

EXISTING CONDITIONS REPORT

CHEROKEE COUNTY CTP

OCTOBER 2021

Cherokee



MOVES

Cherokee County
2022 Comprehensive Transportation Plan

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1. INTRODUCTION

PLAN PURPOSE

The last Cherokee County Comprehensive Transportation Plan (CTP) was completed in 2016 and was an update from the preceding 2008 CTP. The 2016 CTP identified multi-modal transportation improvement opportunities through the horizon year of 2040. This CTP update will build upon the previous CTP and its recommended projects to a new horizon year of 2050.

The purpose of the Cherokee County CTP update is to identify a countywide transportation vision and to prioritize transportation improvements in the near, mid, and long-term. The CTP will consider all forms of transportation including automobiles, transit, walking, biking, freight, and emerging transportation technologies.

When finished, the Cherokee County CTP will have completed the following tasks:

- Established a clear transportation vision, goals, and objectives
- Developed an interactive transportation model for County use
- Updated the Trails Master Plan
- Updated the Transit Feasibility Plan
- Developed a prioritized list of transportation projects for the short, mid, and long terms
- Created a list of recommended transportation programs and policies.

The CTP will incorporate the input and feedback from multiple public and stakeholder groups including a Technical Advisory Committee (TAC), a Citizen Advisory Group (CAG), and the general public. These groups will be engaged through public and committee meetings, an interactive project website, an online survey, and other engagement tactics. The TAC and CAG will provide technical and practical feedback which will guide the overall development of the CTP.

REPORT PURPOSE

The Existing Conditions Report provides an overview of the current and projected state of transportation and other elements which drive transportation demand in Cherokee County. These elements include population and employment, transit, roadway conditions, land use, economic development, and more. This information will serve as the foundation for further analysis in the next phase of the CTP process: the Needs Assessment.

The inventory of conditions outlined in this report and the needs identified through further analysis in the Needs Assessment phase will ultimately be utilized to develop the main deliverables of the CTP: a prioritized list of projects and a set of policy recommendations.

2. KEY FINDINGS

Throughout the review of existing conditions in Cherokee County, a number of key findings surfaced that were significant to note as the CTP process advances. These key findings are summarized below, but are detailed in the following sections of the Existing Conditions Report.

POPULATION & EMPLOYMENT

- The areas expecting the highest population changes are the northwest and southeast corners of the county as well as along the transportation corridor spines of the county including I-575 and SR 20.
- Employment is expected to stay largely concentrated in south central areas of the county between the Cities of Woodstock and Canton. The most notable employment trend is a shift toward a more service-based economy and away from manufacturing/construction over the next 30 years.

LAND USE & DEVELOPMENT

- There will be a shift toward more commercial nodes along state routes in the County according to the County's future land use map.
- Synchronization of land use and transportation planning will be important moving forward as the County coordinates amongst the multiple jurisdictions and planning efforts.

TRAVEL TRENDS

- Cobb County is the top external trip generator for Cherokee County, making up 50% of daily external trips. A majority of these trips are made to and from the Woodstock superdistrict.
- The East Central Cherokee superdistrict, which includes the City of Canton, is the most popular destination for trips within Cherokee County.
- No major changes to existing travel patterns are expected over the next 30 years. However, development of rural areas will continue to increase traffic volumes.

ROADWAY CONDITIONS & SAFETY

- I-575, SR 92, and SR 20 are the highest volume roadways in Cherokee County
- Programmed projects to widen SR 20 and Bells Ferry Road will mitigate major congestion points observed in the 2020 level of service analysis
- Future projects to mitigate congestion by 2050 may be necessary along SR 92, Sixes Road/Holly Springs Parkway/Main Street/SR 754, SR 140, and SR 372 according to the ARC ABM.
- SR 92 and downtown Canton are hotspots for bicycle and pedestrian crashes within Cherokee County

BICYCLE & PEDESTRIAN INFRASTRUCTURE

- The County and its municipalities have done a significant amount of planning in support of improving bicycle, pedestrian, and multi-use trail infrastructure through a combination of past Comprehensive Transportation Plans, subarea trails planning and Livable Centers Initiative studies.
- The downtown areas of the municipalities tend to have a good sidewalk network coverage. A fairly dense network of paved multi-use trails is present in the City of Woodstock.
- The County has a large presence of recreational unpaved trails (mountain biking trails and hiking trails) throughout.
- There is generally a lack of paved multi-use trail facilities, sidewalks and on-road bicycle facilities linking the County's municipalities and key activity centers that would make active transportation possible outside of core downtown areas.

TRANSIT

Cherokee County is well served by local and regional transit services that meet variety of customer needs and trip purposes.

ATL XPRESS BUS SERVICE

- Cherokee County is served by commuter express service provided by ATL and CobbLinc to job centers in Midtown and Downtown Atlanta. Pre-Covid-19 data showed relatively steady commuter ridership across all the routes.
- The recently built Hickory Grove Park-and Ride in Acworth will provide additional commuting options for Cherokee County residents. Two new Xpress Routes (484 and 485) will operate from Hickory Grove to Midtown and Downtown Atlanta.

CATS SERVICE

- Impacts of COVID-19 dramatically decreased ridership across the entire CATS system.
- In 2020, CATS completed an assessment of their fixed-route bus service which recommended adjustments to bus stop locations to better align with ridership demands and to address safety concerns. This was completed in early 2020 in advance of the known impacts of the COVID-19 pandemic.

GOODS MOVEMENT

- Cherokee County is a crucial corridor for north/northwestern Georgia's freight movement.
- Cherokee County is most impacted by goods movement along the I-575 and I-75 Corridors. SR 92, SR 20, and SR 369 are also key corridors for goods movement throughout the County.



- Although a large majority of freight movement in the County occurs on major freight corridors listed above, freight is moved at a consistent level on all roads throughout the county.
- Cherokee County has one legacy freight rail line, the Georgia Northeastern Railroad. It is managed by Patriot Rail and Ports and mainly transports timber, grain, poultry, and marble products. There are 30 freight rail facilities throughout Cherokee County.



3. LOCAL PLAN REVIEW

The planning team carefully evaluated previous planning efforts in Cherokee County in the past 15 years. Specific summaries of each plan are provided below, along with the key transportation take-aways. Although each plan is unique in its focus, there are a number of consistent themes that are pervasive.

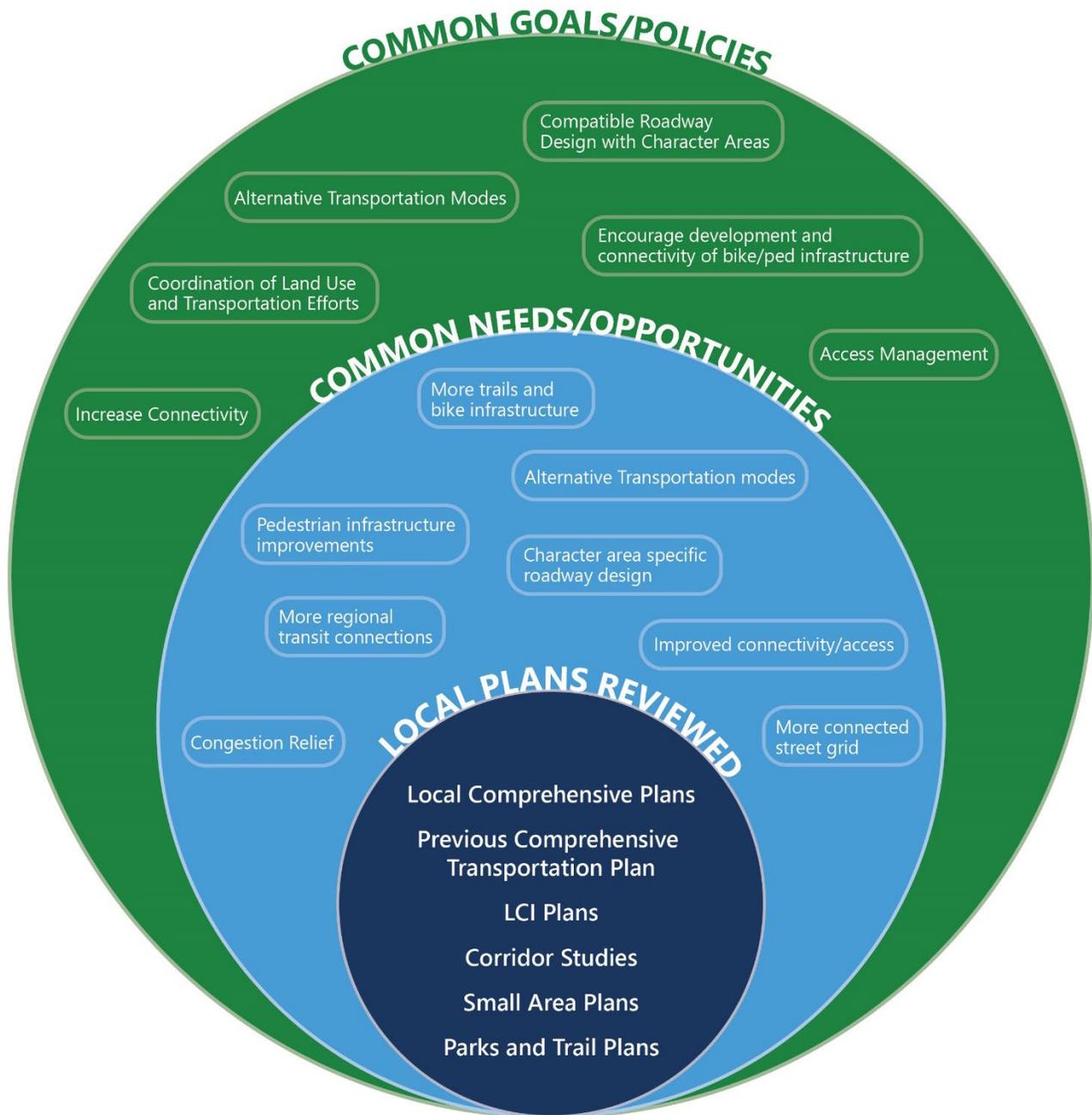
- Overall need/desire for improved connectivity—likely part of the growing pains from a more rural county to a more integrated part of the Atlanta metro
- Desire to invest in town/community/neighborhood centers – supporting these places with strong roadway grids, better pedestrian infrastructure, and balanced parking options
- Strong interest in trails and pedestrian and bicycle infrastructure—particularly within cities and connecting to destinations
- Strong desire for context-sensitive design, particularly with how roadways are designed with all users in mind
- Need to relieve growing pressure on major corridors, balancing access management and redevelopment of strip commercial areas
- Longer term interest for improved access to regional transit
- Protecting but leveraging County's unique resources: natural features and historic structures as place-makers, emphasis on advancing trail/greenway opportunities (Noonday Creek, Etowah Greenway, etc.)

These themes are consistently found across the common identified needs and goals for the plans reviewed. Figure 1 shows the most common needs and goals found across all local plans reviewed.

Areas of Focus

Much of the more detailed planning in Cherokee County in the past 15 years have occurred in four locations: Highway 92, Southwest Cherokee, Downtown Woodstock, and Downtown Canton. The CTP will balance the need to incorporate the key transportation goals and recommendations from these studies and look for opportunities for closer study of other emerging areas in the county.

Figure 1: Commonalities across Local Cherokee County Plans Reviewed



Across the local plans reviewed, a number of major transportation projects were identified (Table 1).

Table 1: Summaries of Projects and Needs for all Plans Reviewed

Plans Reviewed	Jurisdiction	Year	Major Transportation Projects
Cherokee County Comprehensive Plan	Cherokee County	2018	-Roadway improvements -Character-area specific roadway standards -Park and Ride lots
SW Cherokee County Parks & Trails	Cherokee County	2021	-Trails connecting future parks
SW Cherokee Area Plan	Cherokee County	2018	- Develop plan for alternative modes
Recreation, Parks, Green Space & Trails Master Plan	Cherokee County	2018	-10 miles of greenway or trail
Technology Ridge Urban Redevelopment Plan	Cherokee County	2011	-None
Cherokee County Airport Area Master Plan	Cherokee County	2010	-Airport expansion project
Bells Ferry Corridor LCI	Cherokee County	2006	-Bells Ferry improvements: pedestrian crossings, intersection signalization, access management, access road, streetscape -SR 92 access management, raised median/ped islands, sidewalks, crosswalks, access road, streetscape -New E/W Collector: Woodstock Rd to Bascomb Carmel Rd -Robin Road Improvements
Ball Ground Comprehensive Plan 2018 Update	City of Ball Ground	2018	-Add parking downtown -Re-route trucks away from downtown -Create pedestrian facility plan
Canton 2040 Comprehensive Plan	City of Canton	2019	-Etowah River Trail -East Side Parkway -Transit hub -Implement bike/ped/trail projects -SR 20 study -Intersection improvements -Resurfacing
Canton Forward Etowah to the Loop LCI Update	City of Canton	2016	-Two-way conversions -Bicycle amenities -Downtown sidewalks/streetscapes -Bicycle loop from River -Bike racks and marketing campaign Future commuter rail
City of Holly Springs	City of Holly Springs	2018	-Hickory Springs Parkway -Town Center road network -Local road maintenance/improvements



Plans Reviewed	Jurisdiction	Year	Major Transportation Projects
Comprehensive Plan 2018-2038			-Pedestrian network improvements -Explore public transit and park and ride options Bikeways/multi-use trails (general)
Waleska Comprehensive Plan 2018 Update	City of Waleska	2018	-Extend Sidewalks
Woodstock Comprehensive Plan	City of Woodstock	2018	-Towne Lake Parkway -Downtown grid -Arnold Mill Extension/Bypass -Neese Road widening -Trickum Road widening -Noonday Creek trail
Woodstock Highway 92 Corridor LCI Plan	City of Woodstock	2015	(All on SR 92) -Pedestrian intersection improvements -Sidewalk connections -Access/frontage design study -GRTA bus hub -Restriping
Woodstock Town Center Plan	City of Woodstock	2013	-Improving downtown roadway grid -New sidewalks -Multi-modal facility -Trolley feasibility study -Parking management plan Intersection improvements
The Greenprints Project	City of Woodstock	2008	- Towne Lake Pass trail -Old Rope Mill trail -River Run Trail -Trestle Rock Trail -Bridget Hammond Trail -Noonday Creek Trail -Education Connector Trail -Dupree Park Connector -Little River Trail



4. PLANNED & PROGRAMMED TRANSPORTATION PROJECTS

The project team reviewed the current Cherokee County 1% Special Purpose Local Option Sales Tax (SPLOST) program, the previous 2016 CTP project list, and projects identified in the Atlanta Regional Commission (ARC) Regional Transportation Plan (RTP)/Transportation Improvement Program (TIP). Combined, these projects make up the base list of projects to build a universe of projects for evaluation. The universe of projects will continue to grow following the needs assessment and, ultimately, will undergo an evaluation to filter and prioritize recommended transportation improvement projects for Cherokee County.

ARC RTP/TIP PROJECTS

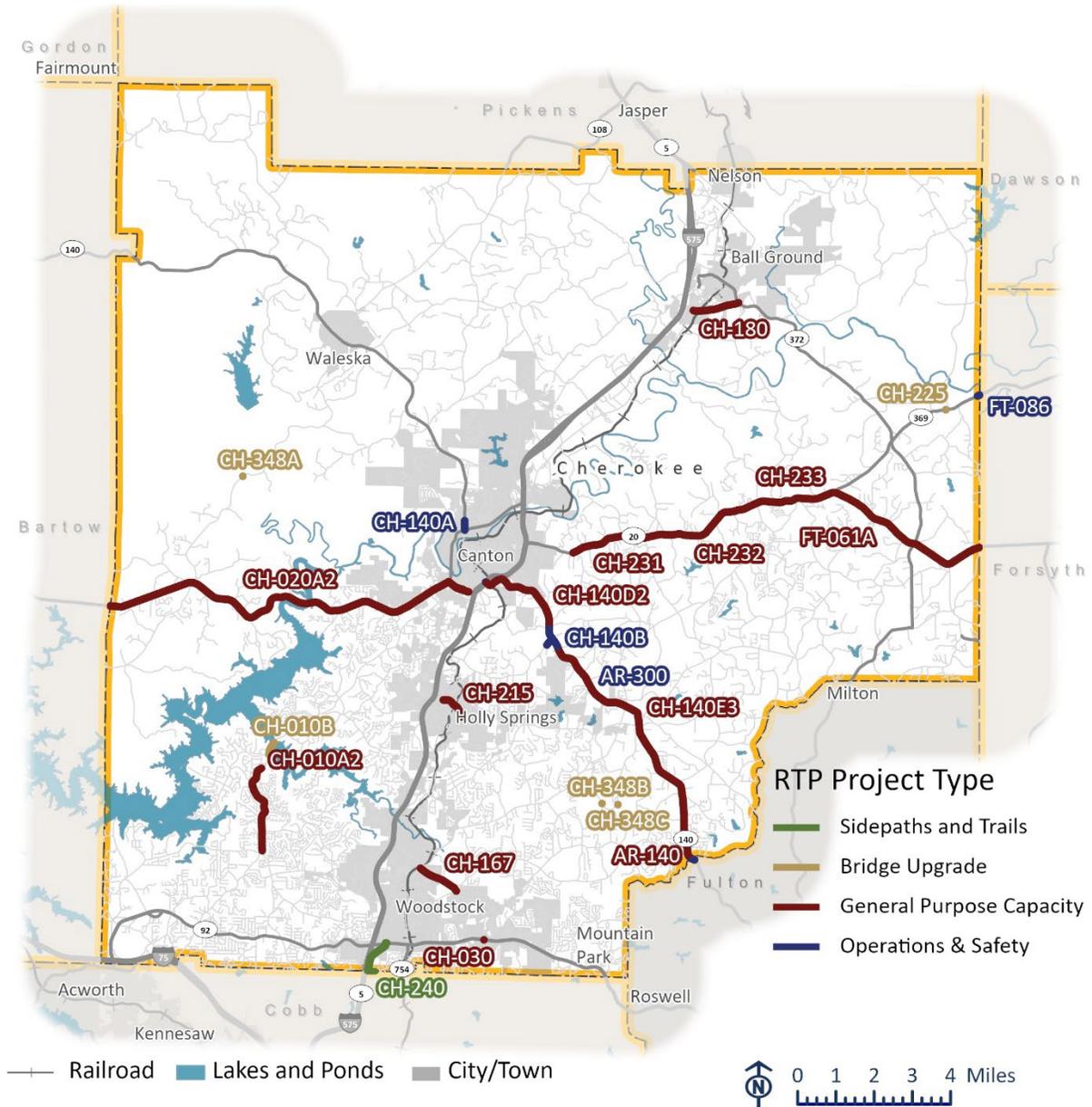
The RTP is the long-term transportation vision for the 20-county metro Atlanta region. The RTP is updated every four years and includes transportation projects in need of federal funds. The TIP covers the first six years of the RTP and only includes fully funded projects. Projects from the RTP and TIP in Cherokee County were reviewed and are displayed by type below in Figure 2.

The ARC RTP/TIP projects are broken up into two categories (programmed and long-range) and are made up of both local transportation projects as well as regional projects that may have an impact on the county such as a state route or interstate widening project.

There are 17 programmed projects with funding allocated in the FY 2020-2025 TIP. These programmed projects are mostly roadway projects including general purpose capacity upgrades such as road widenings, bridge replacements and operational improvements. There is one last mile connectivity programmed project in the county: the Noonday Creek Trail Extension project.

The other six projects are categorized as long-range planned projects. These are long term planned projects beyond 2025 which do not have confirmed or dedicated funding yet. The long-range projects are made up completely of roadway projects focused either on capacity or operations/safety. All of the programmed and long-range projects can be seen in Figure 2. A detailed list of these projects are included in Appendix B of this document.

Figure 2: Projects by Type from ARC's RTP/TIP in Cherokee County



CHEROKEE SPLOST PROJECTS

Cherokee County has a department dedicated to Roadway Capital Improvements which are mostly funded through the 1% SPLOST. The latest SPLOST referendum was passed in 2018 and was an extension of the 2012 1% sales tax. The 2018 SPLOST will extend for 6 years. The SPLOST program projects are broken down into seven major categories:

- Transportation (roads)
- Public safety
- City projects
- Court expansion-improvements
- Economic development
- Park projects
- Facilities-IT projects

A majority of transportation projects included in the 2018 SPLOST were derived from the previous 2016 CTP recommended projects. The status of these projects is reported on to the County Board of Commissioners each month. The latest status of the 2018 SPLOST projects were reported on in April 2021. As of July 2021, of the total projects, 13 are categorized as under construction; these are listed in Table 2 below. It should be noted that the status of Cherokee County SPLOST projects are updated on a monthly basis and shared to the SPLOST website.

Table 2: Cherokee County SPLOST Projects Under Construction (2018 SPLOST)

Project #	Project Name	Description
73003	Earney Road	Roadway Reconstruction - Old Country Place to Capital City Club property
75085	Woodstock Rd at Victory Rd	Construction of roundabout
61007	Lower Dowda Mill Rd over Sharp Mtn Creek	Bridge replacement over Sharp Mtn Creek
62068	SR 140 at East Cherokee Dr	Intersection Improvement
72104 & 72105	Univeter Rd at New Light Road and Univeter Rd at Pinecrest Road	Signalized Intersection Improvement at New Light Rd. Intersection improvement at Pine Crest Rd.
62081	East Cherokee Drive at South Holly Springs Rd/Thornwood Dr	Intersection Improvement
73099	Gaddis Road	Drainage Improvements



Project #	Project Name	Description
72116	SR 140 at Sugar Pike	Traffic Signal Installation
	2021 Resurfacing Project	Paving various roads in Cherokee County
73117	Kennesaw Avenue	Sidewalk and drainage improvements for the City of Nelson
73103	Iron Mountain Road	Cul-de-sac construction
63074	Little Road	Reconstruct from East Cherokee Drive to Vaughn Road
74011	Gay Thompson Road	Widen, improve, and resurface a substandard width roadway
74011	Lula Payne Trail	Widen, improve, and resurface a substandard width roadway

The other 36 current SPLOST projects are in pre-construction phases. Separate from these 49 SPLOST projects are 22 projects identified as “aspirational.” These projects can be found in Appendix X of this document. Some of these aspirational projects are linked to corridor or scoping projects which are currently in pre-construction phases.

2016 CTP PROJECTS

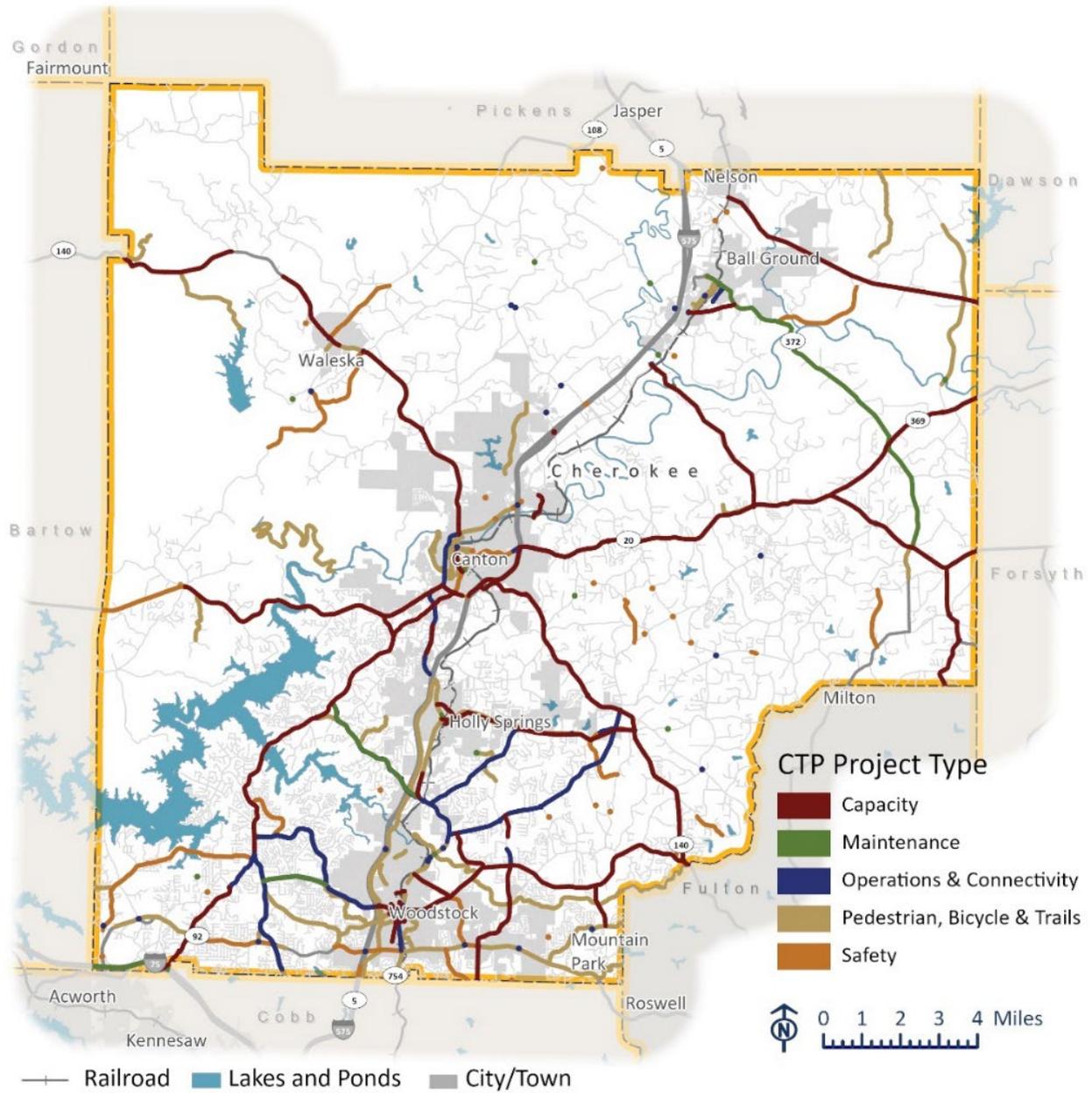
The previous Cherokee County CTP was adopted in 2016. The 2016 CTP expanded on the earlier 2008 CTP and identified multi-modal transportation improvement opportunities through the horizon year of 2040. The current CTP update will build upon the previous CTP and its recommended projects to a new horizon year of 2050. In total, the previous CTP recommended 306 projects which were broken up into five categories or tiers:

- Tier 0 (Current program of projects, 2015-2018)
- Tier 1 (2019-2024 recommended program)
- Tier 2 (2025-2030 recommended program)
- Tier 3 (2031-2040 recommended program)
- Aspirations (included in the comprehensive project list)

There were also a number of projects categorized as “not prioritized” and were identified as maintenance projects. The entire project list from the 2016 CTP, including all tiers, aspirational, and non-prioritized projects, can be found in Appendix J of this document. Figure 3 illustrates all 306 projects (including all four tiers, aspirational, and non-prioritized projects) from the previous CTP by project type.

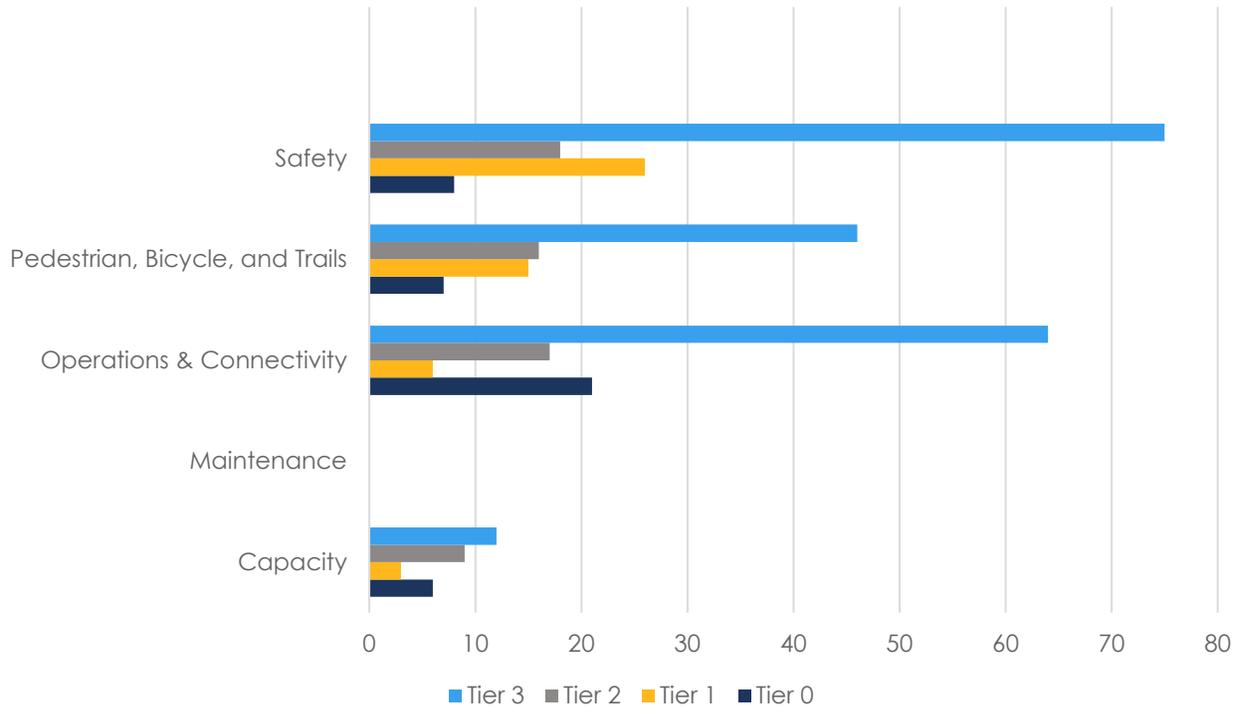


Figure 3: 2016 CTP Projects by Type (2016, CTP)



Projects from Tiers 0-3 were projects that had current or planned funding associated within the 30-year plan horizon. Projects are shown by tier and project type in Figure 4 below. The majority of projects were categorized as safety or operations/connectivity. Maintenance projects were not included in the tier projects as they were listed as “non-prioritized” in the plan.

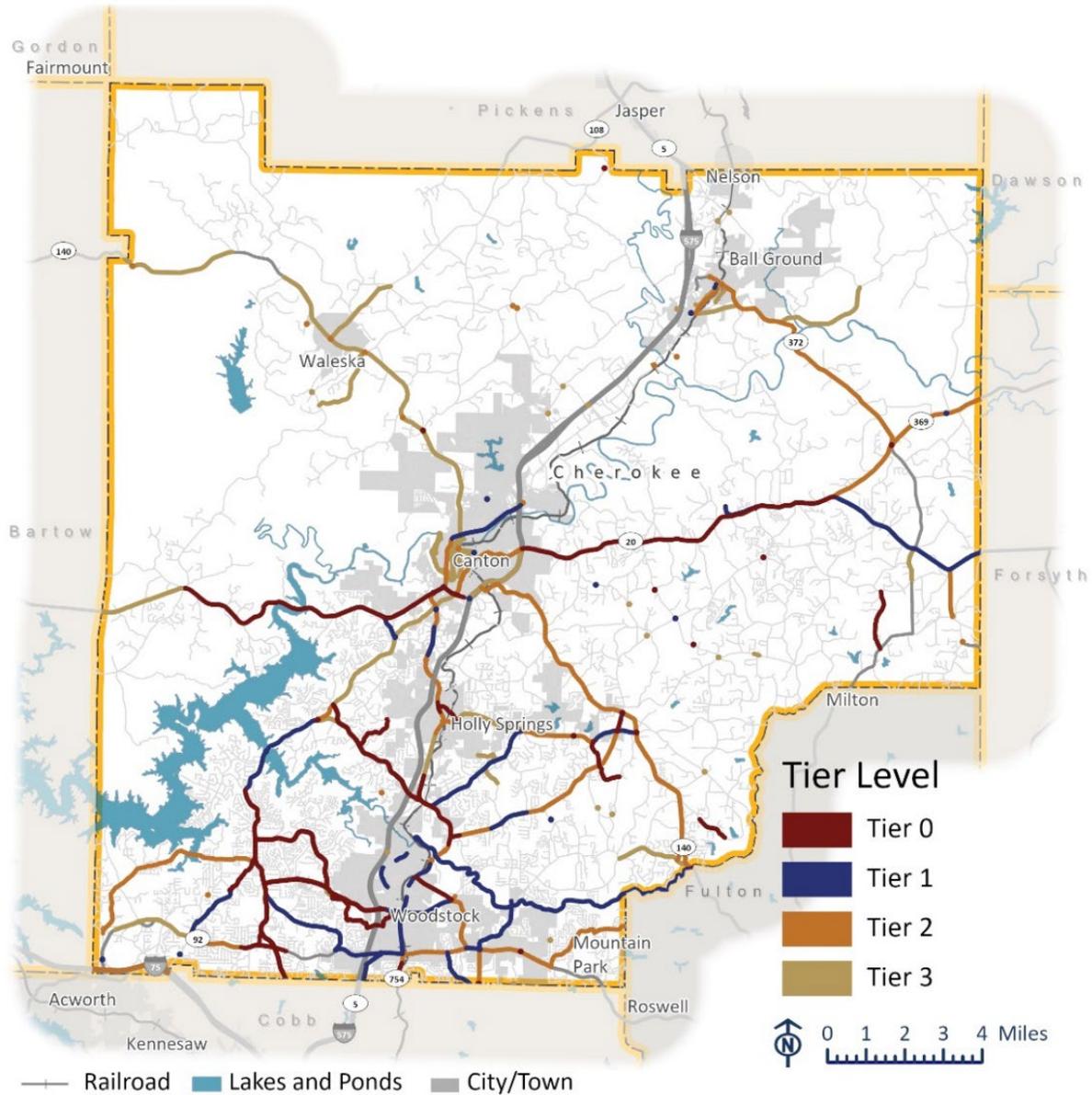
Figure 4: Previous CTP Project Type by Tier



The Tier with the most projects included was Tier 3, the most long-term Tier with a recommended program for years 2031 through 2040. Tiers 0-3 projects are illustrated below in Figure 5 by associated tier.



Figure 5: CTP Projects by Tier (2016 CTP)



The remaining 92 projects were categorized as aspirational or non-prioritized (maintenance projects). The aspirational projects were mostly capacity and bike/ped projects while the non-prioritized projects were entirely maintenance projects. A map of these aspirational and non-prioritized (maintenance) projects from the 2016 CTP are illustrated in Appendix C.

5. POPULATION & EMPLOYMENT

Cherokee County is host to a rapidly growing and diversifying population. The County is also projected to see significant job growth across industries. The following section will cover the make-up of Cherokee's expanding population, including the breakdown of race/ethnicity, age, transit-reliant population, and employment trends.

POPULATION

Cherokee County's population has shown a strong growth trend that has been occurring since 2010. The 2019 population, which was estimated to be over 258,000, was a considerable increase of 20% from 2010. Not only has Cherokee County's population grown from 2010 to 2019, its population density has also increased by over 20%.

Cherokee County's growth exceeds that of metro Atlanta. According to ARC, the 20-county region increased its population from 4.1 million in 2010 to 4.6 million in 2019, an increase of 12.6%. Cherokee County's growth rate also exceeds that of the entire state of Georgia. According to the US Census Bureau, Georgia's population grew from 9.7million in 2010 to 10.6 million in 2019, an increase of 9.6%.

From 2010 to 2019, there was a 20% population increase in Cherokee County.

A detailed snapshot of changes in the population and other demographics from 2010 to 2019 are shown in Table 3.

Table 3: Demographic Changes in Cherokee County since 2010 (U.S. Census Bureau, ACS 2010 and 2019)

	2010	2019 (Today)	% Change
Population	215,129	258,773	+20.3%
Density	496/mi ²	596/mi ²	+20.2%
# Households	82,442	93,441	+13.3%
Median Household Income	\$61,834	\$86,404	+39.7%
Below Poverty	17,981	17,421	-3.1%



2020 AND 2050 POPULATION DENSITIES

2020

The population is increasing throughout Cherokee County, but the density is concentrated in the southern portion of the County. Overall, the population density is split between a rural north with sparse population north of SR 20 and a populous south including the Cities of Canton and Woodstock. Most county residents live in the southern portion of Cherokee bordering Cobb County, particularly in Canton, Holly Springs, and Woodstock. Additional population centers include Ball Ground near the SR 372 and I-575 interchange, Nelson at the County's northern border, and along the SR 92 corridor.

Figure 6: Cherokee County 2020 Population Density

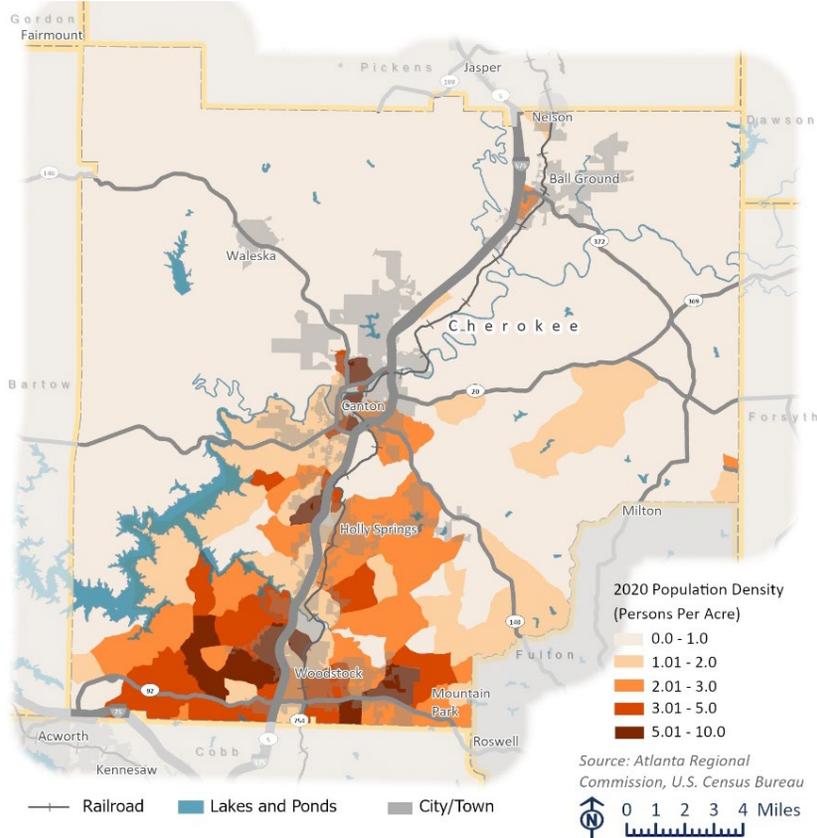
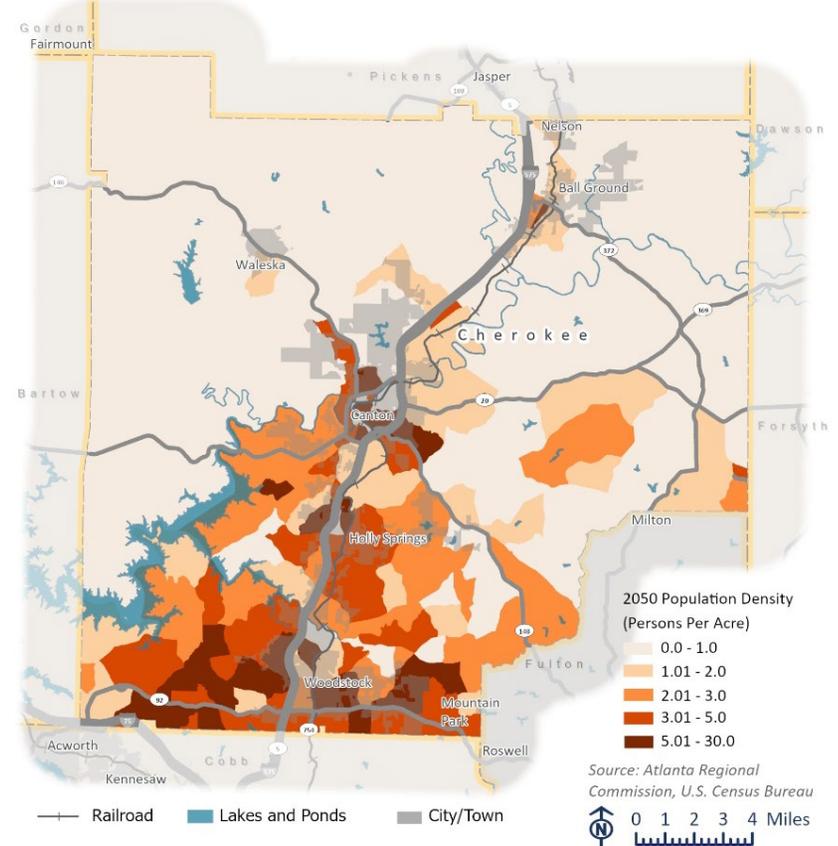


Figure 7: Projected 2050 Population Density in Cherokee County



2050

From 2020 to 2050, the population in Cherokee County is projected to grow at a rate of approximately 1.3% per year, resulting in nearly 106,000 new residents by 2050. Comparatively, this rate is on par with the projected growth of the 20-county Atlanta region over the next 30 years.

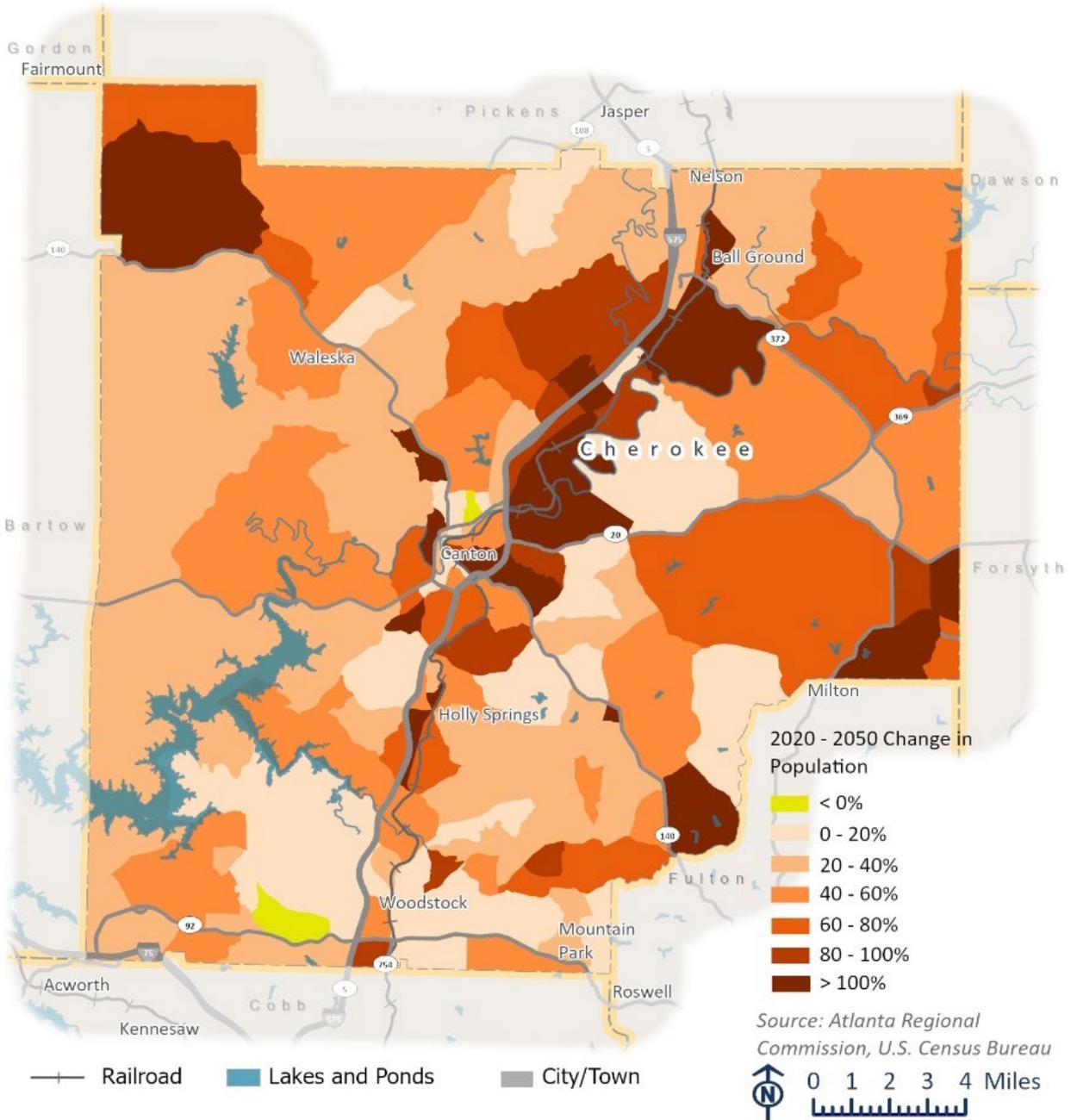
Figure 7 shows population density is anticipated to increase largely in the southern half of the County below SR 20 and in urbanized areas. Locations along either side of the I-575 corridor are predicted to see additional densification, including the northern part of the County. Additional areas that are expected to densify include the SR 20, SR 140, SR 92, and SR 372 corridors. Although the southern half of the County will see higher levels of density than the rest of the County, all the cities are expected to see some population increases over the next 30 years.

2020 – 2050 POPULATION CHANGE

Cherokee's population has been on a steady upward climb for the past 20 years. The population is currently about 265,000, but it is anticipated to reach 371,000 by 2050, an increase of almost 40%.

Figure 7 suggests that the highest changes in population are expected to be in the northwest corner of the County, on the northern edge of SR 20 and eastern edge of I-575 and surrounding the Canton area. Specifically, large population increases are predicted along the eastern side of the I-575 corridor from Holly Springs to Nelson. The City of Ball Ground and City of Canton are also predicted to have significant changes in population over the next 30 years. Additional areas of predicted population increase include the intersection of SR 20 and SR 372, areas northwest of Waleska, areas north of Canton, and the eastern portions of Holly Springs. Some areas are predicted to see a decrease in population including north Canton and a section of the County along SR 92.

Figure 8: Projected Population Change from 2020-2050

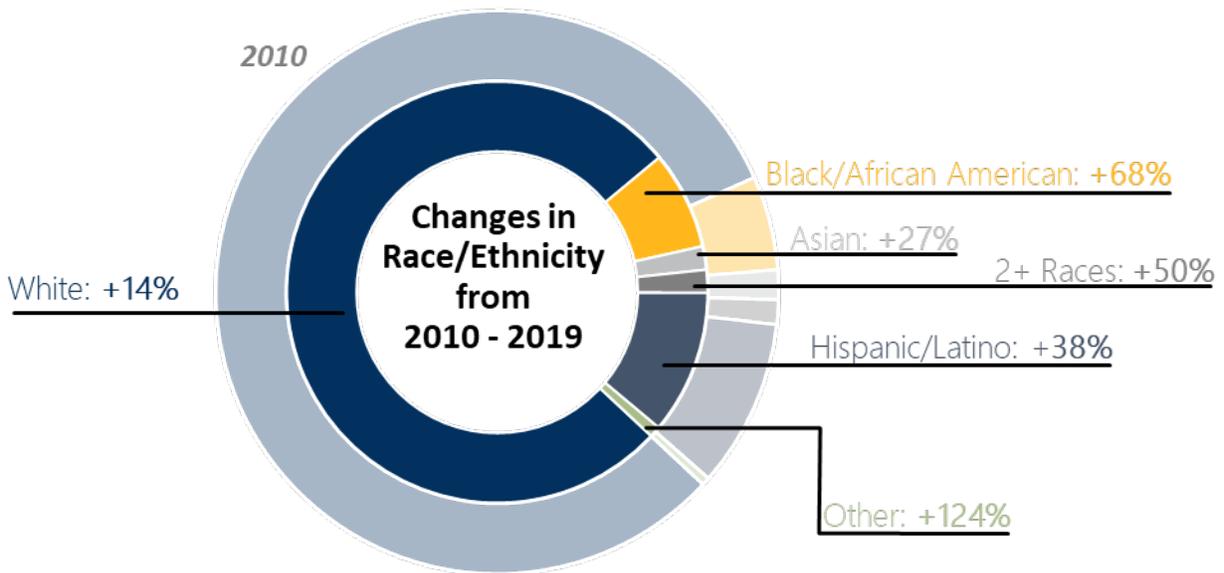


RACE AND AGE DISTRIBUTION

RACE AND ETHNICITY MAKE-UP

A noticeable trend from 2010 to today is the increase in diversity across the entire population. There were increases across all racial and ethnic categories, with large increases in the Black/African American, 2+ races, and other races or ethnicities. These increases are shown in Figure 9; the outer ring are the 2010 values and the inner ring are the 2019 values.

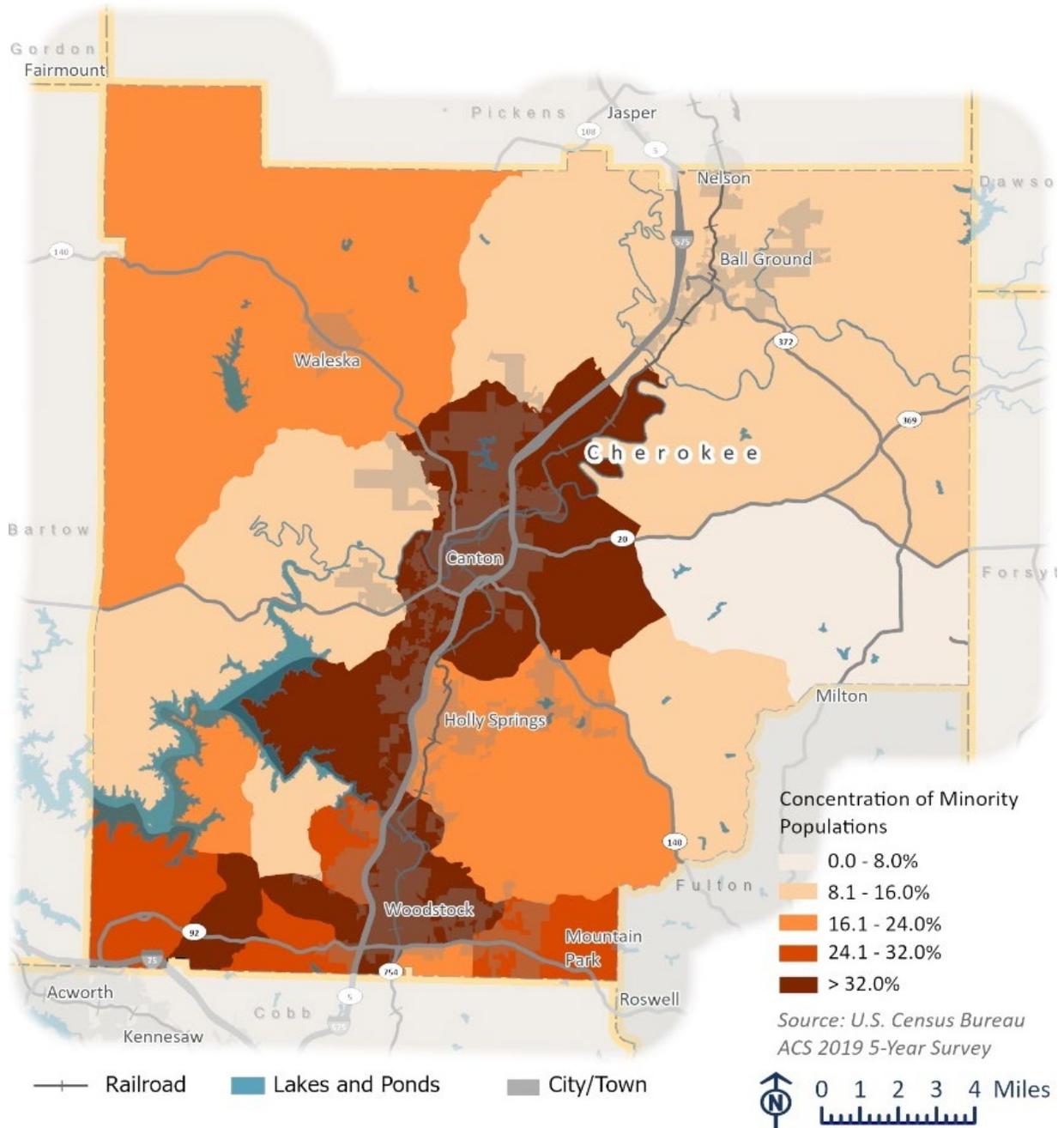
Figure 9: Changes in Race and Ethnicity from 2010-2019 (US Census Bureau)



MINORITY POPULATION DISTRIBUTION

The most prominent race in Cherokee County are those who identify as White, as shown in the race/ethnicity chart above. Since 2010, the largest increases in Cherokee County population came from minority races and ethnicities. Between 2010 and 2019, those who identified as White saw a population increase of 14%, while those who identified as Black/African American, Asian, Hispanic/Latino, or two or more races saw increases of 68%, 27%, 38%, and 50%, respectively. The largest increase in population came from those who identified as some other race not listed above at 124% growth. Spatially, these minority populations are concentrated along the I-575 and SR 92 corridors and in the cities of Canton, Holly Springs, and Woodstock.

