Western North Carolina Coordinated Regional Transit Plan

May 2025

Executive Summary

The Western North Carolina (WNC) Coordinated Regional Transit Plan (WNC CRTP) aims to evaluate existing transit services and identify opportunities for coordination and expansion to better serve local communities and the region. The study involves collaboration among key regional entities, including the Foothills Rural Planning Organization (RPO), Land of Sky Rural Planning Organization (LOSRPO), and French Broad River Metropolitan Planning Organization (FBRMPO). These organizations support transportation and transit planning across various counties and municipalities in WNC. Because of the strong interconnectedness of communities in the region and multitude of personal vehicle trips crossing the MPO and RPO boundaries, this document is a joint plan for the Foothills RPO, LOSRPO, and FBRMPO.

The plan addresses the challenges and opportunities within the region's transit system, focusing on enhancing service delivery, improving infrastructure, and fostering regional connectivity. Key findings include:

- **Strengths:** The region anticipates growth, particularly in its elderly population, increasing reliance on public transportation. Several agencies offer fare-free services, and routes serve essential destinations like airports, schools, and medical facilities. Further, the region's coordinated response to the unprecedented natural disaster of 2024, Hurricane Helene, shows the incredible strength and ability of this region.
- **Weaknesses:** Challenges include limited hours of operation, insufficient bicycle and pedestrian infrastructure, and staffing shortages. Some populations remain underserved, including low-income individuals and those in remote areas.
- **Opportunities:** Expanding service hours, enhancing infrastructure near transit stops, and introducing electronic payment options could improve accessibility and rider experience. Regional collaboration and mentorship programs could foster knowledge-sharing and operational efficiencies.
- **Threats:** Geographic and demographic disparities, along with funding uncertainties, could hinder transit improvements. Natural disasters such as hurricanes disrupt operations and risk assets that threaten the progress of a region's transit service.

The plan incorporates extensive public and stakeholder involvement, including surveys, focus groups, and workshops, to ensure recommendations align with community needs. A regional appraisal highlights systemic opportunities and challenges, guiding the development of alternative solutions. These solutions are categorized into service improvements, capital/infrastructure enhancements, technology innovations, and policy/coordination strategies.

The financial and implementation plan outlines cost assumptions, revenue projections, and a five-year roadmap for executing prioritized solutions. By addressing current weaknesses and leveraging identified opportunities, the WNC CRTP aims to create a more connected, efficient, and inclusive transit system for the region.

Table of Contents

Executive Summary 1
Section 1. Introduction 5
Section 2. Existing Conditions Assessment 8
2.1 Study Area 8
2.2 Population and Demographics 8
2.3 Travel and Commuting Trends 21
2.4 Land Use Characteristics 23
2.5 Multimodal Conditions 23
Section 3. Existing Services and Performance Evaluation 26
3.1 Transit Services Profile 26
3.2 Peer Analysis 31
Section 4. Public and Stakeholder Involvement 32
4.1 Public Involvement Plan 32
4.2 Public Involvement Activities and Outcomes 33
Section 5. Regional Appraisal 34
5.1 Introduction 34
5.2 Agency Engagement and Input Process 35
5.3 Strengths, Weaknesses, Opportunities, and Threats 35
Section 6. Transit Demand and Needs Assessment 42
6.1 Transit Demand Assessment 42
6.2 Transit Needs Identification 48
6.3 Alternative Solutions Development 51
6.4 Alternative Solutions Evaluation 53
Section 7. Financial and Implementation Plan 54
7.1 Introduction 54
7.2 Methodology 55
7.3 Cost Estimates 55
7.4 Funding Strategies 59
7.5 Implementation Guidance 72
7.6 5-Year Cost Projections 75
Appendix A: Land Use Maps 78
Appendix B: Detailed Cost Estimates 85
Appendix C: Disaster Response and Recovery 87
Hurricane Recovery 87
Next Steps 92
Additional Resources 92
Disaster Response and Recovery 93

Tables

Table 1. List of Regional Transit Services 5
Table 2. Population Trends in the WNC Coordinated Region 8
Table 3. Age Distribution 10
Table 4. Population in Poverty 12
Table 5. Limited English Proficiency by Primary Language 15
Table 6. Prevalence of Disability by Age 16
Table 7. Households by Vehicle Possession 18
Table 8 Commuting to Work Destinations for Residents Living in the Study Area 22
Table 9 Commuting Home Destinations for Workers Employed in the Study Area 22
Table 10 Commuting to Work Destinations for Low-Income Residents Living in the Study Area 22
Table 11 Commuting Home Destinations for Low-Income Workers Employed in the Study Area 23
Table 12. Multimodal Conditions Plan Review 24
Table 13. Peer Analysis for Asheville Rides Transit 31
Table 14. Peer Analysis for Community Transportation Systems 32
Table 15. Market Density Analysis Levels of Investment 43
Table 16. Local Project Cost Estimates 56
Table 17. Inter-local Project Cost Estimates 57
Table 18. Regional Project Cost Estimates 58
Table 19. Regional and Intercity Bus Route Schedules 58
Table 20. Summary of Funding Sources 70
Table 21. Implementation Plan Action Timeline 73
Table 22. Projected Inflation 75
Table 23. Five-Year Cost Projections 76

Figures

Figure 1. Study Area 6
Figure 2. WNC CRTP Process 7
Figure 3. Residents per Square Mile Throughout the Study Area 9
Figure 4. Jobs per Square Mile 10
Figure 5. Residents Aged 65 and Older Within the Study Area 11
Figure 6. Residents Who Live Below the Poverty Line 12
Figure 7. Racial Demographics in the WNC Coordinated Region 13
Figure 8. Residents Who are Racial Minorities 14
Figure 9. Households with Limited English Proficiency 15
Figure 10. Population with a Disability 17
Figure 11. Households Without a Vehicle 18
Figure 12. TDI Scoring 19
Figure 13. Transportation Disadvantaged Index 20
Figure 14. Environmental Justice Communities 21
Figure 15. Performance Trends for Fixed Route Transit in the Region 29
Figure 16. Performance Trends for Demand Response Transit in the Region 30
Figure 17. SWOT Model 35
Figure 18. Market Density Analysis – Workers per Square Mile 44
Figure 19. Very High Investment in Asheville - Workers 45
Figure 20. Market Density Analysis – Zero-Vehicle Households per Square Mile 46
Figure 21. Very High Investment in Asheville – Zero-Vehicle Households 47
Figure 22. EJ Index Scoring 47
Figure 23. EJ Scoring Relative to the State 48
Figure 24. Proposed Regional and Intercity Bus Routes 59
Figure 25. Buncombe County Existing Land Use 78
Figure 26. Haywood County Existing Land Use 79
Figure 27. Henderson County Existing Land Use 80
Figure 28. Madison County Existing Land Use 81
Figure 29. Transylvania County Land Use 82
Figure 30. Rutherford County Existing Land Use 83
Figure 31. Future Land Use in FBRMPO 84

Section 1. Introduction

The purpose of the Western North Carolina (WNC) Coordinated Regional Transit Plan (CRTP) is to evaluate existing transit services to identify opportunities for coordination and expansion, aiming to better serve local communities and the region.

