CHEROKEE COUNTY
SAFE STREETS & ROADS
FOR ALL

APPENDIX A

MEMORANDUM

Baseline Conditions & Policy Framework Report

January 2025

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Contents

SECTION I.

INTRODUCTION

The Safe Streets and Roads for All (SS4A) Action Plan aims to develop a holistic, well-defined strategy to prevent roadway fatalities and serious injuries. The Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All discretionary program, which funds local initiatives through grants to prevent roadway deaths and serious injuries.

The Federal Highway Administration (FHWA) has provided local governments flexibility to develop comprehensive safety action plans that specifically suit the needs of their communities and support their overall goals and visions.

Cherokee County's commitment to safer streets for all users has led to the development of this plan. The plan will incorporate key components including: leadership commitment and goal setting, planning structure, safety analysis, public and stakeholder engagement and collaboration, equity, policy and process changes, strategy and project selections, and progress and transparency. These initiatives aim to enhance road safety and accessibility through comprehensive planning, data analysis, stakeholder engagement, and innovative storytelling.

Source: FHWA.

As part of the SS4A study process, the **Baseline Conditions and Policy Framework Report** summarizes and documents the existing safety conditions and policy of Cherokee County:

- **Safety Analysis:** This section examines the crash history and risk in Cherokee County. It segments crashes by a variety of factors such as type, mode of transportation, lighting conditions, and severe outcomes. This assessment allows us to identify the trends that lead to severe outcomes, and particularly the places in Cherokee County where roads are most dangerous.
- **High Injury Network:** The High Injury Network represents the top priority roadways for safety improvements. These corridors were identified based on two sets of criteria: 1. safety criteria and 2. equity criteria. The result is a set of roadways where the County can focus its safety improvements to ensure it is using resources efficiently.
- **Roadway Characteristics:** This section examines the relationship between the HIN and important factors such as roadway characteristics, population demographics, and travel patterns.
- **Plan & Policy Review:** The Plan and Policy review provides a summary of how Cherokee County's code relates to roadway safety.
- **Data Collection and Methodology:** Finally, this section lists the sources for data collected as part of the safety analysis and consideration of surrounding factors.

SECTION II.

SAFETY ANALYSIS

This safety analysis considers a combination of historic crash data and risk factors to examine a holistic understanding of safety.

Crash history analysis includes data from 2018 to 2022, totaling five years of data. The crash history analysis considers crash severity, mode, lighting, type, and age of those involved. Crash rates were also calculated (for road segments and intersections), which shows how many crashes and severe outcomes (people killed or severely injured) occur relative to total traffic volumes.

Because there are relatively few walking and biking trips in Cherokee County, crash history alone is not a reliable input to understand where walking and biking crashes are likely to occur in the future. Therefore, this analysis also considers crash risk based on roadway characteristics. This analysis is based on data provided by the Atlanta Regional Commission (ARC), which considers the factors that contribute to crash risk for people walking and biking.

Speeding is a key concern contributing to severe crash outcomes. For crashes involving a pedestrian, the likelihood of pedestrian fatality drops from 46% to 8% when the vehicle is traveling at 40 MPH vs 20 MPH. Therefore, speeding patterns are also examined to identify areas with high 85th percentile speeds and speeding prevalence.

HIGHLIGHTS

- There have been 87 total fatalities and 463 serious injuries (from 2018-2022). Serious crashes have been increasing, from 55 in 2018 to 102 in 2021 and 2022. Fatalities have ranged from 11 to 23 per year.
- Pedestrian, bicyclist, and freight crashes are relatively few, but they represent a higher proportion of fatalities and severe injuries.
- Some of the highest crash corridors include SR-92, Towne Lake Pkwy, I-575, SR-20, Bells Ferry Rd, and Riverstone Pkwy.
- The lack of lighting has a strong correlation to severe outcomes for crashes that occur at night, especially for crashes with pedestrians and non-motor vehicle collisions.

Cherokee Traffic Crashes—By the Numbers

32,089
Total Crashes
2018-2022

31,936
Vehicle Crashes

1,711
Heavy Vehicle Crashes

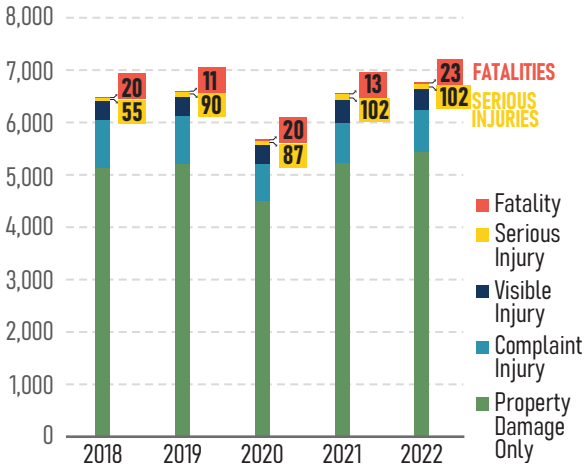
117
Pedestrian Crashes

36
Bicyclist Crashes

87
Fatalities
Cherokee Co: 0.27%
GA: 0.4%

436
Serious Injuries
Cherokee Co: 1.36%
GA: 1.6%

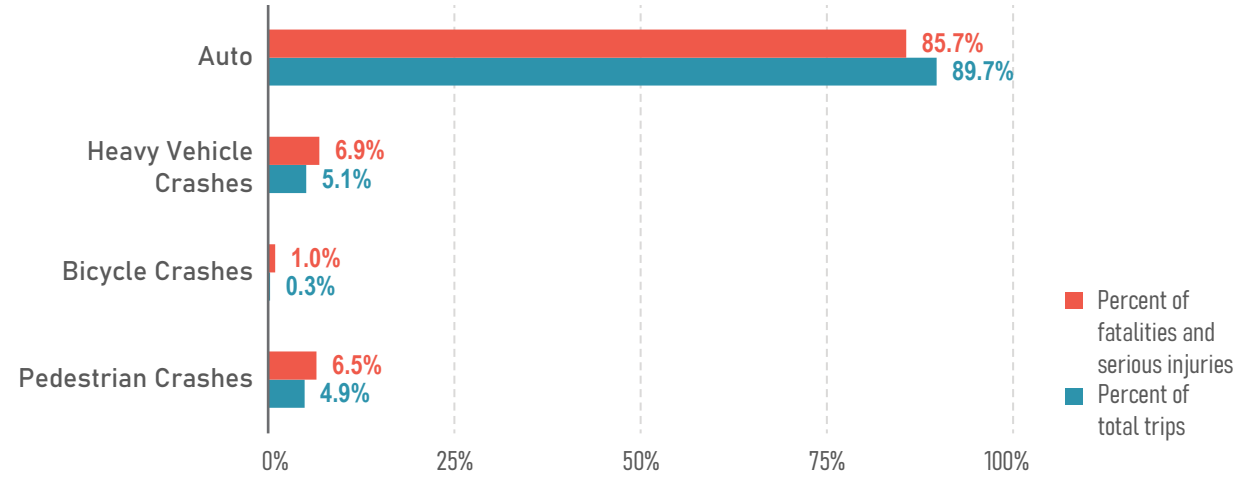
Figure 2. Annual Crashes by Outcome



Crash Severity

Figure 1 shows the share of fatalities vs overall trips for each mode (auto, heavy vehicle, bicycle, and pedestrian crashes). This comparison helps us understand which modes are over- or under-represented in terms of fatalities. Heavy vehicle, bicyclist, and pedestrian crashes are somewhat over-represented among the County's traffic fatalities, meaning that these trips have a higher risk of severe crashes than driving trips. This indicates a need for more robust safety interventions targeted toward these modes.

Figure 1. Fatalities vs Modeshare



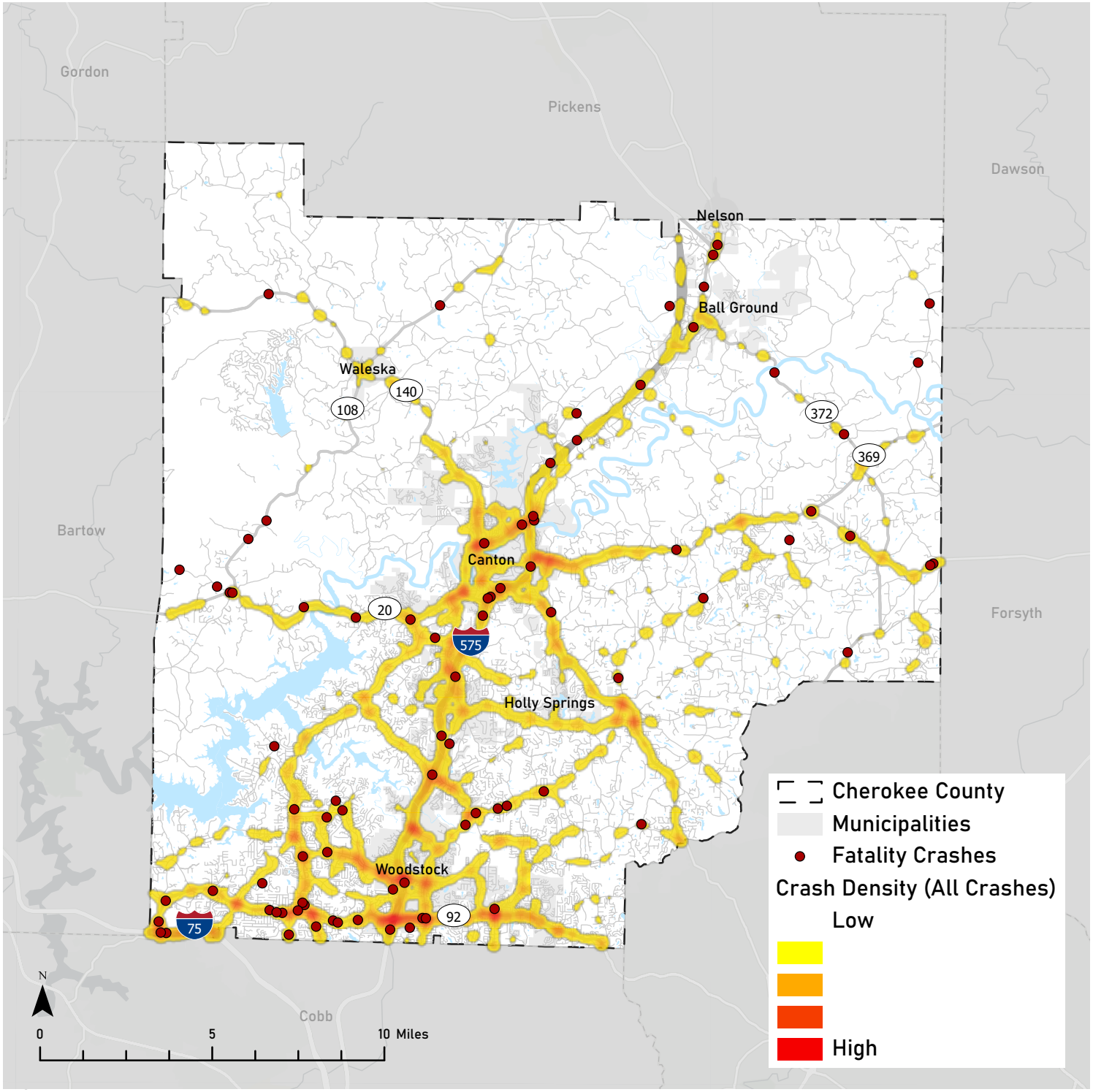


Figure 3. Crash Heatmap with KSI Crashes
Source: GDOT Crash Data Dashboard 2018-2022

The crash heatmap is based on the total number of crashes on each corridor from 2018-2022. The data comes from the Georgia Department of Transportation's (GDOT) Crash Data Dashboard. Some of the corridors highlighted in the crash heatmap as KSI Hotspots are:

Table 1. KSI Hotspots
Source: GDOT Crash Data Dashboard 2018-2022

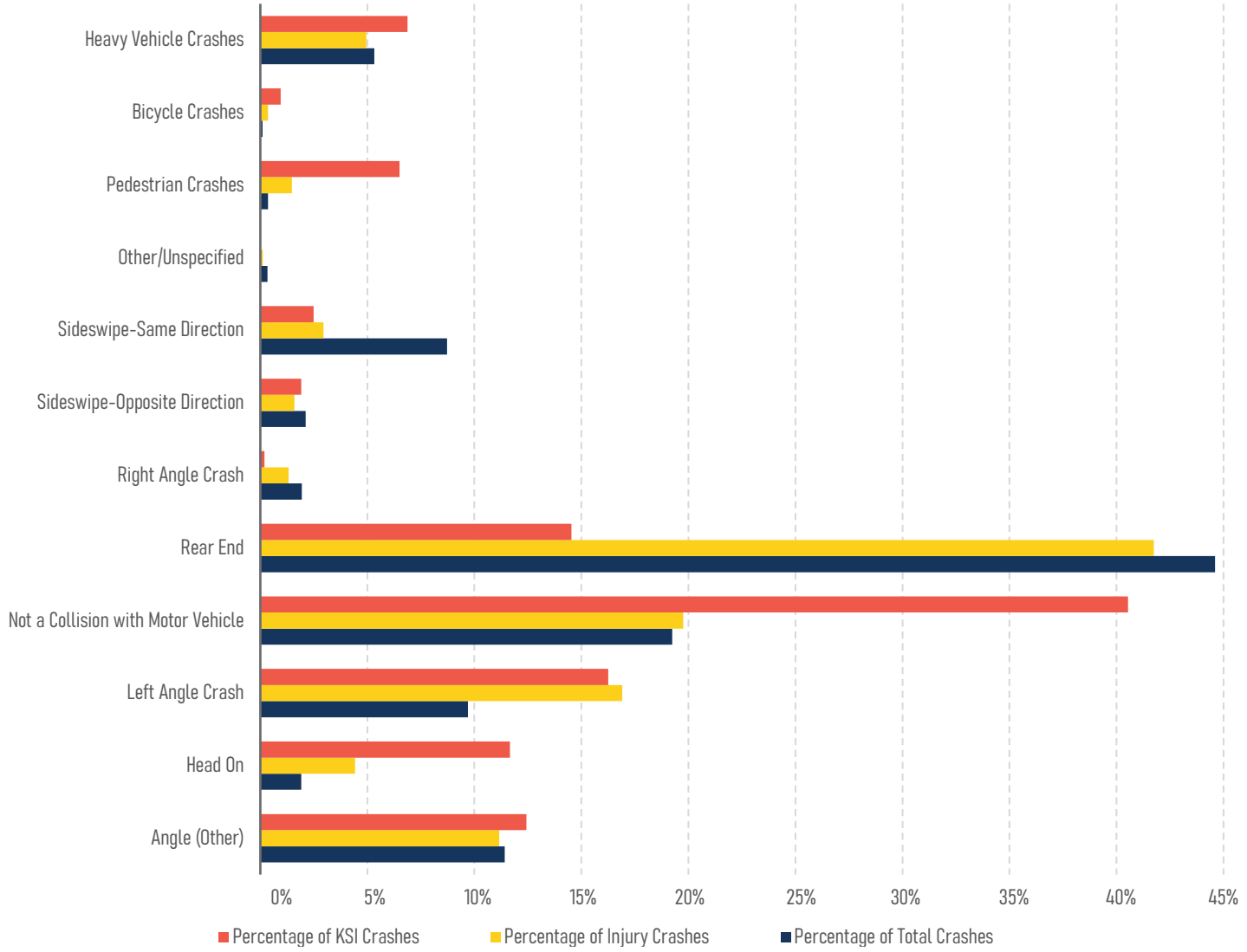
RANK	SEGMENT NAME
1	SR-92 (Alabama Rd) at I-575
2	SR-92 (Alabama Rd) at Bells Ferry Rd
3	SR-92 at I-75
4	Towne Lake Pkwy at I-575
5	Ridgewalk Pkwy at I-575
6	Sixes Rd at I-575
7	SR-20 (Cumming Hwy) at I-575
8	Riverstone Pkwy at I-575
9	Riverstone Pkwy at SR-140 (Waleska Rd)
10	Hickory Road triangle formed by E Cherokee Dr, SR-140 (Hickory Flat Dr), and Hickory

Figure 4 depicts crash type by severity, **revealing patterns of which crash types are most common and commonly result in people being killed or severely injured.**

Rear end crashes were the most common crash type, representing nearly 45% of all crashes. However, rear-end crashes only represent 15% of all KSI crashes. The same trend applies to sideswipe-same direction crashes.

Conversely, collisions with non-motor vehicles represent more than 40% KSI crashes, but less than 20% of total crashes. Crashes that are not a collision with a motor vehicle are highly likely to result in severe outcomes. The same trend holds for **bicycle crashes, pedestrian crashes, left angle crashes, and head-on collisions. These represent the most dangerous types of crashes.**

Figure 4. Crash Type by Severity



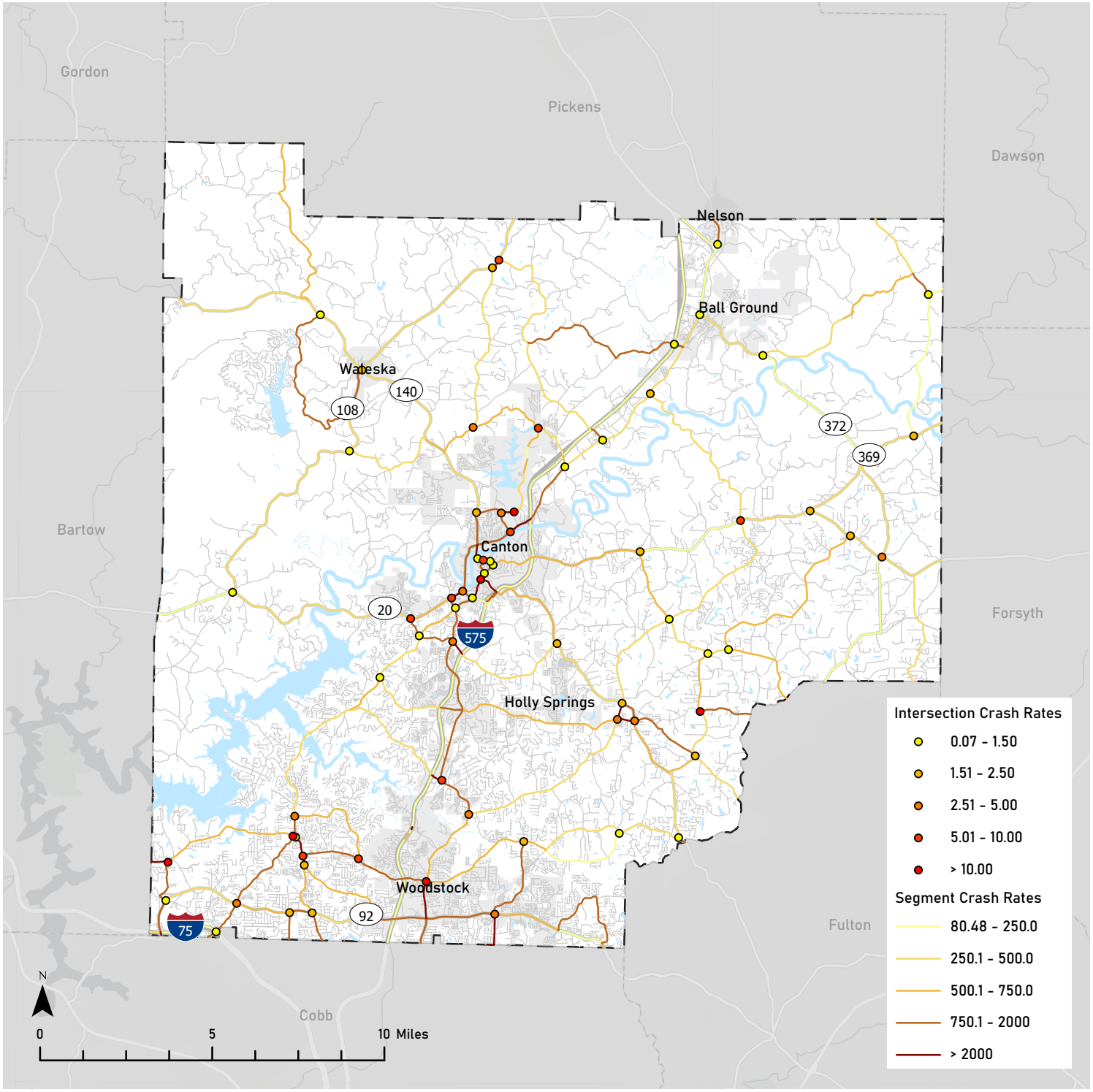


Figure 5. Crash Rate
Source: GDOT Crash Data Dashboard 2018-2022

The crash rate for road segments is calculated as crashes per 100 million vehicle-miles of travel. This calculation controls for roads that are traveled more frequently and develops a measurement that accounts for dangerous roadway conditions causing frequent crashes. The data comes from GDOT and covers the years 2018-2022. All corridors with a crash rate higher than 750 for these years are included. As shown in Table 2, segments along Kellogg Creek Rd and I-575 rank among the top crash segments because of their high crash rate. The road segments identified in Table 1 have a crash rate that is greater than 2,000 crashes per 100 million vehicle-miles of travel.

Table 2. Top Crash Rate Segments

Source: RITIS Data

RANK	ROAD NAME	FROM	TO	CRASH RATE*
1	Kellogg Creek Rd	Victory Dr	Bells Ferry Rd	12,844
2	I-575	Exit 9	Ridgewalk Pkwy	5,702
3	W Main St	North St	E Marietta St	3,960
4	E Main St	E Marietta St	Brown St	3,610
5	Riverstone Pkwy	Milton Dr	I-575	3,166
6	Marietta Rd	Pettit St	Hickory Flat Hwy	3,159
7	New Hope Rd	County Line	Kellogg Creek Rd	2,977
8	Univeter Rd	Marietta Hwy	I-575	2,889
9	SR 92	County Line	I-75	2,677
10	Hickory Rd	E Cherokee Dr	Hickory Flat Hwy	2,598

*Crash rate = crashes per 100 million vehicle-miles of travel

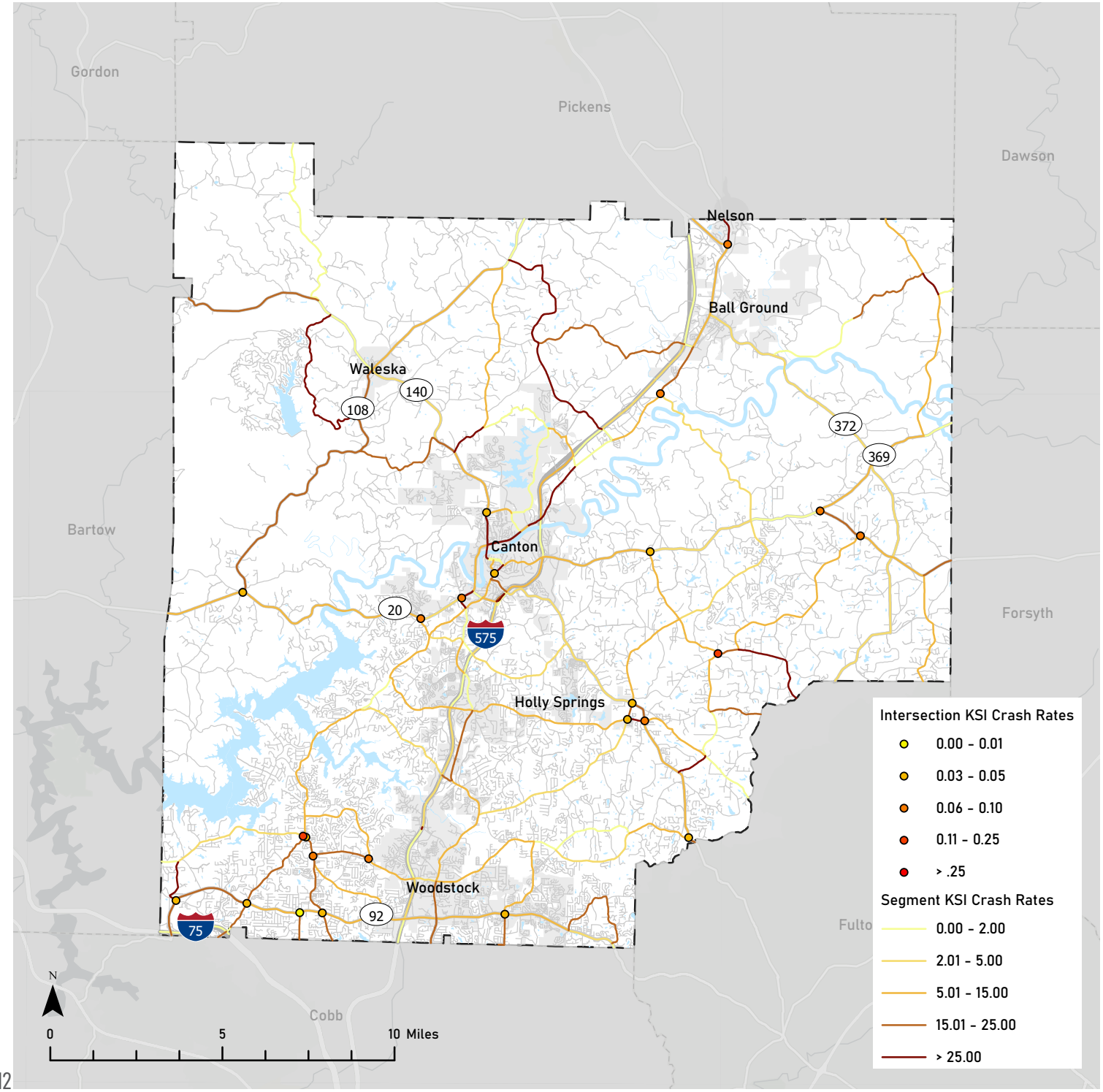


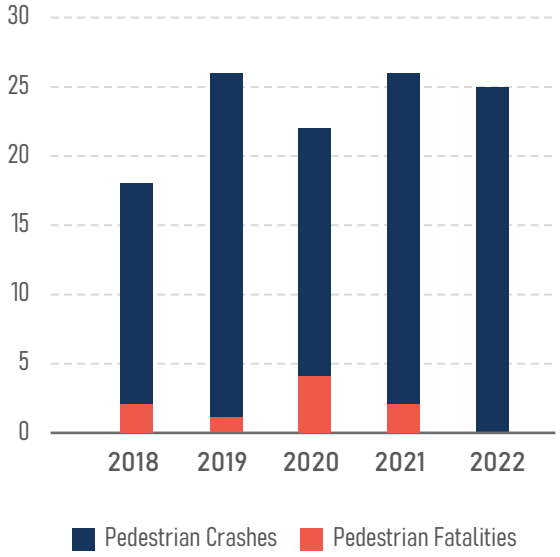
Figure 6. KSI Crash Rate
Source: GDOT Crash Data Dashboard 2018-2022

The KSI crash rate for road segments is calculated as crashes resulting in persons being killed or seriously injured per 100 million vehicle-miles of travel. This calculation controls for roads that are traveled more frequently and develops a measurement that accounts for dangerous roadway conditions causing serious crashes. The data comes from GDOT and covers the years 2018-2022.

Pedestrian Crashes

Overall, total pedestrian crashes have increased from 2018 to 2022, but fatalities have gone down (see Figure 7). There were zero pedestrian fatalities in 2022, compared to four in 2020. 2020 had relatively lower pedestrian crashes but higher fatalities, following a national trend largely driven by COVID trends where people were taking fewer trips, but also exhibiting more risky driving behavior.

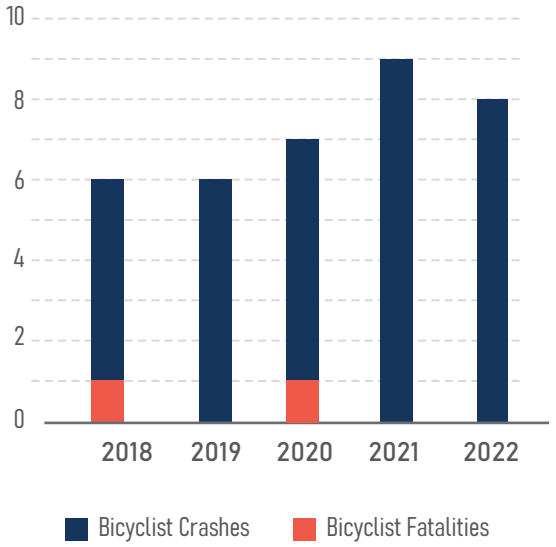
Figure 7. Pedestrian Crashes and Fatalities 2018-2022



Bicyclist Crashes

Bicyclist crashes have increased from 2018 to 2022, with six total crashes in 2018 and 8 in 2022. There were two fatalities in this time period and three bicyclists severely injured.