Figure 10: Concentration of Minority Populations in Cherokee County

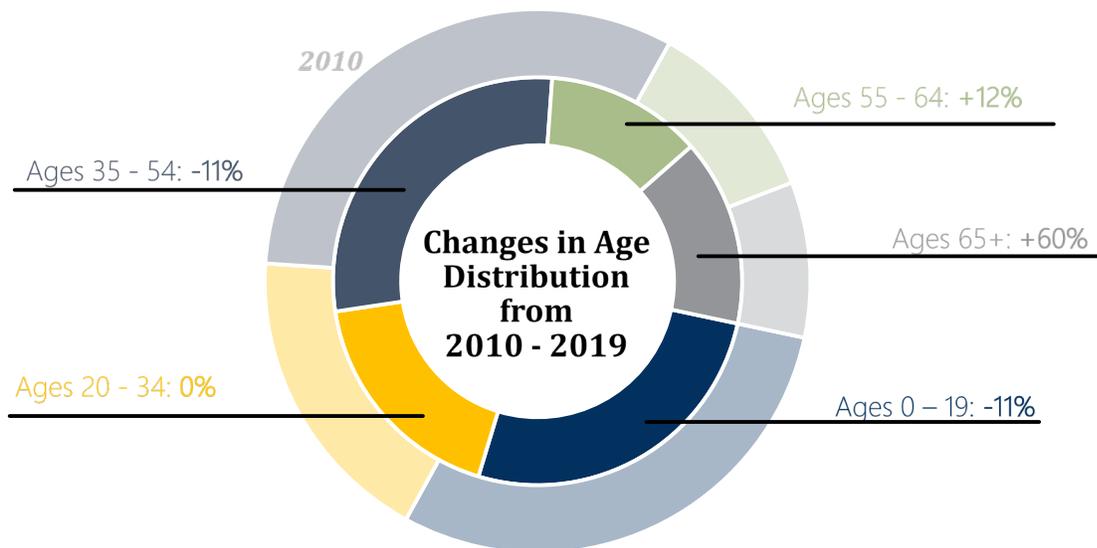


AGE DISTRIBUTION

The age distribution has also seen an upward shift in the older population since 2010. The largest change is a 60% increase in the 65 and older population since 2010. Those aged between 55-64 saw a 12% increase in population makeup. Younger generations have seen either no significant change, (ages 20-34), or saw a decrease (ages 0-19 and 35-54, both at 11% decrease). These changes are shown in Figure 11; the outer ring are the 2010 values and the inner ring are the 2019 values.

Cherokee's Senior Population (ages 65+) increased by 60% from 2010 to 2019

Figure 11: Change in Age Distribution from 2010-2019 (US Census Bureau)



By 2050, all age groups will see a positive growth trend. Those aged 65 or older are predicted to more than double their current numbers according to the ARC forecasts. Those aged 19-22 will see the slowest growth rate at just 3% of the current population. Currently, the largest age group is those aged between 23-45 years; however, their share of the overall population is expected to decrease from 29% in 2020 to 26% in 2050, but will remain the largest population group. Those aged 65 years or older are predicted to see the largest change in population make-up, growing from 15% of the population in 2020 to 24% in 2050.

Table 4: Change in Age Group Frequency from 2020-2050 (ARC)

Age Group Frequency						
	0-18	19-22	23-45	46-63	65+	Avg. Age
2020	67,704 (26%)	11,668 (4%)	77,263 (29%)	69,068 (26%)	39,388 (15%)	38
% Change	+21%	+3%	+27%	+30%	+128%	--
2050	81,776 (22%)	12,007 (3%)	97,999 (26%)	89,447 (24%)	89,724 (24%)	44

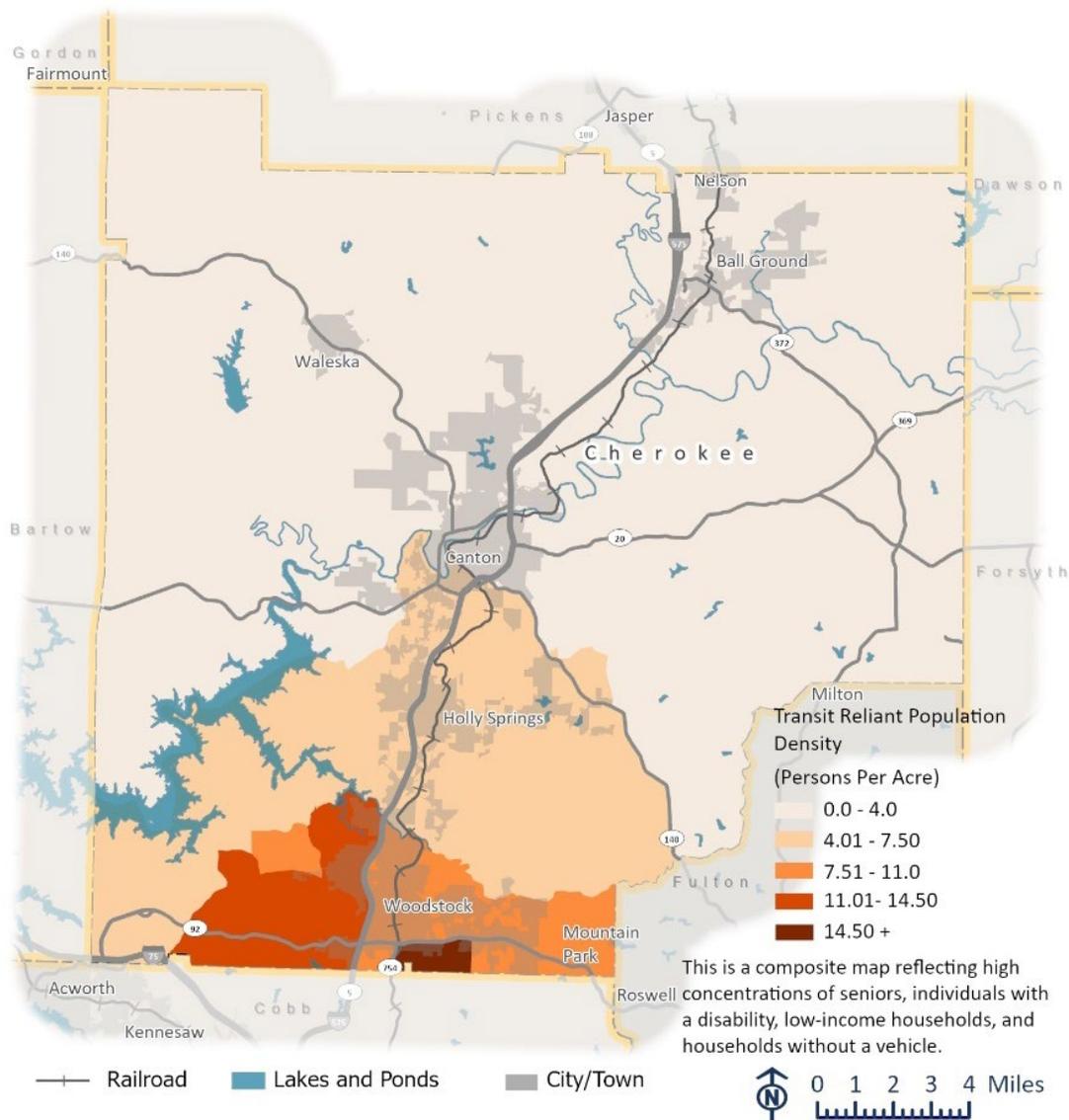


TRANSIT-RELIANT POPULATION

In planning for transportation, it is important to be attentive to populations which may have less access to or rely more on public transit to get to work, school, or access medical services. This population is commonly referred to as “transit reliant” and is typically made up of the following population subgroups: zero-car households, individuals with disabilities, low income population, and the senior population (ages 65+).

The combined transit-reliant population density for Cherokee County is shown in Figure 12. Overall, the most transit-reliant population dense areas in the County are located in the southern portion along the I-575 and SR 92 corridors. The City of Woodstock encompasses the census tracts with the highest concentrations of transit reliant individuals.

Figure 12: Transit Reliant Population Density (US Census Bureau, ACS 2019)



The highest portion of the transit-reliant population in Cherokee County is made up of individuals aged 65 years or older at 13% followed by individuals with a disability (10%) and low-income individuals (7%). The smallest portion of the transit-reliant population is households with no vehicle access (3%). Maps showing the density of each of the individual populations that make up the transit reliant population are shown in Appendix D.

SENIOR POPULATION DENSITY

The senior population density largely follows the same density patterns as the overall transit reliant population. The highest concentrations of seniors are located in the southern part of the County within the City of Woodstock and along the I-575 and SR 92 corridors.

LOW INCOME POPULATION

The low-income population is made up of those whose household income is recorded as below the poverty rate per the U.S. Census Bureau. The low income clusters are along the southern portion of the County, primarily along the I-575 and SR 92 corridors. The City of Woodstock also contains a large concentration of low-income individuals as does the southern portion of the City of Canton.

HOUSEHOLDS WITH INDIVIDUALS WITH A DISABILITY

The disabled population was determined based on the number of households which declared individuals with disabilities living with them. Similar to the above transit-reliant population groups, households with a disabled individual are spatially clustered in the southern part of the County. The City of Woodstock and the City of Holly Springs have high concentrations of households with an individual with a disability. Once again, the largest concentrations are along the I-575 and SR 92 corridors.

ZERO CAR HOUSEHOLDS

This transit reliant group has the smallest percentage of the transit reliant population. The spatial concentration of households without access to a vehicle is more evenly dispersed throughout the County, however higher concentrations are along the I-575 and SR 92 corridors. The City of Canton, City of Holly Springs, and City of Woodstock all contain census tracts with elevated concentrations of zero vehicle households.



EMPLOYMENT

Cherokee County is well situated in terms of location and transportation to attract employers throughout the Atlanta region due to its proximity to the urban core and existing transportation infrastructure. Employment density is clustered along the I-575 and SR 92 corridors. The City of Canton, City of Holly Springs, and City of Woodstock are home to more employment clusters than the rest of the County.

2020 & 2050 EMPLOYMENT DENSITIES

2020

Similar to population density, employment density in Cherokee County is clustered around the southern half of the County and along the I-575 and SR 92 corridors. Employment density extends slightly further north into the City of Canton. Specifically, the City of Canton, City of Holly Springs, and City of Woodstock are home to concentrations of employment. Unincorporated areas of Cherokee County west of Woodstock are also host to employment clusters.

2050

In 30 years' time, it is projected that employment density will largely stay concentrated to where it is currently. Additional concentration of employment opportunities is forecasted in the southern part of the County in and around the City of Woodstock, the southwest corner of the County near I-75, within the City of Waleska, north of the City of Canton along the eastern side of the I-575 corridor, and east of the City of Holly Springs along the western side of the SR 140 corridor.



Figure 13: 2020 Employment Density

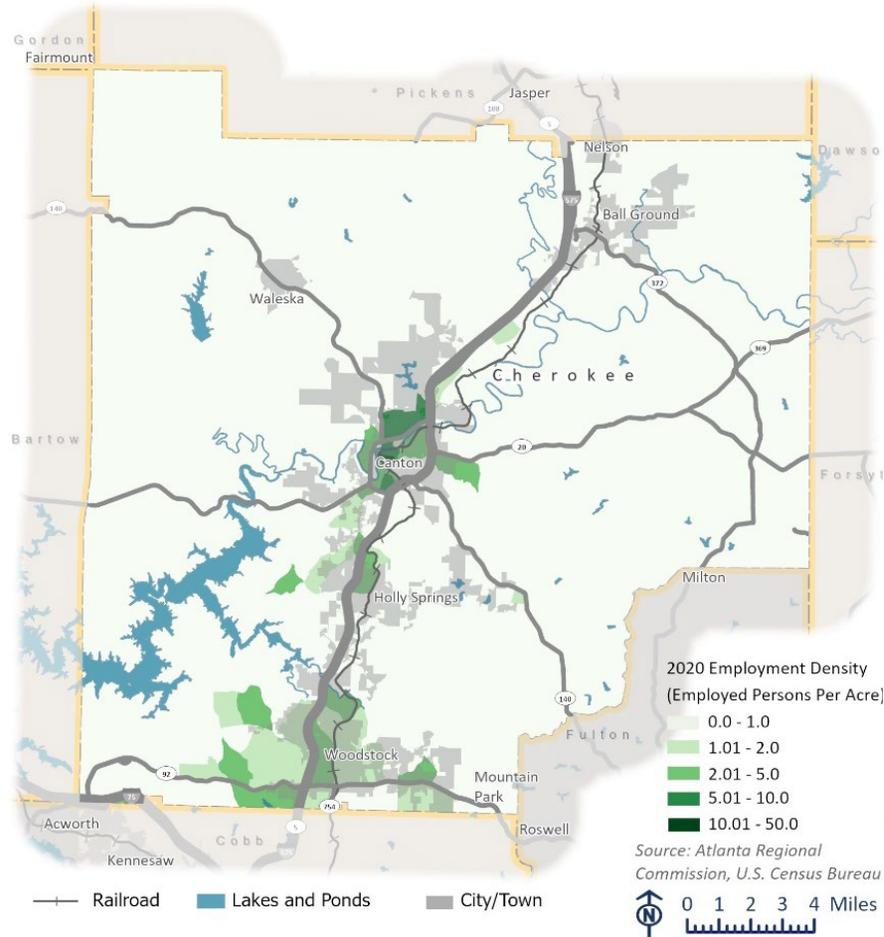
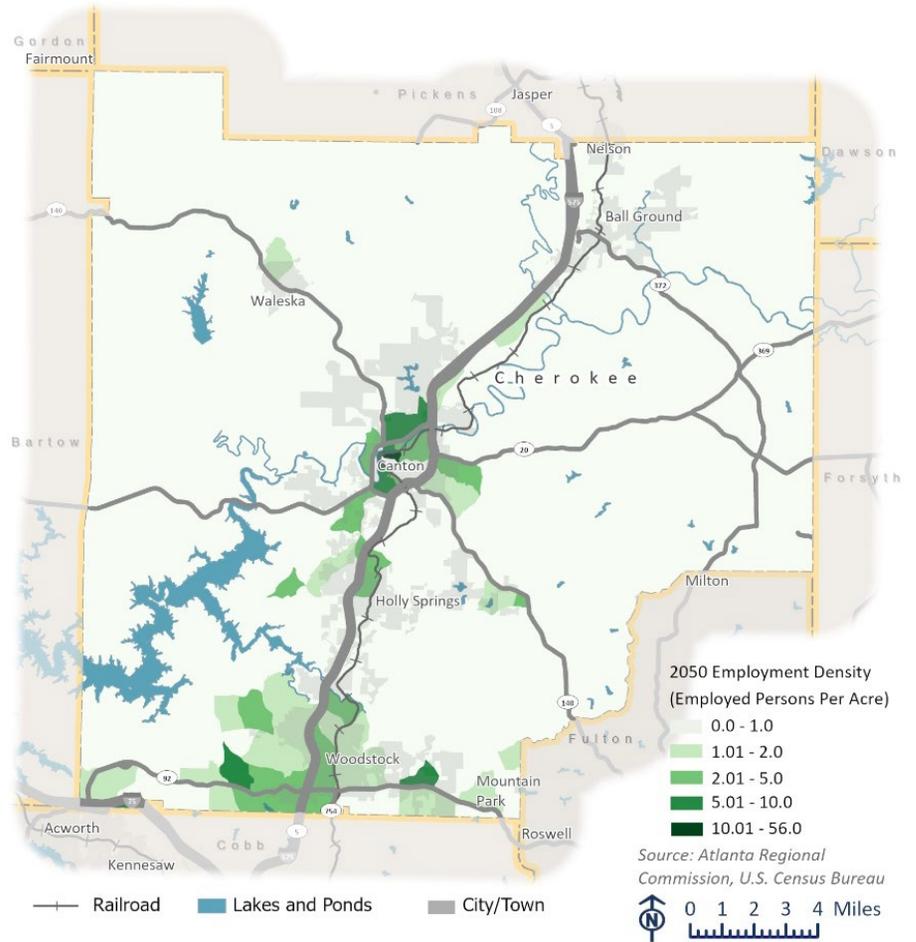


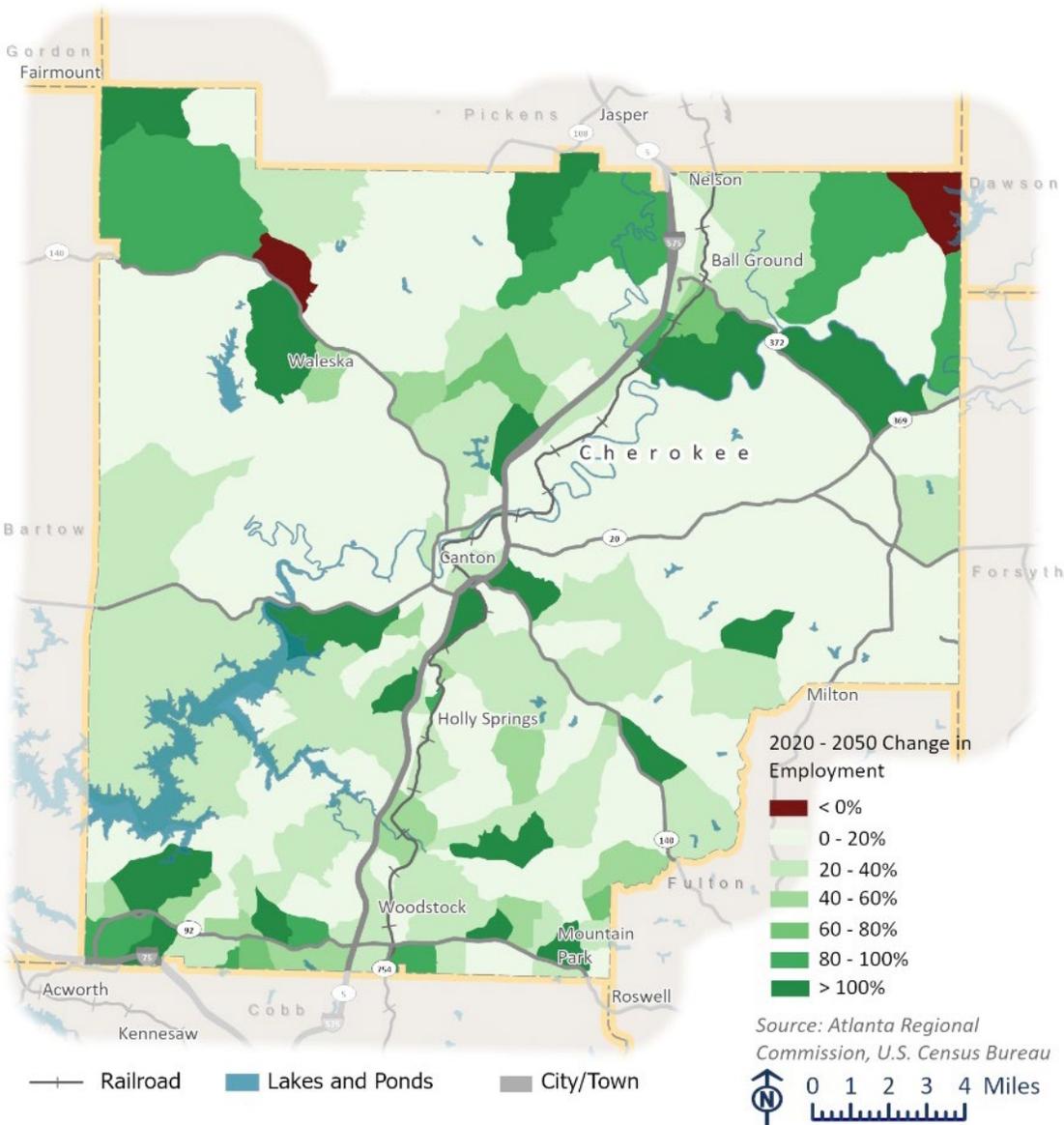
Figure 14: 2050 Employment Density



2020-2050 PROJECTED CHANGE IN EMPLOYMENT

While employment density will largely remain unchanged between 2020 and 2050, there are pockets of the County which will experience more change in employment than others. Most notable are the two locations which are expected to see a drop in employment in by 2050: the northeastern corner of the County bordering Pickens and Dawson counties and north of Waleska along the SR 140 corridor. Increases in employment are expected in and around the City centers, with the exception of Holly Springs, and along the SR 372, eastern SR 20, and SR 92 corridors. It is easy to note the relationship between transportation infrastructure and employment when looking at the growth in employment forecasted for Cherokee County. Most of the locations with a high growth in employment are along major state and federal roadways.

Figure 15: Change in Employment from 2020-2050 (ARC, US Census Bureau)



CHANGE IN EMPLOYMENT BY INDUSTRY

Currently, the major private sector employers in Cherokee County are concentrated in the healthcare, agriculture, manufacturing and construction sectors. The top employer in Cherokee County is Northside Hospital with over 2,100 employees. Inalfa Roof Systems is the second highest, with 1,000 employees. Table 5 below shows a list of Cherokee County's top 10 employers according to the Cherokee County Office of Economic Development¹.

Table 5: Top 10 Employers in Cherokee County by Number of Employees (Cherokee County Office of Economic Development)

Rank	Name of Employer	# Employees
1	Northside Hospital	2,145
2	Inalfa Roof Systems	1,000
3	Pilgrim's Pride	760
4	Chart Industries	715
5	Piolax Corporation	615
6	Universal Alloy Corporation	559
7	Belnick Incorporated	490
8	Meyn America	267
9	Roytec Industries	250
10	Wellstar Health System	223

By 2050, the most noticeable employment change is a shift towards a more service-based economy.

Cherokee County is expected to see employment growth across most industries in the next 30 years. Table 6 displays the change in employment in Cherokee County by industry. Generally, there is a shift away from manufacturing and construction toward a more service-based economy. According to ARC projections, Construction and Manufacturing jobs in the County are expected to decrease between 2020 and 2050. The industry with the greatest increase is Finance, Insurance, and Real Estate, with a projected 92% job growth. Wholesale and Service show the second and third highest increases, respectively. Overall, the County is expected to grow total employment from 76,147 jobs to 101,105 jobs,

which is an increase of 32.8% in the next 30 years.

¹ Cherokee County Office of Economic Development, <https://www.cherokeega.org/careers/major-employers/>



Table 6: Jobs Projected by Industry (ARC)

Industry	Jobs Available in 2020	Jobs Available in 2050	Percent Change
Construction	5,388	4,124	-23.5%
Manufacturing	3,234	3,048	-5.8%
Transportation, Communication, Utilities	1,992	2,762	38.7%
Wholesale	2,422	3,749	54.8%
Retail	20,883	26,984	29.2%
Finance, Insurance, Real Estate	6,064	11,684	92.7%
Service	32,414	44,149	36.2%
Government	3,750	4,605	22.8%
Total Employment	76,147	101,105	32.8%

CONNECTION TO THE CTP

POPULATION IMPLICATIONS

In the next 30 years, population growth will occur beyond the borders of existing city centers like Holly Springs and Canton. Transportation infrastructure will need to be expanded or improved in order to meet the rising traffic levels as a result of increased population. Additionally, existing population centers are expected to densify which may require additional route and mode options.

EMPLOYMENT IMPLICATIONS

The most notable trend from the employment projections is a shift toward the service-based economy and away from manufacturing and construction. In order to prepare for this shift, job training or education programs could help workers that are unable to find employment in manufacturing centers be qualified for work in other sectors. Although there are some employment decreases predicted for particular sectors, generally employment is predicted to grow throughout the County. With growth in jobs will come an increase in commuters and movement of goods on Cherokee County's roads. To meet the increasing travel demand, there is a need to expand and improve existing transportation infrastructure. Supporting job growth will be one of the factors used to prioritize projects in the CTP.



6. LAND USE & ECONOMIC DEVELOPMENT

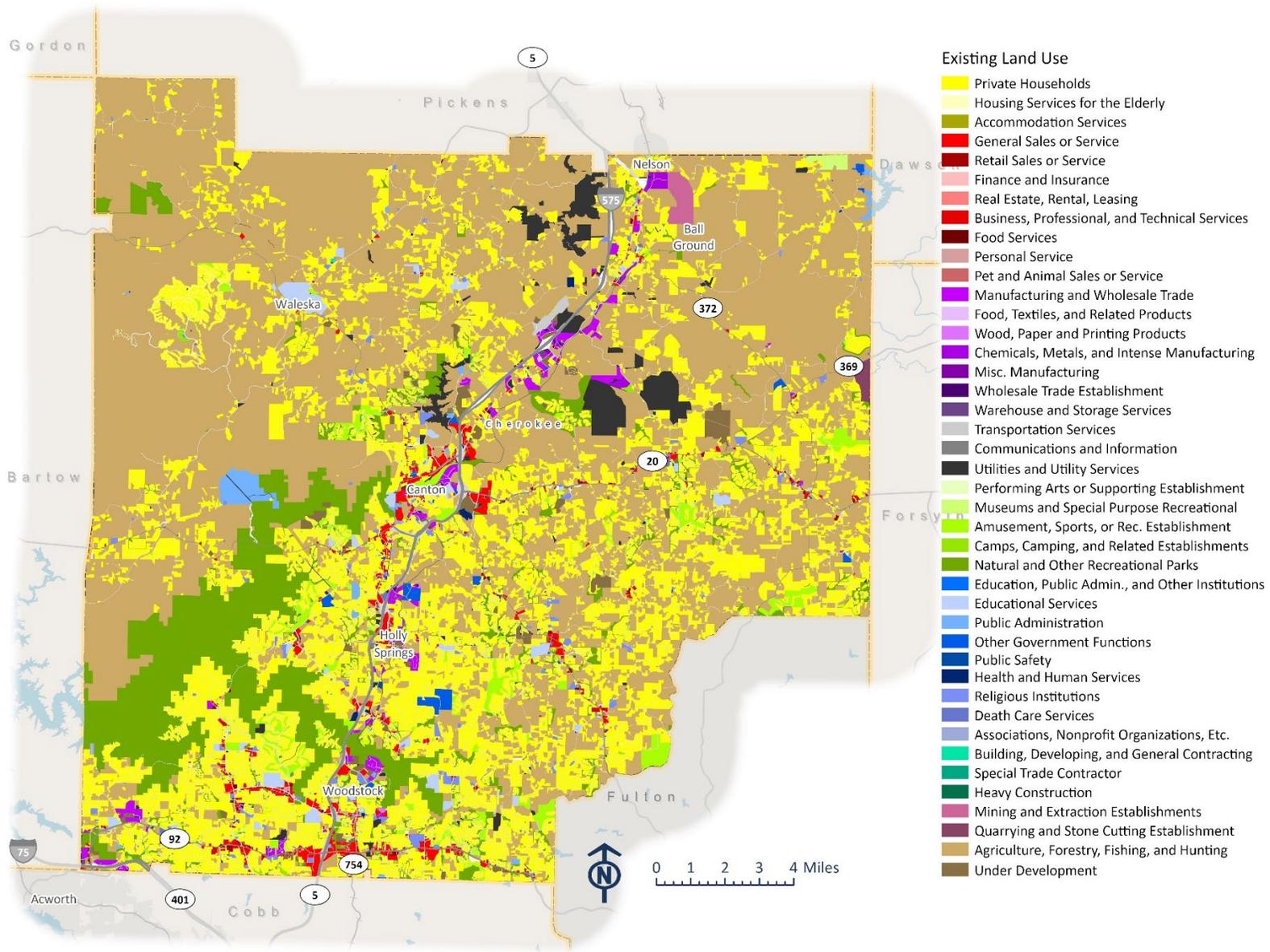
EXISTING LAND USE

The existing land use shown in Figure 16 was created through a compilation of existing land use data from Cherokee County and the Cities of Ball Ground, Holly Springs, Woodstock, Canton, and Waleska. The existing land use map shows that more rural and residential uses (shown as agriculture and private household land uses) make up a majority of the land area in the County, especially within the unincorporated area. Agricultural land use makes up 46% of existing land use, followed by private households at 30% of total existing land use. A noticeable land use feature in the southwest corner of the County is Lake Allatoona (symbolized as natural and other recreational parks use) which is created by the Allatoona Dam on the Etowah River. Other significant land uses are industrial and retail/commercial uses which are seen along the I-575 corridor, along major state routes, and in the denser southern portion of the County.

The County's overall existing land use pattern is representative of its location within the greater Atlanta region – denser and more intense land uses in the southern portion of the County and increasingly rural towards the northern end of the County. Land uses in the southern portion of the County are denser and more urban in nature such as commercial, industrial, and large swaths of residential (mostly single-family households) due to the area's proximity to the Cherokee/Fulton County and Cobb County lines. Moving north through the County, land uses become more rural in nature with uses like agricultural, sparser private residential, and utilities.

A number of parcels are identified as "Under Development." These sites are shown in dark brown in Figure 16. These are typically parcels with some type of land disturbance permit (LDP) underway. Many, especially within city boundaries, are future phases of large residential developments or new residential subdivisions with active LDPs. However, these are not necessarily developments large enough to be classified as Developments of Regional Impact (DRIs) which are discussed in more detail later in this section.

Figure 16: Cherokee County Existing Land Use Map (Cherokee County Planning)



ZONING

Zoning is often intertwined with land use, and it is important in understanding what can be built on any given parcel. Zoning is different from land use; land use is the use that currently exists while zoning encompasses all the possible uses under the zoning code on any given parcel. The distinction is important, as it shows what is possible in terms of development for any given area in the County. The land use, what is allowed, and what is actually built on a site can largely impact transportation patterns in the future.

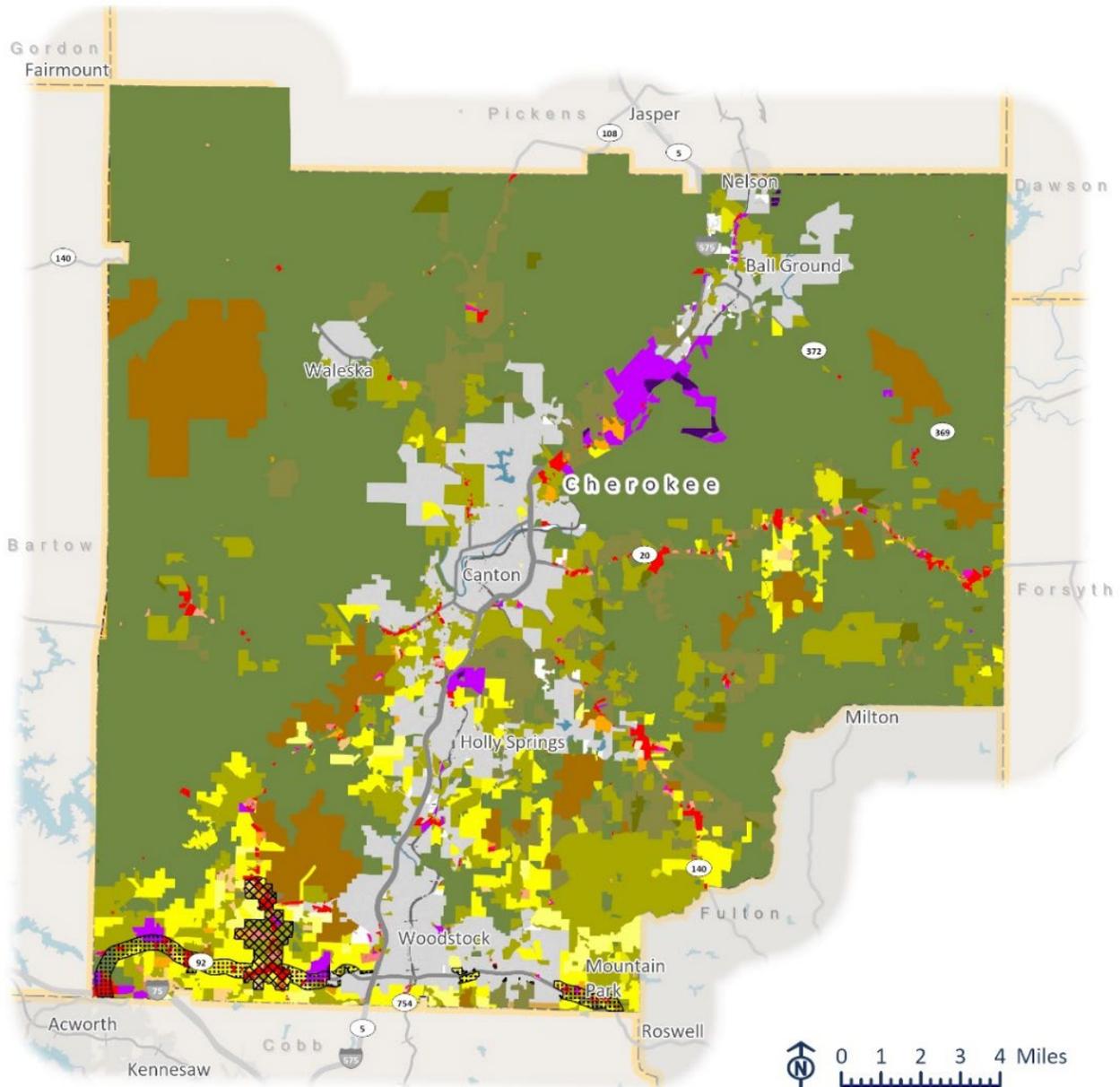
In Cherokee County, zoning is primarily maintained by each jurisdiction. The current zoning for unincorporated Cherokee County and each municipality within can be found in the following sections.

UNINCORPORATED CHEROKEE COUNTY

The zoning patterns for unincorporated Cherokee County largely follows a similar pattern as what is seen in the future development or future land use map. The current zoning in Figure 17 below shows mostly agricultural uses on the upper west, north, and east sides of the County. The more intensified zoning patterns are seen in the southwestern portion of the County from Canton to Woodstock, and near the border of Cobb County. Zoning in these areas is primarily residential in use with nodes of office institutional, general commercial, heavy industrial along the I-575 corridor and SR 20, 140, and 92. Also along SR 92 are two county overlay zones: SR 92 Corridor Overlay and the Bells Ferry Overlay districts. These are explained in further detail later in this section. The County zoning map does not include the zoning patterns identified in municipalities throughout the County. These are discussed in the following sections.



Figure 17: Unincorporated Cherokee County Zoning (Cherokee County)



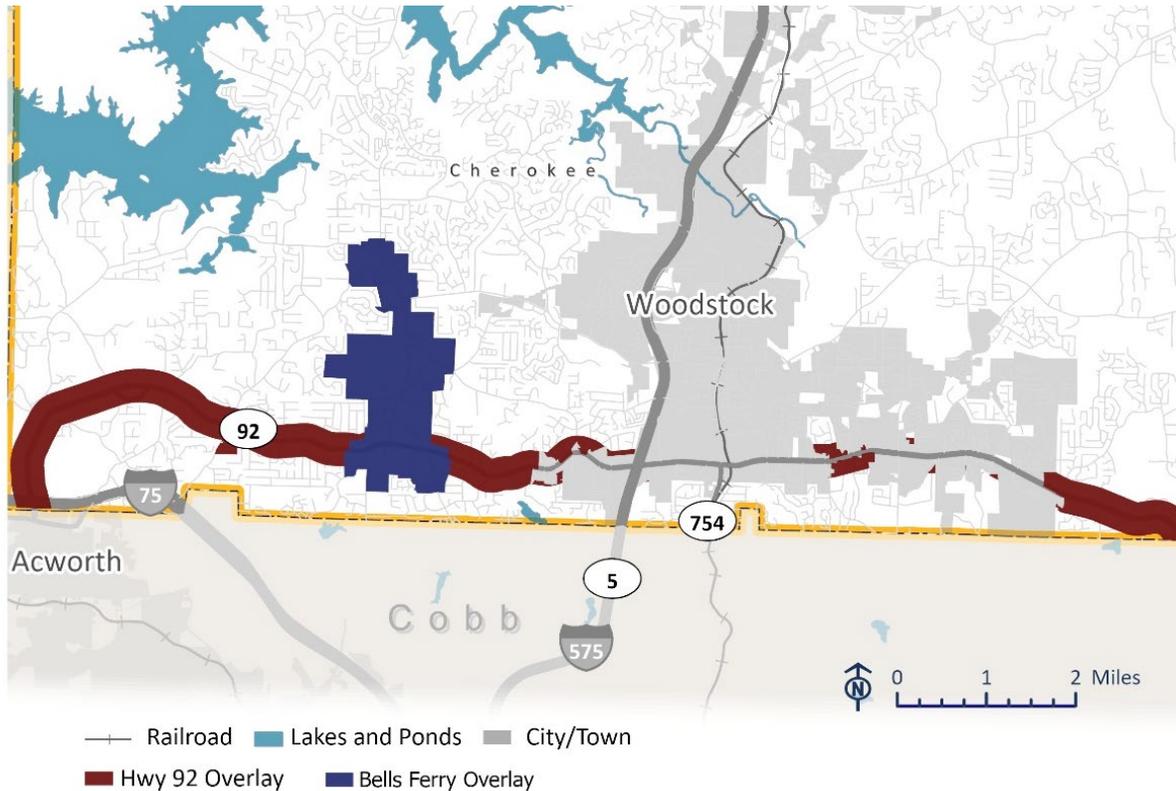
—+— Railroad ■ Lakes and Ponds ■ City/Town

Zoning	OI	R-40	RM-16
AG	PUD	R-60	RTH
GC	R-10	R-80	RZL
HI	R-15	RA	TND
LI	R-20	RD-3	Bells Ferry Overlay
NC	R-30	RM-10	Hwy 92 Overlay

CHEROKEE COUNTY ZONING OVERLAY DISTRICTS

Cherokee County has two overlay zoning districts which help direct development, planning, and design in the southern portion of the County: the Highway 92 Corridor Village Overlay and the Bells Ferry Overlay Community Design District (Figure 18).

Figure 18: Cherokee County Zoning Overlay Districts



BELLS FERRY OVERLAY/COMMUNITY DESIGN DISTRICT

According to the Cherokee County Ordinance, the Bells Ferry Community Design District was set up to help implement the community vision defined in the Bells Ferry LCI Study Plan which was adopted by the Cherokee County Board of Commissioners in 2006. One of the results/recommendations of the Bells Ferry LCI Plan was the development of the Bells Ferry Community Design Guidelines. These design guidelines are enforced through the Bells Ferry Community Design District, which is intended to establish and define the physical boundaries of the district as well as enforce a set of design guidelines to provide site planning, design, and building regulations for the physical development of the corridor.

The ordinance includes guidance and minimum standards for typical design elements such as street network, streetscape, building frontages, signage, and other design guidelines. The ordinance also establishes four neighborhood zones within the overlay zone: The entirety of the Bells Ferry Community Design District ordinance can be found in Article 16, section 16.2 of the Cherokee County zoning ordinance.

The Bells Ferry LCI plan and its recommendations will be carefully reviewed as needs are assessed and projects recommended for this area. Some transportation related projects may have already been identified as part of the LCI plan and an action plan for those recommendations may have already been developed.

SR 92 VILLAGE OVERLAY ORDINANCE

The overall purpose and intent of the Highway 92 Village Overlay is to encourage cohesive development along the Highway 92 corridor in Cherokee County. Referred to in the zoning ordinance as the Village Ordinance or District, the SR 92 overlay calls for specific development standards and architectural styles from the Highway 92 at I-75 intersection on the western end of the corridor to the Cherokee County line on the eastern end of the corridor, near Sandy Plains Rd.

Article 16, section 16.1-4 of the ordinance details the prohibited uses within the SR 92 Overlay district including uses such as:

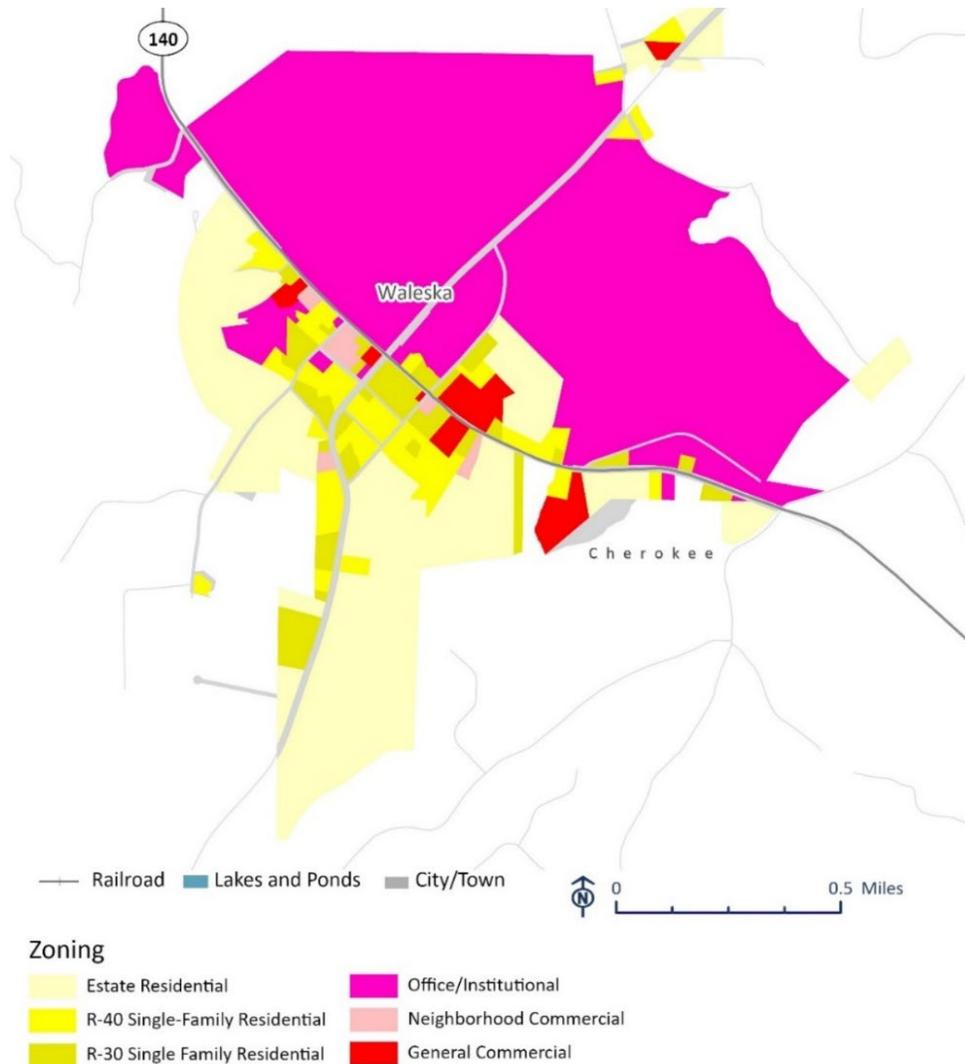
- self-storage units/warehouse
- vehicle dealerships for used vehicles, recreational vehicles, and boats
- drive in theaters
- car maintenance and repair shops
- other general light or heavy industrial/manufacturing uses

Similar to the Bells Ferry Overlay district, the SR 92 Overlay district provides guidance on design elements such as streetscape, building architecture and materials, signage, and traffic access requirements. In relation to further work on the CTP update, careful attention should be paid to ordinance guidance on traffic access requirements, parking, and undisturbed buffers along the Highway 92 corridor. This design guidance could have potential impacts on proposed projects or recommendations that come about as a result of the CTP.

CITY OF WALESKA

The City of Waleska, located in the upper west corner of the County, is smaller in both population and land than most of the other municipalities in the County. This is reflected in its zoning with only six total zones. The majority of the City of Waleska is zoned office/institutional, shown in bright pink in Figure 20 below. This is reflective of the existing land use for that area (Educational Services) as Waleska is home to Reinhardt University. The zoning type that makes up the second highest area in the city is residential including Estate Residential and R-40/30, both single-family residential zones.

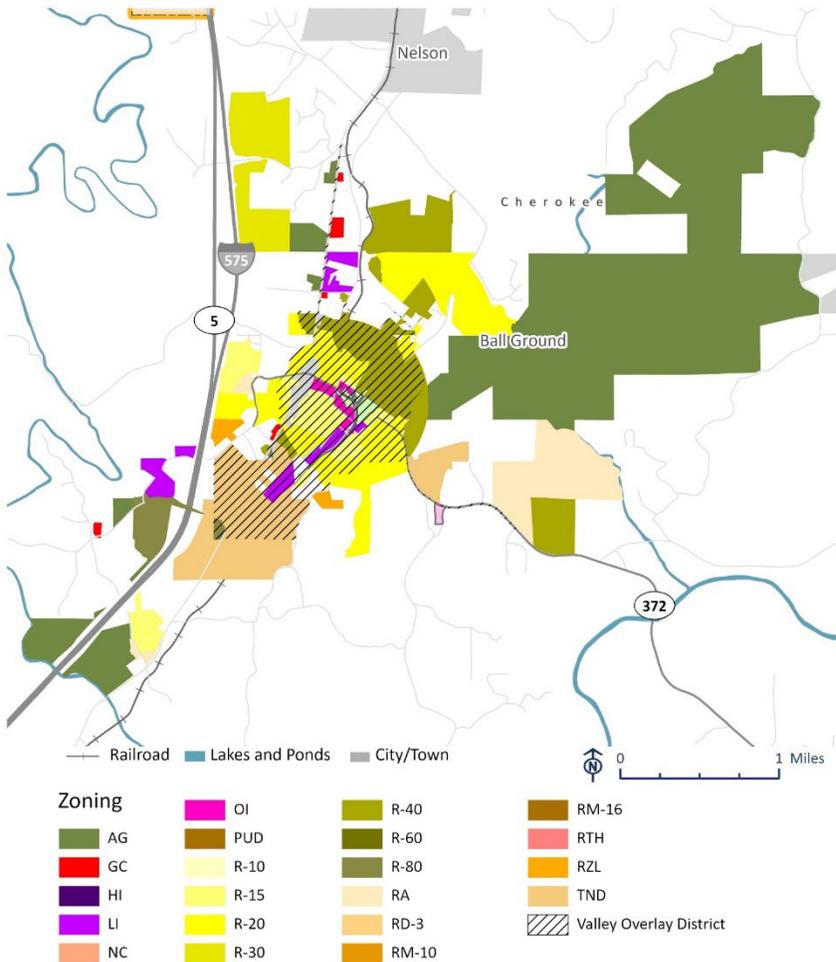
Figure 19: Existing Land Use in the City of Waleska (City of Waleska)



CITY OF BALL GROUND

Like the rest of the County, the majority of the City of Ball Ground is zoned agricultural or low density residential. Pockets of light/heavy industrial, office institutional, and general commercial can also be seen along I-575 and the downtown Ball Ground area. The most noticeable zoning attribute in Ball Ground are the two overlay districts. The Valley Overlay District, shown in diagonal stripes in the center of Figure 19, and the TND Overlay District shown in orange.

Figure 20: Existing Land Use in the City of Ball Ground (City of Ball Ground)



VALLEY OVERLAY DISTRICT

The intent of the Valley Overlay District is to implement the community vision from the Ball Ground Master Plan which was completed in 2007. The City Ordinance states that the vision for this overlay district is to “develop/redevelop this area into a community of choice offering diverse choices and activities for the whole community, with the ultimate goal of creating high quality development that offers a superior quality of life to its residents and business owners.” The ordinance provides design/development guidance, development alternatives, and minimum standards for development and redevelopment within the Valley Overlay District.

TND OVERLAY DISTRICT

The other overlay district is the TND Overlay District, which is a product of the 2018 Comprehensive Plan update. According to the City of Ball Ground zoning ordinance, the TND overlay is meant to supplement other zones to provide suitable areas for implementing “traditional ‘small-town’ or neighborhood-type developments for creating attractive living environments within the City of Ball Ground.” The underlying zoning controls the general land use type while the overlay zone is meant to control the specific development form and design in order to help create a “small-town” sense of place.

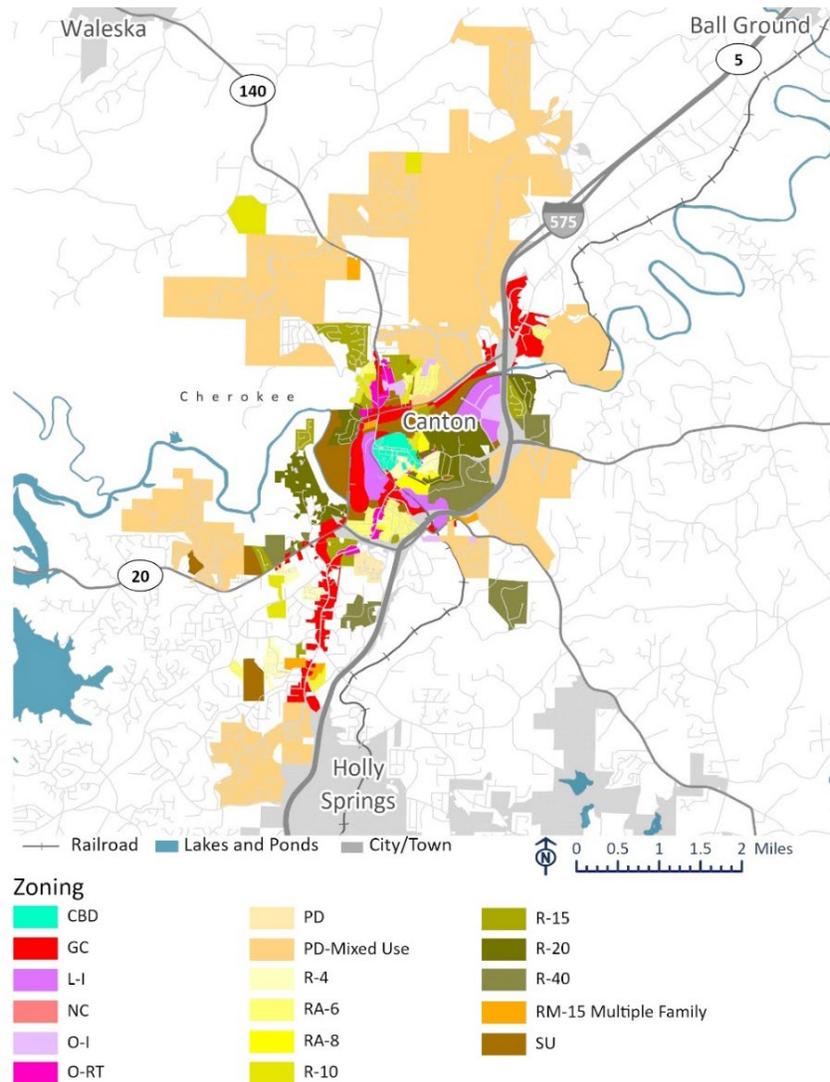


CITY OF CANTON

Canton, the County Seat of Cherokee County, is centrally located within the County. The majority of Canton parcels are zoned Planned Development Mixed-Use, shown in light peach in Figure 23 below. This area primarily includes planned residential developments which also allows for a mix of businesses, offices, and other residential uses. The Canton Zoning Ordinance states that the primary intent of this district is to “accommodate infill and redevelopment within the city, and the secondary intent is to guide quality greenfield development.”

The center of the City of Canton is made up of general commercial (in bright red), single-family residential (in green), and office institutional/light industrial (light and dark purple). The general commercial zones are located along Marietta Highway which turns into Riverstone Pkwy and eventually Ball Ground Hwy. The bright teal zone in the middle of the city is the Central Business District of the City of Canton which is home to the Downtown Canton area along the Etowah River.

Figure 21: Existing Land Use in the City of Canton

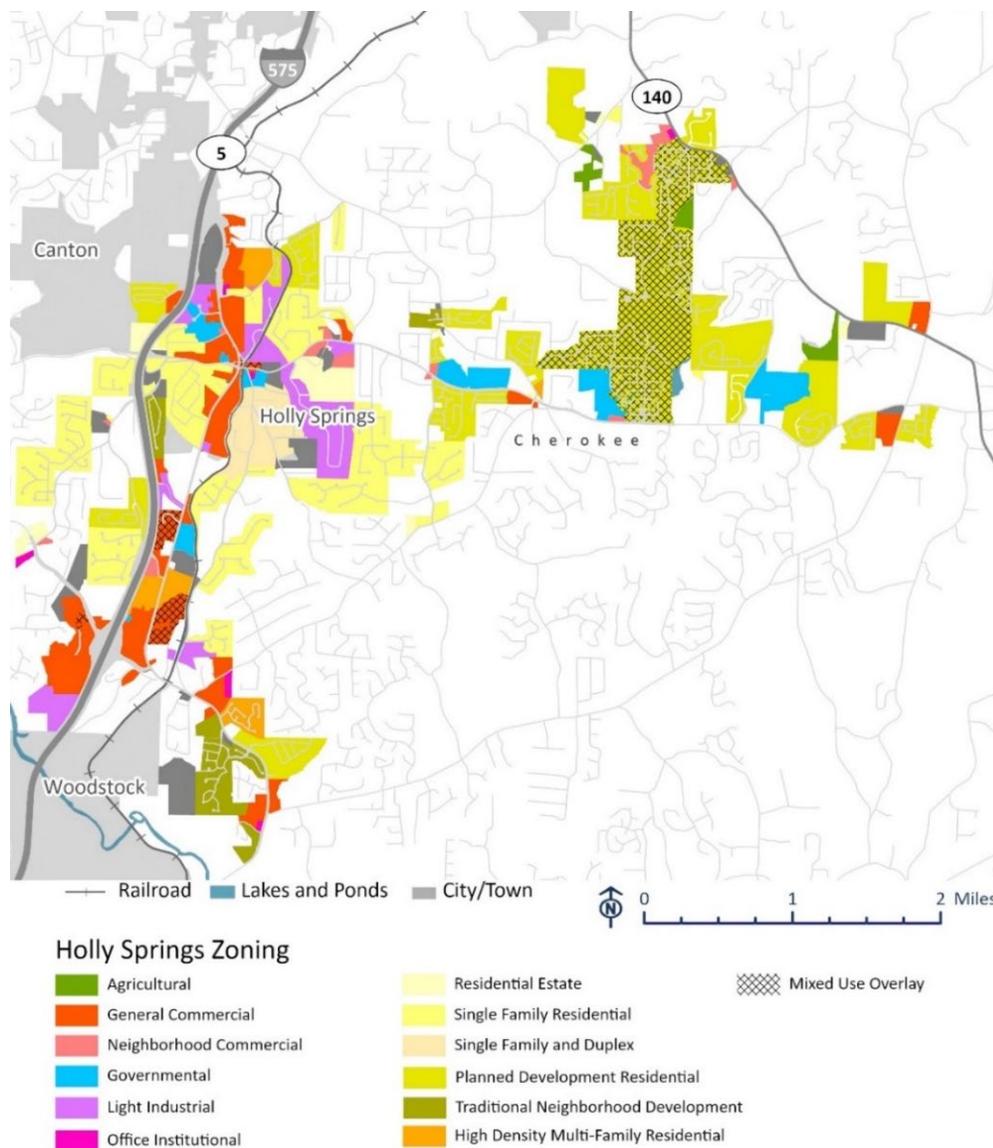


CITY OF HOLLY SPRINGS

The City of Holly Springs has 12 different zones present within the city boundaries. The most prominent zone type is residential with major pockets of residential estate, single family residential, and planned development residential. The industrial, office, and commercial zones of the city are located primarily along the I-575 corridor and Hickory Road/Holly Street.