The Foothills Rural Planning Organization (RPO), Land of Sky Rural Planning Organization (LOSRPO), and French Broad River Metropolitan Planning Organization (FBRMPO) are the three main regional entities that support transportation and transit planning. The Foothills RPO is the regional transportation planning entity that supports McDowell, Polk, and Rutherford counties. The LOSRPO[1] is a transportation-focused planning entity for the rural areas of Buncombe, Madison, and Transylvania counties (those not included in the urban MPO regions). Lastly, the FBRMPO is the regional MPO responsible for transportation planning in the urbanized areas. Its jurisdiction currently covers 21 municipalities including the City of Asheville and the City of Hendersonville, and other municipalities within Buncombe, Haywood, Henderson, and Madison counties.

Apart from Mountain Mobility and Apple Country Public Transit, transit services in the region are primarily operated as a department of local government. The administrative functions of Buncombe County's community transit service, Mountain Mobility, are contracted with LOSRC. Apple Country Public Transit, the City of Hendersonville's transit service, is operated by the contractor, WNCSource.

Table 1 provides a summary of transit services in the region and their associated regional planning entities. **Figure 1** presents a map of the study area, with regional entities and counties highlighted.

Table 1. List of Regional Transit Services

Regional Entity	County	Transit Services
Foothills RPO	McDowell County	McDowell Transit
	Polk County	Polk County Transportation
	Rutherford County	Rutherford County Transit
Land of Sky Regional Council	Transylvania County	Transylvania County Transportation
	Buncombe County	Mountain Mobility (administered by Land of Sky)
	Haywood County	Haywood Public Transit/Mountain Projects
	Madison County	Madison County Transit
FBRMPO	Henderson County	Apple Country Public Transit/WNCSource (urban & rural)
	City of Asheville	Asheville Rides Transit (ART)
	Haywood County	Haywood Public Transit/Mountain Projects
	Buncombe County	Mountain Mobility (administered by Land of Sky)
	Madison County	Madison County Transportation Authority (MCTA)

[1] This is a separate entity from the Land of Sky Regional Council, which is a broader, multi-county regional planning agency. Its services include economic development, aging services, environmental protection, and transportation planning.

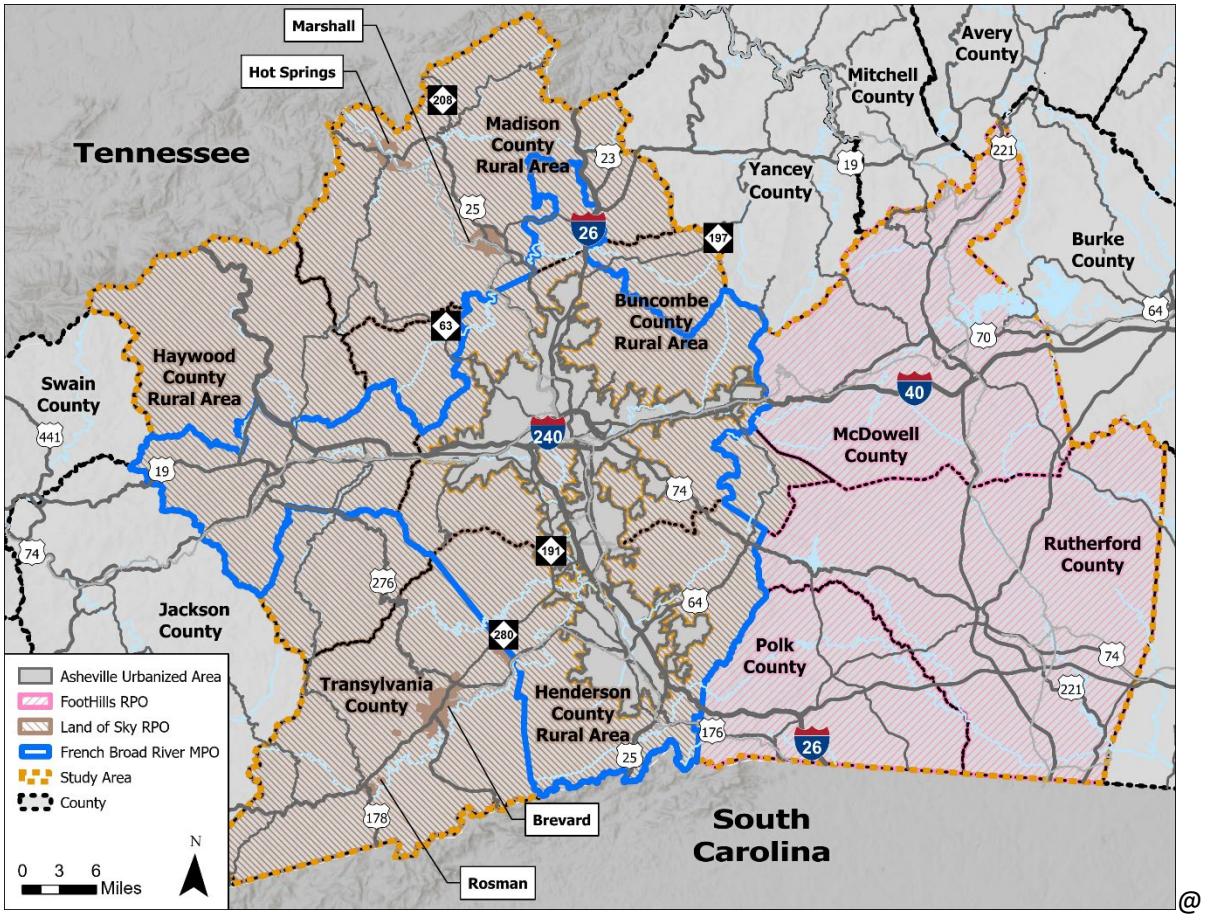


Figure 1. Study Area

This study began with an assessment of existing conditions, which looked at demographic characteristics, travel and commuting trends, land use characteristics, and multimodal conditions.

The existing conditions assessment was combined with a performance evaluation of existing services in the region, as well as a peer analysis of the transit systems, comparing them to a series of peers from outside the region.

To continue the development of the study, public participation was essential. Agencies, stakeholders, and the public were consulted for input and feedback. Surveys and focus group meetings were used to collect rider and community insight, and interviews and workshops were conducted to engage with the agencies and stakeholders.

A regional appraisal was then created to evaluate factors that may affect the provision of transit services within the region. The appraisal included Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis of various transit systems provided in WNC.

The next step in the study was the Transit Demand and Needs Assessment. This assessment, aimed to further discover unmet regional public transportation needs in the study area, allowed for the identification and subsequent evaluation of tactics and advancements to address these unmet needs in order to be taken into account in the Financial and Implementation plan.