Figure 8. Bicyclist Crashes and Fatalities 2018-2022



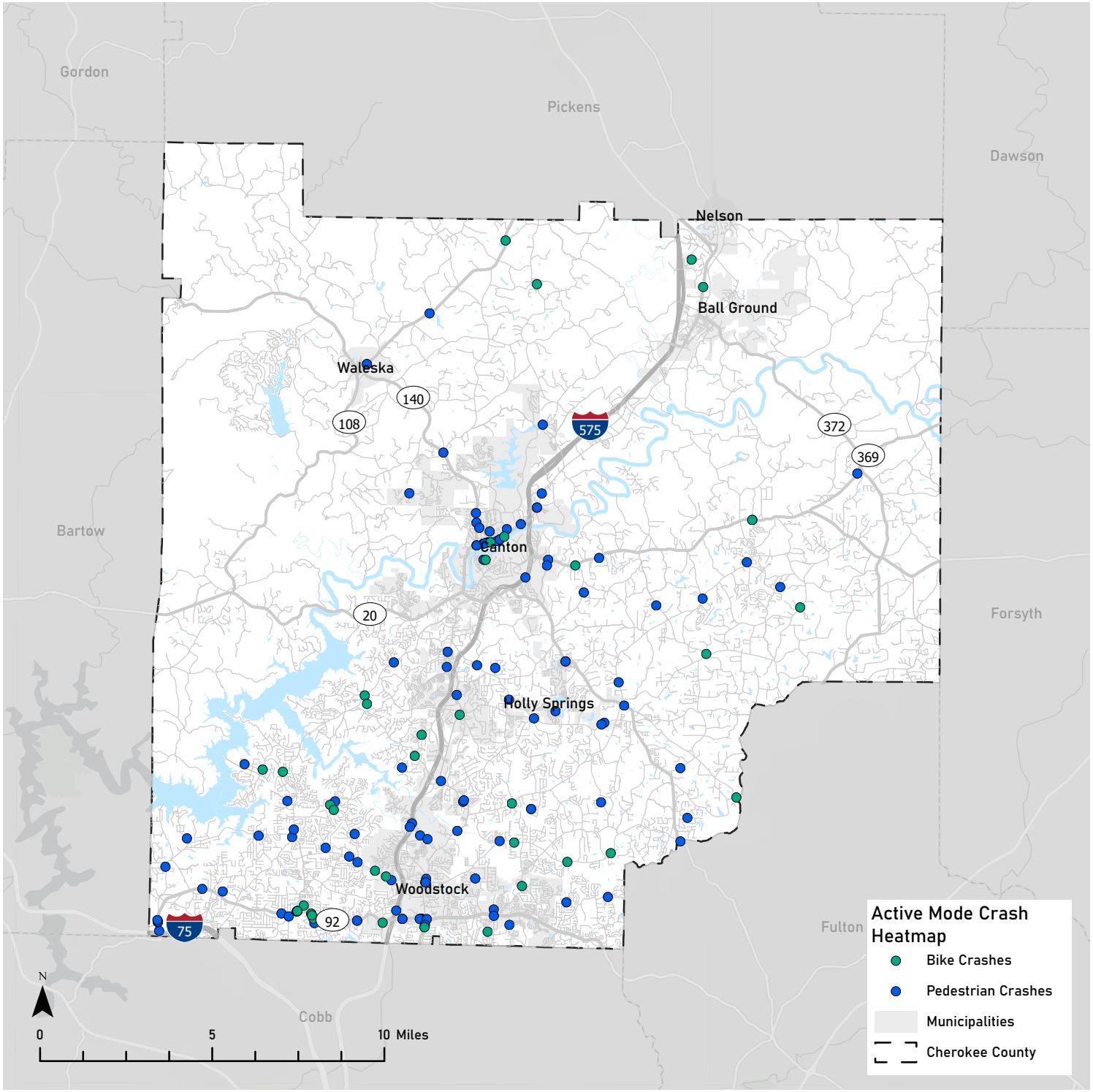


Figure 9. Crash Involving People Walking and Biking
Source: GDOT Crash Data Dashboard 2018-2022

Based on the data provided in Figure 9, pedestrian crashes occur more frequently than bicycle crashes throughout Cherokee County. Most of the bicycle crashes occur on local roads with a few reported accidents along state routes. SR 92 has the highest presence of both pedestrian and bicycle crashes compared to the other major arterials. Pedestrian crashes are also concentrated in the downtown of Canton.

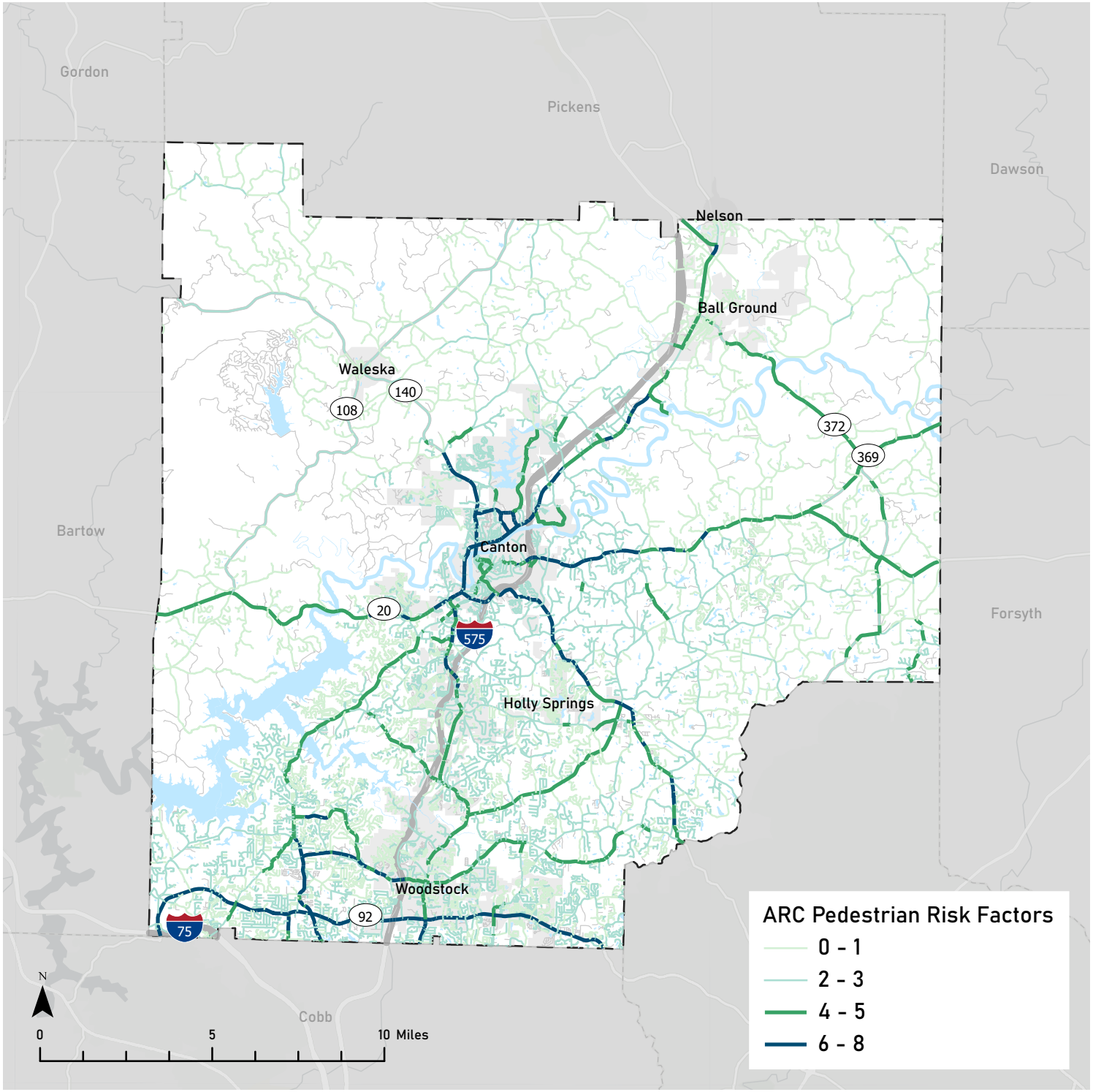


Figure 10. Pedestrian Safety Risk Factors
Source: ARC, 2024

The ARC has developed a dataset of roads to highlight roadway risk factors and crash locations for pedestrians. The risk factors include the number of lanes, average traffic counts, speed limit, proximity to transit stops or multiuse trails, adjacent land use patterns, and population and employment density. The pedestrian risk factors also includes areas with low income or non-white populations and communities with a high environmental justice score.

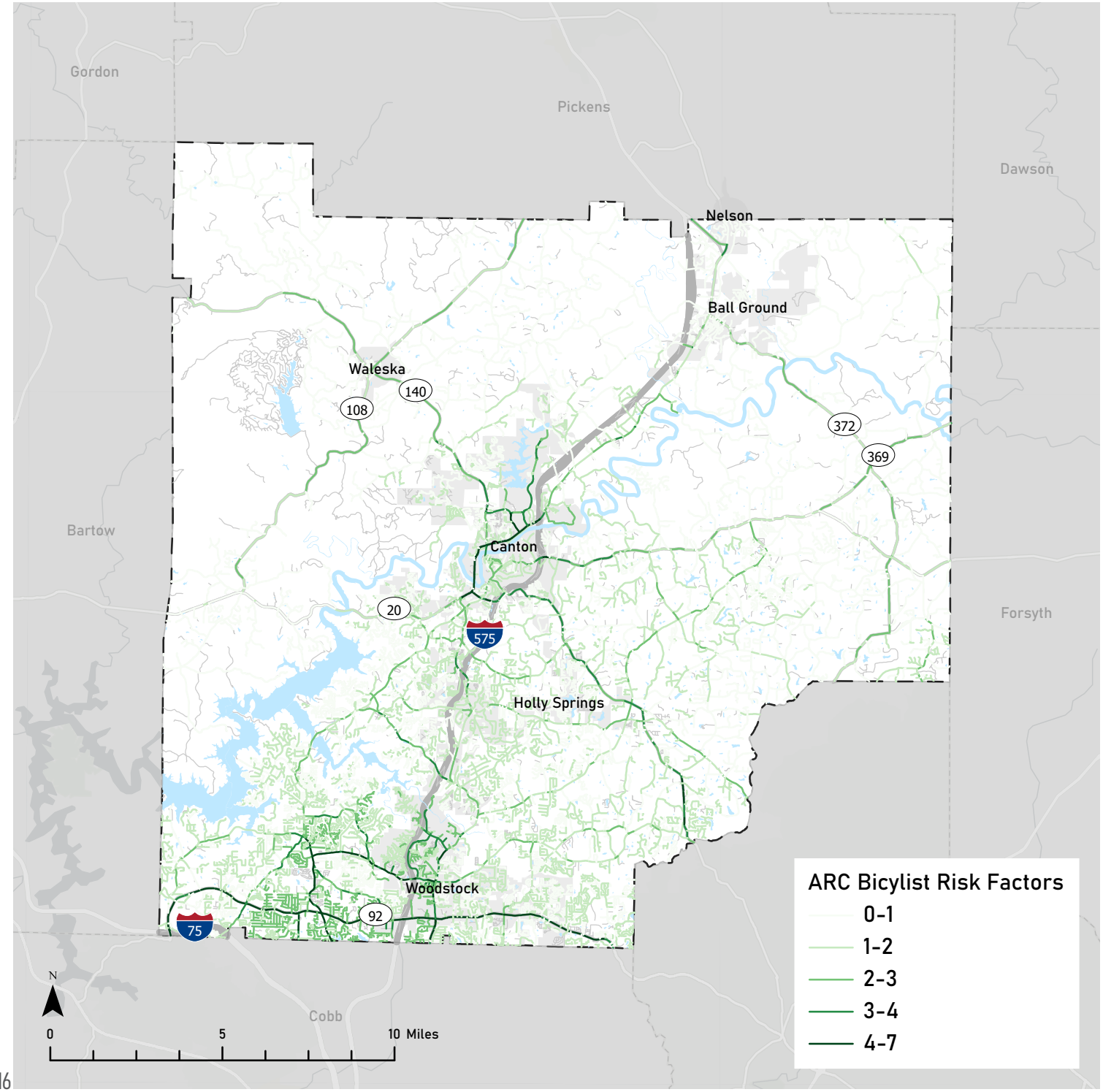


Figure 11. Bicyclist Safety Risk Factors
Source: ARC, 2024

The ARC has also developed a dataset of roads to highlight roadway risk factors and crash locations for bicyclists. The risk factors include the number of lanes, average traffic counts, speed limit, proximity to transit stops or multiuse trails, adjacent land use patterns, and population and employment density. Specifically, roads that do not have a dedicated bike lane and have a average daily traffic count above 20,000 are considered.

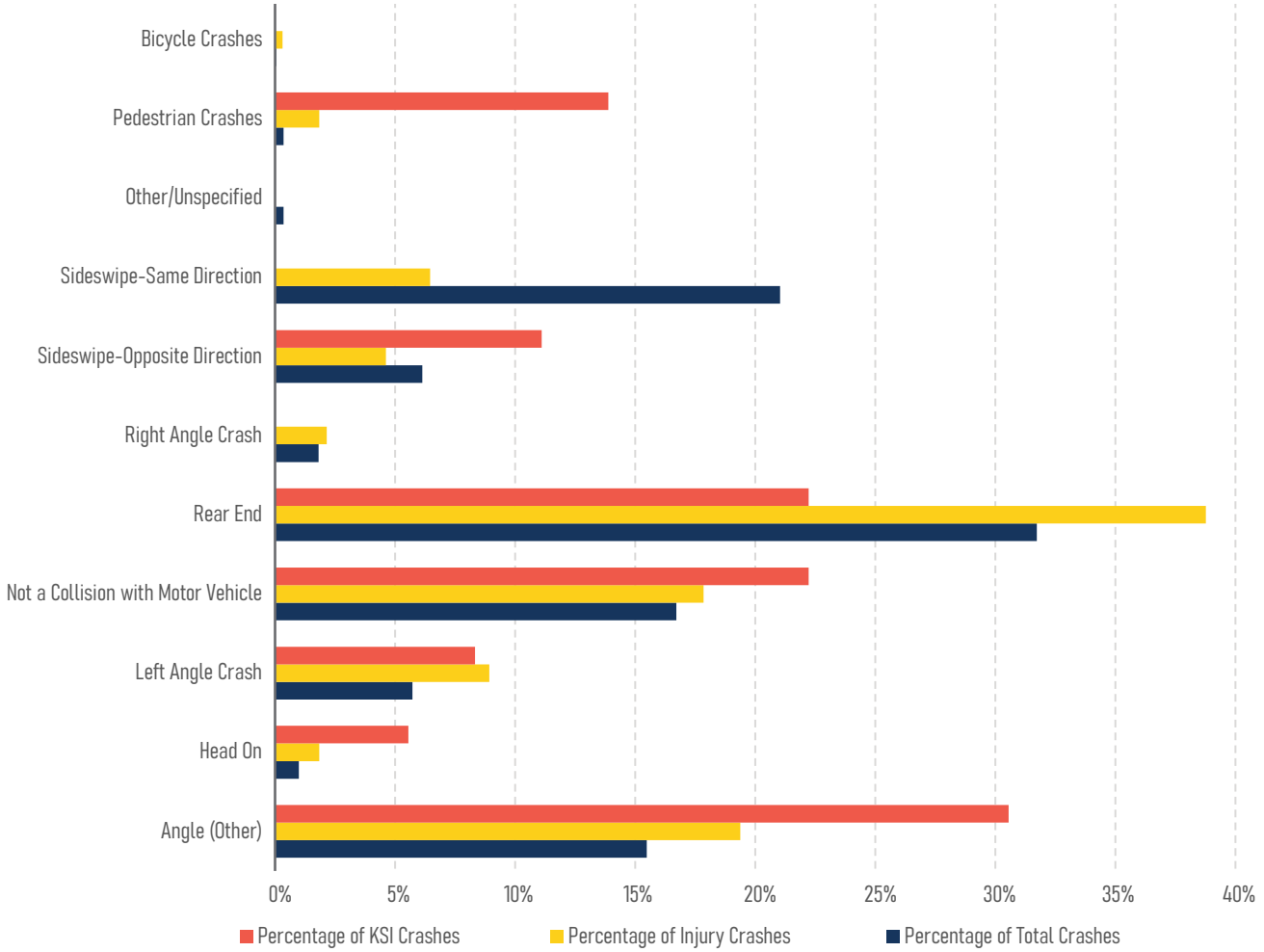
Freight Crashes

Due to the dynamics of crashes with heavy vehicles, there are different patterns of crash types and severity, shown in Figure 12.

Compared to overall crashes, rear-end crashes with heavy vehicles are less common but more likely to result in severe outcomes. This is due to the large size of freight vehicles and the increased stopping distance needed.

Some dangerous crash types are made even more dangerous when heavy vehicles are involved—particularly pedestrian crashes. This means that there is an even greater need to implement safety countermeasures for pedestrians where high volumes of heavy vehicles are anticipated.

Figure 12. Crash Type by Severity - Heavy Vehicle Crashes



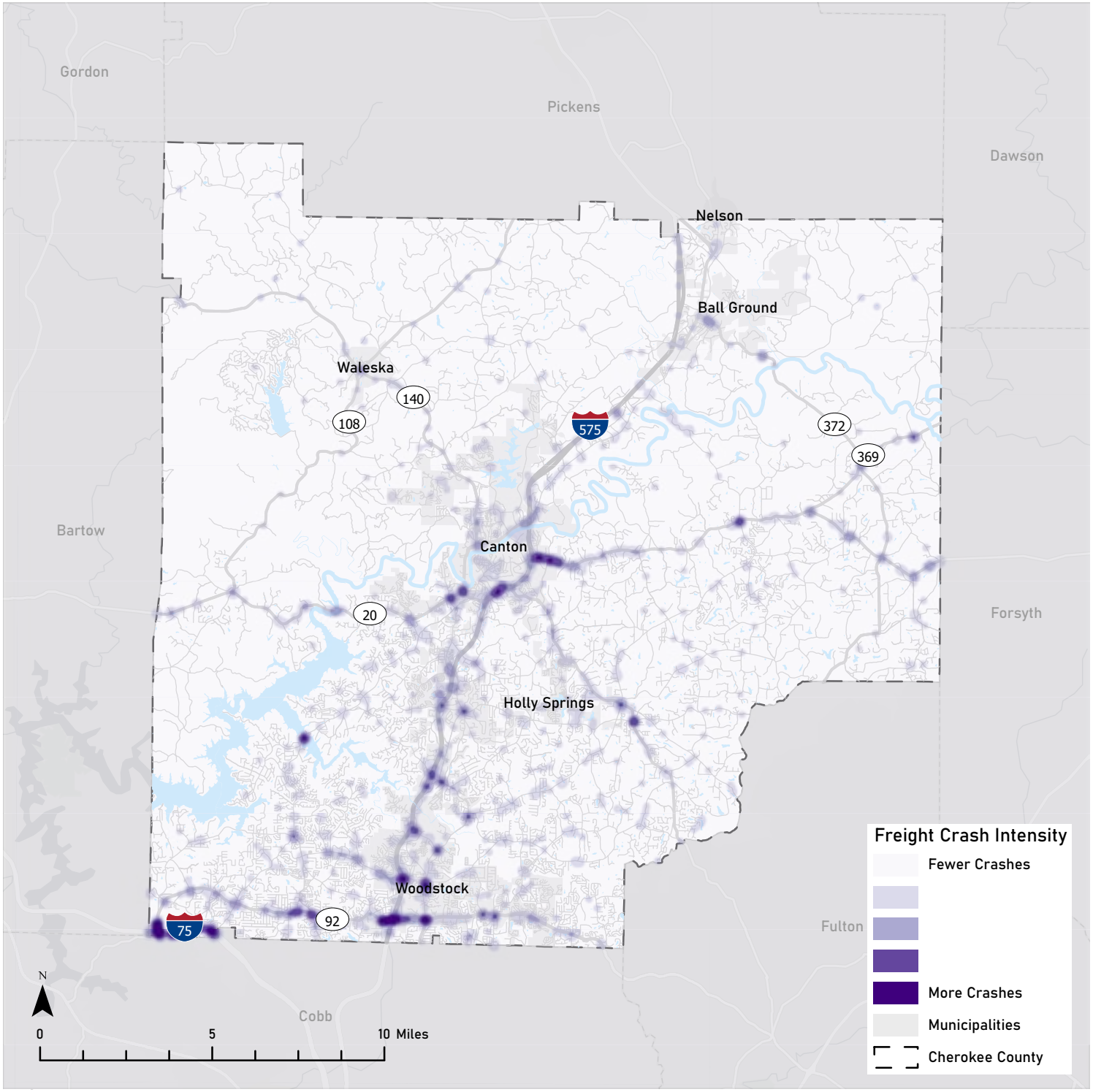


Figure 13. Freight Crash Heatmap
Source: GDOT Crash Data Dashboard 2018-2022

Figure 13 shows a heatmap of freight crashes throughout the County. High freight crash areas include:

- SR 92 at I-575 and Bells Ferry Rd
- SR 20 at I-575 and SR 140
- I-75
- I-575 at SR 92, SR 140

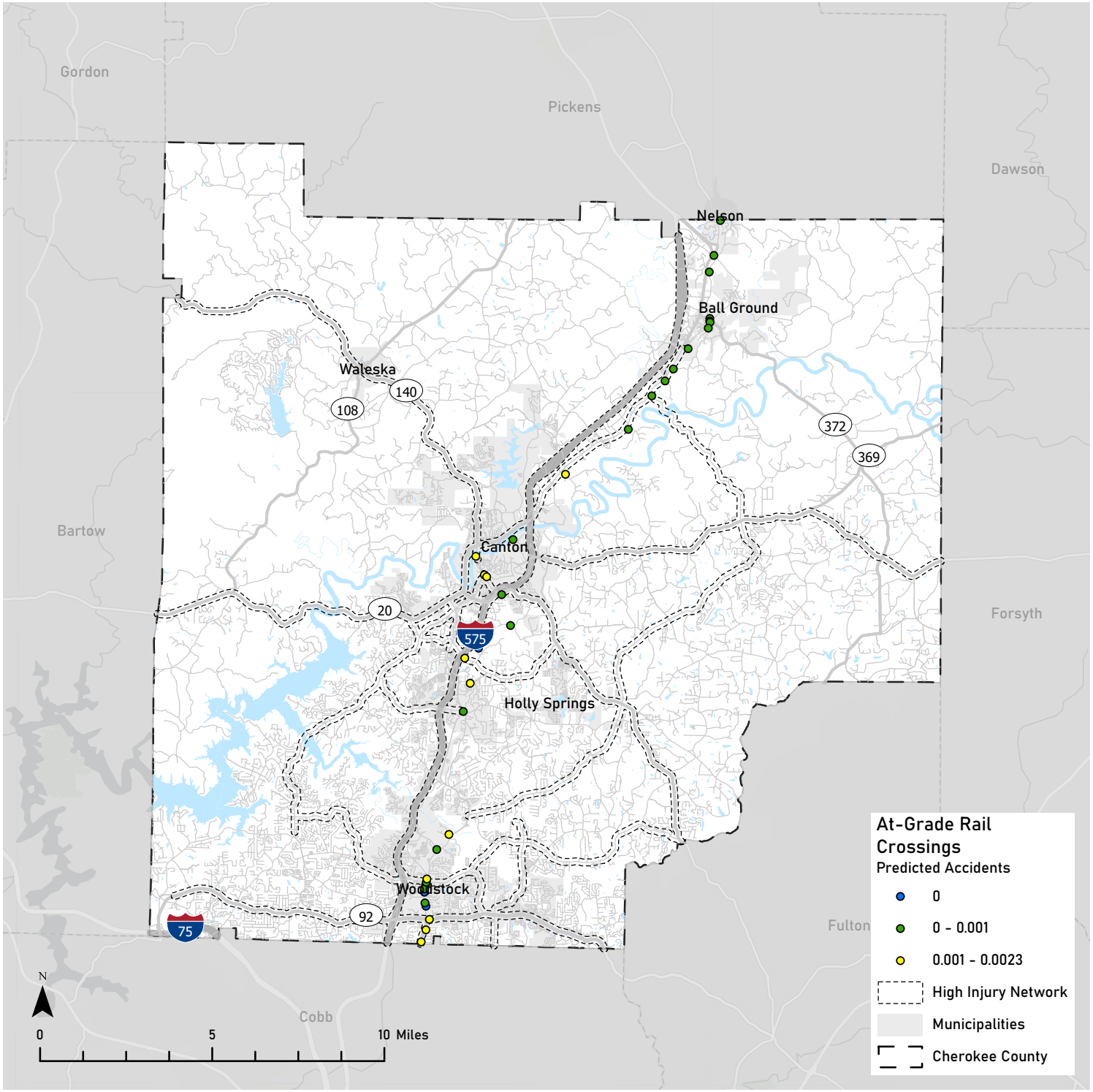


Figure 14. Grade Crossing Accident Prediction System Evaluation
Source: Federal Railroad Administration

The Grade Crossing Accident Prediction System (GXAPS) is based on an analytical computer model (APS2020) maintained by the Federal Railroad Administration (FRA). The model estimates the average predicted rate of accidents (accidents/year) at public highway-rail intersections. Model inputs include crossing operational and physical attributes as well as the past five years of accident data. GXAPS predicted rates for Cherokee County Crossings are presented in Figure 14. Locations with a higher predicted number of crashes can be identified for further study and potential safety improvements. The crossings with the highest predicted accident score are:

- Longview Drive (.0023)
- Marietta Road (.0022)
- Cherokee Forest Trail (.0017)
- Main Street (.0016)
- Alabama Road (.0015)
- Waleska Street (.0014)
- Pinecrest Road (.0012)
- Green Drive (.0011)
- Meadow Lane (.0011)
- Bell Parkway (.0011)
- Univeter Road (.0011)

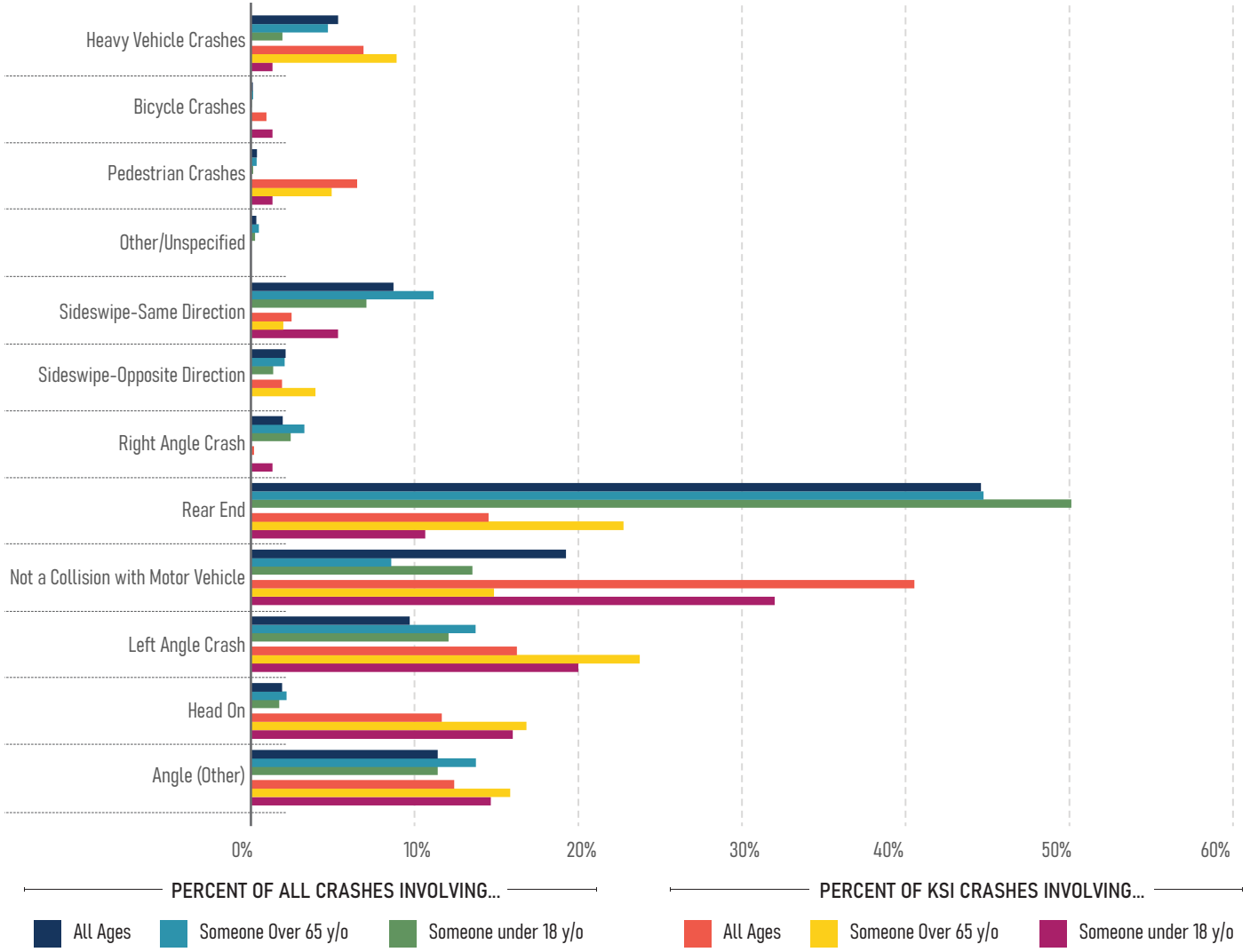
Age

Young (under 18 y/o) and older (over 65 y/o) users tend to be more at-risk for traffic crashes. Traffic crashes have historically been one of the top causes of death for teenagers, in particular. Figure 15 depicts the percentage of all crashes and KSI crashes for all users versus older users (over 65 y/o) and young users (under 18 y/o).

