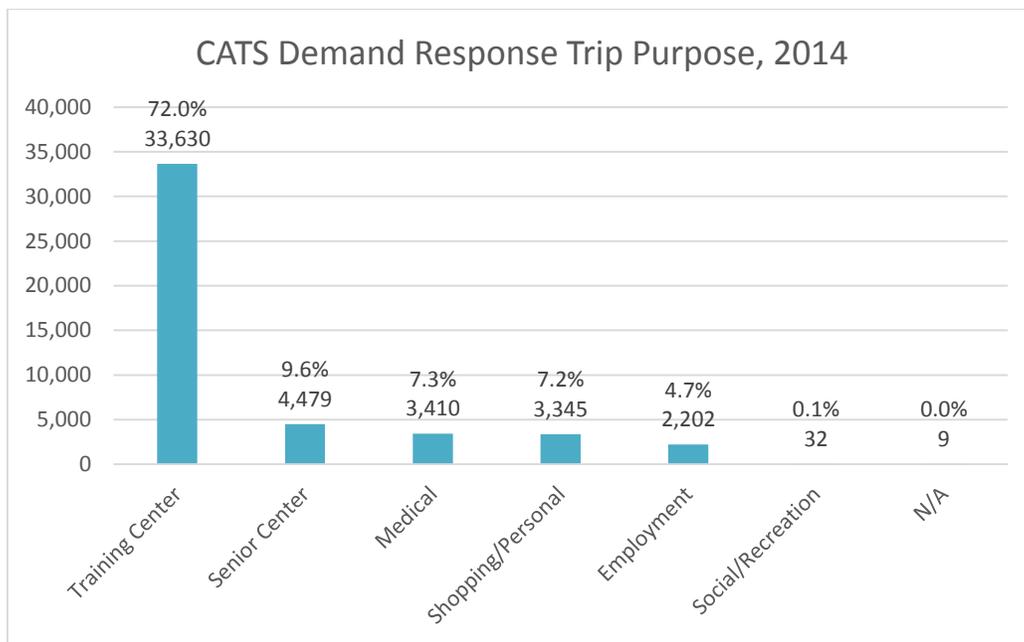


Figure 2-5: CATS Demand Response Trip Purpose, 2014
Source: CATS

As mentioned, clients can either schedule personal trips themselves, or have a ride scheduled for them through various contracts. The general public made up only 18.4% of demand response clients in 2014, while the majority were provided for contracted services.

2.2.2 Rider Demographics

The only demographic information available for CATS demand response trips are age and disability, as seen in Figure 2-6: Demand Response Demographics. CATS collects age and disability information when scheduling trips and inputting riders into the system. Income, ethnicity, and vehicle availability data are not available.

For age and disability, the majority of riders are non-senior and disabled respectively. While the Senior Center is a major trip destination for demand response, it only accounts for 9.6% of trips, while seniors makeup 21.1% of riders. This indicates that seniors are using the service for other purposes. Finally, DHS provides funds for various programs, including the Cherokee



Training Center, many programs focus on services for the disabled, regardless of age. Seeing as the Cherokee Training Center is the most popular destination, the amount of trips there (66.5%) account for many of the rides provided for persons with disabilities (70.6%). Countywide service is also available to anyone who makes a reservation in advance regardless of age or disability status.

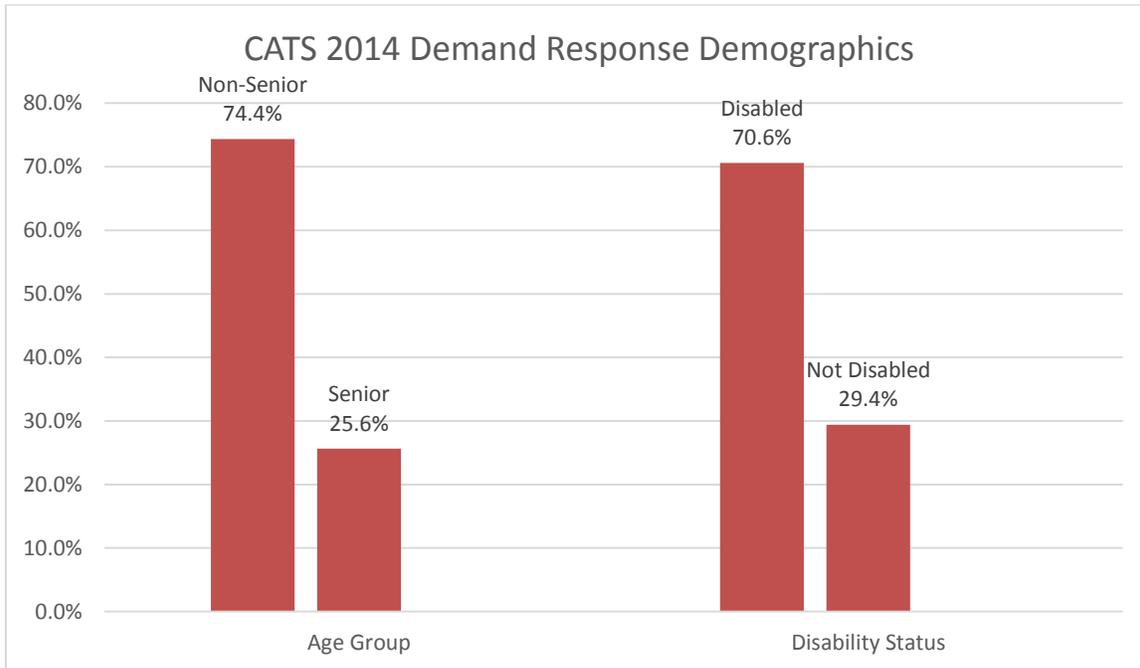


Figure 2-6: Demand Response Demographics
Source: CATS

Aside from the disability demographic data for demand response, a lack of comprehensive demographic data on CATS fixed route riders (i.e., income, vehicle availability, and ethnicity) make it difficult to accurately determine the proportion of riders who are transit-dependent and those who are choice riders. However, such a high percentage of riders with disabilities and the fact that many rides are provided through human services organizations for those who cannot provide their own travel, indicate that the majority of demand responsive riders are dependent on transportation for reasons ranging from their inability to drive, vehicle availability, income restrictions, and other reasons.

2.2.3 Capacity Constraints

To fulfill the provision of service contract trips, CATS restricts service to the general public to the hours of 9:00 AM until 1:00 PM. Beginning around 6:30 AM vehicles begin subscription routes to the Cherokee Training Center and Senior Center and provide return trips beginning at 2:00 PM. Because the hours open to the general public are limited, schedules often fill up before the required 24-hour advance notice for public riders. CATS advises riders to schedule trips as far in advance as possible. When scheduling medical purpose trips, CATS allows the clients to call dispatch when they are finished, rather than scheduling a return time. Should



medical appointments run past the 1:00 PM general public time, a vehicle carrying subscription rider will pick up the rider when the appointment is completed, if possible.

Capacity is often restrained by the trip length of scheduled trips rather than the capacity of vehicles themselves. On average, there are nine vehicles in service throughout the day. While CATS has twelve vehicles available, the limit is typically due to available drivers.

CATS does not record the number of trips they cannot accommodate due to capacity. They work with the client to schedule the trip for another time or respond by phone that they cannot provide the trip.

2.2.4 Information Technologies

As mentioned, CATS schedules demand response trips through RouteMatch. This allows the trips to be scheduled as efficiently as possible and maximize the number of trips provided throughout the day.

There are no real-time data available for demand response customers to check on the status of vehicles. Customers can call the CATS dispatcher to ascertain whether the bus is on its way or on time. Customers are provided a window for when the driver will arrive for the scheduled trip. This window includes 15 minutes prior to the scheduled time and thirty minutes after. However, if the customer is not present, the driver must wait five minutes after the requested pick up time before classifying the trip as a “No Show” and continuing his/her route.

A scheduled pickup time with a 45 minute window¹ is a long time to wait and be prepared to board the vehicle. While it is typical of demand response services to provide such a window to customers, a way of providing more detailed, real-time information would allow customers the ability to know when the driver is arriving and better plan during the pickup window.

2.3 GRTA Commuter Bus Routes

Finally, the Georgia Regional Transportation Authority (GRTA) provides fixed commuter express bus routes from Canton and Woodstock into Midtown and Downtown Atlanta. This service is provided Monday through Friday during peak morning and evening commuting hours, generally outside of the operating hours of CATS, leaving few options for transfers between services.

GRTA operates regional commuter buses throughout the Greater Atlanta Area. Within Cherokee County they provide two routes that carry almost 400 people per day. Routes 490 and 491 are shown in Figure 2-7: GRTA Park and Ride Lots:

- 490 from Canton and Woodstock to Downtown, and

¹ RouteMatch scheduling software will schedule demand response trips up to 10 minutes before or after requested time. CATS often advises clients to be ready 30 minutes before the scheduled pick up time, particularly for those taking subscription services. Multiple cancellations early in the route can affect bus arrival times.



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- 491 from Woodstock to Midtown Atlanta.

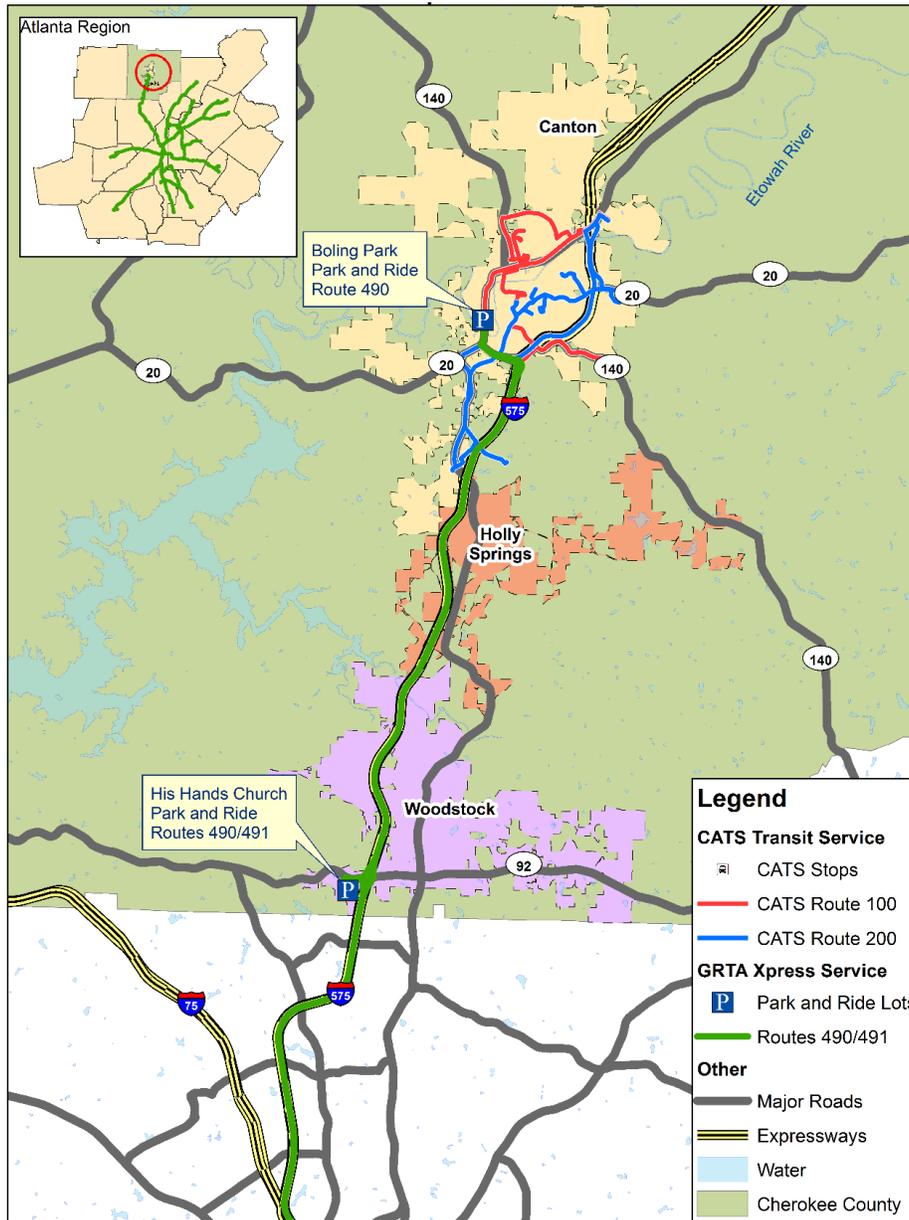


Figure 2-7: GRTA Park and Ride Lots

Route 490 stops at the Canton Park and Ride lot, located at Boling Park in Canton and the Woodstock Park and Ride lot, located at the His Hands Church. There are four morning trips into Downtown Atlanta (5:45AM, 6:15AM, 6:45AM, and 7:15AM) and four trips that return in the evening (3:45PM, 4:45PM, 5:15PM, and 6:00PM).

Route 491 only provides service to the Woodstock Park and Ride lot with five morning departures (5:45AM, 6:15AM, 6:45AM, 7:20AM, and 7:50AM) and four return trips in the



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afternoon (3:45PM, 4:15PM, 4:44PM, and 5:30PM). Additionally, GRTA provides reverse commute trips for Route 491, with 2 morning departures from Midtown Atlanta (6:15AM and 6:50AM) to Woodstock and an afternoon trip from Woodstock (4:40PM) to Atlanta.

It is important to note that while the CATS 100 and 200 routes travel within close proximity to the Boling Park - Park and Ride lot in Canton, the service times do not overlap and there is no CATS stop at the lot. All of the GRTA *Xpress* buses serve Boling Park before 8:00AM, when CATS service begins in the morning and only one afternoon *Xpress* arrival, 3:45PM falls within the service hours. It should be noted that GRTA is currently completing a Comprehensive Operational Analysis (COA) for the *Xpress* System. The purpose of the COA is to evaluate and enhance the efficiency and effectiveness of *Xpress* service to maximize ridership/productivity and revenue/cost-effectiveness within current resource levels. The COA will identify how to better optimize the existing *Xpress* system and opportunities for marketing *Xpress* to potential new riders. The results of the COA are anticipated later this year and may impact the current level of *Xpress* service provided to Cherokee County.