The Financial and Implementation Plan provides a comprehensive overview of potential funding sources available to regional partners and evaluates their viability for project implementation. It also offers high-level planning cost estimates for the proposed investment projects, including potential revenue sources.

Additionally, as a result of Hurricane Helene impacting the WNC Coordination Region, the study also addressed disaster response and recovery, summarizing the impacts of the hurricane on transit services in the region, noting the critical role transit agencies play in hurricane response and recovery, and identifying potential actions.

Figure 2 models the process explained above that was followed in creation of the WNC CRTP.

The project was guided by representatives from the Foothills RPO, LOSRPO, and FBRMPO, transit agencies, counties, and cities. Recommendations were refined through regular meetings and ongoing feedback throughout the project's development.

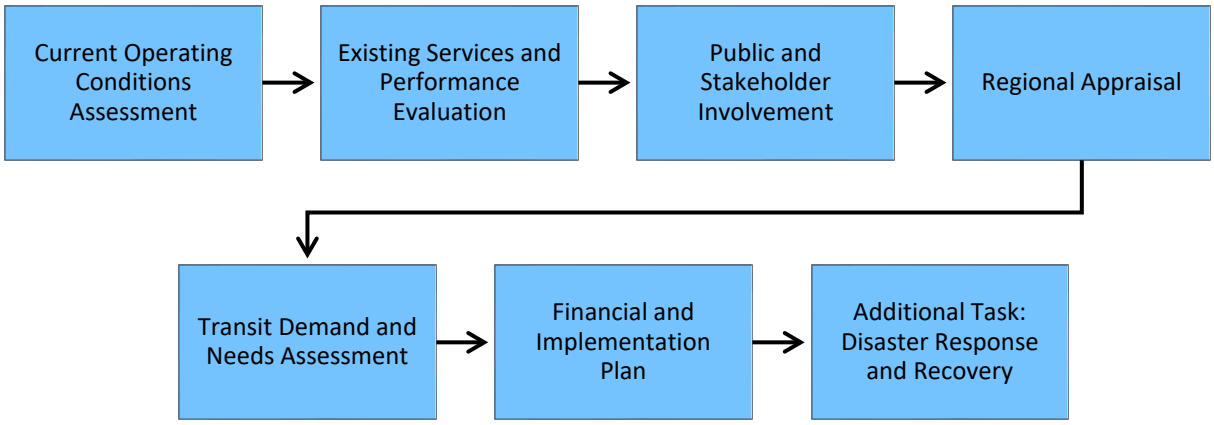


Figure 2. WNC CRTP Process

Section 2. Existing Conditions Assessment

2.1 Study Area

The WNC Coordinated Region spans 3,672 square miles and includes Buncombe, Haywood, Henderson, Madison, McDowell, Polk, Rutherford, and Transylvania counties. It is bordered by Tennessee to the north, South Carolina to the south, Pisgah National Forest to the east, and the Cherokee Region to the west. The City of Asheville is the major population and employment hub, with secondary centers in Hendersonville, Brevard, the Thermal Belt, and towns such as Rosman, Marshall, Black Mountain, Waynesville, and Marion, and Hot Springs serving as secondary nodes. The region is served by 13 major roadways, including Interstate 26, Interstate 40, U.S. Route 25, U.S. Route 64, U.S. Route 74, and U.S. Route 176.

Notably, 48% of major trip generators, such as schools, government offices, and parks, are located more than half a mile from existing transit stops. While demand response services may reach some of these destinations, they face limitations due to intercounty travel restrictions and other factors.

2.2 Population and Demographics

Population characteristics play a key role in evaluating a community's public transportation needs. As communities grow, it is important to assess the available mobility options, including transit, to ensure that future needs can be met with the current service levels.

Current and Future Population Density

Population density is an important indicator of public transportation demand. Areas with higher population density typically have more residents located near bus stops, which can support a more efficient transit network. These areas are also often more conducive to multimodal transportation options due to their land use patterns.

As shown in **Table 2.** Population Trends in the WNC Coordinated Region the WNC Coordinated Region had a population of 634,166 and an average density of 173.4 people per square mile in 2021. By 2028, the population is expected to grow by 5.6%, reaching 669,714 people and increasing the density to 183.1 people per square mile. Between 2010 and 2020, most of the population growth in the region occurred with the Asheville Urbanized Area, with the block groups straddling Buncombe and Henderson Counties experiencing the highest growth. The highest density areas, with over 1,000 people per square mile, are found within the Asheville Urbanized Area, extending from Weaverville to Flat Rock and including Canton and Waynesville to the west. Outside the Urbanized Area, the densest communities include Rutherfordton and Forest City in central Rutherford County, Marion in McDowell County, and Brevard in Transylvania County. **Figure 3** displays the current population density across the region.

Table 2. Population Trends in the WNC Coordinated Region

Year	Population	Population Density per Square Mile
2021	634,166	173.4
2023	643,408	175.9
2028	669,714	183.1