From this analysis, the following patterns emerge:

- Rear end collisions tend to be more dangerous for older users than they are in general.
- Left angle crashes, head on crashes, and angle (other) crashes tend to be more dangerous for older and younger users than for the general user group.
- While rear end collisions are already the most common crash type for all users, they are even more common for crashes involving someone under 18 y/o.
- Sideswipe-Same direction crashes have historically resulted in more severe outcomes for young users.

Figure 15. Crash Type by Age



Lighting

The number of fatal crashes occurring during daylight is 30% more than those that occur in darkness. However, the nighttime fatality rate is 1.5 times the daytime rate because only 26% of vehicle miles traveled (VMT) occur at night[1]. At nighttime, vehicles traveling at higher speeds may not have the ability to stop once a hazard or change in the road ahead becomes visible by the headlights. Therefore, lighting is an important consideration for reducing the severity of crashes that occur at night.

Figure 16 shows the proportion of KSI crashes that occur at nighttime by their lighting conditions. Of all KSI crashes, 32% happen during dark hours, but only 8% are in lit locations. This difference is more extreme for crashes involving a pedestrian and for crashes that are not a collision with a motor vehicle, suggesting that the lack of lighting has a larger risk impact for these crash types.

Figure 17 shows all crashes, injury crashes, and KSI crashes by lighting condition. Dark, unlit conditions represent 24% of all KSI crashes, but only 13% of all crashes.

Figure 16. Nighttime KSI Crashes by Lighted Conditions

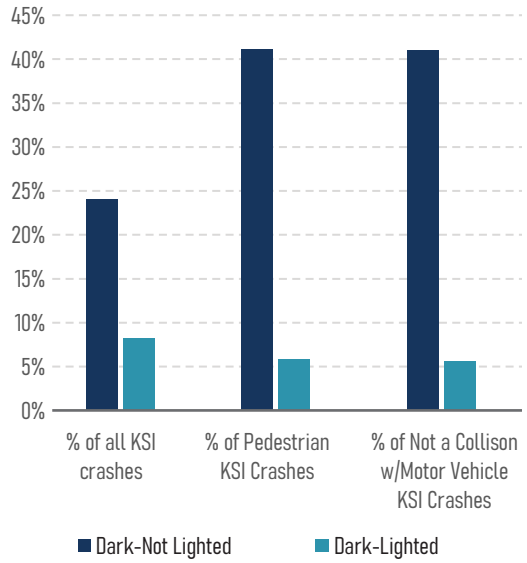
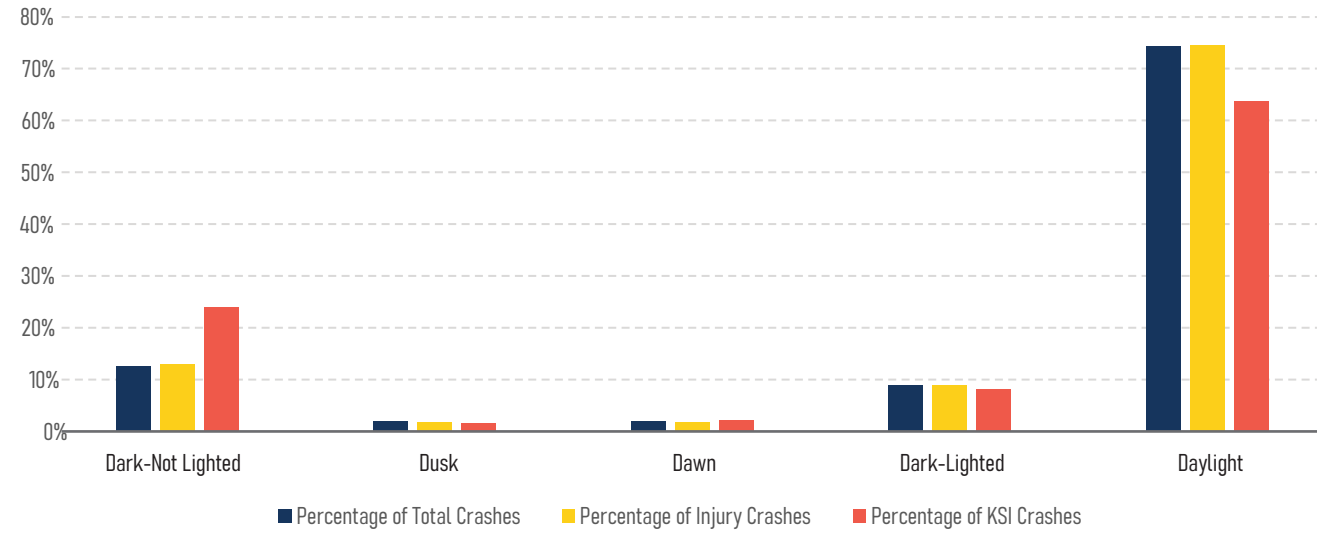


Figure 17. Crashes by Lighting Condition



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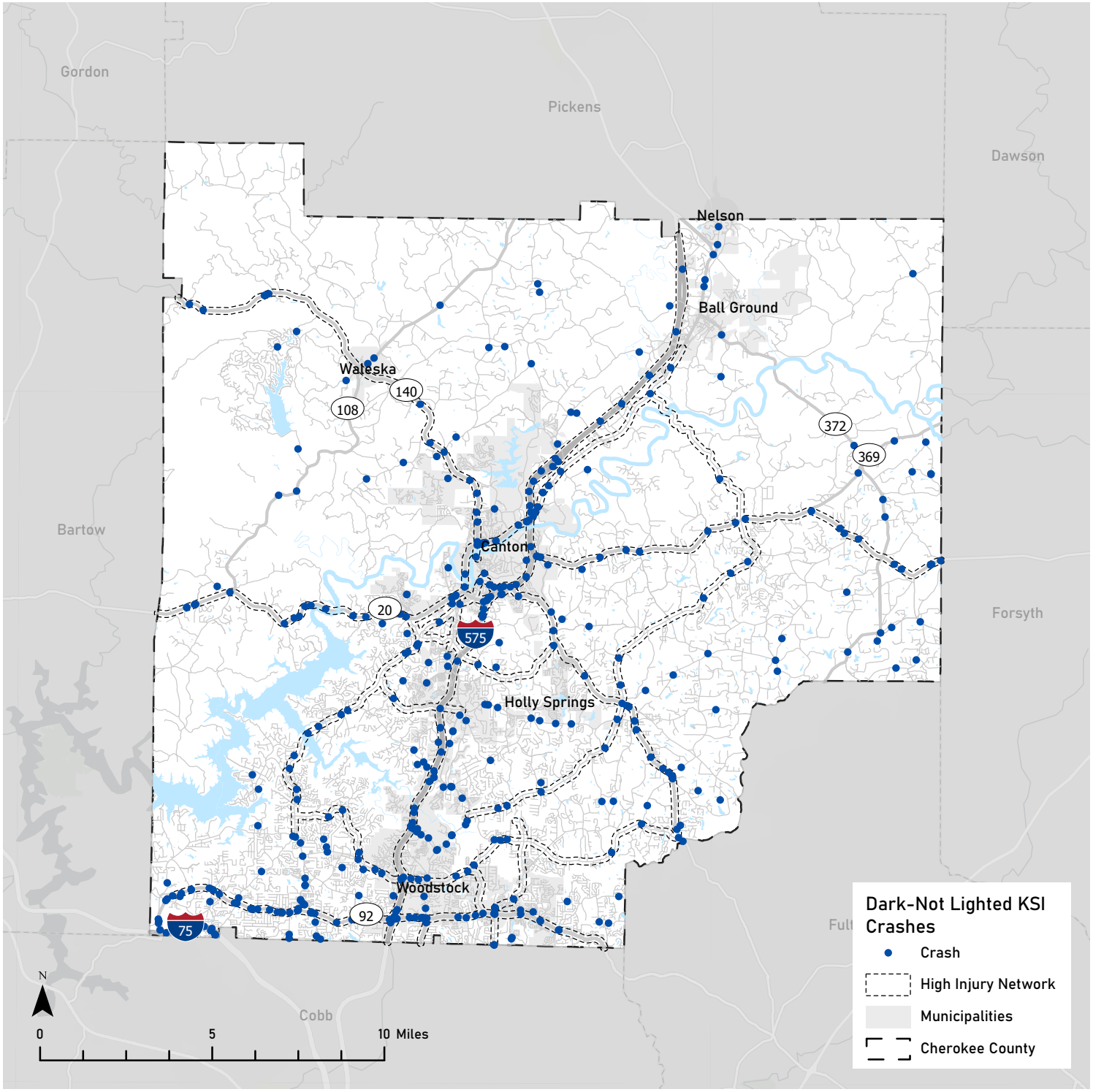


Figure 18. Dark-Not Lighted KSI
Source: Replica 2023

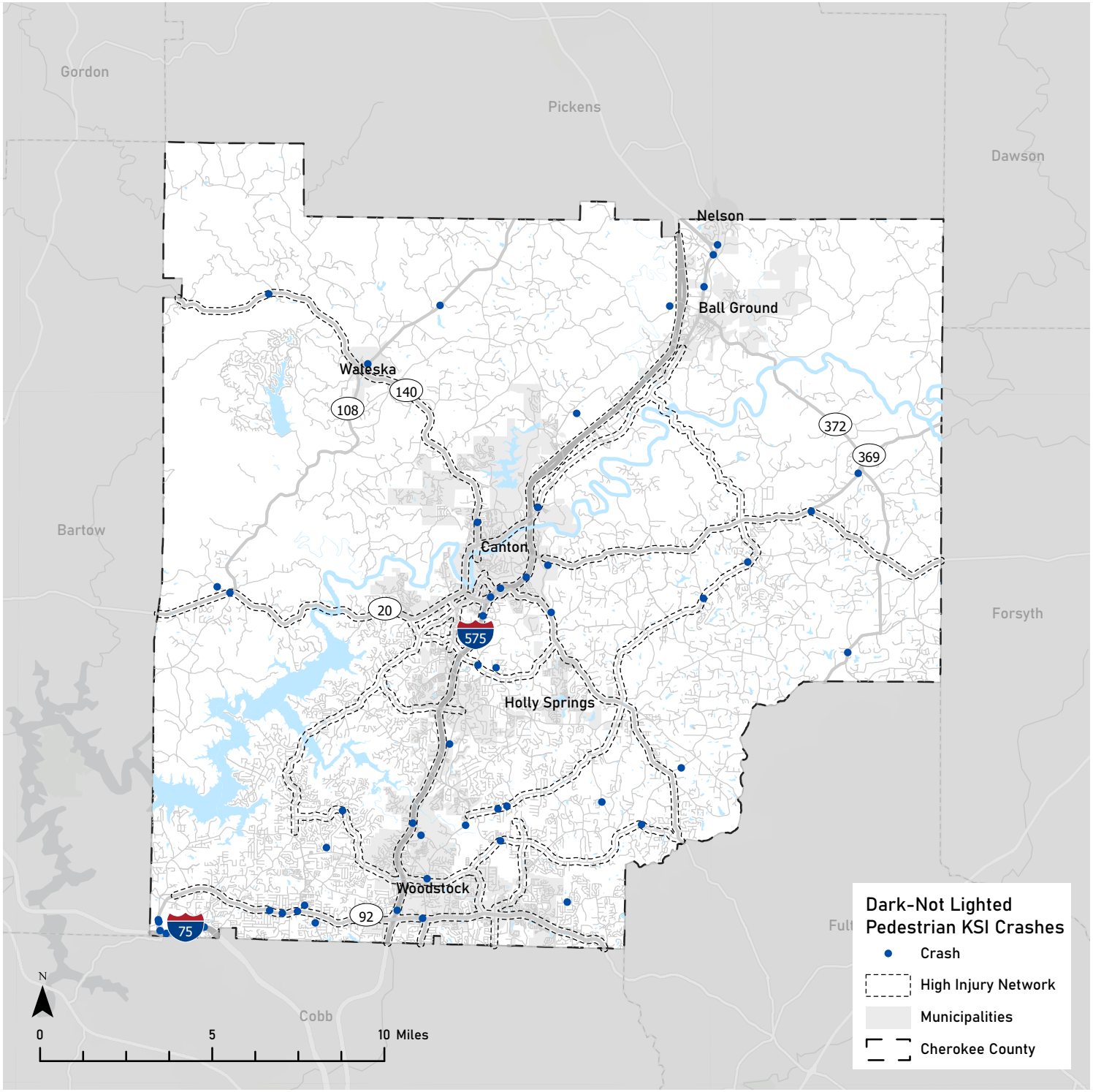
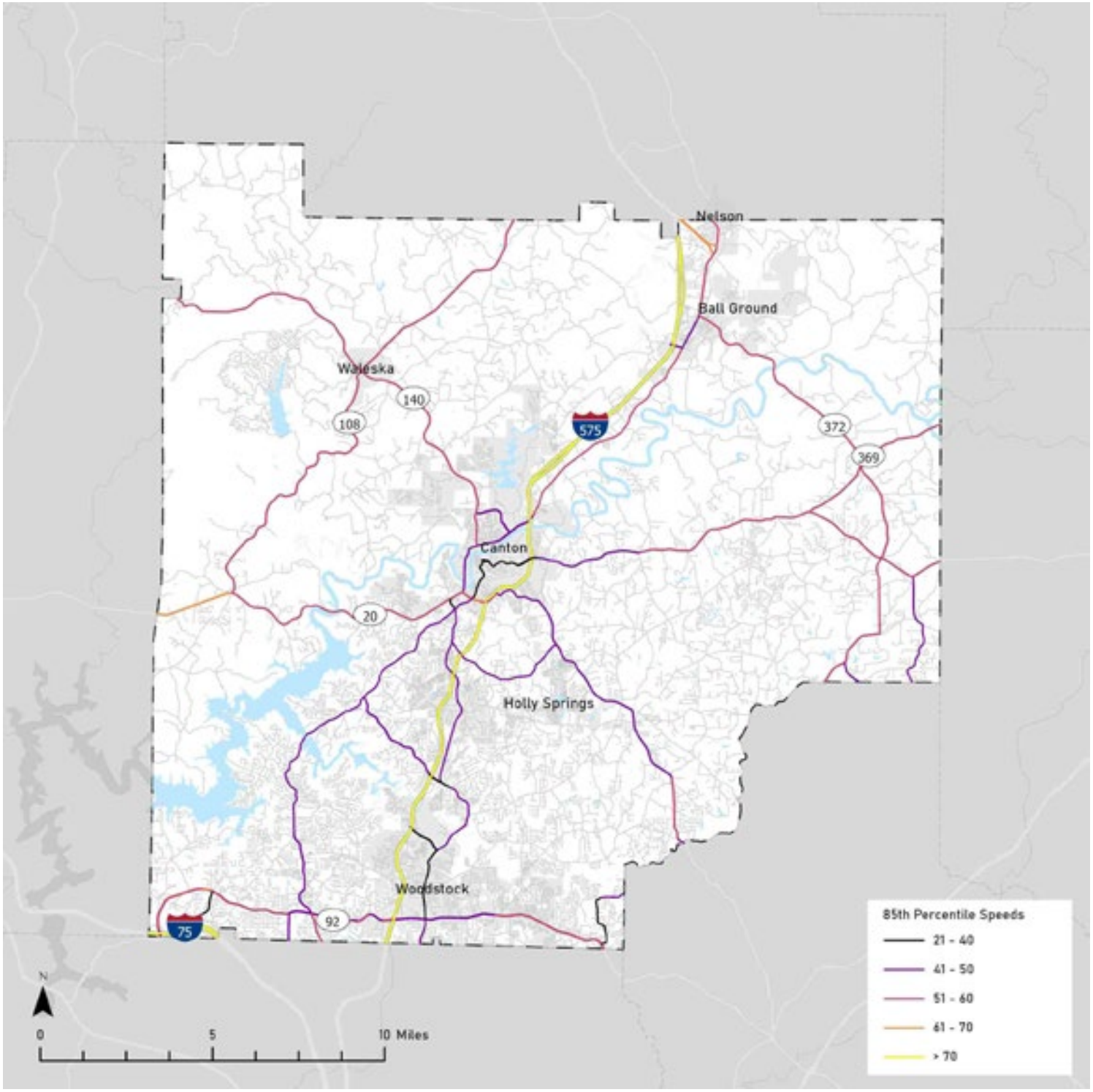


Figure 19. Dark-Not Lighted Pedestrian KSI
Source: RITIS 9/23



Travel Speeds

Figure 20. 85th Percentile Speeds
Source: GDOT ITERIS, September 2023

There is broad consensus among global roadway safety experts that speed control is one of the most important methods for reducing fatalities and serious injuries. Speed is the most significant factor in predicting severe outcomes of a crash, especially for crashes involving pedestrians and bicyclists. Likelihood of pedestrian fatality goes from 8% to 46% if the vehicle is traveling at 20 MPH vs 40 MPH.

The highest speed roadways are I-575 and I-75. Most of SR-92 and SR-20 have speeds between 51-65 MPH. SR-372, SR-369, SR-140 (north of Canton), and SR-108 also have speeds between 51-65 MPH.

Figure 21. Likelihood of Death for People Walking if Hit at These Speeds
Source: AAA Foundation, Tefft, B.C. (2011)

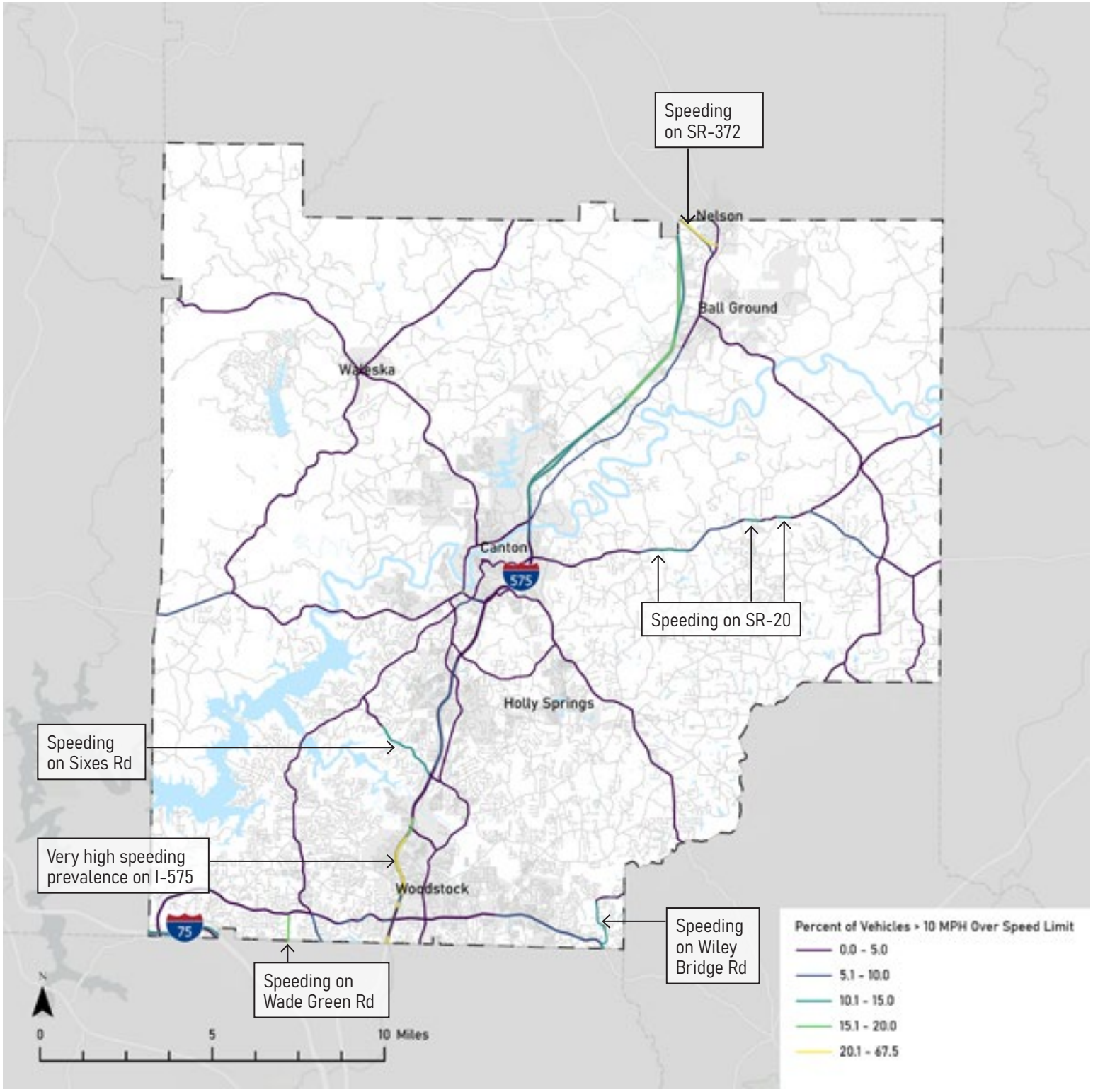


Figure 22. Speeding Prevalence
Source: GDOT ITERIS, September 2023

Figure 22 depicts the proportion of vehicles that travel over the speed limit by more than 10 mph. Posted speed limit is an important factor for roadway design, and therefore roadways are not designed to accommodate these speeds.

On most state routes throughout the County, less than 5% of vehicles travel more than 10 mph faster than the speed limit. Speeding is most prevalent on I-575, where up to two-thirds of vehicles travel over 10 mph faster than the speed limit in sections close to Woodstock. There is also high prevalence of speeding on sections of SR-20, SR-92, Sixes Rd, Wiley Bridge Rd, and Wade Green Rd.

SECTION III.

HIGH INJURY NETWORK

What is the High Injury Network (HIN)?

The High Injury Network (HIN) is a critical component of the Safe Streets for All Action Plan, designed to identify and prioritize the areas within a city or region where the highest number of severe and fatal traffic collisions occur. The HIN is a data-driven tool used to map and identify streets and intersections where a disproportionately high number of severe traffic injuries and fatalities occur. The goal is to focus safety improvements and resources on these high-risk areas to effectively reduce traffic-related injuries and deaths.

THE HIGH INJURY NETWORK REPRESENTS

12.4%

OF CHEROKEE COUNTY'S ROADWAY NETWORK

HIGHLIGHTS

- The HIN represents 12.4% of the roadway network, but 59.3% of the County's crashes.
- The HIN includes most of the County's major state routes, including I-575, SR 20, and SR 92. While these roads are not necessarily owned and controlled locally, they are the most dangerous and therefore require attention.
- The HIN includes segments in each of the municipalities.

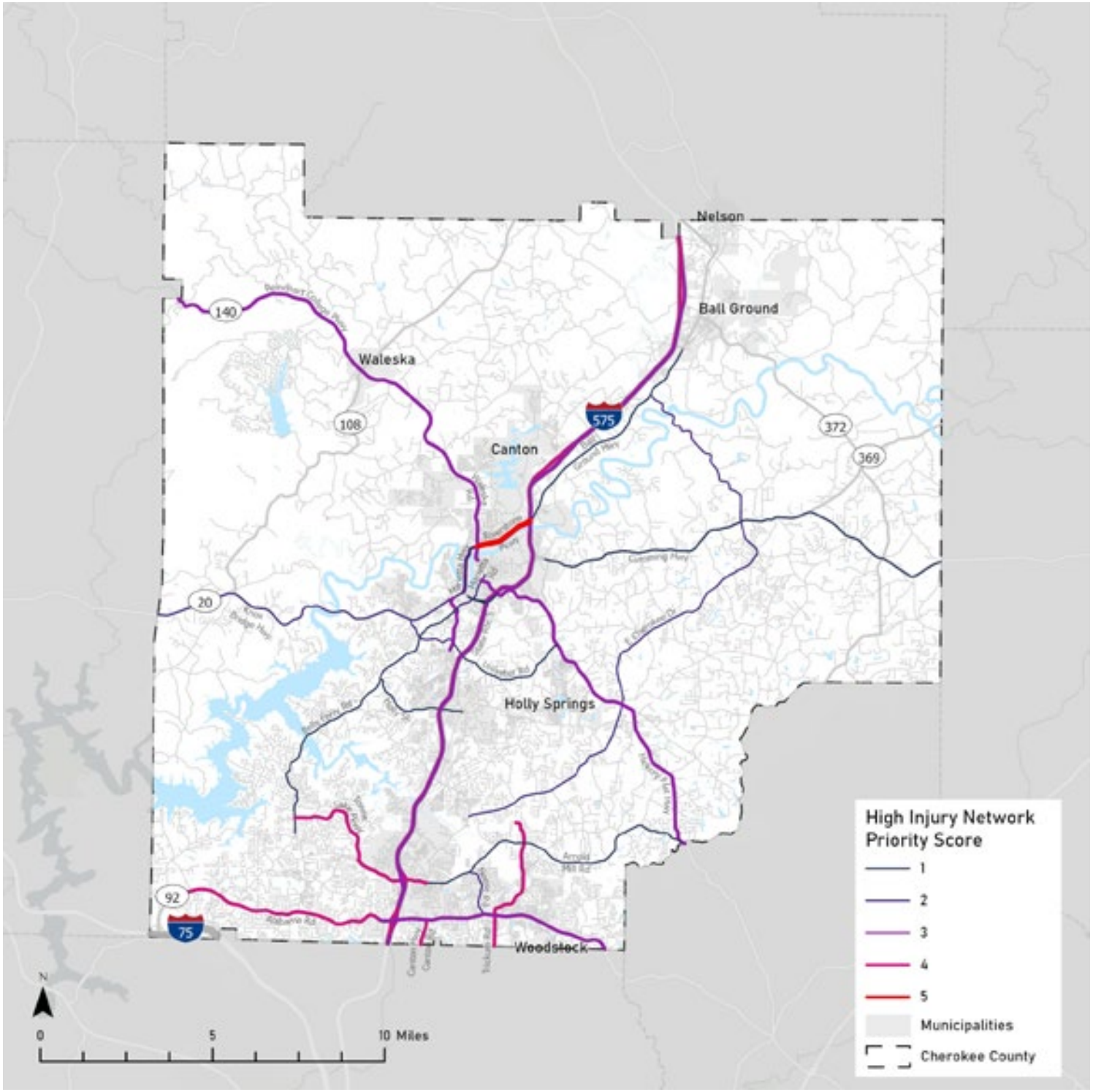


Figure 23. High Injury Network
Source: Replica 2023

HIN Corridor List & Scoring

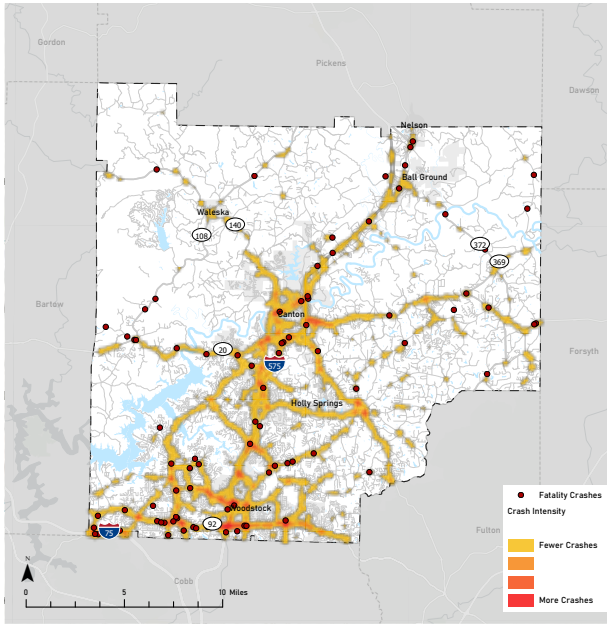
There are 26 total corridors, representing 292 miles of roadway. Figure 23 shows the HIN and the scoring, dependent on how many of the safety criteria met on the corridor. Table 3 on page A-28 provides a scoring matrix for the network.