In the ARC Regional On-Board Survey, 39 surveys were conducted in the morning peak hours on GRTA *Xpress* Routes 490 and 491. Of these 39 participants surveyed, 38 were using the service to get to work and one was using the service to reach Georgia State University for school. In the afternoon, 29 surveys were conducted on these routes with 27 using the service to head home from work and two were heading home from universities, one from Georgia State University and one from the Georgia Institute of Technology.

GRTA recently completed a system-wide on board survey of riders as part of the COA in 2014. Routes 490 and 491 recorded 200 and 199 daily boardings respectively. System wide, 91% of GRTA riders are traveling to/from work located in Midtown and Downtown Atlanta. GRTA *Xpress* riders generally fell into demographic categories with low transit propensity, including higher incomes and vehicles per household. Only 2% of GRTA riders were elderly, 54% were from households with greater than \$70,000 annual income, and 74% were from households with at least two vehicles. Only 8% of riders used GRTA *Xpress* service because they did not have access to a vehicle.

2.4 Vanpooling

On its website, CATS offers vanpool services where participants can sign up and enter their home and work locations to find commuters with similar travel patterns. CATS organizes this vanpooling service through Enterprise and operates 4 different vanpools that originate in Cherokee County. Two of these vanpools commute to Delta Airlines at the airport, one commutes to the Center for Disease Control in Atlanta, and one commutes to Perimeter Area.

Cherokee County subsidizes approximately half of the total cost for the vanpool vehicles. To cover additional costs, participants pay a monthly fee based on the number of people in the vanpool group and the distance of each one way trip. This fee covers gas and maintenance of the vehicles used to vanpool. Additional vanpools are also sponsored in the area by GRTA



3 REVENUE & FUNDING

3.1 Fare Collection & Revenue

One source of revenue generation is the farebox, for both the fixed routes and general public demand response service. In 2014, this generated a total of \$47,011 that were directly spent on operations.

The two CATS fixed routes generated \$20,831 in fares in 2014. Fares for a one-way trip are \$1.25 per person with a reduced rate of \$0.60 for senior, Medicare, and disabled passengers. Passengers must pay cash with the exact fare, as drivers do not carry any change. Cash is turned in by the drivers at the end of each shift.

Demand response trips for the general public earned \$26,180 in 2014. This only includes trips scheduled and taken by individual persons and excludes any rides provided under service contracts. Ambulatory trips cost \$1.50 for the first five miles and \$0.30 for each additional mile. For riders requiring wheelchair lifts, the cost is \$3.90 for the first ten miles and \$0.42 for each additional mile. Passengers are alerted to the cost of their trip upon booking and must pay when boarding with exact change or check. Demand response drivers do not carry any change. Drivers collect the fares and turn in cash and checks at the end of each day. While the demand response service has RouteMatch to schedule and plan trips at the beginning of each day, the technology has not been used to integrate fare collection or real-time applications for customers.

Currently, there are no mobile applications or online services available for purchasing fares or tracking vehicles. Fares for CATS cannot be used to transfer to other CATS vehicles or to the GRTA services within Cherokee County. Cherokee County is currently undergoing a demand response fare review and conducting a comparison to Henry, Paulding, Bartow, and Forsyth Counties to see if fares are in line with similar services throughout the region.

GRTA *Xpress* is the only other transit service operated within Cherokee County, but has a temporal separation from CATS service hours. GRTA *Xpress* accepts cash, farecards, and Breeze cards as payment, with costs shown in Table 3-1: GRTA Fares to/from Cherokee County. While GRTA *Xpress* and CATS fixed routes do not currently connect at similar stops or service hours, there is a regional move towards standardizing fare structure and payment technologies. The ARC is currently working with regional transit agencies to identify regional fare recommendations.

Table 3-1: GRTA Fares to/from Cherokee County

Park and Ride Lot	Zone	1-Way Fare	Round Trip Fare	10 Trip Fare	31-Day Fare
Woodstock	Green	\$3	\$5	\$25	\$100
Canton	Blue	\$4	\$7	-	\$125



3.2 Operations Funding

Through Fiscal Year 2014, CATS has funded operations through three main sources: Federal Transit Administration (FTA) Section 5307/5311 funds, provision of service contract with DHS, and County general funds. The FTA Section 5311 funds are formula grants for “Other than Urbanized Areas”. The FTA provides formula based funds to states, which then distribute the funds to eligible areas and service providers. In Georgia, this is done through the Georgia Department of Transportation (GDOT) Intermodal Office.

Figure 3-1: 2014 CATS Operating Fund Sources shows the sources for funds expended on operations in 2014. The FTA Section 5311 funds require a 50% local match, which Cherokee supplies through County general funds and revenue from local provision of service contracts.

Cherokee County also uses all fare revenues for operations expenses, however these funds cannot be used to match federal funds. They can, however, be used to reduce the overall net operations costs for the County.

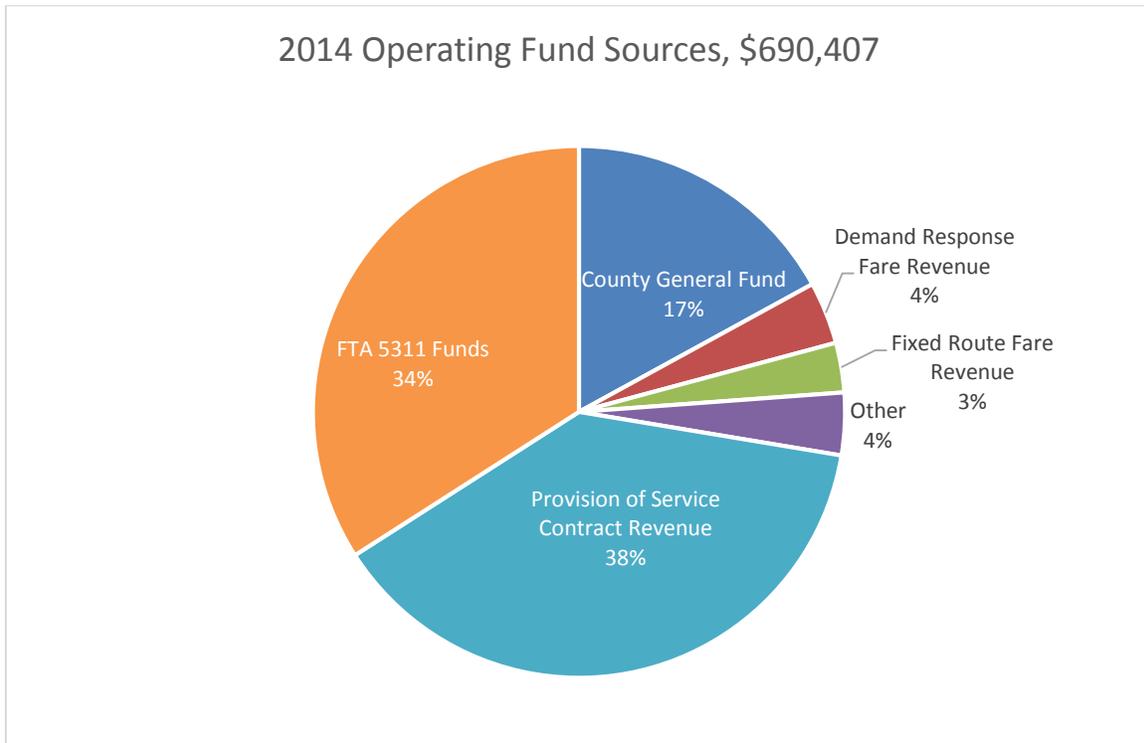


Figure 3-1: 2014 CATS Operating Fund Sources
Source: 2014 National Transit Database Submission

Through GDOT’s administration of the FTA Section 5311 program, local cities and counties located in rural areas are eligible to receive funds to provide public transit services. Based on figures from the 2010 Census, the population of Cherokee County as a whole exceeded the 200,000 person threshold, changing its area type status from an “Other than Urbanized Area” to a “Large Urbanized Area” (UZA). Therefore, based on the numbers from the 2010 Census, Cherokee County is no longer eligible for matching FTA Section 5311 funds for 100% of eligible



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operation costs. As of the 2010 Census, 83% of the County population resides within the 2010 Atlanta UZA which includes all of the City of Woodstock and the majority of the Cities of Holly Springs and Canton. However, this only includes 33% of the County area.

Fiscal years through 2014 have been unaffected by the urbanization by the County because GDOT has just recently implemented use of the 2010 Atlanta UZA. From 2012 to 2014, Cherokee County has averaged \$266,821 per fiscal year to support operations of the CATS demand response service. GDOT has also agreed to provide CATS the fully requested amount for Fiscal Year 2015.

However, beyond 2015, CATS will have to identify additional funding sources for operation costs for the service to remain sustainable into the future. GDOT has stated that the amount of FTA Section 5311 funding will be reduced since a smaller portion of the County is considered rural. Potential sources for operation funds that will be considered in developing recommendation scenarios include, but are not limited to the following:

- **FTA Section 5311 Funding:** While all of Cherokee County is no longer eligible, CATS is still eligible for 5311 funds based on the fact that it provides demand responsive service to rural areas of the County. GDOT is currently working to finalize its formula for service providers who serve both urban and rural areas.
- **FTA Section 5307 UZA Allocated Funding:** FTA 5307 grants are for transit services in large urbanized areas. However, there are restrictions on how 5307 funds can be used with regards to operations. Based on the “100 Bus Rule” established by FTA, Cherokee County is eligible to use up to 75% of its allocation based on vehicle revenue hours towards operations. In Fiscal Year 2014, this amounted to \$76,606. This amount exceeds 50% of the estimated operations and personnel costs for the fixed routes in Cherokee County. Whether the remaining 5307 Table 3A operating funds can be used towards demand response services in urban areas will be examined. For FY 2015, Table 3A designates \$132,689 as eligible for operation expenditures in Cherokee County.
- **FTA Section 5307 JARC (Job Access and Reverse Commuting):** Is a previous program that was included in 5307 funding in the federal transportation law enacted in 2012, Moving Ahead for Progress in the 21st Century (MAP-21). Eligible expenditures include “planning, capital, and operating costs that support the development and maintenance of transportation services designed to transport welfare recipients and eligible low-income individuals to and from jobs and activities related to their employment, including transportation projects that facilitate the provision of public transportation services from urbanized areas and rural areas to suburban employment locations.” These funds are not restricted by the “100 Bus Rule” limitations on uses for operations.
- **Provision of Service Contracts:** Outside of grants, this is a major source of revenue for CATS. DHS, the Cherokee Training Center, and the Cherokee Senior Center all pay a contracted rate per trip provided, ranging from \$2.00 to \$25.00 depending on the



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customer's destination and which agency is funding the trip. Between 2012 and 2014, all of these contracted services averaged just over \$320,000 per year. Estimated revenue will be based on forecasted trips and anticipated increases in rates per trip.

- **Cherokee County General Fund:** Funds from the Cherokee County general fund are transferred to CATS to cover any shortfalls that are not covered by funding grants, fares, and provision of service contracts. Along with the provision of service contract revenue, county general funds are used to match FTA Section 5307 and FTA 5311 funds.
- **Fare Revenue:** Revenues generated from fares cannot be used to match FTA Section 5307 and 5311 funds, but they can be used directly for operations, which is how CATS is currently allocating them. Between the demand response and fixed routes, CATS has generated an average of \$48,600 per year between 2012 and 2014 from fares.
- **GA Transportation Funding Bill:** The Georgia Legislature passed a new transportation funding bill on March 30, 2015. This bill provides funding reserved for transportation infrastructure based on restructuring the state gas tax in the form of an excise tax and introducing a set of new user fees. The bill increases the gas tax for the average driver by about 6 cents a gallon starting July 1, 2016. It also imposes a new \$5-per-night fee on hotel stays, a \$200 annual fee on non-commercial electric vehicles (\$300 for commercial), and \$50-\$100 fee on heavy trucks. It will also eliminate tax breaks for Delta Air Lines and electric vehicle owners. Additionally, the bill allows counties to impose new sales taxes on gasoline for expenditure on transportation projects only. The funding impacts of the local option transportation funding source through this bill will be considered as part of the scenarios evaluation process completed later in the development of the action plan.

The "100 Bus Rule" that was enacted as part of the MAP-21 states that agencies with fewer than 100 buses in service during peak fixed route service can use 50% of 5307 funds for operations and agencies with fewer than 75 buses in service during peak fixed route service can use up to 75% for operations. CATS fixed route service always has two vehicles in service, qualifying it to use 75% of its allocation for operations. The formula used for Fiscal Year 2014 is as follows.

$$\left(\frac{\text{Cherokee Vehicle Revenue Hours}}{\text{Atlanta Region Vehicle Revenue Hours}} \right) * \text{Atlanta Apportionment} * 75\%$$

In 2014, this resulted in the following calculation of available funds for the operating assistance:

$$\left(\frac{5,417}{3,560,195} \right) * \$67,129,793 * 75\% = \$76,606$$

This formula will be used to estimate the amount of FTA 5307 funds that will be available to CATS for operations.



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The critical funding issue for CATS transit service is funds for operating expenses as its eligibility for federal and state funding changes. Additional sources of operations income will be necessary to sustain service without requiring additional funding from the Cherokee County General Fund.

3.3 Capital Funding

For capital funds, CATS relies on both 5311 and 5307 funding. When a new vehicle is needed for the demand response service, funds are requested in the 5311 application for funding submitted to GDOT. When funds are needed for capital expenses for the fixed routes in Canton, the Section 5307 formula funds can be used with a 20% local match.

Since 2002, Cherokee County has been awarded more Section 5307 funding than it can spend, see Table 3-2: CATS Section 5307 Funds Balance Forward. In 2012 Cherokee County transferred \$1,325,590 to Cobb County for transit capital purposes. Even with that transfer of funds, Cherokee County still had a fiscal year 2014 balance forward of \$1,453,039. Currently, CATS has three vehicles for the fixed routes, two used daily and a backup vehicle. Aside from the amount identified in FTA’s Table 3A as allocated by the “100 Bus Rule” for operations, these funds can only be used for capital expenditures and preventative maintenance.