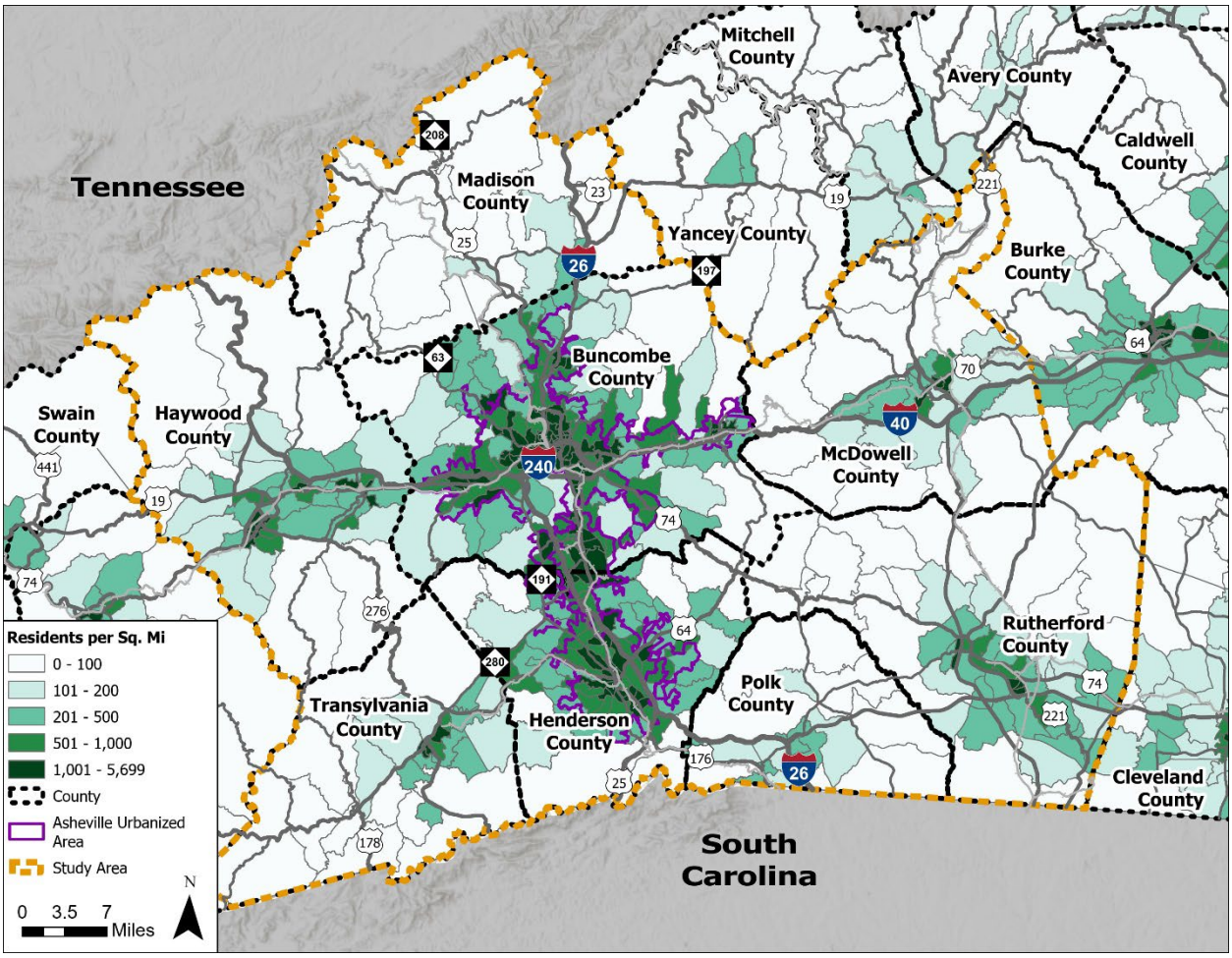


Figure 3. Residents per Square Mile Throughout the Study Area

Current and Future Employment Density

Employment density is a crucial factor when assessing both current and future public transportation markets. High employment density areas typically house major activity centers, such as retail hubs, medical offices, and educational institutions, all of which generate a need for transit services. Downtown or urban areas, which tend to have high employment densities and limited parking, further contribute to the demand for alternative transportation options.

The WNC Coordinated Region currently has an average employment density of 50 jobs per square mile, with the highest concentrations in Asheville and Hendersonville. **Figure 4** presents the latest available job density data from the 2017-2021 American Community Survey (ACS) Five-Year Estimates. In the region, areas with higher employment densities often overlap with areas of higher population density, particularly in Asheville and Hendersonville. Employment projections for the future are not yet available for the entire region.

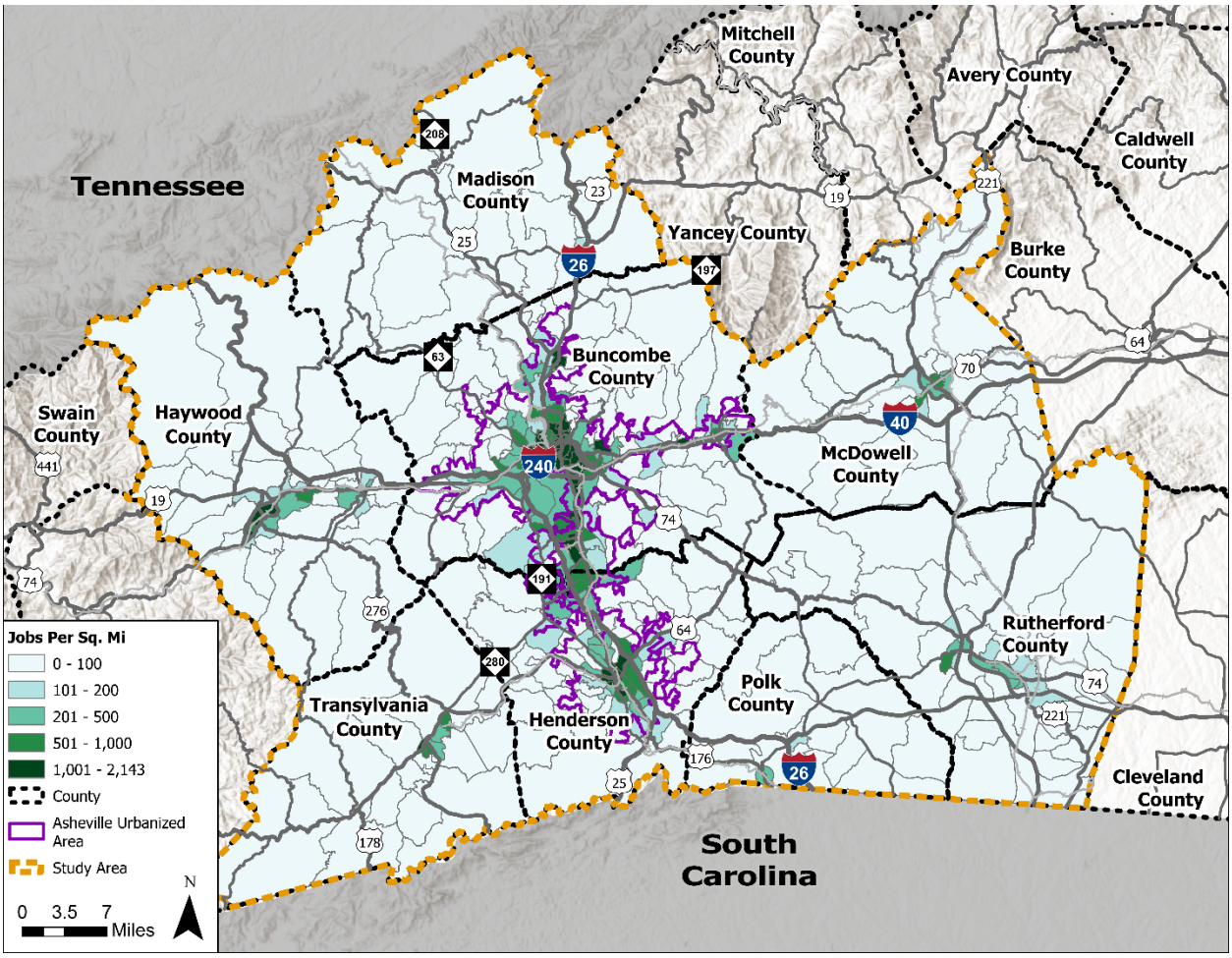


Figure 4. Jobs per Square Mile

Age

Table 3 illustrates the age distribution of the population in the WNC Coordinated Region. According to the 2017-2021 ACS 5-Year Estimates, 23% of the region's population is aged 65 or older. This age group is a key consideration for public transportation planning, as aging individuals often experience reduced driving abilities, which increases the demand for alternative transportation options.