The most notable zoning attribute in Holly Springs is the Mixed-Use Overlay District which encompasses the Harmony on the Lakes Neighborhood Preservation District. Harmony on the Lakes at Holly Springs is a master planned, mixed-use development with distinct neighborhoods, amenities, villages, and commercial areas. The Overlay District allows for distinct form/design within this district.

Figure 22: Existing Zoning in the City of Holly Springs

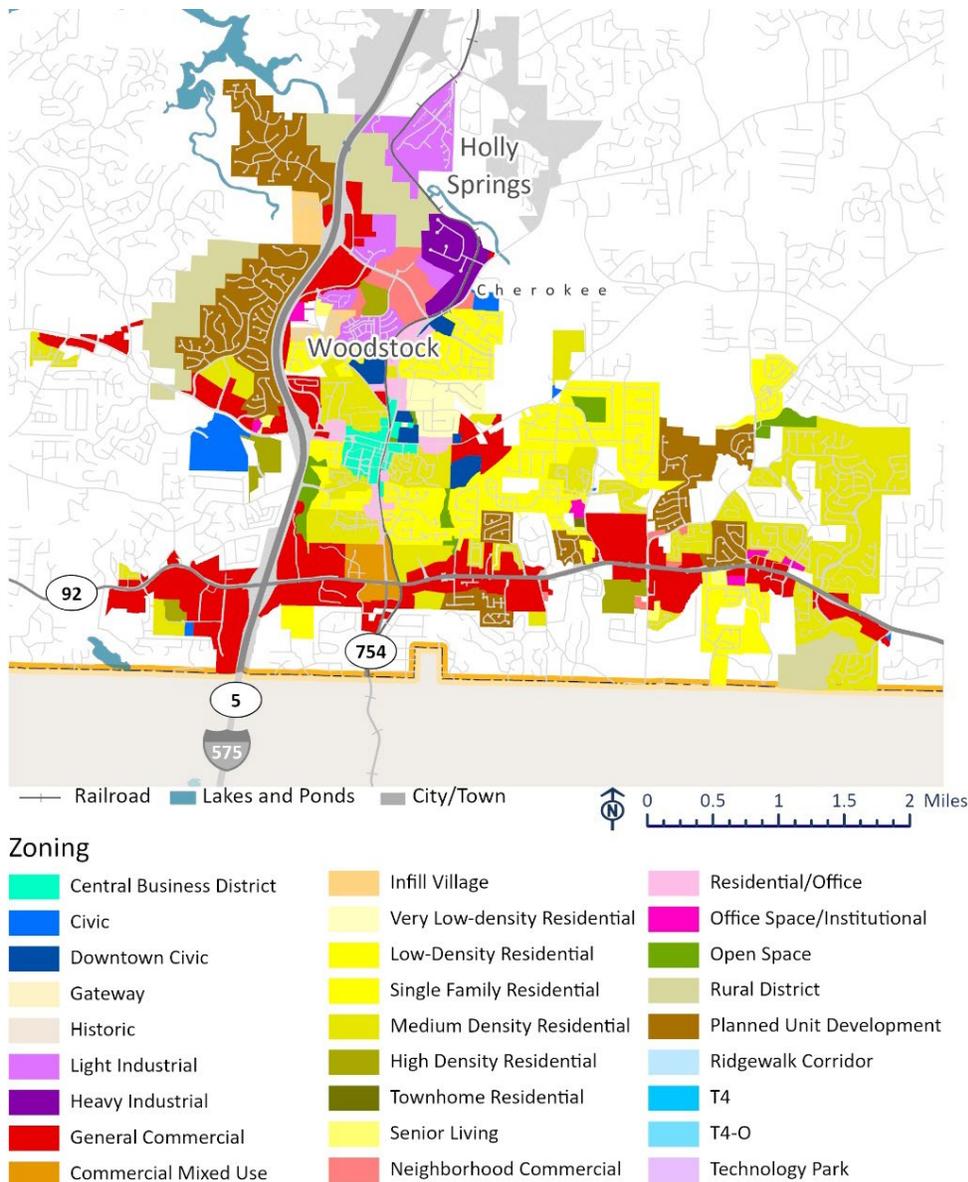


CITY OF WOODSTOCK

The City of Woodstock has one of the most diverse zoning patterns within Cherokee County with 25+ different zones. The majority of Woodstock is made up of some type of residential or commercial/downtown/business. Specifically, the residential areas are primarily very low, low, single-family, or medium density residential with limited pockets of high density residential.

The commercial uses are primarily made up of general commercial, commercial mixed-use, central business district, and civic/downtown civic. These land uses reflect the retail corridors (specifically along I-575 and SR 92) and downtown/central business district areas of Woodstock. The remaining land uses are the planned unit development of the Towne Lake area with pockets of rural and heavy/light industrial.

Figure 23: Existing Land Use in the City of Woodstock (City of Woodstock)

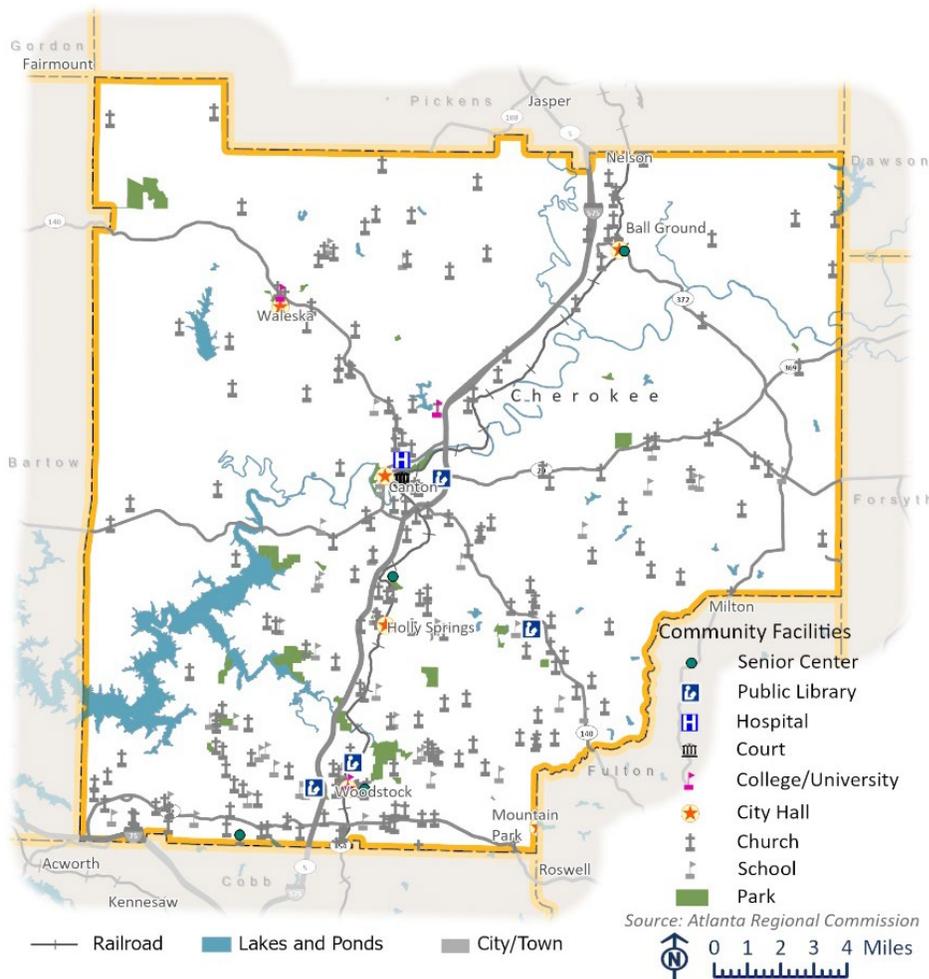


COMMUNITY FACILITIES

Community facilities are typically defined as areas of importance or frequent visitation by a significant number of people in a community. Usually, community facilities are located in denser activity areas or downtown city centers for easy access by a majority of users. Thus, these facilities are important destinations to consider as part of a transportation network analysis. Levels of service or congestion can increase near these facility access points.

Figure 24 shows the community facilities identified by the project team in conjunction with the County and CTP stakeholders. The types of facilities range from parks and recreation facilities, schools, houses of worship, post offices, senior centers and other community centers where residents can access basic social services. The largest clusters of community facilities, apart from cemeteries, in the County can be found in and around the city centers throughout the County, but especially surrounding the Cities of Woodstock and Canton. This is in keeping with the overall land use, population, and employment patterns of the County which are increasingly denser towards the southern portion of the County.

Figure 24: Community Facilities in Cherokee County (ARC)



RECENT AND FUTURE LAND USE/DEVELOPMENT

FUTURE LAND USE & CHARACTER AREAS

As part of the Cherokee County Comprehensive Plan update in 2018, the County developed a Future Development Map for unincorporated Cherokee County. The future development map is based on character areas which were defined as part of the comprehensive planning and public engagement process. Character areas were first introduced during the 2008 Cherokee County Comprehensive Plan and are used to identify a sense of place across areas that have a common theme of development and land use patterns. Ultimately, as part of the future development map, these character areas link to the community's vision for the area and will help guide future development and land use in Cherokee County.

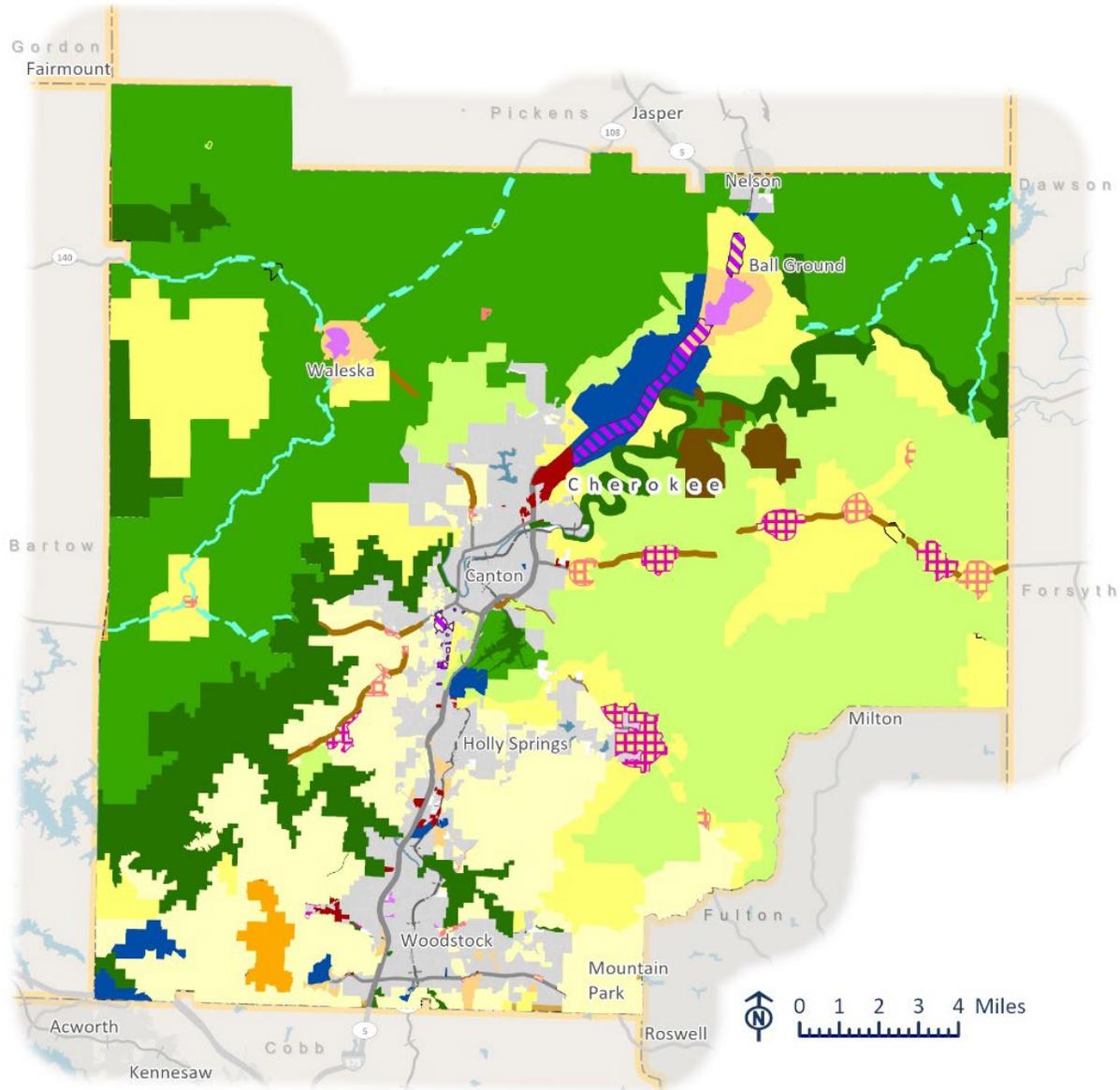
The Cherokee County Future Development is shown in Figure 25. The map illustrates a continuation of existing land uses and growth process that are already occurring in unincorporated Cherokee County and the Cities of Waleska and Ball Ground. These trends are:

- A commitment to rural development and natural preservation along and north/west of the Etowah River and Lake Allatoona and further intensification of residential and commercial development along the I-575 corridor, city centers, and southwestern portion of the County.
- Low intensity residential areas previously notated as private residences is now referred to as a new character area called Country Estates. Country Estates, suburban growth, and Rural Places are the character areas that make up most of the County which is in keeping with the existing land use patterns.
- Areas of suburban residential growth are identified around most areas where Private Households land use is already identified. However, some new pockets of growth are seen southeast of Waleska, west of Waleska on the Bartow County line and just west of Lake Allatoona surrounding Sutallee.
- More intensified employment/activity centers along the I-575 corridor seen as Workplace centers between Canton and Ball Ground and a Regional Center just north of Canton.
- Commercial development nodes along state routes including community village, neighborhood village, and hamlet in order of most dense to least. The Bells Ferry LCI area is also called out as its own character area along SR 92 just west of Woodstock.



UNINCORPORATED CHEROKEE COUNTY, WALESKA, AND BALL GROUND

Figure 25: Future Development for Unincorporated Territory (CP Update, 2018)



— Railroad Lakes and Ponds City/Town

Future Development

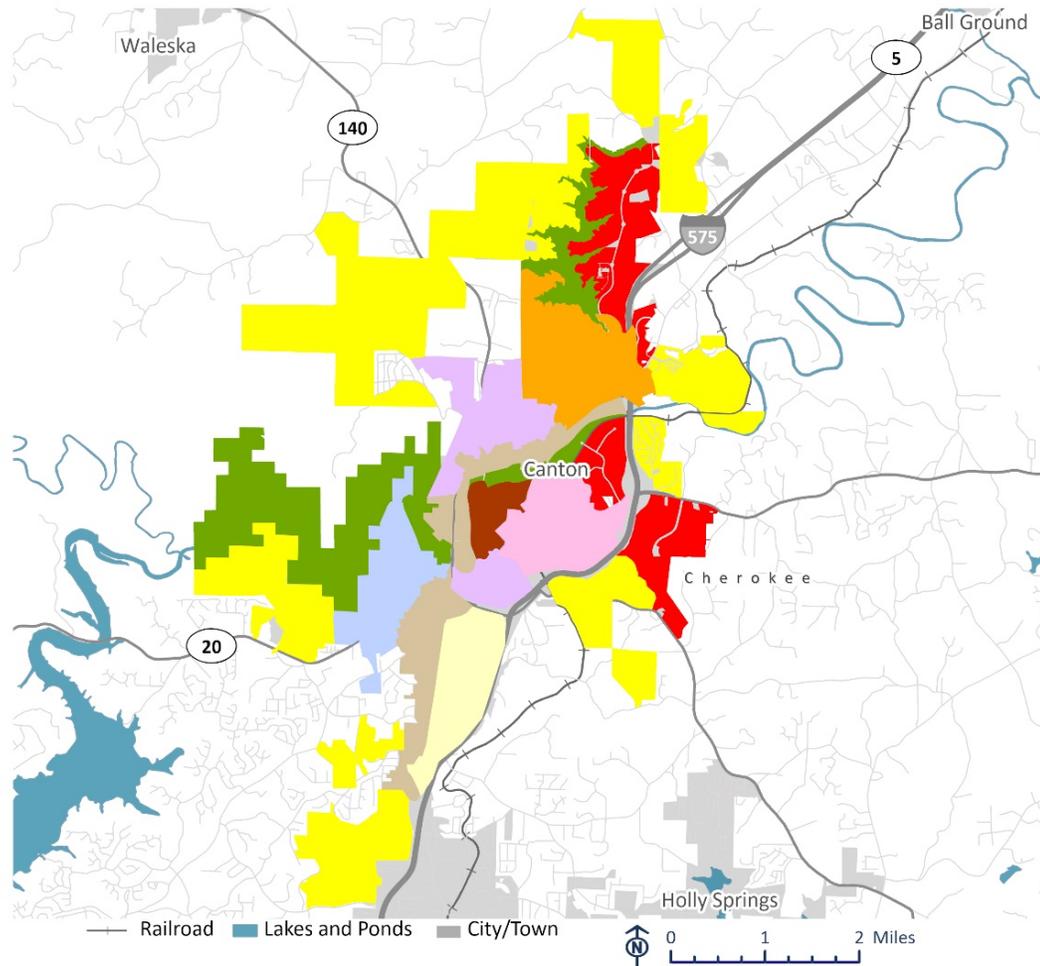
- | | | |
|-----------------------|---------------------|---------------------------|
| Scenic Corridor | Neighborhood Living | Natural Preserve |
| Transitional Corridor | Bells Ferry LCI | Utility/Services |
| Development Corridor | Suburban Growth | Country Crossroads Node |
| Workplace Center | Suburban Growth | Hamlet Node |
| Regional Center | Country Estates | Neighborhood Village Node |
| Urban Core | Rural Places | Community Village Node |



CITY OF CANTON

The City of Canton future land use/character areas are similar to the City's existing land use and zoning maps with areas currently zoned for planned development or planned development mixed-use marked as "suburban development area" in the future land use map. One other notable future land use is the dedication of the historic downtown areas as historic/traditional neighborhood-stable and traditional neighborhood redevelopment area. These character areas are meant to help encourage redevelopment in these downtown areas, but also protect the integrity of the historic and traditional neighborhoods.

Figure 26: Future Land Development, City of Canton (Updated CP, 2018)



Future Character Area

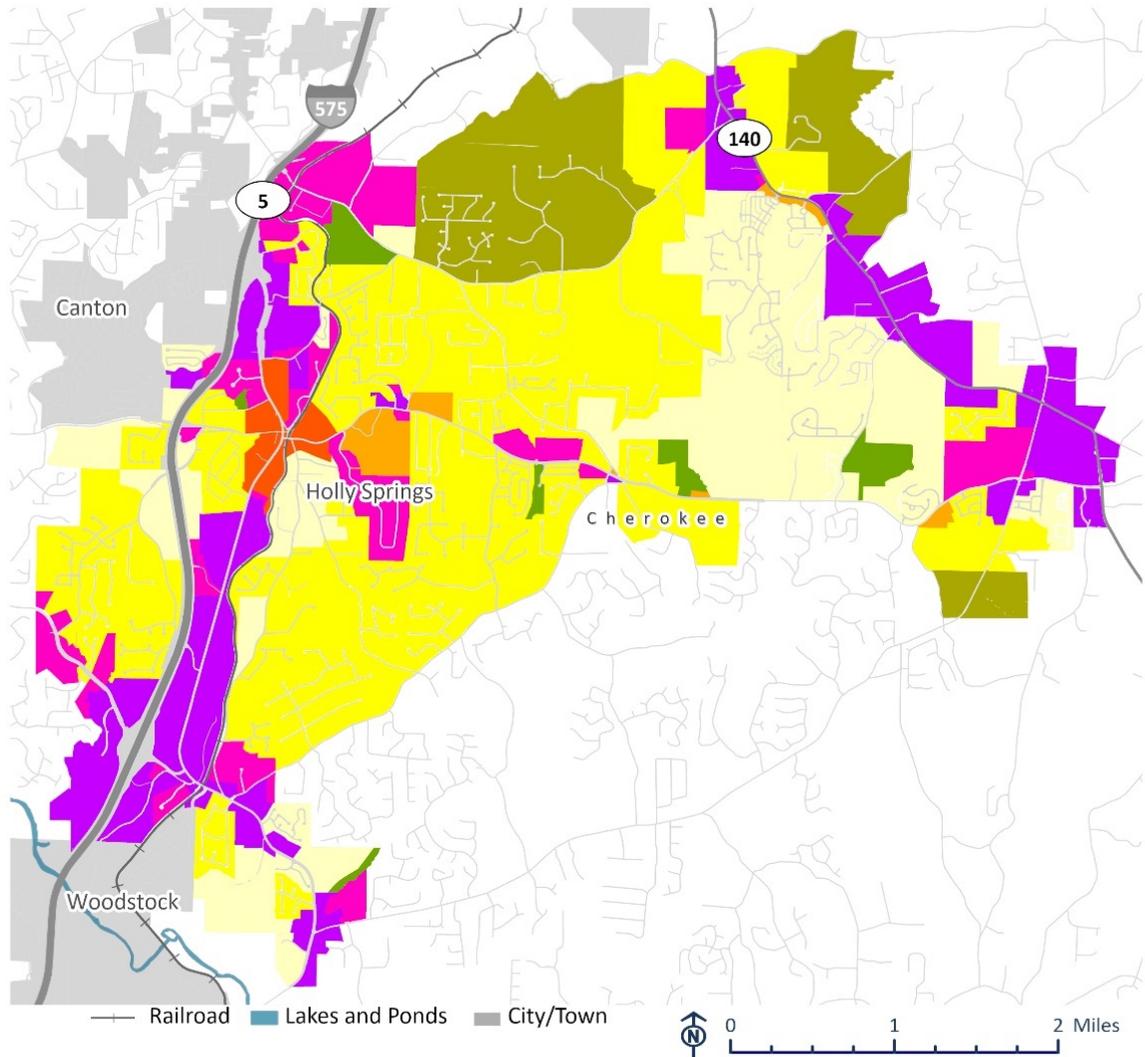
- | | |
|--|---|
| Suburban Estates | Traditional Neighborhood Redevelopment Area |
| Suburban Development Area | Downtown/Urban Center |
| Neighborhood Living | Employment Center |
| Historic/Traditional Neighborhood-Stable | Natural Area |
| Community Level Mixed Use/Retail Center | Major Highway Corridor |



CITY OF HOLLY SPRINGS

Like the City of Canton, Holly Springs' future development map shows a strong commitment to residential uses (suburban neighborhood shown in bright yellow, traditional neighborhood in light yellow, and suburban growth in olive green in Figure 27). These suburban residential uses are especially seen outward from the main corridors of the city. The bright purple just east of I-575 and along SR 140 are designated Parkway Corridors along which the City would like to see continued commercial development.

Figure 27: Future Development, City of Holly Springs (CP Update, 2018)



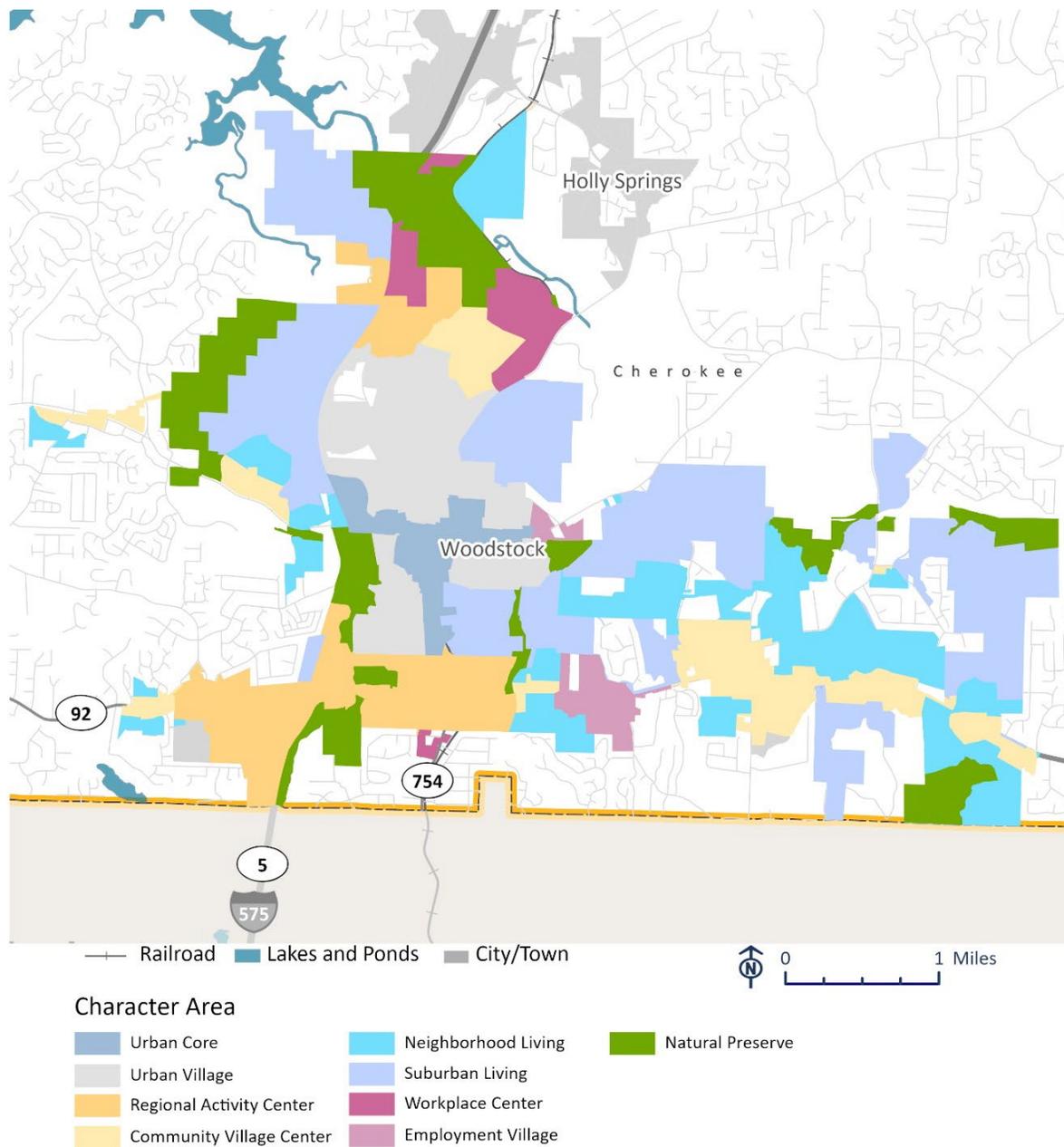
Holly Springs Future Development

- | | |
|---------------------|--------------------------|
| Employment | Suburban Growth |
| Town Center | Suburban Neighborhood |
| Neighborhood Center | Traditional Neighborhood |
| Parkway Corridor | Conservation |

CITY OF WOODSTOCK

Woodstock’s future development is slightly different than that of Canton and Holly Springs because there is more diversity in land use. Woodstock’s future land use includes an urban core (light blue) surrounded by an urban village (grey), with suburban living (blue), and neighborhood living (neon blue) further out in the city’s perimeter. There future development also calls for commercial development around I-575 as well as the border between Cherokee County and Fulton County, with a workplace center (purple) near the north of Woodstock, and a Regional Activity Center on the border shared with Cobb County (orange).

Figure 28: Future Development, City of Woodstock (CP Update, 2018)



RECENT & PLANNED DEVELOPMENT

DEVELOPMENTS OF REGIONAL IMPACT

Developments of Regional Impact (DRIs) are projects that meet thresholds for large-scaled change, or are expected to attract intense, specialized land uses to the area. Under the Georgia Planning Act of 1989, any large-scale development, or one that is likely to impact neighboring jurisdictions, is subject to review as a DRI². ARC is responsible for conducting these reviews in the Atlanta Region of which Cherokee County is a part of. These reviews are meant to foster coordination between local governments, developers, and other relevant agencies and interested parties in order to identify and mitigate potential impacts from the DRI.

In Cherokee County, ARC has record of 23 DRIs submitted since 1994. Since 2011, 5 DRIs have been submitted for review. These 5 DRIs are detailed in Table 7 below. Of the 5, three are mixed-use developments, one is a corporate park, and one is a large church campus. The largest of the 5 DRIs is the Cherokee 75 Corporate Park at 172 acres of light industrial space completed in 2015. The largest of the mixed-use DRIs is the Outlet Shoppes at Atlanta which was submitted for review in 2011 and is constructed and operational as of today.

Table 7: DRIs in Cherokee County (ARC)

Project Name	Project Description	Project Size & Type	Year Submitted	Status
Outlet Shoppes at Atlanta	Outdoor outlet shopping mall with retail and restaurant space	433,000 SF commercial	2011	Complete, currently operational
Watermarke Church (Now Woodstock City Church)	Church campus with auditorium, other administrative buildings, 2,400 parking spaces, future parking deck off Ridgewalk Pkwy on 32.5 acres. Directly adjacent to other area DRIs.	250,000 SF institutional buildings, 2,400 parking spaces	2012	Original est. June 2015 completion, surface parking and main building complete as of 2021
The Heights at Woodstock	Mixed use residential development with plans for 317 apartments and 190 townhomes south of SR 92.	42 Acres	2017	Under construction
Cherokee 75 Corporate Park	172 acres of light industrial; multi-tenant warehouse/distribution center totaling 304,000 SF.	172 Acres light industrial	2015	Complete, 5 2-acre tracts remain available for lease, located within a state opportunity zone
Ridgewalk Landing	Multi-tenant retail site with tracts north and south of	Mixed Use: 330,772 SF	2016	Costco complete (2018) and Junior Big Box store

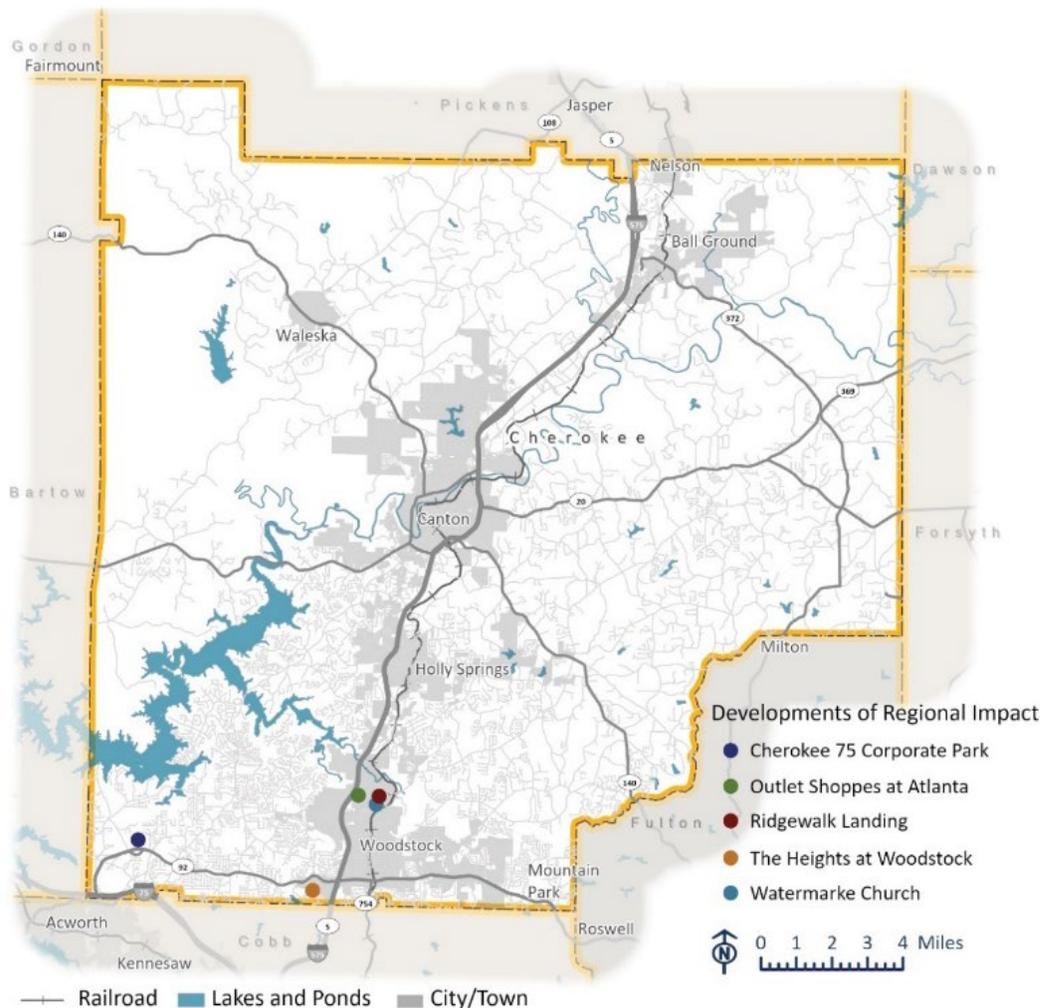
² <https://atlantaregional.org/community-development/comprehensive-planning/developments-of-regional-impact/>



Project Name	Project Description	Project Size & Type	Year Submitted	Status
	Ridgewalk Pkwy across from Outlet Shoppes of Atlanta. Includes a Costco, planned big box store, planned car dealership, and retail outbuildings with tenants like Tropical Smoothie Café, Noire, Bedzzz, Xfinity, Flying Biscuit, Your Pie, and Nothing Bundt Cakes.	commercial space, 35,000 SF office space (17 MF Residential Units)		development under contract on northern tract, future car dealership on southern tract, two outparcel buildings still available for lease (3,700 sf available). 2020 site drawings show one outbuilding retail unit available (1,603 sf).

A majority of the DRIs, the Outlet Shoppes, Woodstock City Church (Watermarke Church), and Ridgewalk Landing, are located on or planned to be located on Ridgewalk Pkwy right off Exit 9 of I-575 (Figure 29). The close proximity of these largescale developments is especially important to note for business, interstate, and express lane access and general traffic flow along Ridgewalk Pkwy.

Figure 29: DRI's in Cherokee County (ARC)



OTHER RECENT DEVELOPMENT EFFORTS

Cherokee County has an Office of Economic Development (CoED) which works to drive economic development in the County by aligning workforce education and training with in-demand jobs, attract new business, plan and mobilize county resources for development, and support the expansion of existing industry, microbusiness, and startups. CoED tracks new, recent, and proposed developments and has identified the following new developments in the County:

- Academy & Main
- Wellstar Cherokee Health Park at Holly Springs
- Holly Springs Town Center
- The Mill on Etowah
- The Bluffs at Technology Park
- Cherokee 75 Corporate Park

Information and statuses on these new/proposed development sites are detailed in Table 8 below.

Table 8: New or Proposed Development Projects (CoED)

Project Name	Project Description	Location	Project Size & Type	Status/Notes
Academy & Main	Canton's newest mixed-use development offering office, restaurant, and retail space. Located in one of Canton's historic buildings.	Canton		
Wellstar Cherokee Health Park at Holly Springs	Located off Sixes Road (Exit 11 on I-575), medical hospital and physician outpatient services	Holly Springs	4-level, 112,000 sqft	Phase 1 opened August 2019
Holly Springs Town Center	Live, Work, Play project including: <ul style="list-style-type: none"> - Lofts, townhomes, cottage homes - Retail and office space - New City Hall - Event green 	Holly Springs		
The Mill on Etowah	Canton Textile Mill conversion to mixed-use destination to include: <ul style="list-style-type: none"> - Retail shops - Restaurants - Residences - Office space 	Canton	30 acres	



Project Name	Project Description	Location	Project Size & Type	Status/Notes
Cherokee 75 Corporate Park	Already home to five international companies, available for BTS projects	Cherokee County (2 miles from I-75 on SR 92)	172 acres (2 4.5 acre tracts remain)	Included in recent DRIs
The Bluffs at Technology	Master-planned, mixed-use community surrounded by residential developments (Great Sky, Laurel Canyon, and Towne Mill)	Canton	16.9 acres (2 padded tracts), 150 acres available for additional build to suit projects	Located in a State Opportunity Zone which allows for a \$3,500 tax credit per job, per year for 5 years for 2 or more jobs created

Some of the projects noted in Table 8 are also included in the DRI project list. If it is not listed, the project is not expected to have a large regional impact. However, with the location of several of these projects in city centers, these projects should be closely tracked to determine possible transportation impacts including local and state route capacity and efficiency, transit considerations, and more.

CoED also tracks new and expanding business growth year to year. In the 2020 Annual Report, CoEd reported the following statistics:

- 21% of Cherokee's business growth was generated by tech companies
- 50 new business prospects
- \$155M in new capital investment
- 674 career opportunities announced and/or committed
- 13 existing industry expansions
- 983 engagements with existing industry
- Almost 20 new and expanding businesses identified including Wellstar Health System and Northside Hospital Cherokee

The existing and proposed industries identified in the Population and Employment section are in line with what the CoED has identified as "key business sectors" they work to attract to Cherokee County. These sectors include:

- Advanced Manufacturing
- Commercial Development
- Corporate Operations
- Film & Media
- Information Technology



LAND USE AND THE CTP

This section considered how the current and future land use patterns as well as major developments could affect county travel patterns and transportation infrastructure.

COMMERCIAL DEVELOPMENT FOCUS ON STATE ROUTES

The existing Cherokee County land use does not show a strong dedication to commercial land use (General Sales) along state routes with the exception of SR 92. However, the Cherokee County future land use map shows a desire for more commercial uses along other major transportation routes such as SR 20. The future land use map identifies two new land uses called Neighborhood and Community Village Nodes. Expansion of these land use types along state routes in the County will be important to monitor for potential transportation operation and capacity needs in the future.

DRI LOCATION AND PROXIMITY TO EXISTING CITY AND ACTIVITY CENTERS

Similarly, it will be important to monitor the growth and development of DRIs, especially ones located in close proximity to one another relying on the same transportation infrastructure. Specifically, the County and relevant jurisdictions should monitor the progress of the cluster of DRIs in the southern portion of Cherokee County in Woodstock. Specifically, transportation infrastructure projects near the I-575 Exit 9 area of Woodstock may need to be prioritized in order to meet the demand created from the three centrally located DRIs.

As the County works to move forward with synchronization of its land use efforts and transportation planning, coordination amongst the municipalities will be important. Due to the number of different jurisdictions in Cherokee County and their varying zoning and land use efforts, it will be imperative to ensure the land use and transportation efforts are coordinated not only throughout the County, but within the municipalities as well. This will help maintain a seamless pattern of land use and transportation infrastructure across jurisdictions while still ensuring right-sized transportation solutions in each jurisdiction.

Major Land Use Trends with Transportation Impacts:

- The future land use trend of focusing on development of commercial nodes along state routes
- The proximity/location of DRIs in existing city or activity centers.

7. TRAVEL TRENDS

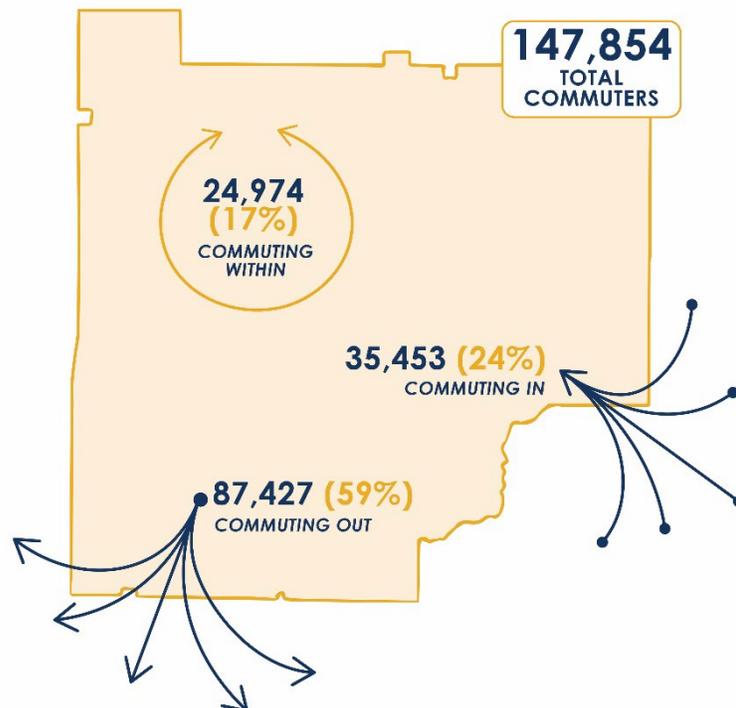
General travel trends and specific commuter patterns are examined to understand where people and goods are traveling to and from and how they are getting there. In analyzing the travel pattern data for Cherokee County, the following major trends emerged.

COMMUTING PATTERNS

Travel trends of workers and residents commuting to, from, and within Cherokee County are an important factor in determining infrastructure needs of the County through 2050. Figure 30 shows existing commuter trends for Cherokee County.

About 24% of those employed in Cherokee County reside elsewhere and commute into the County for work while roughly 59% of Cherokee County residents commute outside the County for work. The remaining 17% of residents are also employed in the County.

Figure 30: Cherokee County Commuting Patterns (ARC ABM, VHB)

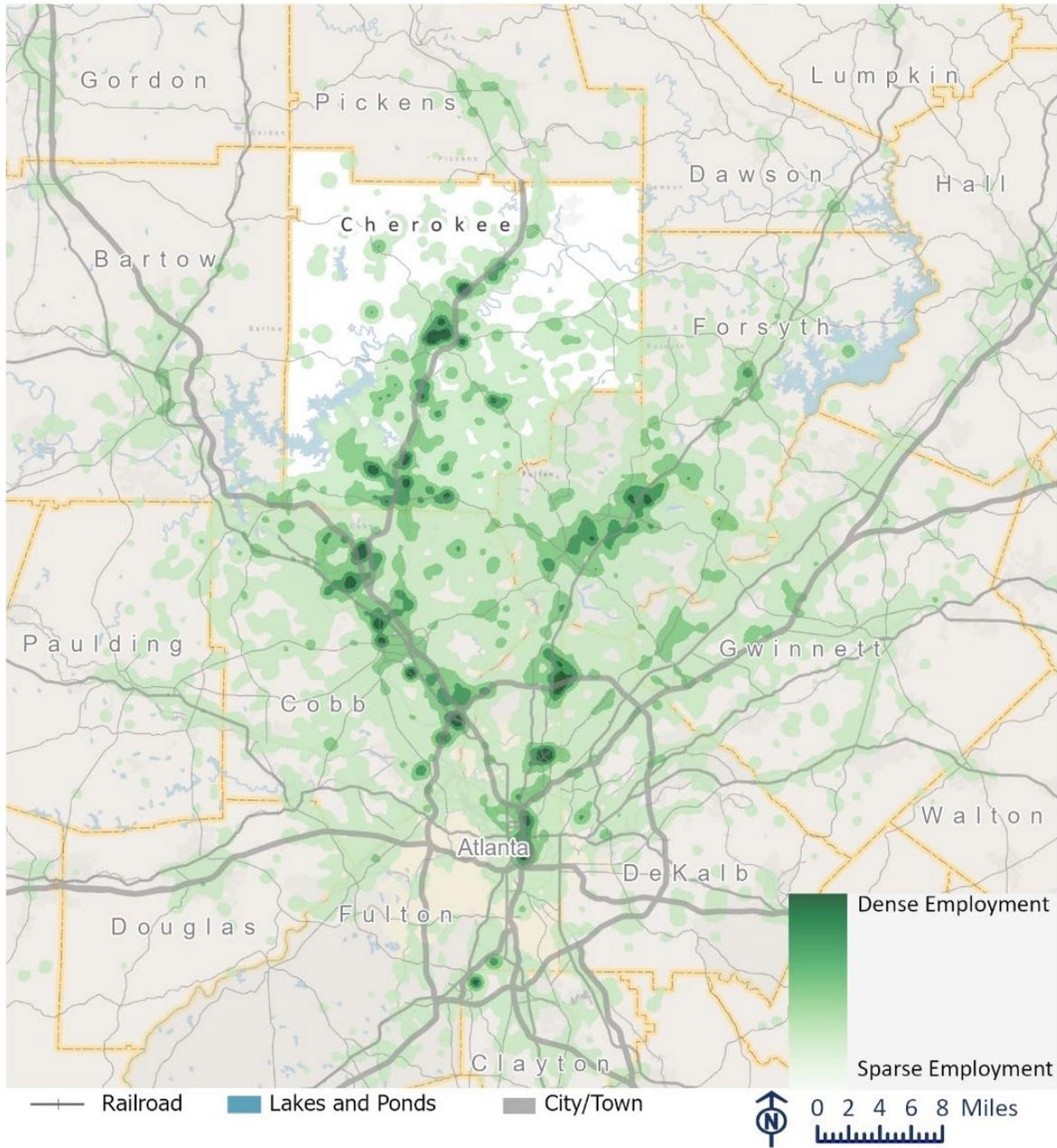


WHERE CHEROKEE RESIDENTS WORK

Figure 31 shows where Cherokee County residents commute for work. In Cherokee County, concentrated areas include business centers east and west of I-575 in Canton, businesses in Hickory Flat, and in Woodstock on either side of I-575. Other concentrated areas include the Cherokee County Airport and businesses in Holly Springs. Areas with the highest concentration of commuters outside of Cherokee County are in Cobb and Fulton Counties.

In Cobb County, concentrated areas are located along I-75 in Kennesaw and Marietta business centers as well as the Cumberland area near the junction of I-75 and I-285. In Fulton County, areas with a high concentration of commuters include the central business districts in Atlanta's Downtown, Midtown, and Buckhead neighborhoods, Sandy Springs, and Alpharetta. Hartsfield-Jackson Atlanta International Airport is another commuting destination for Cherokee County residents.

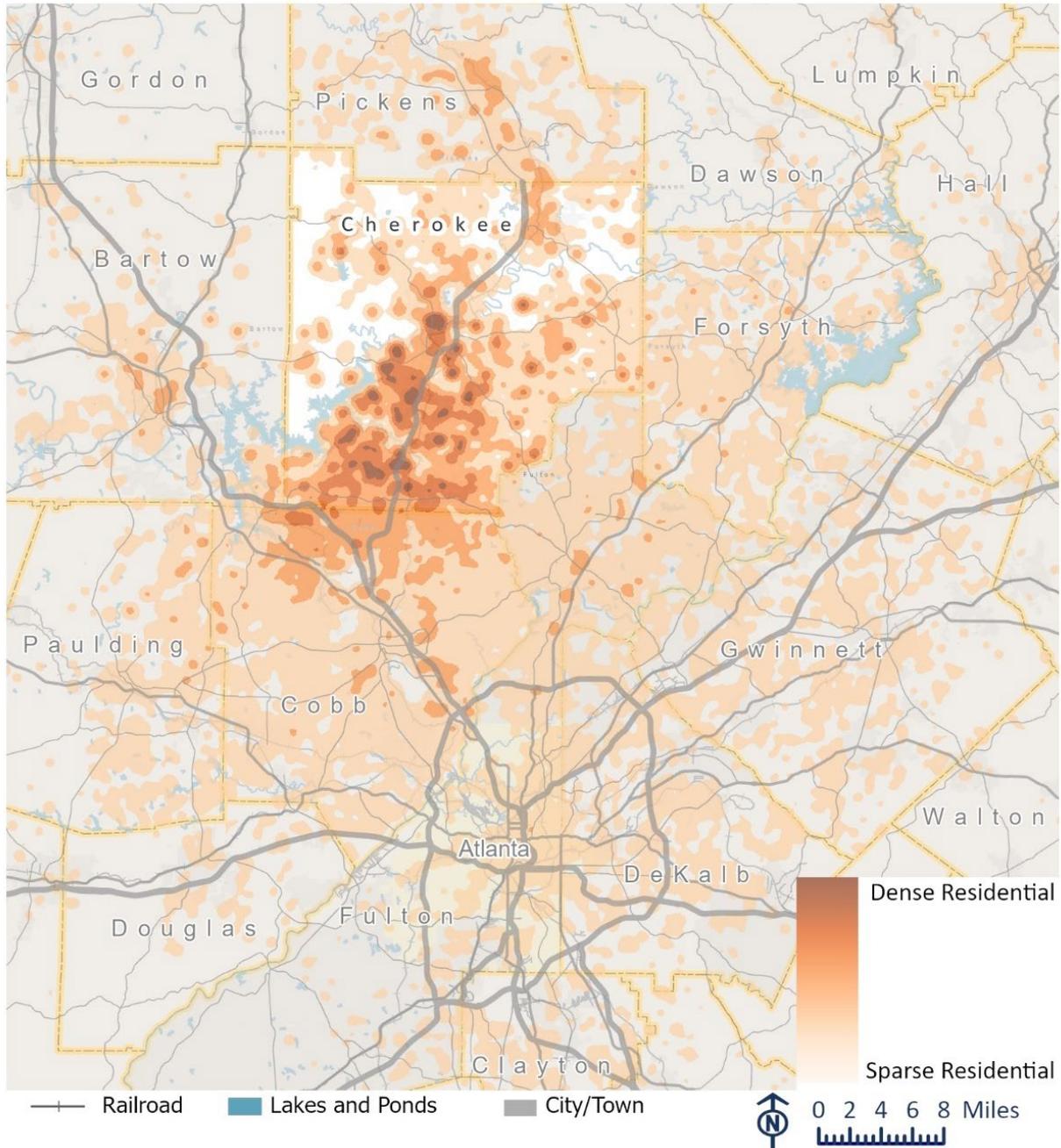
Figure 31: Where Cherokee County Residents Work (ARC)



WHERE CHEROKEE WORKERS LIVE

Figure 32 shows where employed persons in Cherokee County live. The highest concentration of Cherokee County employees is located along the I-575 corridor, between Canton and Woodstock. The most concentrated areas of employees outside of Cherokee County are in northern Cobb County in Acworth, Kennesaw, and northern Marietta. A few areas of less dense concentrations are the City of Jasper in Pickens County and the City of Cartersville in Bartow County west of I-75.

Figure 32: Where Cherokee County Workers Live (ARC)



TRAVEL PATTERNS

EXTERNAL TRIP GENERATORS

Table 9 lists the top ten external trip generators for Cherokee County along with the approximate number of daily trips and the percentage of total external trips from the 2020 Activity Based Model (ABM). The top ten generators are also mapped in Appendix E. These ten destinations make up 97% of the daily external trips to and from Cherokee County. The largest external trip generator is Cobb County followed by North Fulton County. This is consistent with the findings of the commuter travel trends analysis which indicated dense centers of employment in these areas as well as relatively high concentrations of residents working in Cherokee County. While most destinations in the table and figure are counties or parts of counties within the Atlanta Region there are two locations which are major access points into and out of the Atlanta Region: I-575 and I-75 North. The model only tracks trips within the ARC 21-county region. Therefore, trips entering or leaving from these gateways, on the edge of the model extents, cannot be tracked to their ultimate end point. Rather, trips entering or leaving these gateways are included as an external destination because a significant number of trips are entering or leaving the system at these points to or from Cherokee County.

Table 9: Cherokee County's Top Ten Daily Trip Generators (ARC ABM)

Destination	Daily Trips	% of Total Trips
Cobb County	158,000	50%
N Fulton County	60,400	19%
Forsyth County	27,600	8.7%
Bartow County	17,000	5.4%
City of Atlanta	11,500	3.7%
Gwinnett County	10,000	3.2%
DeKalb County	7,500	2.4%
I-575 Gateway	5,000	1.6%
Paulding County	4,700	1.5%
I-75 North Gateway	3,900	1.2%



PEAK PERIOD TRAVEL PATTERNS

2020

Cherokee County was split into four quadrants following ARC's super district designations: West Cherokee, North Cherokee, East Central Cherokee, and Woodstock. Figure 33 displays all AM peak period trips pairs with at least 200 trips between the origin/destination pair in 2020. For this analysis, it is assumed that PM peak period trips will mirror the travel patterns of the AM peak period as commuters return home after work.