Table 3-2: CATS Section 5307 Funds Balance Forward

FY 2001 Balance Forward	
FY 2002 Allocation	\$217,769
Amount Transferred to Reg'l Residual	(\$217,769)
FY 2003 Allocation	\$347,466
Amount Transferred to Reg'l Residual	\$0
FY 2004 Allocation	\$382,927
Amount Transferred to City of Canton	(\$191,464)
FY 2005 Allocation	\$392,159
Amount Transferred to City of Canton	(\$196,079)
Grants GA-90-X217	(\$278,855)
FY 2006 Allocation	\$434,484
Grants GA-90-X225	(\$469,930)
FY 2007 Allocation	\$444,281
FY 2008 Allocation	\$480,527
Transfer from City of Canton	\$163,456
Grants/ FA-90-X266	(\$1,100,000)
Balance Forward	\$408,972
FY 2009 Allocation CR Initial (222,700)/Final(330,730)	\$553,430
Balance Forward	\$962,402
FY 2010 Allocation CR Initial (216,686)/Final(306,191)	\$522,877
Balance Forward	\$1,485,279
FY 2011 Allocation CR Initial (228,779)/Final(311,473)	\$540,252



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FY 2001 Balance Forward	
FY 2010 Allocation CR Initial -L230	\$119,875
FY 2010 Final - L230	\$167,825
Balance Forward	\$2,313,232
FY 2012 Allocation CR Initial	\$266,552
FY 2012 Allocation CY May12 Update	\$132,066
FY 2012 Final	\$132,020
Grants/ GA-90-X308	(\$588,800)
Grants/ GA-90-X308-01	(\$39,618)
Amount Transferred to Reg'l Residual FY09/FY10	(\$856,862)
Amount Transferred to Cobb County July, 2016	(\$1,358,590)
Balance Forward	\$0
FY 2013 Allocation CR Initial	\$327,298
FY 2013 Final	\$352,745
Balance Forward	\$680,043
FY 2014 Final	\$772,996
Amount Transferred to Reg'l Residual	\$0
Balance Forward	\$1,453,039

The balance forward for Fiscal Year 2014 is in excess of one million dollars. This is enough to purchase vehicles if necessary, but still requires CATS to identify local matching funds for any capital purchases.



4 MARKET ANALYSIS

This section will examine the populations served and underserved by CATS in Cherokee County based on demographic, employment, and development trends. This analysis will be used to identify areas with unmet needs.

4.1 Transit Propensity

Transit propensity is the likelihood that persons characterized under certain demographic groups or living in areas with various characteristics will take transit as compared to the national average. For example, a transit propensity of more than one means that someone with those characteristics is more likely than the average person to take transit. On the other hand, transit propensity of less than one indicates that persons are less likely than the average person to take transit, this often includes communities with lower density, or persons with access to vehicles. Transit propensity serves to provide a general idea of likelihood to use transit based on demographics and area characteristics. The demographic characteristics examined for transit propensity in Cherokee County include minorities, low-income, zero-vehicle households, elderly, and persons with disabilities.

This section will describe these populations and their spatial distribution throughout Cherokee County using the American Community Survey (ACS) 2008-2012 5-year Estimate dataset at the Census tract level. Included in all maps are the CATS fixed routes, GRTA *Xpress* routes, and general subscription areas. Vehicles that serve these subscription areas are not limited to the areas circled, but serve those general areas with the majority of trips.



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Minority Populations - While minority groups are not inherently transit dependent, multiple studies have shown they are more likely to take transit. The ability to serve and avoid disproportionate impacts to minority populations is an important aspect as any transit projects progress and apply for FTA funding. In Cherokee County, 20% of the population is comprised of minorities, with 6.6% Black/African-American, and 9.6% Hispanic, according to 2012 American Community Survey, (ACS) estimates. Figure 4-1: Cherokee County Minority Population Density shows the density of the Cherokee County minority population, which is concentrated around Woodstock and State Route 92 on the southern edge of the County. The only transit service in this area is the GRTA Park and Ride Lot at the His Hands Church located at the intersection of I-575 and State Route 92 with service to Midtown and Downtown Atlanta. The Census tracts surrounding the City of Canton also have a higher minority density than unincorporated areas, and part of this area is within a half mile to the local transit services provided by CATS. Woodstock and the surrounding area have the highest density of minority residents and no access to existing fixed route CATS services.

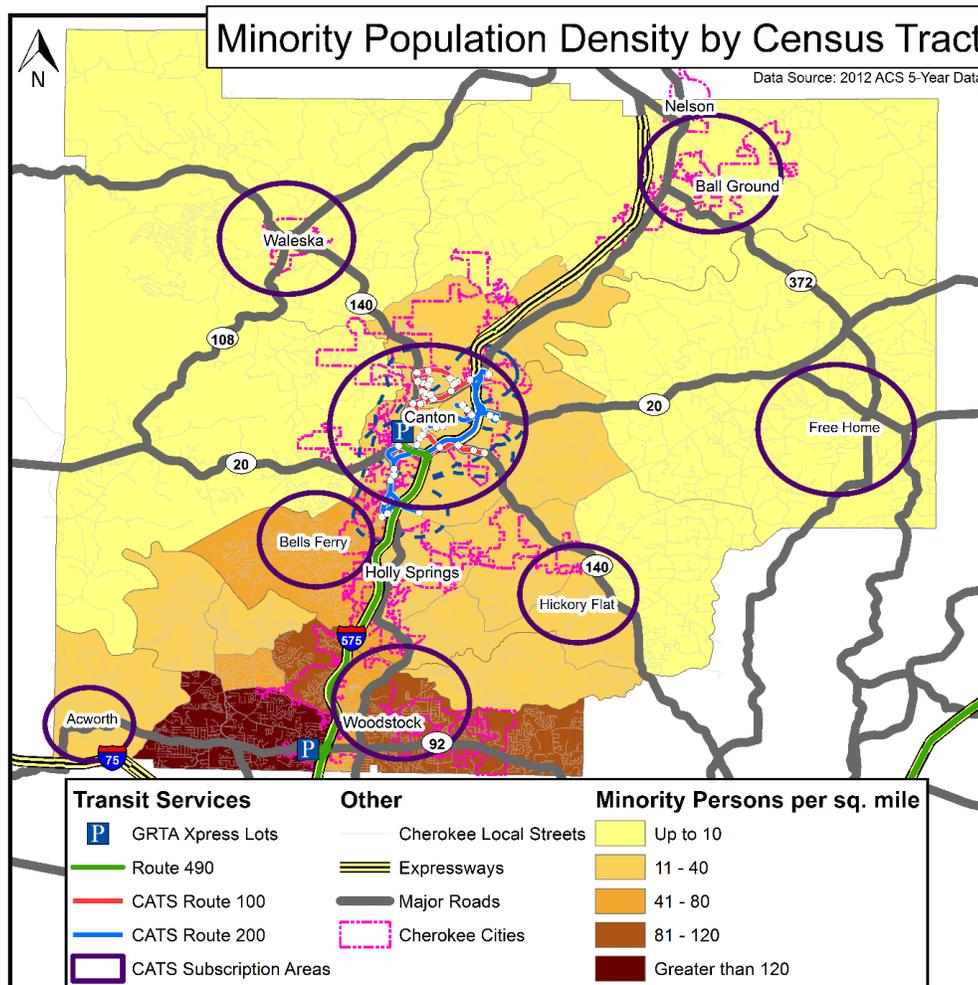


Figure 4-1: Cherokee County Minority Population Density



Cherokee County Comprehensive Transportation Plan

Low-Income Populations - Households with low-income can be an indicator of transit need, because these households may not be able to afford a vehicle, or enough vehicles, to meet the travel needs of their household. For this analysis, households were considered low income if their annual income was \$25,000 or less. This accounts for 14.4% of the overall population of Cherokee County based on the 2012 ACS population estimates. As seen in Figure 4-2: Cherokee County Low Income Population Density, the areas with the highest density of low-income households are in and around Canton, Holly Springs and Woodstock. Of the Census tracts with the highest density of low-income households, only those near Downtown Canton have access to CATS local fixed route transit service. The Census tract with the highest concentration of low-income households is on the northwest corner of the intersection of State Route 92 and I-575. The only transit access here is the GRTA Park and Ride lot at the His Hands Church with service to Midtown and Downtown Atlanta. The areas with the highest low-income household densities are spread between Canton, Holly Springs, and Woodstock. The area of the Bells Ferry subscription services also falls within the second-highest threshold of low-income density.

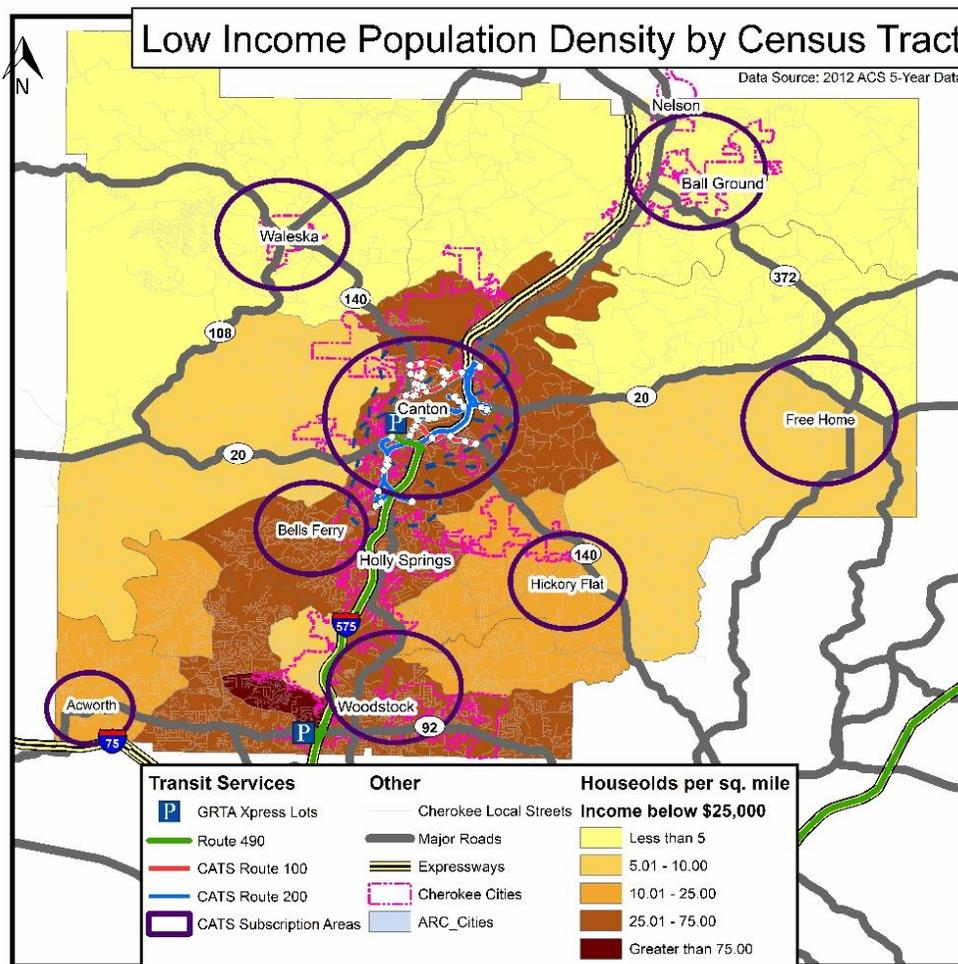


Figure 4-2: Cherokee County Low Income Population Density



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Zero-Vehicle Households - Persons in a household without access to a vehicle are limited in where they can travel to areas they can safely walk, bicycle, or utilize public transportation. Within Cherokee County, 2.8% of households have no vehicles available for travel. According to Figure 4-3: Cherokee County Zero-Vehicle Household Density, these households are concentrated on the south end of Woodstock, Holly Springs, and the north end of Canton. These areas have no access to local CATS fixed route transit. In Woodstock, where the two Census tracts with the highest density of zero-vehicle households are located, there is one GRTA park and ride lot with service to Midtown and Downtown Atlanta. One of these is the same Census tract with the highest concentration of low-income households.