Table 3. Age Distribution

2021 Age Distribution	2021 Total	2021 % of Total
Under 10 Years	61,860	9.9%
10 to 14 Years	33,887	5.4%
15 to 24 Years	66,226	10.6%
25 to 39 Years	112,302	17.9%
40 to 64 Years	210,879	33.6%
65 Years and Older	141,915	22.6%

Adults aged 25-64 make up 51.5% of the region's population. This group, which includes the majority of working-age individuals, is likely to contribute significantly to the demand for public transportation due to daily commuting needs.

Figure 5 highlights areas with higher concentrations of individuals aged 65 and older. The regions with the highest concentrations of older adults include areas south of Rutherfordton, Tryon, Connestee Falls, Flat Rock, Hendersonville, and north of Swannanoa.

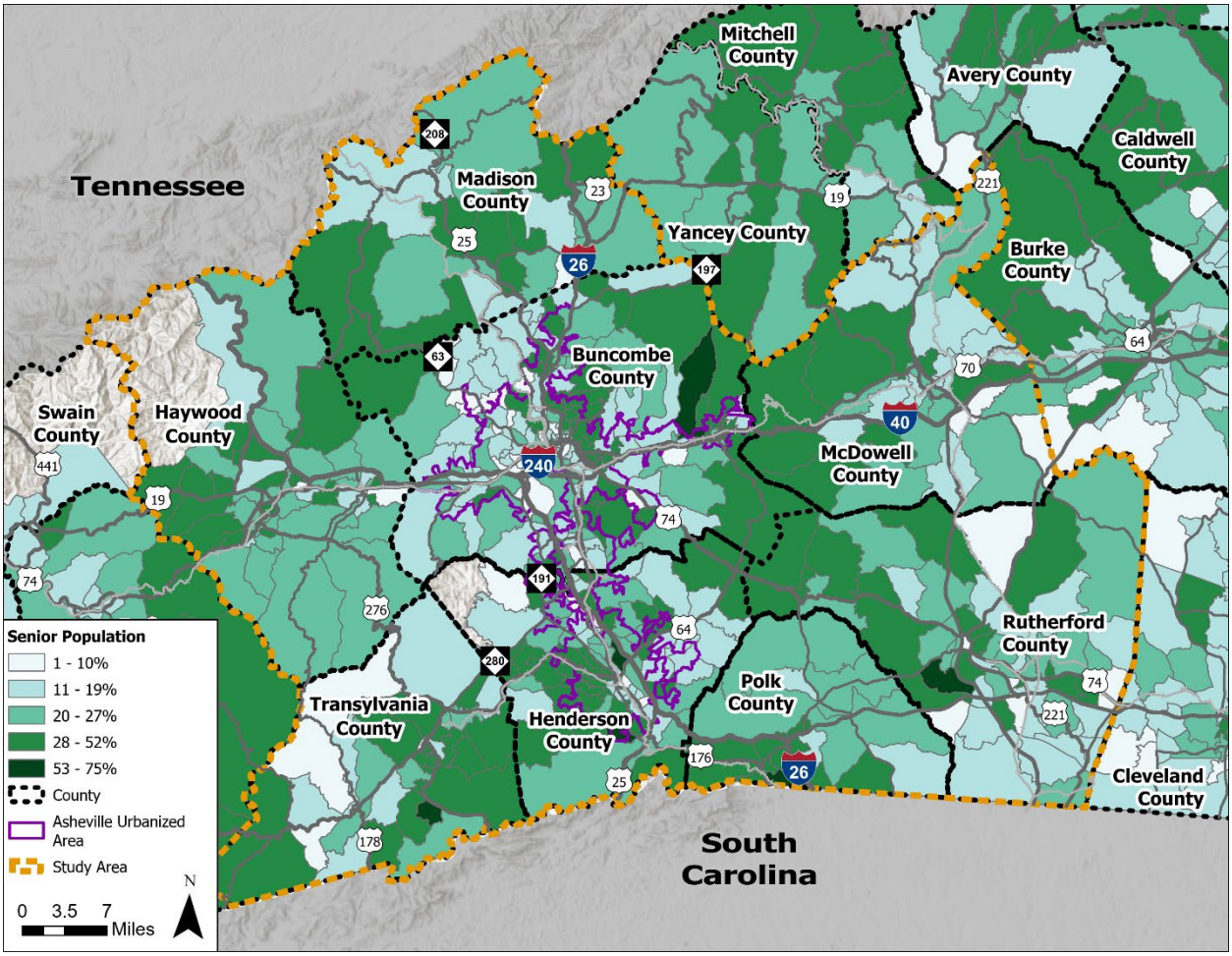


Figure 5. Residents Aged 65 and Older Within the Study Area

Low-Income Households

Annual income levels can serve as an important indicator when assessing the potential public transportation needs of an area. Low-income populations often depend more on public transportation, as they may not have the financial means to own or operate a car. According to **Table 4**, in the French Broad River Coordinated Region, 12% of the population lives below the thresholds for poverty as defined by Annual Social and Economic Supplement of the 2022 Current Population Survey based on household size and composition. For a family of four, the weighted average threshold was $29,950.

Table 4. Population in Poverty

2021 Poverty Thresholds	2021 Population in Poverty	2021 % of Population
Below Poverty	74,199	12.1%

Figure 6 illustrates the geographic distribution of the population living in poverty. The highest concentrations of individuals in poverty are located in western Transylvania County, southern Forest City, areas west of Asheville near Deaverview, Center Pigeon, and Waynesville.