Table 3. High Injury Network Corridor Scoring
Source: RITIS Data

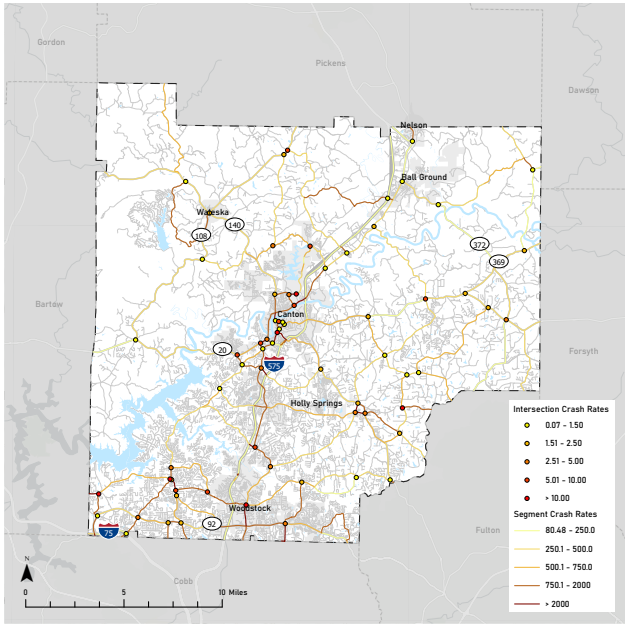
	CORRIDOR NAME	FROM	TO	BIKE RISK	PED RISK	CRASH HISTORY	CRASH RATE	KSI CRASH	TOTAL SCORE
1	Riverstone Pkwy	Waleska Rd	Reinhardt College Pkwy	1	1	1	1	1	5
2	Ball Ground Hwy	Lower Bethany Rd	Howell Bridge Rd	1	1	1	1	1	5
3	Trickum Rd	County Line	N/A	1	1	1	1	0	4
4	Main St	County Line	SR 92	1	1	1	1	0	4
5	I-575	County Line	County Line	1	1	1	1	0	4
6	Canton Hwy	I-575	Lower Bethany Rd	1	1	1	1	0	4
7	SR 92	Cherokee Rd	Woodstock Square Ave	1	1	1	0	1	4
8	Towne Lake Pkwy	Bells Ferry Rd	Main St	1	0	1	1	1	4
9	SR 140	County Line	Hickory Flat Hwy	1	0	1	1	0	3
10	SR 20	Northside Pkwy	County Line	1	0	1	1	0	3
11	Waleska St	SR 140	North St	1	0	0	1	1	3
12	SR 92	Woodstock Square Ave	County Line	0	0	1	1	1	3
13	Hickory Flat Hwy	I-575	County Line	1	0	0	1	1	3
14	Marietta Hwy	SR 20	Ridge Rd	1	0	1	1	0	3
15	E Cherokee Dr	S Holly Springs	Ball Ground Hwy	1	0	1	0	0	2
16	Morris Hill Rd	Marietta Rd	Marietta Hwy	1	0	0	1	0	2
17	SR 20	County Line	Etowah River	1	0	0	1	0	2
18	Marietta Rd	Pettit St	Marietta Hwy	1	0	0	1	0	2
19	Butterworth Rd	SR 20	Marietta Hwy	1	0	0	1	0	2
20	Neese Rd	Arnold Mill Rd	SR 92	1	0	1	0	0	2
21	Bells Ferry Rd	Commerce Pkwy	Marietta Hwy	1	0	0	0	0	1
22	Holly St	Bells Ferry Rd	Holly Springs Pkwy	0	0	0	1	0	1
23	Univeter Rd	Marietta Hwy	Hickory Flat Hwy	1	0	0	0	0	1
24	Arnold Mill Rd	Main St	Hickory Flat Hwy	1	0	0	0	0	1

How are priority scores calculated?

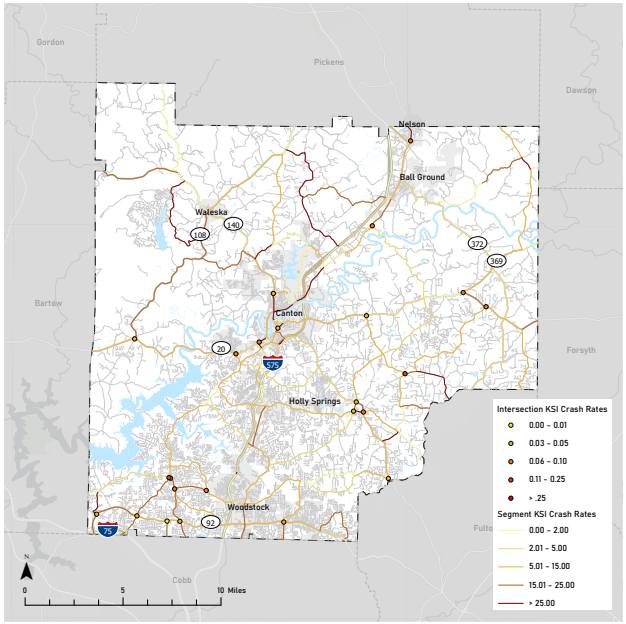
There are five safety criteria applied to determine if a roadway qualifies for the HIN. Each corridor is assigned a score based on how many high injury criteria they meet. A road with a score of 5 meets all the criteria. Each corridor in the High Injury Network meets at least one criteria. The primary criteria are shown here. See sections 1 and 3 for more information on each criteria.



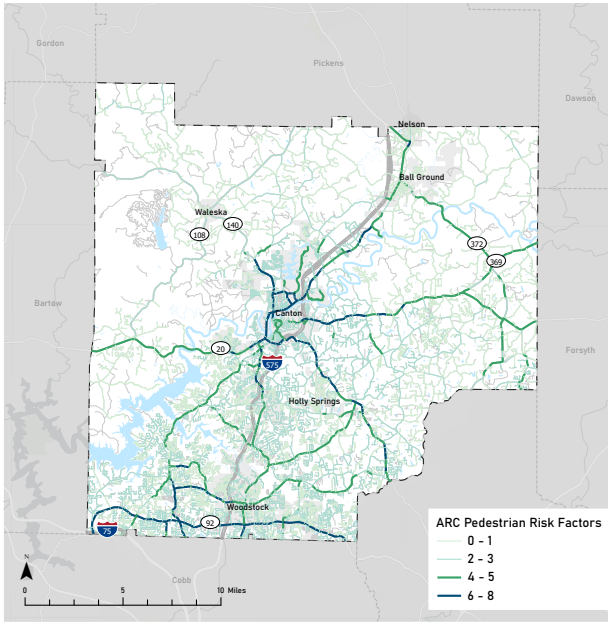
CRASH HISTORY (>386 CRASHES)



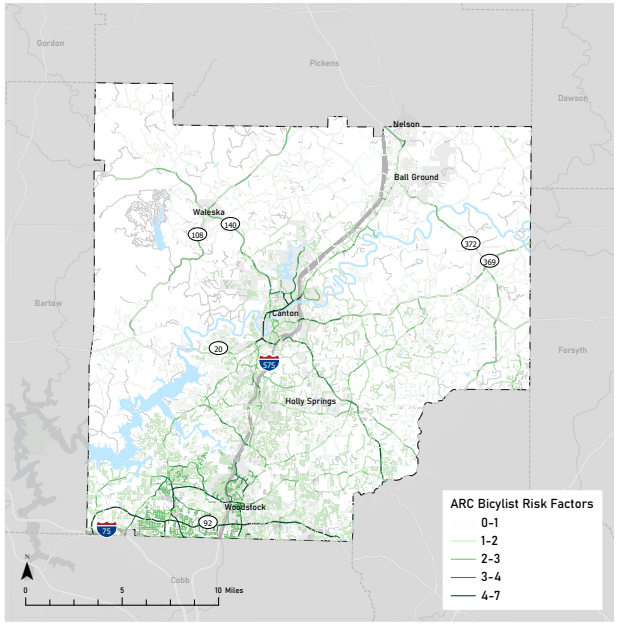
CRASH RATE (>750)



KILLED OR SERIOUSLY INJURED (KSI) CRASH RATE (>15)



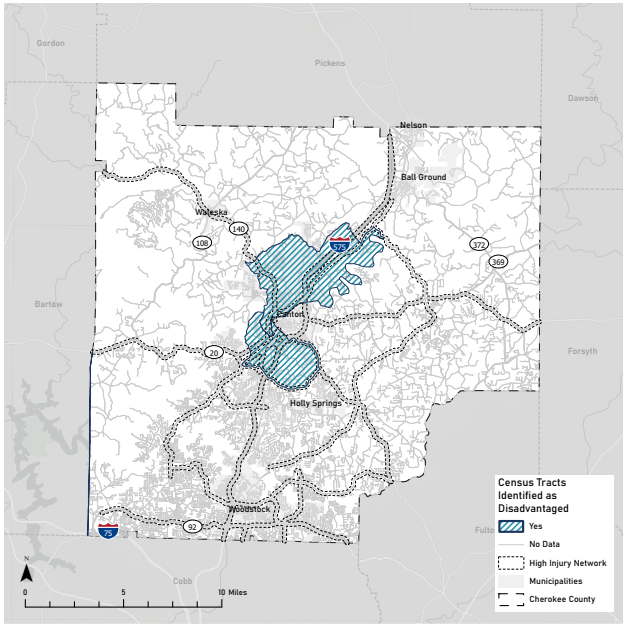
PEDESTRIAN RISK FACTORS (>5)



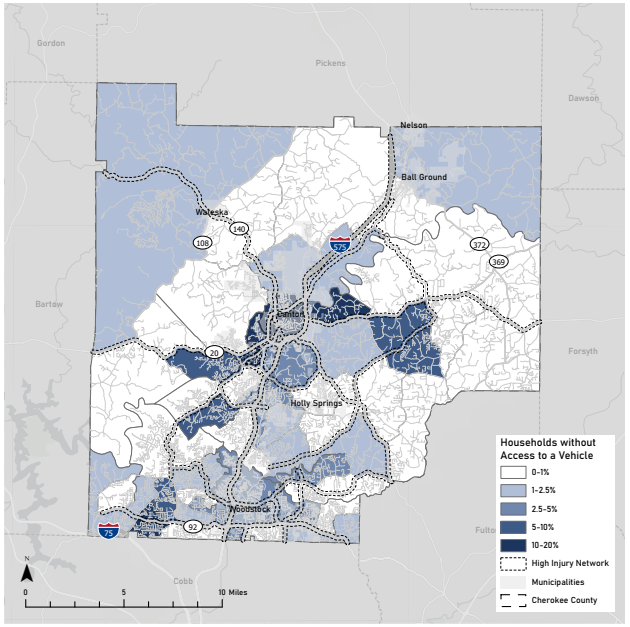
BICYCLIST RISK FACTORS (>5)

How is equity considered in the High Injury Network?

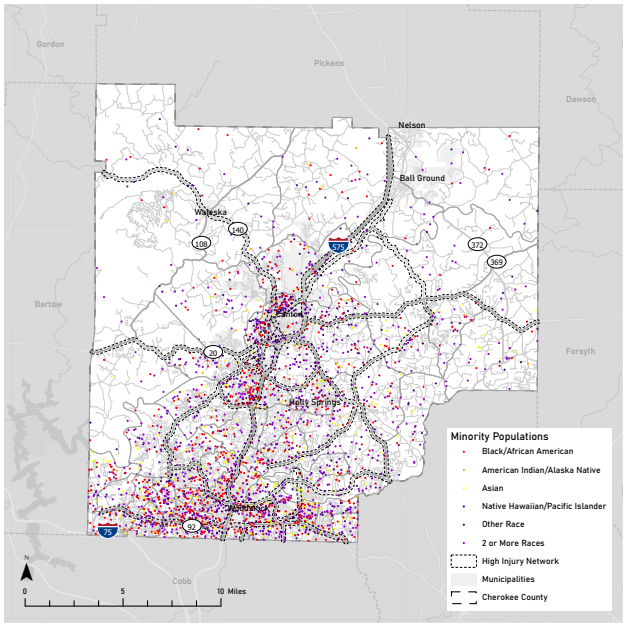
The FHWA's SS4A program heavily emphasizes the need to address safety for historically disadvantaged populations. Once the initial high injury network was identified based on the primary safety criteria, the network went through a secondary filter to prioritize streets that cater to vulnerable populations, based on the five equity criteria shown here. Corridors that did not meet at leas three of these criteria were removed.



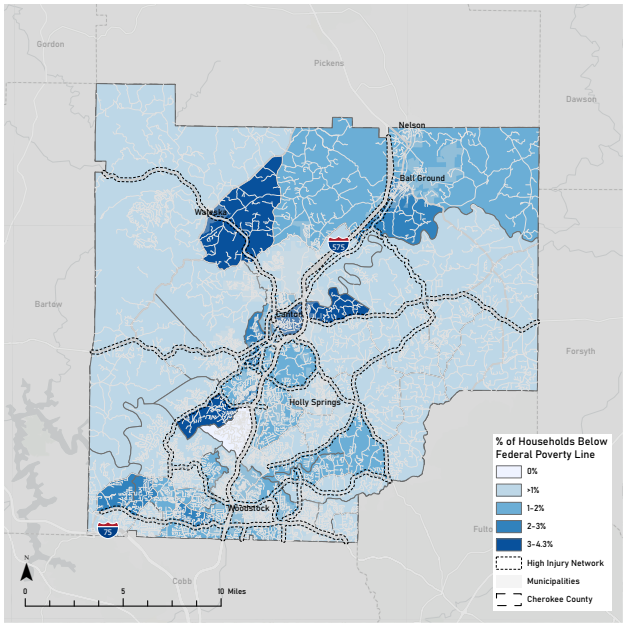
JUSTICE40 CENSUS TRACTS



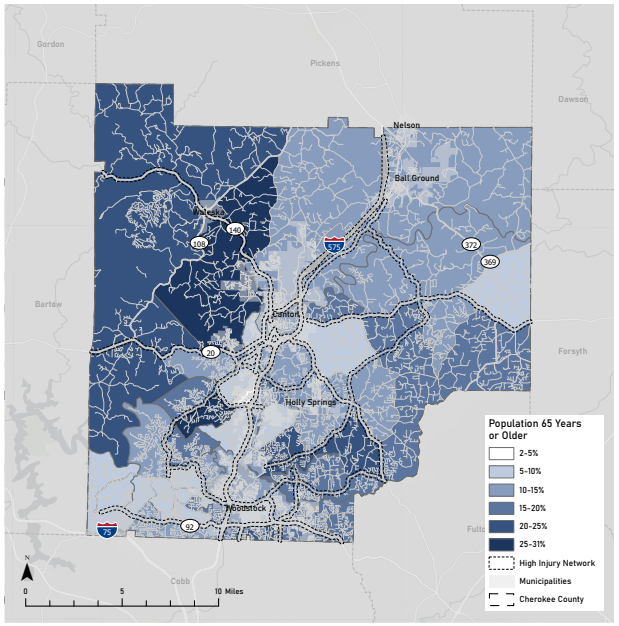
VEHICLE OWNERSHIP



RACE



INCOME



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SECTION IV.

EXISTING TRANSPORTATION NETWORK

Roadway Characteristics

This section provides an overall profile of Cherokee County's roadways, including their functional classifications, number of lanes, vehicular volumes, and bottlenecks, and compares this data against the High Injury Network. These characteristics have a profound influence on safety and mobility, as well as influence the quality of life and workforce access for residents.

HIGHLIGHTS

- The county is bisected by I-575 which supports north-south connectivity and serves as the main regional connector.
- SR 20 and SR 92 are Major Arterials that serve as the primary corridors that serve east-west mobility through the County.
- I-575, 1-75, and SR 92 have the greatest roadway capacity SR 20 and SR 92 are highly trafficked

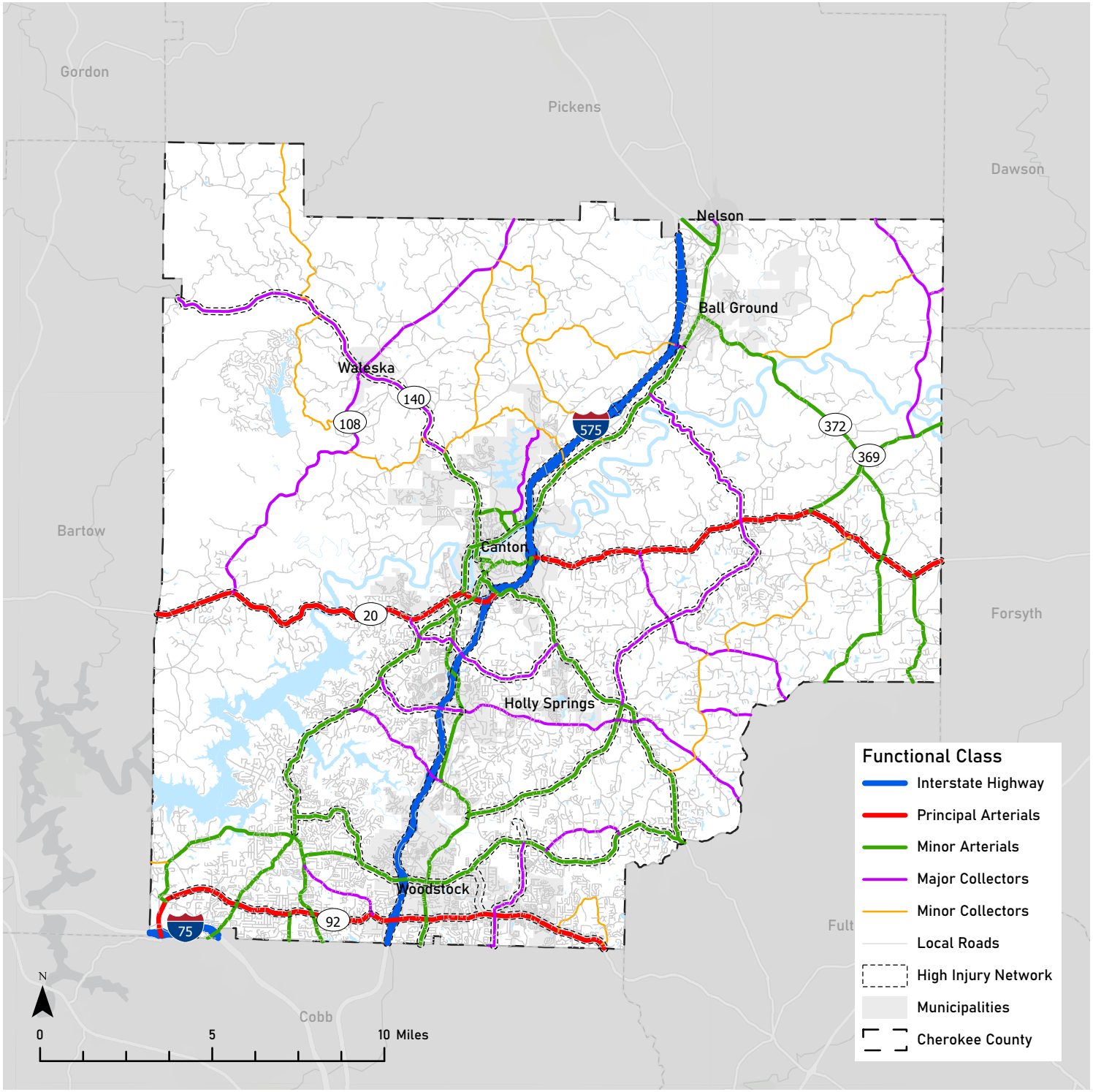


Figure 24. Functional Classification
Source: GDOT 2021

The roadway functional classification system categorizes roads based on their designated functions and intended usage, offering valuable insights into their roles within the transportation network. There are three basic classifications: arterials, collectors, and local roads. The map shown in Figure 24 illustrates the existing functional class based on GDOT's designation, with HIN corridors identified.

The more major roadways, which tend to carry more traffic and have higher speeds, tend to be where most of the crashes occur. The HIN includes all of the interstate highways (I-575), both of the principal arterials (SR-20, and SR-92), most of the minor arterials, and about half of the major arterials.

INTERSTATE HIGHWAY

I-575

PRINCIPAL ARTERIALS

SR 20
SR 92

MINOR ARTERIALS

SR 372
Ball Ground Hwy
SR 369
Hopewell Rd
SR 140
Reinhardt College Pkwy
MLK Blvd
Riverstone Blvd
Waleska Rd
North St
E Main St
Academy St
Hickory Flat Hwy
Dr. John T Pettit St
Marietta Hwy
Main St
E Cherokee Dr
Bells Ferry Rd
Towne Lake Pkwy
Eagle Dr
Kellogg Creek Rd
Woodstock Rd
Arnold Mill Rd
Wade Green Rd
Riverstone Pkwy

MAJOR COLLECTORS

Bascomb Carmel Rd
Trickum Rd
N Arnold Mill Rd
Batesville Rd
Hickory Rd
Sixes Rd
Holly St
Butterworth Rd
Univeter Rd
Lower Birmingham Rd
Union Hill Rd
E Cherokee Dr
Bluffs Pkwy
SR 108
SR 140
Yellow Creek Rd

MINOR COLLECTORS

New Hope Rd
Wiley Bridge Rd
Sugar Pike Rd
Arbor Mill Rd
Corns Creek Rd
Fate Conn Rd
Sam Nelson Rd
Little Refuge Rd
Salacoa Rd
Lower Burris Rd
Upper Burris Rd
Howell Bridge Rd
Hornage Rd
Lower Bethany Rd
Upper Bethany Rd
Stancil Rd

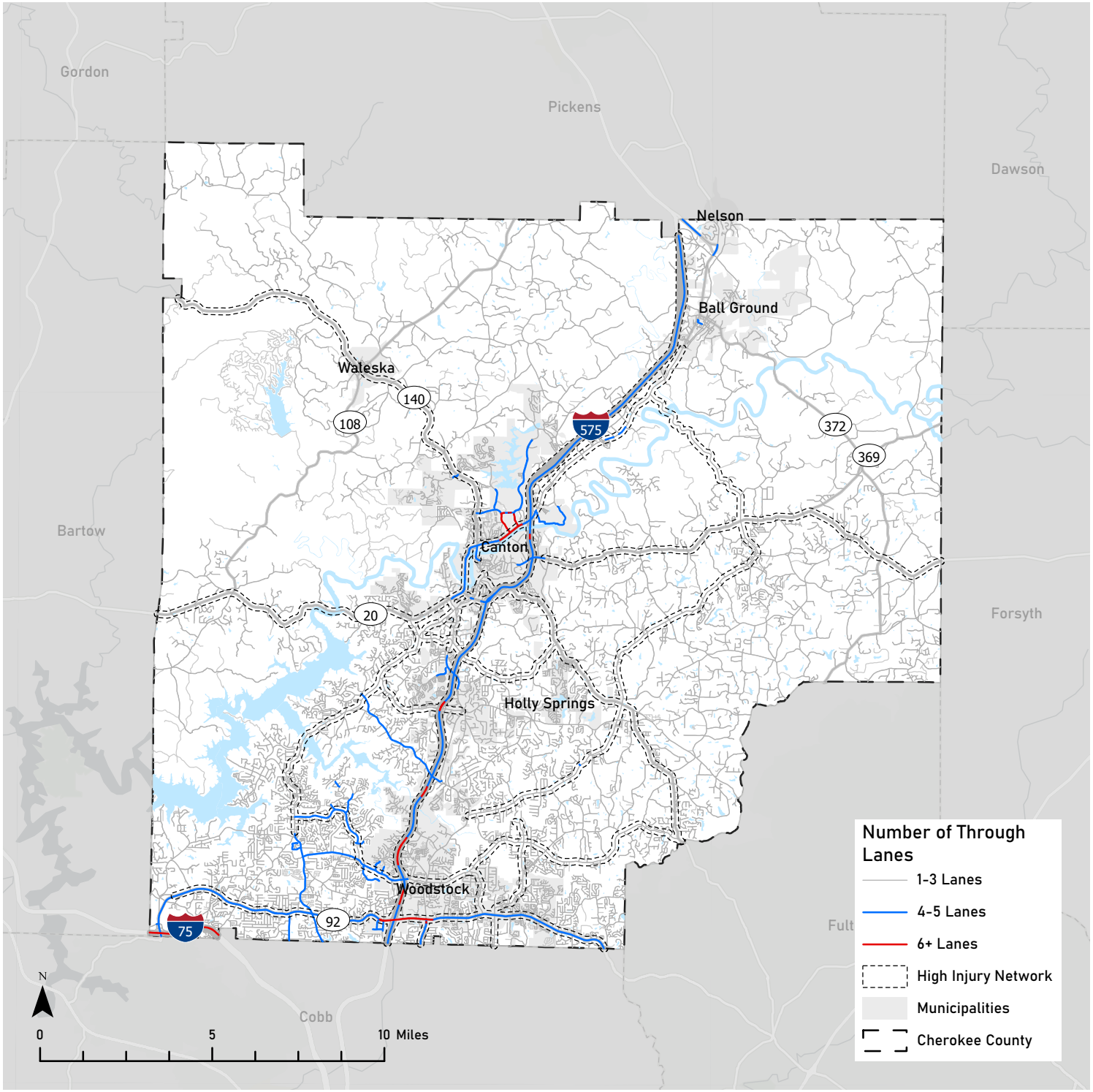


Figure 25. Number of Lanes
Source: GDOT 2021

The number of lanes on a roadway is the primary indicator of its capacity. Through lanes are designated for through traffic and do not include turn lanes, auxiliary lanes, or collector-distributor lanes. Figure 2 illustrates the number of lanes on existing Cherokee County roads. The higher lane capacity is concentrated in the central area and southern corridors of Cherokee County along I-75, SR 92, I-75, and SR 20. The takeaway here is that Cherokee County is a growing county that is currently served by two lane roadways throughout.

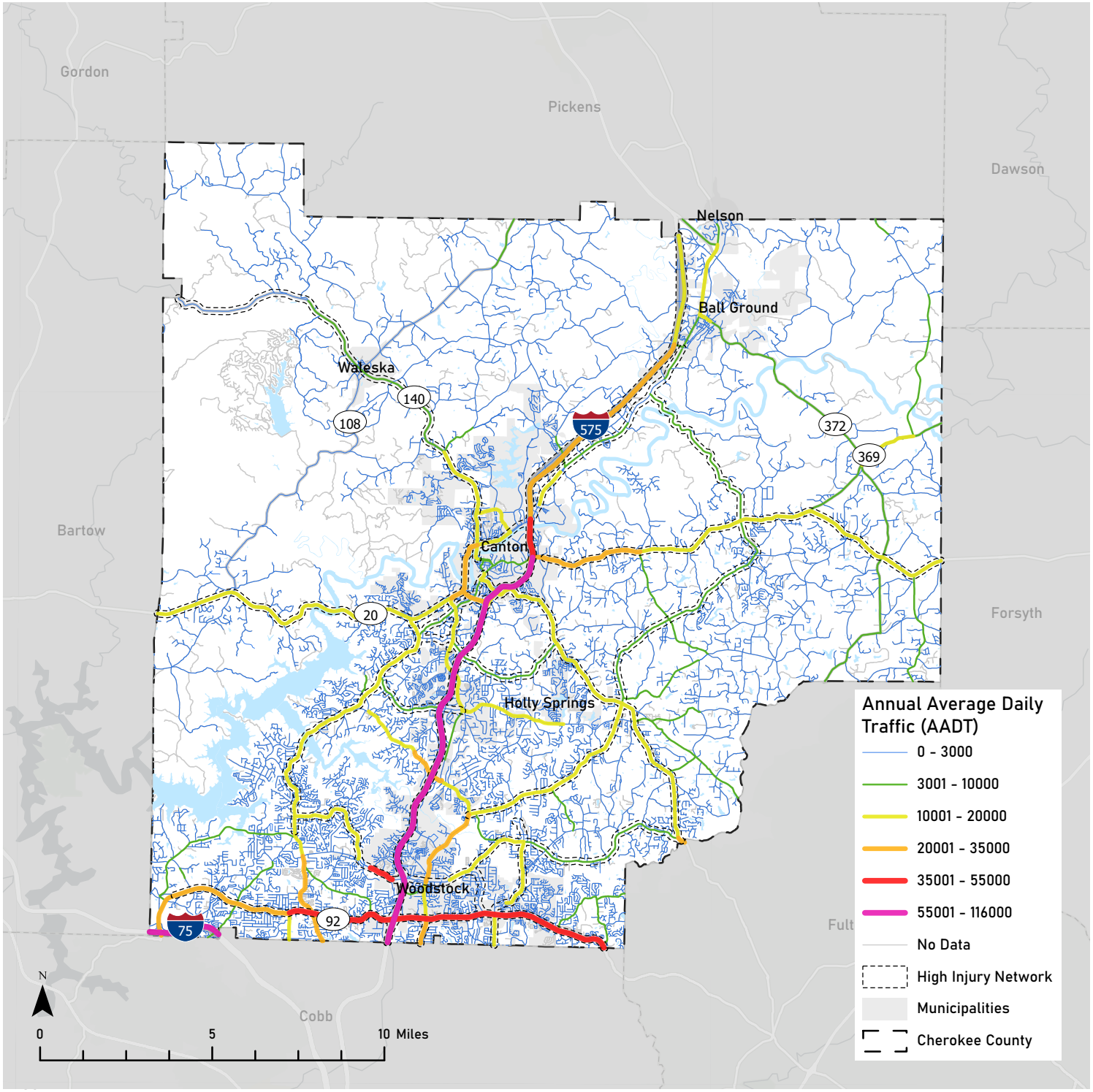


Figure 26. Vehicular Volumes
Source: Replica 2023

I-575, I-75, and SR 92 carry the highest vehicle volumes in the county. The roads that connect to and across I-575 also have high traffic volumes of 15,000 vehicles per day or more. While I-75 carries the highest volumes in the County, it serves relatively low volumes of people exiting/ entering the County from the highway.