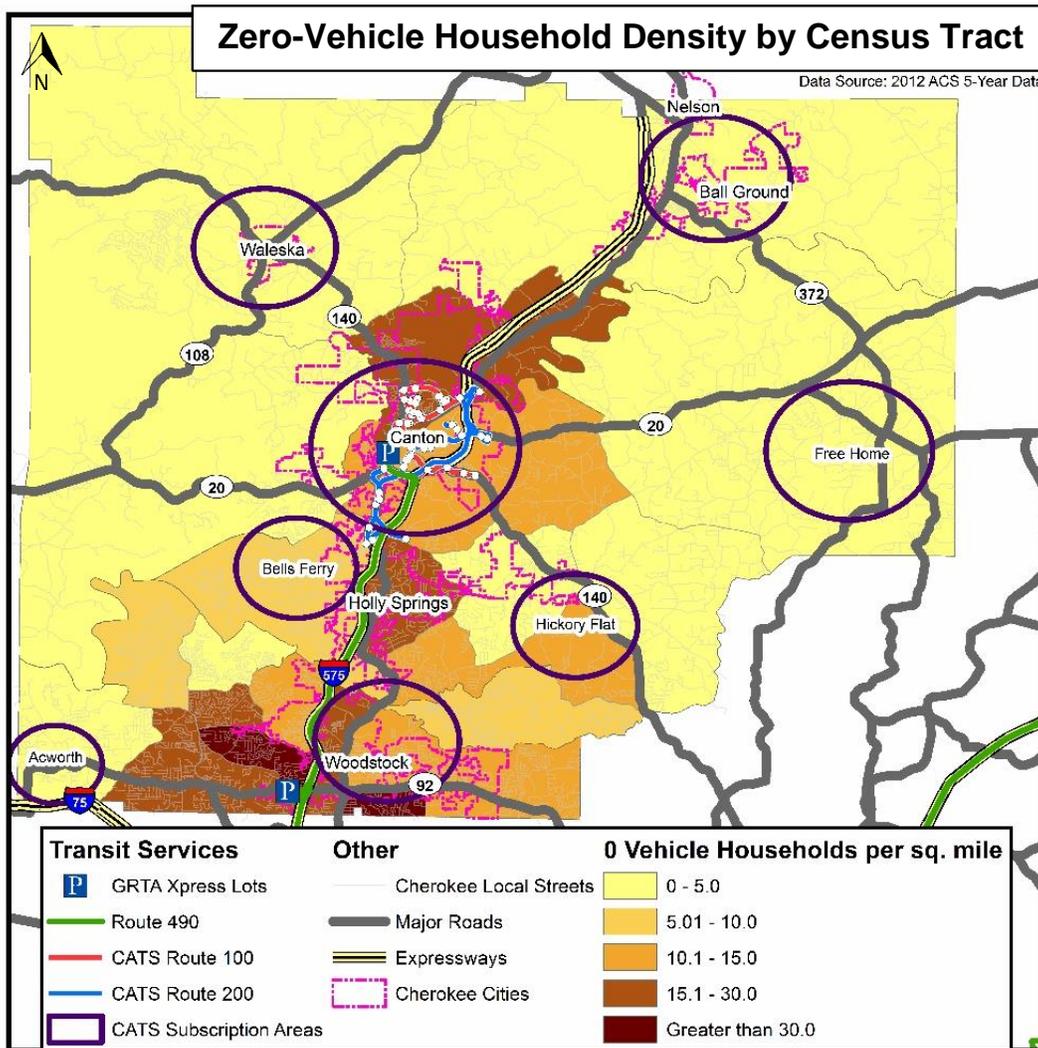


Figure 4-3: Cherokee County Zero-Vehicle Household Density



Cherokee County Comprehensive Transportation Plan

Elderly Populations - Persons over the age of 65 are more likely to need public transportation because they may lack the availability of a vehicle or the ability to drive themselves. As previously mentioned, the elderly population in Cherokee County makes up 9.2% of the total county population. Figure 4-4: Cherokee County Persons 65+ Population Density shows the density of county’s elderly population, which is concentrated in the southernmost part of the county, in Woodstock and along State Route 92. None of these areas have local CATS fixed route transit service. They are in proximity to the GRTA Park and Ride lot at the His Hands Church for which there is no associated paratransit. The two Census tracts with the highest concentration of persons aged 65 and up are the same two Census tracts with the highest concentration of zero-vehicle households.

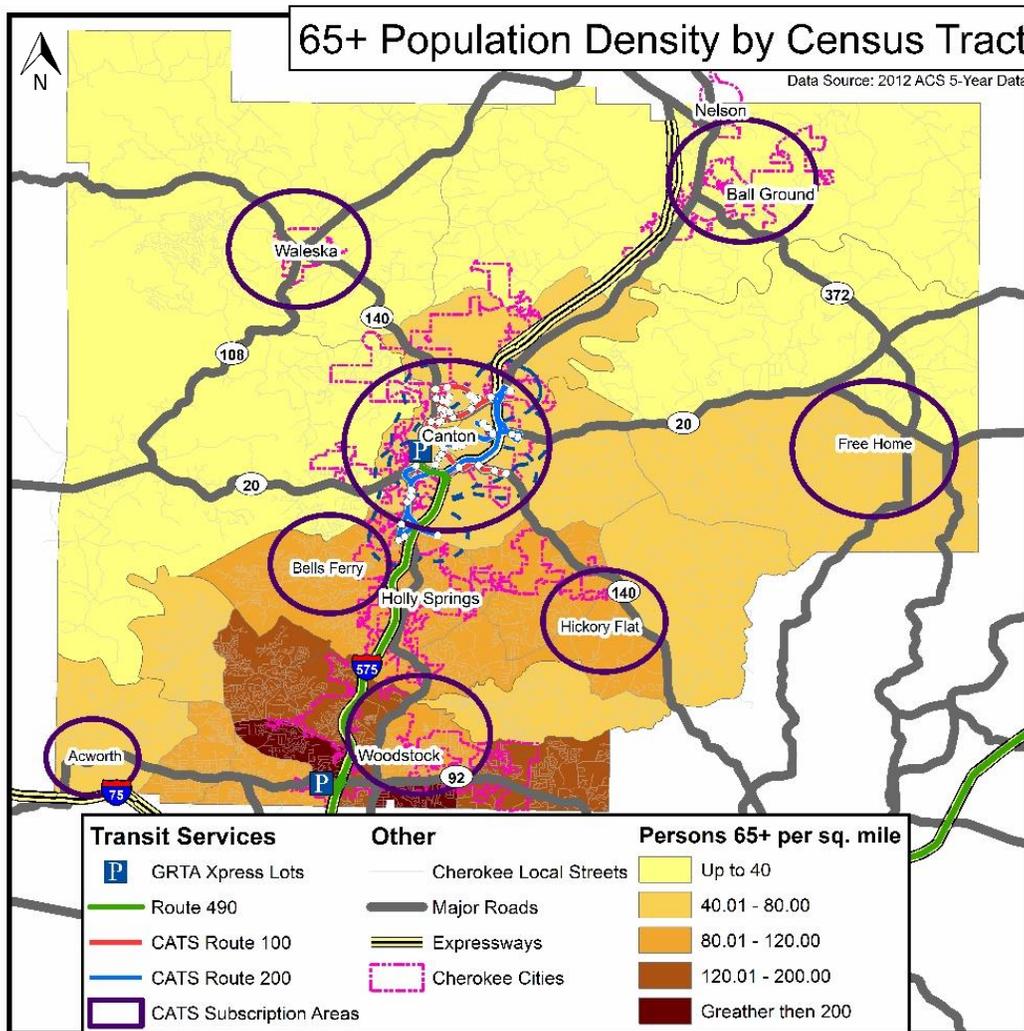


Figure 4-4: Cherokee County Persons 65+ Population Density



Cherokee County Comprehensive Transportation Plan

Persons with Disabilities - Persons with disabilities can be dependent on public transportation if they are unable to drive themselves and do not have family or friends available to transport them. The population density for persons with disabilities of Cherokee County can be seen in Figure 4-5: Cherokee County Density of Persons With Disabilities. The area with the highest concentration is located on the southern edge of the County, in and around Woodstock. According to 2012 ACS estimates, 8.7% of Cherokee County are considered disabled. There is no local CATS fixed route transit service in the southern part of the County. The only public transportation is the GRTA Park and Ride lot at the His Hands Church with wheelchair accessible service to Midtown and Downtown Atlanta. The two Census tracts with the highest concentration of disabled individuals are the same as the most concentrated Census tracts for the elderly and zero-vehicle household populations.

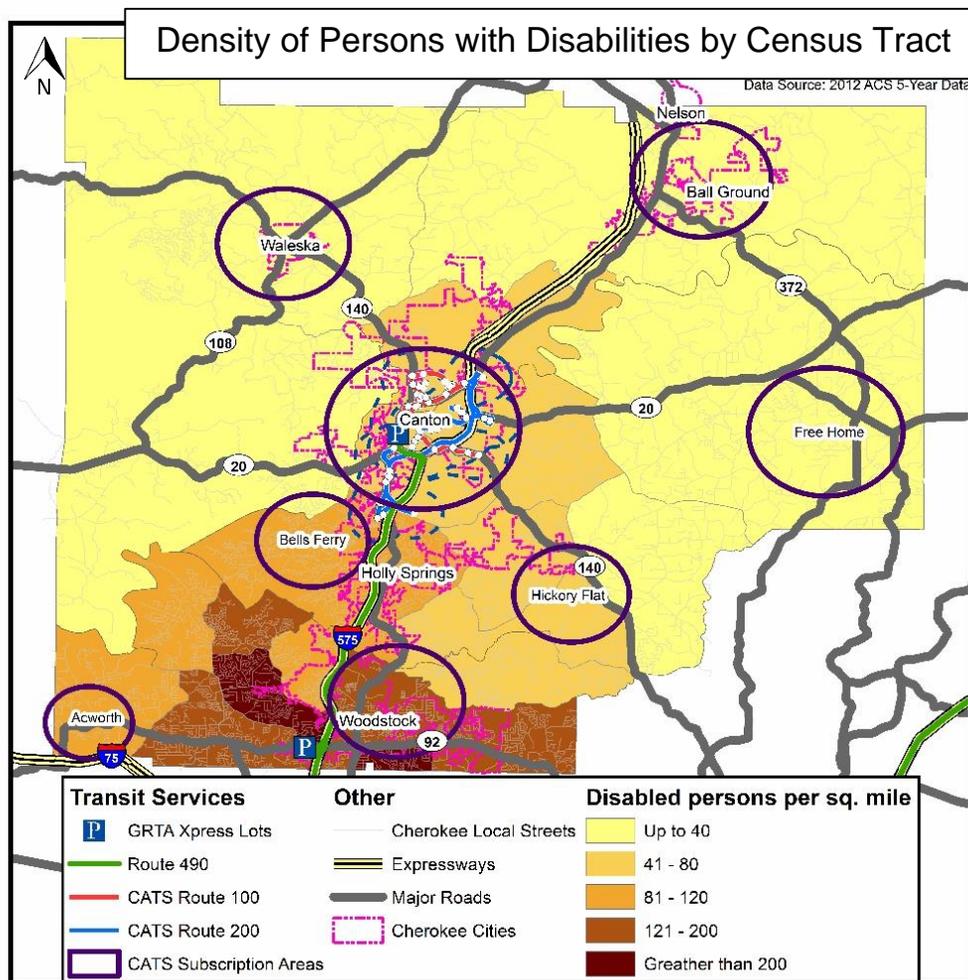


Figure 4-5: Cherokee County Density of Persons With Disabilities



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Transit Propensity - Transit propensity analysis combines these five population demographics that are more inclined to need and use public transportation. Figure 4-6: Cherokee County Transit Propensity Score shows the transit propensity score for each Census tract within Cherokee County. Scores for each of the five demographics were given based on the scales used in Figures 4-1 through 4-5. The areas with the lowest densities received a score of one, and the highest received a score of five. The highest possible score for a tract was 25 and the lowest was 5.

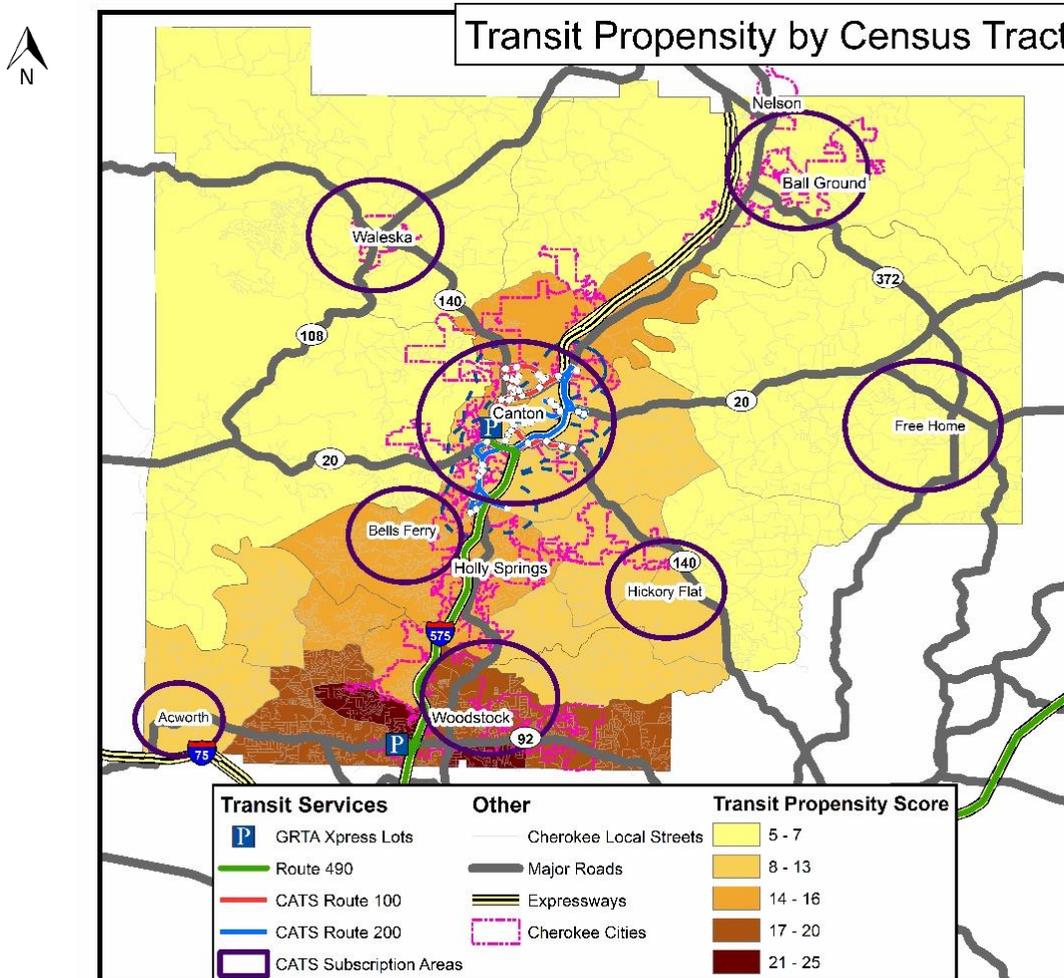


Figure 4-6: Cherokee County Transit Propensity Score

One Census tract did receive a score of 25 for having the highest density of each of the five demographics, located to the northwest of the intersection of Interstate 575 and State Route 92 in Woodstock. In general, the southern portion of the County in and around Woodstock received the highest scores, providing one indication of transit propensity. This traditional market analysis along with the results of rural curb-to-curb service will serve as input to identify areas that could be supportive of fixed and/or flex route CATS service.



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The northern portion of Canton, as well as the City of Holly Springs and the portion of the Bells Ferry corridor nearest to Allatoona Lake, scored high in transit propensity. This is mostly due to the high densities of low income and zero-vehicle households within these areas, indicating a need for mobility in these places as well as Woodstock, which received the highest scores.