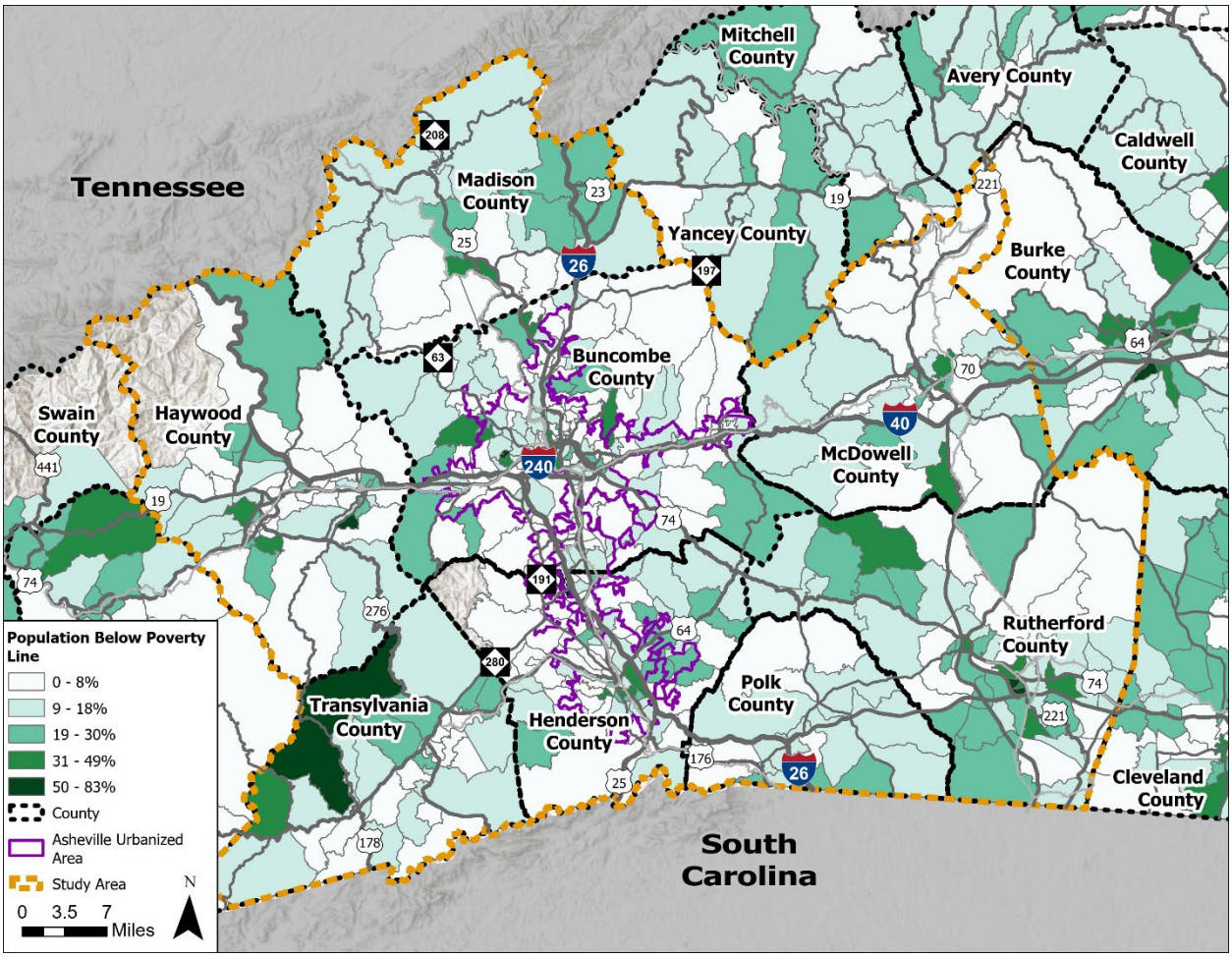


Figure 6. Residents Who Live Below the Poverty Line

Minority Populations

The racial and ethnic makeup of a region plays a crucial role in transit planning, as studies have shown that minority populations tend to utilize public transportation more frequently than white residents. In the WNC Coordinated Region, 88.2% of the population is white. The largest minority group is Black residents, comprising 4.8%, followed by individuals of two or more races at 4.1%. As illustrated **in Figure 8**, the highest concentrations of minority residents are found in Buncombe and Henderson counties, particularly around southwest Forest City, west of Deaverview, and east of the French Broad River in downtown Asheville.