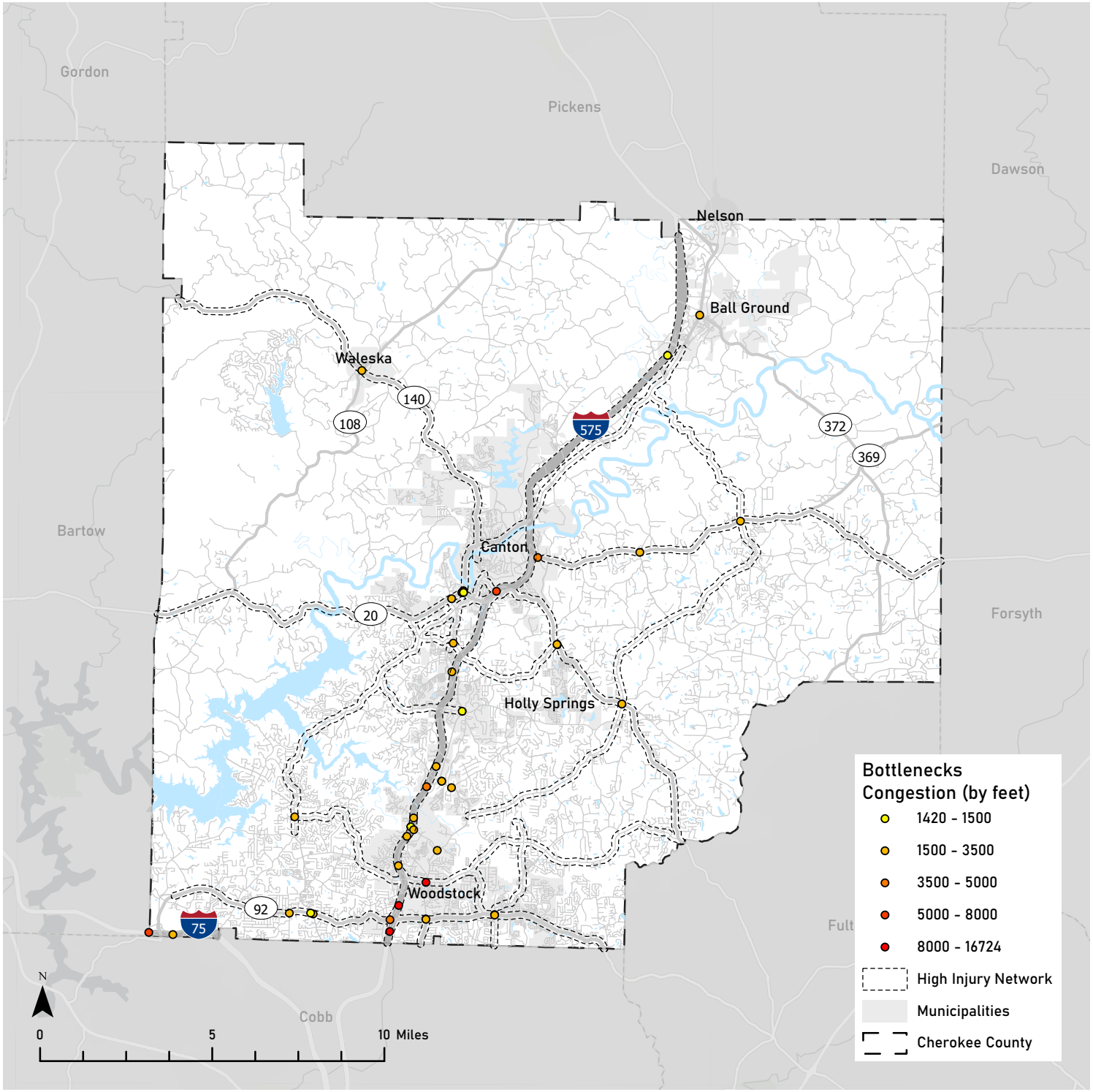


Figure 27. Bottlenecks
Source: RITIS 9/23

Roadway bottlenecks were identified utilizing Regional Integrated Transportation Information System (RITIS) Probe Data Analytics, a platform that processes primarily cell phone data to provide transportation metrics to planners and engineers. Bottlenecks are roadway segments where vehicles experience delays and queuing, influencing upstream traffic. The analysis period for this dataset was September 2023. Bottleneck Congestion values in Figure 27 represent the length of the bottleneck queue in feet.

Table 6. Bottleneck Head Locations
Source: RITIS Data

RANK	HEAD LOCATION	TOTAL DELAY
1	I-575 S @ GA-92/EXIT 7	11,334,151
2	MAIN ST	9,717,736
3	I-575 N @ GA-92/EXIT 7	8,306,615
4	I-75 N @ GA-92/EXIT 277	7,356,950
5	GA-140 W @ I-575/GA-20/GA-5	4,000,256
6	HOLLY SPRINGS PKWY	3,213,487
7	GA-140 W @ E CHEROKEE DR	2,593,859
8	MAIN ST	2,590,078
9	GA-140 E @ UNIVETER RD	2,523,054
10	GA-92 W @ I-575	2,458,491
11	GA-20 S @ I-575/EXIT 19	2,216,395
12	HOLLY SPRINGS PKWY	2,171,986
13	I-75 S @ GA-92/EXIT 277	2,164,526
14	GA-92 W @ TRICKUM RD	2,118,853
15	I-575 S @ SIXES RD/EXIT 11	1,891,400
16	MAIN ST	1,580,667
17	GA-92 E @ TRICKUM RD	1,376,623
18	I-575 N @ RIDGEWALK PKWY/EXIT 9	1,333,299
19	I-575 N @ TOWNE LAKE PKY/EXIT 8	1,288,170
20	MAIN ST	1,242,654
21	HOLLY SPRINGS PKWY	1,240,858
22	HOLLY SPRINGS PKWY	1,229,211
23	I-575 N @ SIXES RD/EXIT 11	1,211,745
24	GA-140 W @ UNIVETER RD	1,117,859
25	GA-20 N @ GA-140/GA-5-BR/MARIETTA HWY	1,050,861

Bottlenecks are ranked in the RITIS platform by total delay, which is the combined delay experienced by all vehicles at a roadway segment over the analysis period. Total delay represents the base impact weighted by the difference between free-flow travel time and observed travel time multiplied by the average daily volume (AADT), adjusted by a day-of-the-week factor.

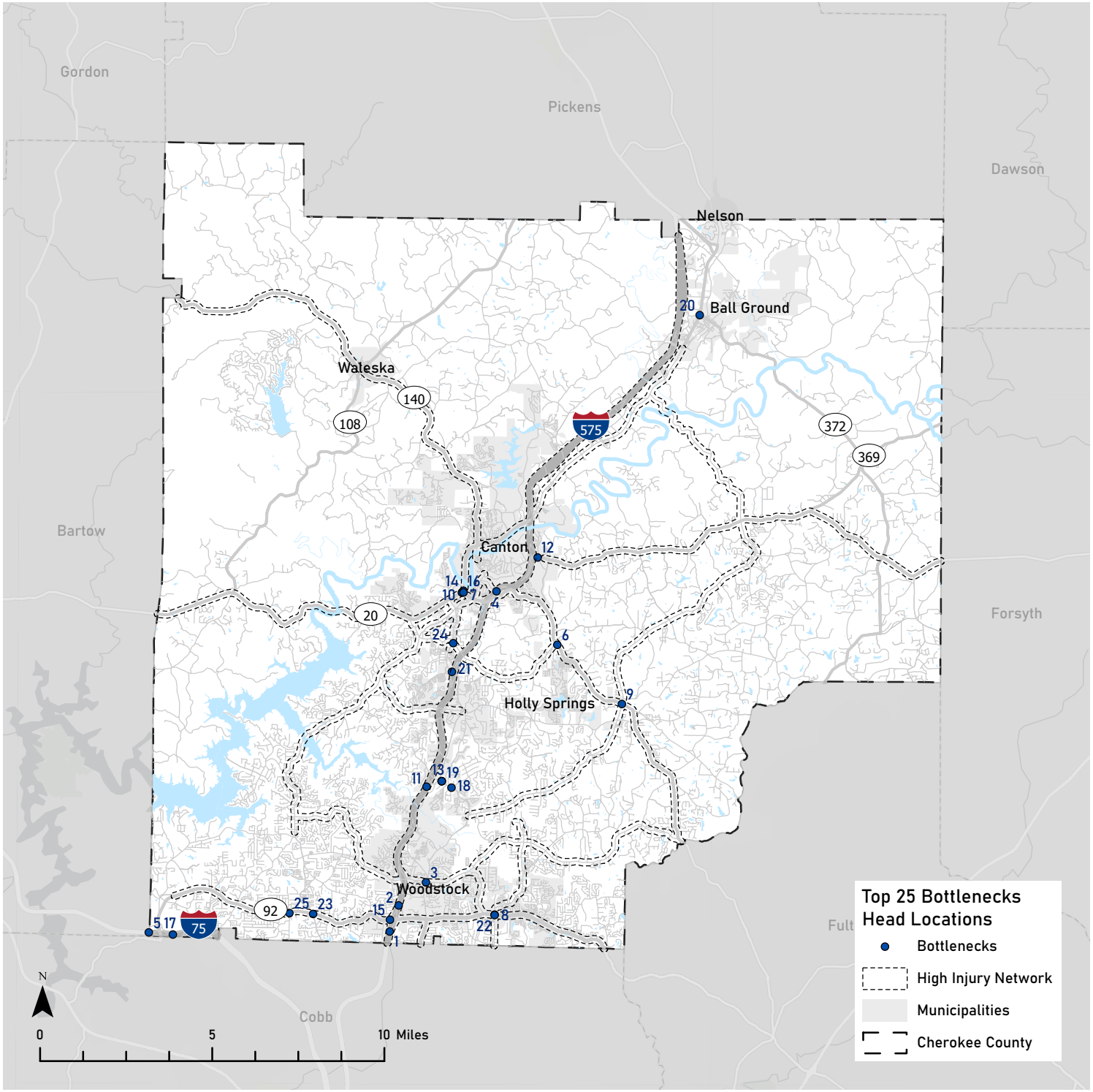


Figure 28. Bottlenecks Head Locations

Source: RITIS 9/23

Roadway bottlenecks were identified utilizing Regional Integrated Transportation Information System (RITIS) Probe Data Analytics, a platform that processes primarily cell phone data to provide transportation metrics to planners and engineers. Bottlenecks are roadway segments where vehicles experience delays and queuing, influencing upstream traffic. The analysis period for this dataset was September 2023. Bottleneck Congestion values in Figure 28 represent the length of the bottleneck queue in feet.

Active Transportation

The USDOT Safe Streets and Roads for All program emphasizes the vitality of multimodal transportation infrastructure, especially pertaining to walking and biking. Active transportation facilities for pedestrian and bicyclists, such as trails and sidewalks, are a growing component of Cherokee County's transportation network. These dedicated facilities provide safe options for accessing destinations, as well as opportunities for recreation. In addition to improved transportation access, a robust active transportation network can create opportunities to replace vehicle trips with walking and biking trips, helping to improve quality of life, reduce carbon emissions, and improve air quality. This section outlines the existing bike and pedestrian infrastructure, bicyclist volumes, and pedestrian volumes.

107.5 miles
of Trail Facilities

594 miles
of Sidewalk Facilities

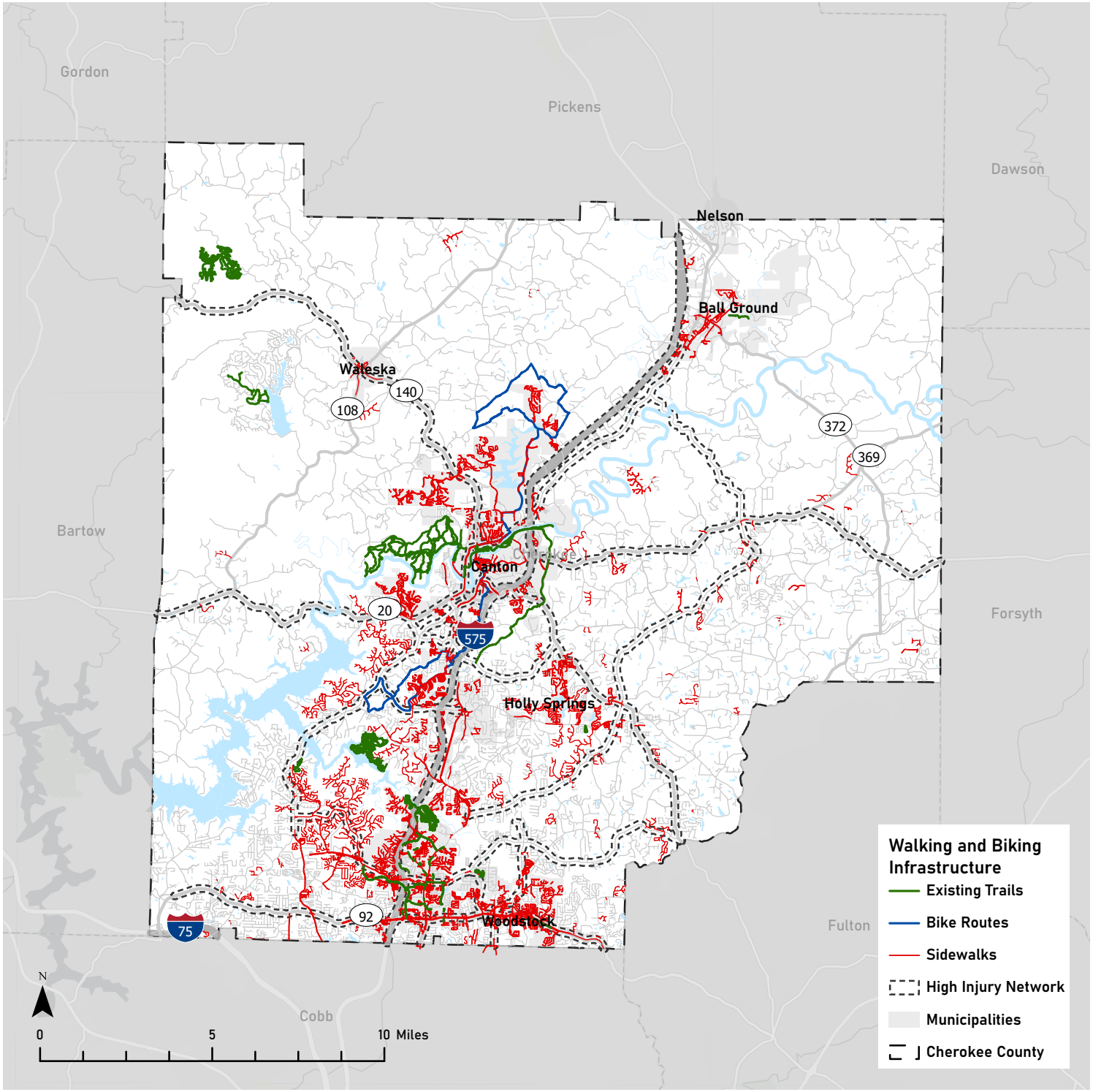


Figure 29. Walking and Biking Infrastructure
Source: Cherokee County

The infrastructure for pedestrians and bicyclists in Cherokee County consists of trails, bicycle routes, and sidewalks. Sidewalks are the predominant form of infrastructure. Currently, there are 594 miles of existing sidewalk facilities throughout the county. Figure 5 illustrates the concentration of sidewalks in and around the town centers of Woodstock, Canton, Holly Springs, Ball Ground and Waleska. Canton and Woodstock both have a substantial inventory of sidewalks which is consistent with the pedestrian volumes illustrated in Figure 7.

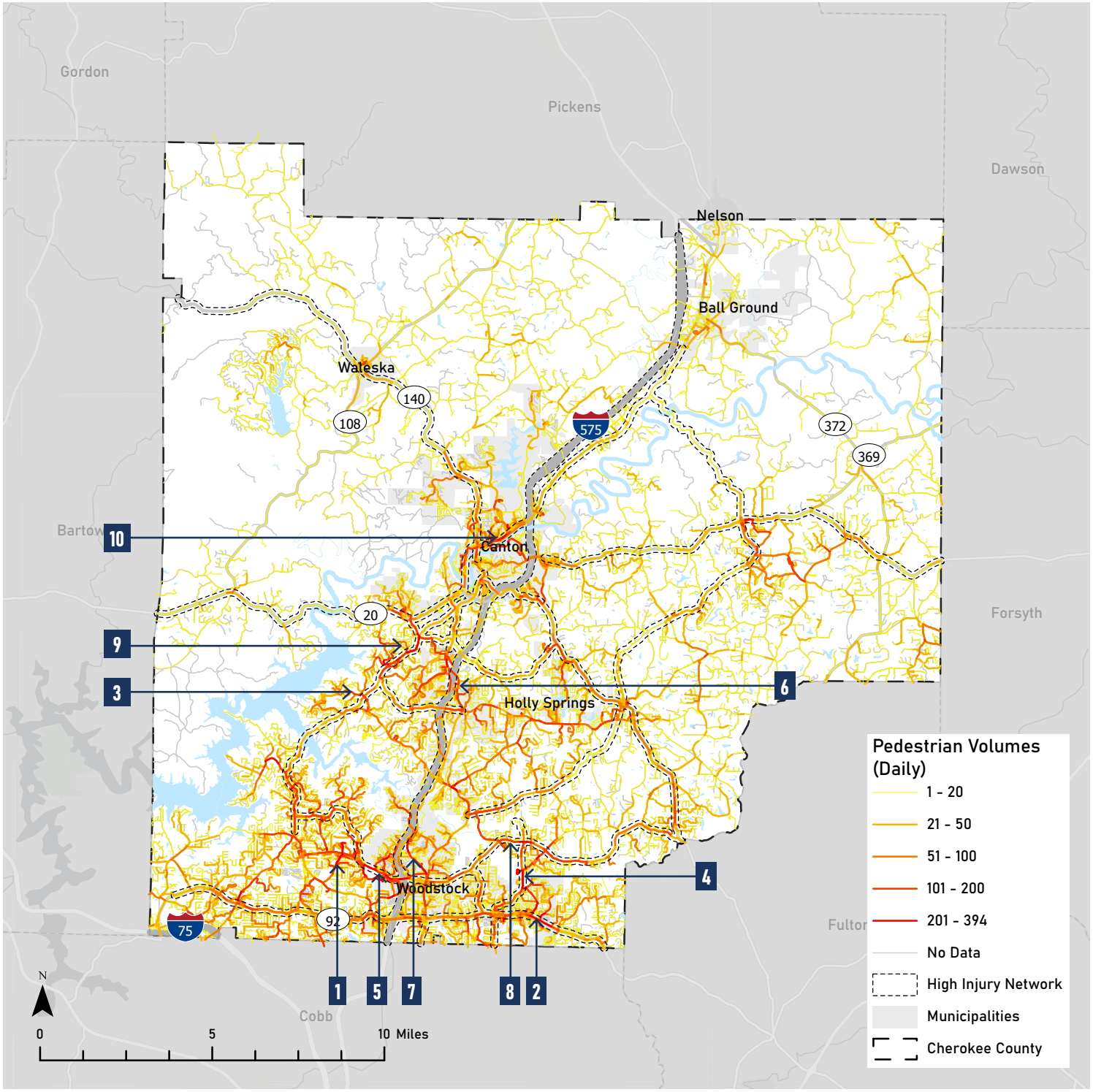


Figure 30. Pedestrian Volumes
Source: Replica, 2023

The highest pedestrian volume corridors, listed in Table 7 on page A-43, are mainly in the southern end of the corridor around Woodstock. There are other high volume pedestrian corridors around Sixes and Canton, and pockets of high pedestrian activity around Holly Springs, SR 20 at E Cherokee Dr, Waleska, and Ball Ground. The I-575 crossings have especially high volumes because there are relatively few links, highlighting these as particularly important links in the pedestrian network.

Several of the corridors identified in the High Injury Network also have high pedestrian volumes. These include **SR 92, Bells Ferry Rd, Towne Lake Pkwy, Arnold Mill Rd, Riverstone Pkwy, Trickum Rd, E Cherokee Dr, Waleska Rd, and sections of SR 20. On these corridors, safety improvements should include those targeted toward pedestrian safety.**

This analysis is based on data from Replica for a typical weekday in Fall 2023.

Table 7. High Pedestrian Volume Corridors
Source: Replica, 2023

	CORRIDOR	FROM	TO	DAILY PEDESTRIAN VOLUME
1	**Putnam Ford Drive**	Bascomb Carmel Rd	Parkbrooke Dr	394
2	**SR 92**	Ragsdale Rd	Dials Dr	331
3	**Bridge Mill Ave**	Deer Park Tr	Bells Ferry Rd	328
4	**Trickum Rd**	SR 92	Arnold Mill Rd	322
5	**Towne Lake Pkwy**	Parkside Ln	Woodstock Pkwy	297
6	**Holly Springs Pkwy/Main St**	Ash St	Holly St	293
7	**Rope Mill Road**	Woodstock Pkwy	Main St	287
8	**Arnold Mill Road**	Mill Creek Rd	Millstone Manor Ct	283
9	**Bells Ferry Road**	Holly St	Butterworth Rd	282
10	**Riverstone Pkwy**	Waleska Rd	Reinhardt College Pkwy	272

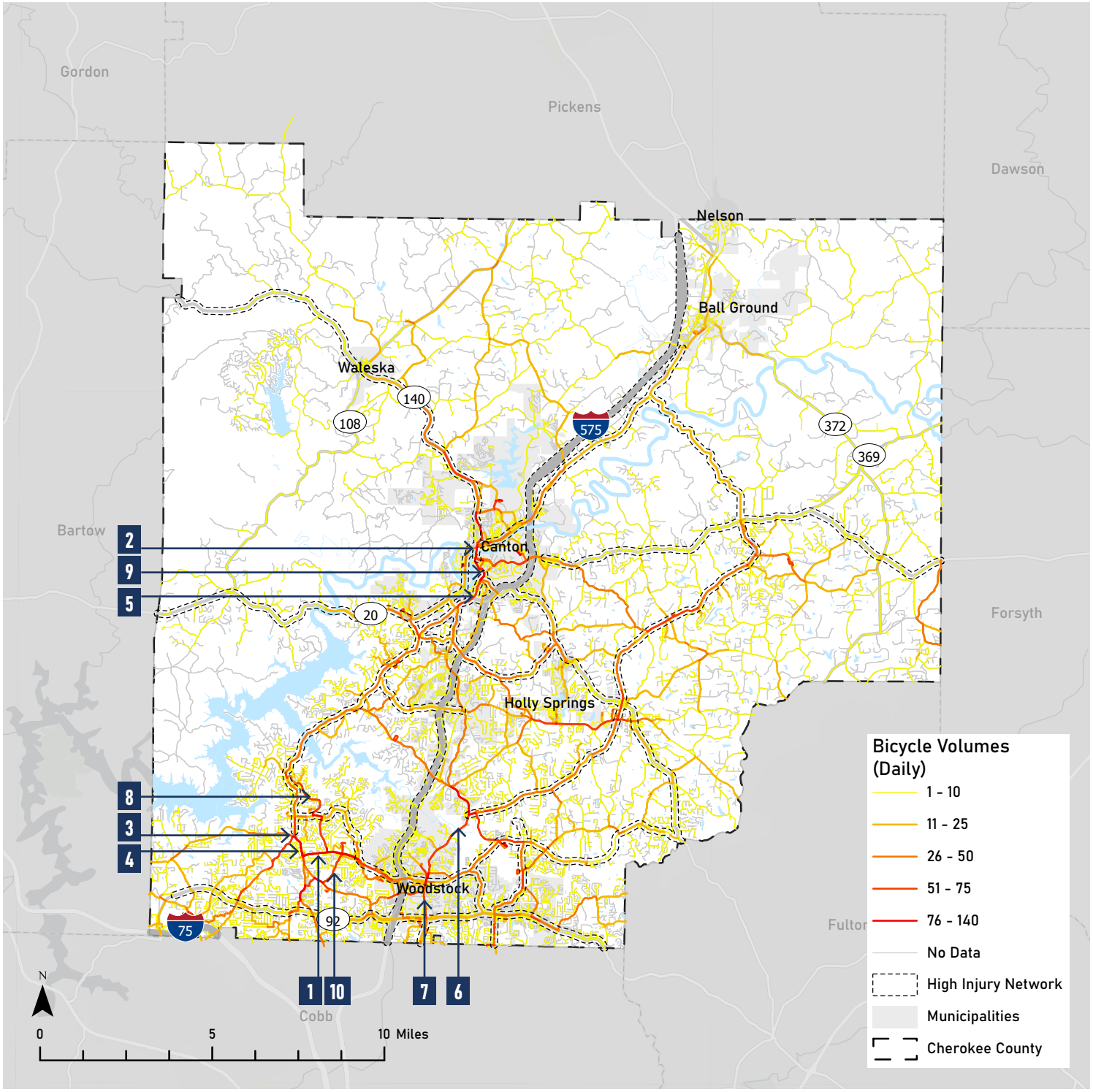


Figure 31. Bicyclist Volumes
Source: Replica, 2023

Corridors with the highest bicyclist volumes are listed in Table 8 on page A-45. The highest bicyclist volumes are mostly in the southern portion of the County, on Eagle Dr, Kellogg Creek Rd, and Bells Ferry Rd.

There are a handful of places where the highest bicyclist volumes overlap with the High Injury Network. **On these corridors, safety improvements should include those that are targeted toward bicyclist safety:**

- **Towne Lake Pkwy**
- **Riverstone Pkwy**
- **Bells Ferry Rd**
- **E Cherokee Dr**
- **Trickum Rd**
- **Riverstone Pkwy**
- **SR 140 (Reinhardt College Pkwy)**

This analysis is based on data from Replica for a typical weekday in Fall 2023.

Table 8. High Bicyclist Volume Corridors
Source: Replica, 2023

	CORRIDOR	FROM	TO	DAILY BICYCLIST VOLUME
1	**Eagle Drive**	Bells Ferry Rd	Towne Lake Pkwy	140
2	**Waleska St**	Riverstone Pkwy	Academy St	121
3	**Kellogg Creek Road**	Victory Rd	Bells Ferry Rd	111
4	**Bells Ferry Road**	Victory Rd	SR 92	110
5	**Marietta Road**	Dr John T Pettit St	SR 5 (Marietta Hwy)	109
6	**Main St**	Toonigh Rd	Bell Pkwy	95
7	**Main St**	County Line	SR 92	92
8	**Wyngate Pkwy**	Bells Ferry Rd	Towne Lake Pkwy	82
9	**E Marietta St/West Marietta St**	Archer St	Dr John T Pettit St	82
10	**Bascomb Carmel Road**	Bells Ferry Rd	SR 92	81

Freight

Efficient freight movement is essential for the economic health of a region. It supports businesses by ensuring timely delivery of goods, raw materials, and products, thereby fostering economic growth and competitiveness.