4.2 Population

Cherokee County saw significant growth between the 2000 and 2010 Census, as shown in Table 4-1: Cherokee County Census Population Data. As a whole, the County grew by 51% with the populations of Canton and Holly Springs almost doubling during the decade. The cities with the highest growth rates were Canton, Holly Springs, and Woodstock. Canton and Woodstock are the only areas with fixed route transit access. In Canton, the two CATS fixed routes provide local service. There is one GRTA *Xpress* route stop in Woodstock and one in Canton for those commuting into Atlanta. The rest of the County has access to demand response service.

Table 4-1: Cherokee County Census Population Data

Area	2000 Census	2010 Census	Growth Rate	Area (sq. mile)	2010 Density (person/sq. Mile)
Ball Ground	730	1,433	96%	5.84	245.29
Canton	7,709	22,958	198%	18.73	1,225.73
Holly Springs	3,195	9,189	188%	6.68	1,375.60
Mountain City	506	547	8%	1.8	303.89
Nelson	626	1,314	110%	1.46	902.47
Waleska	616	644	5%	1.46	440.19
Woodstock	10,050	23,896	138%	11.27	2,120.32
Other areas of Cherokee County	118,471	154,365	30%	386.76	399.12
Cherokee County	141,903	214,346	51%	434	493.88

According to Center for Urban Transportation Research (CUTR) at University of South Florida, transit propensity increases when an area reaches the threshold of 500 persons per square mile. However, at this density, the propensity for transit is still half that of the national average. The population density of 500 persons per square mile is considered the low threshold for flexible transportation services in a large urban area (>200,000 population) according to the TCRP Report 140, *A Guide for Planning and Operating Flexible Public Transportation Services*. While some areas of the County, namely Canton, Woodstock, and Holly Springs, have higher population densities, much of the County remains lower density and is considered rural when considering density and propensity for transit. Based on this threshold, 67% of the County, with regards to area, remains un-urbanized (i.e., rural) as of the 2010 Census.



4.3 Employment

According to the U.S. Department of Labor, Cherokee County had an annual average of 47,636 jobs in 2013, up 24% from ten years prior. As can be seen in Figure 4-7: Cherokee County Job Density, these jobs are concentrated in Canton as well as in and around Woodstock.

Within the next ten years, ARC is predicting the number of jobs to grow within the County. Figure 4-8: Cherokee County Anticipated Employment Growth shows the anticipated growth between 2010 and 2020 within Cherokee County. Job growth is anticipated to occur outside of these two cities within Cherokee. It is important to note that some of the areas with projected high percentage increase in employment will still not have the job density seen in Canton and Woodstock, because the current count of jobs in those areas is low.

While connections to employment within the County are important, it is also important to note that almost 80% of employed Cherokee County residents leave the County for work, as shown in Figure 4-9: Work Locations of Cherokee Residents and Table 4-2: Work Location of Employed Cherokee Residents, Total and Low Income, indicating a need for increased connections to surrounding counties. Just under 50% of employed Cherokee residents work in Fulton or Cobb Counties, which both have public transit services with no connection to Cherokee County.

Table 4-2: Work Location of Employed Cherokee Residents, Total and Low Income
Source OnTheMap, Longitudinal Employer Household Dataset, 2011

Work Location	All Employed Cherokee Residents (Total: 92,416)		Low-Income Cherokee Residents (Total: 19,833)	
Cities				
Atlanta	7,287	7.9%	1,177	5.9%
Canton	6,166	6.7%	1,480	7.5%
Alpharetta	5,609	6.1%	703	3.5%
Marietta	4,804	5.2%	680	3.4%
Sandy Springs	4,487	4.9%	527	2.7%
Roswell	3,694	4.0%	771	3.9%
Woodstock	3,621	3.9%	1,071	5.4%
Dunwoody	1,309	1.4%	234	2.4%
Kennesaw	1,131	1.2%	211	1.1%
Counties				
Fulton	23,373	25.3%	3,577	18.0%
Cobb	21,707	23.5%	1,039	20.4%
Cherokee	19,420	21.0%	5,533	27.9%

In Table 4-2: Work Location of Employed Cherokee Residents, Total and Low Income, the top three counties where Cherokee residents are commuting are Fulton, Cobb, and Cherokee in opposite order for all employees and low-income employees. While Fulton and Cobb Counties operate their own transit systems, the only connection that currently exists for those in



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Cherokee to access the other systems is the GRTA Xpress service, which connects Canton and Woodstock to Midtown and Downtown Atlanta. However, for low-income employees, fewer commute to these counties. Overall, 16.4% of all employees commute to North Fulton (Alpharetta, Sandy Springs, Roswell, and Dunwoody), while only 12.4% of low-income employees do. Commuting to Marietta also drops almost two percent between all employees and low-income employees. While transit accessibility is not the only barrier between low-income populations and jobs in bordering counties, a lack of connectivity between systems could present an obstacle because of the need for longer commutes (i.e., a Cherokee resident who takes transit and works in Cobb County would have to make at least two transfers on their commute), and the purchase of a vehicle for those in zero-vehicle households.

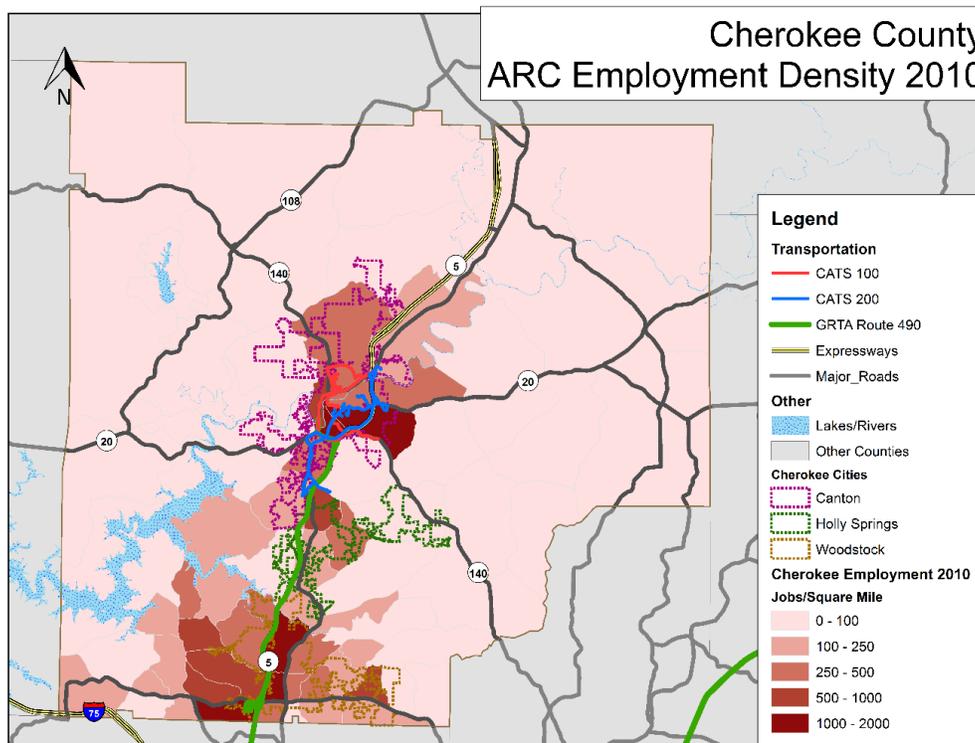


Figure 4-7: Cherokee County Job Density
 Source: ARC Traffic Analysis Zone (TAZ) Data, 2010



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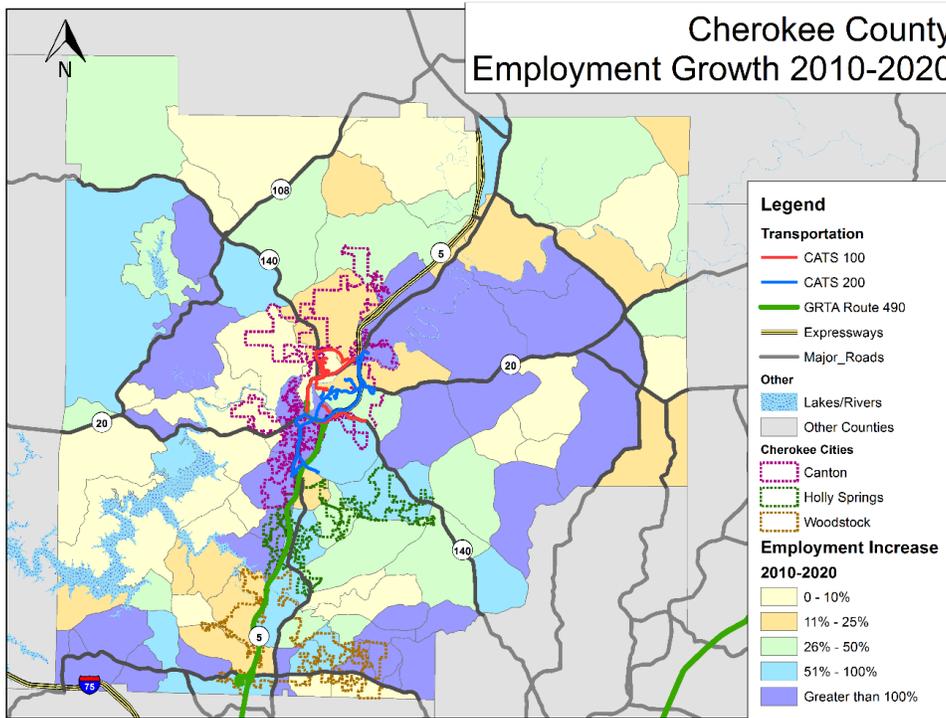


Figure 4-8: Cherokee County Anticipated Employment Growth
Source: ARC Regional Travel Demand Model Future Estimates

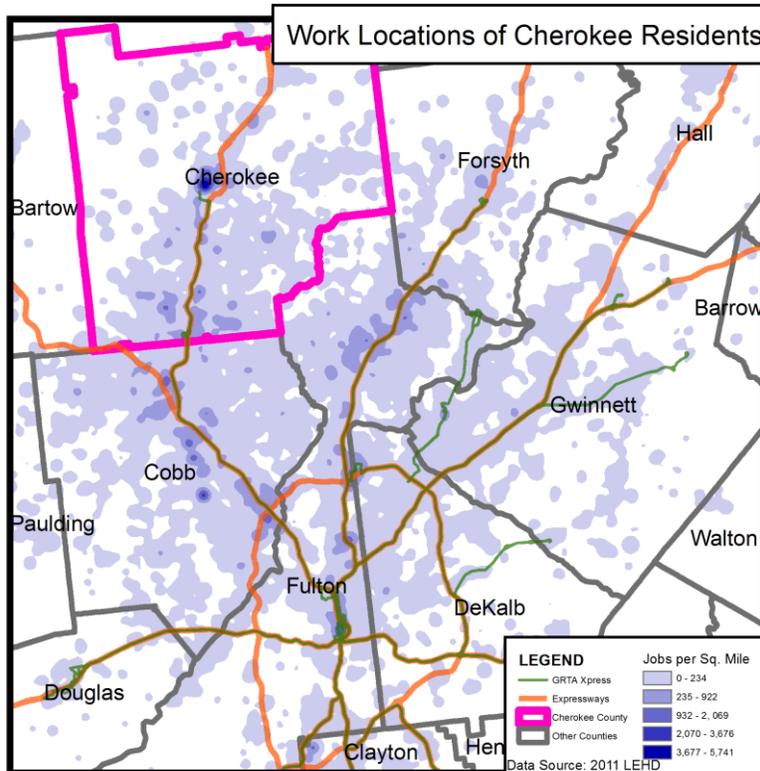


Figure 4-9: Work Locations of Cherokee Residents
Source: OnTheMap, Longitudinal Employer Household Dataset, 2011



4.4 Land Use

Land use is critical to understand how transit could provide connections, increase mobility, and improve access. It is not only important for transit services to reach travelers' homes, but also the destinations they wish to reach. In this way, a combination of medium/high residential density as well as commercial and institutional land uses along a single corridor/area would be supportive of transit. It would be able to connect people from where they are to where they need to be.

Historically, Cherokee County has been made up of mostly rural land uses, however the expansion of the Atlanta urban area and increased development in Canton and Woodstock have created pockets that contain multiple land uses.

Figure 4-10: Cherokee County Existing Land Use shows the current land uses for Cherokee County. The northern half of the County is made up almost entirely of agricultural and residential uses. However, in the central Canton and Woodstock areas, as seen in the figure callouts, there is a concentration of residential, commercial, and institutional uses. It is important to consider institutional because this includes medical facility uses, a trip purpose for many demand response clients.

In Canton, multiple land uses are served by the existing fixed route services, and a similar makeup exists in Woodstock. In fact, the area included in the Woodstock callout has even less area being used for agriculture than land surrounding the CATS routes in Canton.

Along State Route 92 on either side of Interstate 575, there are multiple clusters that contain restaurants, commercial shopping centers, and various medical services. This includes the Cherokee Family Medical Center, multiple dialysis centers, and smaller, specialized practices. Additionally, this stretch includes multiple apartment complexes and dense housing developments within walking distance. The intersection of State Route 92 and Interstate 575 is also the location of the GRTA Xpress stop at the His Hands Church during weekdays and is a potential connection.