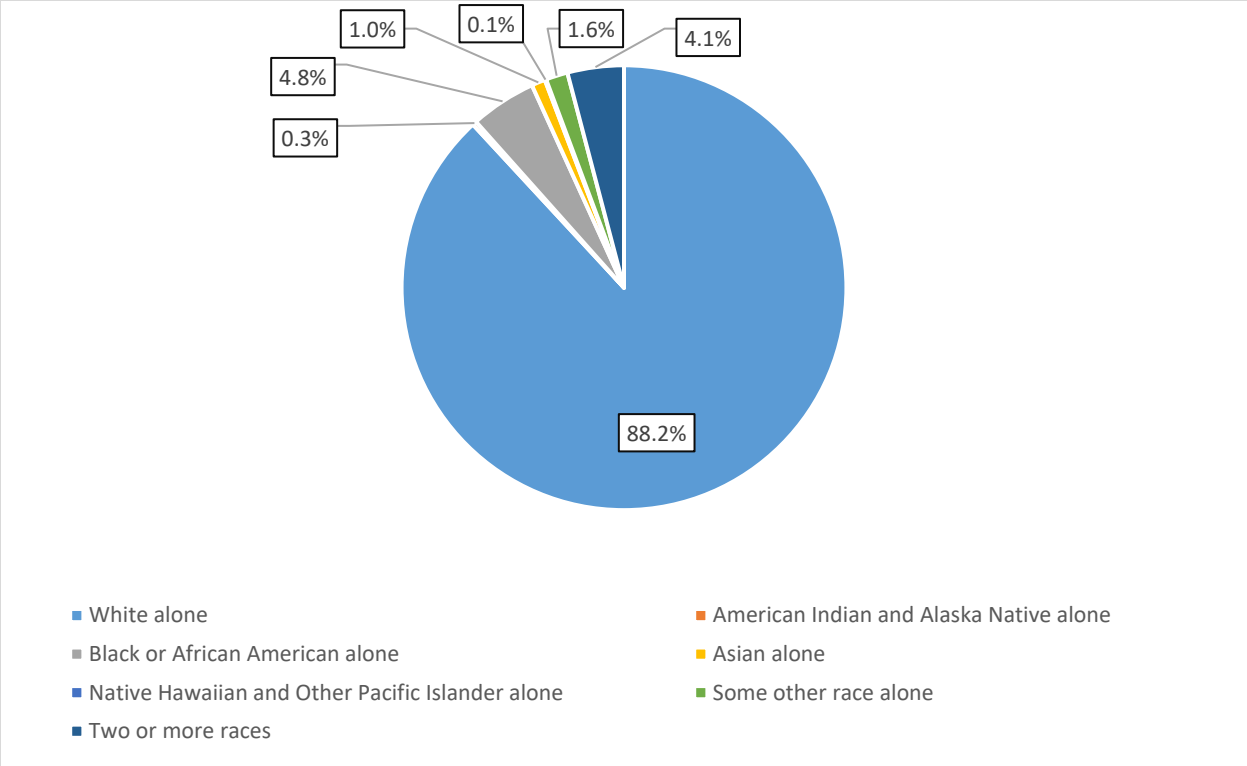


Figure 7. Racial Demographics in the WNC Coordinated Region

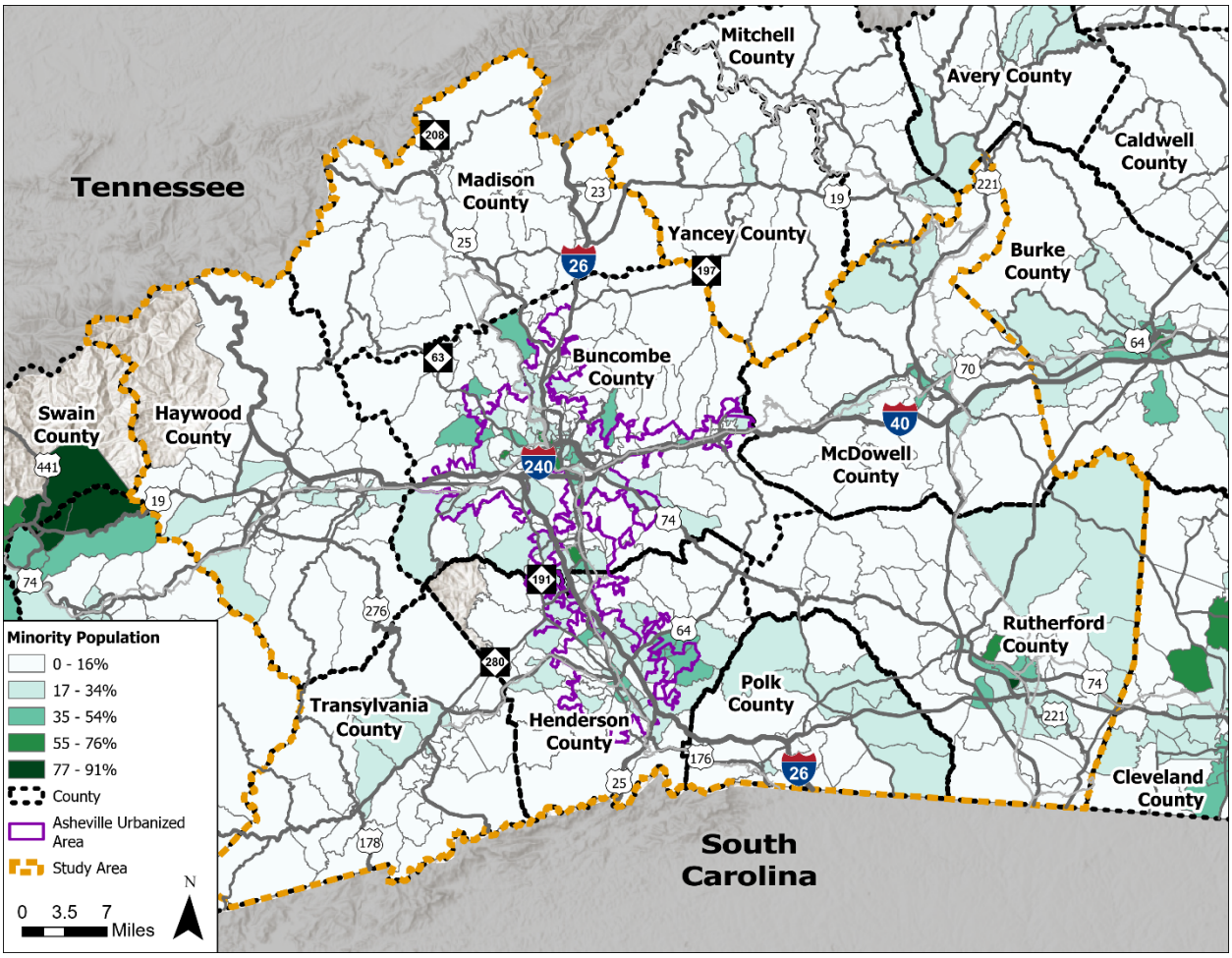


Figure 8. Residents Who are Racial Minorities

Limited English Proficient (LEP) Populations

Public transportation is a vital resource for individuals with Limited English Proficiency (LEP) in the WNC Coordinated Region. LEP individuals are those who report speaking English "less than very well." While approximately 7.6% of the region's households speak a language other than English, only 1.6% are considered LEP. Spanish is the most prominent language among LEP households, although there are also several hundred LEP households that speak other Indo-European languages, as well as Asian and Pacific Island languages.

Table 5. Limited English Proficiency by Primary Language

Language	2021 Households That Speak Languages Other Than English		2021 Households That are Considered Limited-English Speaking	
	#	Percent	#	Percent
Spanish	11,669	4.6%	2,901	1.1%
Other Indo-European Languages	4,411	1.7%	597	0.2%
Asian and Pacific Island Languages	1,737	0.7%	415	0.2%
Other Languages	599	0.2%	48	0.0%
Total	**18,416**	**7.3%**	**3,961**	**1.6%**

Figure 9 illustrates the distribution of LEP populations in the WNC Coordinated Region. These populations are mainly concentrated north of East Flat Rock, as well as in areas such as Royal Pines, Biltmore Forest, south of Fruitland, and west of Deaverview.