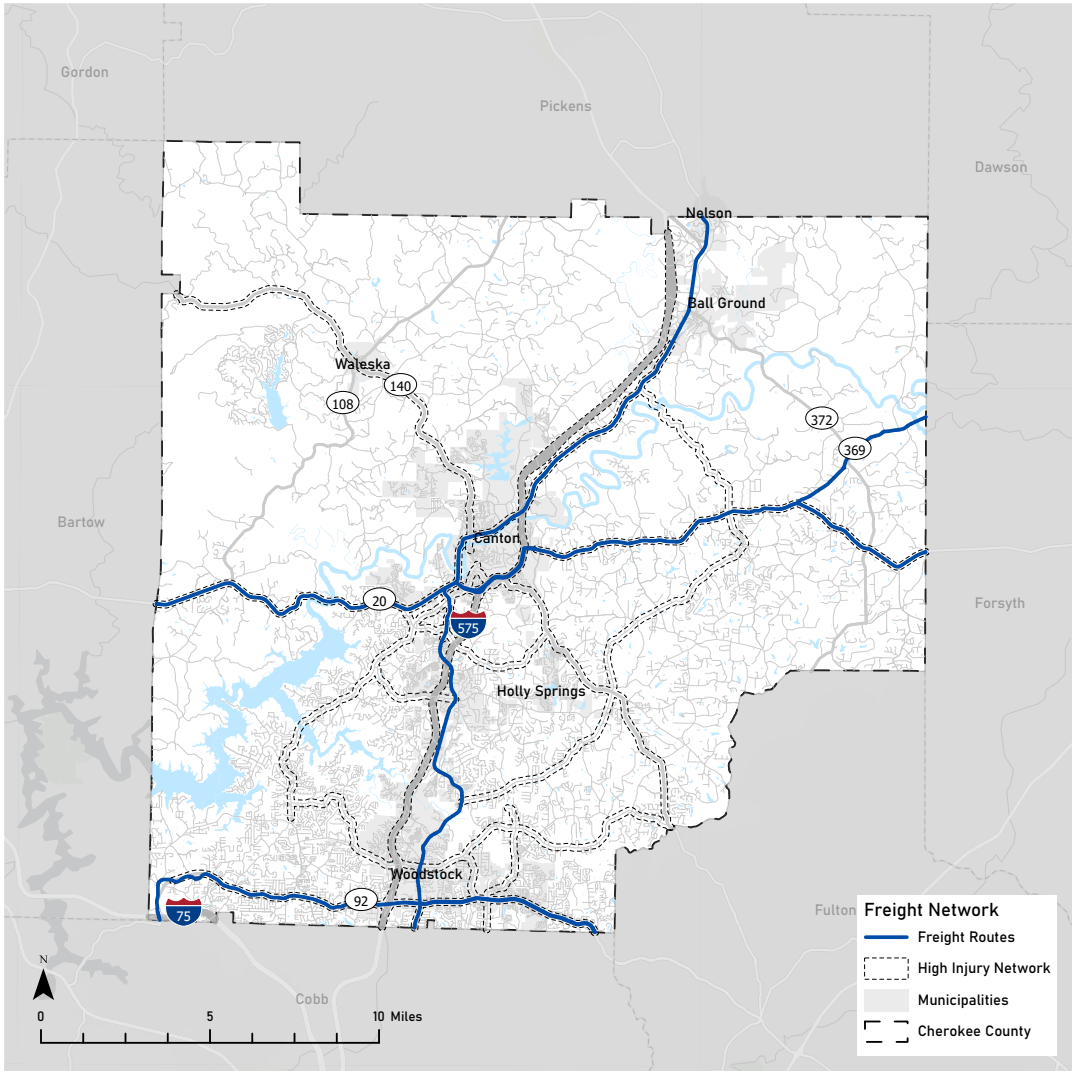
Freight traffic significantly impacts traffic safety due to the size and weight of large trucks, which can lead to severe accidents, especially in collisions with smaller vehicles, bicyclists, and pedestrians. The increased stopping distances and reduced maneuverability of freight vehicles contribute to higher risks on roads. Freight crashes represent 5.33% of all crashes, and 6.88% of all KSI crashes, meaning they are more likely to result in a person being killed or severely injured.

Additionally, congestion caused by freight traffic can lead to increased instances of aggressive driving and traffic violations among other road users. Ensuring proper infrastructure, such as designated freight routes and adequate signage, is crucial to mitigating these safety concerns.

HIGHLIGHTS

- Regional truck routes include SR 20, SR 92, and a parallel route to I-575 running along Main St, through Canton, and onto Ball Ground Hwy.
- I-575 is also a major truck route for interstate and regional freight.
- Most of the major freight routes are also included in the High Injury Network.

Figure 32. Regional Truck Routes
Source: ARC



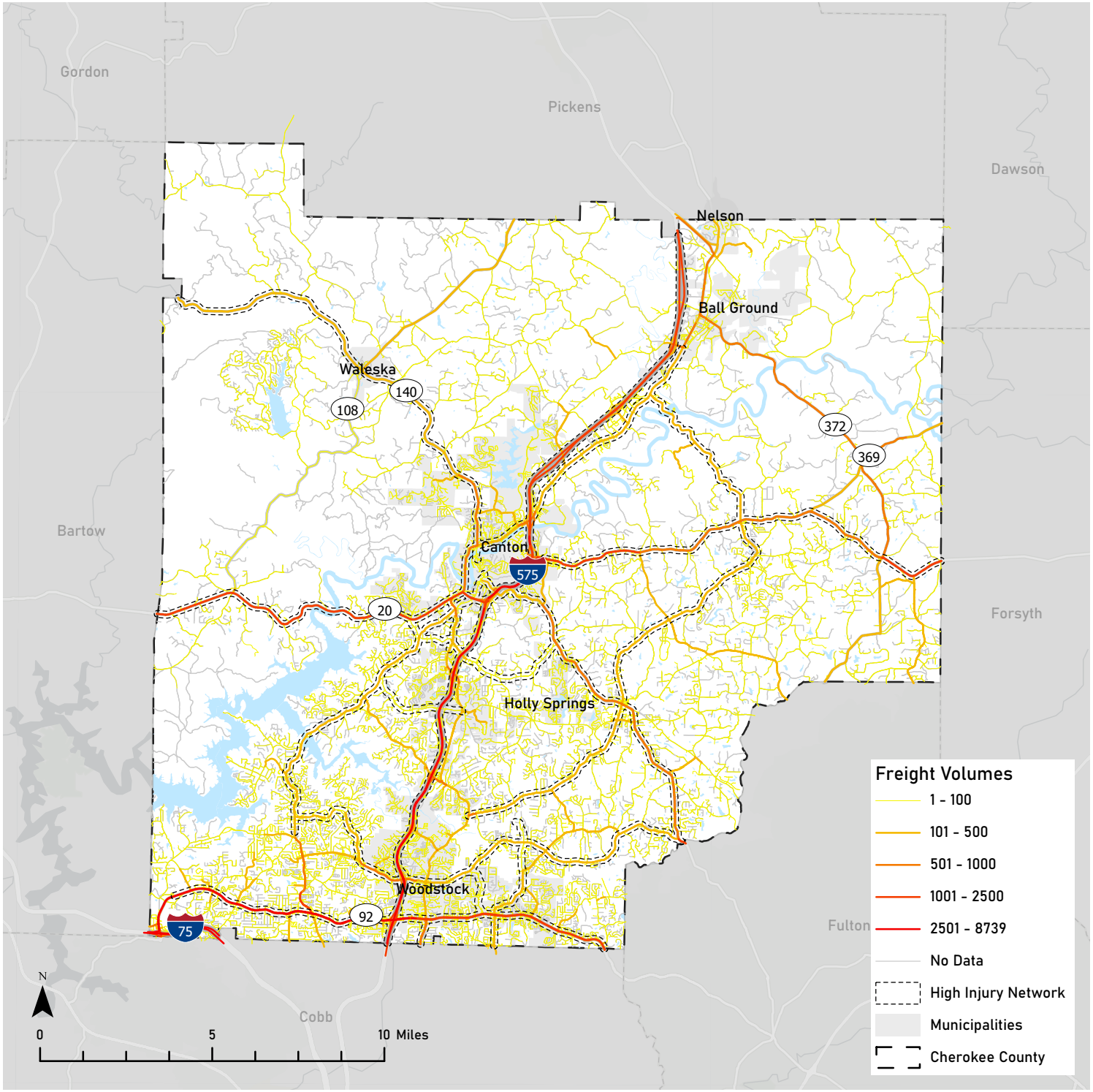


Figure 33. Freight Volumes
Source: Replica, 2023

I-575 and I-75, as access-controlled federal interstates, are the highest volume freight roads in Cherokee County. I-575 is an important north-south route for freight traffic travel into northern Georgia. SR-20 and SR-92 are also important east-west routes for freight traffic. These routes, and most of the other high freight-traffic corridors, and included in the High Injury Network.

SR-372 carries significant freight traffic connecting from I-575 to the east toward Forsyth County, but also serves as the main street through downtown Ball Ground where there are many people walking. This is an example where freight poses an increased safety risk to people walking and biking. There is a planned bypass to address this issue, which will build a new road allowing freight to bypass downtown.

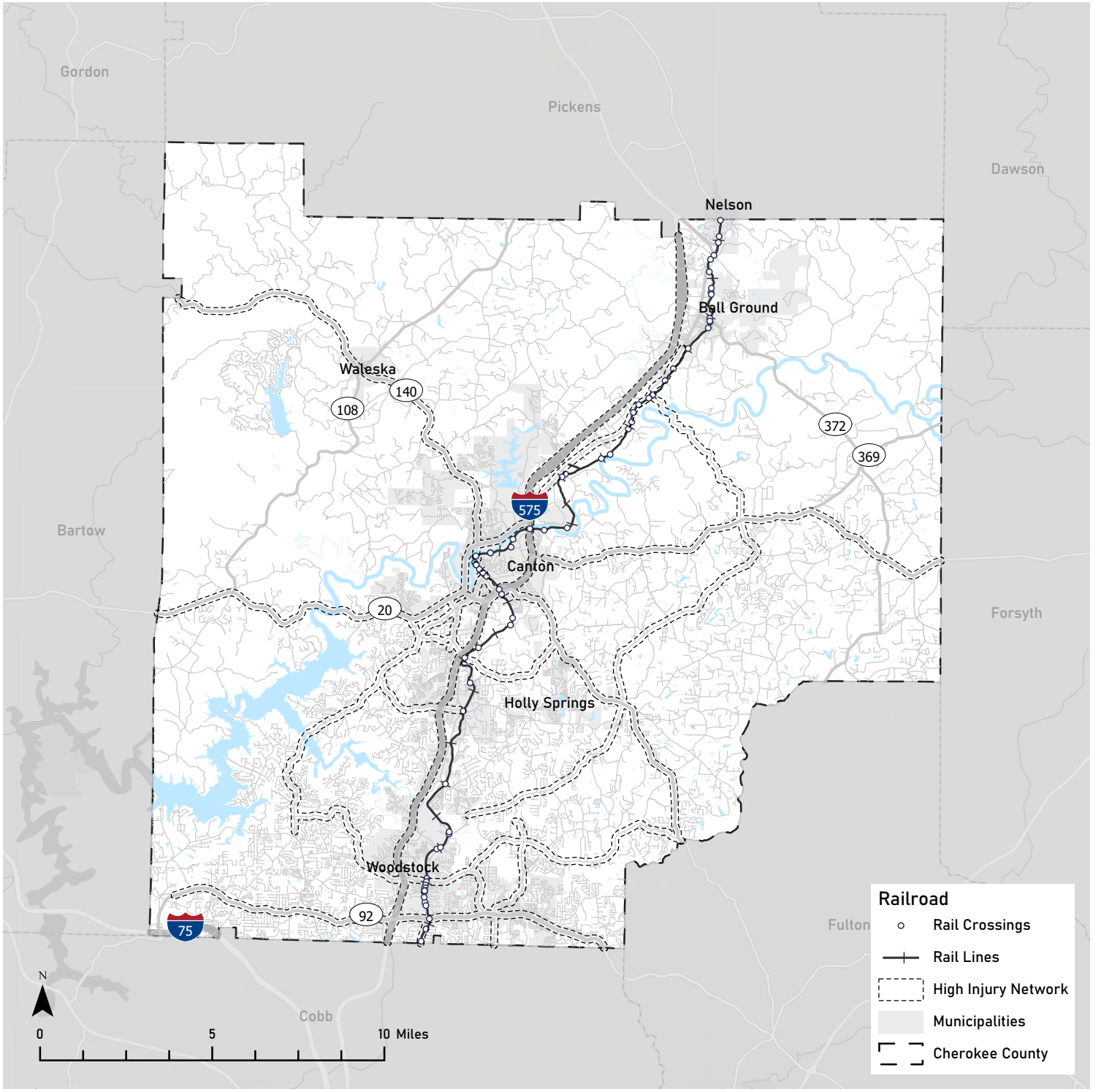


Figure 34. Railroad and Rail Crossings
Source: Cherokee County

There is a rail line that runs from north to south through Cherokee County along I-575, owned by the Georgia Northeast Railroad Company (GNRR). Rail crossings are distributed along the entire rail line, with higher distances between crossings just north of Canton, and between Canton and Woodstock. Where there are longer distances between rail crossings, pedestrians may look for ways to cross at non-solicited locations, creating a safety risk. .

Equity Analysis

The SS4A program is particularly focused on reducing risk for vulnerable populations. Considering vulnerable populations in a safety action plan is crucial because these groups, including children, the elderly, people with disabilities, and low-income individuals, are often at higher risk of injury or fatality in traffic incidents. These populations may face barriers such as limited mobility, reduced access to safe transportation options, and inadequate infrastructure, making them more susceptible to high risk crashes.

Addressing their specific needs ensures a more equitable and effective approach to improving overall community safety. Prioritizing vulnerable populations helps to create a safer and more inclusive environment for all residents. This section provides a snapshot of transportation users in Cherokee County based on Justice 40 disadvantaged census tracts, households without access to a vehicle, race, income, and age.

HIGHLIGHTS

- 8.5% of Cherokee County households do not have access to a vehicle, meaning that these residents must rely on other modes to complete daily trips.
- The key equity focus area is around downtown Canton, and extending north and south along the I-575 corridor. See Figure 35 for a map of the census tracts identified as disadvantaged according to the Justice40 initiative.

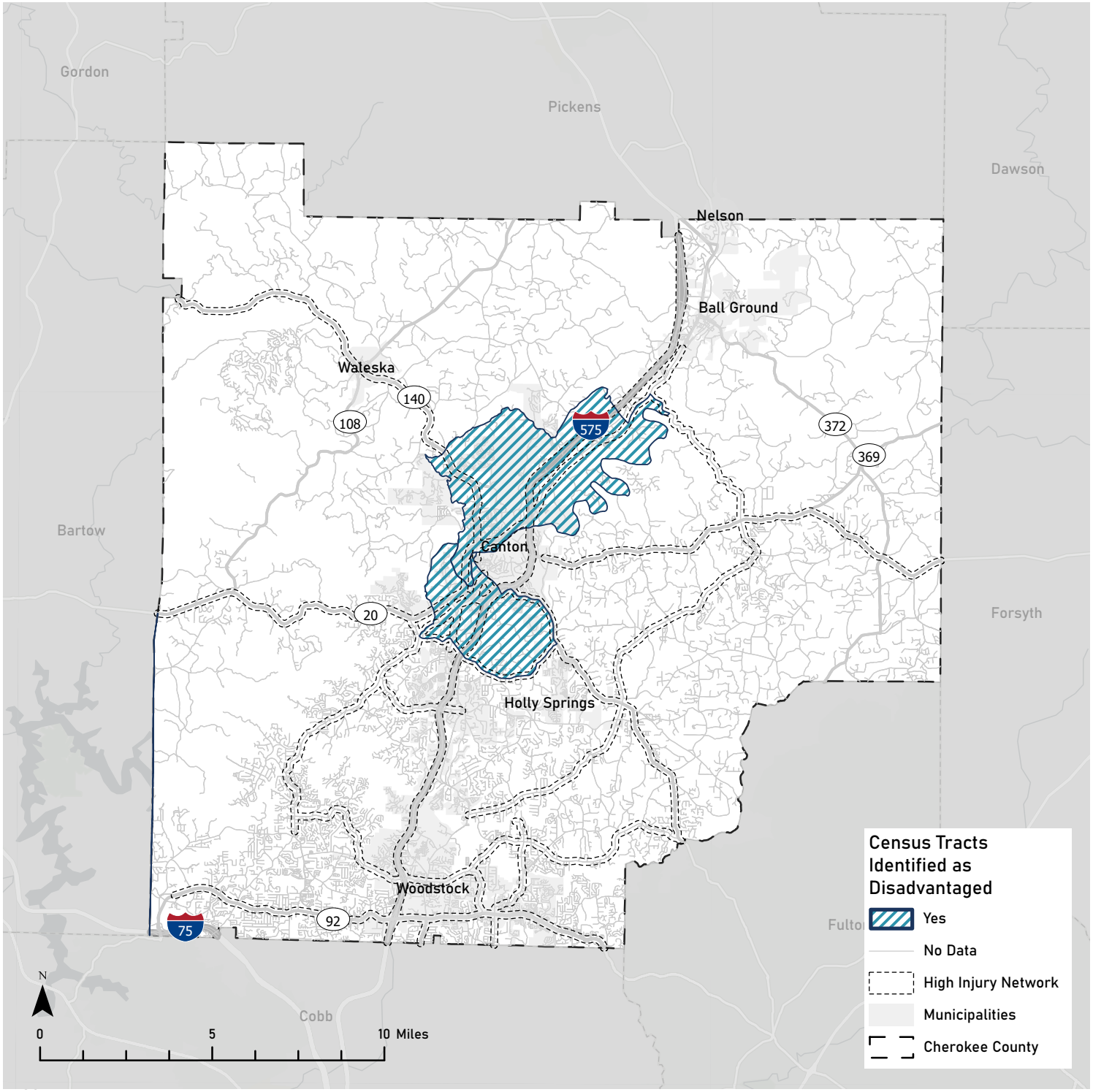


Figure 35. Justice40 Census Tracts Identified as Disadvantaged
Source: USDOT

The Justice40 initiative is a federal effort that aims to allocate 40% of the overall benefits from specific federal investments, including sustainable transportation and clean energy, to address decades of underinvestment in disadvantaged communities. Identifying these disadvantaged areas allows for focused efforts to implement projects and allocate funding to meet specific needs within these communities, thereby promoting equity and sustainability across the county.

Figure 11 shows Justice40 disadvantaged communities concentrated around Canton, and to the north and south of Canton along the I-575 corridor.

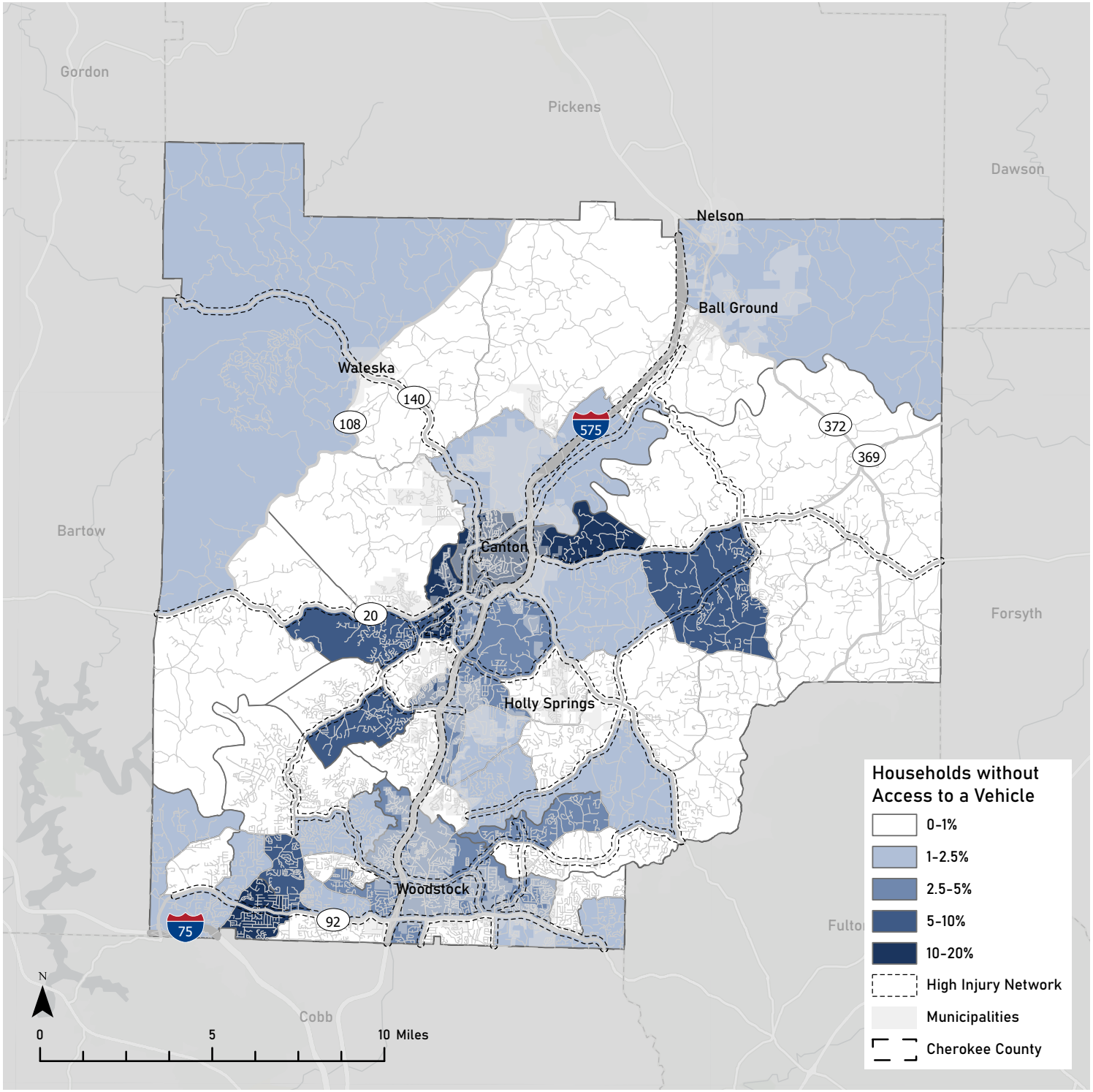


Figure 36. Households without Access to a Vehicle
Source: US Census, 2020

Approximately, 8.5% of Cherokee County households do not have access to a vehicle. In some areas around Canton and along the Woodstock Road corridor, up to 20% of households do not have access to a vehicle, and therefore rely on other modes of transit to get around for their daily needs. This translates into additional considerations for bicycle and pedestrian safety are needed.

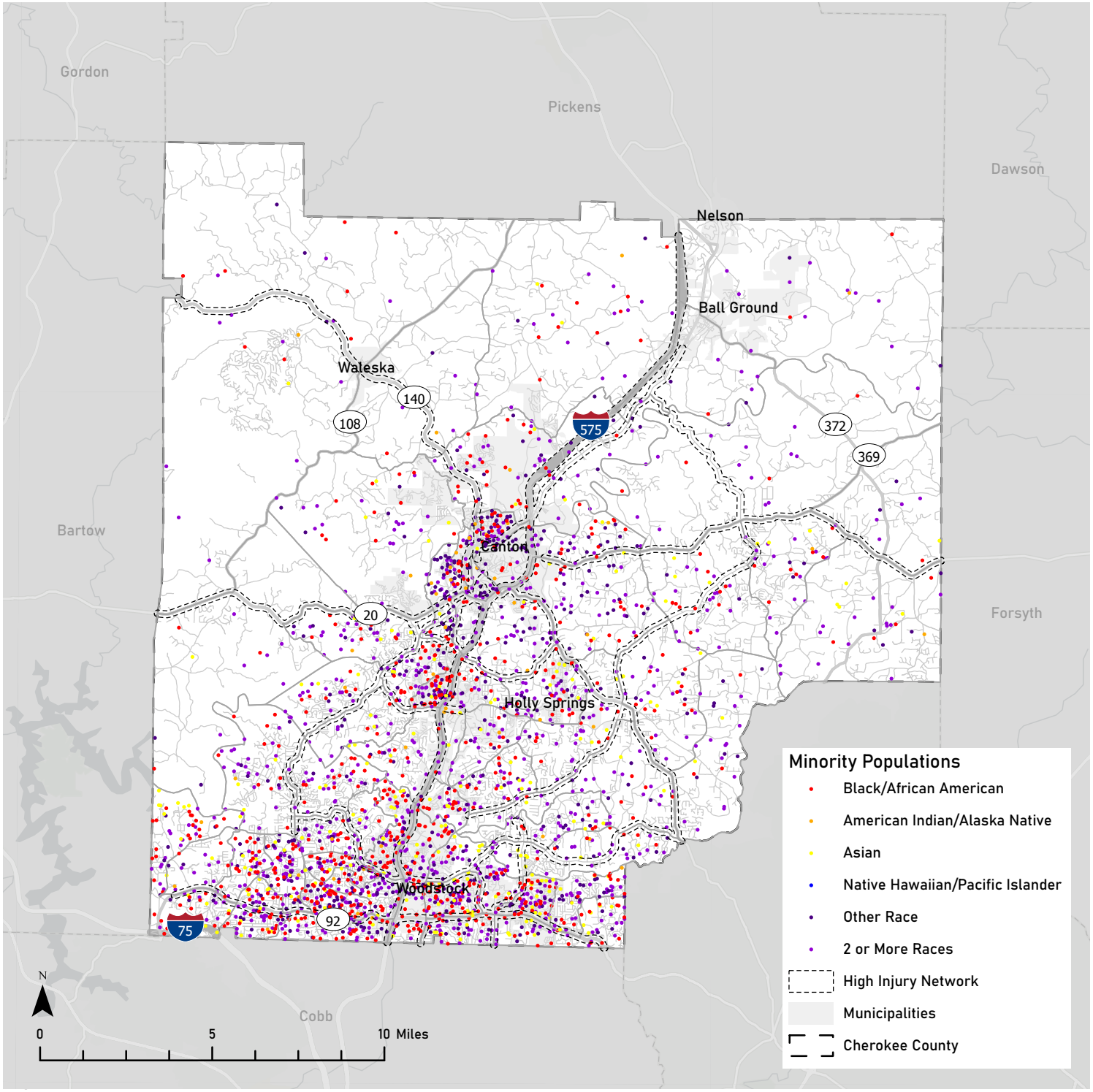


Figure 37. Concentration of Minority Populations (by Race)
Source: US Census, 2020

The residential population of Cherokee County is concentrated in the southern portion of the county. The majority of Cherokee County residents are white, but there are large concentrations of non-white residents in Canton and in the southwest corner of the County.