Figure 33: 2020 AM Peak Travel Patterns (ARC ABM)

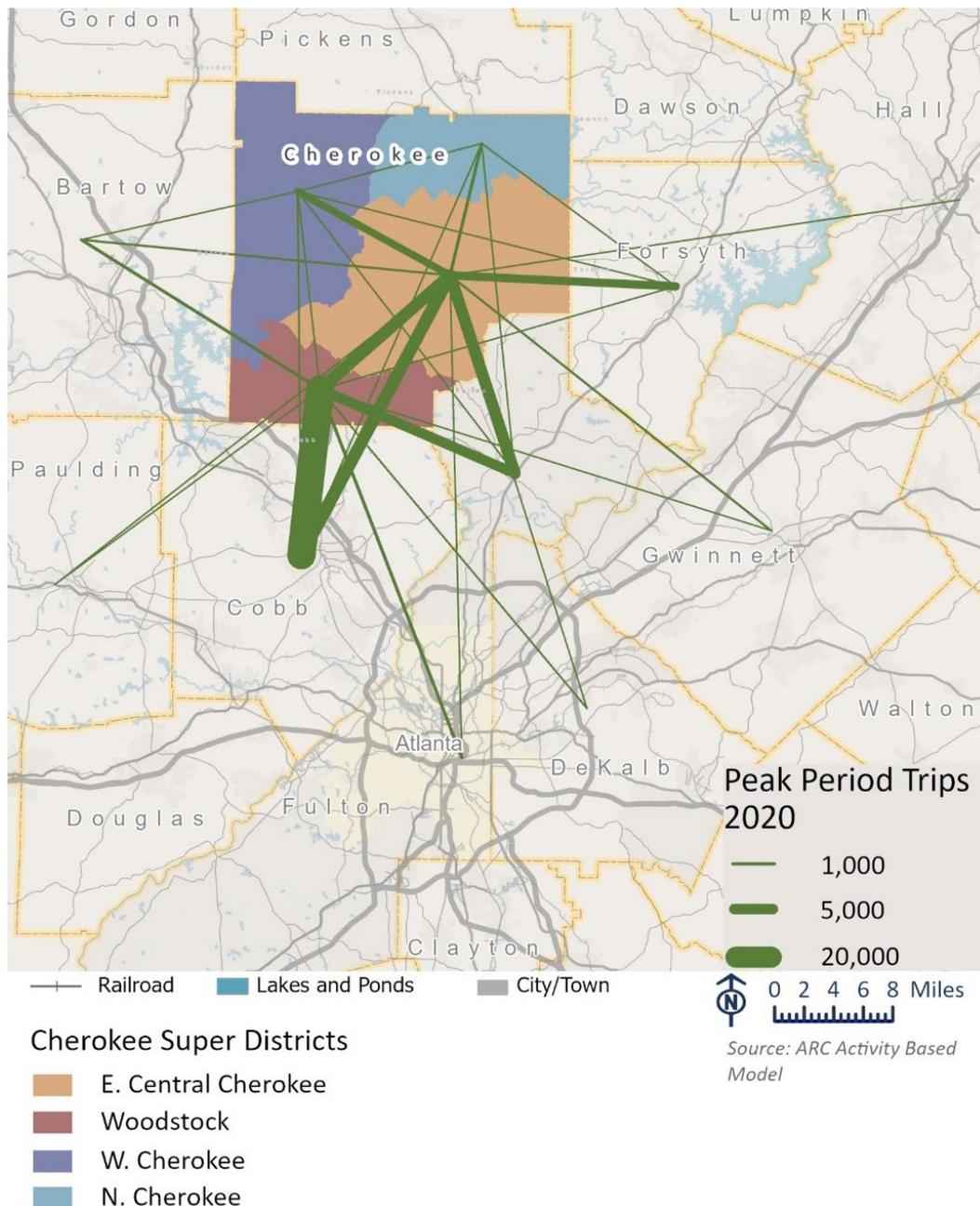


Table 10 lists the top five AM peak period trips generators for each quadrant in Cherokee County in 2020. This table also accounts for trips within quadrants, which are not displayed in the figure. These figures represent the total trips between the origin/destination pairs, not just trips from the origin to the destination. East Central Cherokee is the top generator for West Cherokee, North Cherokee, and East Central Cherokee. Internal trips make up the second highest proportion of trips in West Cherokee, North Cherokee, and Woodstock. Woodstock is the only super district to have a top trip generator outside of Cherokee County, Cobb County.

Table 10: Top Five AM Peak Period Trip Pairs by Quadrant, 2020 (ARC ABM)

Origin	W Cherokee	N Cherokee	E Cent Cherokee	Woodstock
Rank	Destinations			
1	E Cent Cherokee (47.5%)	E Cent Cherokee (39.2%)	E Cent Cherokee (41.8%)	Cobb (36.5%)
2	W Cherokee (16.4%)	N Cherokee (17.8%)	Cobb (11.4%)	Woodstock (31.6%)
3	Cobb (12.3%)	Forsyth (10.7%)	Woodstock (11.1%)	E Cent Cherokee (10.5%)
4	Bartow (8.4%)	Cobb (8.3%)	N Fulton (10.7%)	N Fulton (8.7%)
5	Woodstock (7.3%)	N Fulton (7.0%)	Forsyth (7.5%)	Atlanta (2.8%)

Table 11 shows the top 15 origin destination pairs for all of Cherokee County during the AM peak period according to the 2020 ABM, including trips within and between the Cherokee County quadrants. These figures represent the total trips between the origin/destination pairs, not just trips from the origin to the destination. East Central Cherokee is the largest super district and internal trips make up more than 20% of the total AM peak period trips in 2020. Internal trips within the Woodstock super district are also a high proportion of AM peak period trips, making up just over 16% of trips. External trips between Cobb County and the Woodstock and East Central Cherokee super districts make up just over 24% of AM peak period trips. The East Central Cherokee and Woodstock super districts are by far the largest tip generators in Cherokee County as they are included in 14 of the top 15 trip pairs in the County.

Table 11: Top 15 AM Peak Period Trip Pairs, Cherokee County, 2020 (ARC ABM)

Rank	Origin	Destination	AM Peak Period Trips	% of Total AM Trips
1	E Cent Cherokee	E Cent Cherokee	32,400	20.3%
2	Woodstock	Cobb	29,900	18.8%
3	Woodstock	Woodstock	25,900	16.2%
4	E Cent Cherokee	Cobb	8,900	5.5%
5	E Cent Cherokee	Woodstock	8,600	5.4%
6	E Cent Cherokee	N Fulton	8,300	5.2%
7	Woodstock	N Fulton	7,200	4.5%
8	E Cent Cherokee	Forsyth	5,800	3.7%
9	W Cherokee	E Cent Cherokee	5,200	3.2%
10	Woodstock	Atlanta	2,300	1.4%



Rank	Origin	Destination	AM Peak Period Trips	% of Total AM Trips
11	Woodstock	Bartow	2,220	1.4%
12	N Cherokee	E Cent Cherokee	2,180	1.4%
13	W Cherokee	W Cherokee	1,780	1.1%
14	E Cent Cherokee	Gwinnett	1,600	1.0%
15	E Cent Cherokee	Bartow	1,570	1.0%

2050

Table 12 lists the top five AM peak period trips generators for each quadrant in Cherokee County in 2050. This table also accounts for trips within quadrants, which are not displayed in the figure. These figures represent the total trips between the origin/destination pairs, not just trips from the origin to the destination. Travel patterns are not expected to change significantly from those observed in the 2020 analysis. East Central Cherokee is expected to have a high proportion of trips traveling to Woodstock and North Fulton County than Cobb County as rural areas become more developed and offer more employment and residential opportunities. Similarly, Bartow County is expected to overtake the City of Atlanta as the fifth highest trip generator for Woodstock by 2050.

Table 12: Top Five AM Peak Period Trip Generators by Quadrant, 2050 (ARC ABM)

Origin	W Cherokee	N Cherokee	E Central Cherokee	Woodstock
Rank	Destinations			
1	E Cent Cherokee (43.6%)	E Cent Cherokee (41.9%)	E Cent Cherokee (43.2%)	Cobb (35.3%)
2	W Cherokee (16.3%)	N Cherokee (18.3%)	Woodstock (11.2%)	Woodstock (32.4%)
3	Cobb (10.6%)	Forsyth (11.2%)	N Fulton (10.2%)	E Cent Cherokee (11.4%)
4	Bartow (8.4%)	Cobb (7.2%)	Cobb (9.9%)	N Fulton (8.1%)
5	Woodstock (7.1%)	N Fulton (6.2%)	Forsyth (8.9%)	Bartow (3.1%)

Table 13 shows the top 15 origin destination pairs for all of Cherokee County during the AM peak period according to the 2020 ABM, including trips within and between the Cherokee County quadrants. These figures represent the total trips between the origin/destination pairs, not just trips from the origin to the destination. The travel patterns observed in the 2050 analysis are very similar to the results of the 2020 analysis. The top 15 travel pairs remain the same, with some minor changes to the rankings between travel pairs that were already close to each other in 2020.

Table 13: Top 15 AM Peak Period Trip Pairs, Cherokee County, 2050 (ARC ABM)

Rank	Origin	Destination	AM Peak Period Trips	% of Total AM Trips
1	E Cent Cherokee	E Cent Cherokee	45,800	21.8%
2	Woodstock	Cobb	36,800	17.5%
3	Woodstock	Woodstock	33,800	16.1%

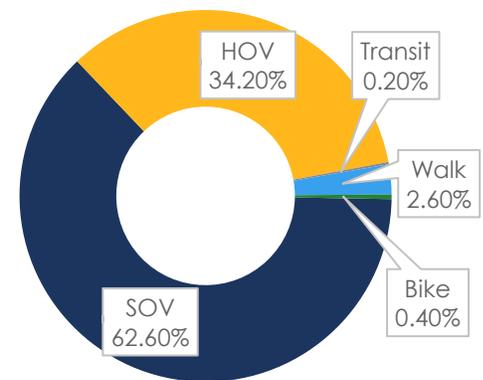


Rank	Origin	Destination	AM Peak Period Trips	% of Total AM Trips
4	E Cent Cherokee	Woodstock	11,850	5.6%
5	E Cent Cherokee	N Fulton	10,800	5.2%
6	E Cent Cherokee	Cobb	10,500	5.0%
7	E Cent Cherokee	Forsyth	9,480	4.5%
8	Woodstock	N Fulton	8,440	4.0%
9	W Cherokee	E Cent Cherokee	6,720	3.2%
10	N Cherokee	E Cent Cherokee	3,350	1.6%
11	Woodstock	Bartow	3,210	1.5%
12	Woodstock	Atlanta	2,630	1.3%
13	W Cherokee	W Cherokee	2,520	1.2%
14	E Cent Cherokee	Bartow	2,170	1.0%
15	E Cent Cherokee	Gwinnett	1,870	0.9%

MODE SPLIT

Mode split reflects how commuters and other travelers are getting from place to place. Modes include driving alone (single occupancy-vehicle), driving with someone else (high-occupancy vehicle), such as carpooling or using a ride-share service, transit, walking, and bicycling. Figure 34 shows the mode split for all trips to, from, and within Cherokee County. Over 62% of total trips are made by a SOV, and just over 34% of total trips are made by HOV. Transit and biking each make up less than 1% of all trips, and walking makes up 2.6% of total trips.

Figure 34: Cherokee County Mode Split 2020 (ARC ABM)



■ SOV ■ HOV ■ Transit ■ Walk ■ Bike

Table 14 shows the mode split in Cherokee County by trip origin/destination. Of trips originating in Cherokee and going elsewhere in the region, 69% are done by SOVs and 30% by HOVs. Transit, biking, and walking make up less than 1% of trips. Trips from elsewhere in the region to Cherokee County show similar statistics. For trips that remain within Cherokee County, SOV's and HOV's make up almost 58% and 37% of trips, respectively. Walking accounts for 2.5% of trips within Cherokee County. These mode splits indicate that Cherokee County is reliant on vehicles for travel, and that there is room to explore alternate modes of travel through improving or expanding transit and bicycle and pedestrian facilities.



Table 14: Cherokee County Mode Split, Daily Volume, 2020 (ARC ABM)

Trip	SOV	HOV	Transit	Walk	Bike	Total
From Cherokee to Region	107,402	46,861	536	150	230	155,179
From Region to Cherokee	107,514	46,798	536	149	232	155,229
Within Cherokee	236,003	152,646	166	18,153	2,592	409,560
Total	450,919	246,305	1,238	18,452	3,054	719,968

ORIGIN-DESTINATION STUDY

The County has requested the evaluation of origin-destination analysis through several intersections throughout the County. The results of this analysis will identify the most travelled corridors within the County which can then help in the prioritization of projects within the CTP. The following locations were identified for this analysis:

- o SR 92 at Trickum Road
- o Arnold Mill Road at North Arnold Mill Road/Barnes Road;
- o I-575 at Towne Lake Parkway interchange;
- o East Cherokee Drive at Holly Springs Parkway;
- o I-575 at Riverstone Parkway interchange;
- o Riverstone Parkway at Waleska Street/SR 140;
- o SR 92 at Bells Ferry Road;
- o SR 140 at East Cherokee Drive;
- o SR 140 at Hickory Road/Batesville Road

A select link assignment procedure was undertaken using the ARC ABM as the underlying dataset. These select link assignments identify the origin, destination, and paths of all trips that travel through specific links identified in the setup of the assignment. The team used the nine intersections listed above and performed the select link assignment for each approach leg to the intersections. From this process, we are able to see the characteristics of trips traversing different parts of the County including mode split and average distance. The results of this analysis will help identify improvements that are tailored toward predominant vehicle movements during the needs assessment and final recommendations portions of the CTP process.

Table 15 below shows the average vehicle-miles traveled (VMT) and the weighted average distance traveled for the north-south and east-west legs of each of the nine intersections traveled, derived from the AM peak period of the ARC ABM. Overall, the intersection that carries the most total traffic is SR 92 at Bells Ferry Road with a total of over 308,000 VMT - 210,000 of which is carried by east-west traffic on SR 92. The second highest traveled intersection is SR 92 at Trickum Road, with almost 260,000 VMT – most of which is again traveling east-west on SR 92. This underscores the importance of east-west travel across the county being carried by SR 92.



Table 15: Select Link Travel Statistics, AM Peak Period (2020 ARC ABM)

Intersection	Vehicle Miles Traveled (VMT)		Weighted Average Travel Distance (miles)	
	N-S	E-W	N-S	E-W
	Total	Total	Avg	Avg
SR 92 at Trickum Road	23,809	236,104	10	11
Arnold Mill Road at North Arnold Mill Road/Barnes Road	23,679	22,513	12	14
I-575 at Towne Lake Parkway interchange	65,245	158,595	13	13
East Cherokee Drive at Holly Springs Parkway	57,006	54,786	12	10
I-575 at Riverstone Parkway interchange	52,996	59,784	15	13
Riverstone Parkway at Waleska Street/SR 140	84,334	38,471	11	6
SR 92 at Bells Ferry Road	98,036	210,620	10	15
SR 140 at East Cherokee Drive	22,330	99,948	15	20
SR 140 at Hickory Road/Batesville Road	90,756	91,006	23	21

The intersection of SR 140 at Hickory Road/Batesville Road is shown to carry the longest average trip distances for both north-south and east-west legs. SR 140 in the north-south direction has an average trip distance of 23 miles per vehicle, while the east-west direction serves vehicles traveling an average of 21 miles.

This analysis also highlights predominantly where trips' origins and destinations are through these intersections. Figures 35 and 36 below shows an example map of this indicating the bandwidth of trip volumes through the SR 92 at Trickum Road intersection in all four directions. These figures also show a density display of the TAZs where the intersection trip origins and destinations occur. A full set of these maps can be found in Appendix J of this report. These visuals will be used to identify the important corridors throughout the County; determining where trips are coming from and traveling to; and ensuring that the ultimate project recommendations are accommodating the network connectivity for efficient travel through the County.



Figure 35: Eastbound/Westbound Trip Volumes and TAZ Densities at SR 92/Trickum Rd Intersection

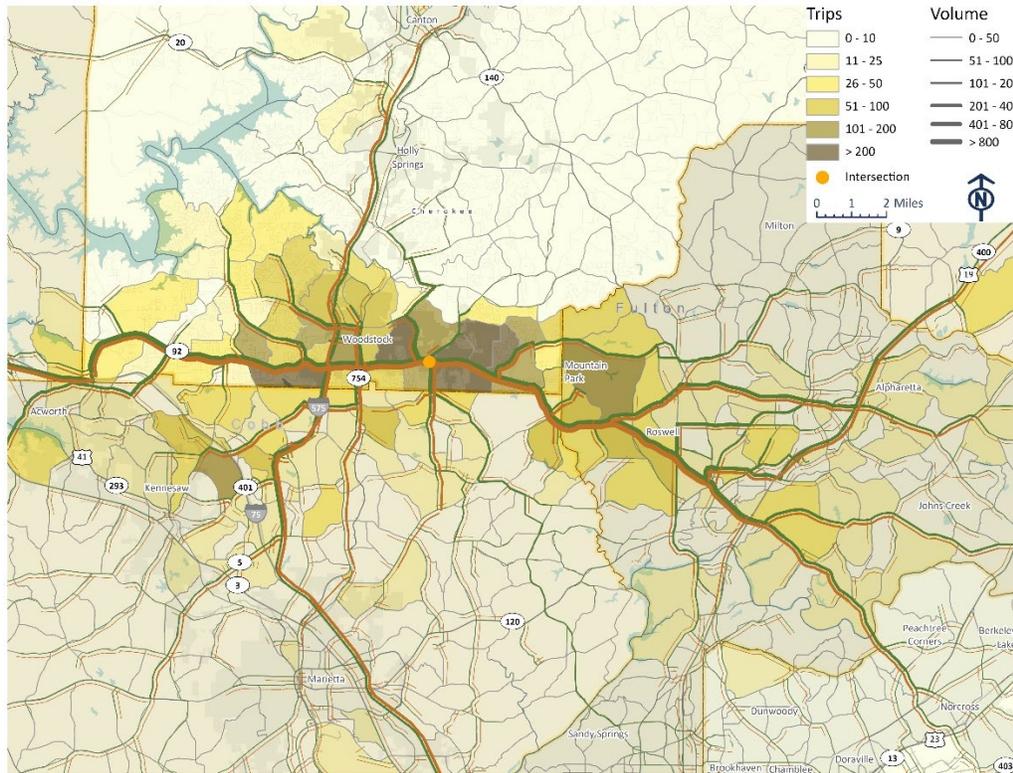
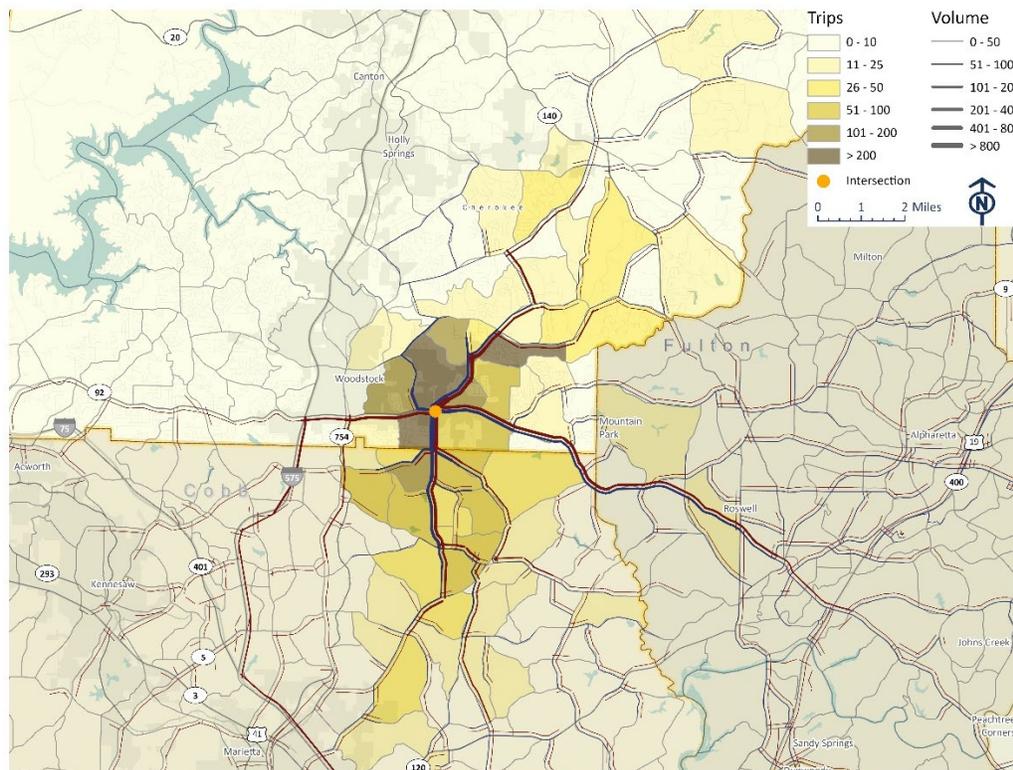


Figure 36: Northbound/Southbound Trip Volumes and TAZ Densities at SR 92/Trickum Rd Intersection



8. ROADWAY INFRASTRUCTURE CONDITIONS

ROADWAY CHARACTERISTICS

ROADWAY LANEAGE

The number of lanes along a roadway can influence the flow of traffic through the roadway system and how effective the roadway system is overall. Figure 37 shows the number of lanes along roads in Cherokee County. Nearly 94% of roadways in Cherokee County are two-lane facilities, most of which are classified as local roads. Table 16 shows the percentage of centerline miles by roadway laneage. Much of I-575 is a four-lane facility with several five-lane segments south of Canton and in Woodstock. These five-lane facilities primarily occur at major junctions. Most of SR 92 is a four-lane roadway except for between I-575 and Main Street (SR 754). Along this segment lanes vary between six and seven lanes, reaching eight lanes as SR 92 approaches Main Street (SR 754). Other four-lane facilities include Bells Ferry Road, Towne Lake Parkway, Sikes Road, and SR 140 in Canton. Riverstone Parkway from SR 140 transitions to six-lanes as it approaches I-575. A segment Bells Ferry Road north of SR 92 is six lanes.

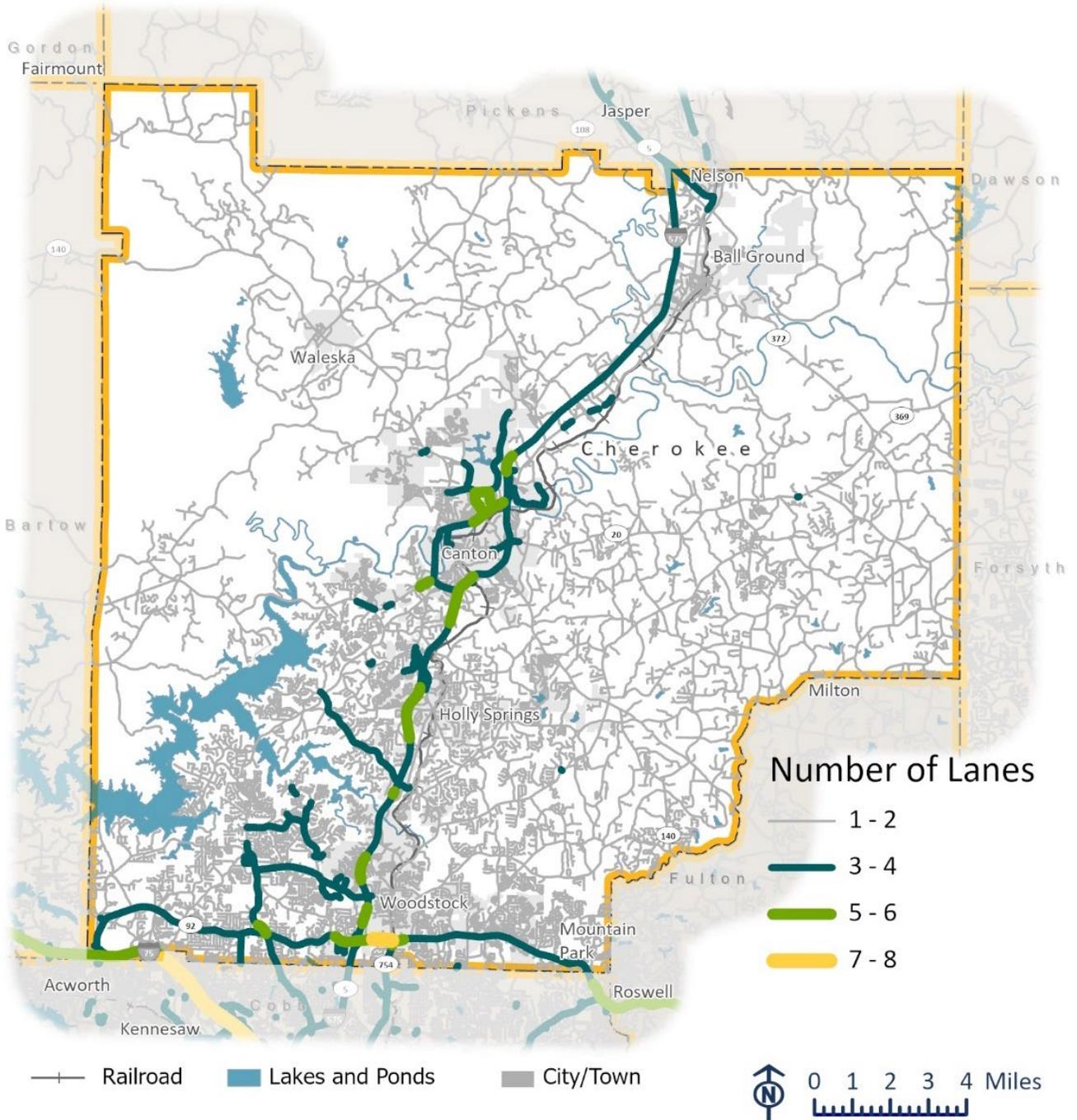
Nearly 94% of roadways in Cherokee County are 2-lane facilities, mostly classified as local roads.

Table 16: Centerline Miles of Roadway, by Number of Lanes (GDOT Roadway Inventory)

Lanes	Centerline Miles	Percentage
1-lane	20	1.1
2-lane	1633	93.3
3-lane	6	0.3
4-lane	81	4.6
5-lane	6	0.3
6-lane	4	0.2
7-lane	0.1	0.01
8-lane	0.4	0.02
Total	1751	100



Figure 37: Cherokee County Roadways by Number of Lanes (GDOT Roadway Inventory)



FUNCTIONAL CLASSIFICATION

Functional classification defines the role that each roadway serves. The classification system includes the following categories: interstate, major arterial, minor arterial, major collector, minor collector, and local road.

- **Interstates** are limited or controlled access roadways that are designed to provide high levels of mobility over primarily long distances. (e.g., I-575)
- **Major arterials**, also referred to as principal arterials, can serve higher volumes of traffic than minor arterials. Trips are longer distances and average travel speeds may be higher than those of minor arterials (e.g., SR 20, SR 92).
- **Minor arterials** provide access to major arterials and service for moderate-length trips with a lower level of mobility.
- **Major and minor collectors** serve to collect traffic from local roads and channel them into the arterial system. **Major collectors** are typically longer in length, have higher speeds and lower connecting driveway densities than **minor collectors**.
- **Local roads** offer the lowest level of mobility and are generally designed to discourage through traffic. In terms of mileage, local roads account for the largest percentage of roadways.

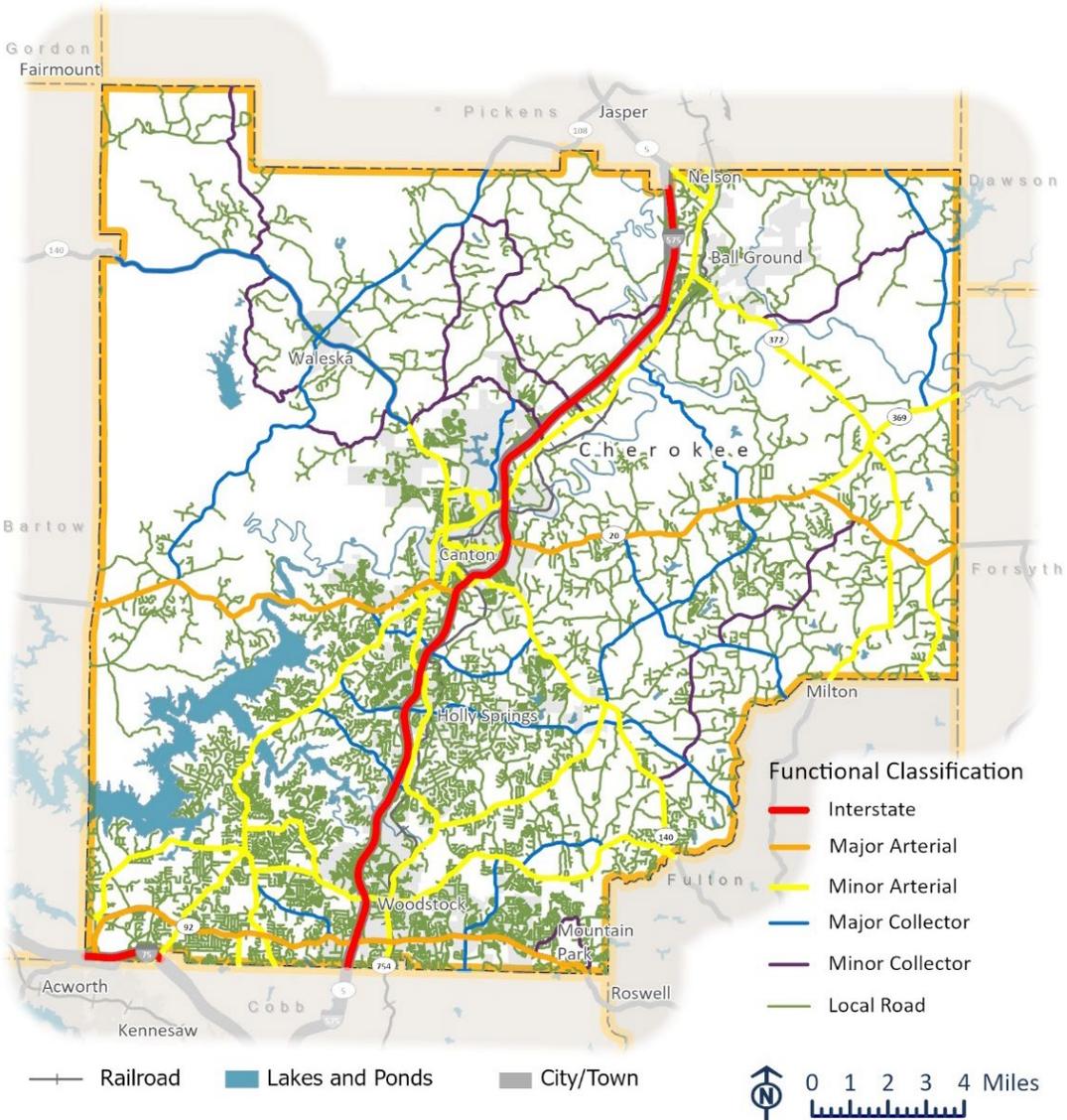
Figure 38 shows the existing functional classification for Cherokee County. Table 17 shows the centerline miles of roadway in Cherokee County by functional classification.

Table 17: Centerline Miles of Roadway, by Functional Classification (GDOT Roadway Inventory)

Functional Classification	Centerline Miles	% Distribution
Interstate Highway	26.0	2%
Other Freeways	0	0%
Principal Arterials	38.8	2%
Minor Arterials	115.0	7%
Major Collectors	88.0	5%
Minor Collectors	55.7	3%
Local Roads	1362.0	81%
Total	1685.5	100%



Figure 38: Cherokee County Roadway Classification (GDOT Roadway Inventory)



PAVEMENT CONDITIONS

Cherokee County keeps a record of roadway conditions on all roadways within the County. The pavement ratings range from very good to very poor. Table 18 summarizes the pavement conditions for monitored roadways in the County. Most major roadways in Cherokee County are at least in Fair condition. Just over half of

Table 18: Centerline Miles of Roadway, by Pavement Conditions (Cherokee County)

PCI Class	Centerline Miles	%
Very Good	628.4	50.7
Good	329.3	26.5
Fair	251.7	20.3
Poor	23.2	1.9
Very Poor	2.8	0.2
Not Graded	4.8	0.4

roadways are rated as Very Good. Roadways with a rating of Poor or Very Poor are primarily local roads.

BRIDGE CONDITIONS

There are a total of 83 bridges in Cherokee County. Bridges are given a sufficiency rating which helps determine the need for maintenance, rehabilitation, or reconstruction. A summary of bridge ratings in Cherokee County is shown in Figure 39. Typically, a sufficiency rating of less than 50 indicates a 'Poor' rating, but not all bridges rated less than 50 constitute as 'Poor.' A 'Poor' rating indicates that a bridge may not be sufficient and can qualify for federal funding for bridge replacements. Table 19 lists bridges with a sufficiency rating less than 50. Bridges with a 'Fair' sufficiency rating between 50 and 80, shown in Table 20 should be considered for rehabilitation. The remaining 55 bridges have a sufficiency rating above 80 and are considered to be in 'Good' condition.

Figure 39: Cherokee County Bridge Conditions (National Bridge Inventory, 2020)

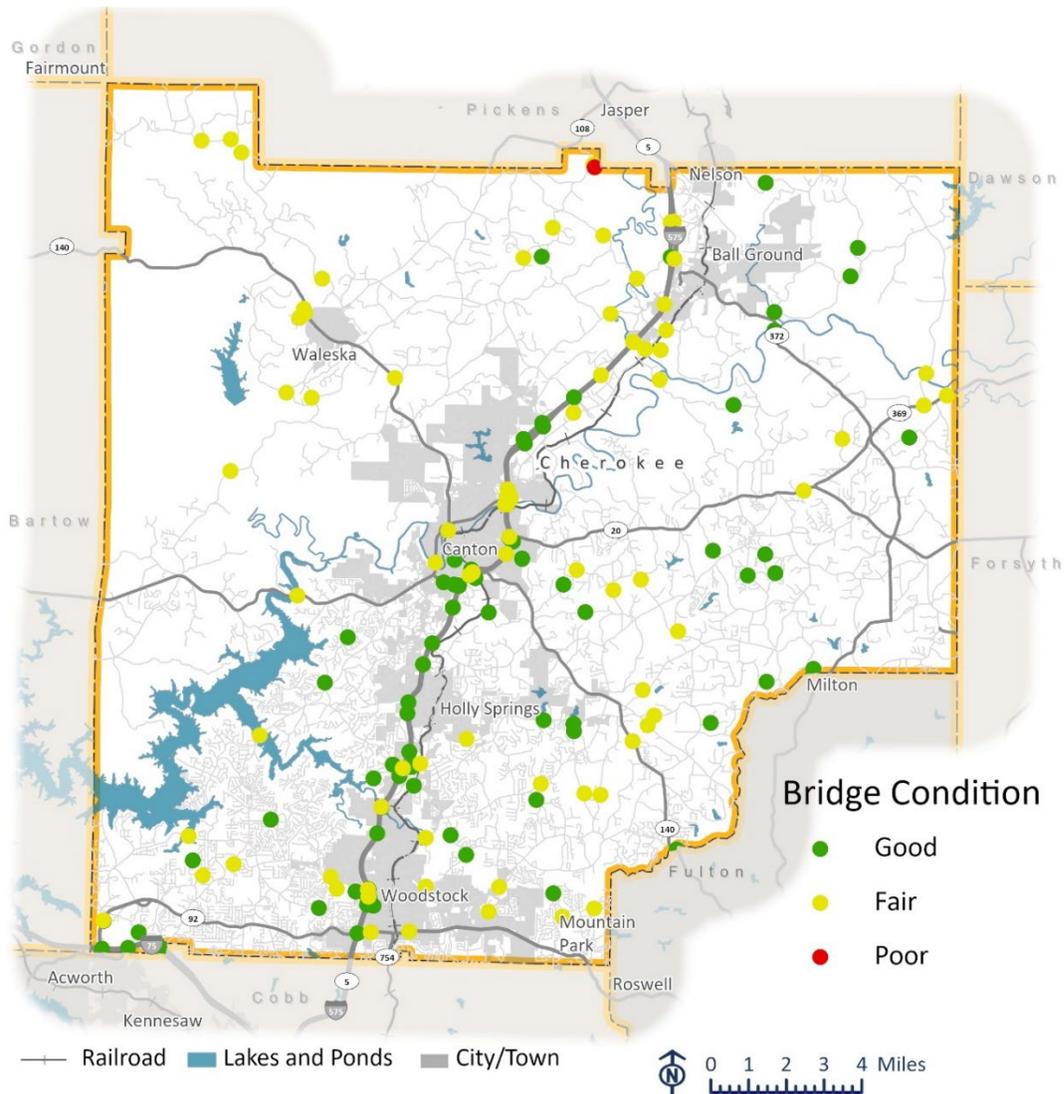


Table 19: Cherokee County Bridges with Sufficiency Ratings Below 50 (GDOT and Cherokee County)

Feature	Road	Year Built	Sufficiency Rating	Note
Sharp Mountain Creek	Upper Dowda Mill Road	1951	27.1	County has already replaced this bridge
Toonigh Creek	Transart Parkway	1970	42.8	County has put this bridge out for bid
Sharp Mountain Creek Tributary	Leo Taylor Lane	1988	44.5	--
Kellogg Creek	Kemp Drive	1987	45.1	--
Shoal Creek	George Gray Lane	1987	46.7	--
Mill Creek	U. Union Hill Road	1950	48.1	County has already replaced this bridge

Table 20: Cherokee County Bridges with Sufficiency Ratings Between 50 and 80 (GDOT and Cherokee County)

Feature	Road	Year Built	Sufficiency Rating	Note
Little River	Bells Ferry Road	1950	52.5	--
Sharp Mountain Creek	Lyon Dairy Road	1989	54.2	--
Mill Creek	Waters Road	1961	54.5	--
Sharp Mountain Creek	Canton Highway	1936	56.6	--
Canton Creek	U. Union Hill Road	1950	57.3	County has already earmarked this bridge for replacement
Canton Creek	Epperson Road	1952	59	--
Bluff Creek	Upper Bethany Road	1940	60	--
Etowah River	Yellow Creek Road	1962	62	--
Canton Creek	Marietta Street	1934	64.7	--
Mill Creek	Vaughn Road	1961	65.9	--
Little River	Main Street	1947	66.6	--
Etowah River	E. Cherokee Drive	1966	67	--
Shoal Creek	Little Refuge Road	1970	69.5	--
Etowah River Tributary	Roberts Road	2000	70.8	--
Canton Creek Tributary	Epperson Road	1962	72	--



Feature	Road	Year Built	Sufficiency Rating	Note
Kellogg Creek	Chelsea Lane	2017	72.4	
Toonigh Creek	Bradshaw Lane	1991	72.5	
Mill Creek	Lower Birmingham	1990	76.4	
Mill Creek	Tripp Road	1984	76.9	
Soap Creek	Damascus Road	1990	77.7	
Etowah River	Waleska Street	1983	78.6	
Little River Tributary	Riverchase Road	1987	80	



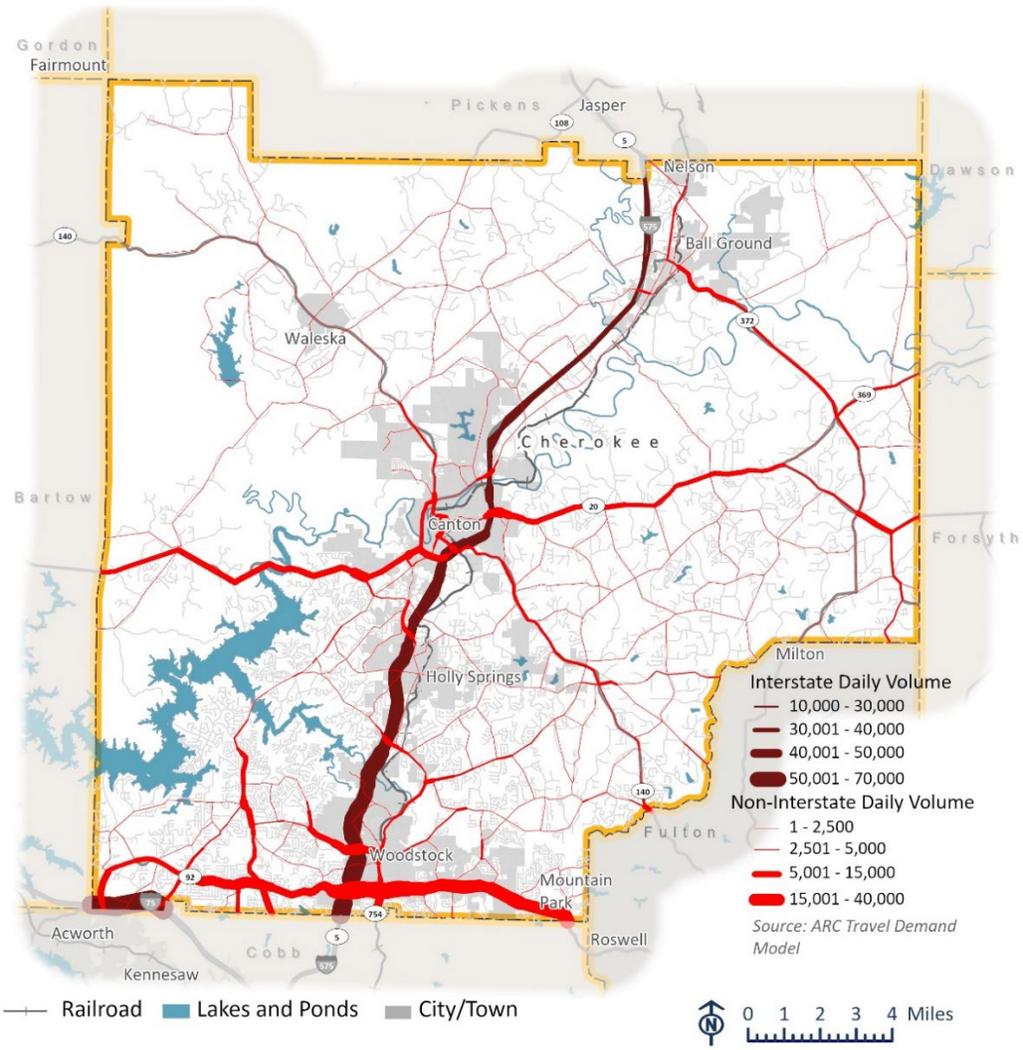
CONGESTION

Roadway congestion is important to measure to help identify areas with high travel demand, inadequate infrastructure or capacity, and inefficient operations. In this report, congestion is analyzed by traffic volumes, levels of service (LOS), and the travel time reliability index (TTI). TTI and LOS analyses have different utilizations for planning purposes. Analyzing LOS allows prediction of where congestion will be a major issue in the future while analyzing TTI helps to distinguish between failing or close to failing roadway segments by identifying which segments are experiencing the most adverse travel time impacts due to congestion.

TRAFFIC VOLUMES

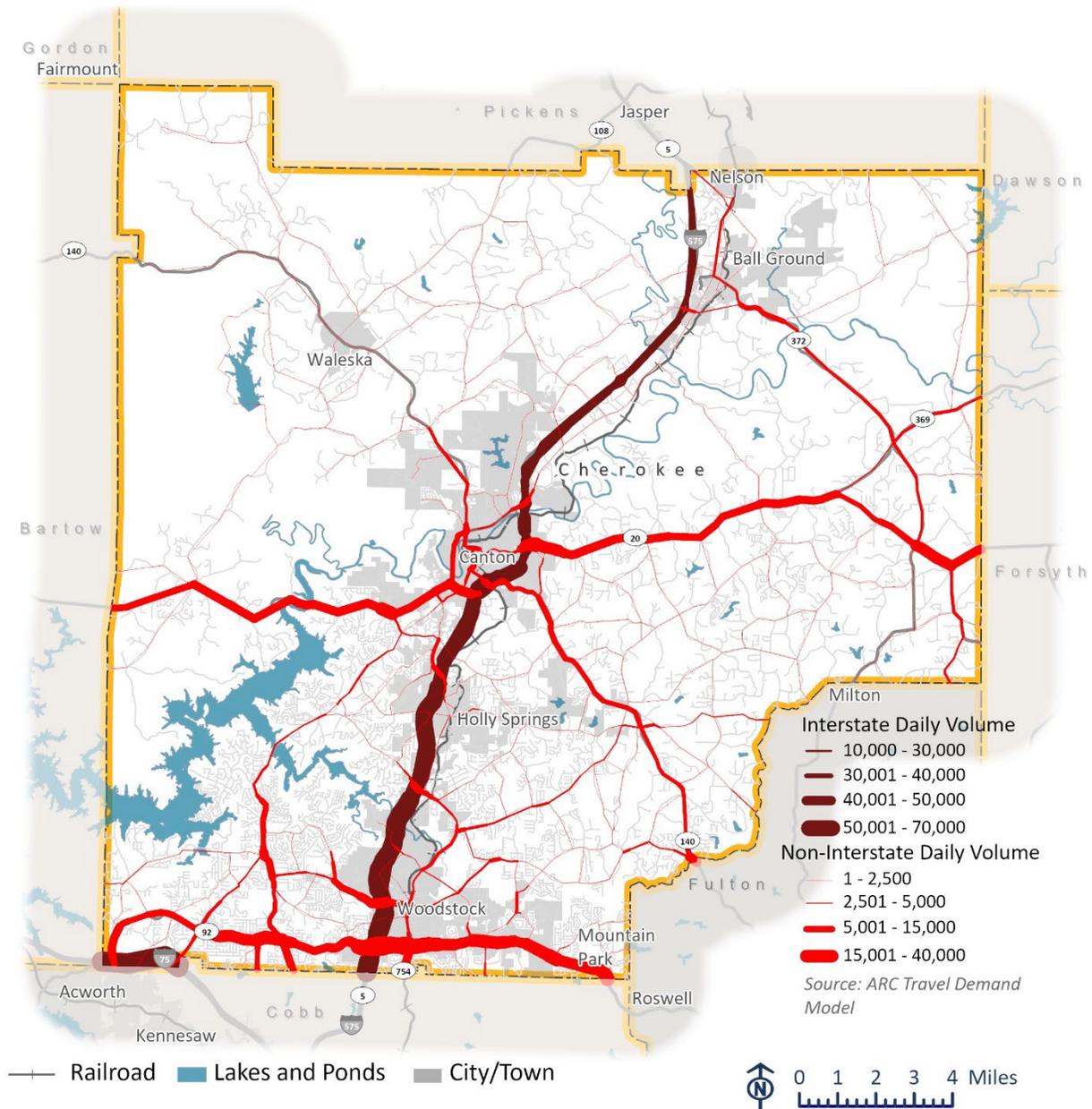
Average annual daily traffic (AADT) measures traffic over an average 24-hour period. The 2020 AADT volumes, depicted in Figure 40, show the highest volumes are concentrated along I-575, I-75 in southwest Cherokee County and along major east-west arterials like SR 92 and SR 20.

Figure 40: Cherokee County Daily Traffic Volumes, 2020 (ARC ABM)



Projected volumes for 2050 are shown in Figure 41 and show similar trends of volumes concentrated along I-575 south of Canton, SR 92, and increasingly along SR 20. Other high-volume arterials in both 2020 and 2050 include SR 372, SR 140, and Bells Ferry Road.

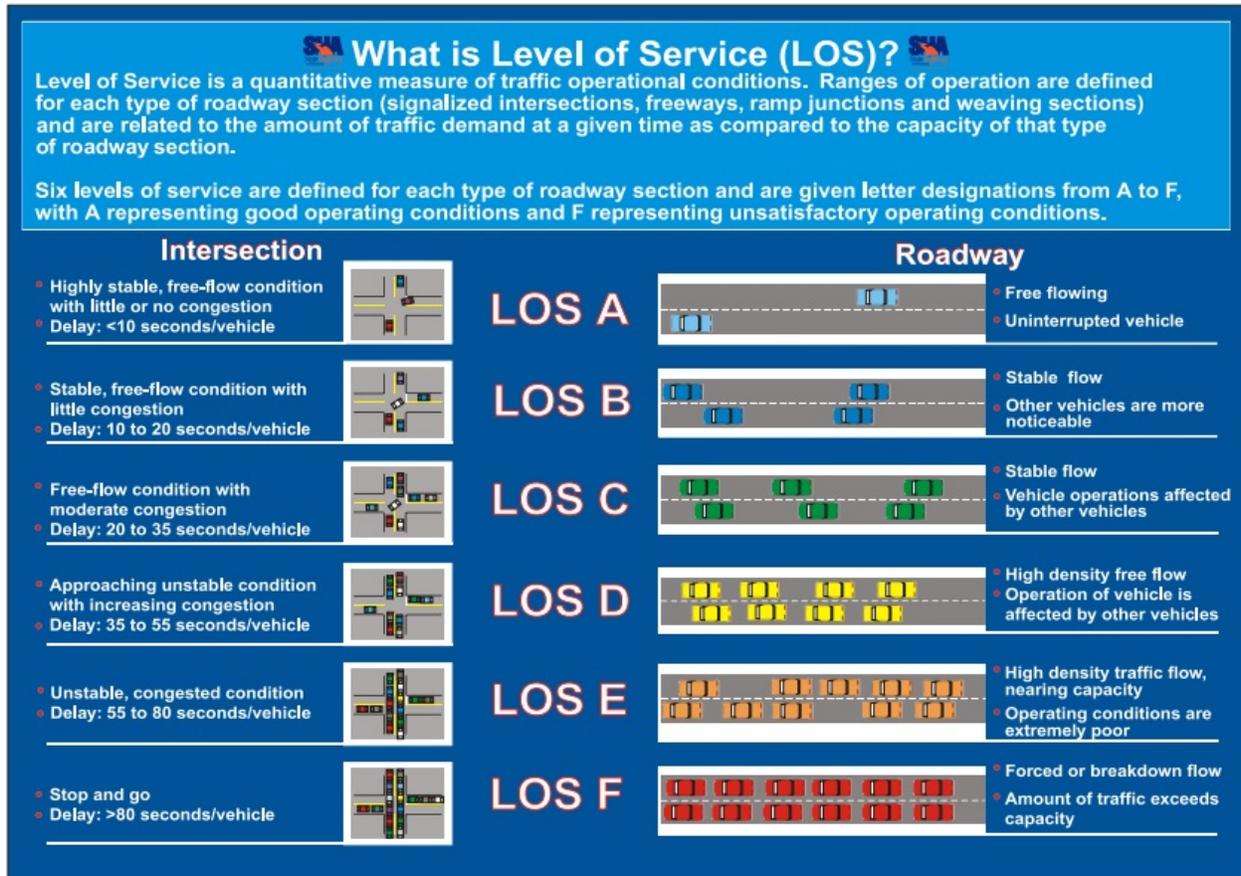
Figure 41: Cherokee County Daily Traffic Volumes, 2050 (ARC ABM)



LEVEL OF SERVICE

Level of Service (LOS) is a measure of a roadway's operational effectiveness. LOS A is characterized as having light traffic flow and little delay. LOS F indicates that the roadway volume exceeds the roadway's capacity, resulting in high congestion and long delays. LOS A, B, C, and D are considered acceptable operational conditions. LOS E and F are considered unacceptable. For this report, LOS was calculated using ARC's ABM values for 2020 and 2050 volume and capacity of each roadway.

Figure 42: What is Level of Service (LOS)? (Maryland DOT)



2020 LOS

Roadway LOS was collected from ARC's ABM. Figures 43 and 44 show the existing LOS for AM and PM peak periods, respectively. The figures call attention to segments of road that have a LOS D or worse. LOS D is the limit of acceptable delay, so this section will focus on segments operating at failing levels of service, LOS E or F. Much of SR 20 from SR 108 to I-575 and a segment between I-575 and Union Hill Road operates at either LOS E or F during peak periods. A segment of Bells Ferry Road from Kellogg Creek Road to just north of Wyngate Parkway near Hobgood Park operates at LOS F during both peak periods. Along I-575, segments just north of and south of the Towne Lake Parkway interchange, near the Ridgewalk Parkway interchange have a LOS E or F during both the AM and PM peak periods. SR 92 east of I-575 from Main Street to Wiley Bridge Road, particularly segments east of Ragsdale Road, operates at a LOS E during both peak periods.