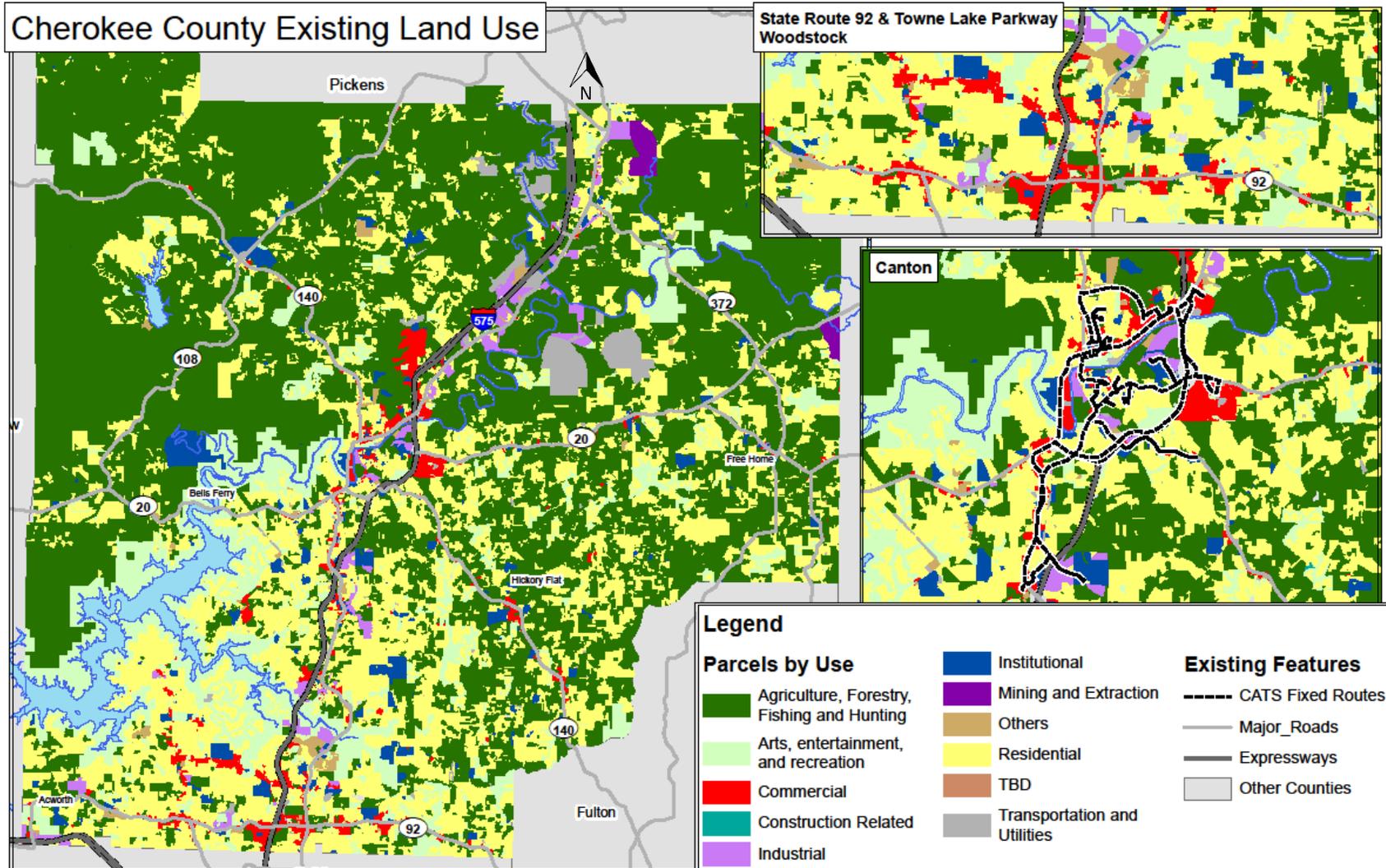


Figure 4-10: Cherokee County Existing Land Use



Towne Lake Parkway is part of one of the planned development areas within Cherokee. This area includes multiple Towne Lake housing and apartment developments as well as new complexes that are currently under construction. Towne Lake is also home to multiple medical services associated with regional hospitals, such as Northside Hospital and WellStar Medical Group. These are mixed in with numerous office buildings. Additionally, this corridor is home to the Woodstock High and Middle Schools. Education/Daycare is the primary trip purpose for demand response services within the County.

Finally, just north of Towne Lake is the Outlet Shoppes at Atlanta, a new outlet mall which provides limited shuttles for offsite parking, as well as other destinations including Buckhead and Georgia Tech in Atlanta.

4.5 Trip Analysis

This section provides an overview of trip demand based on origin-destination data from the CATS demand response service for a year and the Atlanta Regional Commission’s 2015 Atlanta Travel Demand Model.

4.5.1 Demand Response Origin Destination Analysis

To understand trip patterns for the demand response services, this section analyzes the trips taken from July 1, 2013 through June 30, 2014. In total, there were 46,292 trips taken during this time by 531 different customers. This amounts to 139.5 trips per service day with a median of 186.5 daily trips. To provide a spatial analysis of these trips, the origin and destination addresses were geocoded using ArcGIS. However, due to differences between the input addresses and the street system provided by ARC, only 78% of trips were able to be coded and included in spatial analysis. The following figures include only the mapped trips, while the tables account for all trips taken.

Table 4-3 shows the top five destinations from July, 2013 to June, 2014. This top five list includes all trips taken, regardless of whether they were geocoded. Using the addresses, associated locations are noted in Table 4-3: Top Origins/Destinations in Cherokee County. It is important to note that all of these locations are within ¼ miles of the existing fixed routes in Canton. Existing demand response riders are traveling to the top three locations from all areas of the County. Please note, this includes trips where the listed address was the origin or the destination, whereas Figure 4-11: Cherokee Trip Lines shows one way trip lines.

Table 4-3: Top Origins/Destinations in Cherokee County

Address	Name	# Trips
133 Univeter Road	Cherokee Training Center	11,441
1229 Univeter Road	Cherokee County Government Offices	4,300
1001 Univeter Road	Cherokee County Senior Services	2,303
190 South Etowah Drive	Residential Community	921
621 Ridge Circle	Residential Community	800

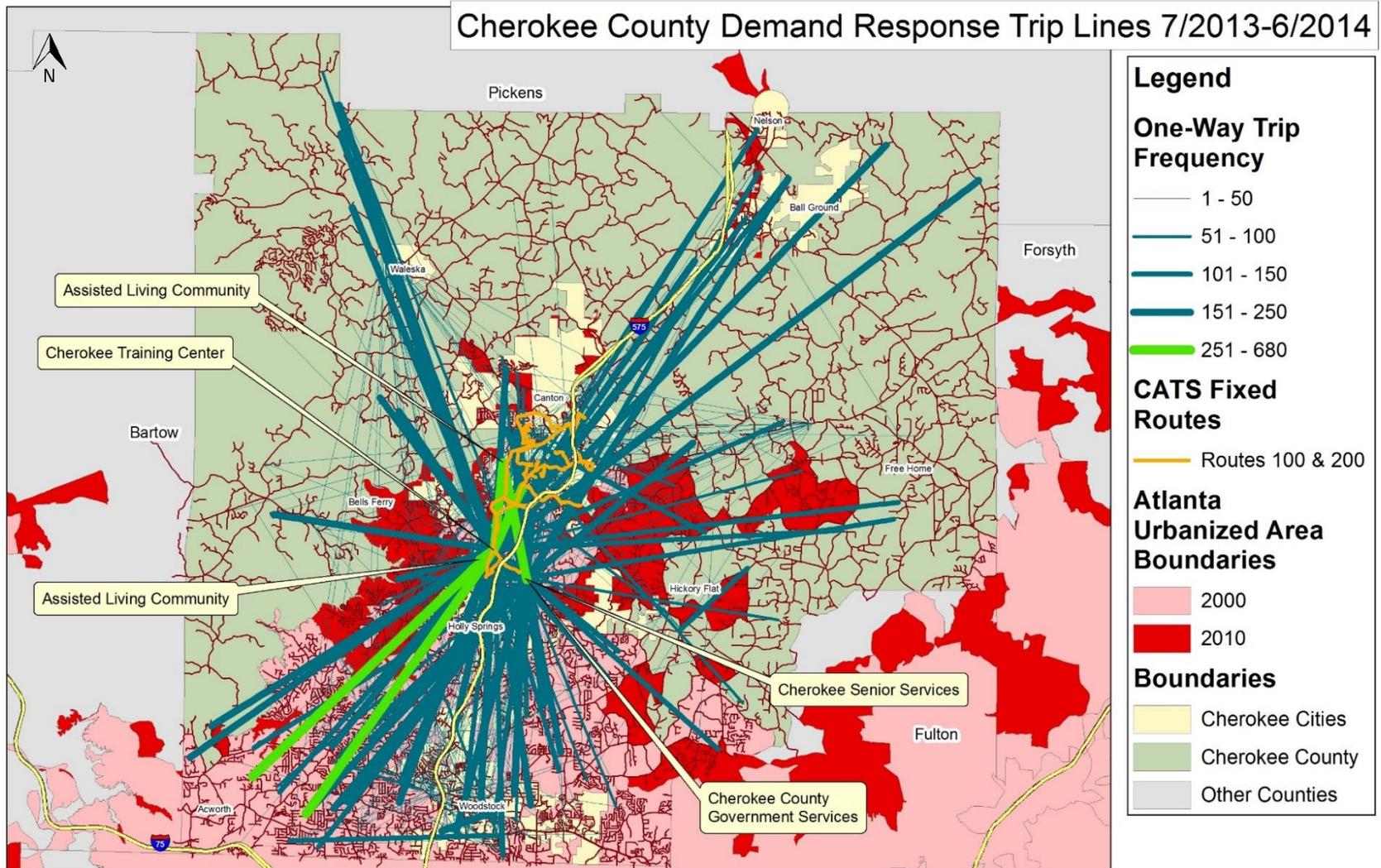


Figure 4-11: Cherokee Trip Lines



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In Figure 4-11: Cherokee Trip Lines, many of the trips are between Canton and the surrounding cities/areas within Cherokee County. In the northern communities of Waleska, Nelson, Ball Ground, and Free Home, there are very few trips with origins and destinations within these areas. The majority of these trips leave the northern cities for Canton and Holly Springs area. Similar patterns can be seen from Free Home and Bells Ferry, with the majority of the trips to/from Canton and Holly Springs.

Movements throughout Canton and within the southern portion of the County are more dispersed. While there are distinct movements from Acworth and Woodstock into Canton, there are numerous movements between Canton, Holly Springs, Woodstock and Acworth. The two largest movements on the map are between two private residences in Acworth and the Cherokee Training Center in Canton.

Between July, 2013 and June, 2014, there were 13,193 trips that occurred between Woodstock and Canton, accounting for 28.5% of trips. This included trips through the provision of services contract and for the general public.

While there are trips that occur countywide, the majority of these trips have either an origin or destination within the central part of the County, including Canton, Holly Springs and Woodstock.

Trips to and from the Cherokee Training Center are part of the contracted services CATS demand response provides. Figure 4-12: Cherokee County Training Center Trips shows all of the trips to/from the Cherokee Training Center from July, 2013 to June, 2014. These trips are spread throughout the County, with some of the major movements into/out of Woodstock and Acworth. Effectively moving persons to/from the Cherokee Training Center will continue to remain a priority for CATS, as it is a major source of revenue through the provision of service contract.

Figure 4-13: Demand Response Trips to/from Senior Living Communities shows the trips to and from Senior Assisted and Independent Living Centers in Cherokee County. It was important to consider these locations, as seniors make up 25.6% of demand response trips. Identified Senior Assisted and Independent Living Centers accounted for 3.1% of all demand response trips during the selected timeframe.

The stars represent all of the communities. This includes those that are existing, under planning review, and under construction. As previously mentioned, some of the trips were unable to be geocoded due to inconsistencies in the addresses. The stars with yellow circles in Figure 4-13 reflect Senior Living Centers where trips were recorded but for which an exact address could not be mapped. Five of the communities are located along the existing CATS fixed Routes 100 and 200.