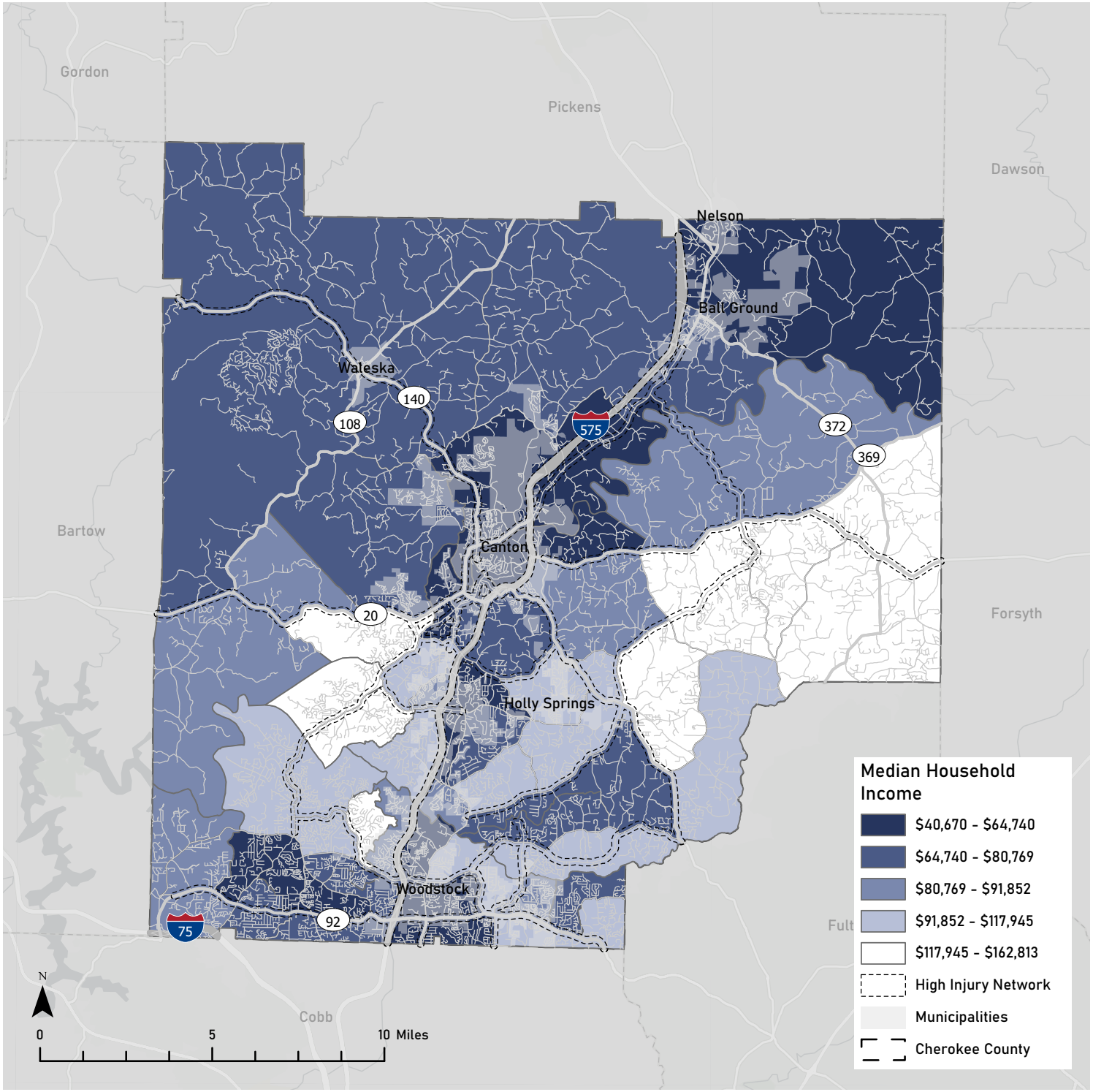


Figure 38. Concentration of Residents based on Median Household Income
Source: US Census, 2020

The median income of Cherokee County residents is $84,817. Lower income areas are concentrated around the I-575 corridor and in southwestern Cherokee County. The northern half of the County has relatively lower income, but this is also where there is a lower concentration of residents and housing costs tend to be lower.

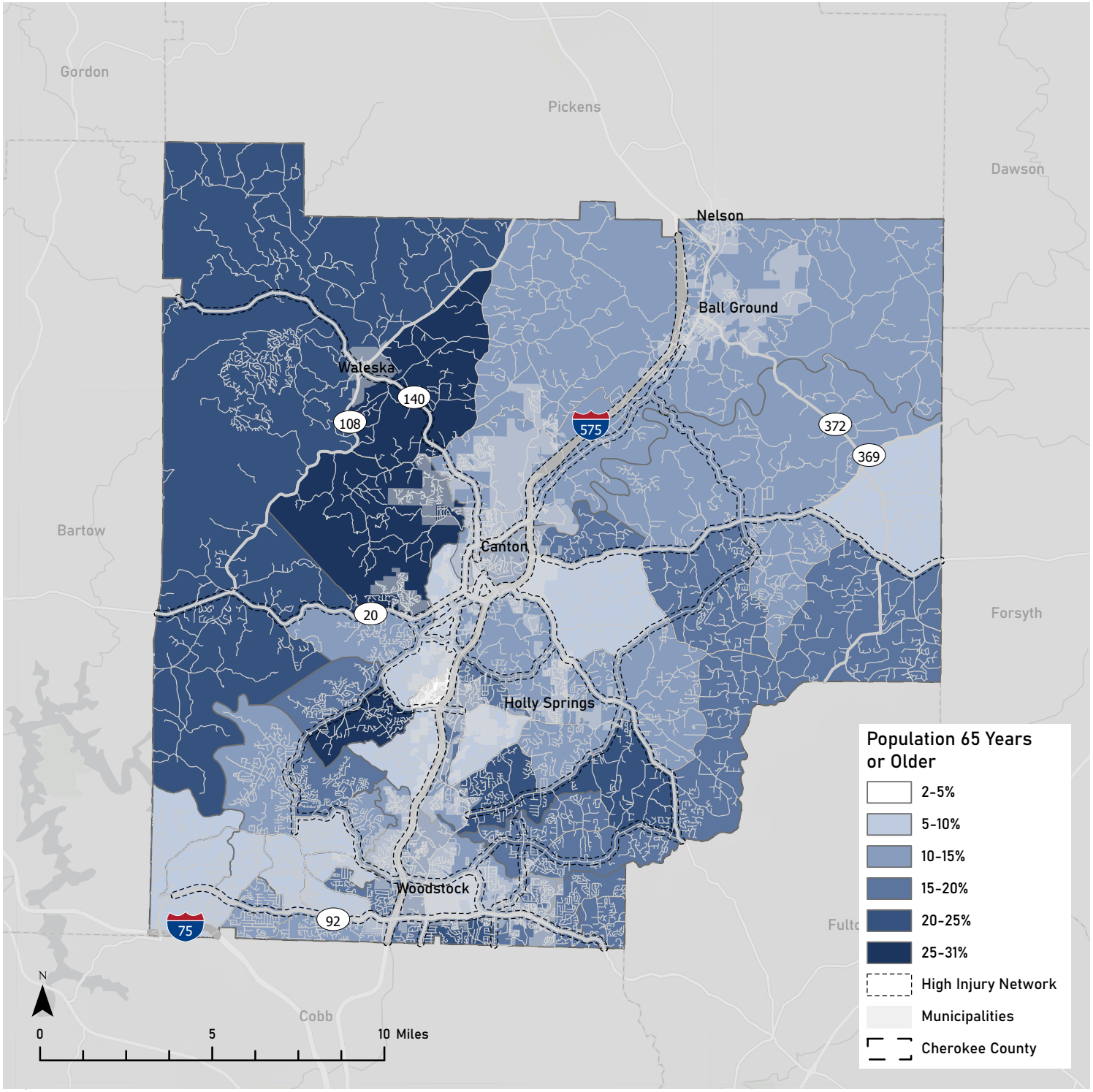


Figure 39. Concentration of Residents above the Age of 65
Source: US Census 2020

Cherokee County has an aging population that is distributed throughout the entire county. Higher proportions of residents above the age of 65 are in the northwestern portion of the County, particularly to the south and east of Waleska.

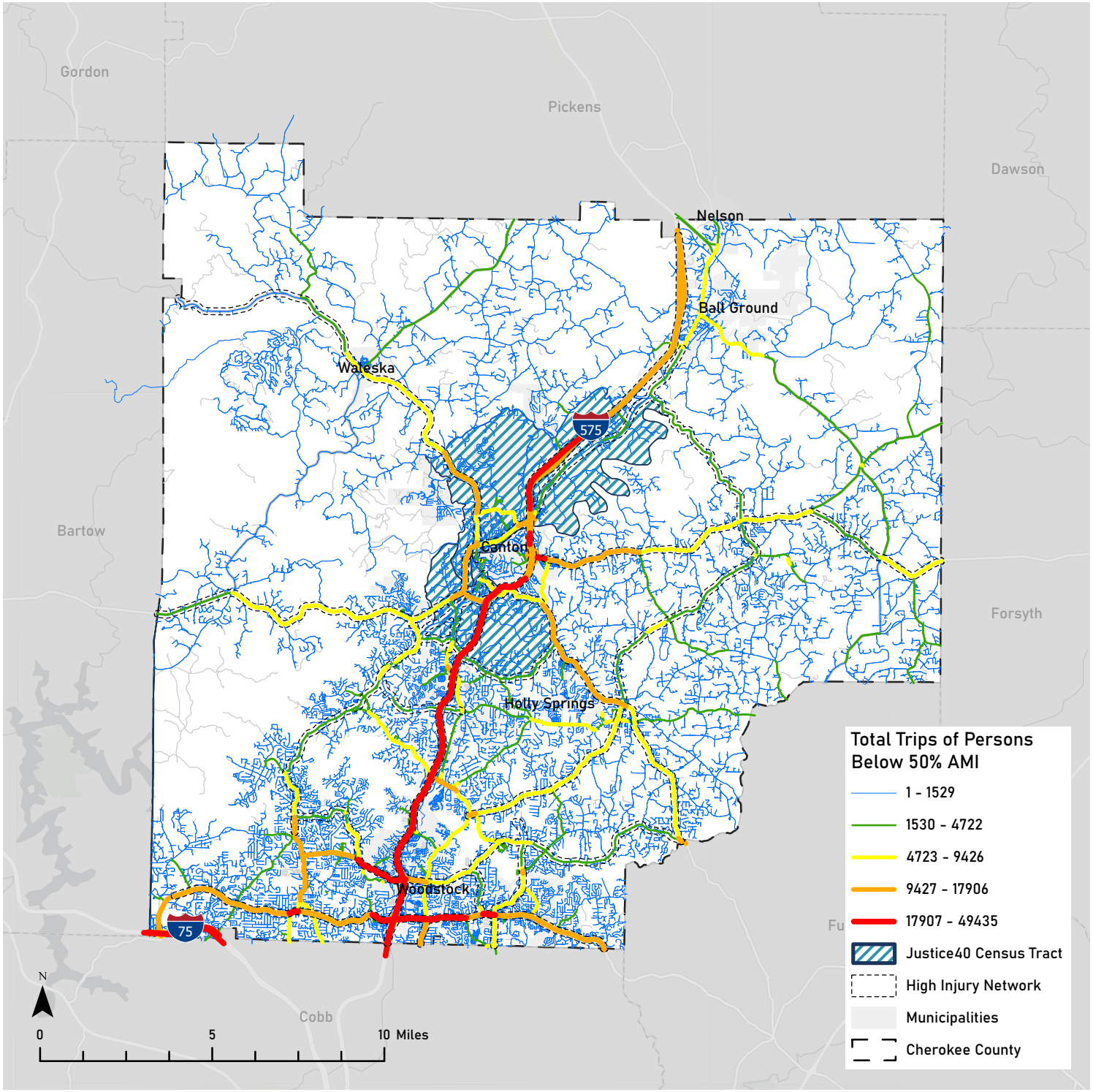


Figure 40. Travel Patterns of Low-Income Travelers
Source: Replica, 2023

Compared to the Annual Average Daily Traffic (AADT) rates for Cherokee County, low income travelers use I-575, I-75, and SR 92 more than the average user. The second most utilized routes are SR 20 and SR 140.

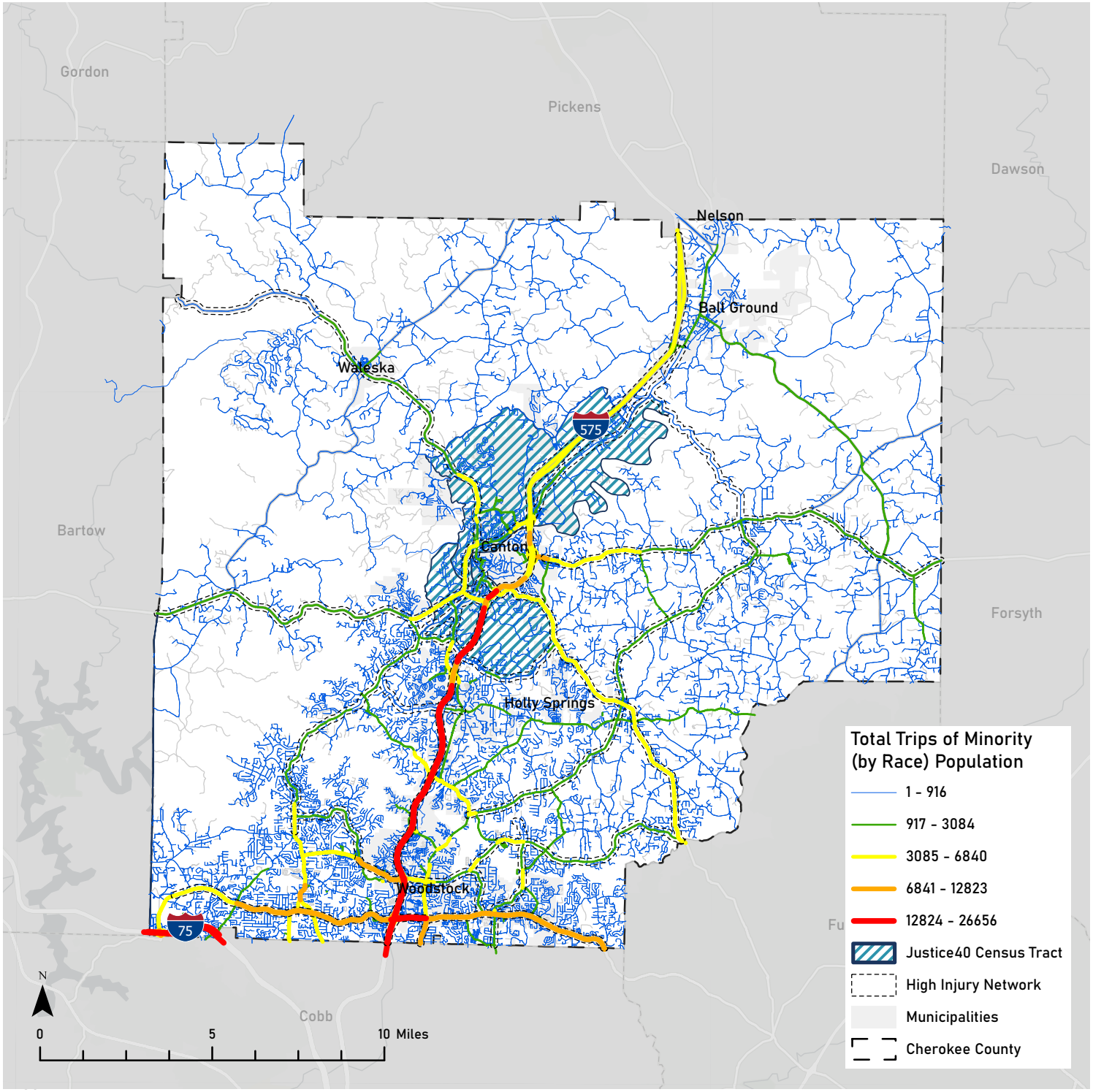


Figure 41. Trip Volumes by Minority Travelers (by Race)
Source: Replica, 2023

The trip volumes of non-white travelers along local roads is relatively, evenly dispersed throughout Cherokee County. Based on the data, the predominant travel corridor is I-575 which illustrates the highest usage at the southern end of the interstate highway and along I-75. Other highly utilized arterials for those travelers include: SR 92, SR 20, SR 140, and SR 372.

The key takeaway for minority travelers (by race) is that those travelers outside of the Juctice40 areas could benefit from improvements in those areas.

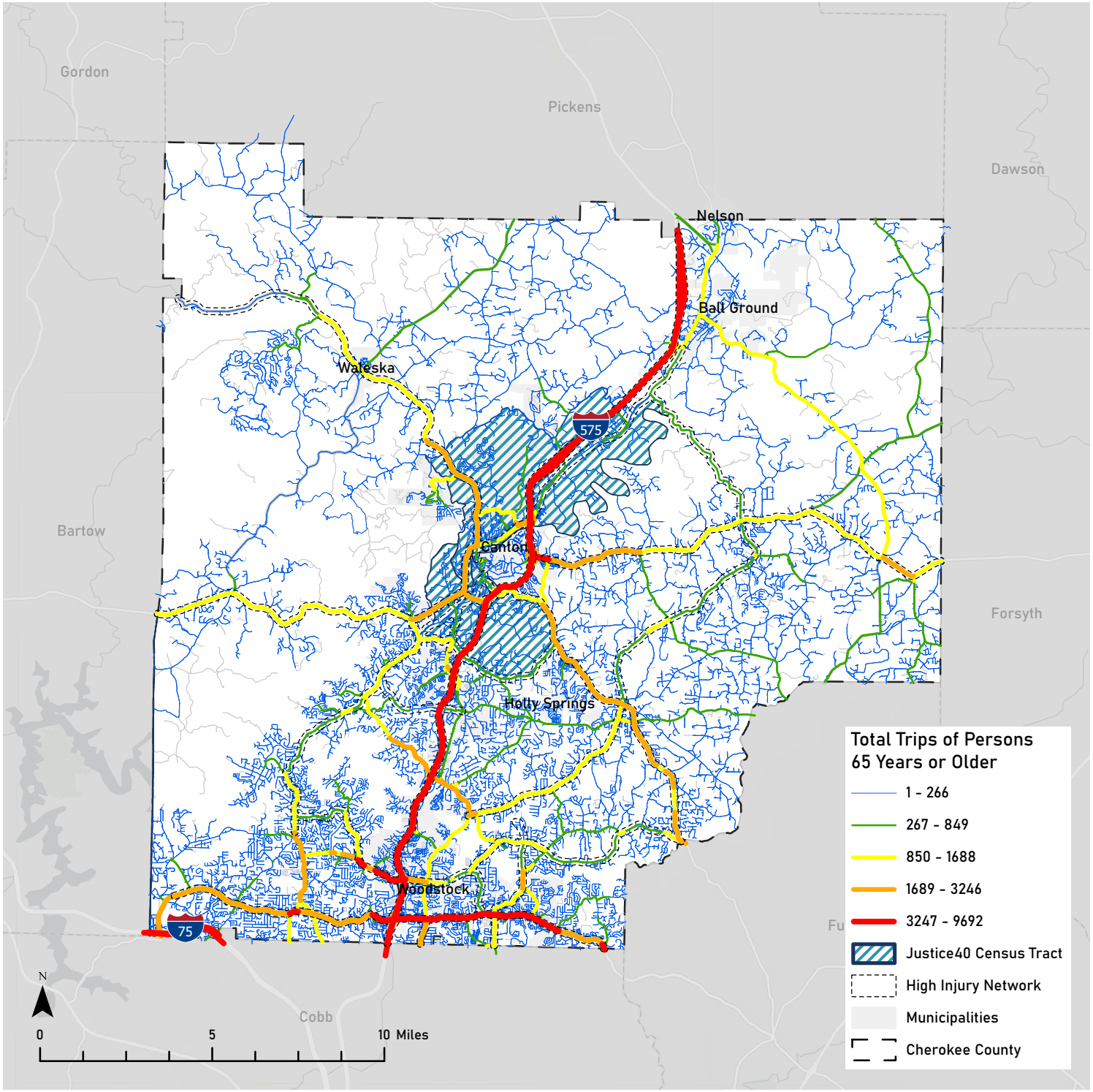


Figure 42. Travel Patterns of 65+ y/o Travelers
Source: Replica, 2023

Travel patterns for travelers over the age of 65 are concentrated on I-575 and I-75, which are both heavily used routes by all user groups. Compared the Average Annual Daily Traffic (AADT) rates, this user group travels SR 140 and SR 369 more than other groups.

Land Use Context

Land use significantly impacts traffic safety by influencing the patterns and volumes of vehicular and pedestrian movement. High-density urban areas with mixed-use developments tend to have higher pedestrian traffic, requiring well-designed crosswalks, traffic calming measures, and lower speed limits to enhance safety. Conversely, suburban and rural areas with low-density, single-use zoning often experience higher vehicle speeds and longer travel distances, increasing the risk and severity of accidents. Poorly planned land use can lead to congestion, inadequate infrastructure, and unsafe conditions for all road users. Therefore, integrating traffic safety considerations into land use planning is essential to create environments that promote safe and efficient movement for vehicles, cyclists, and pedestrians.

HIGHLIGHTS

- Key commercial corridors SR-92, SR-140, Towne Lake Pkwy, and SR-5 / Marietta Hwy require special focus for safety due to the risks associated with property access. These corridors are also important for pedestrians and bicyclists who wish to access commercial destinations.
- Cherokee County is experiencing pressure for residential development. The areas around the airport and SR-20 are experiencing particularly high growth.
- There are industrial nodes around I-575 and Ball Ground in the northern half of the County which generate truck traffic.

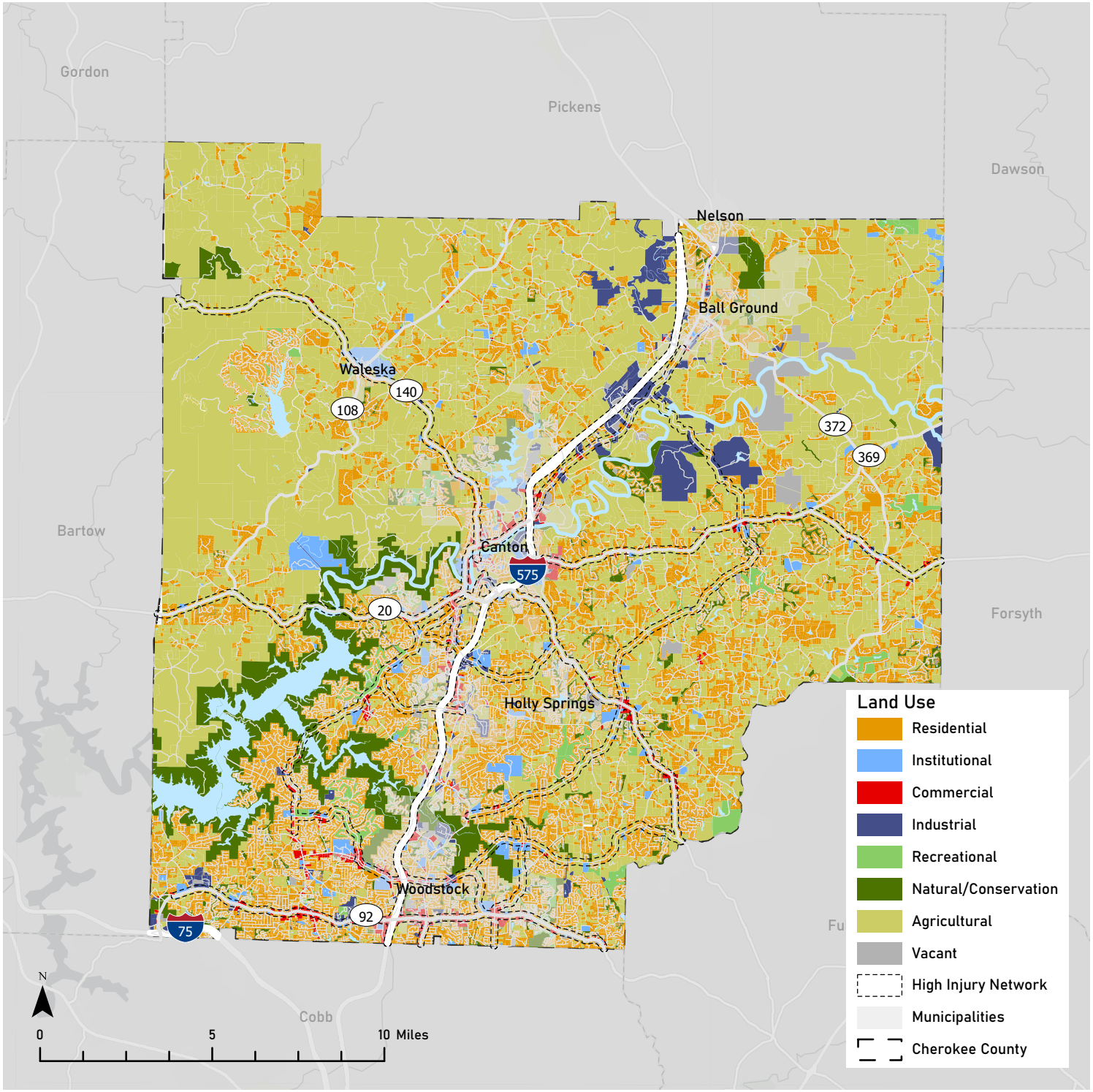


Figure 43. Land Use Analysis Character Areas
Source: Cherokee County, Ball Ground, Canton

The dominant land uses across Cherokee County are residential and agricultural (which is also low-density residential). The northern and eastern portions of the County are largely low-density, but they are experiencing the pressures of residential growth.

There are clusters of industrial land along I-575 in the northern portion of the county, and to the south of Ball Ground. This includes the regional airport, which is a draw for industrial development.

Commercial property is concentrated along SR-92, I-575 in Canton and Holly Springs, downtown Canton, Marietta Hwy in Canton, SR-140 in Holly Springs, and Towne Lake Pkwy in Woodstock.

Many of the commercial corridors are also included in the High Injury Network. Commercial activity can contribute to safety risk because it draws a higher volume of and diversity of users, with more access points and turning movements.

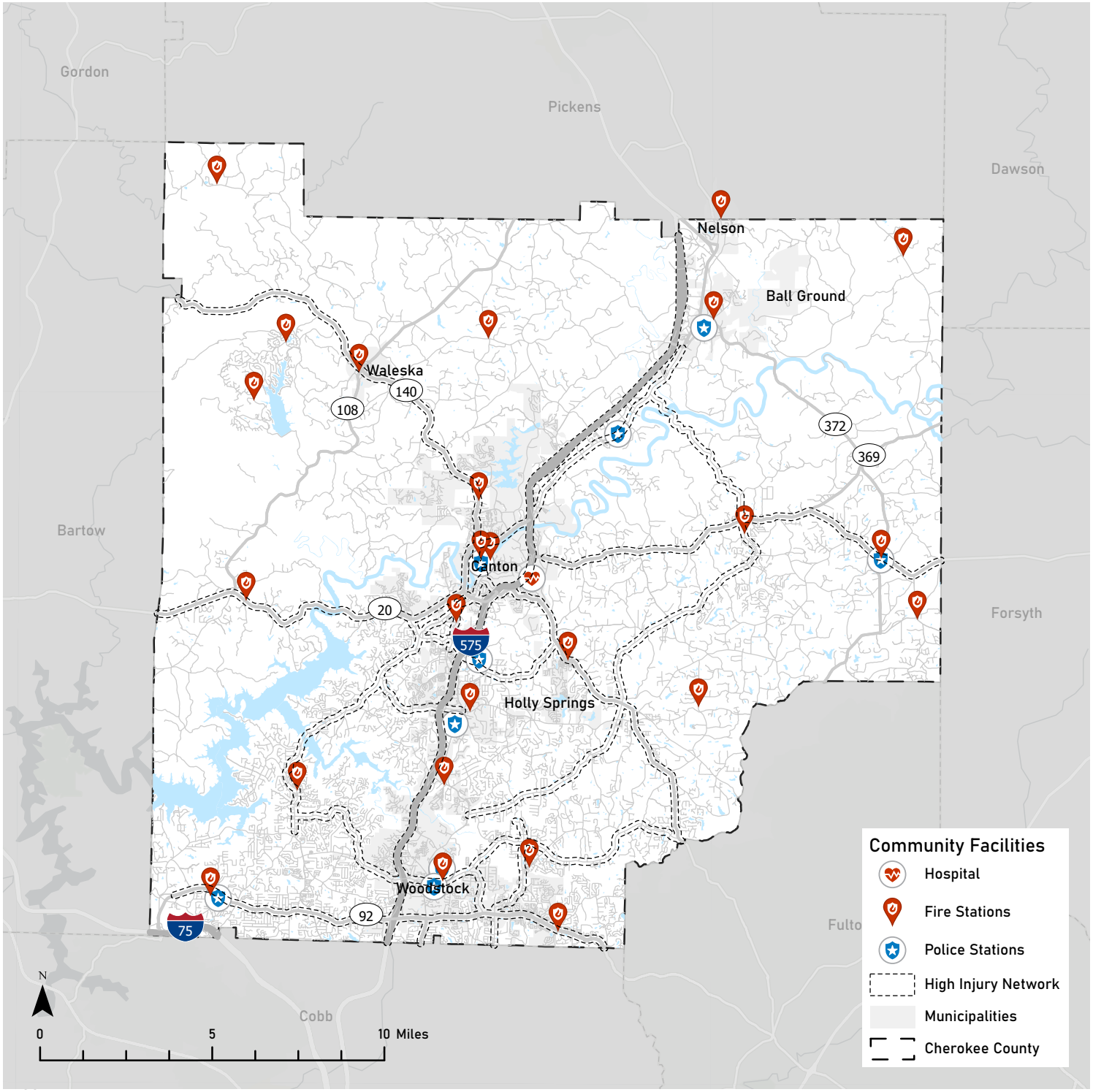


Figure 44. Emergency Facilities
Source: ARC, Cherokee County

Ensuring safe access for first responders to respond to crashes is a key component to post-crash response. The predominant emergency facilities in Cherokee County are hospitals and fire stations. There is one hospital located to the east of I-575 in Canton. Fire stations are more evenly distirbuted throughout the County. This means that firetrucks are often the first to respond to a traffic crash.