Figure 43: Cherokee County AM Peak Period LOS, 2020 (ARC ABM)

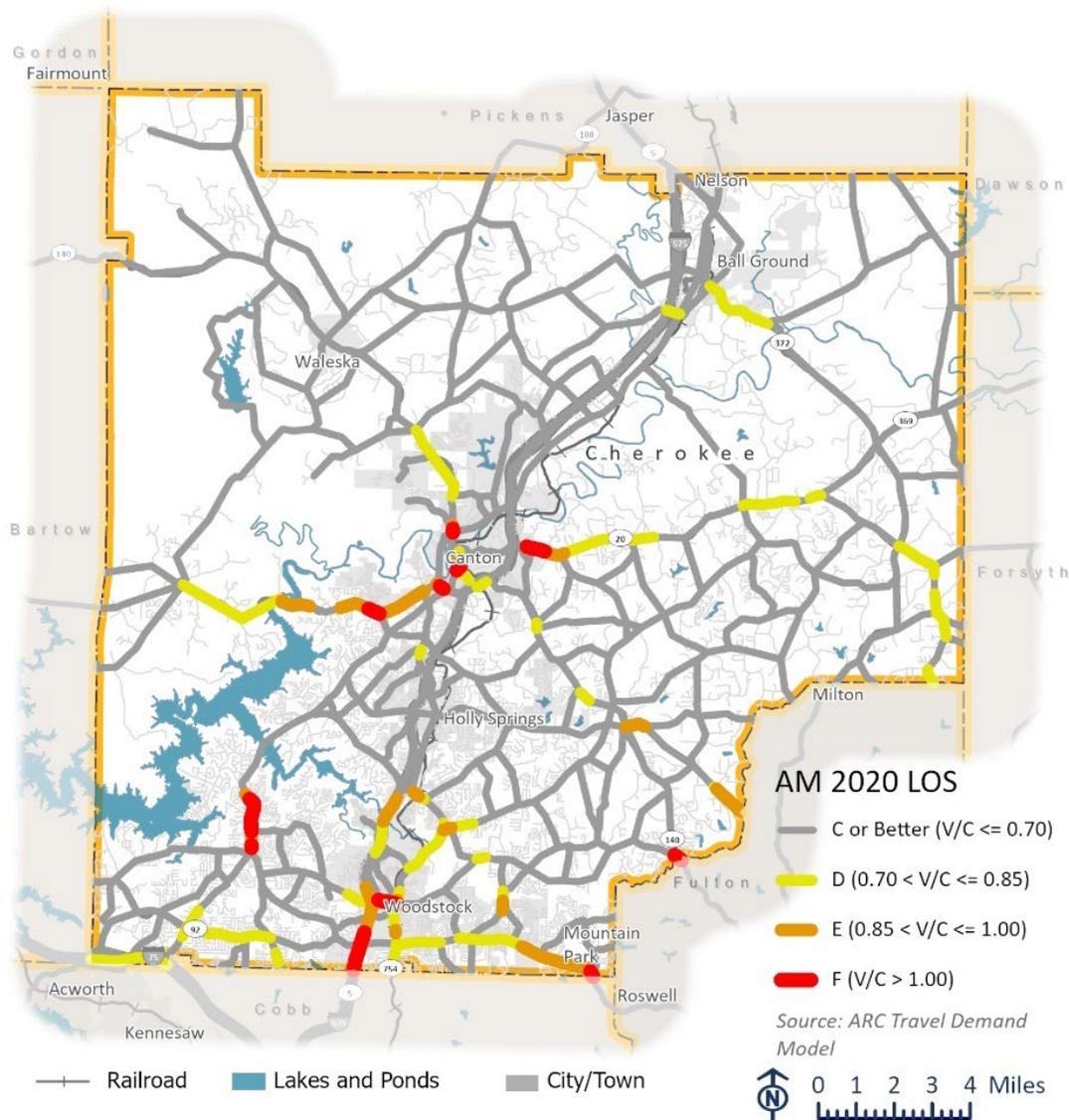
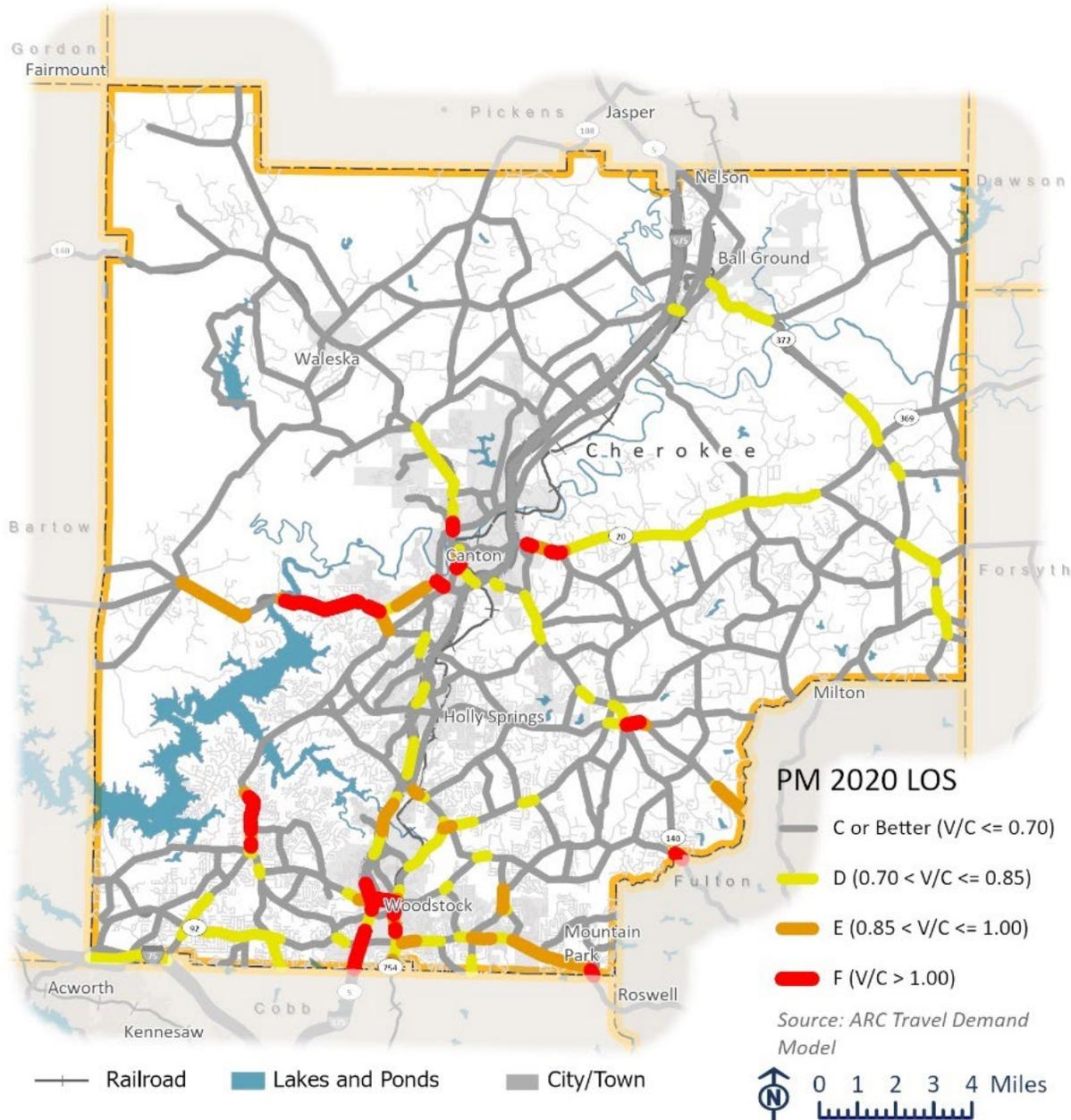


Figure 44: Cherokee County PM Peak Period LOS, 2020 (ARC ABM)



2050 LOS

ARC's ABM model was used to analyze future projected traffic for 2050. The traffic projections and information about projected capacity help identify potential problem areas in the future. Figures 45 and 46 depict LOS for 2050 AM and PM peak periods, respectively. Compared with the 2020 LOS map, the 2050 maps depict deterioration of roadway conditions on several segments. In addition to the segments discussed in the 2020 LOS analysis, the following segments are also projected to operate at LOS E or worse during both the AM and PM peak periods: Waleska Road from Reinhardt College Parkway to Puckett Creek Road, SR 92 from Woodstock Road to Bells Ferry Road, SR 92

east of I-575 from Main Street to Wiley Bridge Road, and parts of Main Street south of SR 92 to the Sixes Road interchange. Notably, Bells Ferry Road improves operations between 2020 and 2050 due to the impact of a programmed project to widen the road from two to four lanes.

Figure 45: Cherokee County AM Peak Period LOS, 2050 (ARC ABM)

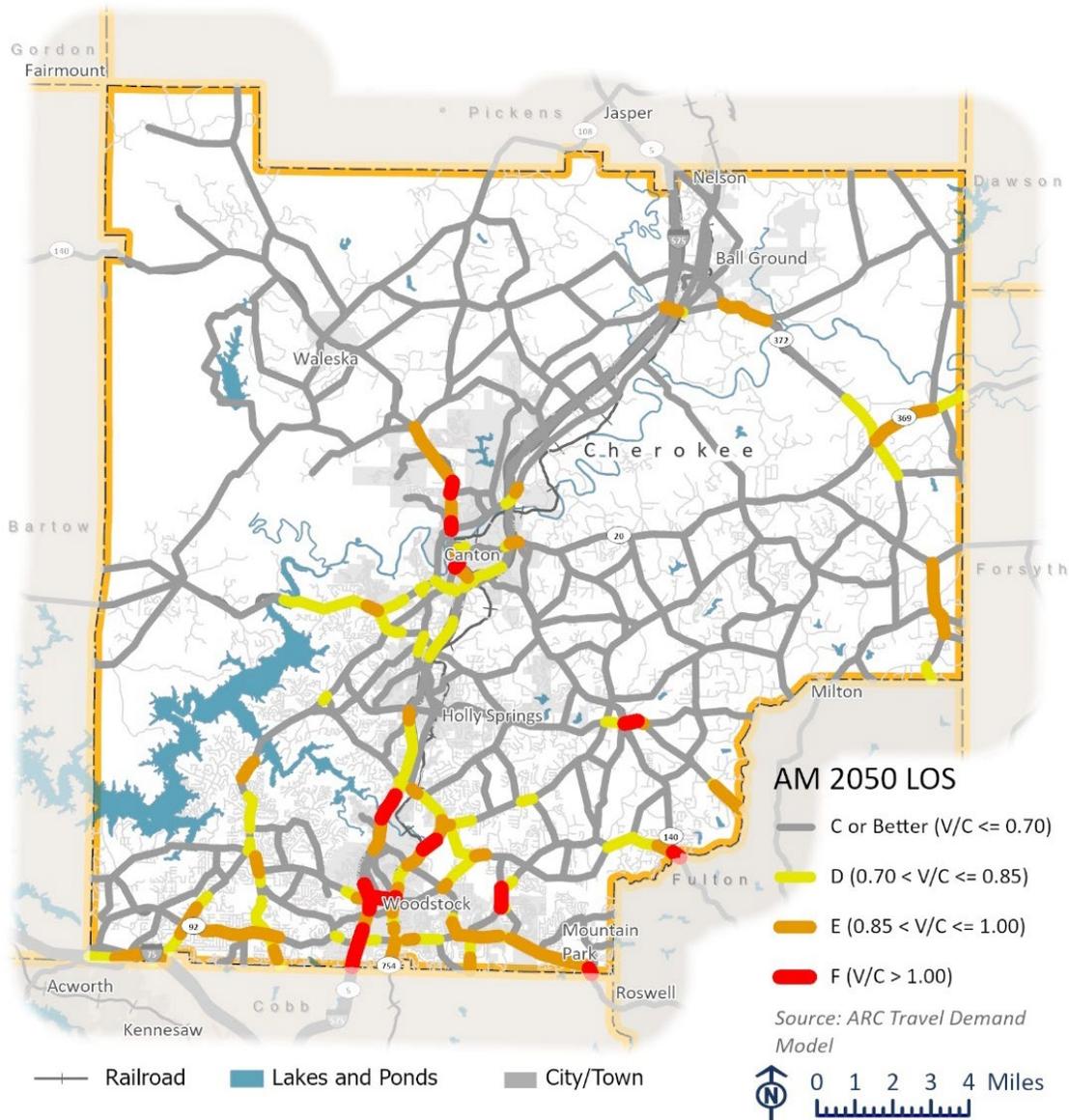
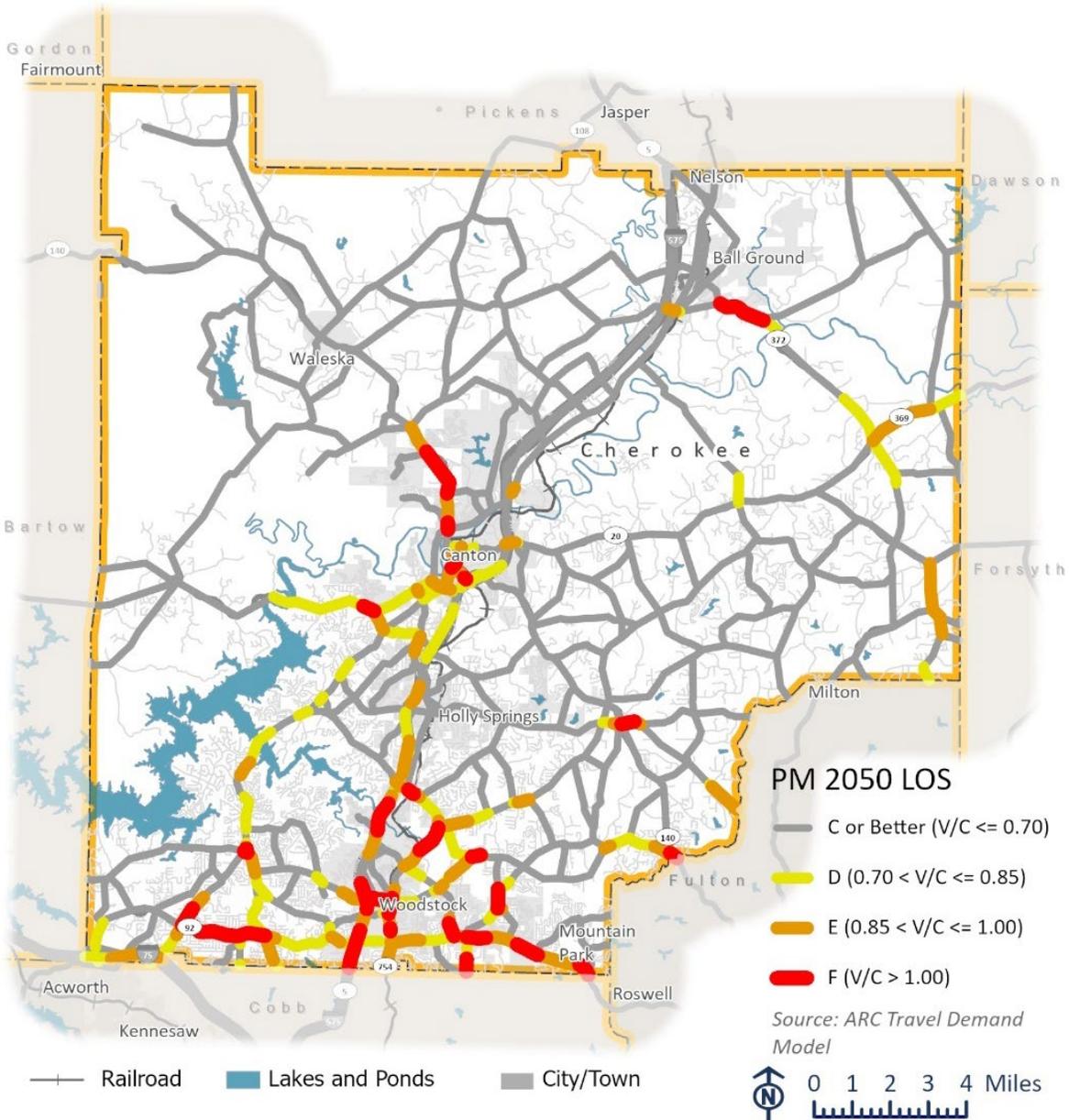


Figure 46: Cherokee County PM Peak Period LOS, 2050 (ARC ABM)



TRAVEL TIME RELIABILITY

Travel time index (TTI) is a method of calculating roadway congestion based on comparing peak period travel times to the travel time collected during non-peak, free flow conditions. As the peak hour travel time increases, the TTI ratio increases. For this report, TTI is calculating using data collected in the field during 2019 and 2020 by the big data company INRIX, which collects this data via Bluetooth technology.

TTI is the ratio of the peak-hour travel time to the free-flow travel time. A TTI of 1.0 indicates that there is no congestion since the free flow travel times and the peak hour travel times are equal. A TTI greater than 1.0 means that the peak hour travel times are

greater than the free-flow travel times, indicating that the roadway segment has some level of congestion. This section looks at roadway congestion using data collected in the real world, as opposed to model data which has been used for congestion analysis up to this point. Data was acquired from INRIX, a big data company that tracks vehicle movements using Bluetooth and other technology. Figures 47 and 48 show the TTIs for the AM and PM peak hours, respectively. Congested roadways can be classified as segments or intersections.

Figure 47: Cherokee County AM Peak Hour TTI, 2019-2020 (INRIX)

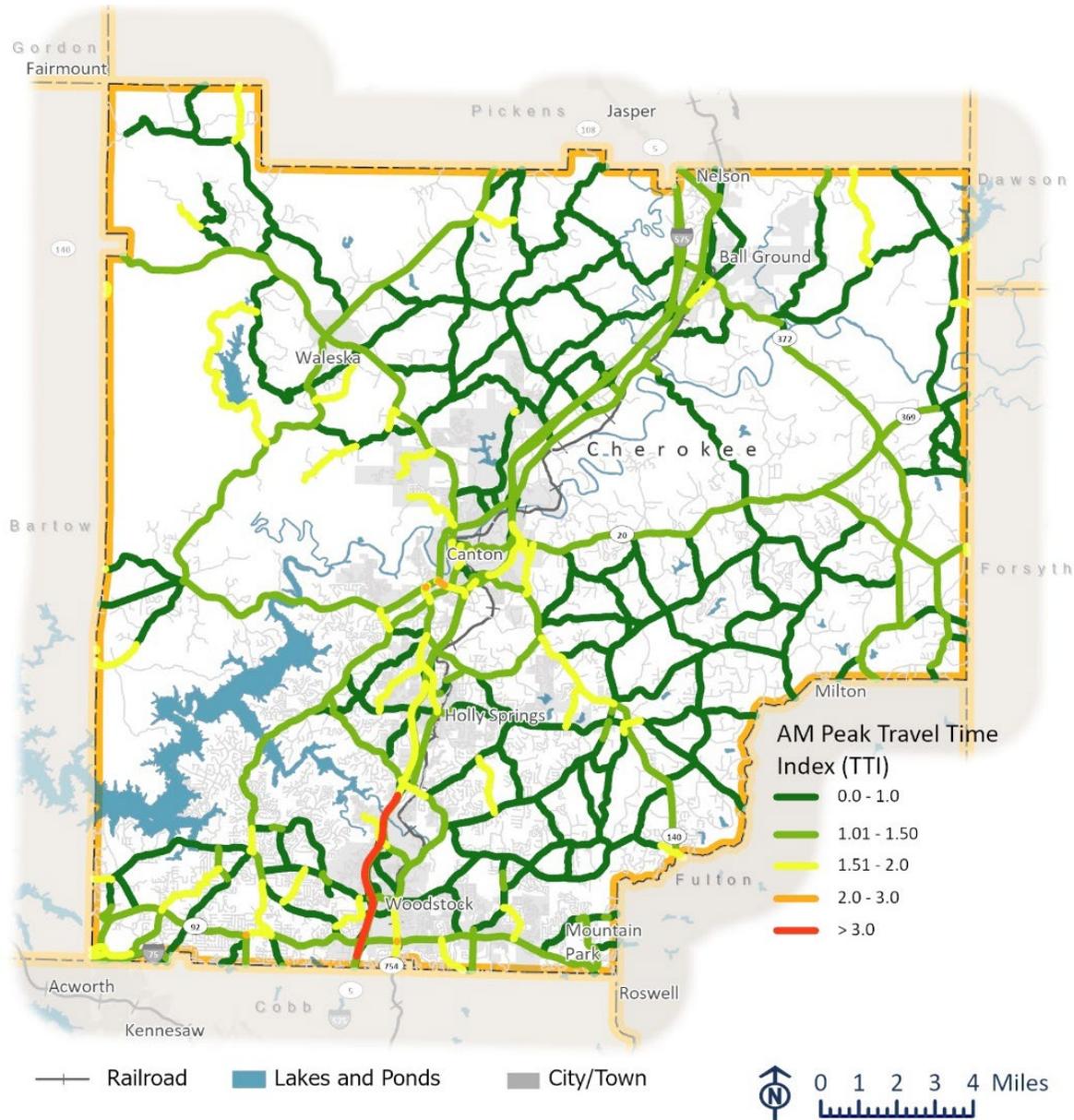
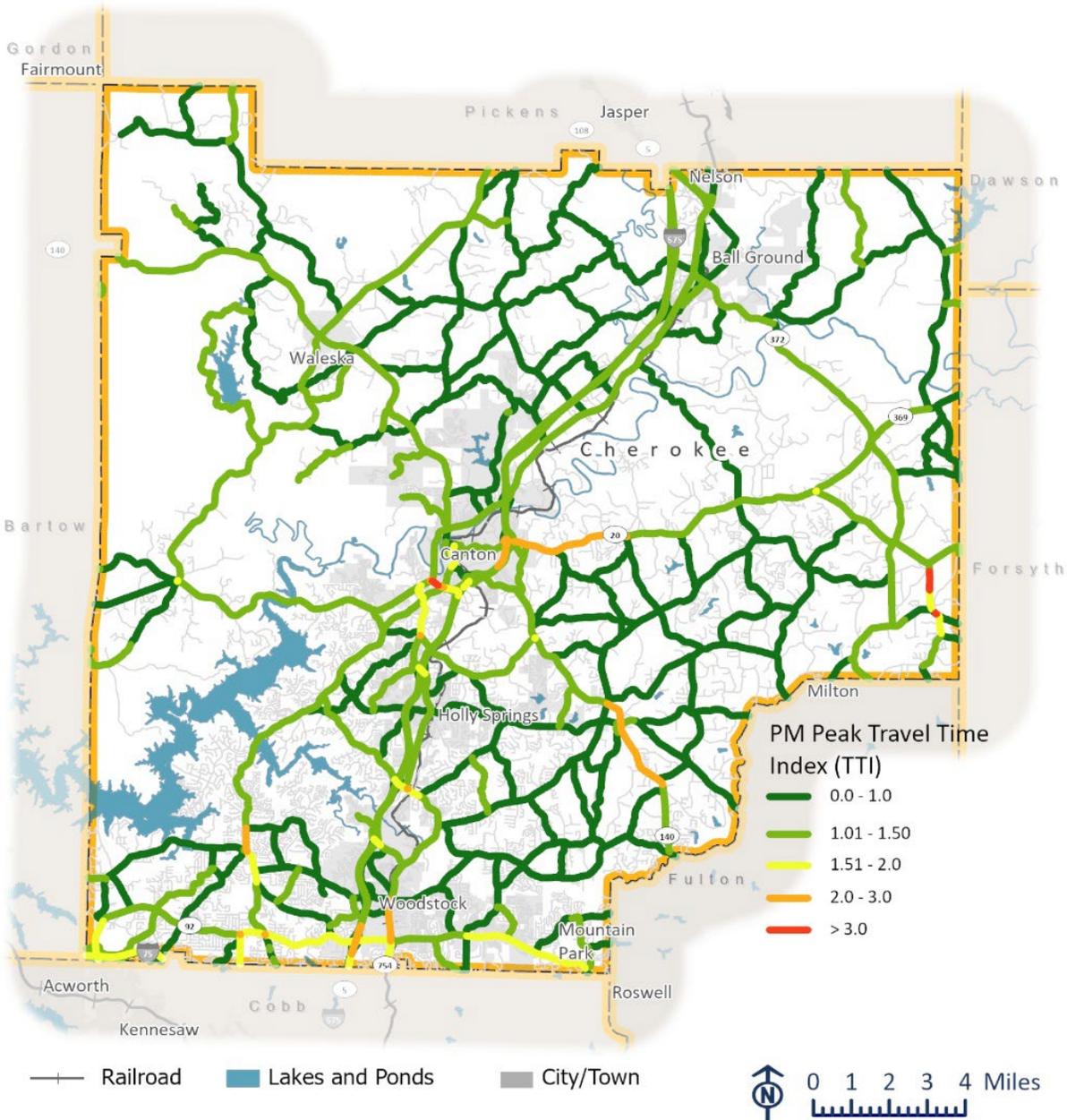


Figure 48: Cherokee County PM Peak Hour TTI, 2019-2020 (INRIX)



The top five AM and PM congested roadway segments based on TTI are shown in Table 21. The segments listed are at least 0.5 mile long. The most congested segment during the AM peak period is I-575 from SR 92 to Holly Springs Parkway. During the PM peak hour the top congested segments are also along I-575 at the SR 92 interchange and from near Canton Creek to the SR 20 Cumming Highway interchange. These roadway segments have relatively low TTIs overall and don't indicate any serious issues. Generally, a TTI of 2.5 or higher should be investigated to see if capacity or operational improvements would mitigate congestion.

Table 21: Top Five AM and PM Congested Roadway Segments in Cherokee County (INRIX, 2019-2020)

	Roadway	From/To	Average TTI
Top 5 Congested Roadway Segments, AM Peak Period	I-575/SR 5/SR 417 SB	From SR 92 to Holly Springs Parkway	2.83
	SR 20/GA 140 WB	From GA 20 to Marietta Road	2.00
	SR 140/Hickory Flat Highway	From Univeter Road to E Cherokee Drive	1.94
	S Main Street	From SR 92 to Towne Lake Parkway	1.56
	Sam Nelson Road	From Puckett Creek Road to Reinhardt College Parkway	1.54
Top 5 Congested Roadway Segments, PM Peak Period	I-575/SR 5/SR 417 SB	From S of SR 92 Interchange to N of SR 92 Interchange	2.25
	I-575/SR 5/SR 417 SB Entrance 19A-B & SR 20 SB	From near Canton Creek to SR 20/Cumming Highway	2.09
	SR 20/Cumming Highway	From I-575 to Union Hill Road	2.09
	SR 92/Alabama Road	From Trickum Road to Wiley Bridge Road	1.96
	SR 92/Alabama Road	From Wade Green Road to Bells Ferry Road	1.70



Table 22 shows the top five congested intersections during peak hours. SR 20 (Marietta Hwy) at SR 20/SR 140 WB is the most congested intersection during the AM peak hours. During the PM peak hours Holbrook Campground Road at Bill Bagwell Drive is the most congested intersection.

Table 22: Top Five AM and PM Congested Intersections in Cherokee County (INRIX, 2019)

	Roadway	From/To	Average TTI
Top 5 Congested Intersections, AM Peak Period	SR 20/Marietta Highway at SR 20/SR 140	WB Approach	2.00
	Arnold Mill Road at SR 140/Hickory Flat Highway	EB Approach	1.76
	Holly Springs Parkway at Toonigh Road	WB Approach	1.74
	SR 92/Alabama Road at Bells Ferry Road	EB Approach	1.68
	Holly Springs Parkway at Sixes Road	EB Approach	1.67
Top 5 Congested Intersections, PM Peak Period	Holbrook Campground Road at Bagwell Drive	NB Approach	3.67
	SR 20/SR 140 at SR 20/Marietta Highway	WB Approach	3.00
	Bells Ferry Road at Towne Lake Parkway	NB Approach	2.21
	S Main Street at Arnold Mill Road	NB Approach	2.18
	SR 140/Hickory Flat Highway	NB Approach	2.04



SAFETY

The most recent six years of crash data (2015 - 2020), for Cherokee County was collected using GDOT's Electronic Accident Reporting System (GEARS) database. Historical data is typically collected for just five years, however given the abnormal nature of 2020 due to the COVID-19 pandemic, data from 2015 was also included to provide additional context. In total, 43,727 crashes were reported in Cherokee County over the past six years. The following sections summarize trends observed throughout Cherokee County based on this historical crash data.

CRASH HISTORY

All crashes broken down by year, manner of collision, and severity are summarized in Table 23. The highest crash total in Cherokee County was observed in 2019 with 7,767 crashes, followed by 2018 with 7,514 crashes. 2020 experienced the lowest number of crashes of all years analyzed with 6,783. Just over 18% of crashes resulted in at least one injury while only 0.2% of crashes resulted in a fatality over the past six years. Crashes involving a bicycle or pedestrian also accounted for about 0.4% of all crashes.

Table 23: Summary of Cherokee County Crashes, 2015-2020 (GEARS)

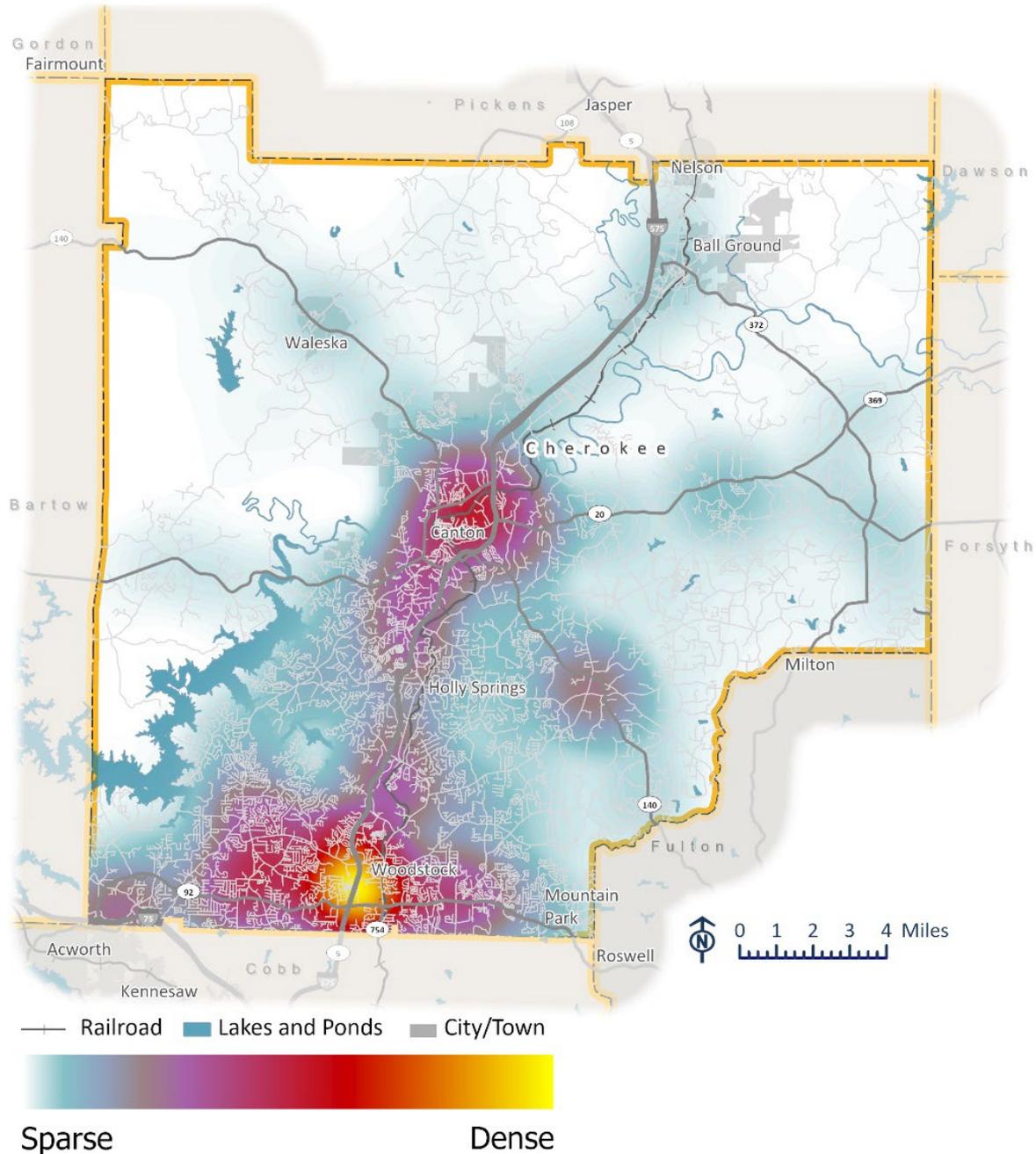
Year		2015	2016	2017	2018	2019	2020
Manner of Collision	Angle	1,633	1,769	1,638	1,828	2,033	1,803
	Rear End	3,061	3,325	3,111	3,252	3,293	2,600
	Head On	147	153	136	160	178	148
	Sideswipe-Same Direction	529	548	554	579	616	582
	Sideswipe-Opposite Direction	174	151	188	200	184	159
	Not A Collision with Motor Vehicle	1,418	1,389	1,368	1,310	1,335	1,362
	Unclassified	156	114	101	185	128	129
Total Crashes		7,118	7,449	7,096	7,514	7,767	6,783
Total Non-Fatal Injury Crashes		1,386	1,465	1,353	1,312	1,339	1,128
Total Injuries		1,904	2,024	1,926	1,881	1,904	1,569
Total Fatality Crashes		15	6	27	22	12	24
Total Fatalities		15	7	32	23	13	25
Total Bike/Ped Related Crashes		20	27	32	25	32	33



CRASH HOTSPOTS

Location data from the crash reports were used to map crash locations throughout the County. A heat map of crash locations is shown in Figure 49. The heat map shows that the highest concentration of crashes in Cherokee County occurs in the southern portion of the County in the vicinity of I-575 and SR 92. There are also areas of high concentration near downtown Canton and in the Hickory Flat area.

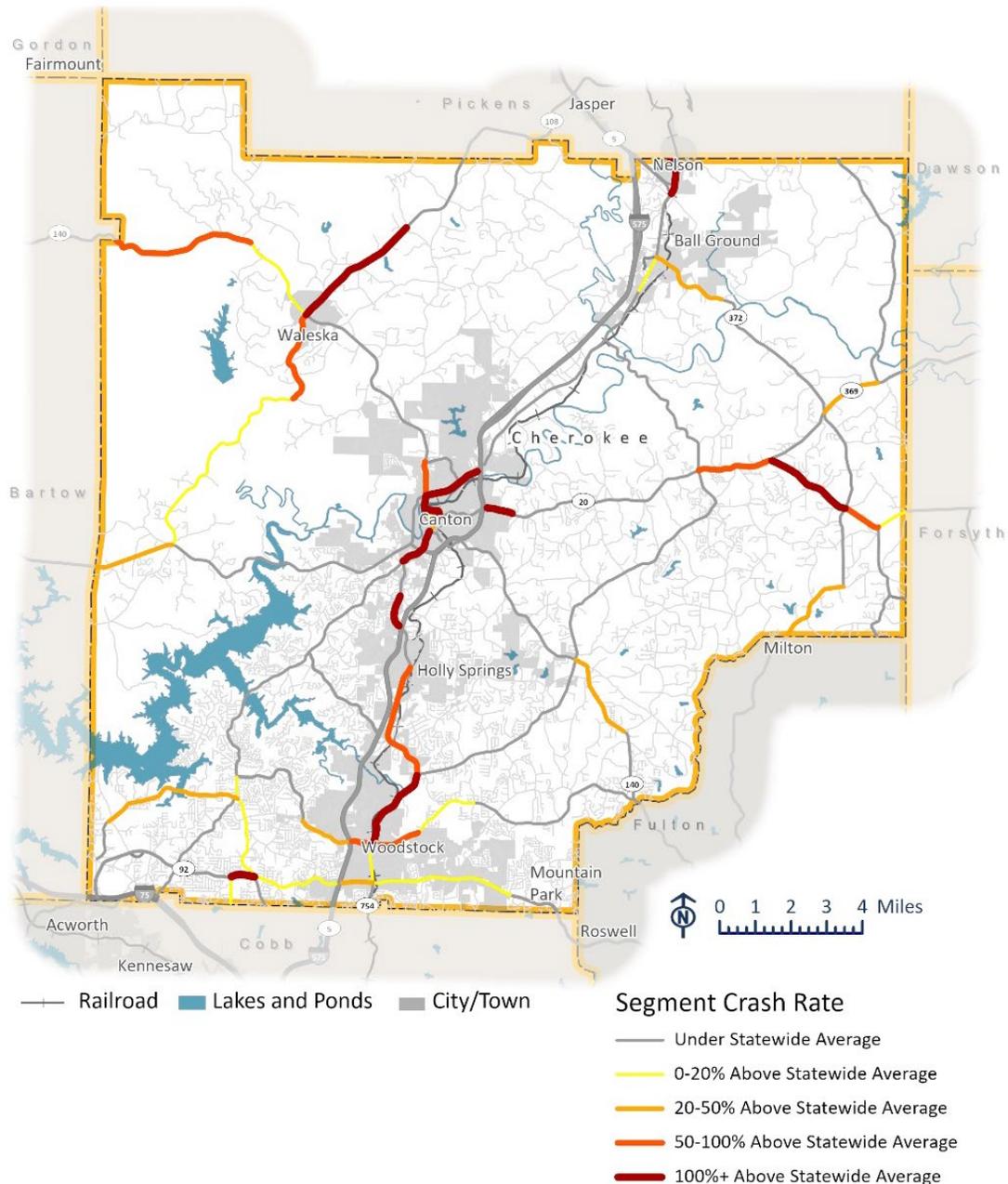
Figure 49: Cherokee County Crash Density Heat Map, 2015-2020 (GEARS)



CRASH RATES

The crash rates for major corridors in Cherokee County were calculated using 2018 crash and volume data. 2018 was chosen because it is the most recent year for which GDOT statewide average crash rates are available for comparison. Calculating crash rates helps to identify high crash risk locations that do not necessarily experience a high total number of crashes. Crash rates were compared with statewide average rates for similar roadway types to determine if the segment rate was higher or lower than average. Figure 50 summarizes the crash rate analysis by highlighting segments with rates above the statewide average.

Figure 50: High Crash Rate Corridors in Cherokee County (GDOT)



There were 108 unique segments created as part of this analysis which segmented roadways based on similar functional classification and volume data. The 25 segments with the highest crash rates are displayed in Table 24 along with their comparison to the statewide average crash rate. Of the 108 segments analyzed, the following trends were identified:

- 67 segments had a total crash rate below the statewide average rate
- 12 segments had a total crash rate that was 0-20% above the statewide average rate
- 9 segments had a total crash rate that was 20-50% above the statewide average rate
- 9 segments had a total crash rate that was 50-100% above the statewide average rate
- 11 segments had a total crash rate that was more than 100% above the statewide average rate

Table 24: 25 Highest Crash Rate Corridors in Cherokee County (GEARS, VHB Analysis)

Roadway	From	To	Length (mi)	2018 Crash Rate	2018 Statewide Rate
SR 140/Waleska St	W Main St	Marietta Hwy/Riverstone Pkwy	0.4	2,491	540
North St	SR 140/Waleska St	E Main St	0.4	2,235	540
SR 20/Cumming Hwy	I-575 NB	Brooke Park Dr	0.7	1,593	581
Marietta Hwy	I-575	Butterworth Rd/Univeter Rd	0.9	1,485	540
Marietta Rd	Marietta Hwy	Hickory Flat Hwy	1.2	1,238	540
Riverstone Pkwy	SR 20/Waleska Rd	I-575	1.6	1,232	540
SR 92	Wade Green Rd	Bells Ferry Rd	0.7	1,188	581
W Main St/E Main St	SR 140/Waleska St	Dr John T Petit St	0.5	1,048	540
SR 140/Waleska St	Marietta Hwy/Riverstone Pkwy	Reinhardt College Pkwy	1.0	960	540
Arnold Mill Rd	I-575	Neese Rd	2.0	949	540
Holly Springs Pkwy	E Cherokee Dr	Sixes Rd	1.4	856	540
SR 92	I-575 NB	Main St	0.9	795	581
Marietta Rd	Hickory Flat Hwy	Dr John T Petit St	0.2	788	540
Towne Lake Pkwy	Eagle Dr	I-575	1.4	759	540
SR 140/Hickory Flat Hwy	Sugar Pike Rd	E Cherokee Rd	2.6	754	540
SR 92	Bells Ferry Rd	I-575 SB	2.6	692	581
Kellog Creek Rd	Old Alabama Rd	Bells Ferry Rd	4.0	659	540



SR 92	Main St	Trickum Rd	2.0	634	581
Arnold Mill Rd	Neese Rd	Trickum Rd	1.9	622	540
Bells Ferry Rd	SR 92	Towne Lake Pkwy	3.1	616	540
SR 92	Trickum Rd	W Wylie Bridge Rd	2.0	615	581
Main St	SR 92	Towne Lake Pkwy/Arnold Mill Rd	1.1	598	540
W Marietta St	Marietta Rd	E Main St	0.4	578	540
Ball Ground Hwy	Hwy 372	Baker St	1.1	577	162
Dr John T Petit St	Marietta Rd	E Main St	0.4	524	540

BICYCLE AND PEDESTRIAN CRASHES

Over the six-year span, a total of 169 bicycle and pedestrian related crashes occurred. Of those crashes roughly 75% involved pedestrians and 25% involved bicycles. Fatal crashes made up over 9% of pedestrian involved accidents and just over 7% of bicycle crashes. Of the 15 fatal crashes, 12 involved a pedestrian. There were 116 crashes that resulted in an injury, over 68% of all bicycle and pedestrian crashes. The remaining crashes resulted in property damage only. A breakdown of bicycle and pedestrian crashes by severity is shown in Table 25.

Table 25: Cherokee County Bicycle and Pedestrian Crashes, by Severity, 2015-2020 (GEARS)

Crash Severity	Pedestrian	Bicycle
Property Damage Only (PDO)	24	14
Injury	91	25
Fatal	12	3
TOTAL	127	42

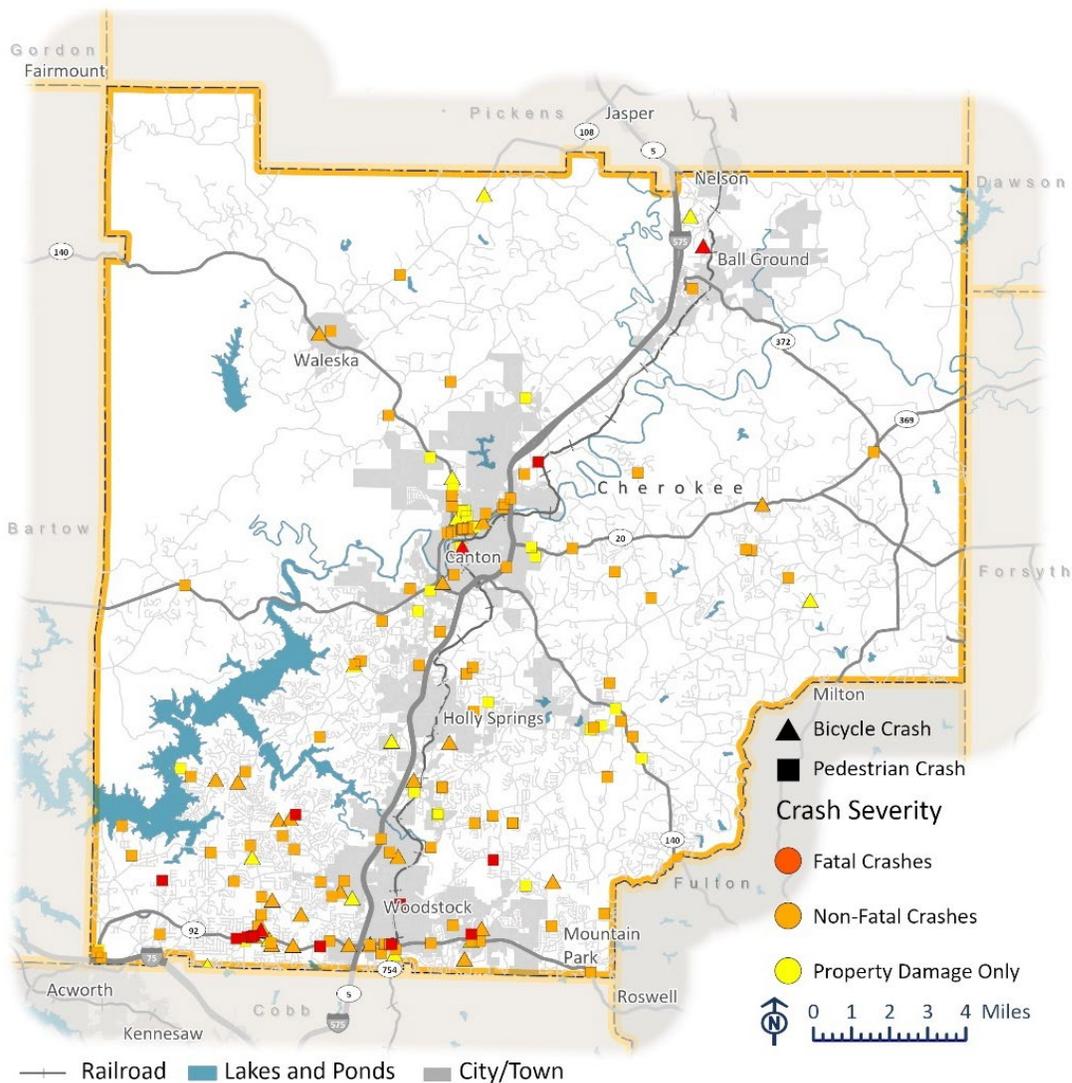
Bicycle and pedestrian crash locations are shown in Figure 51. The SR 92 corridor has significant concentrations of bicycle and pedestrian crashes throughout the corridor, with a high concentration of fatalities near Wade Green and Bells Ferry Roads. There were four fatal crashes involving pedestrians on SR 92 near Wade Green Road, two of which occurred in 2020. There were also four bicycle crashes along Bells Ferry Road near the intersection with SR 92, one of which resulted in a fatality. SR 92 and Bells Ferry Road are both high volume roads that may benefit from improving bicycle and pedestrian infrastructure. Other concentrations of bicycle and pedestrian related crashes along SR 92 include at the intersections with S Main Street/Canton Highway and near Trickum Road.



There is also a cluster of crashes near Hickory Flat Highway and Hickory Road and in Canton, west of I-575, along Marietta Highway and Riverstone Parkway. Most crashes near Marietta Highway and Riverstone Parkway are pedestrian-related incidents. This is significant because a high school and several parks are located in the vicinity, and there are no pedestrian crossings where the majority of the crashes occur. There are also schools located near Hickory Road and Hickory Flat Road. Both areas could benefit from the addition of pedestrian facilities, as there are currently no sidewalks.

The cluster of crashes near Marietta Hwy and Riverstone Pkwy reveal an apparent correlation between lacking pedestrian crossing facilities and higher crash rates.

Figure 51: Cherokee County Bicycle and Pedestrian Crashes by Severity, 2015-2020 (GEARS)



9. INTELLIGENT TRANSPORTATION SYSTEMS & TECHNOLOGY

Intelligent Transportation Systems (ITS) and transportation technology have rapidly evolved throughout the 21st century to a real-time data driven system, advancing transportation safety and mobility through enabling infrastructure and vehicles to communicate with each other as well as central servers. As congestion continues to deteriorate throughout the metro Atlanta region, there is an increasing need to find solutions to infrastructure constraints to alleviate congestion within the existing built environment.

ITS presents an opportunity to improve existing infrastructure through intelligent infrastructure that can reduce crashes through advanced warnings to drivers via Variable Message Signs (VMS), enhance mobility through smart or coordinated signal corridors, and reduce emissions by reducing vehicle idling times.

Elements of ITS and technology can already be found within Cherokee County. The following elements will be explored further below:

- Traffic Signals
- Fiber Optic Cables
- MaxTime/MaxView Signal Software
- Dedicated Short Range Communications (DSRC) / Cellular Radios Locations
- Ramp Meters
- Regional Traffic Operations Program (RTOP) Corridor
- Electric Vehicle (EV) Charging Stations
- GDOT 511 Camera System
- Public Wi-Fi Locations
- Railroad Crossings
- Pedestrian Flashing Beacons
- School Zone with Flashing Lights

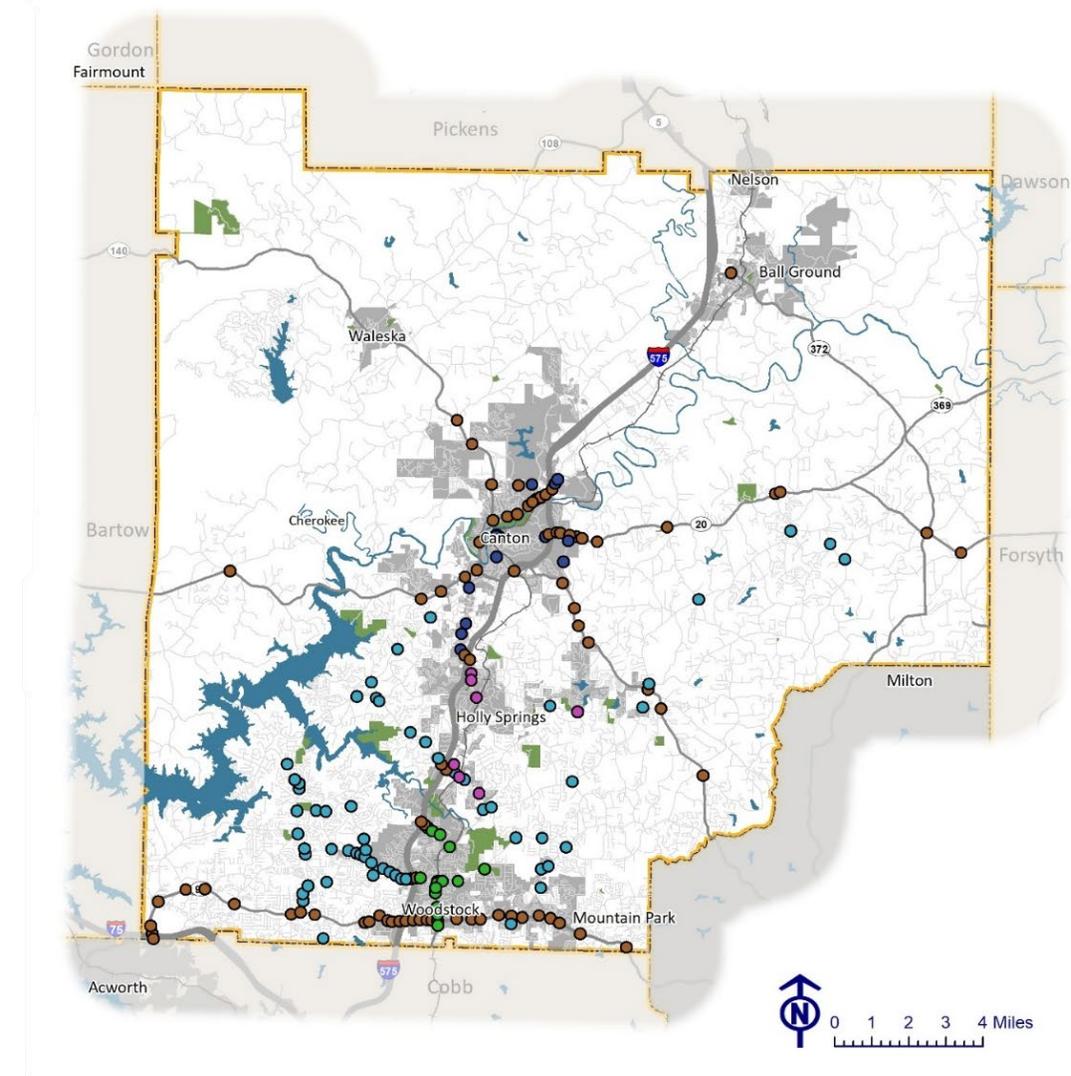
While some of these technologies are not directly related to transportation, such as public Wi-Fi, it is necessary to understand the technology capabilities in Cherokee as they exist today and opportunities for expansion, especially as telecommuting and telelearning continues to remain prominent for many citizens.

TRAFFIC SIGNALS

Traffic signals are one of the most readily available areas for ITS improvements, enabling smart signal programming, regional operations coordination, or other improvements to provide enhanced mobility throughout the County. Traffic signals are typically installed at locations that were previously identified either through traffic volume or safety requirements from GDOT signal warrants. Thus, these locations are already well suited for their ability to improve traffic flow or reduce crashes.

As shown in Figure 52, there are 176 signalized intersections in Cherokee County. Most of these traffic signals are in central and southwestern Cherokee County close to Canton, Holly Springs, and Woodstock. The locations of I-575, SR 20, and SR 92 through these areas explain the higher distribution of signalized intersections within these areas of the County. Of these signalized intersections, most (81 of 176) are operated by GDOT. The rest are operated by Cherokee County (58) and the Cities of Canton, Holly Springs, and Woodstock. The breakdown of signalized intersection ownership can be found in Table 26.

Figure 52: Signalized Intersections in Cherokee County (GDOT)



Railroad
 Lakes and Ponds
 City/Town
 Park Boundary

Traffic Signals by Agency

- City of Canton
- Cherokee County
- GDOT
- City of Holly Springs
- City of Woodstock



Table 26: Ownership of Signalized Intersections (GDOT)

Agency	Number of Signalized Intersections
Cherokee County	58
City of Canton	14
City of Holly Springs	7
City of Woodstock	16
GDOT	81
Grand Total	176

It is important to note that ownership of the individual signals can complicate improvements in ITS. For those signals along a corridor that pass through multiple jurisdictions to be coordinated or modified to improve traffic flow, all representative agencies would need to work in unison to make concurrent upgrades. While this may complicate the improvement of signals along corridors, this can readily be addressed through cooperation and common goals shared by each agency. GDOT is making concerted efforts to provide this coordination among jurisdictions through the deployment of MaxTime which is discussed in more detail in the next section.