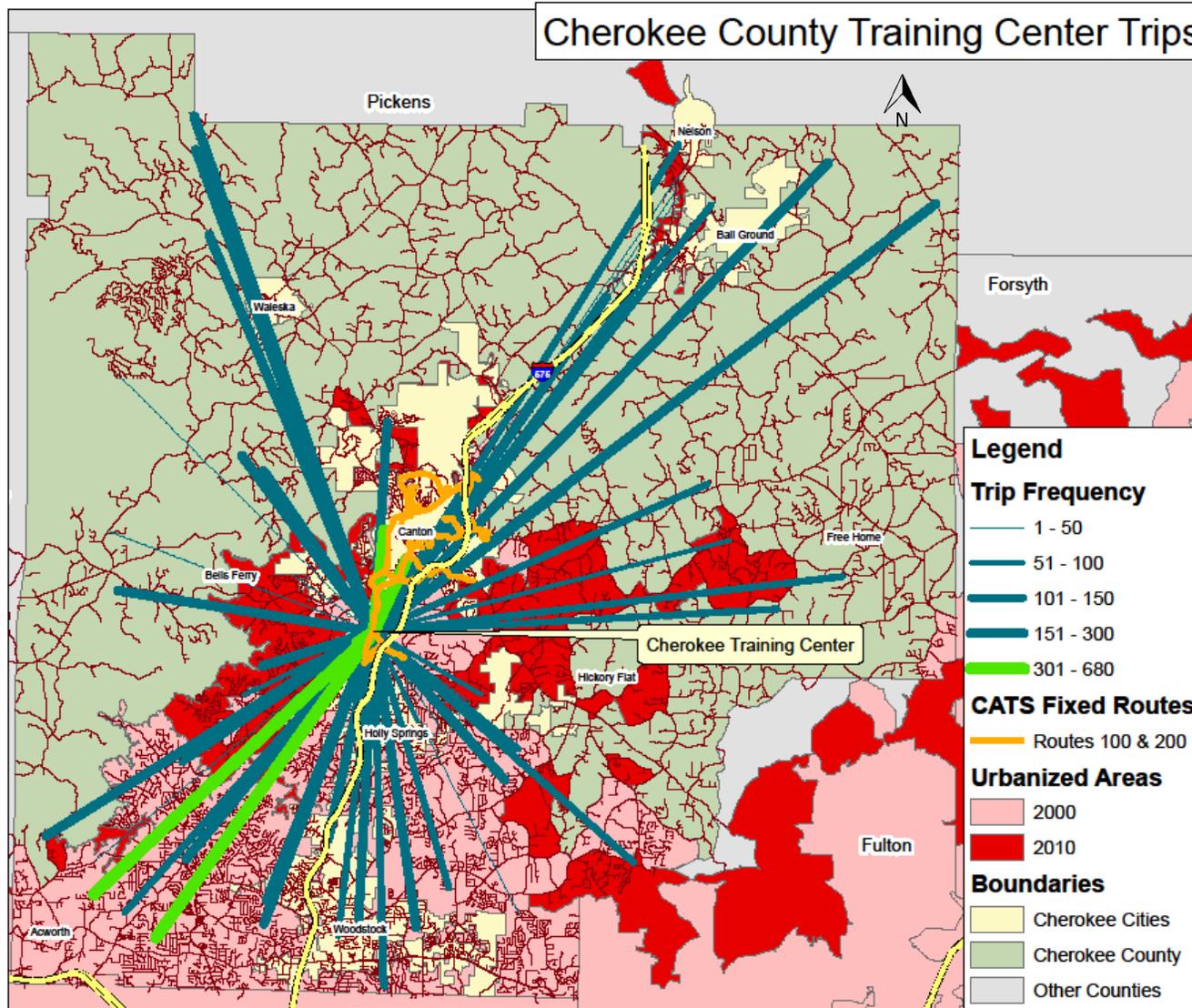


Figure 4-12: Cherokee County Training Center Trips

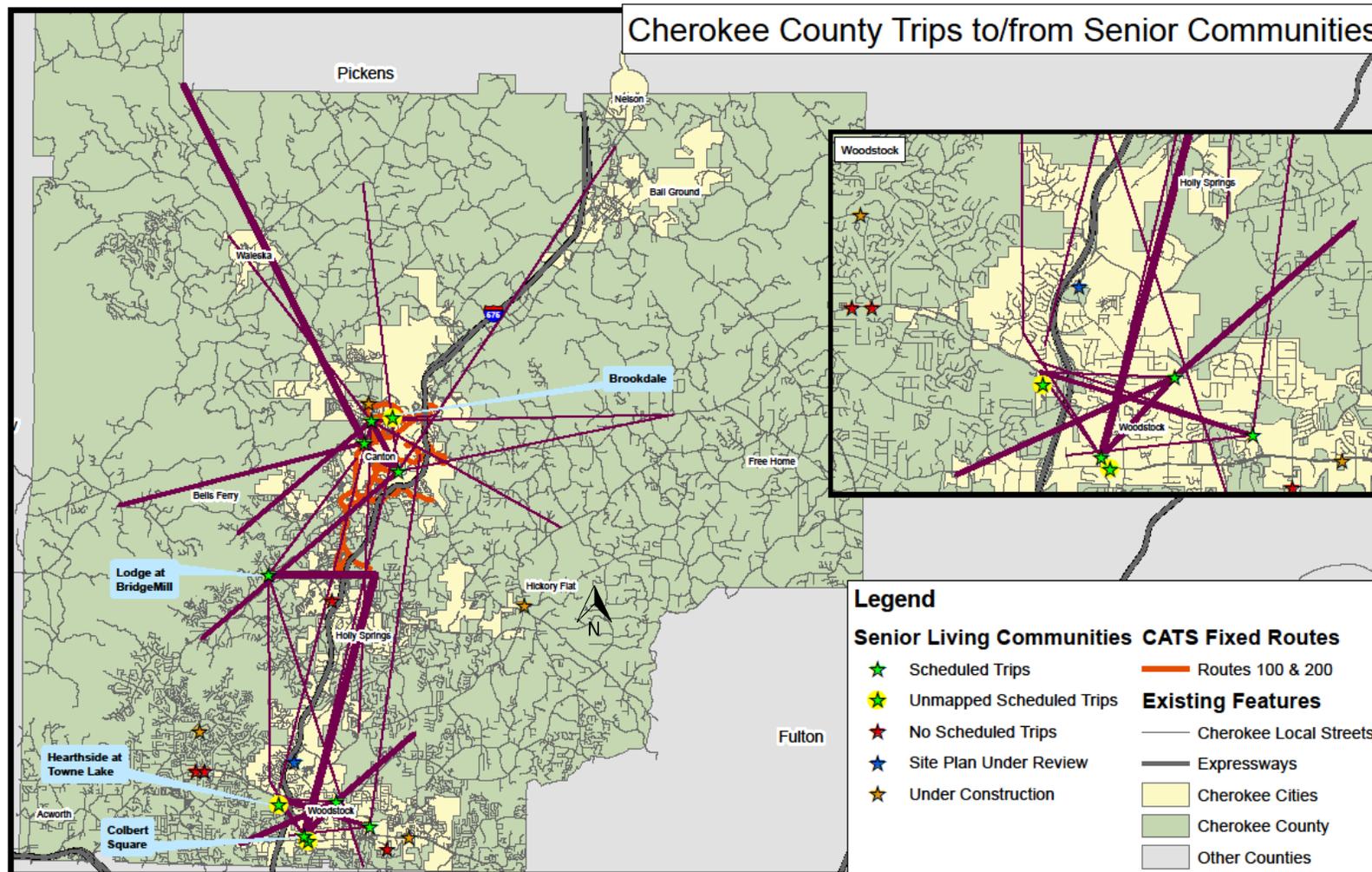


Figure 4-13: Demand Response Trips to/from Senior Living Communities



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One of the major movements for senior communities is between Woodstock and Holly Springs. There are also multiple short trips within Woodstock along State Route 92 and Towne Lake Parkway. While long trips into rural areas of the County would still have to rely on demand response services, short trips within a contained area would be more conducive to local transit routes.

The senior communities in Cherokee are concentrated in Canton and Woodstock, with five along the existing CATS fixed routes, eight within Woodstock, and three more planned for areas west of Woodstock boundaries. The concentration of senior communities and medical services are indicative of transit propensity, as the senior demographic has a propensity towards using transit and medical trip purposes make up for 7.7% of demand response trips and 14.4% of fixed route trips. When considering only the general public demand response trips, medical trips account for 39.5% of service provided.

Table 4-4 lists Senior Assisted and Independent Communities in Cherokee County and the number of trips to/from each. Of the fourteen operational communities, four had by far the greatest amount of demand response trips. Colbert Square, The Lodge at BridgeMill, Hearthside at Towne Lake, and Brookdale all had over 200 trips to/from their locations.

Table 4-4: Cherokee County Senior Living Communities

Community	Beds	Status	Total Trips (To/From)	Trips Mapped  / Unmapped 
Colbert Square	70	Operational	395	
Emeritus	70	Operational	16	
The Lodge at BridgeMill	486	Operational	284	
Woodstock Nursing and Rehab	171	Operational	90	
Brookdale - Canton	65	Operational	8	
Bryan Center	100	Operational	98	
Hearthside at Towne Lake	101	Operational	236	
Cameron Hall	106	Operational	58	
Canton Nursing Center	100	Operational	56	
Brookdale	75	Operational	262	
Savannah Grand	32	Operational	0	-
Autumn Leaves at Towne Lake	255	Operational	0	-
Benton House	72	Operational	0	-
Hidden Lake Assisted Living	73	Operational	0	-
Camellia Place	96	Plan Under Review	-	-
The Oaks at Towne Lake	86	Under Construction	-	-
Merrill Gardens	130	Under Construction	-	-
Windsor House	77	Under Construction	-	-
Canton Cove Assisted Living	80	Under Construction	-	-



4.5.2 2015 Atlanta Travel Demand Model

The Atlanta travel demand model for the year 2015 is based on current population and employment data as well as the existing transportation infrastructure network. A model run of existing conditions yields a trip table with origins and destinations for the entire Atlanta region. Of particular interest in this report is the travel between Cherokee and bordering counties within the region, including Bartow, Cobb, Fulton, and Forsyth Counties. Gwinnett and DeKalb Counties were also included because they have fixed route transit that can be utilized with one or more transfers from the GRTA *Xpress* service from Canton and Woodstock. Vehicle and transit trips can be seen in Table 4-5: Total Trips to/from Cherokee County.

Table 4-5: Total Trips to/from Cherokee County
Source: ARC 2015 Travel Demand Model

To/From Cherokee County and:	Daily Vehicle Trips	Daily Transit Trips	Total
Bartow County	27,560	n/a	27,560
Cobb County	175,980	38	176,018
Fulton County	87,037	1,024	88,061
Forsyth County	20,865	n/a	20,865
DeKalb County	11,038	44	11,082
Gwinnett County	7,809	0	7,809

Cobb and Fulton Counties have by far the most trips to/from Cherokee County. While there is fixed route transit in Cobb County, to be able to connect from Cherokee County requires taking GRTA *Xpress* into Fulton and then transferring to Cobb Community Transit (CCT). Riders of CATS demand response can request to be dropped off at the Cherokee-Cobb county line, but the service will not pick up or drop off in Cobb County. These large movements, especially between Cherokee and Cobb Counties indicate a need for increased mobility across county lines.

While GRTA *Xpress* does connect directly into Fulton County, it only provides direct access to Midtown and Downtown Atlanta. As seen in Figure 4-14: Inter-County Movements, there are also numerous trips from Cherokee County directly into North Fulton, which would require multiple transfers. This figure shows trip volumes between ARC-designated super-districts to provide more detail than entire counties. There are 32,237 trips daily between East Cherokee/Canton to the two northernmost super districts in Fulton County and 24,281 trips to/from Woodstock

Overall, the two largest movements are from Woodstock to Northwest and Northeast Cobb, highlighting the need for direct connections between the counties, instead of requiring connections through Fulton County.



Cherokee County Trips to Bordering Counties and Counties with Transit

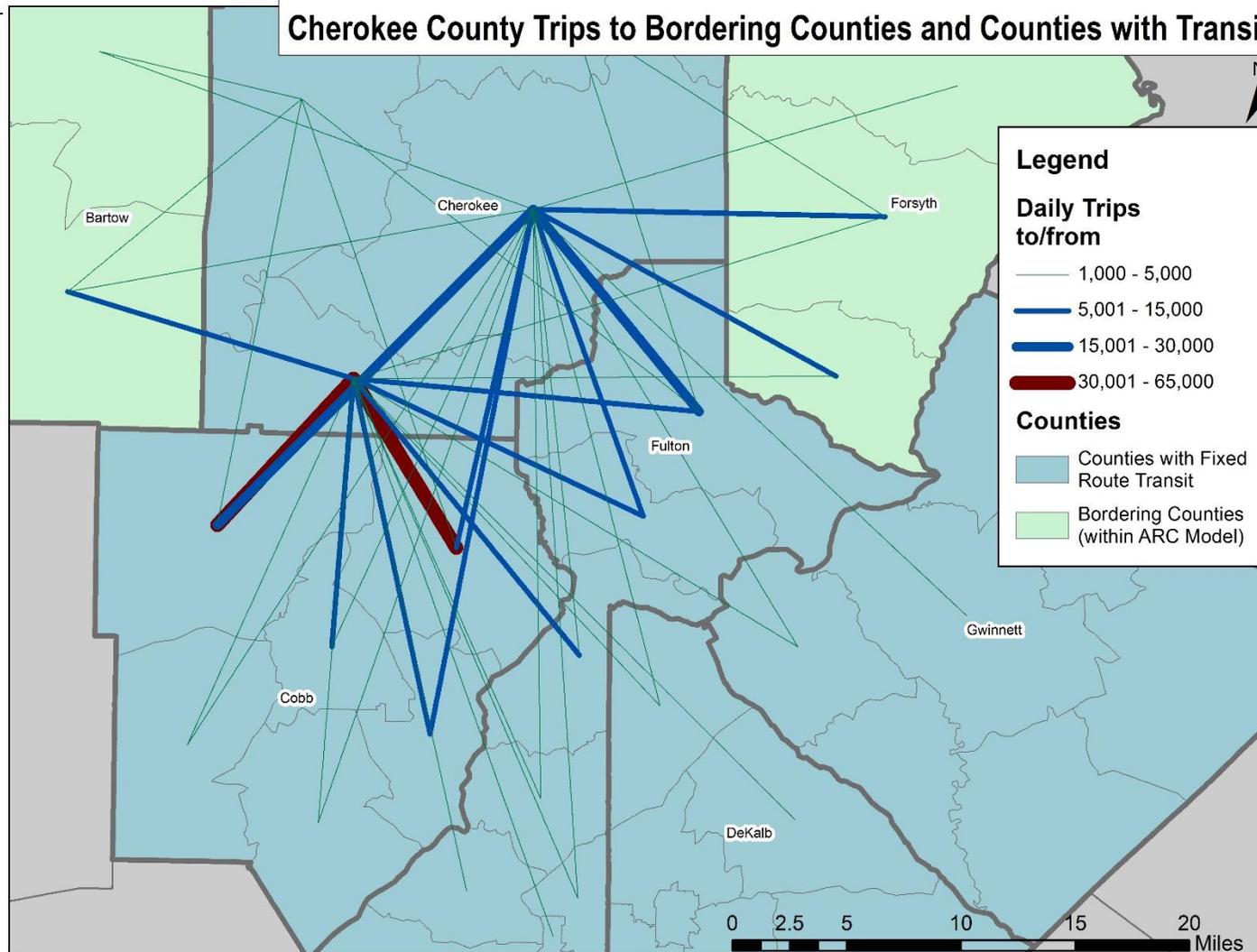


Figure 4-14: Inter-County Movements
Source: ARC 2015 Travel Demand Model



5 RELEVANT PLANS

While multiple local and regional plans discuss the potential of transit improvements and expansions within Cherokee County, none specifically respond to the change in funding eligibility for CATS. These plans generally identified areas that would benefit from increased or new transit services within the County.

In the *2005 Cherokee County CTP*, the plan mentions supporting transit access to the GRTA park and ride lots through a local circulator. Since 2005, GRTA has increased commuter bus services into Canton, but there is still little opportunity to connect with CATS because of different hours of operations between the two operators.

The *City of Canton Comprehensive Plan* did not mention any specific transit improvements or new service areas. The GDOT State Rail Plan in 2009 mentioned potential commuter rail into Canton, however that project has not progressed and has no available funding.

No relevant plans addressed the possibility of flexible transit routes, as the existing demand response provides countywide services. However, with a growing population, the eligibility of Cherokee County for federal transit funds is slated to change in FY 2014, necessitating an assessment of new funding sources to support transit and mobility.

At the regional level, ARC's *Human Services Transportation (HST): A Coordinated Plan for the Atlanta Region* (2013) provides recommendations and goals for coordinating demand response services, specifically focused on particular populations who lack other transportation options. This was an update to the original HST coordinated plan that was adopted in 2010 by ARC. Since the adoption of this plan, HST needs were incorporated into the regional long-range plan, *Plan 2040*. The purpose of this update was to ensure that the findings from the 2010 plan were in coordination with the regional transportation plan.