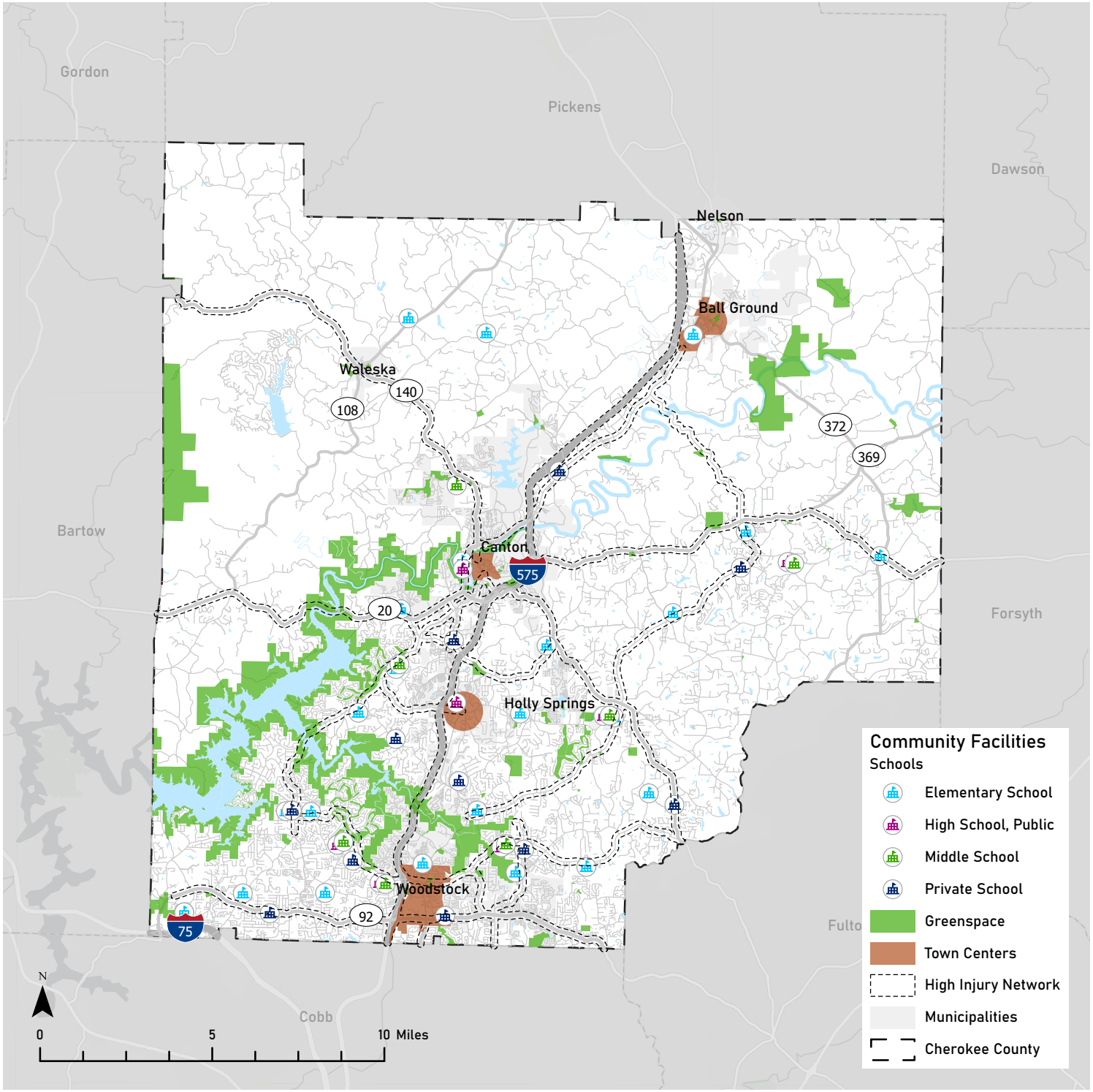


Figure 45. Community Facilities
Source: ARC

Community facilities such as town centers, greenspace, and schools have unique impacts on transportation safety. These destinations tend to generate more walking and biking activity.

Areas around schools need safe pedestrian and bicycle infrastructure around schools for students and families walking to school. This is particularly true for elementary schools, which tend to have more students living within walking distance. Schools are clustered in the southern portion of the county. The town centers for Ball Ground, Canton, Holly Springs, and Woodstock are all positioned near I-575.

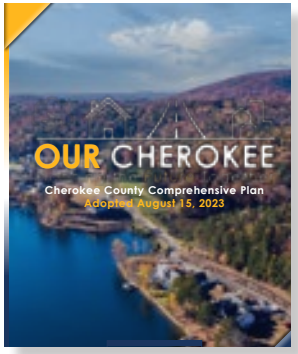
The county's largest greenspace is Victoria Beach.

SECTION V.

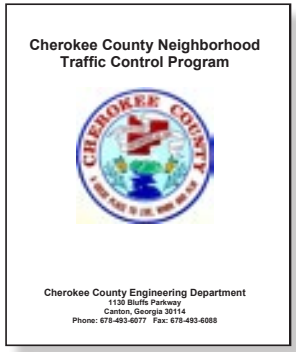
PLAN AND POLICY REVIEW

Plan Review

This report builds off of the existing planning efforts and policies in Cherokee County that encourage and support the goals outlined in the US Department of Transportation: Safe Streets for All initiative. Reviewing the past plans and policies is essential for expanding the transportation network within Cherokee County. This section outlines previous visions, goals, and initiatives that the county has utilized for pedestrian and vehicle safety. These plans and policies that were reviewed help inform the recommendations that are outlined in the Cherokee County Safe Streets for All Action Plan by highlighting areas of efficiency and improvement within Cherokee County.



The **Cherokee County Transportation Plan** contains goals and strategies to steer the future growth and development of Cherokee County. The vision and goals outlined in the CCTP were developed in collaboration with the residents of Cherokee County through feedback. This plan addresses the county's goal of sustainable growth with special focus on identifying implementation strategies for its target areas: Technology Ridge Parkway, Ball Ground, and Waleska. **The plan also identifies strategies that encourage safe streets in suburban living through traffic calming measures, sidewalks, and street connections to improve connectivity and walkability within suburban developments.** The neighborhood living strategy encourages the integration of commercial and mixed used development to encourage walkability and ease of access to services. These strategies are designed to prioritize the safety of all residents in Cherokee County.



The **Cherokee County Neighborhood Traffic Control Program** was published in 2005 by the Cherokee County Engineering Department to provide neighborhoods with a **structured system to petition the Board of Commissioners for speed hump and stop sign installation.** This policy created an alternative solution for neighborhood safety through the use of Manual on Uniform Traffic Control Devices (MUTCD). The program provides a responsive framework to addressing traffic hindrances. The plan proposes measures like **stop signs and speed bumps as a solution for vehicular speed reduction.**

Policy Review

HIGHWAY 20 OVERLAY DISTRICT

In the summer of 2024, Cherokee County approved an overlay district for the SR 20 corridor. It includes requirements for pedestrian access from the road to the building entrance, including curb extensions for internal access streets, and decorative pavers / textured pavement to delineate pedestrian crossings. Where trail access is provided, parking minimums may be reduced by 20% to reduce the overall amount of on-site parking. The overlay encourages driveways and access points to be shared to minimize added driveways onto Highway 20.

The intent of the Highway 20 East Overlay District is to set standards for development and design that contribute to community character. The overlay encourages commercial and residential uses to provide a mix of activities and public spaces. The overlay may support large-scale and aesthetically compatible office/industrial complexes where appropriate. The overlay is intended to establish a cohesive and coordinated design language articulated through streetscape, trail connections, and architectural requirements to create an attractive corridor.

MUNICIPAL CODE REVIEW

Figure 46. Municipal Code Review
Source: Cherokee County MuniCode

ARTICLE	SECTION	LANGUAGE	ANALYSIS	LINK
ARTICLE 4. - RULES AND DEFINITIONS	Sec. 4.3 - Definitions.	Pedestrian way. A public right-of-way or private easement across a block or within a block to provide access for pedestrians.	By providing a dedicated right-of-way or easement for pedestrians, the definition ensures that there is a designated space separate from vehicular traffic. This separation is fundamental in preventing accidents and reducing conflicts between pedestrians and vehicles.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART4RUDE_4.3DE
ARTICLE 5. - GENERAL PROVISIONS	5.5 - Subdivision and plat approval	Whether proposed roads provide safe, convenient, and functional system for vehicular, pedestrian, and bicycle circulation and are otherwise consistent with the Cherokee County Comprehensive Land Use Plan and Cherokee County Comprehensive Transportation Plan.	Prioritizing adequate multi-modal infrastructure to support the proper flow and efficiency of automobiles and mobility devices and systems. These systems must be aligned with the county-wide land use and transportation standards.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART5GEPR_5.5SUPLAP

ARTICLE	SECTION	LANGUAGE	ANALYSIS	LINK
ARTICLE 7 - DISTRICT USES AND REGULATIONS	7.5-3.1 - Purpose and Intent	Careful attention to attractive and citizen-friendly community design is in the economic interests of Cherokee County, its citizens, and business owners. Attractive and integrated community design features tend to improve the county's image, raise overall property values, attract new businesses, and improve the quality of life. Investment in design features tends to result in a positive return on investment for property owners, private industry, and government. For example, the money spent on landscaped roadway medians, sidewalks, and street trees is likely to be amply returned in the form of increased tax revenue resulting from the overall increase in property values that accompanies attractive and desirable urban and suburban areas. These design regulations are intended to merge traffic engineering, civil engineering, urban design, landscape architecture, and land use planning principles into a set of regulations for commercial developments and properties in the unincorporated areas of the county. The regulations are the minimum necessary to: preserve the carrying capacity of major arteries; reduce the number of vehicular turning movements to and from the major artery, thereby reducing the potential for automobile and pedestrian traffic accidents; encourage and promote the most suitable uses of land; ensure the adequate grading and draining of developments; promote an environment which reduces the visual clutter and other distracting characteristics resulting from various aspects typical of urban and suburban commercial strip development; prohibit the needless, wasteful and purposeless aesthetic degradation of the county's highway and major street corridors; and promote a more healthy environment.	By investing in pedestrian friendly infrastructure is beneficial for the sustainability and viability of Cherokee County, therefore making it a priority. Design regulations aim to establish transportation networks that reduce the occurrences and opportunities for vehicular accidents (as well as vehicle + pedestrian accidents). This investment promotes integrated community design and emphasizes safety. The key elements here are the focus unreducing traffic conflicts send enhancing the visual environment.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART7DIUSRE_7.5SIPLRECEDI
ARTICLE 7 - DISTRICT USES AND REGULATIONS	7.5-3.6 Access Requirements	a) Curb cuts and access specifications. All entrances or exits of any street or driveway, public or private, from or to any state highway shall be approved by the State Department of Transportation and the county engineer prior to the construction of such entrances or exits and prior to the issuance of any development permit for any improvement to be served by such entrances or exits. No curb cut or access driveway shall be permitted to be located closer than 100 feet to the nearest existing or proposed right-of-way of an intersecting roadway or closer than 40 feet to a side property line unless the adjacent property owner is in agreement with the encroachment of the driveway and approval is obtained from the county engineer. Curb cuts or access driveways shall be no narrower than 24 feet from back of curb to back of curb. Strict adherence to these requirements may not be practical in all instances as determined by the county engineer. The county engineer may limit the maximum width of a curb cut and/or the number of curb cuts to a parcel as necessary when it is deemed to be of benefit to the safety and welfare of the public.	The curb cuts and access specifications aids in the reduction of potential conflict points between pedestrians, vehicles, and cyclist. The driveway regulation also aid in safety enhancement by requiring that they interact with traffic in a way that won't cause congestion or safety hazards.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART7DIUSRE_7.5SIPLRECEDI

ARTICLE	SECTION	LANGUAGE	ANALYSIS	LINK
ARTICLE 7 - DISTRICT USES AND REGULATIONS	7.5-3.6 Access Requirements	b) Interparcel connections. New commercial/industrial development containing, or that is intended to contain, more than one building or use on site shall provide connections so that automobile trips between and among such buildings or uses can be accomplished without using the adjacent highway(s) or major street(s). Joint or shared drives are encouraged. Where possible and practical, new developments and substantial improvements to existing developments shall provide for pedestrian and automobile access connections between adjacent properties under different ownership when the uses of the properties are of such compatibility that patrons may frequent both buildings or uses in the same vehicle trip.	The regulation of interparcel connections promotes pedestrian safety, connectivity, and traffic management. This helps by reducing the vehicular trips on major roads and offering more pedestrian friendly routes.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART7DIUSRE_7.5SIPLRECEDI
ARTICLE 8. - TRADITIONAL NEIGHBORHOOD DEVELOPMENT ORDINANCE	8.1 - Purpose.	b) Recognition and resolution of problems associated with sprawl developments, through, for example, the creation of a network of interconnecting, pedestrian oriented streets and other public spaces	This item addresses the issues if sprawl development and its impact on pedestrian focused infrastructure.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART8TRNEDEOR_8.1PU
ARTICLE 8. - TRADITIONAL NEIGHBORHOOD DEVELOPMENT ORDINANCE	8.3.2 - Pedestrian Shed	The basis of any traditional neighborhood development shall be the pedestrian shed. The pedestrian shed represents the physical limits most Americans will walk before choosing to drive. Traditional neighborhood development, by design, is compact, walkable, and mixed-use, and it is meant to be comfortable, safe, and ecologically sustainable. It allows a mix of uses within the neighborhood, so its residents or customers do not have to drive everywhere. A TND may be comprised of a partial or entire standard pedestrian shed (¼-mile radius) or more than one standard pedestrian shed including neighborhood edge T3, neighborhood general T4 and neighborhood center T5 as specified in Table 14-a. Larger sites shall be designed and developed as multiple pedestrian sheds, each with the individual neighborhood zone requirements as specified in Tables 1 and 14-a.	From a safety perspective, the concept of the "pedestrian shed" in traditional neighborhood development (TND) is crucial. It defines the area within which most residents are willing to walk before opting to drive. TNDs intentionally prioritize walkability, safety, and sustainability by incorporating mixed land uses and creating comfortable, pedestrian-friendly environments. However, the TND only applies to the TND District and is not countywide.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART8TRNEDEOR_8.3GESTRE
ARTICLE 8. - TRADITIONAL NEIGHBORHOOD DEVELOPMENT ORDINANCE	Sec. 8.7.1 - Streetscape requirements	a)The thoroughfares are intended for use by vehicular and pedestrian traffic and to provide access to lots and open spaces	Thoroughfares should be thoughtfully integrated, designed, and maintained to enhance mobility, connectivity, and accessibility.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART8TRNEDEOR_8.7STRE

ARTICLE	SECTION	LANGUAGE	ANALYSIS	LINK
ARTICLE 8. - TRADITIONAL NEIGHBORHOOD DEVELOPMENT ORDINANCE	Sec. 8.7.1 - Streetscape requirements	b)The thoroughfares consist of vehicular lanes and public frontages (Table 16-a). The lanes provide the traffic and parking capacity. They consist of vehicular lanes in a variety of widths for parked and for moving vehicles. The frontages contribute to the character of the neighborhood zone. They include the types of sidewalk, curbing, planter, and street tree	By incorporating elements that enhance pedestrian safety, support overall well-being, and a mange traffic flow, these regulations contribute to the safety of the environment.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART8TRNEDEOR_8.7STRE
ARTICLE 8. - TRADITIONAL NEIGHBORHOOD DEVELOPMENT ORDINANCE	Sec. 8.7.1 - Streetscape requirements	c)Thoroughfares should be designed in context with the appropriate development form and desired design speed of the neighborhood zones through which they pass. Thoroughfares that pass from one neighborhood zone to another shall adjust their public frontages accordingly or, alternatively, the neighborhood zone may follow the alignment of the thoroughfare to the depth of one lot, retaining a single public frontage throughout its trajectory	This item highlights the need for thoroughfares to be contextually integrated on a neighborhood by neighborhood basis. They should match the form and desired speed for the area.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART8TRNEDEOR_8.7STRE
ARTICLE 8. - TRADITIONAL NEIGHBORHOOD DEVELOPMENT ORDINANCE	Sec. 8.7.1 - Streetscape requirements	d)Within the neighborhood general and neighborhood center zones pedestrian comfort shall be a primary consideration of the thoroughfare. Design conflict between vehicular and pedestrian movement shall be decided in favor of the pedestrian.	Pedestrian comfort should remain a primary consideration to reduce contact with vehicle related conflicts and hazards. Street design should focus on being accommodating and efficient.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART8TRNEDEOR_8.7STRE
ARTICLE 11 - SIGNS AND OUTDOOR ADVERTISING	Sec. 11.5.3 - Lighting requirements	(a)Lighted, neon or luminous signs giving off light resulting in glare, blinding or any other such adverse effect on traffic shall not be erected or maintained.	Promoted responsible lighting practices to avoid disruption to visibility on streets for the safety of pedestrians and vehicles.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART11SIOUAD_11.5GEPR
ARTICLE 11 - SIGNS AND OUTDOOR ADVERTISING	Sec. 11.5.3 - Lighting requirements	Lighting requirements.(b)The light from illuminated signs shall be established in such a way that adjacent properties and roadways are not adversely affected and that no direct light is cast upon adjacent properties and roadways. Lighting shall not be directed skyward.	Controlling light related distractions aids in the maintenance of ambiance and safety in residential and public areas, reducing potential distractions and hazards that can be caused by excessive lighting.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART11SIOUAD_11.5GEPR

ARTICLE	SECTION	LANGUAGE	ANALYSIS	LINK
ARTICLE 11 - SIGNS AND OUTDOOR ADVERTISING	Sec. 11.5.3 - Lighting requirements	Lighting requirements.(d)Signs with flashing, intermittent or animated illumination or effect shall be excluded from all districts except as defined under Section 11.5-5(l).	Prohibiting animated signs helps minimize distractions for vehicle operators to focus on traffic conditions, pedestrians, and other vehicles without any visual distractions.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART11SIOUAD_11.5GEPR
ARTICLE 11 - SIGNS AND OUTDOOR ADVERTISING	Sec. 11.5.3 - Lighting requirements	Lighting requirements.(e)No sign shall be erected which simulates or hides from view any traffic or street sign or signal.	Ensuring that signage not obscure the visibility of traffic signals and signs to reduce the risk of accidents, especially at intersections. Clear visibility of traffic signals is also essential to the safety of pedestrians when navigating intersections.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART11SIOUAD_11.5GEPR
ARTICLE 12 - OFF STREET PARKING REGULATIONS	Sec. 12.4.3 - Design standards	Separation from walkways and streets. Off-street parking spaces shall be separated from walkways, sidewalks, streets or alleys by a wall, fence, curbing or other approved protective device, or by distance so that vehicles cannot protrude over publicly owned areas.	Parking areas and walkways should be separated, when available, from walkways and streets to avoid congestion related to vehicular encroachment.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART12OREPARE_12.4DEST
ARTICLE 16. - OVERLAY ZONING DISTRICT REGULATIONS	Sec. 16.2 - Bells Ferry Community Design District.	• Provide Safe and Convenient Environment for Pedestrian Movement and Access: This highlights the commitment to ensuring that pedestrians can move around safely and easily within the community. • Provide Transportation Alternatives and Modes: This includes creating good street grids, transit options, bike and Pedestrian pathways, and encouraging walking and biking as alternative Modes of Transportation, which inherently promotes Pedestrian safety by designing infrastructure that accommodates and protects pedestrians. • Create a Strong Urban Structure: by applying sound Urban design principles such as creating a hierarchy of streets, open spaces, and Pedestrian-friendly environments, the plan ensures that Pedestrian pathways are integral to the community design, thereby enhancing safety. • Traffic Calming: the implementation of Traffic Calming measures is intended to promote appropriate vehicular speeds and ensure safety for all road users, including pedestrians.	These elements collectively emphasize the importance of a safe, accessible, and well-designed environment for pedestrians within the BFCDD. However, BFCDD only applies to properties within the geographic boundaries shown on the Bells Ferry Regulating Plan and is not countywide.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART16OVZODIRE_16.2BEFECODEDI

ARTICLE	SECTION	LANGUAGE	ANALYSIS	LINK
ARTICLE 23 - CONSERVATION AND COMMUNITY DESIGN	Sec 23.9.5 - Road specification	Provide marked, paved paths for non-vehicular traffic within the development and connecting to neighboring residential and commercial areas.	Marked and paved paths are essential for safe streetscapes with designated routes for pedestrians and cyclists. They promote safety by reducing the chance of conflict with vehicular traffic.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART23CODECO
ARTICLE 25 - OUTDOOR LIGHTING AND ROAD GLARE	Sec 25.4 - Glare control on roadways	Property owners and operators should avoid the uses of materials that cause solar glare which can distract or temporarily obstruct the vision of drivers.	Property owners and operators should avoid the uses of materials that cause solar glare which can distract or temporarily obstruct the vision of drivers.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART25OULIROGL_25.4GLCORO
ARTICLE 25 - OUTDOOR LIGHTING AND ROAD GLARE	Sec. 25.9 - permits and development plan reviews	d) For the approval of any multi-story building having over 25 percent exterior glass, submit documents showing that reflected sunlight at all times of the day and on all days of the year will be minimized in the directions that will cause glare on public roads.	Building owners must provide proof that multi-story buildings will cause minimal glare on public roads to avoid distractions and the temporary impairment of vehicle operators.	https://library.municode.com/ga/cherokee_county/codes/zoning?nodeId=ZOOR_ART25OULIROGL_25.9PEDEPLRE
ARTICLE 42 - PARKS AND RECREATION	Sec. 42.51 - Operation of motor vehicles regulated	a)It shall be unlawful for any person to operate any motor vehicle in a park or recreation facility at an excessive speed, in a reckless and unsafe manner, or in violation of posted traffic signs.	This item establishes the precedent that vehicles not be operated above a certain speed near parks and recreation spaces to protect pedestrians.	https://library.municode.com/ga/cherokee_county/codes/code_of_ordinances?nodeId=PTIICOOR_CH42PARE_ARTIIUSPAREFA_S42-51OPMOVERE

ARTICLE	SECTION	LANGUAGE	ANALYSIS	LINK
ARTICLE 58 - TRAFFIC AND VEHICLES	Sec.58.68 - Administration of use of automated traffic enforcement safety devices	(a)The law enforcement agency, or agent on behalf of the law enforcement agency, operating an automated traffic enforcement safety device provided for under O.C.G.A. § 40-14-18 shall maintain a log for the automated traffic enforcement safety device attesting to the performance of such device's self-test at least once every 30 days and the results of such self-test pertaining to the accuracy of the automated traffic enforcement safety device. Such log shall be admissible in any civil enforcement proceeding for a violation issued pursuant to O.C.G.A. § 40-14-18. The law enforcement agency, or agent on behalf of the law enforcement agency, operating an automated traffic enforcement safety device shall perform an independent calibration test on the automated traffic enforcement safety device at least once every 12 months. The results of such calibration test shall be admissible in any court proceeding for a violation issued pursuant to O.C.G.A. § 40-14-18	Traffic monitoring and directional devices should be calibrated consistently and maintained to ensure proper functionality and safety.	https://library.municode.com/ga/cherokee_county/codes/code_of_ordinances?nodeId=PTIICOOR_CH58TRVE_ARTIIIAUTRENSADE_S58-68ADUSAUTRENSADE
ARTICLE 58 - TRAFFIC AND VEHICLES	Sec.58.68 - Administration of use of automated traffic enforcement safety devices	(b)Prior to the placement of a device within a school zone, each school within whose school zone such automated traffic enforcement safety device is to be placed shall first apply for and secure a permit from the Department of Transportation for the use of such automated traffic enforcement safety device. Such permit shall be awarded based upon need. The Department of Transportation shall promulgate rules and regulations for the implementation of this paragraph.	Schools must apply for a permit from the Department of Transportation to use an automated traffic enforcement safety device. The permit is needed-based and if awarded, the school should adhere to the rules and regulations set forth by the Department of Transportation.	https://library.municode.com/ga/cherokee_county/codes/code_of_ordinances?nodeId=PTIICOOR_CH58TRVE_ARTIIIAUTRENSADE_S58-68ADUSAUTRENSADE

ARTICLE	SECTION	LANGUAGE	ANALYSIS	LINK
ARTICLE 58 - TRAFFIC AND VEHICLES	Sec.58.68 - Administration of use of automated traffic enforcement safety devices	(c)If an automated traffic enforcement safety device is moved to or placed in a location where an automated traffic enforcement safety device had not previously been moved to or placed in, no citation shall be issued for a violation recorded by that automated traffic enforcement safety device until:(1)The county shall erect signs warning of the use of a stationary speed detection device within the approaching school zone. Such signs shall be at least 24 by 30 inches in area, shall be visible plainly from every lane of traffic, shall be viewable in all traffic conditions, and shall not be placed in such a manner that the view of such sign is subject to being obstructed by any other vehicle on such highway. Such signs shall be placed within 500 feet prior to the warning sign announcing the reduction of the speed limit for the school speed zone. There shall be a rebuttable presumption that such signs are properly installed pursuant to this subsection at the time of any alleged violation under this article; and(2)That no citation shall be issued for the first 30 days after the first automated traffic enforcement safety device is introduced by a law enforcement agency within a school zone, but rather, a civil warning shall be issued for disregard or disobedience of the speed limit within the school zone.	In the case of relocating an automated traffic enforcement safety device, citations may only be issued from that device when there is proper signage to notify vehicle operators of its presence and after it has been in that location for more than 30 days.	https://library.municode.com/ga/cherokee_county/codes/code_of_ordinances?nodeId=PTIICOOR_CH58TRVE_ARTIIIAUTRENSADE_S58-68ADUSAUTRENSADE
ARTICLE 58 - TRAFFIC AND VEHICLES	5 - Regulation of traffic flow	The intersection of Towne Lake Parkway, Towne Lake Hill South Drive and North Medical Parkway is hereby designated as “No U Turn” in all four directions. It shall be unlawful for any person operating a motor vehicle to utilize said intersection in such a manner as to avoid the traffic signal located at said intersection. Any person found in violation of this section by a court of law shall be subject to a fine of not more than $1,000.00 and/or subject to imprisonment not to exceed 60 days.	Regulations on traffic flow to reduce the risk of accident. This regulation also imposes a fine to dissuade vehicle operators from violating the law.	https://library.municode.com/ga/cherokee_county/codes/code_of_ordinances?nodeId=PTIICOOR_CH58TRVE_ARTIINGE_S58-5RETRFL

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SECTION VI.

DATA COLLECTION & METHODOLOGY

Data Collection

Historical crash data that was used for the safety analysis was collected from GDOT Numetric. This data source records crashes occurring on Georgia's public roads. Specific attributes included in the data collection are crash mode, severity, and roadway characteristics. The data included all crashes occurring in Cherokee County between 2018-2022.

Vehicular traffic volumes are from GDOT.

Active transportation volumes are from Replica. They reflect estimates for an average Thursday in Fall 2023. Replica data is based on a combination of factors, including mobile devices and an underlying activity based model.

Demographic data is from the US Census Decennial Census, 2020.

Speeding data is from GDOT's RITIS Platform.

Methodology

The data-driven safety analysis identified crash locations and assessed a number of factors related to crashes. These factors include crash mode, crash severity, and certain roadway characteristics. An understanding of these factors helps to identify potential improvements that can be implemented with the goal of reducing crashes.

Crash intensity is used to identify areas across the County where high concentrations of crashes are occurring. Heat maps are used to visualize this information and highlight specific locations that could see a significant reduction of crashes with the implementation of safety improvements.

All crashes recorded in GDOT data are considered vehicle crashes, involving at least one vehicle. All crashes were analyzed to understand general patterns in vehicle crashes. More specific crash modes are also identified, showing crashes that involved one or more pedestrians, bicyclists, and heavy vehicles or freight vehicles. Each of these modes were isolated and analyzed in relation to a number of other factors.

Fatal and serious injury crashes, also known as KSI crashes, were identified and analyzed in detail to understand factors related to

the most severe crashes occurring in Cherokee County. GDOT crash data utilizes the KABCO injury classification, in which crashes resulting in a fatal injury are designated as K and crashes resulting in a serious injury are coded as A. This safety analysis isolated these two crash types to analyze specific factors related to the most severe crashes.

Roadway characteristics, such as roadway functional class, were assessed in order to understand the types of roadways where crashes are occurring. Identifying specific roadways and types of roadways where crashes are occurring provides insight into the types of roadways throughout the County that may be a priority for safety improvements to reduce crashes.