FIBER OPTIC CABLE

Fiber optic cable has become the go-to cabling for high-speed telecommunications throughout the world. While traditional copper cables still exist, they are limited in their transmission speeds (40 gigabits per second) and distance of transmittance (100 meters). In contrast, fiber optic cable can transmit data at up to terabits per second in distances of up to 24 miles.³ In order for ITS to function properly within the Atlanta region, as well as Cherokee County, efficient data transmission from cameras, vehicles, infrastructure, and other sources will benefit from fiber optic cable.

The existing fiber optic cables are located in the southern portion of the County, primarily along three routes:

- SR 92 between Wade Green Road and Lindsey Way NE
- Main Street between Farm Ridge Drive NE and Mauldin Drive
- Bells Ferry Road between Red Barn Road and Bells Ferry Place

The total combined length of fiber optic cable in Cherokee County is about 17.04 miles.

The current fiber optic locations are primarily along SR 92, as is most of the ITS infrastructure within the County, establishing the importance of this corridor by GDOT. This leaves ample opportunity to expand fiber optic cables within the County to allow

³ Cable Express <https://www.cablexpress.com/education/blog/5-reasons-why-it-professionals-choose-fiber-optic-cables-instead-of-copper/#:~:text=Fiber%20optic%20transmission%20is%20faster&text=Copper%2Dbased%20transmission%20currently%20max,hundreds%20of%20terabits%20per%20second>



the advancement of other ITS infrastructure. While costs for installing fiber optic cable can be expensive, it is possible to leverage investments by partnering with other state and local agencies, or even private companies, to share infrastructure investments and thus expand coverage. Further, adding fiber optic as part of other construction projects can create efficiencies. Future analysis for ITS installation can look at both desired expansion areas and planned infrastructure projects to determine what partnerships are available for leveraging reduced installation costs.

MAXTIME/ MAXVIEW SIGNAL SOFTWARE

Taken from the GDOT *Statewide Traffic Signal Program Concept of Operations*, the MaxTime firmware runs on GDOT and local traffic signal controllers, and associated systems such as pedestrian accommodations, preemptions, and Connected and Autonomous Vehicle (CAV) applications. These signals are connected by the MaxView software which runs on the Traffic Management Center (TMC) servers. This software is a single interface that manages the operations of all traffic signals within the GDOT network that have MaxTime implemented.⁴

While all GDOT MaxTime signals are currently interfaced with GDOT's MaxView server, some local jurisdictions have stand-alone MaxView servers that do not communicate with the statewide GDOT MaxView server. This system allows for signals to be monitored and controlled remotely and provides high quality data collection for system performance monitoring. GDOT monitors these signals through their Automated Traffic Signal Performance Measures dashboard.⁵

Of the 176 traffic signals in Cherokee County, 143 (81%) of them have MaxTime firmware. This enables the majority of signals within the County to be monitored by a central GDOT or other municipality server that can remotely update signal timings to respond to large one-off events such as County Fairs, emergency weather conditions or incidents, and other situations that may require on-the-fly signal updates.

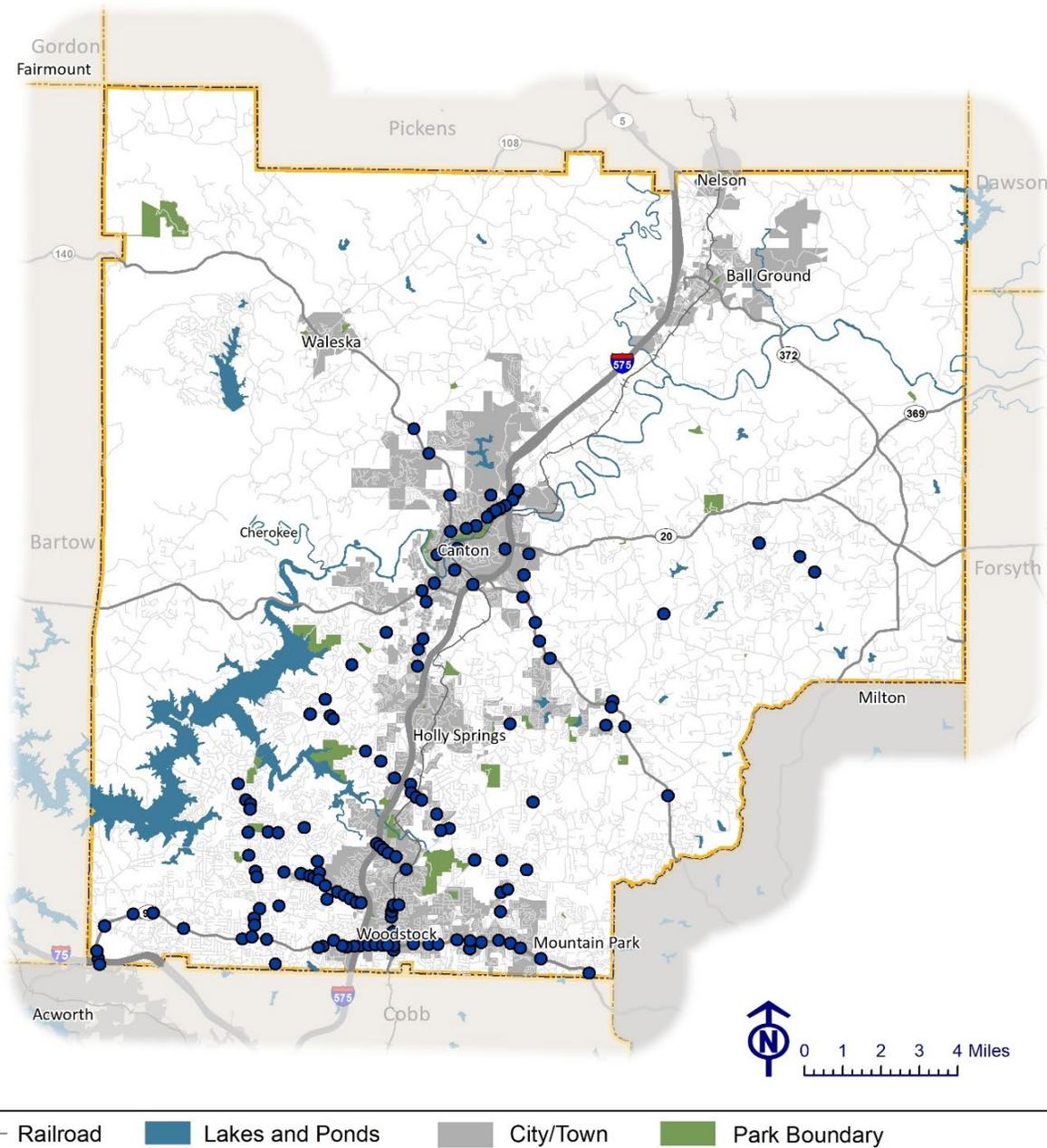
As shown in Figure 53, the 143 MaxTime signalized intersections in Cherokee County are located mostly along principal and minor arterials such as SR 92, Bells Ferry Rd, Towne Lane Pkwy, and Main St – Sixes Rd. There are 32 MaxTime signalized intersections within the City of Woodstock, nine MaxTime signalized intersections within the City of Holly Springs, and one MaxTime signalized intersection within the City of Canton. The other two cities, Waleska and Ball Ground, do not have any MaxTime signalized intersections.

⁴ GDOT, 2019. https://s3.amazonaws.com/gdot-spm/GDOT_STORM-COO.pdf

⁵ GDOT, 2021. <http://sigopsmetrics.com/main/>



Figure 53: MaxTime/MaxView Signalized Intersections in Cherokee County (GDOT)



Additionally, these signals can be modified over-time to integrate with vehicle to everything (V2X) cellular radios, which will prepare the Atlanta region for the eventual arrival of CAVs. There is additional opportunity to upgrade the remaining signals within Cherokee County (33) to MaxTime firmware, which will further improve signal operations across the County.

DEDICATED SHORT RANGE COMMUNICATIONS (DSRC) / CELLULAR RADIOS LOCATIONS

Dedicated Short Range Communications (DSRC) and Cellular Radios service technology communicates traffic and roadway data for real-time information display, traffic operations, and other ITS. DSRC uses short-range radio frequencies to communicate between vehicle On-Board Units (OBUs) and Roadside Units (RSUs). Cellular radios are also a wireless communication that uses cellular signals for the communication and communicates between OBUs and RSUs. However, cellular radios can communicate at longer distances than DSRC.

DSRC and Cellular radios are the basis for communication between transportation infrastructure and CAVs. GDOT is a national leader in ITS and preparing Georgia's infrastructure for CAVs. GDOT has been working to install radios across the state at a rapid pace, focusing on state routes and then expanding to local corridors.

The DSRC/Cellular Radios locations in Cherokee County are solely located at intersections along SR 92. A map of these DSRC/Cellular Radio locations is included in Appendix F of this document. This installation was a part of GDOT's Phase 2 Deployment in 2020 in which GDOT received a grant from the United States Department of Transportation (USDOT) as a part of the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) program. The deployment allows for applications such as red-light warning, pedestrians in crosswalk, phase service remaining (e.g., green light time remaining), green speed for coordinated signals (i.e., what speed you should maintain to approach all green signals), emergency vehicle preemption, transit signal priority, and freight signal priority.⁶

The future of DSRC is limited, according to the recent ruling by the Federal Communication Commission (FCC).⁷ This ruling set forth that the technology for CAVs shall be Cellular based and that DSRC must be converted to cellular. It is not yet determined how or when the conversions will take place in Georgia. However, GDOT is working with ARC counties and cities to develop and deploy a Connected Vehicle 1,000+ (CV1K+) initiative to deploy radios across the metro Atlanta region. Deployment of this program is already underway in several metro counties.

GDOT SIGOPS PROGRAM CORRIDORS

The SigOps Program (formerly called Regional Traffic Operations Program, RTOP) is GDOT's "multi-jurisdictional, cutting-edge signal timing and corridor operations program with the goal of improving traffic flow and reducing vehicle emissions through improved signal timing".⁸ SigOps was developed to manage corridors of regional significance,

⁶ GDOT, 2019.

https://sashto.org/Presentations/Monday,%20August%2019/A3/gdot%20sashto%20cv_alan%20davis.pdf

⁷ Federal Communication Commission, 2020. <https://www.fcc.gov/document/fcc-modernizes-59-ghz-band-improve-wi-fi-and-automotive-safety>

⁸ GDOT, 2021. <http://www.dot.ga.gov/DriveSmart/SafetyOperation/Pages/RTOP.aspx>



meaning “those corridors that carry high volumes of vehicles and which experience recurring congestion.

A secondary focus was added to include corridors that were important to mobility throughout the region.”⁹ GDOT dedicates traffic engineers and signal timing experts focused solely on metro Atlanta's busiest arterial roadways. SigOps also assists local jurisdictions to quickly find and repair signal problems.¹⁰ Based on the SigOps locations from GDOT, there is only one program corridor in Cherokee County (SR 92) from Baker Road to Wiley Bridge Road. A map of the SR 92 SigOps corridor can be found in Appendix G of this document.

As noted in the DSRC section above, GDOT's Phase 2 deployment funded through the USDOT ATCMDT grant focused on the SR 92, which correlates with the SigOps Program. Additionally, this is the primary location of fiber optic cabling within the County, as well as MaxTime/MaxView signals. GDOT's focus on this corridor is not unjustified, as SR 92 is the most heavily traveled state route within Cherokee County with Average Annual Daily Traffic (AADT) ranging from 25,000 to 67,000 vehicles. As the County continues to grow, there may be other corridors within the County which could see increases in regional significance, congestion, and safety issues, which a case can be made for their inclusion in the SigOps Program along with the necessary fiber optic, MaxTime, and other technological upgrades.

SR 92 is Cherokee County's most heavily traveled state route and has consistently been a targeted investment for technology upgrades by GDOT to improve safety and operations.

RAMP METERS

According to GDOT's website, “the Ramp Meter Program was implemented to alleviate congestion and emphasize motorist safety. Ramp Meters are traffic signals devices located on entrance ramps to the freeway”.¹¹ Meters are like traffic signals, indicating when vehicles should stop and proceed. These help to pace the traffic entering the interstate. Ramp meters are installed along interstates and highways throughout the Atlanta region at locations that typically have heavier than normal peak-hour demand. GDOT outlines the benefits as:

- Reduced congestion on the freeway
- Decreased fuel consumption
- Maintain steadier flow on the interstate
- Increase freeway speeds

⁹ GDOT, 2019. https://s3.amazonaws.com/gdot-spm/GDOT_STORM-COO.pdf

¹⁰ Georgia Department of Transportation (GDOT), 2021.

<http://www.dot.ga.gov/DriveSmart/SafetyOperation/Pages/RTOP.aspx#:~:text=The%20Regional%20Traffic%20Operations%20Program,emissions%20through%20improved%20signal%20timing>

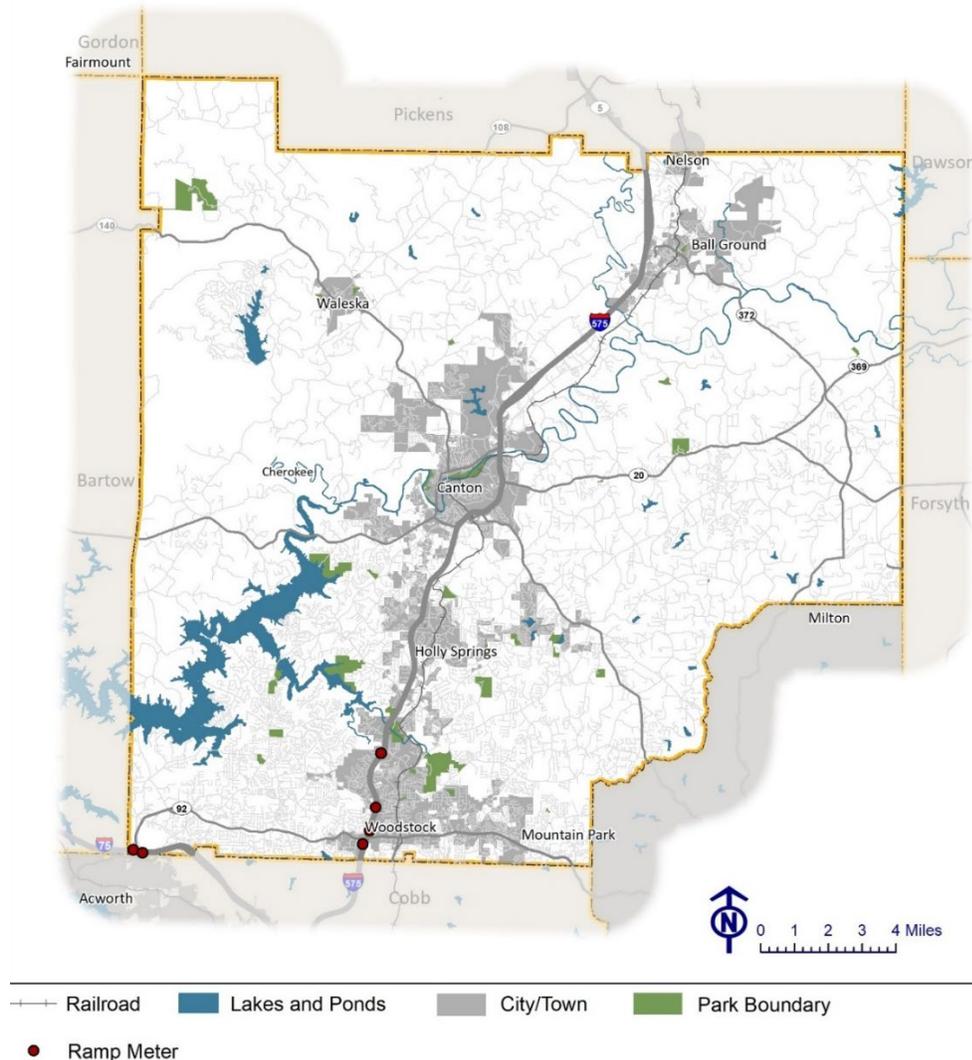
¹¹ GDOT 2021. <http://www.dot.ga.gov/DriveSmart/SafetyOperation/Pages/Details.aspx?categoryID=7>



There are five ramp meters in Cherokee County: two ramp meters at the I-75 and SR 92 interchange, two ramp meters at the I-575 and SR 92 interchange, and one ramp meter at the on-ramp from Towne Lake Parkway to I-575 South. The ramp meter signal locations can be seen in Figure 54. All five of the ramp meters are equipped with MaxTime firmware and coordinated through the MaxView server. With the MaxTime firmware enabled on current and future ramp meters, the central location can control traffic during periods of inclement weather or traffic hazards that may necessitate shutting down portions of the interstate.

Similar to the RTOP program, there may be a need for additional ramp meters in Cherokee County as population and employment continues to grow. The County has already invested in several Ramp Meters that are underway, including one at Ridgewalk Parkway (I-575 southbound) and one at Sixes Road (I-575 north and southbound). On-ramps throughout Cherokee County will be analyzed to determine if future ramp meter locations are justified to improve traffic flow and safety for merging traffic.

Figure 54: Ramp Meters in Cherokee County (GDOT)



ELECTRIC VEHICLE (EV) CHARGING STATIONS

EV Charging Station Locations were identified utilizing the US Department of Energy's Alternative Fuels Data Center.¹² EV charging stations are currently identified as being one of three charging types - - Level 1, Level 2, or Direct Current (DC) Fast. Level 1 chargers use a standard 120-volt (V) connection, which occurs primarily in residential homes. Level 2 chargers operate at 208-240 volt (V), with Level 2 being the most prevalent type of charger in the United States. DC fast chargers are the fastest chargers available with a maximum output of 350kW and are intended for commercial or industrial locations due to the high costs and high-power draw.¹³

According to the Federal Highway Administration (FHWA) Alternative Fuel Corridors, I-575 from I-575/I-75 interchange to East Ellijay, which includes the entire I-575 section in Cherokee County, was designated as an EV ready corridor in 2018. The EV-ready corridors will only have DC fast charging stations for public use, of which none of these will be Tesla facilities.¹⁴

In 2011 there were 17,763 EVs sold in the United States, with 2019 seeing 326,644 EVs sold, a 1,738.9% increase in 8 years.¹⁵ As vehicle manufacturers pledge to go all-electric in the future (General Motors pledge by 2035, Volvo by 2030, and Jaguar by 2025 as examples), and California requiring all new-vehicle sales to be all-electric in 2035,¹⁶ municipalities must prepare EV charging networks to meet the coming changes. As such, Cherokee County can begin to identify future needs for EV charging stations from electric vehicle sales analysis within the region.

Currently, there are 16 public EV charging stations in Cherokee County, all of which are Level 2 or DC Fast types. Level 1 charger types are found within residential homes and are not accounted for here due to lack of available data. Fourteen of these locations feature 24 Level 2 chargers, while the other two charging locations feature five DC Fast chargers. The location of all 16 EV charging stations in Cherokee County can be seen in Figure 55.

¹² U.S Department of Energy, 2021.

https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC

¹³ FREEWIRE, 2021. <https://freewiretech.com/difference-between-ev-charging-levels/>

¹⁴ USDOT FHWA, 2018.

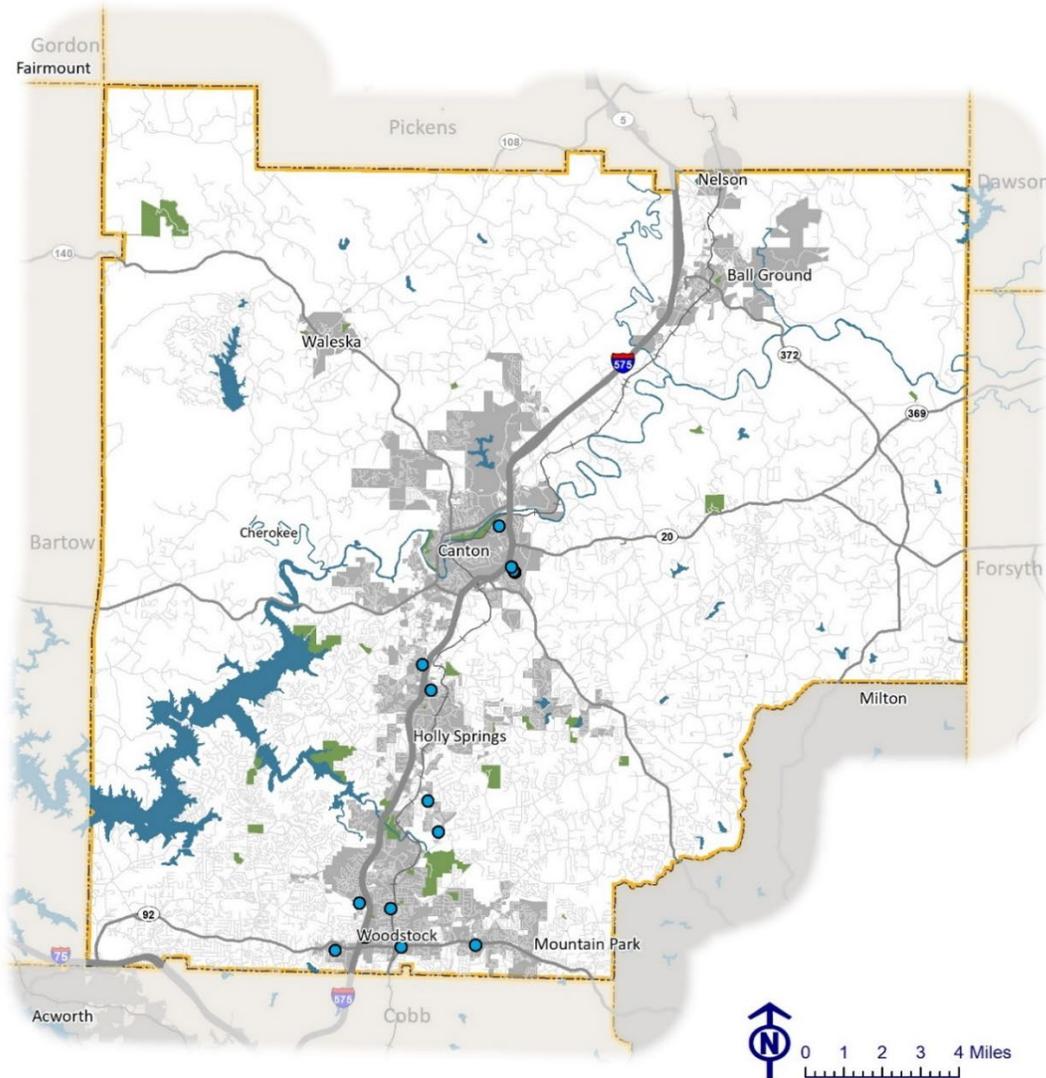
https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/previous_rounds/round_3/#ftnr1

¹⁵ US Department of Energy. <https://afdc.energy.gov/data/10567>

¹⁶ Green Matters. <https://www.greenmatters.com/p/car-companies-electric-energy-pledge>



Figure 55: EV Charging Stations in Cherokee County (US Department of Energy)



- Railroad
 Lakes and Ponds
 City/Town
 Park Boundary
- Electric Vehicle Charging Station

Currently there are over 100,000 public chargers in the US as recorded by the Department of Energy.¹⁷ President Biden's American Jobs Plan includes a proposed investment of \$15 billion to roll out EV charging stations throughout the country to reach 500,000 charging stations nationwide by 2030.¹⁸ It is likely that EV charging stations will continue to expand across the County because of this initiative and the overall vehicle industry looking at electrification in the future.

¹⁷ U.S Department of Energy, 2021.

https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC

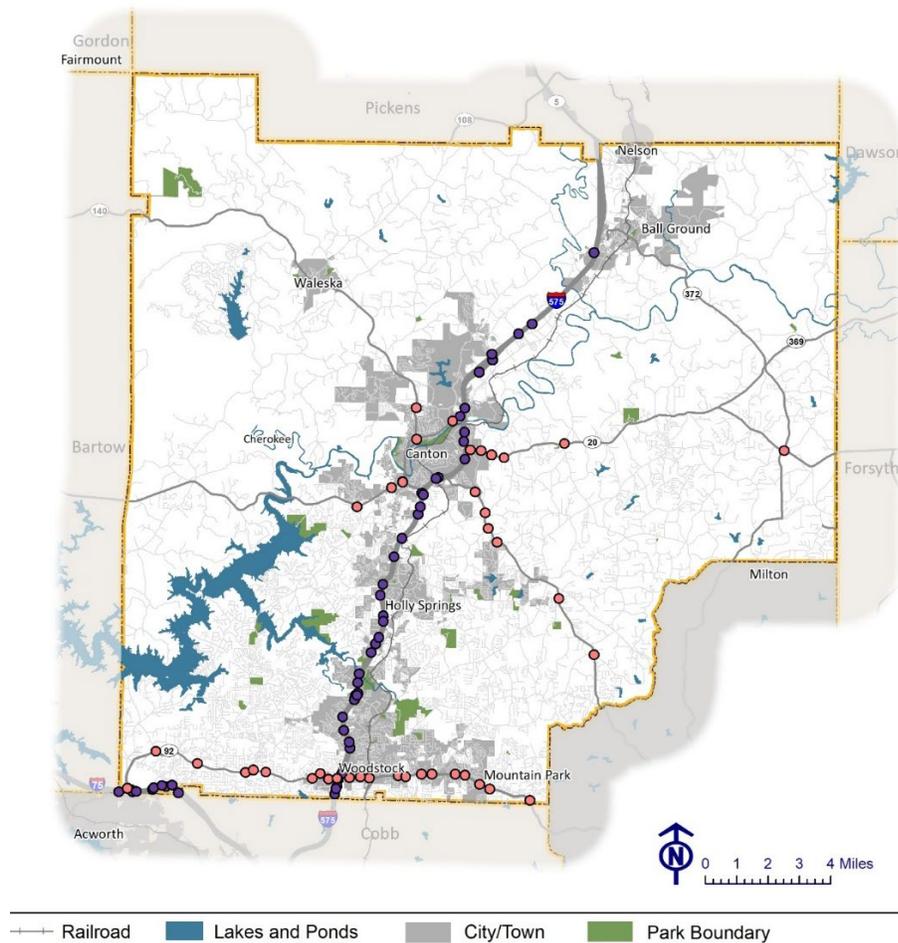
¹⁸ The White House, 2021. <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-biden-administration-advances-electric-vehicle-charging-infrastructure/>

GDOT 511 CAMERA SYSTEM

The GDOT 511 system provides real-time traffic and travel information in Georgia. The live cameras feed directly into GDOT's TMC and allow the system to provide real-time traffic and traveler information, such as current traffic speeds and travel times, current incident and construction information, and travel alerts. Also, GDOT's Highway Emergency Response Operators (HERO) program takes advantage of the live cameras to monitor traffic and quickly respond to incidents. However, GDOT does not record the cameras but only provides their real-time information.¹⁹

In total, Georgia has 3,216 live cameras in the 511 system with 93 of them located in Cherokee County as seen in Figure 56. Within Cherokee County, 52 live cameras are on interstate highways (purple dots) I-75 and I-575, while the other 41 live cameras are located on state routes (red dots), including SR 5, SR 20, SR 92, and SR 140.

Figure 56: GDOT 511 Live Cameras in Cherokee County (GEMA/GDOT)



GDOT Live Camera

- Interstates/Freeways
- Local Roads

¹⁹ GDOT. <https://www.demo.511ga.org/static/faqs.html>

Cameras are essential to managing traffic incidents and safety concerns, ensuring adequate camera coverage along high-crash corridors that can help emergency responders and car towing services arrive quicker to serve motorists in need. The existing camera system can be used to help identify future locations for ITS implementation, providing an overarching system that provides all the needs of a modern ITS corridor – operations, safety, and management.

RAILROAD CROSSINGS

Federal Railroad Administration (FRA) data shows that highway-rail grade crossing collisions and pedestrian trespass on tracks combined for over 95% of all railroad fatalities in the US. Georgia is currently 3rd in the U.S. for highway-rail grade crossing collisions, with 103 in 2020. This included nine (9) deaths and 32 injuries.²⁰ Ensuring proper railroad crossing signals are provided within Cherokee County can help to prevent future collisions from occurring.

Railroad crossings are typically categorized as Active Grade Crossings or Passive Grade Crossings. Active Grade Crossings have active warning and control devices such as bells, flashing lights, and gates. These can be in addition to passive warning devices such as yield or stop signs and pavement markings. Warning and control devices are identified within the Manual of Uniform Traffic Control Devices (MUTCD).²¹

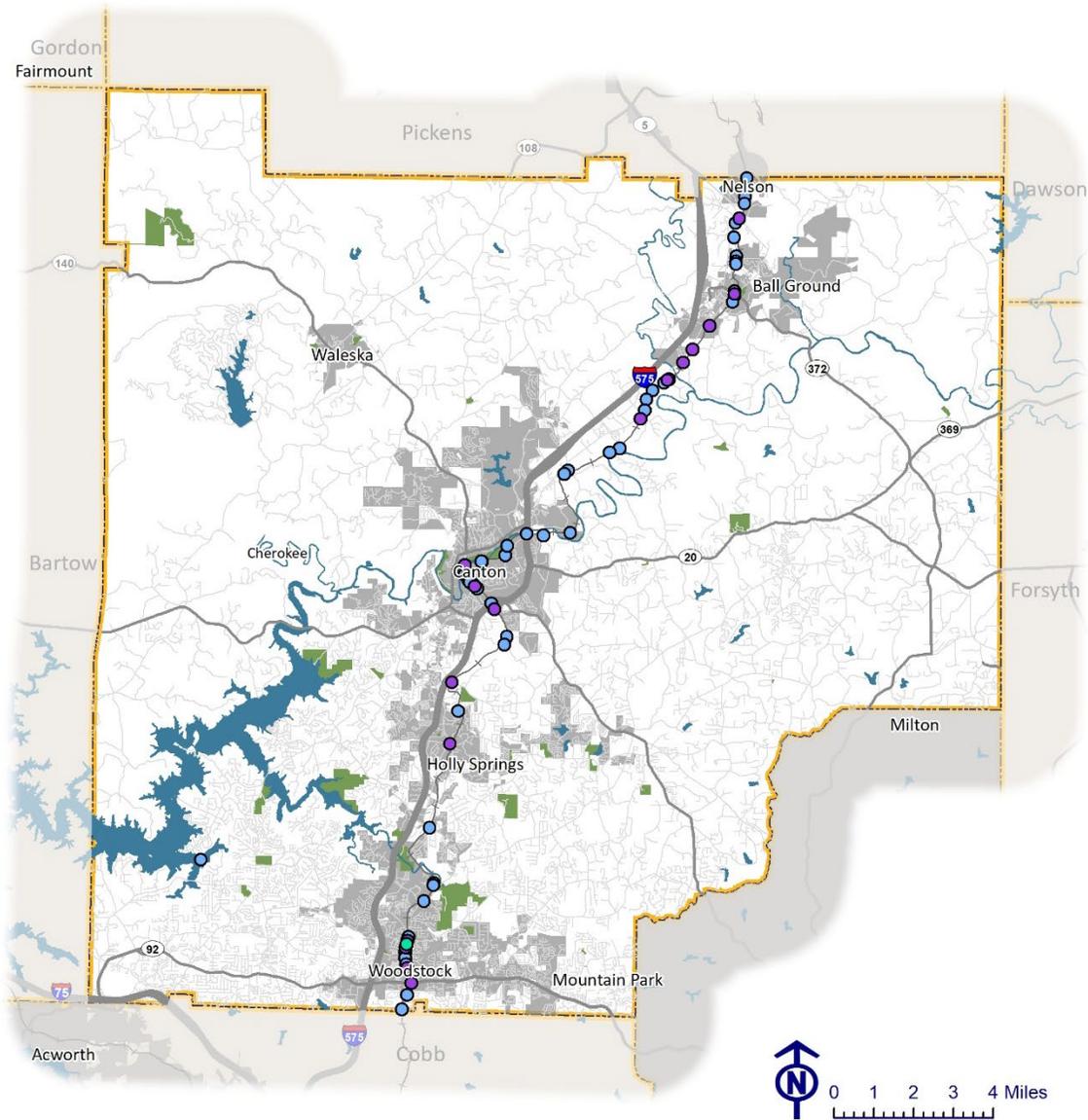
The FRA monitors the location of railroad crossings throughout the U.S. There are 68 railroad crossings in Cherokee County, of which 31 are private and the remaining 37 are public. Private railroad crossings are railroad crossings on private streets or within industrial areas that are not open to the public. Sixty-three (63) of the railroad crossings are at-grade, while only five (5) railroad crossings are grade separated, traveling above or below the roadway. There are 16 railroad crossings with road gates, one (1) of which is in downtown Woodstock with double road gates. There is only one (1) railroad crossing with pedestrian arms, which is in downtown Woodstock. Figure 9 displays the railroad crossing locations in Cherokee County.

²⁰ Operation Lifesaver Rail Safety Education, 2020. <https://oli.org/track-statistics/collisions-fatalities-state>

²¹ Federal Railroad Administration. <https://railroads.dot.gov/program-areas/highway-rail-grade-crossing/highway-rail-grade-crossings-overview#:~:text=Active%20Grade%20Crossings%20have%20active,stop%20signs%20and%20pavement%20markings>.



Figure 57: Railroad Crossings in Cherokee County (FRA)



- +— Railroad
- Lakes and Ponds
- City/Town
- Park Boundary
- Railroad Crossing with Pedestrian Crossing Arms
- Railroad Crossing with Road Crossing Arm
- Railroad Crossing with No Arms

There is an overall lack of active warning devices on at-grade railroad crossings in the County. As previously indicated, this can pose safety issues and conflicts with vehicles and pedestrians. According to the FRA, there have not been any highway-rail grade

crossing incidents over the last three years.²² However, it still remains important to ensure proper signage, signals, or other active or passive devices are being utilized to prevent future highway-rail grade crossing collisions. Collisions are preventable when proper safety precautions are utilized to warn drivers.

PEDESTRIAN FLASHING BEACONS

Pedestrian flashing beacons are a traffic control device which can increase drivers' awareness of pedestrians crossing the street. Pedestrian flashing beacons are usually placed at unsignalized marked crosswalk locations, such as mid-blocks or between intersections. These devices can be installed based on pedestrian demand to cross at locations not served by nearby signalized intersections, such as transit stops. These desired crossings can also be identified through crash data identifying locations which have pedestrian collisions at locations not served by existing crossings.

There are a handful of pedestrian flashing beacons in Cherokee County:

- Rope Mill Road at the entrance of Woodstock Elementary School
- Ridge Road near Bells Ferry Road
- Univeter Road next to Kenney Askew Park
- Downtown Woodstock

Pedestrian flashing beacons can be useful for ITS by bridging gaps in the infrastructure network that primarily serves automobiles. Future Cherokee County pedestrian and bicyclist needs can be identified through multi-modal demand or safety analysis, with safe crossings provided for other modes through simple beacons activated by users.

SCHOOL ZONE WITH FLASHING LIGHTS

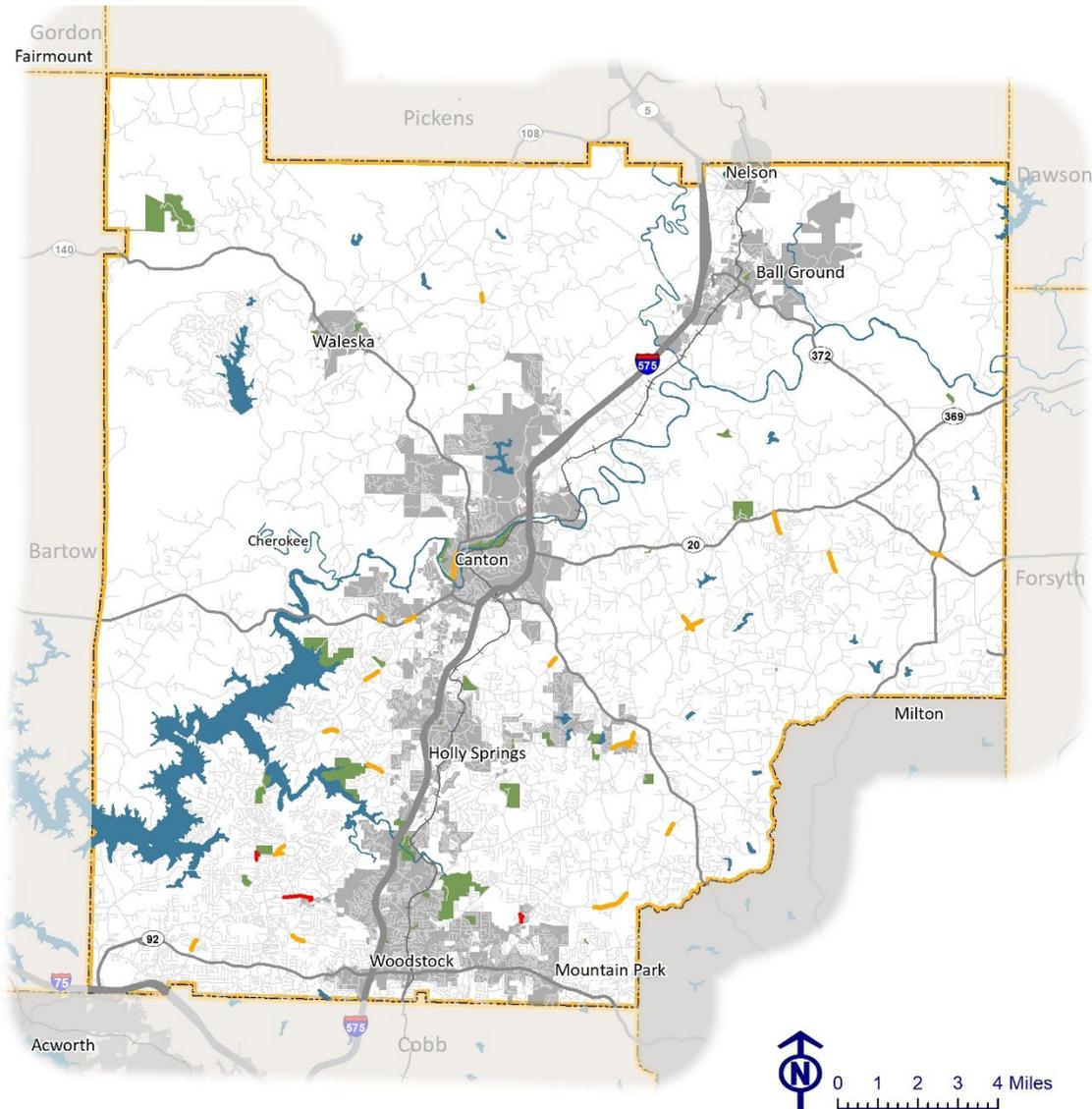
A school zone is a roadway segment near a school or near a crosswalk leading to a school that has a likely presence of younger pedestrians. These zones typically feature flashing lights to increase drivers' awareness. The purpose of these school zones and flashing lights are to inform passing vehicles that during a certain time of day there are likely to be children in the vicinity crossing the street, and speeds should be reduced to accommodate them.

As shown in Figure 58, in Cherokee County, most of the school zones that have flashing lights are located south of SR 20 in the cities of Woodstock and Holly Springs. Currently seven school zones do not have school zone flashing lights.

²² Highway/Rail Grade Crossing Incidents (2018-2020), Federal Railroad Administration (2021). <https://railroads.dot.gov/accident-and-incident-reporting/highwayrail-grade-crossing-incidents/highwayrail-grade-crossing>



Figure 58: School Zones with Flashing Lights in Cherokee County



Railroad
 Lakes and Ponds
 City/Town
 Park Boundary

School Zone

- No Flashing Light
- With Flashing Light

Flashing lights within school zones is a great opportunity to implement a high-value safety project with minimal financing. These passive systems are modified to each school zones hours of operations and can be matched to holiday and break schedules. Through safety analysis, as well as public input, future school zones that may require flashing lights can be identified within Cherokee County.

PERCENT OF HOUSEHOLD WITH NO INTERNET ACCESS

In 2018, the State launched the Georgia Broadband Deployment Initiative (GBDI), which calls for the promotion and deployment of broadband services throughout the state, specifically to unserved areas with a minimum of 25 Mbps download and 3 Mbps upload speeds. The purpose of the GBDI is to coordinate and establish broadband programs to increase economic, education, and social opportunities for Georgia citizens and businesses.²³

The GBDI documents the existing broadband service at the Census block group level. The data shows the number of households that have been served and not served as well as the status of the block group (whether it is deemed as served or unserved). The following notable household internet access trends were identified in Cherokee County:

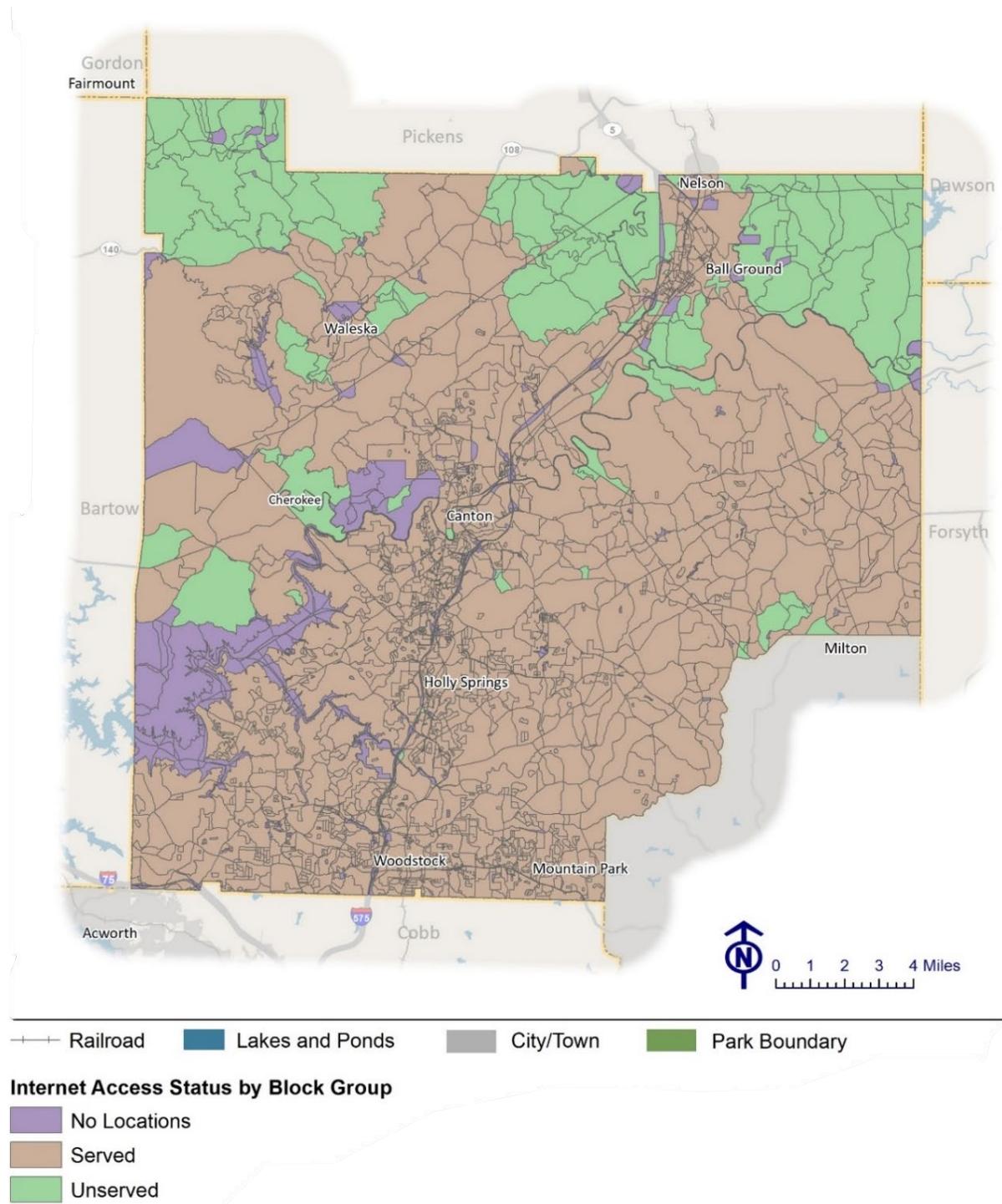
- 163 block groups that are deemed unserved based on their respective unserved household percentages
- Unserved block groups take up 4.7% of the total number of block groups in Cherokee County
- 2,006 households in Cherokee County are unserved (1.8% total households in the County)
- Most unserved block groups are in the non-urbanized areas or not located within a city boundary

While fiber optic cable remains the best option for ITS, broadband connection can still be utilized for data transmittal and is essential for employees and students, especially for virtual education and telecommuting. If there remain areas within Cherokee County without broadband internet, it may prove difficult to install ITS in these areas as well. Though most ITS is implemented in larger population areas, there are still rural locations that internet connection can be desired, such as remote railroad crossings, interstate cameras, or other technologies.

²³ Georgia Department of Community Affairs



Figure 59: Internet Accessibility by Block Group in Cherokee County (GBDI)



PUBLIC WI-FI LOCATIONS

Broadband connectivity has become an essential need, as was particularly noted during the COVID-19 pandemic. Ensuring all citizens have adequate access to internet is an essential service. While Wi-Fi may not be directly related to the transportation network, it does indicate whether there is adequate internet access for citizens and employees and is a technology that should be readily available to all. The Georgia Department of Community Affairs (DCA) manages the locations of public Wi-Fi. Currently, there are six public Wi-Fi locations in Cherokee County, five of which belong to public libraries and can be accessed anytime with no login required. The Wi-Fi locations are detailed in Table 27.

Table 27: Public Wi-Fi Locations in Cherokee County (GDCA)

Address	City	Zip Code	Provider	Login	Hours
4476 Towne Lake Parkway	Woodstock	30189	Rose Creek Public Library	None	24/7
7735 Main Street	Woodstock	30188	Woodstock Public Library	None	24/7
2740 East Cherokee Drive	Canton	30115	Hickory Flat Public Library	None	24/7
116 Brown Industrial Parkway	Canton	30114	R.T. Jones Memorial Library	None	24/7
121 Holcomb Street	Ball Ground	30107	ETC Communications	None	N/A
435 Old Canton Road	Ball Ground	30107	Ball Ground Public Library	None	24/7

More Wi-Fi spots have been planned in Cherokee County, with the City of Canton awarding a \$45,906 technology contract to install Wi-Fi in city parks.²⁴ The City of Woodstock awarded a one-time grant to the Cherokee County School District for purchasing additional mobile Wi-Fi devices to serve students.²⁵

While public Wi-Fi can benefit the residents of Cherokee County and it is important to understand opportunities for Wi-Fi expansion, Wi-Fi does provide the same benefits from a fiber optic network necessary for ITS implementation. Additionally, public Wi-Fi comes with a number of security risks.²⁶ With recent cybersecurity attacks on public governments within Georgia, including the City of Atlanta's ransomware attack, which cost over \$2.7 million, there is little reason for ITS to utilize public Wi-Fi when such a risk may be posed to the responsible government agency.²⁷ However, public wi-fi is often a consideration for transportation departments and transit agencies at their stops and facilities as well as on-board vehicles.

²⁴ The Atlanta Journal Constitution, 2020. <https://www.ajc.com/neighborhoods/cherokee/canton-to-spend-45k-installing-wifi-in-city-parks/BQ5KFM4KINE2FDHA2KM3WM6IV4/>

²⁵ Patch, 2020. <https://patch.com/georgia/woodstock/city-woodstock-approves-hot-spot-grant-schools>

²⁶ Harvard Business Review, 2017. <https://hbr.org/2017/05/why-you-really-need-to-stop-using-public-wi-fi>

²⁷ The Atlanta Journal Constitution, 2018. <https://www.ajc.com/news/cost-city-atlanta-cyber-attack-million-and-rising/nABZ3K1AXQYvY0vxqfO1FI/>



ITS AND TRAFFIC SIGNALIZATION KEY TAKEAWAYS

Cherokee County is currently in line with other metro Atlanta counties regarding ITS and Technology infrastructure. It is evident that GDOT and Cherokee are working together to ensure the County is preparing for the continuous evolution of technology in the 21st Century.

As the County continues to see growth in residents and employees, it will be necessary to further expand the ITS and technology systems to meet the demand. The existing data indicates there are opportunities to expand fiber optic cables, upgrade more signals to MaxTime/MaxView, install additional RSUs for CAV deployment, install more EV charging stations, upgrade at-grade railroad crossings with active crossing elements, identify areas of high pedestrian activity for safer crossing options such as flashing beacons, and retrofit the remaining school zones with flashing beacons.

The Needs Assessment will outline what is anticipated in the future and delve into detail regarding these technologies focusing on what needs to be expanded, where it needs to be expanded, and what new and emerging technologies should be considered. Some of the technologies that will be considered are CAV applications such as signal preemption for emergency vehicles, signal priority for transit and/or trucks, pedestrians, and bicycle signals, approaching train notification, and truck parking availability notifications, among others.



10. BICYCLE & PEDESTRIAN INFRASTRUCTURE & POLICIES

This section details the inventory of existing and planned bicycle and pedestrian infrastructure and policies in Cherokee County. This includes elements like sidewalks, walking/hiking trails, multi-use paths, and bike lanes. This section of the Existing Conditions Report gives a brief overview of existing and planned bicycle and pedestrian infrastructure, but also references in-depth appendices.

As part of the CTP process, the project team will be conducting a separate Trails Master Plan for Cherokee County. This Trails Master Plan effort will contain more detailed information specifically related to the state and future of multi-use paths and trails in Cherokee County and its municipalities.

BICYCLE AND PEDESTRIAN PLAN REVIEW

In order to better understand the current state of bicycle and pedestrian facilities and what improvements have been planned/implemented in Cherokee County, the project team reviewed bicycle, pedestrian, trail and small area planning studies for the County and its municipalities. Planned multi-use paths and trails from the previous CTP update (2016) were also reviewed and compared with existing conditions.

Cherokee County bike/ped planning efforts have progressed much quicker than facility implementation since the last CTP update in 2016.

Overall, the County has made a lot of progress in terms of planning for a well-connected active transportation network. On the ground implementation has been slower to achieve. Existing multi-use trails, sidewalks and on-road bicycle lanes tend to be concentrated in downtown areas and in the southern portion of the County. Unpaved trails serving a recreational use are more evenly distributed. The County residents have access to multiple clusters of unpaved hiking and mountain biking trails that are dispersed throughout the County.

The following transportation, bicycle, pedestrian, and greenway plans and LCI studies were reviewed for on-road bicycle, pedestrian, and multi-use trail facilities recommendations:

- Cherokee Comprehensive Transportation Plan 2016
- Woodstock Greenprints Parks and Trails Master Plan
- Woodstock Town Center LCI Plan (2013 Update)
- Woodstock LCI Highway 92 Extension (2015)
- Bells Ferry LCI Plan (2006)
- 2015 Canton Forward
- Holly Springs Downtown LCI Plan (2013)
- Southwest Cherokee Parks and Trails Plan (2021)



To help complete the inventory of existing bicycle and pedestrian facilities in Cherokee County, additional files and maps were reviewed to support documentation:

- Atlanta Regional Commission Existing Bikeway Inventory (ESRI ArcGIS file)
- Reinhardt University Hiking and Mountain Biking Trails (2018 pdf map)

Aerial photography and Google Streetview were reviewed to check for accuracy of existing ESRI ArcGIS files and compare with on-the-ground existing sidewalk sections in the County's municipalities including Ball Ground, Canton, Holly Springs, Mountain Park, Nelson, Waleska and Woodstock.

EXISTING BICYCLE AND PEDESTRIAN FACILITIES

When reviewing existing bicycle and pedestrian facilities, multi-use path and trail facilities were grouped with on-road bicycle facilities. Multi-use facilities are currently more prevalent in Cherokee County than on-road bicycle facilities. Sidewalks were reviewed separately under pedestrian infrastructure section.

EXISTING BICYCLE INFRASTRUCTURE

UNINCORPORATED CHEROKEE COUNTY

Figure 60 below shows existing on-road bicycle and multi-use trail facilities in Cherokee County. Limited on-road bicycle facilities exist in Cherokee County. There are bicycle lanes along Highway 140 starting from the southern Cherokee County border at Little River up to the intersection with Sugar Pike Road (approximately 2 miles).

Approximately ten miles of paved multi-use trails are currently present in Cherokee County, primarily located in Woodstock, Canton and Waleska.