This plan included an overview of the regional demographic profile, assessed the HST needs of the region, examined the overarching goals and objectives from *Plan 2040*, listed existing services, examined HST best practices, identified coordination barriers, identified strategies and solutions, and finally made implementation recommendations. ARC identified that regional coordination for HST services and demand response would provide the most comprehensive transportation options for those who are not served by fixed routes and/or cannot transport themselves. However, coordination requires many agencies working together and overcoming barriers such as differences in restrictions, technology, infrastructure, and practice. While coordination would be cost-effective in the long-run, short-term capital investment is required to achieve it. Another issue is the various geographical and political boundaries that exist. Various regions or counties may run HST and demand response programs in different ways making it difficult for customers that live on the edge of these coverage areas to cross these jurisdictional boundaries.



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One of the major components is the One-Click Project, run through the mobility management office of ARC. The One-Click Project has created a web application where travelers in the region can plan a trip by entering demographic information, origin and destination, and various eligibilities for particular services, such as age, disability, and paratransit certification. Once the data are entered, the One-Click System will provide options, public and private, for travel and associated costs. CATS services are currently included in the search for services. This project is currently under a soft launch and ARC is providing training for users.

For a statewide perspective on HST, GRTA completed the *Coordinating Rural and Human Services Transportation (RHST) in Georgia Final Report*. These reports were put together to update the Governor on Rural and Human Services Transportation (RHST) in Georgia as mandated by legislation. These reports respond to nine legislative tasks that analyze the existing RHST conditions, benefits of transportation coordination, program analysis, funding streams, interaction with public transportation, an assessment of privatization, and recommendations for the state.

The 2012 report recommended specific tasks for the state and regions to improve coordination and cost-efficiency in RHST. While the 2012 report focused on recommendations at the state level, there are important items that can be applied to improving services in Cherokee County. The mission statement for the statewide RHST is to “*Identify the means to increase cost-effectiveness while maintaining or improving level of service.*” Similar to the ARC study, this report found that the populations that require HST are continuing to grow and becoming a larger percentage of the total population. To address the growing demand for RHST, the council recommended resource bundling pursuits, improving data collection and analysis at the local level, and establishing a local mobility manager.

Data collection recommendations were focused on the following six performance measures, all of which are collected in CATS except for the fixed route utilization. This parameter measures how many trips for HST populations are served by fixed routes. However, the limited coverage of CATS fixed routes reduces this number greatly.

- Total annual trips
- Cost per passenger trip
- Cost per vehicle mile
- Trips per vehicle mile
- Trip purpose
- Fixed route utilization

This report also discussed directing agencies serving HST populations to direct transportation requests and contracts to local transit agencies, something which has already been done in Cherokee County. In fact, the majority of demand response trips are provided under contracts with local agencies supporting various populations.



6 PEER SYSTEMS

This section provides an overview of agencies that provide service to a similar area and population as CATS. Cherokee County has an area of 434 square miles and a 2010 Census population of 214,436. The following table shows similar systems and their operating fund sources, according to 2013 National Transit Database (NTD) Data.

Peers were selected who met the following criteria:

- Served an area between 300 and 600 square miles;
- Had a population between 200,000 and 250,000 persons;
- Less than \$2 million in operating costs;
- Operated a maximum of 30 vehicles in peak service.

The peer systems are listed in Table 6-1: Peer Transit Systems.

Table 6-1: Peer Transit Systems
Source: NTD 2013 Reporting Year

System	Location	Area (Sq.miles)	Pop.	Vehicles in Max. Service	Total Operating Expenses	Operating Funding Sources
CATS	Canton, GA	434	214,436	FR: 2 DR: 12	\$847,800	<ul style="list-style-type: none"> • Fare Revenues - 6% • Local Funds - 16% • State Funds - 24% • Federal Funds - 55%
Henry County Transit	Henry, GA	324	207,360	FR: n/a DR: 26	\$1,646,500	<ul style="list-style-type: none"> • Fare Revenues - 5% • Local Funds - 36% • State Funds - 0% • Federal Funds - 59%
Gaston County	Gastonia, NC	356	208,049	FR: 1 DR: 26	\$1,896,900	<ul style="list-style-type: none"> • Fare Revenues - 10% • Local Funds - 38% • State Funds - 11% • Federal Funds - 41%

Of these agencies, the one with the most similarities is Gaston County. This agency provides subscription routes throughout the County for human services agencies and provides public trips when scheduled in advance. Gaston County also provides one flex route with service in Gastonia, NC and Dallas, NC. This route provides service on the hour between 7:30 AM and 3:30 PM. Deviated service is allowable up to twice per day and must be within ¾ of a mile of the fixed route.

Gaston operates in similar fashion to CATS, with the majority of revenue generated from provision of service contracts. In Gaston, fewer state funds are received because in North Carolina 5311 funds cannot be used for operations except for small city, fixed-route and/or



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deviated fixed-route services, of which Gaston provides one route. Gaston County is located just west of Charlotte, NC and along the state border with South Carolina, therefore it receives funds for small urbanized areas from both states. Gaston provides over \$700,000 in general funds from the County without a dedicated transit funding source for the services and does not qualify for Table 3A Section 5307 operating funds at the federal level.

Henry County is similar to CATS with regards to described criteria but also because it is located in the Atlanta Region and subjected to the same requirements for Section 5311 funds by GDOT. While Henry does not provide any fixed route services, its demand response provides services to the general public countywide. Henry County provides more local funds for transit without a local dedicated funding source.

Cherokee County and CATS are relatively unique in that they serve such a large area with low density, yet are still considered urban based on the proximity to Atlanta, GA. Currently, Cherokee County is providing less proportionately from County general funds to support local transit than these peer systems.



7 PUBLIC COMMENTS REGARDING TRANSIT

To support the development of the transit needs assessment for Cherokee County, a preliminary round of Open House sessions were held to both inform the public of project progress and gather input for transit-related projects and services. The Open House sessions were performed as part of the overall public outreach for the Cherokee County Comprehensive Transportation Plan (CTP) on March 24, 2015 and March 26, 2015.

Attendees were invited to participate in a funding prioritization activity in which they were asked to distribute \$10 million among six transportation categories, including transit. This activity was completed by attendees from both meetings and an online survey. Table 7-1 includes the aggregated allocation of the hypothetical transportation funding.

Table 7-1: Transportation Funding Activity Results

Session	Transit Funding Allocation	Total Funding Allocated
Open House, March 24, 2015	11.9%	\$483 million
Open House, March 26, 2015	15.2%	\$230 million
Online Survey	3.8%	\$240 million
Overall	10.7%	\$953 million

Overall, transit received the lowest amount of allocated funding through this exercise, with only 10.7% of the hypothetical amount. It is no surprise that the session with the highest percentage of funding allocated for transit was in Woodstock. Woodstock, as previously discussed, is the area with the highest transit propensity throughout the County.

In addition to this activity, attendees and online survey participants were invited to share their own comments regarding the overall CTP. Attendees and participants who did leave comments regarding transit stressed the need for more services. Recorded comments included the following sentiments:

- “We need a specific route transit system county-wide”;
- “Lack of public transportation throughout the County between population centers is a significant barrier to employment for many citizens”;
- “We need alternative modes of transportation. Trails and mass transit”;
- Public transit is important. The younger generation is trending towards walkable communities where a car is not absolutely vital. Funds need to go for public transit no new roads”;
- “I would like to see more money spent on public transit than on new road construction.”

In addition, through conversations with consultant project representatives, attention was brought to the transportation needs of the unemployed. A representative from Must



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Ministries described that placing unemployed persons residing in Cherokee County is extremely limited if they do not own a personal vehicle.

While there were fewer comments regarding transit than other modes of transportation, no recorded comments were directly against the expansion of transit services. However, the key barrier to transit expansion will be funding. While transit is a need, especially for those who do not have access to other transportation modes, it was the lowest priority based on the funding allocation activity. Therefore, in addition to identifying the mobility needs of Cherokee County residents, it is critical to recognize the need to recommend cost effective changes and/or expansions to the CATS system.



8 IDENTIFIED NEEDS WITHIN CHEROKEE COUNTY

Based on the assessment of existing services, demographics within the County, and spatial analysis of key destinations/activity centers, the following needs have been identified:

- **Increased services in Woodstock**

The increased density, demographic transit propensity, land use, senior communities (in operation and under construction), as well as the number of activity/medical centers in and around Woodstock warrant increased transit services. These services could be provided by fixed route(s), flex route(s), and/or increased demand response vehicles in the area. Specific recommendations will be examined in following reports. While there are 5307 capital funds available for new service, it will be important to identify long-term operations funding sources for any newly proposed service.

- **Connection between Canton, Holly Springs, and Woodstock**

While Woodstock has the area with the highest overall transit propensity and need for mobility within its borders, there is also a need for additional connections throughout Cherokee County. Canton, Holly Springs, and Woodstock were home to the highest transit propensity scores, with particularly dense low-income and zero-vehicle populations in Canton and Holly Springs. These three cities have the highest population (1,000+/square mile) and employment (250-2,000 jobs/square mile) densities of the County and are all home to major medical facilities, along with a greater mix of land uses than the rest of the County. The ability to move between cities would greatly increase the accessibility of the County's major cities, particularly when one considers that over 28% of demand response trips were made between Canton and Woodstock alone.

- **Transit connections across county lines**

The significant number of daily trips between Cherokee County and northern Cobb County as well as between Cherokee County and North Fulton indicate a need for increased mobility options. Accessing these areas via transit requires multiple transfers across multiple systems that do not currently share fare transfers. Direct connections would increase mobility to the employment in those areas. This would also provide alternative mode options, seeing as less than one percent of all trips between Cherokee and Cobb/Fulton Counties are taken via transit.

- **Regional fare/transfer interconnectivity**

There are a significant number of overall trips and commuting trips to/from Cobb and Fulton Counties. Both of these bordering counties have transit services, but they do not provide any connection to/from Cherokee County. Providing these connections would provide more accessibility to these bordering counties, especially from the southern portion of Cherokee County, where the demographics have the highest transit



propensity. Connecting with regional transit providers may require a new fare system that can accept regional fare products and allow transfers between different transit operators, as is currently provided through the BREEZE system which facilitates seamless transfers between GRTA, Cobb Community Transit, and MARTA. Currently, CATS is conducting a fare policy assessment to identify whether prices are in line with similar transit providers in the region.

- **Additional operating funds**

The changing population and eligibility for CATS requires additional funding sources to cover operation costs. It is anticipated that the Cherokee County general fund will be unable to increase its contribution to the CATS budget (approximately \$200,000 per year). Countywide, CATS has to turn down requests for service for the general public based on restraints of trip distances, and available drivers for each day. To increase service would require additional funds to cover drivers, maintenance, fuel, and all associated costs.

- **Additional funds to match available federal capital funds**

As discussed, Cherokee County has Section 5307 funds available for use in capital projects, with a local match of 20% or less depending on the project. However, identifying matching funds is difficult, with all available funds being used to match federal and state funds for operations. Potential income from the new House Bill 170 could potentially be all or partially used for capital expenditures.

- **Improved real-time customer information**

While CATS is a relatively small transit system, there is still a need to improve the arrival information for customers. Travelers on the fixed route would benefit from real-time information to arrive at fixed stops accordingly and not worry about missing a bus and waiting an hour for the next one. Demand response customers could track when drivers are approaching and be ready to board as the vehicle arrives. Additionally, generating the General Transit Feed Specification (GTFS) data would allow CATS to integrate with existing regional real-time transit applications and easily track vehicles and on-time performance system-wide.

- **Improved stop amenities**

While amenities are not the highest priority in a transit system, they can often improve the rider experience and satisfaction. Throughout the CATS system, customers would benefit from increasing the number of stops with shelters, adding trash cans to reduce littering at stops, and additional information on stop signs. Working in tandem with the need of improved customer information, signs could provide stop-level schedules or links to any real-time data provided. CATS has Section 5307 funds available for capital expenditures, which will be examined for potential use to upgrade CATS amenities.



- **Track and increase choice ridership**

Based on a national survey of 11,842 respondents in 46 metropolitan statistical areas (including the Atlanta region), the most important factors for increasing choice ridership are travel time and reliability². For all transit services in Cherokee County, this would mean increasing service frequency for fixed routes and the number of vehicles for demand response to provide travel times that can compete with personal vehicles throughout the County. Based on the demographic information provided by CATS, it is difficult to identify and categorize riders as choice or dependent. A comprehensive survey with questions about income, vehicle availability, and ability to drive would provide accurate insight into why riders are choosing (or not choosing) to use CATS for their trips. As Cherokee County continues to grow in population and density, this will be a key statistic to track and identify areas to increase service where applicable and affordable to do so.

While there was discussion of expanding service hours to allow for transfers from CATS services to GRTA *Xpress* routes, this has not been identified as a need for the County. The demographics of riders for each service as well as the trip purposes are very different, as the services cater towards different types of riders. There is parking available at both park and ride lots (Canton and Woodstock), and demographics of GRTA *Xpress* riders indicate that they generally do have a vehicle available. A connection between the two services would require extension of hours for the fixed routes and for demand response for potential riders throughout the County to access the park and ride stops.

² Who's On Board 2014: Mobility Attitudes Survey, Transit Center, 2014



9 NEXT STEPS

Based on the needs identified in this document, the Parsons Brinckerhoff team will work with CATS and Cherokee County to identify three scenarios for evaluation and develop an evaluation framework to identify the recommendations that would provide the most benefit to the county and address its goals. The evaluation will include the following three scenarios:

1. Do Nothing Scenario: services will remain the same in the projected ten year future,
2. Operational Cost Restrictive Scenario: this scenario will include services that will not exceed the anticipated operations funding eligibility and current funding levels from the Cherokee County general fund,
3. Meeting Needs Scenario: this scenario will include service expansion to address all identified needs, but may require additional costs.

To evaluate the scenarios and select the one that is most consistent with the county's goals and funding availability, the Parsons Brinckerhoff team will work with county representatives to identify performance measures and priorities. The evaluation framework will include county priorities, such as service coverage, financial sustainability, projected ridership, and other measures to be determined with the county. In this way, all three scenarios will be evaluated and take into account both transit needs and financial realities. Recommendations will be presented for the next ten years and will include an implementation plan for any changes and/or additions to the system.