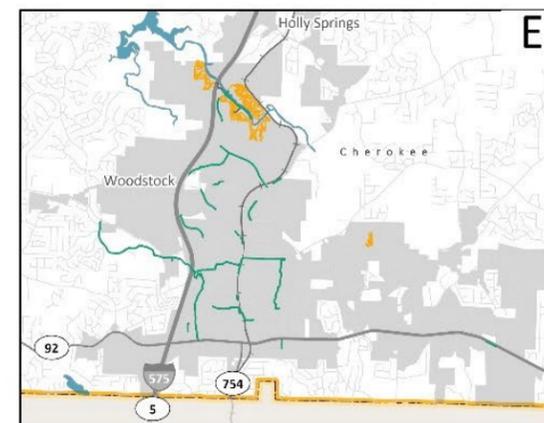
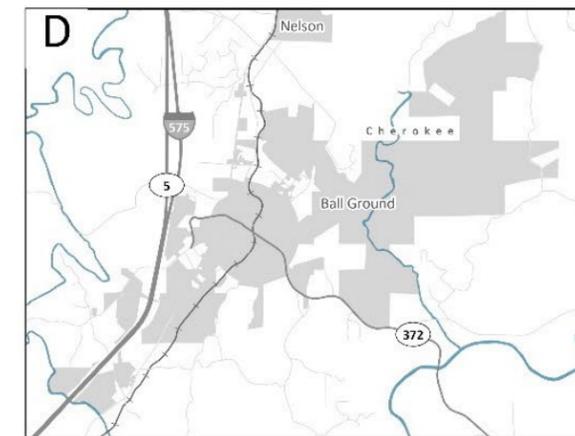
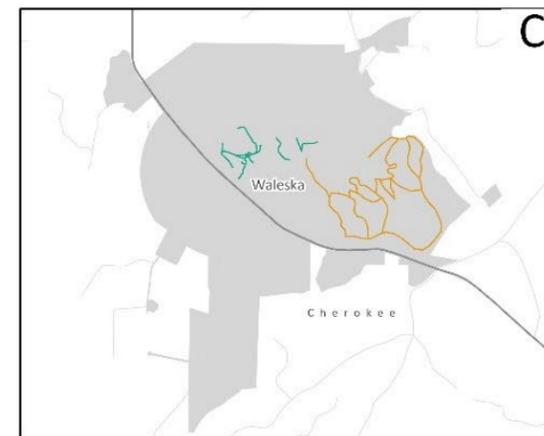
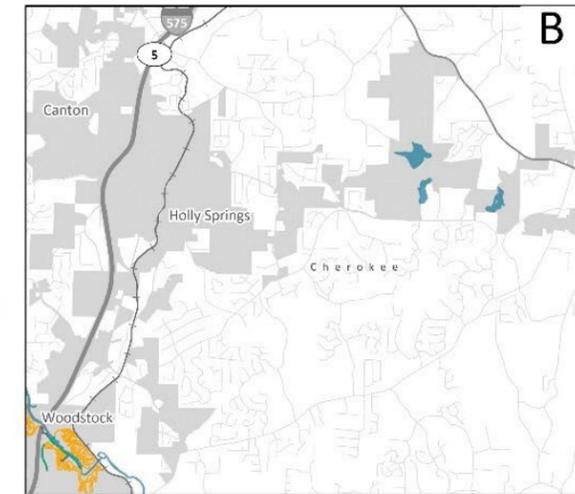
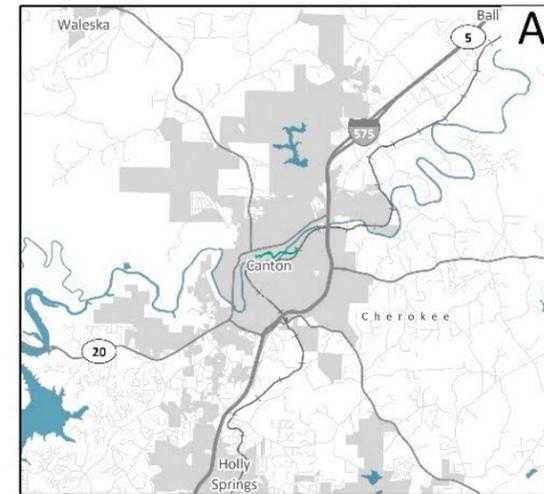
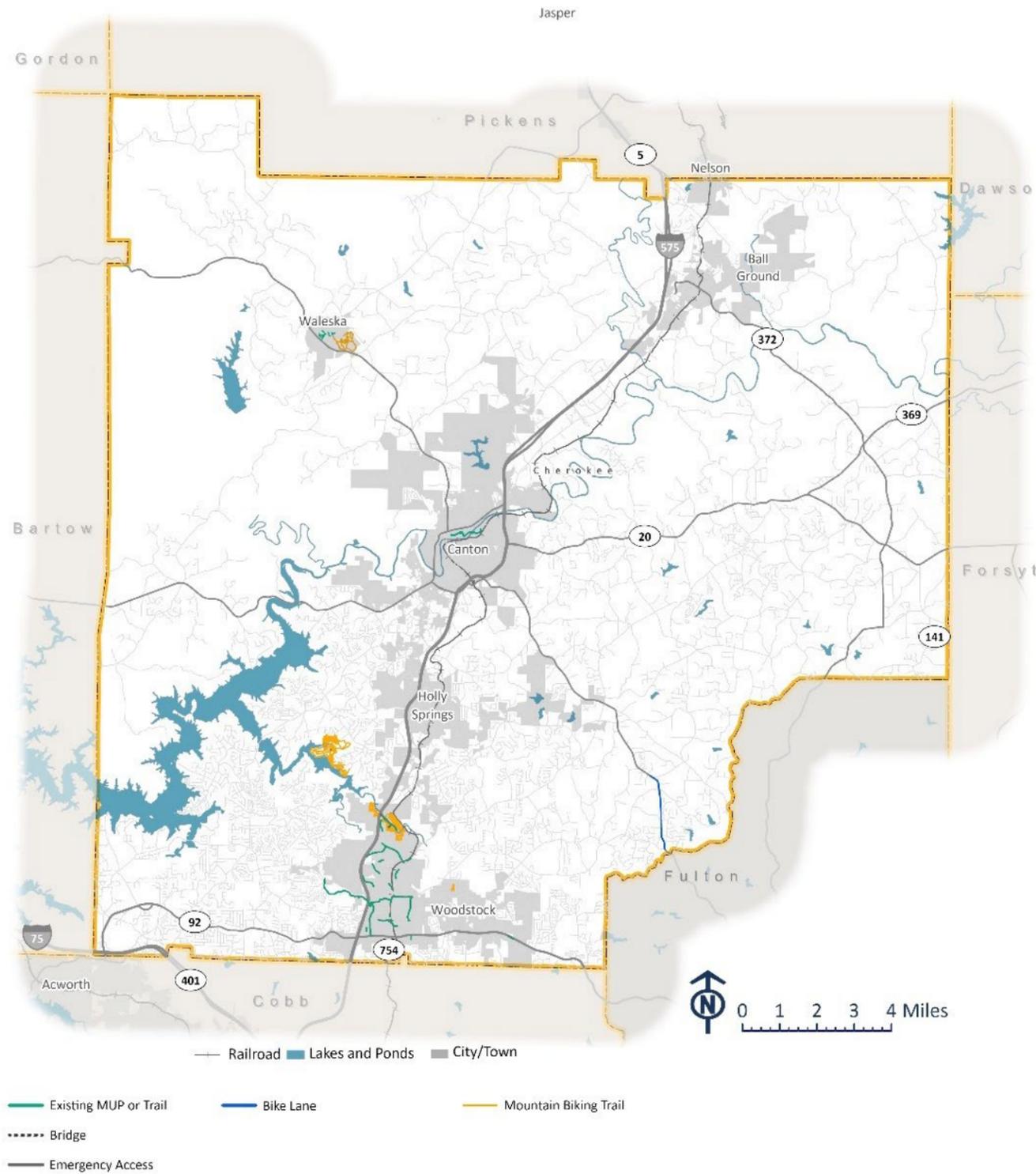
No existing on-road bicycle facilities or multi-use path facilities were documented in Ball Ground, Holly Springs, Nelson, or Mountain Park.

In addition, the following existing (unpaved) trail systems are present in the County which provide an opportunity for mountain biking or hiking and horseback riding:

- Blankets Creek Mountain Bike Trails: a system of mountain biking trails located west of I-575, between Woodstock and Holly Springs, and accessible via Sixes Road
- Garland Mountain Horse and Hike Trails: horseback riding and hiking trails, located in northwestern Cherokee County west of Waleska
- Etowah Trail and Suttalee Trace Greenspace Corridor: nature and historic trails, located on U.S. Corps of Engineers and Cherokee County greenspace land along the northern bank of Etowah River, west of Canton and partially following the historic 1800's Canton-Suttalee "Trace" route
- Reinhardt University Mountain Biking and Hiking Trail System: a seven-mile system of interconnected trails open for hiking or mountain biking, access from Reinhardt University campus in Waleska

Some smaller unpaved trail networks are also located throughout the County, such as Lewis Park walking trails and Hickory Trails Park walking trails.

Figure 60: Cherokee County Existing Bicycle Infrastructure



- A - City of Canton
- B - City of Holly Springs
- C - City of Waleska
- D - City of Ball Ground
- E - City of Woodstock

CITY OF CANTON

The City of Canton features a paved multi-use trail connecting Etowah River Park and Heritage Park, opened in 2016, with a length of just under half a mile. A bicycle and pedestrian bridge over Etowah River was constructed at the same time. This existing paved multi-use trail connects to G. Cecil Pruett Community Center. No on-road bicycle facilities are currently present in Canton.

CITY OF WALESKA

Waleska is home to Reinhard University campus and features approximately a mile of paved multi-use trails on campus. In addition, Reinhard University has a network of unpaved mountain biking and hiking trails which form loops connecting to a campus parking lot. No on-road bicycle facilities or paved multi-use path trails were documented in Waleska outside of Reinhardt University.

CITY OF WOODSTOCK

Woodstock is the largest municipality in Cherokee County and features a vibrant downtown with a variety of community destinations and retail opportunities. Several key community cultural and civic resources are located at or in proximity to the intersection of Main Street and Towne Lake Parkway/Arnold Parkway including Elm Street Cultural Arts Village, the Chambers at City Center, the Park at City Center, Woodstock Visitors Center and multiple retail stores and restaurants. This provides for an opportunity for residents and visitors to park once and complete a number of trips on foot or bike within the town center area.

The City of Woodstock existing multi-use trail system includes the following 8.5 miles of paved multi-use trails:

- Noonday Creek Trail (1.43 mi), from Market St in Downtown Woodstock to SR 92
- Trestle Rock Trail (0.40 mi), in Olde Rope Mill Park along the Little River)
- Woodstock Parkway Trail (0.78 Mi) through the Outlet Shoppes
- Education Connector Trail along Ridgewalk Parkway (0.67 mi) and two short segments along Main Street (0.12 and 0.27 mi)
- Lennar Subdivision Trail (0.45 mi) along Woodstock Pkwy
- Towne Lake Pass Trail (1.94 mi) connecting from Nooday Creek Trail east of I-575 to Towne Lake Parkway at Towne Lake Hills Dr South
- Rubes Creek Trail (0.70 mi)
- Some additional short connectors

The City of Woodstock is also home to a network of mountain biking trails in Olde Rope Mill Park.

EXISTING PEDESTRIAN FACILITIES

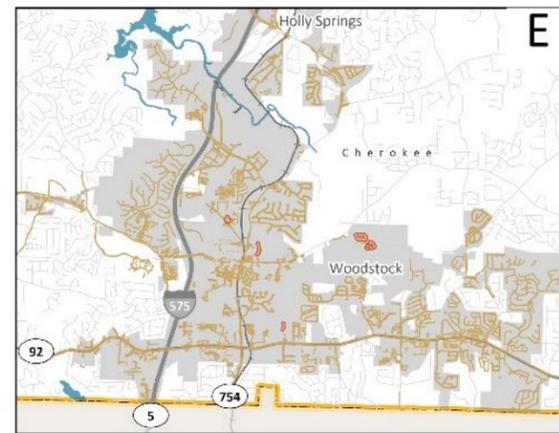
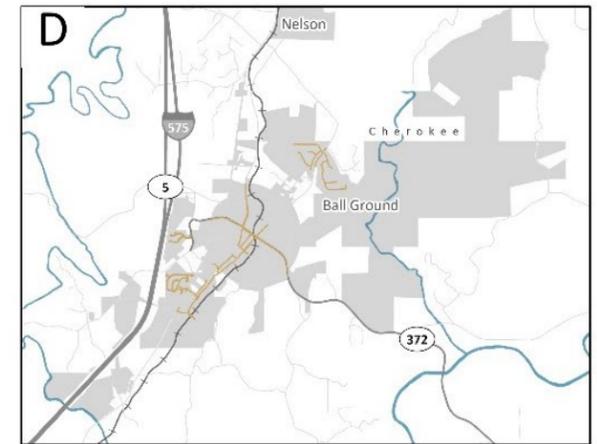
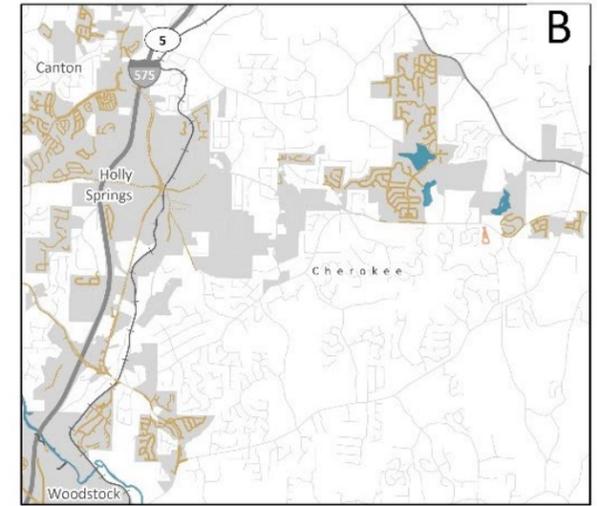
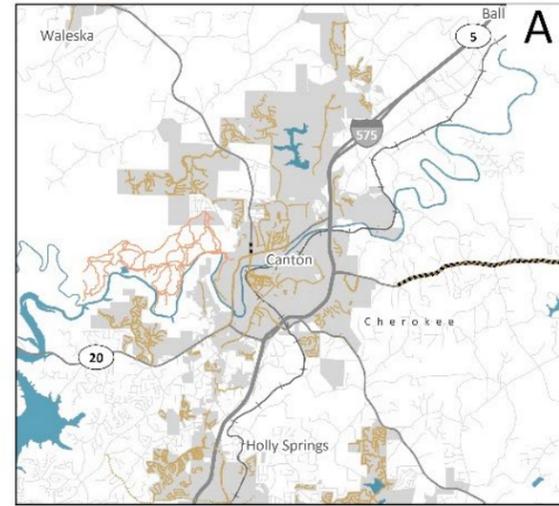
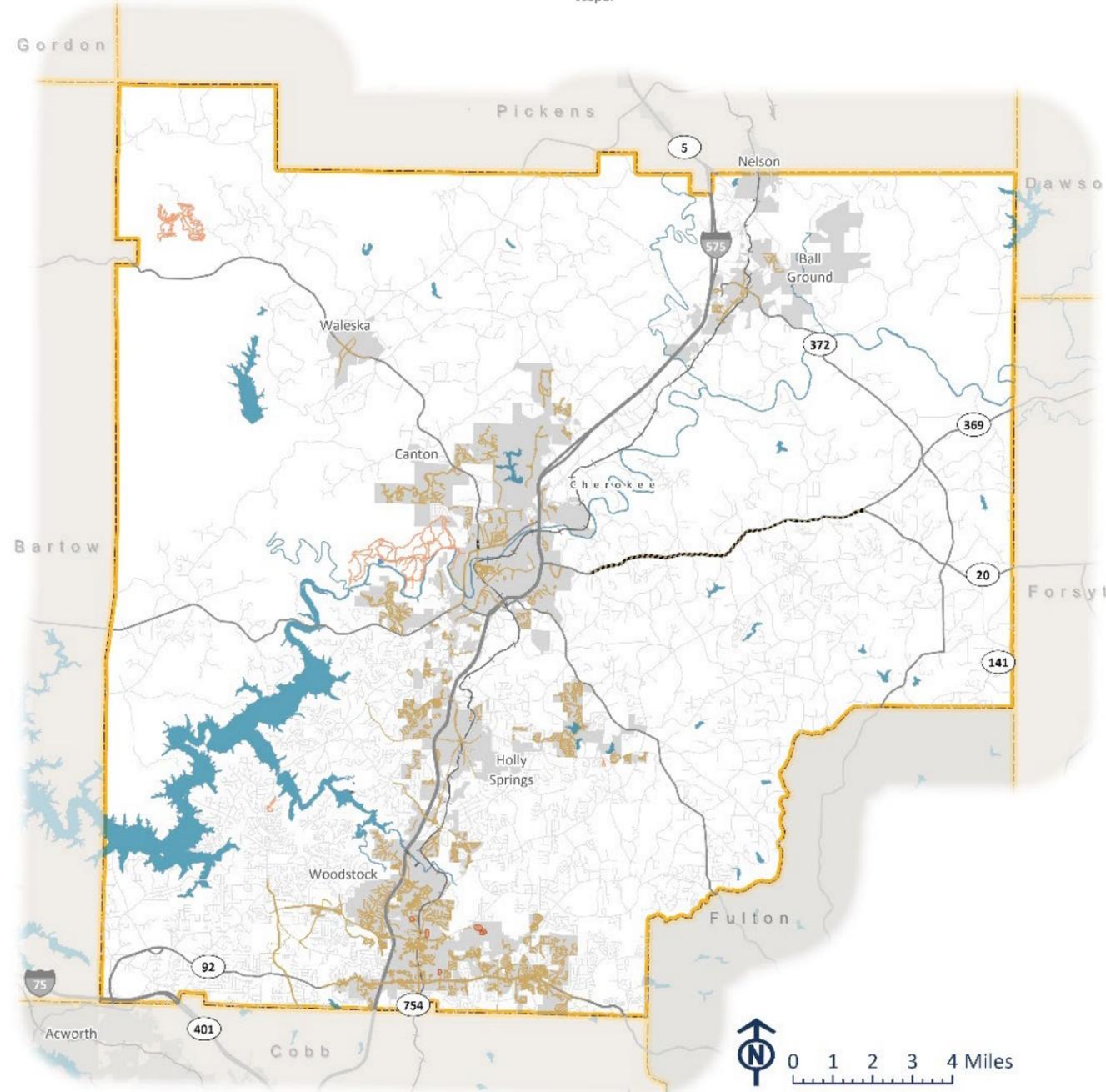
UNINCORPORATED CHEROKEE COUNTY

The majority of sidewalks in Cherokee County are located inside municipalities (further discussed below). Outside of municipal boundaries, sections of sidewalks are present in the County as follows:

- Bells Ferry Road from Cherokee County southern boundary to Southfork Way to the north
- SR 92 from I-75 to the west to Cherokee County border to the east, past Wiley Bridge Road, with some short gaps and multiple sections where sidewalks are only present on one side
- Eagle Drive from Townlake Parkway to Bells Ferry Road (west of Woodstock, in proximity to Etowah High School)
- Along Putnam Ford Drive and Parkbrook Drive (west of Woodstock, in proximity to Etowah High School)
- Along Putnam Ford Drive from Eagle Drive to Bascomb Carmel Road (connecting southwest Woodstock to Carmel Elementary School)
- Bascomb Carmel Road from Putnam Ford Drive to Carmel Elementary School Driveway
- A short section along southern side of Red Barn Road from Bells Ferry Road to Peak Ridge
- Sixes Road from Old Hwy 5/Holly Springs Parkway west to Bells Ferry Road

Unpaved walking trails are also available in several locations, including Lewis Park walking trails and Hickory Trails Park trail. Figure 61 below illustrates existing sidewalks and walking trails in Cherokee County.

Figure 61: Cherokee County Existing Pedestrian Infrastructure



- A - City of Canton
- B - City of Holly Springs
- C - City of Waleska
- D - City of Ball Ground
- E - City of Woodstock



CITY OF BALL GROUND

Ball Ground has a downtown district that extends along Gilmer Ferry Road. The City has done some master planning for its Downtown District, and the planning efforts have included sidewalks and streetscape improvements. Overall, the downtown area and key community destinations in Ball Ground appear to be well-served with existing pedestrian facilities.

Gilmer Ferry Road/Roberts Drive has sidewalks along one side starting at intersection with Ball Ground Highway/Cartersville Street. This intersection features high visibility crosswalk markings and pedestrian signal heads. Traveling east towards downtown, at intersection with Old Canton Road, Gilmer Ferry Road picks up sidewalks on both sides featuring decorative brick pavers, pedestrian scale lighting, and high visibility crosswalk markings at intersections. Continuing east along Gilmer Ferry Road, updated sidewalks and landscaping features on both sides are featured till the intersection with Civic Drive/Northridge Road, at which point a sidewalk on one side is present to the intersection with Cherokee Village Drive.

Sidewalks are also present along Old Canton Road traveling north from Gilmer Ferry Road on both sides up to approximately 403 Canton Road and on one side up to approximately 546 Old Canton Road, shy of the city limit at Old Canton Road and Commerce Lane. Sidewalks on Old Canton Road connect pedestrians from downtown to Ball Ground Public Library. Traveling south along Old Canton Road from intersection with Gilmer Ferry Road, the sidewalks are present on at least on one side to the end of the street, near 256 Old Canton Road. A pedestrian walking path link is present to connect the dead end of the street to Ball Ground Elementary School driveway. Sidewalks also appear to be present on one side along Old Canton Road south of Ball Ground Elementary School to Coy Holcomb Drive, and along the north side of Coy Holcomb Drive to Ball Ground Highway to the west and to Valley Street to the east. Valley Street features sidewalks on the west side of the street from south of the railroad crossing in downtown area down to Chestnut Street, both sides of the street from Chestnut Street to the United States Postal Service location, and then on the western side only. from the Postal Office down to Howell Bridge Road. The City Hall, Cherokee County Fire Station #2, Ball Ground Elementary School, Ball Ground Academy (preschool), Ball Ground Pharmacy and Ball Ground Botanical Garden are some of the key community destination that can be accessed via Valley Street sidewalks directly, or via connecting streets. Crossing north of Gilmer Ferry Road, Valley Street becomes Old Dawsonville Road and features sidewalks on east side that connect to Calvin Farmer Park. A residential subdivision to the south of downtown located off Lantern Walk Drive also appears to feature sidewalks.

CITY OF CANTON

Canton is the County seat for Cherokee County. Downtown Canton features a great walkable node with retail facing the street, wide sidewalks, and pedestrian-scale lighting. Striped crosswalks and low-speed streets allow for safe pedestrian crossings. Some ADA upgrades would be needed to ensure that sidewalks and curb ramps are

fully ADA-compliant. Etowah River provides a great recreational amenity for Canton residents but also serves a barrier to multi-modal transportation.

CITY OF HOLLY SPRINGS

The original LCI study report for Holly Springs noted that only one sidewalk segment was present as of 2004. Based on street view imagery, today's conditions include significant pedestrian network improvements. Sidewalks are present along Holly Street/Hickory Road that continue from just west of Main Street to just west of Hickory Springs Industrial Drive. Palm Street includes sidewalks from Hickory Road to just north of Popular Street. Holly Springs Parkway widening project around 2017-2018 included the addition of sidewalks and pedestrian scale lighting along the roadway. Main Street and Holly Springs Parkway corridor currently has sidewalks on both sides from the Walmart Supercenter near Hembridge Drive at the north to Childers Road to the south.

The intersection at Holly Springs Parkway/Main Street and Hickory Road/Holly Street has signalized pedestrian crossings with pedestrian signal heads. Improvements such as an upgrade to two-directional ADA curb ramps, a modified turning radius, and leading pedestrian intervals could be considered to enhance the pedestrian experience.

CITY OF WALESKA

Waleska features some sidewalks in the downtown area in proximity to Reinhardt University, in addition to a network of paved multi-use trails throughout the university campus. Reinhardt College Parkway (SR 140) and Fincher Road (SR 108) form a key intersection in downtown Waleska. Reinhardt College Parkway currently has sidewalks on the north side with some pedestrian crossings striped throughout the town. Fincher Road also has a sidewalk on one side. Bartow Street connects downtown Waleska to the Cline Park and appears to have a sidewalk on one side based on aerial photography review.

CITY OF WOODSTOCK

Woodstock has a relatively large existing sidewalk network in addition to the multi-use trail network. Sidewalks are mostly present in downtown Woodstock and in many large residential subdivisions, while pedestrian connections between residential areas, downtown and other commercial activity nodes are sometimes lacking. Multi-use paths can help support improved connectivity between neighborhoods and activity centers. This sentiment was echoed in the Woodstock LCI study to enhance the pedestrian environment.

Woodstock Elementary is connected to existing sidewalks along Rope Mill Road; a future extension of multi-use path along Rope Mill Road south of the school could be beneficial for the multi-modal school access. Johnson Elementary School is connected to Old Highway 5 via existing sidewalks and could benefit from a multi-use path extension along Old Highway 5, as planned in the Greenprints Plan (2021 update). Chattahoochee Tech is also connected to existing sidewalks and would benefit from a planned expansion of multi-use path along Main Street to the north of existing terminus at Arnold Mill Road.

PLANNED BICYCLE AND PEDESTRIAN IMPROVEMENTS

Planned on-road bicycle improvements and multi-use trail improvements were grouped together for the purposes of reviewing planned infrastructure. Planned sidewalk improvements were reviewed separately.

PLANNED BICYCLE IMPROVEMENTS

UNINCORPORATED CHEROKEE COUNTY

Cherokee County has as a wide planned network of multi-use trails, as reflected in the previous update of the CTP and with further expansion of planned multi-use trails in Southwest Cherokee County based on the Southwest Cherokee Parks and Trails Plan (2021).

Lake Allatoona shores and creek corridors delineate some of the key planned multi-use trail corridors in the County. Some of the major arterial corridors are also planned for future paved multi-use trail extensions. For example, the Towne Lake Parkway section of a planned multi-use trail would extend from the existing terminus of Noonday Creek Trail at Towne Lake Parkway in Woodstock to Bells Ferry Road where a multi-use trail is planned. Multi-use trails are planned to connect the County’s municipalities, major recreational centers, parks, and schools. The ARC RTP calls out several roadway projects in Cherokee County that are expected to include multi-use trail improvements, see Table 28 below.

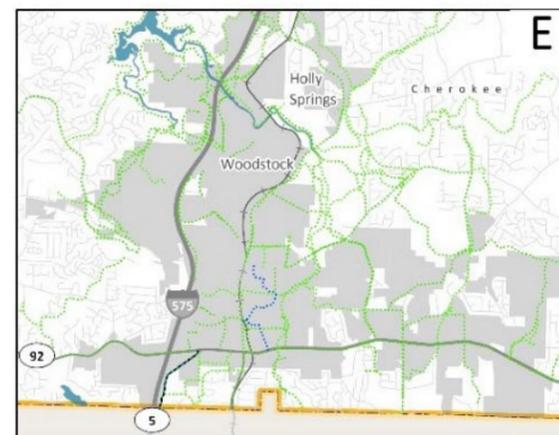
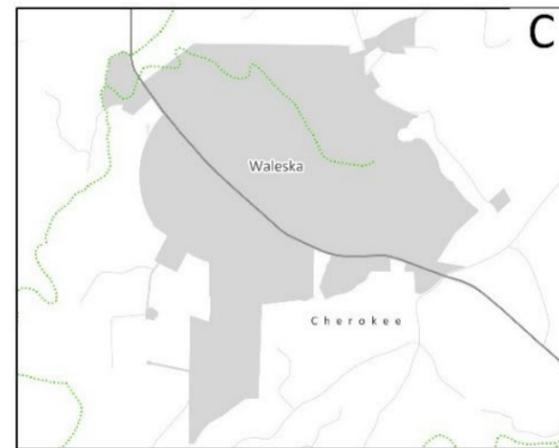
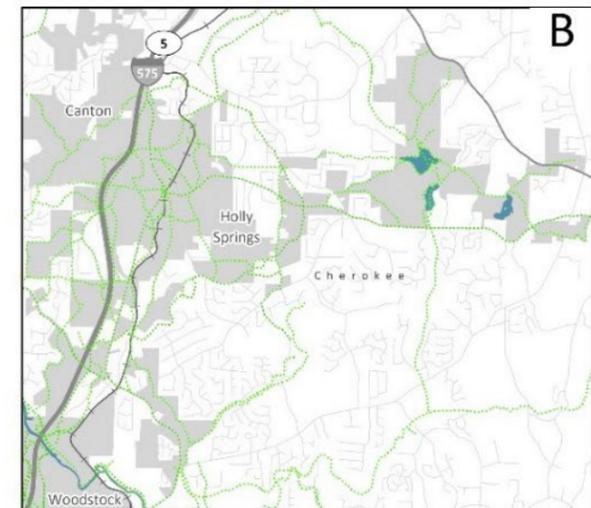
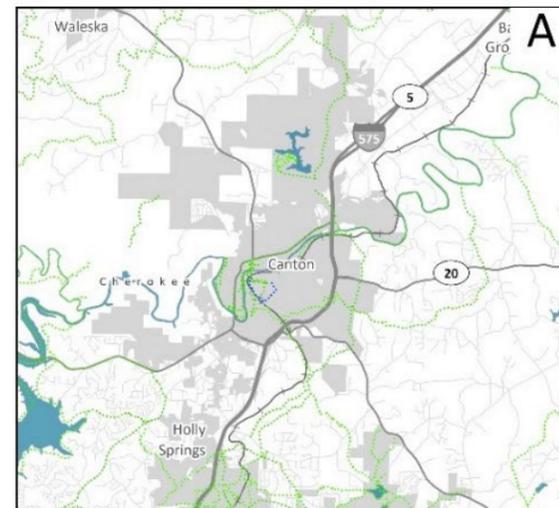
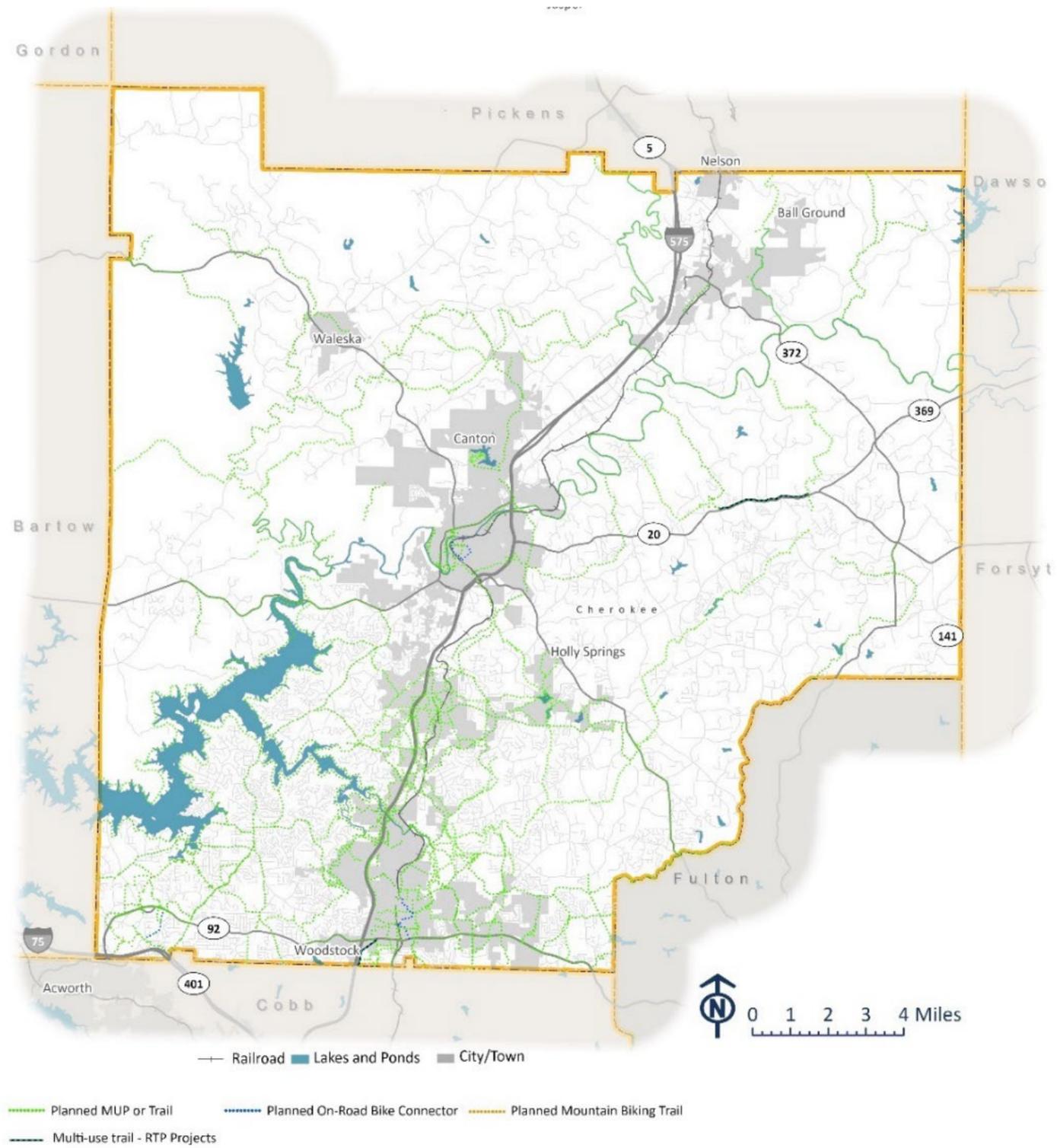
Table 28: Planned Roadway Improvements in the ARC RTP with Multi-Use Trail Accommodation

Project ID	Project Description	Project Type	Extents	Existing Lanes	Proposed Lanes	Bike/Ped Facilities Recommended
CH-232	SR 20 (Cumming Highway) Widening	Roadway / General Purpose Capacity	Union Hill Road to East Cherokee Drive	2	6	20 foot raised median and urban shoulders; a multi-use path with take the place of sidewalk on the north side of the road from Cherokee Veterans Park to Smithwick Creek
CH-233	SR 20 (Cumming Highway) Widening	Roadway / General Purpose Capacity	East Cherokee Drive to SR 369	2	6	21 foot raised median and urban shoulders; a multi-use path with take the place of sidewalk on the north side of the road from Cherokee Veterans Park to Smithwick Creek
CH-240	Noonday Creek Trail Extension	Last Mile Connectivity / Sidepaths and Trails	SR 92 to Noonday Creek Park			Regional trail connection for bicyclists and pedestrians, linking the City of Woodstock and Cobb County trails

Figure 62 illustrates planned multi-use trail, mountain biking trails and on-road bicycle facilities in Cherokee County.



Figure 62: Planned Multi-Use Paths/Trails and On-Road Bicycle Facilities in Cherokee County



- A - City of Canton
- B - City of Holly Springs
- C - City of Waleska
- D - City of Ball Ground
- E - City of Woodstock

CITY OF BALL GROUND

A multi-use trail improvement has been planned for downtown Ball Ground along Valley Street from Gilmer Ferry Road to the north to Walnut Road to the south.

CITY OF CANTON

The City of Canton is finishing construction on a 1.75 mile link of the multi-use trail eastward underneath I-575 from the oval at Etowah River park out to the city limits near Old Doss Road; this trail project was funded using SPLOST and Recreation Impact Fees on new developments in the City.²⁸ Another segment of multi-use trail approximately 1.5 mile long is under construction along the sanitary sewer line from Heritage Park west to an area near Boling Park.²⁹

Previous plans have recommended regional multi-use trail connections from Canton to Holly Springs, Woodstock, and other destinations throughout the County. These recommendations include:

- A bicycle and pedestrian bridge across the river to the west from downtown Canton was recommended in the LCI study and would be a critical link to connect additional neighborhoods and Cherokee High School to the walkable downtown activity center.
- An on-road bicycle connector loop was recommended in the LCI study, to be implemented through a combination of bicycle lanes and sharrows. The LCI study recommendation to convert one-way pair (North Street and Main Street) back to two-way streets would also provide an additional opportunity to add traffic calming and improve pedestrian safety in downtown Canton.
- The bridge connecting downtown Canton to the north across the river, Waleska Street bridge has wide sidewalks but lacks on-road bicycle facilities. A multi-use trail (or sidepath) has been planned to better connect downtown area to the destinations north of the river.

CITY OF HOLLY SPRINGS

A network of multi-use trails was recommended for Holly Springs in a 2009 study and updated during the 2018 LCI Study update. These included:

- Holly Street/Hickory Road multi-use trail is one of the key recommended east-west multi-use trail facilities.
- North-south planned multi-use trail corridors include I-575 corridor, Holly Springs Parkway through downtown Holly Springs, Palm Street corridor, CSX railroad corridor and along Toonigh Creek.
- Planned Badger Creek - Holly Springs Circle Connector which would connect Badger Creek Park to Toonigh Creek future trail corridor and Hickory Road future trail corridor.

²⁸ City of Canton. Community Development Department: Parks & Recreation. Retrieved May 24, 2021 from <https://www.cantonga.gov/government/departments/community-development/construction-and-development>

²⁹ Ibid.



- Avery Creek planned trail would connect Smith Mill Creek planned trail and parts of Cherokee County outside of Holly Springs to residential neighborhoods in Holly Springs around Bradshaw Lake.
- Blankets Creek Park Trails-Kenney Askew Park Connector is a north-south corridor planned west of I-575 along Blankets Creek and would connect Holly Springs to Blankets Creek mountain biking trails.

Several planned multi-use trail corridors would cross I-575 including:

- Planned multi-use trails along Sixes Road, Rabbit Hill Road, Marble Quarry Road and Holly Street.
- Planned Blankets Creek Park Trails-Cherokee Central Trail Connector would cross I-575 outside of a road crossing, just south of Holly Street.

CITY OF WALESKA

A multi-use trail (Reinhard University-Waleska Connector) that would cut across the northern portion of Waleska and connect to the future regional network of trails has been identified in prior plans.

CITY OF WOODSTOCK

Greenprints recommended a network of multi-use paths for the City of Woodstock with planned multi-use paved trails (sidepath) along major highway corridors and along creek corridors. Some of these already planned network expansions include:

- Along SR 92, the current western terminus of planned east-west trails extends to just east of Dixie Drive, near the Dixie Speedway.
- To the east, a planned multi-use trail along SR 92 extends to the Fulton County line.
- Extensions of existing Noonday Creek and Rubes Creek trails are planned to extend to the Cobb County line to the south.
- An east-west trail along the Little River would connect from Old Rope Mill Park to the west to Little River Park to the east, with additional eastern extension planned all the way to Roswell in Fulton County.
- A multi-use trail is planned along Canton Highway and Main Street north-south corridor from Cobb County line to the Little River, with future trail expected to tie into existing sections of trails and connect trail users to the downtown area, the Park at City Center and the Chattahoochee Technical College campus.
- An extension of Noonday Creek Trail north of Towne Lake Parkway would continue to Lake Allatoona.
- Extension of multi-use trails along Rope Mill Road are planned to connect to Woodstock Elementary and the Outlet Shoppes at Atlanta.
- A planned expansion of existing multi-use trail along Arnold Mill Road is proposed to connect to Dupree Park to the east, and further beyond the City boundary to Trickum Road.
- Planned upgrades for multi-use trail crossings at grade or under SR 92 for Noonday Creek Trail and Rubes Creek Trail have been identified in the previously-completed SR 92 LCI study.

- Old Rope Mill Park mountain biking trails are expected to be better connected to the rest of the community when the planned Old Rope Mill Park Road Connector trail is extended to connect to Ridgewalk Parkway near the Outlet Shoppes.

Planned on-road bicycle improvements include sharrows along a north-south route roughly parallel to Main Street along quieter residential streets including Laurel Wood Drive, Wood Glen Drive, Serenade Lane, Song Bird Way, Cousins Road and Hubbard Road to connect from SR 92 (Alabama Road) at the southern end to Arnold Mill Road to the north. This on-road bicycle corridor would have to rely on newly-constructed roadway segments to make this a continuous north-south route, due to the disconnected nature of residential subdivision streets.

PLANNED PEDESTRIAN IMPROVEMENTS

UNINCORPORATED CHEROKEE COUNTY

Planned pedestrian improvements in the unincorporated County tend to focus primarily on multi-use trails. For sidewalk improvements, a cluster of sidewalks outside of municipal boundaries has been recommended along Bells Ferry Road:

- Along Ridge Road to approximately 550 feet west of Bells Ferry Road
- Along Hunter Trail from Bells Ferry Road to the road dead end
- Along Buice Lake Parkway from dead end to the west to Old Bascomb Road to the east
- Along Old Bascomb Road from Buice Lake Parkway to Bascomb Carmel Road
- Along Bascomb Carmel Road from Bells Ferry Road to approximately 460 feet southeast of Old Bascomb Road
- Along Eagle Drive from Bells Ferry Road to the west to Brolley Woods Drive
- Along Brolley Woods Drive from Eagle Drive approximately 850 feet south
- Along Glenell Drive from Bells Ferry Road to approximately 1375 feet east of Bells Ferry Road
- Hickory Road from SR 140 west to New Light Road
- Stringer Road: fill in the gaps from Hickory Road to SR 140
- Old Alabama Road from Elwin Ragsdale Road south to SR 92

A sidewalk extension (both sides) along Holly Street has been recommended to extend beyond the boundaries of Holly Springs to Bells Ferry Road to the west. Figure 63 illustrates the planned sidewalk improvements in Cherokee County.

Cherokee County SPLOST Projects include some pedestrian and trail improvements including a few roadway projects that would extend sidewalks and multi-use path facilities.

Table 29: Cherokee County SPLOST Bicycle and Pedestrian Projects and Roadway Projects with Multi-Modal Elements

SPLOST Bicycle and Pedestrian Projects and Roadway Projects with Multi-Modal Elements				
Project No.	Project	Description	Contractor	Status
73117	Kennesaw Avenue	Sidewalk and drainage improvements for the City of Nelson	Ohmshiv Construction, LLC	Contract awarded 5/26/2021.
63087	Towne Lake Sidewalk	Multi-Use trail along Towne Lake Pkwy Phase 1	Glosson Enterprises, LLC	Contract to be awarded 6/15/2021.
73111	Bells Ferry Rd, Ridge Rd and Bridge Mill Ave Sidewalk Gaps	Sidewalk improvements	Backbone Infrastructure, LLC	Contract awarded 8/3.
73105	Hickory Road Sidewalks between SR 140 and East Cherokee Dr. (Extension to New Light Road). East Cherokee Dr and Hickory Rd intersection to be brought up to ADA standards. Additional sidewalks to be added to Hickory Road and Stringer Road.	Sidewalk and Intersection Improvement	Kennedy Engineering & Associates	Project on hold while preliminary plans for SR 140 at Batesville/Hickory are being developed. Project extended to New Light Road. Concept for the project extension has been approved. Developing preliminary plans.



SPLOST Bicycle and Pedestrian Projects and Roadway Projects with Multi-Modal Elements				
63001 GDOT PI #0013526	Bells Ferry Road - Southfork Way to Victoria Road	Widening from 2 to 4 lanes. Project will include a sidepath on one side and sidewalks on the other side.	VHB, Inc.	GDOT design and construct. County to acquire right-of-way. Design is in progress. Utility coordination and storm drainage design being completed. Right of way acquisition in progress. GDOT is proposing to use HB 170 funds for construction.
71005 GDOT PI #0013525	Bells Ferry Road over Little River/Lake Allatoona	Bridge Replacement Project. Project will include a sidepath on one side	VHB, Inc.	GDOT design and construct. County to acquire right-of-way. Working with ACOE and marina owners regarding permitting needs and impacts to marina operations. Plans revised to accommodate new driveway location. Right of way has been authorized.

Additionally, some of the roadway improvement projects identified in the ARC RTP have included pedestrian improvement recommendations, see Table 30 below. Here “urban shoulder” is expected to include curb, gutter and sidewalks unless specified otherwise.

Table 30: Planned Cherokee County Roadway Improvements in the ARC RTP with Multi-Modal Accommodation

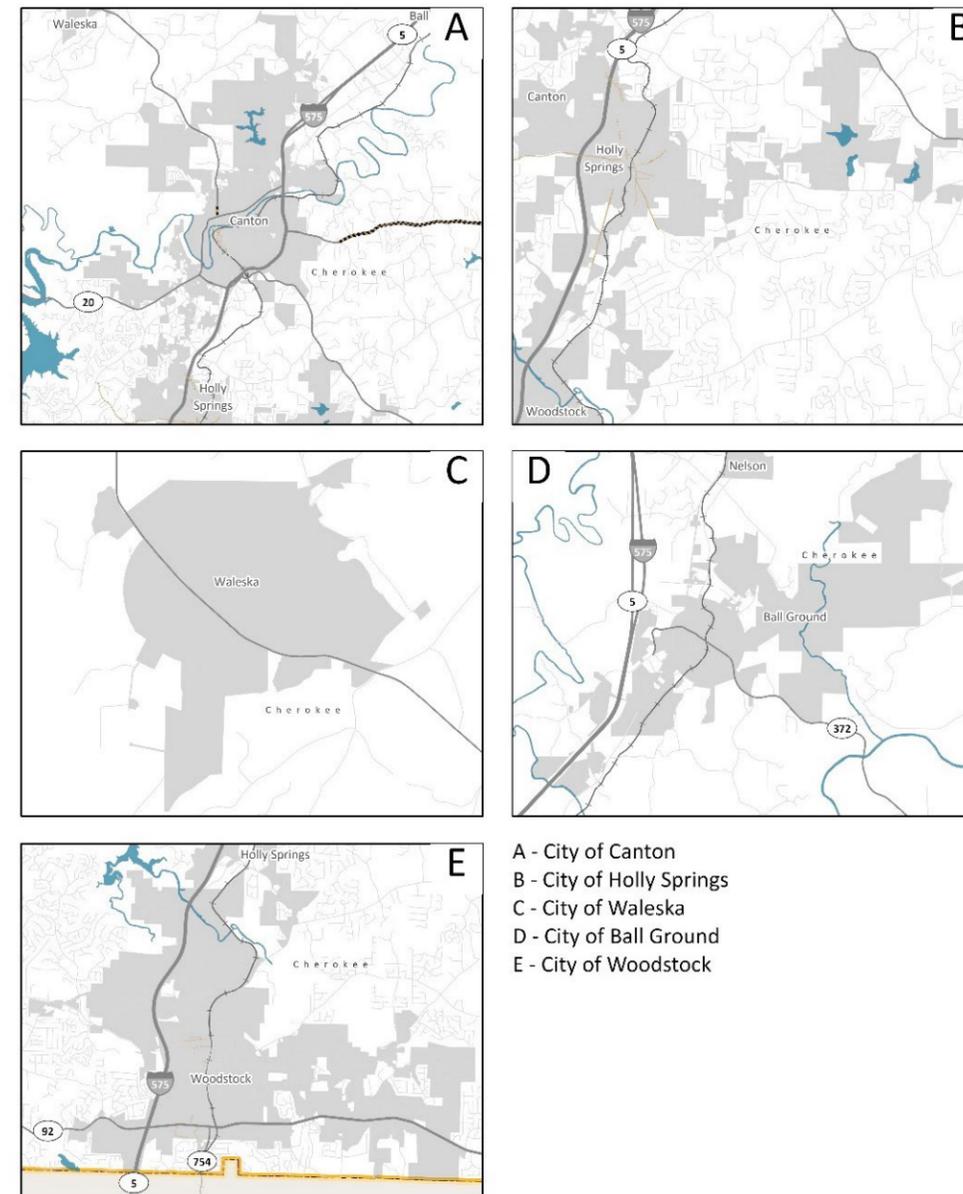
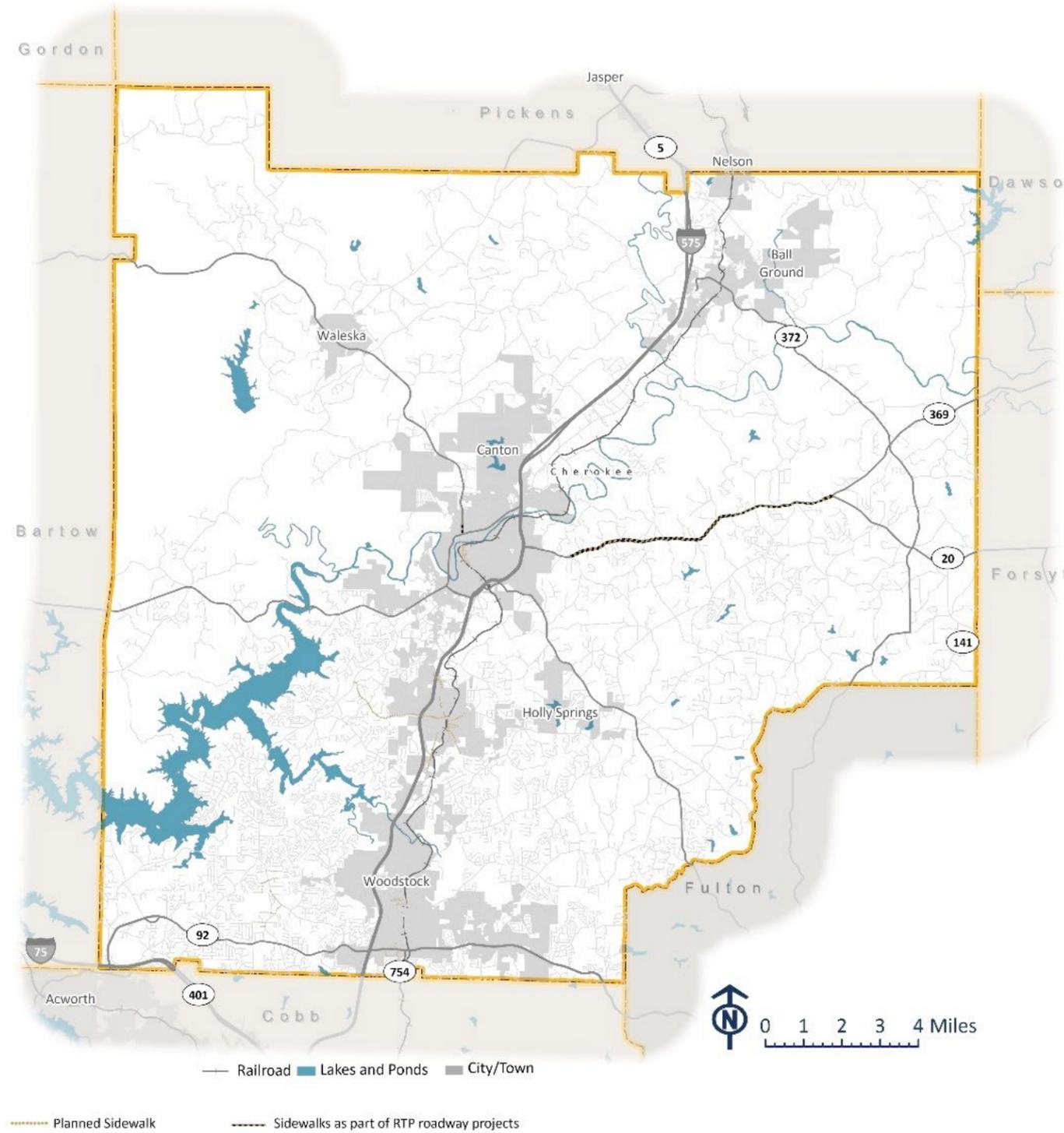
Project ID	Project Description	Project Type	Extents	Existing Lanes	Proposed Lanes	Bike/Ped Facilities Recommended
CH-140A	SR 140 Operational Improvements	Roadway /Operations & Safety	SR 140 at Riverstone Parkway / Marietta Highway			Improve vehicular and pedestrian mobility
CH-231	SR 20 (Cumming Highway) Widening	Roadway / General Purpose Capacity	Scott Road to Union Hill Road	2	6	20 ft raised median and urban shoulders



CH-232	SR 20 (Cumming Highway) Widening	Roadway / General Purpose Capacity	Union Hill Road to East Cherokee Drive	2	6	20 ft raised median and urban shoulders; a multi-use path with take the place of sidewalk on the north side of the road from Cherokee Veterans Park to Smithwick Creek
CH-233	SR 20 (Cumming Highway) Widening	Roadway / General Purpose Capacity	East Cherokee Drive to SR 369	2	6	21 ft raised median and urban shoulders; a multi-use path with take the place of sidewalk on the north side of the road from Cherokee Veterans Park to Smithwick Creek



Figure 63: Planned Sidewalk Improvements in Cherokee County



CITY OF CANTON

The City of Canton has identified a number of corridors for sidewalk improvements in its downtown area. Hill Street Circle, Academy Street, Hill Street, Riverdale Circle, Middle Street and Marietta Road from East Marietta Street to John Pettit Street are recommended for sidewalk improvements including new sidewalks, sidewalk gap closure and upgrades.

CITY OF HOLLY SPRINGS

The City of Holly Springs has identified the following recommended improvements to its sidewalks network. The focus is primarily on the downtown area with other improvements radiating out.

- Extend sidewalks along Holly Street (both sides) from existing terminus west Holly Springs Parkway out to western town limit near Copper Creek Drive, and further west beyond municipal limits
- Add sidewalks along Boyd Street from Holly Springs Parkway to southern terminus of the street
- Close sidewalk gaps and extend sidewalks (both sides) further north along Holly Springs Parkway from Elementary Circle to I-575 interchange western limit /southbound on-ramps and off-ramps
- Extend sidewalks further east (both sides) along Hickory Road from Hickory Circle to Cedar Valley Drive
- Implement sidewalks (both sides) and close sidewalk gaps along Palm Street from Hickory Road to Jetta Lane
- Implement sidewalks (both sides) along Walnut Street from Palm Street to end of street
- Implement sidewalks (both sides) along Poplar Street from Palm Street to end of street
- Implement sidewalks (both sides) along Old Magnolia Way from Palm Street to end of street

CITY OF WOODSTOCK

Several sidewalk improvements were identified in the Woodstock LCI study and SR 92 LCI study. Some of those recommended sidewalks have been built. The following outstanding planned sidewalk recommendations have been identified in Woodstock:

- Implement sidewalks and on-street parking along Clay Street, Rusk Street and Kyle Street
- Implement sidewalks and on-street parking along Oak Street (Main Street to Market Street)
- Implement a Pedestrian Hybrid Beacon at Main Street and Elm Street.
- Infill missing sidewalks in the SR 92 LCI study area along Woodpark Place, Professional Way, and Indian Valley Drive

BICYCLE AND PEDESTRIAN KEY FINDINGS

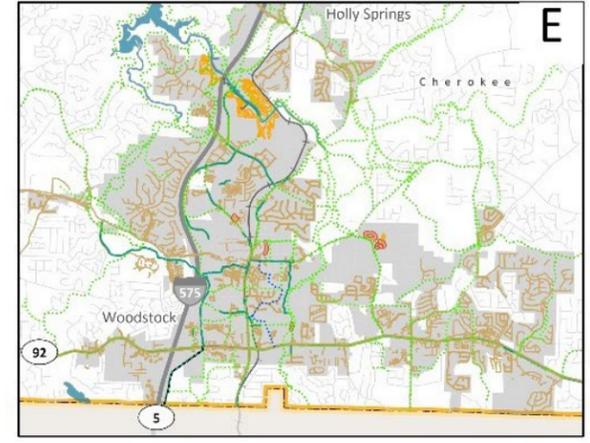
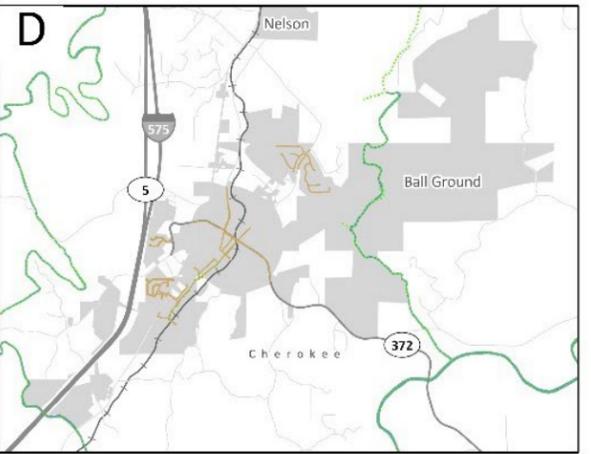
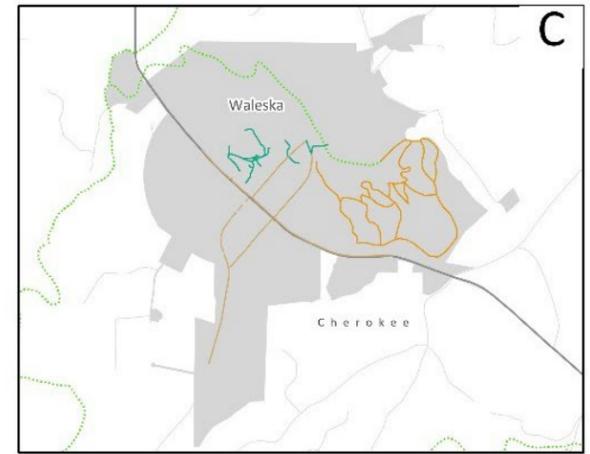
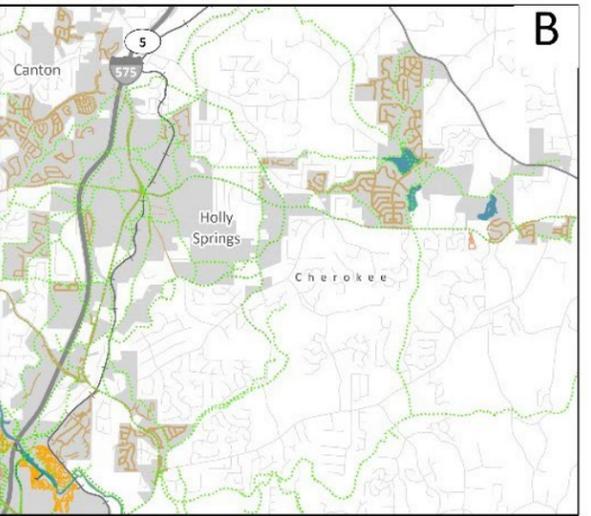
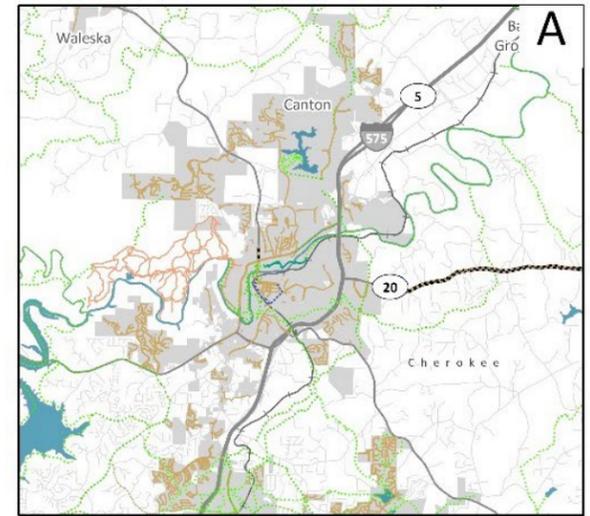
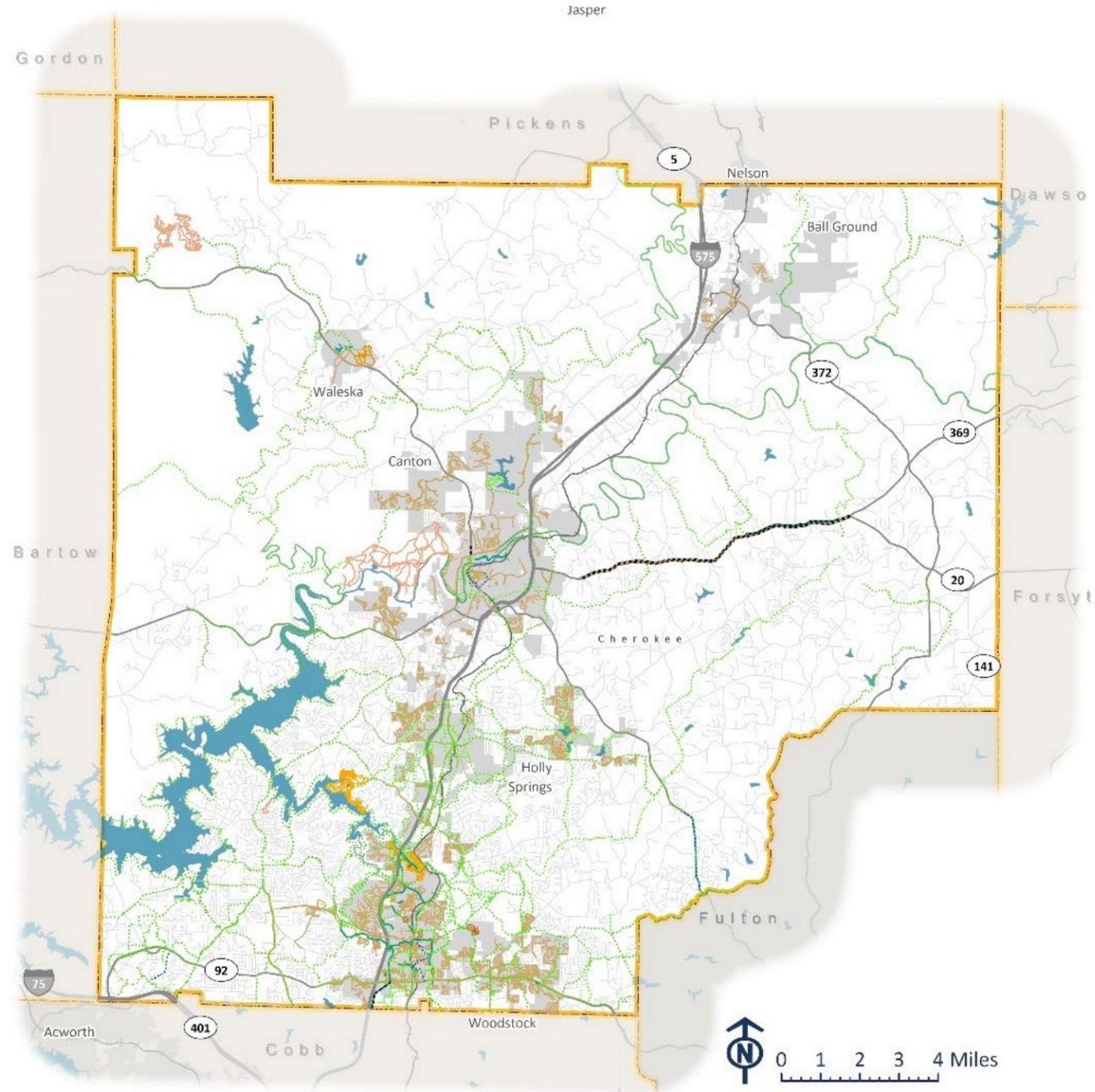
Cherokee County has previously completed a number of bicycle, pedestrian and trail studies and LCI studies with emphasis on improving bicycle and pedestrian infrastructure. The 2016 CTP Update also included recommendations for a network of multi-use trails across the County.

Based on a review of existing conditions, (see Figure 64 below), the downtown areas tend to have a good sidewalk network with a significant network of trails already present in Woodstock. Some of the residential subdivisions include a sidewalk network. Several mountain bicycling trail and hiking trail nodes provide great access to recreational opportunities.

A connected network of trails that could serve a transportation function in the County is currently lacking outside of Woodstock. The active transportation network is less connected in-between the downtown areas. Additionally, some frequently visited locations such as community parks, outdoor recreation opportunities, and schools are under-served by existing bicycle and pedestrian facilities. The southern portion of the County is generally better served with multi-use trail facilities than the northern portion of the County.



Figure 64: Existing and Planned Bicycle, Pedestrian, and Multi-Use Trail Facilities



A - City of Canton
 B - City of Holly Springs
 C - City of Waleska
 D - City of Ball Ground
 E - City of Woodstock

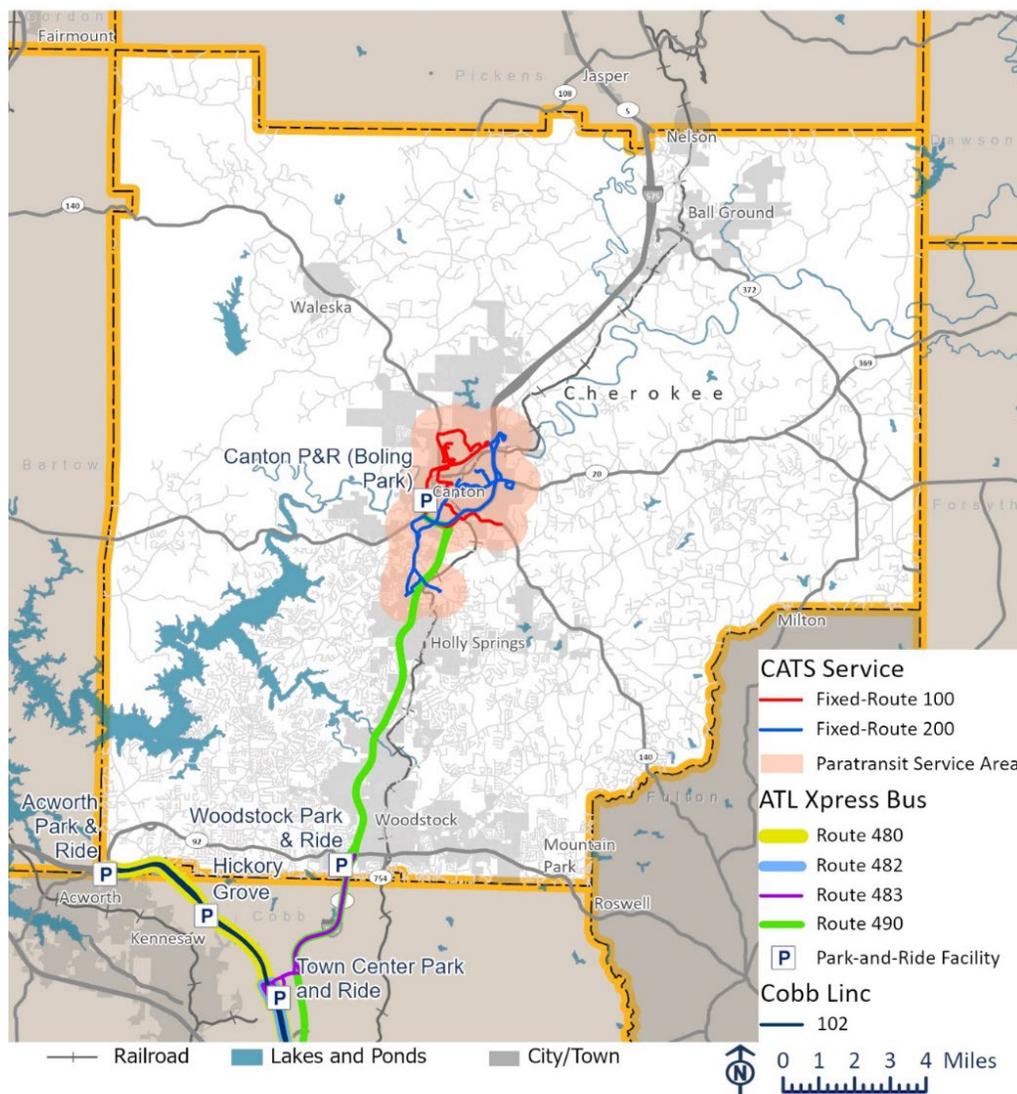
- Railroad
- Lakes and Ponds
- City/Town
- Existing MUP or Trail
- Bike Lane
- Existing Sidewalk
- Mountain Biking Trail
- Planned MUP or Trail
- Planned On-Road Bike Connector
- Planned Sidewalk
- Planned Mountain Biking Trail
- Multi-use trail - RTP Projects
- Sidewalks as part of RTP roadway projects
- Unpaved Trail
- Bridge
- Emergency Access

11. TRANSIT

This section provides an inventory of existing transit services in Cherokee County. This includes services provided by Cherokee County's transit agency, the Cherokee Area Transportation System (CATS) and regional services provided by the Atlanta-region Transit Link Authority (the ATL) and CobbLinc. A detailed Transit Service Assessment will also be conducted to serve as an update to the transit component of the previous 2016 CTP. This assessment will be completed as part of the upcoming Needs Assessment phase of the study and will include a detailed analysis of transit ridership, travel patterns and funding conditions.

Figure 65 illustrates existing transit services in Cherokee County. This includes two local bus routes in the Canton area with a surrounding paratransit service area. ATL Xpress commuter bus, CobbLinc Route 102 and park-and-ride facilities are also mapped in Figure 65.

Figure 65: Existing Cherokee County Transit Services



REVIEW OF GEORGIA'S STATEWIDE TRANSIT PLAN

GDOT's Georgia Statewide Transit Plan was finalized in April 2020 and is a comprehensive review of Georgia's public transit services. These services are grouped into categories of serving rural, small urban or large urban communities.

As part of the Atlanta region, a member of the ATL and being served by Xpress bus service, Cherokee County is classified as a large urban community for purposes of the statewide report. However, given CATS and the dual characteristics of urban and rural areas, the report addresses Cherokee County as having a small urban and rural program and acknowledges its uniquely blended fixed-route and on-demand transit system. The final report provides guidance applicable to Cherokee County such as being aware of technological changes but not waiting for them to occur before investing in public transit.

Cherokee County is specifically mentioned in multiple sections of this report and the final report summary provides statewide data applicable to the County. For example, the County lacks access to intercity bus service – with the nearest access occurring in Marietta and Dalton.³⁰ In another example, regarding factors likely to indicate transit propensity, Cherokee County, when compared to other counties in the state, has less populations made up of minorities, low-income, limited English proficient (LEP, disability, zero car households, elderly, and younger than the rest of the state.³¹

The Plan reported the 2017 ridership for the CATS system for both fixed route and demand response programs as 71,623 unlinked trips.³² Costs per rider are in the high middle range compared to the other 17 transit systems listed as large urban, but the costs to County taxpayers on a per capita basis is the lowest of the systems surveyed.³³

Ridership and operating expense data from 2017 and 2019 are provided in the Trip Data Analysis, as is an origin/destination analysis for the County relying on ARC's travel model and data from CATS. A sample of the report's findings listing top origin/destinations and providing a heat map of the same is shown below in Figure 66.³⁴

³⁰ GDOT. *Statewide Transit Plan – Final Report*, p. 3-2.

³¹ GDOT. *Statewide Transit Plan – Final Report*, pp. 6-6-12.

³² GDOT. *Statewide Transit Plan – Existing Conditions, Part 1 – State Profile*, pp. A-3-7.

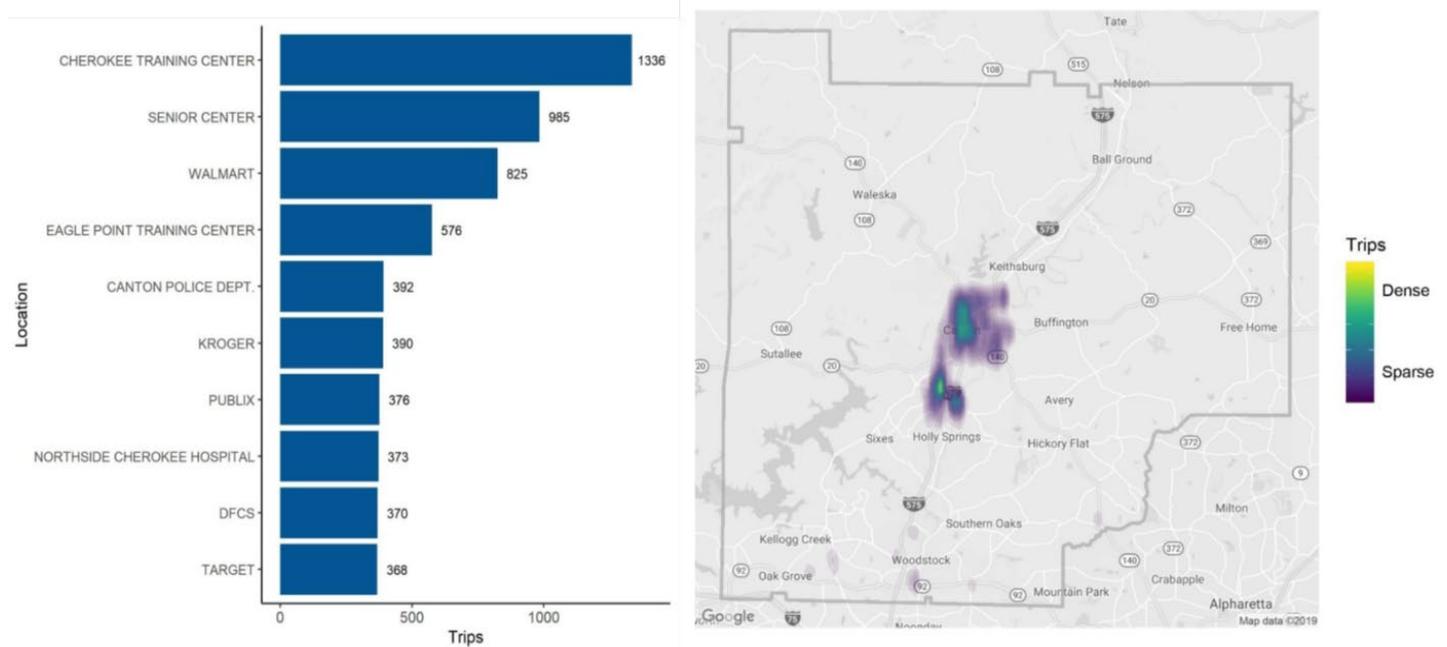
³³ GDOT. *Statewide Transit Plan – Final Report*. P. 2-7.

³⁴ GDOT. *Statewide Transit Plan – Final Rural Transit Trip Data Analysis Report*, p. 3-39.



EXISTING CONDITIONS REPORT

Figure 66: Cherokee Area Transit System – Origin Destination Data



Surveys of transit users were received from all areas of the state including Cherokee County. The primary finding was that transit does not go where people want to go and that the nearest stop is too far away.³⁵ The Statewide Needs Assessment noted that the County's Comprehensive Transportation Plan finds that much of the County is too sparsely populated for fixed transit service but that this will change as the County continues to grow with likely expansion to include Holly Springs and Woodstock.

The Needs Assessment also analyzed data from the ARC model and determined that transit demand between Cherokee County and Cobb County was triple that of the demand for service to Fulton County. Xpress bus service, however, only operates to downtown and midtown Atlanta in Fulton County.³⁶ The assessment also projected future demand for transit in Cherokee County as between 40,000 and 90,000 trips per day in 2050.³⁷ Relevant transit recommendations included the following:

- Expand CATS service hours to accommodate links to Xpress;³⁸
- Provide regional connectivity to north Fulton and Cobb counties,
- Establish fare agreements with MARTA and Xpress.

³⁵ GDOT. *Statewide Transit Plan – Final Report*, p. 8-4.

³⁶ GDOT. *Statewide Transit Plan – Needs Assessment*, p. 10-16.

³⁷ GDOT. *Statewide Transit Plan – Needs Assessment*, p. 6-7.

³⁸ Xpress typically operates from 6 to 9 in the morning and 4 to 7 in the evening, whereas CATS operates between 8 a.m. and 4 p.m.



CHEROKEE AREA TRANSPORTATION SYSTEM (CATS)



CATS provides four distinct forms of transit service, which includes fixed-route local bus, complementary paratransit, countywide demand response, and commuter vanpool.

CANTON FIXED-ROUTE LOCAL BUS SERVICE

CATS provides two fixed-route local bus service in the Canton area. Route 100 serves downtown and north Canton. Route 200 serves downtown, south Canton and northern Holly Springs. The route alignments overlap in several areas and transfers are available at the Canton Police Department and Walmart upon passenger request. Both routes operate Monday through Friday from 8:00 a.m. to 4:00 p.m. and at headways of one hour.

Fixed-route fares are \$1.25 per one-way trip. Reduced fares of \$0.60 are available for seniors, Medicare recipients, and persons with disabilities. Passengers must have the correct fare as drivers cannot make change. Children under 42" ride for free. 10-ride passes for adults and children over 42" are available for \$12.50. 10-ride passes for seniors, Medicare recipients, and persons with disabilities are offered for \$6.00.

CATS recently conducted an assessment of fixed-route services to improve route efficiency and rider safety. This resulted in minor service adjustments to bus stop locations. One stop was removed from Route 100 and four stops were transferred from Route 200 to 100. Six stops were removed from Route 200 and four stops were transferred from Route 100 to Route 200. Bus stops were removed due to low ridership demand or safety concerns.

COMPLEMENTARY PARATRANSIT SERVICE

Complementary paratransit service is provided for County residents who cannot access or utilize fixed-route service due to disability. This service is compliant with Americans with Disability Act (ADA) and requires that trip origins and destinations are within three-fourths of a mile of fixed-route alignments. The service span is identical to that of fixed-route, operating Monday through Friday from 8:00 a.m. to 4:00 p.m. One-way fares are \$2.50 per trip.

COUNTYWIDE DEMAND RESPONSE

Countywide demand response service is available to all County residents and is provided Monday through Friday from 6:30 a.m. to 4:00 p.m. One-way fares are \$1.50 for the first five miles and an additional \$0.30 per mile over 5 miles. Payment is due to boarding and correct fare is required as drivers cannot make change. Advanced fare payment via debit or credit cards is available by phone.

CATS provides demand response through 16 shuttle buses with a capacity of 8-16 persons. Start and end times vary by vehicle based upon trips scheduled each day. CATS uses QRyde software to schedule requested trips. QRyde is an ADA-complaint scheduling and dispatching software designed to serve the needs of local demand response transit. CATS' experience with QRyde has been mixed. Some features of the software work well, like the National Transit Data (NTD) reporting while some do not. QRyde has not been effective in optimizing routes in the County. The preferred method for route



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planning is through the local knowledge of dispatchers and CATS typically relies on 17 fixed routes throughout the County to provide service.

CATS maintains a contract with the Georgia Department of Human Services (DHS), which reimburses the agency for trips to the Cherokee Training Center, Empower Cherokee, Cherokee Senior Center, the Department of Family and Children Services (DFCS), Vocational Rehabilitation, and Briggs & Associates. Reimbursements are based upon fixed rates for each destination. The Cherokee Senior Center and Cherokee Training Center also contribute a portion of their trip costs to CATS.

Demand response service can be scheduled for any trip purpose if the origins and destinations are within Cherokee County. In addition to DHS trip destinations, other major destinations include Northside – Cherokee Hospital, Highland Rivers, Cherokee Wellness Center, medical facilities in Canton and Woodstock, nursing homes, shopping centers, and employment sites.

COMMUTER VANPOOL SERVICE

CATS has partnered with Enterprise Rent-a-Car and the Commute with Enterprise program to provide vanpool services. This service features newer model SUVs or passenger vans with insurance, maintenance, roadside assistance, and Peach Pass toll fare included. Fares vary by distance and number of riders per vehicle (4-15 persons). CATS contributes 50% of the lease amount and fuel. The remaining costs are divided equally among riders.

SENIOR SERVICES TRANSPORTATION

Cherokee County's Senior Services division provides pre-scheduled transportation services for seniors to the Senior Services Center in Canton via a 32-passenger bus, equipped with a lift and wheelchair assistance. The service also provides transportation for seniors in the congregate meal program to and from the Senior Services Center. This service is oriented towards providing transportation to large groups of seniors, while trips for individual seniors and small groups are better served by countywide demand response service. One-way fares are \$1.00 per trip. Residents aged 65 and over are eligible for reduced fares to the Senior Services Center for programs.

ATL XPRESS BUS SERVICE

ROUTES

The ATL is the primary regional transit provider in Cherokee County. The ATL operates several Xpress routes in Cherokee County and to adjacent areas in Cobb County. Xpress bus routes operate Monday through Friday and serve commute trips to Atlanta in the a.m. and return trips in the afternoon/evening. These routes include:

- **Route 480 – Acworth/Town Center to Downtown/Midtown** - Service is provided from Acworth Park-and-Ride and Town Center/Big Shanty Park-and-Ride to Downtown Atlanta. Three a.m. pick-ups times and two p.m. return trips are provided.
- **Route 482 – Town Center to Perimeter** - This route provided service between the Town Center Park-and-Ride and the Perimeter area, but was discontinued due to historic low ridership levels and the added declines due to the COVID-19 impacts.



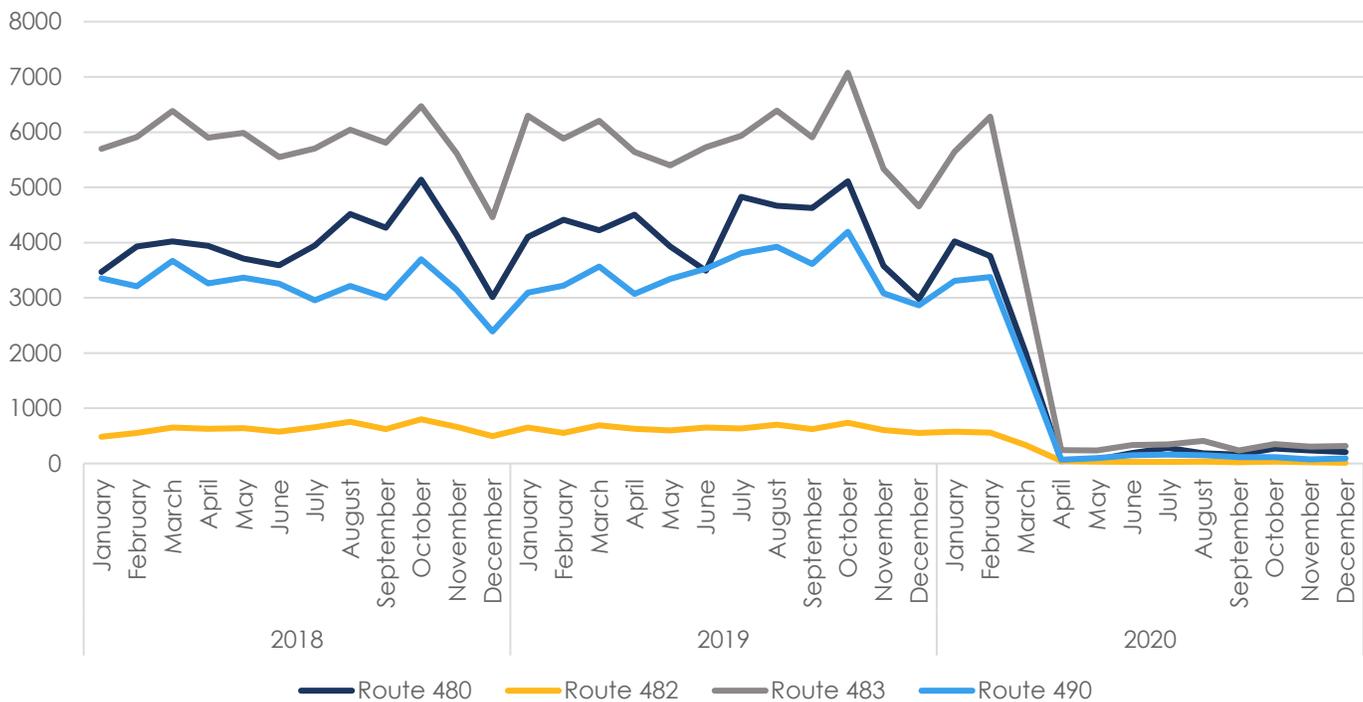
EXISTING CONDITIONS REPORT

- **Route 483 – Woodstock/Town Center (Big Shanty) to Midtown** – Service is provided between the Town Center Park-and-Ride, Woodstock Park-and-Ride and Midtown Atlanta. Three pick-up times are offered in the a.m. and two return times in the p.m.
- **Route 490 - Canton/Woodstock to Downtown** – Service is provided between Canton and Woodstock Park-and-Rides and downtown Atlanta. One pick-up time is provided in the a.m. and one return trip in the p.m.

RIDERSHIP

Figure 67 illustrates monthly ridership for these four routes from 2018 through 2020. The figure illustrates the historic low ridership levels on Route 482 from Town Center to Perimeter. The highest ridership levels are seen consistently on Route 480 from Acworth/Town Center to Downtown/Midtown Atlanta. Ridership on the three existing routes show consistent patterns year after year. Ridership on commuter services typically fluctuate monthly, peaking in the early autumn months and exhibit the lowest levels in November and December.

Figure 67: Cherokee County Xpress Bus Monthly Ridership (2018-2020)



The ATL has recently added two new Xpress routes adjacent to Cherokee County. Service began on May 3rd, 2021. Both of these routes depart from the ATL's recently constructed Hickory Grove Park-and-Ride in Acworth. These routes include:

- **Route 84 – Hickory Grove to Midtown Atlanta** – Service is provided between Hickory Grove and Midtown Atlanta with stops at Atlantic Station. This route provides two a.m. pick-up times and two p.m. return times.
- **Route 85 – Hickory Grove to Downtown Atlanta** – Service is provided between Hickory Grove and downtown Atlanta. This route provides two a.m. pick-up times and two p.m. return times.



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PARK-AND-RIDE FACILITIES

Several commuter park-and-ride facilities are located within Cherokee County or in adjacent areas that allow Cherokee County residents to access direct service to Downtown and Midtown Atlanta. Park-and-ride facilities are mapped in Figure 65 above and include the following:

- o **Woodstock Park-and-Ride** (400 spaces) – At His Hands Church, 550 Molly Lane, Woodstock
- o **Canton/Boling Park-and-Ride** (173 spaces) – 1358 Marietta Highway (GA-140), Canton
- o **Acworth Park-and-Ride** (250 spaces) – 6045 Lake Acworth Drive (GA-92) at I-75, Acworth
- o **Hickory Grove Park-and-Ride** (522 spaces) - 2018 Hickory Grove Road, Acworth. This is a newly constructed facility that began operation in May of 2021.

Figure 68: Hickory Grove Park-and-Ride



Table 31 shows the park-and-ride lots in and near Cherokee County, routes and destinations served, and the number of peak period runs before and during the COVID-19 pandemic. The table shows that number of peak runs for Xpress 490, 483 and 480 drops significantly during the pandemic period.

Table 31: Number of Peak Runs for Xpress Bus Routes (Xpress)

County	Park and Ride Lot	Route	Destination	# of Peak Runs	# of Peak Runs
				Pre-Pandemic	During Pandemic
Cherokee	Canton/Woodstock	490	Downtown	8	2
Cherokee	Woodstock/Town Center	483	Midtown	14	5
Cobb	Acworth/Town Center	480	Downtown	10	5
Cobb	Hickory Grove	484	Midtown	N/A	4
Cobb	Hickory Grove	485	Downtown	N/A	4

OCCUPANCY

Park-and-ride lot occupancy exhibited substantial variability based on ATL's 2018 audit data. The Canton lot averaged 25 vehicles per day while the Woodstock lot averaged 127 daily vehicles per day in 2018, showing more willingness of residents to drive south to access the park and ride.



COBBLINC

CobbLinc operates express commuter bus service on Route 102 from the Acworth Park-and-Ride to the Arts Center MARTA Station. This route attracts significant ridership from Cherokee County due to the pick-up location being on the border of Cobb/Cherokee border. Route 102 was temporarily suspended on April 15, 2020 due to declining ridership resulting from the COVID-19 pandemic. Service is anticipated to resume on Route 102 as ridership demand returns in the near future.

Before suspension, a.m. pick-ups were provided at 5:30, 6:00, 6:30, 7:00, and 8:00 a.m. Drop-offs were provided in the a.m. at two locations in Atlantic Station on 17th Street, West Peachtree Street at 14th Street and the MARTA Arts Center Station. In the p.m. pick-ups were provided from the Arts Center MARTA Station, at times throughout the afternoon and early evening. Pick-ups were offered at 3:00, 3:30, 4:05, 5:05, 5:35, and 6:10 p.m.

Fare reciprocity is provided between CobbLinc and the MARTA system, if riders utilize the Breeze Card payment option. Free transfers from CobbLinc express routes to the MARTA system are covered under existing CobbLinc fare structures and vice-versa for the p.m. commute from the MARTA to CobbLinc express. Fare value must be stored on a Breeze Card through one service provider and cannot be split between providers.

TRANSPORTATION DEMAND MANAGEMENT

Transportation demand management (TDM) is a set of strategies that provide alternatives to driving alone in single-occupancy vehicles. A major goal of TDM is to utilize transportation infrastructure more efficiently by providing commuters with options that reduce demand during peak commuting periods and shift commuters to alternative modes. TDM strategies can include teleworking, flexible work schedules, carpooling, commuter vanpools, walking, biking, and transit use.



Within the Atlanta region Georgia Commute Options (GCO) provides regional TDM programs and strategies. GCO is managed by the Atlanta Regional Commission (ARC) and funded by the Georgia Department of Transportation (GDOT). GCO encourages commuters to use alternative methods by offering incentives, such as cash prizes. Cherokee County is firmly committed to TDM programs, which include the Commute with Enterprise vanpool program.



KEY FINDINGS

Cherokee County is well-served by local and regional transit services that meet variety of customer needs and trip purposes. The County is poised to build upon its foundation to improve and expand transit options to meet the projected employment and population growth.

ATL XPRESS BUS SERVICE

- Cherokee County is served by commuter express service provided by ATL and CobbLinc to job centers in Midtown and Downtown Atlanta. Pre-Covid-19 data showed relatively steady commuter ridership across all the routes.
- The recently built Hickory Grove Park-and Ride in Acworth will provide additional commuting options for Cherokee County residents. Two new Xpress Routes (484 and 485) will operate from Hickory Grove to Midtown and Downtown Atlanta.

CATS SERVICE

- Impacts of COVID-19 dramatically decreased ridership across the entire CATS system.
- In 2020, CATS completed an assessment of their fixed-route bus service which recommended adjustments to bus stop locations to better align with ridership demands and to address safety concerns. This was completed in early 2020 in advance of the known impacts of the COVID-19 pandemic.



12. GOODS MOVEMENT

REVIEW OF FREIGHT PLANS

GEORGIA STATEWIDE FREIGHT & LOGISTICS PLAN 2010-2050

The most current Georgia Statewide Freight & Logistics Plan (GSFLP) was approved in 2012 and covered the period 2010 to 2050. It was amended in 2017 to be compliant with the FAST Act. GDOT will be initiating the update of this freight planning process in the second half of 2021. The current plan assessed freight movement in all modes and intermodally across the state. The plan highlighted the strategic importance of the Port of Savannah and of the I-75 corridor in moving freight efficiently across the state. The plan portrays Cherokee County as being impacted by the projected increase in truck loads by 2050 along the I-75 and I-575 corridors which connect Cherokee to the Savannah Port.

The plan identified Cherokee County's one freight rail line, the Georgia Northeastern Railroad, but did not recommend investments or upgrades because line haulage was comparatively light, did not generate any bottlenecks, nor impact any intermodal terminals – the three main criteria used to warrant investment.

The plan identified Cherokee County as playing a relatively peripheral role in major state freight movements. The GSFLP included Cherokee County in the Atlanta to Chattanooga highway corridor “package” that called for the rebuilding of the interchange at I-75 and I-285.³⁹ While this interchange is the 16th most congested freight bottleneck in the country according to the American Transportation Research Institute (ATRI), the situation appears to have improved since 2012, when it was the second most congested interchange for freight.⁴⁰ GDOT's Northwest Corridor Express Lanes project may have positively affected a change.

Bulk transload terminals to be developed at the Appalachian Regional Port in Murray County in north Georgia were expected to reduce truck growth rates modestly, which could have a modest positive effect in Cherokee County – 50 miles to its south. The Appalachian Regional Port has since opened.

STATEWIDE STRATEGIC TRANSPORTATION PLAN/STATEWIDE TRANSPORTATION PLAN

The 2021 Statewide Strategic Transportation Plan/Georgia 2050 Statewide Transportation Plan (SSTP/SWTP) sets Georgia's transportation vision and goals; identifies mobility trends, opportunities, and challenges; and outlines Georgia's strategy for transportation investment. Two investment categories relevant to Cherokee County include people mobility in Metro Atlanta and statewide freight and logistics. The SSTP identifies three strategies of investment: foundational, catalytic, and innovation.

Key foundational investments include safety, asset management, intelligent transportation systems (ITS), and multimodal connectivity options. Catalytic investments in people mobility include Express Lanes, other Major Mobility Investment Program projects, and other targeted efficiency and mobility

³⁹ GDOT, Georgia Statewide Freight and Logistics Plan 2010-2050. page 5-10

⁴⁰ American Transportation Research Institution. “Top 100 Truck Bottlenecks-2021”



improvements. Catalytic freight investments include addressing freight bottlenecks, improving intermodal connections, and providing connectivity to Georgia Ready for Accelerated Development (GRAD) sites and other industrial and agricultural sites.⁴¹ Investments in innovation outlined in the SSTP include preparing for connected and automated vehicles, integrated corridor management, and freight vehicle technologies.

MAJOR MOBILITY INVESTMENT PROGRAM

The Major Mobility Investment Program (MMIP) is an ambitious and ongoing program that will create additional capacity, improve freight movement, provide transportation improvements and efficiencies, enhance safety, and decrease travel times. MMIP Projects include three interchange reconstructions, four express lanes corridors, three Interstate corridor widenings, commercial vehicle lanes, and several associated advanced improvement projects.

One of the major components of the MMIP is the expansion of the Express Lanes network across the top end, eastside, and westside of I-285, as well as on GA-400. The MMIP projects will further extend the reach of the existing Northwest Corridor Express that connect Sixes Road on I-575 in Canton and Hickory Grove Road on I-75 to the I-75/I-285 interchange.

REGIONAL TRUCK ROUTES & DESIGNATED FREIGHT CORRIDORS

Cherokee County anchors the rapidly growing north/northwestern edge of the Atlanta Region and is home to a number of manufacturing facilities and commercial land uses that generate demand for freight movement. Significant road and rail assets have been developed in Cherokee County to enable efficient freight and goods movement. These assets are focused on a north-south interstate corridor that parallels the older rail line through the County, and east-west oriented state routes.

The Federal Highway Administration (FHWA) identifies I-75 as part of the Primary Highway Freight Network (PHFN), the “most critical highway portions of the U.S. freight system and that is informed by measurable and objective national data.”⁴² I-75 touches the far southwestern corner of Cherokee County with access to southern portions of the County via SR 92 and connecting I-575.

The County's major north-south freight corridor is I-575, which freight trucks rely on to serve the County. GDOT identifies I-575 as a State Freight Corridor.⁴³ It links the commercial activity centers of Ball Ground, Holly Springs, and Woodstock to the rest of the Atlanta region via I-75 at Town Center.

The ARC adopted a regional freight network in 2010 to guide current and future decision making referred to as the Atlanta Strategic Truck Route Master Plan (ASTRoMaP).⁴⁴ ASTRoMaP includes facilities covered by the federal and state networks but also includes roadways relevant to regional and local needs. The Main Street/Marietta Road corridor, for example, is part of ASTRoMaP. It parallels I-575 and travels through the County's major population centers. The majority of the County's industrial and commercially zoned parcels are located along this north-south corridor.

⁴¹ One example industrial site, though not specifically identified in the SSTP, would be Cherokee 75 Corporate Park. <https://www.cherokeega.org/real-estate/premier/cherokee-75-corporate-park/>

⁴² USDOT. National Highway Freight Network Map. 2015.

⁴³ GDOT. Designated Freight Corridor Map. 2018 (I-575 is not, however, part of the Primary Freight Highway System)

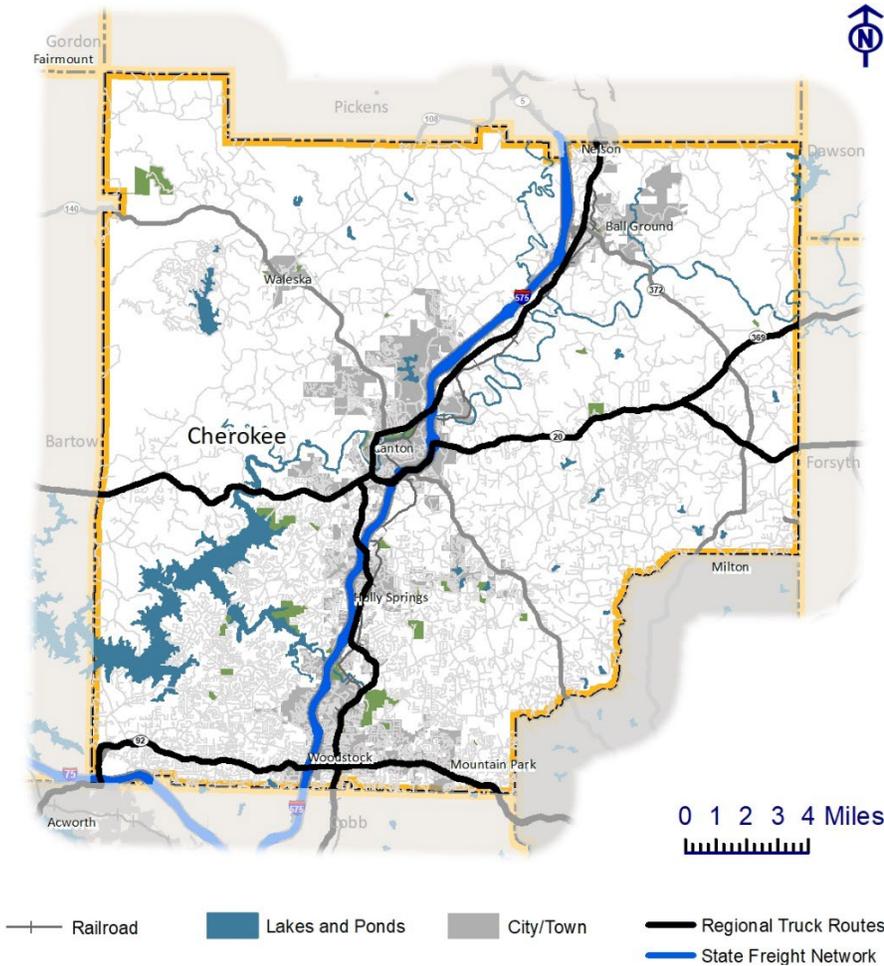
⁴⁴ Atlanta Regional Commission. ASTRoMaP: Atlanta Strategic Truck Route Master Plan



Additionally, the County has east-west freight corridors and one freight connector on ASTRoMaP but not identified as State Freight Corridors.

- o SR 20 is a mostly 2-lane east-west corridor that links freight demand generators in Atlanta's north/northeast suburbs to I-75 and beyond. SR 20 is an important freight origin and destination with significant commercial activity in Canton where it connects with I-575. SR 20 is an approved oversize route by GDOT⁴⁵.
- o SR 92 is a multi-lane divided regional east-west freight route linking Atlanta's northern suburbs and I-75 at Acworth. It spans the County just north of the border with Cobb County and is primarily a suburban commercial corridor with through freight traffic and origin/destination freight serving the commercial areas.
- o SR 369 is a mostly 2-lane connector linking truck traffic between Gainesville and I-985 on the east with Cherokee County in the west. It crosses GA-400 north of Cumming and provides a valuable alternative to I-285 for freight between the County and northeast Georgia, the Carolinas, and beyond.

Figure 69: State and Regional Truck Routes in Cherokee County (ARC ASTRoMaP, GDOT)



⁴⁵ GDOT. Oversized Truck Routes Map.



TRUCK VOLUMES AND PERCENTAGES

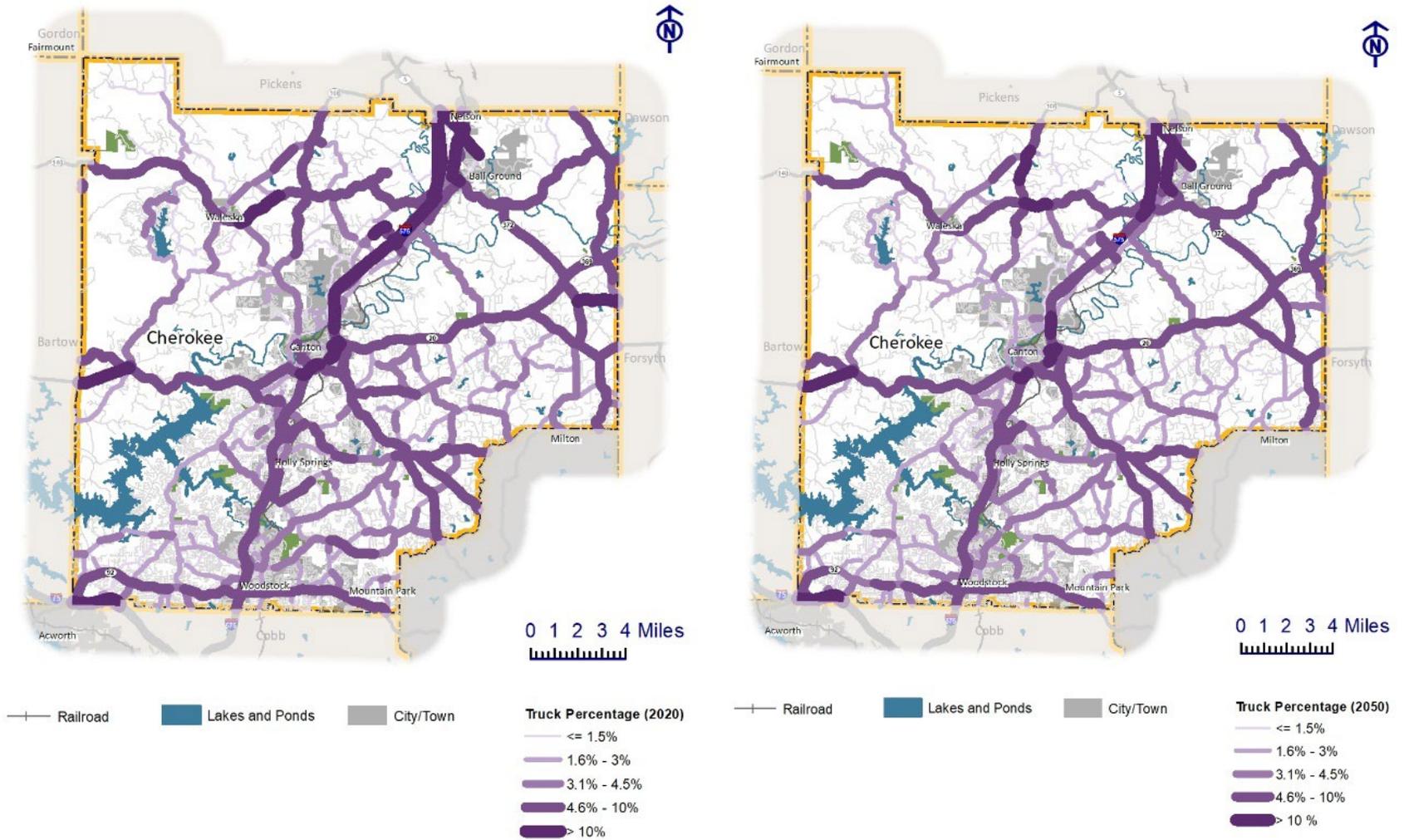
While the roads referenced above are identified as freight corridors in either the regional, state, or federal freight networks, they do not capture all of the needs for freight movement in the County. As analysis becomes more granular, increasingly diverse origins and destinations appear which broaden to include landfills, quarries, institutions, and suburban commercial areas outside of the traditional commercial, industrial, or light industrial districts which the freight networks are designed to serve. SR 140, for example, is a mostly two-lane corridor that crosses the County from the southeast to the northwest intersecting with I-575 at Canton. While not identified as part of a freight network, SR 140 nonetheless has freight generating activities. It also provides regional links to I-85 in western Gwinnett County and to I-75 in northern Bartow County.

An analysis of ARC's regional ABM data demonstrates the focus and dispersion of freight movements throughout the County through both truck volumes and percentages. The truck volumes for the County show the majority of freight *volumes* move along those higher capacity roads classified by federal, state, or regional entities as parts of freight networks. Freight volumes move on all roads in the County as a fairly consistent *percentage* of all vehicles. Volumes are traditionally used when planning to target investments where they can have the most impact. Percentages, however, could indicate that smaller investments may still yield substantial freight benefits outside of the established networks. The 2020 and 2050 truck percentage maps for Cherokee County are illustrated below. The 2020 and 2050 truck volume maps for the County can be found in Appendix I of this document.



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Figure 70: 2020 and 2050 Truck Percentages (ARC ABM)



FREIGHT RAIL FACILITIES

Cherokee County is served by one legacy freight rail line, the Georgia Northeastern Railroad (GNRR), that forms the original commercial spine of the County linking Nelson at the County's northern border through Ball Ground, Holly Springs, Canton, and Woodstock before heading south to connect to the CSX intermodal yard in Cobb County. The assets were purchased in 2016 by a holding company and are now managed by Patriot Rail and Ports.⁴⁶ Timber, grain, poultry, and marble products are the primary commodities handled. Patriot upgraded the track to enable trains carrying the industry standard 286,000-pound rail cars through the length of the County. Train frequency depends on the needs of customers.

As previously noted in the ITS section, there are 68 railroad crossings in Cherokee County. These railroad crossings are detailed in Table 32.

Table 32: Freight Rail Facilities in Cherokee County

Location	Cross Bucks	Stop Signs	Flashing Lights	Gates	Totals
In Ball Ground	5	1	2	2	5
In Canton	5	2	2	2	16
In Holly Springs	2	1	1	1	3
In Nelson	1	1	0	0	3
In Woodstock	10	2	6	4	14
Unincorporated Cherokee County	14	6	7	7	27
Totals	37	13	18	16	68

GOODS MOVEMENT KEY TAKEAWAYS

- Cherokee County is a crucial corridor for north/northwestern Georgia's freight movement.
- Cherokee County is most impacted by goods movement along the I-575 and I-75 Corridors. SR 92, SR 20, and SR 369 are also key corridors for goods movement throughout the County.
- Although a large majority of freight movement in the County occurs on major freight corridors listed above, freight is moved at a consistent level on all roads throughout the county.
- Cherokee County has one legacy freight rail line, the Georgia Northeastern Railroad. It is managed by Patriot Rail and Ports and mainly transports timber, grain, poultry, and marble products. There are 30 freight rail facilities throughout Cherokee County.

⁴⁶ A Look Back at the History of the Hook and Eye Line. Newswire.

13. NEXT STEPS

Moving forward in the CTP process, the data in the Existing Conditions Report will be used as the foundation for further analysis to identify transportation needs in Cherokee County. The Needs Assessment phase will include a county-wide assessment of multi-modal needs, an interactive transportation model, select-link intersection analysis, a transit feasibility study, and a trails master plan.

NEXT STEPS

- Present the findings of the Existing Conditions Report to the TAC and the CAG
- Begin developing the plan's goals and objectives with guidance from the TAC and the CAG
- Begin working on the Transportation Needs Assessment, Trails Master Plan, and Transit Needs Assessment

STAY INVOLVED

Initial feedback will be garnered from the TAC and the CAG after completion of the Existing Conditions Report. Once the Needs Assessment phase of the plan is near completion, the public and stakeholders will be engaged through a public meeting, a public survey, and additional stakeholder interviews as needed. The main channel through which to stay involved in the CTP process is the project website: <https://cherokeemoves.com/>

Figure 71: Cherokee Moves Project Website