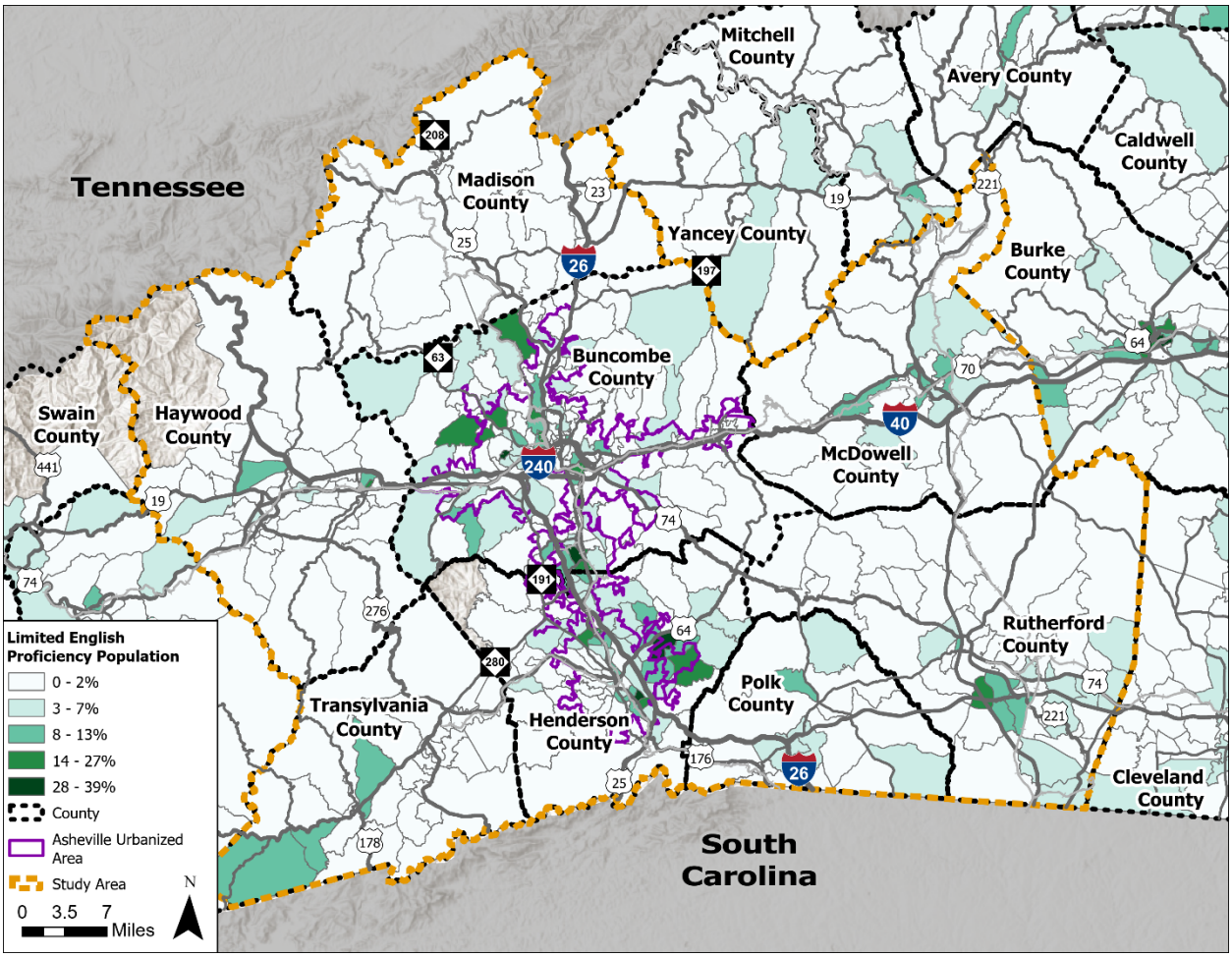


Figure 9. Households with Limited English Proficiency

Populations with Disabilities

Individuals with disabilities may depend on public transportation to meet their mobility needs if they are unable to drive or walk long distances. Tracking changes in the disability population within the WNC Coordinated Region, along with the extent to which this population is served by Americans with Disabilities Act (ADA)-mandated and paratransit services, is crucial for public transportation agencies. According to **Table 6**, 15.6% of the region's population has a disability, with the highest percentage found in the over-65 age group.

Table 6. Prevalence of Disability by Age

Age Cohort	2021 # of Persons with Disabilities	2021 % of Persons with Disabilities
Under 18	5,138	4.4% of Population Under 18
18-64	46,232	12.7% of Population 18-64
Over 65	45,534	33.0% of Population Over 65
Total	**96,904**	**15.6% of Region's Total Population**

Figure 10 illustrates the distribution of individuals with disabilities in the WNC Coordinated Region. The highest concentrations are located throughout Hendersonville's urban area, from Blue Ridge to Woodland Hills and Flat Rock, as well as in western Rutherford County, Maggie Valley, and Beverly Hills in Asheville. Most of the region's retirement communities are situated within the continuous urban corridor stretching from Woodfin to Hendersonville.

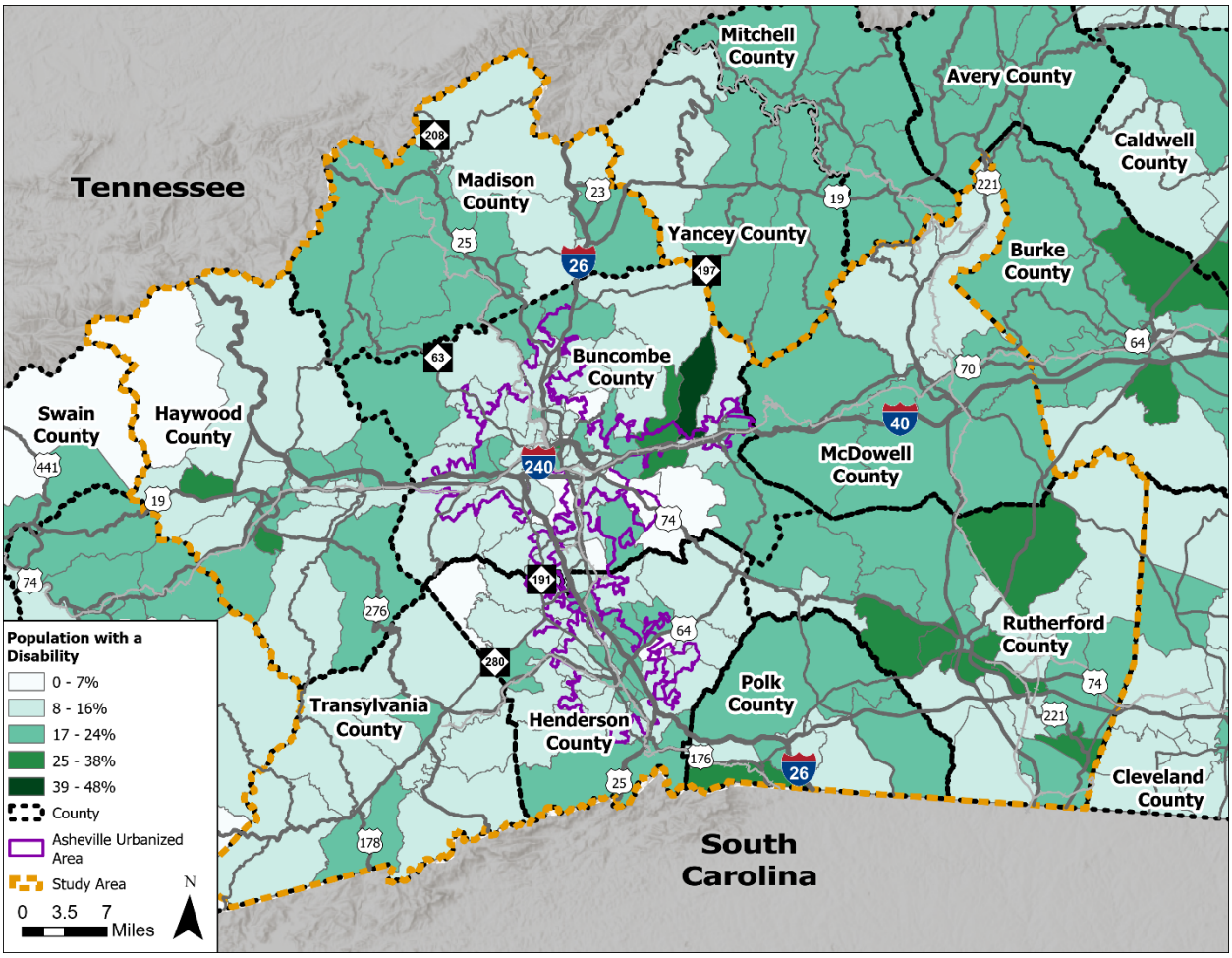


Figure 10. Population with a Disability

Zero-Vehicle Households

Vehicle ownership can be expensive, and for households near or below the poverty line, these costs can create a significant barrier to mobility. Additionally, some households, particularly in urban areas, may choose to live without a car when alternative transportation options are available. Households without a vehicle are known as "zero-vehicle households" and are more likely to rely on public transportation for work, education, and other daily activities.

As shown in **Table 7**, 5.0% of households in the WNC Coordinated Region are zero-vehicle households, 31.5% have one vehicle, 38.8% have two vehicles, and 24.6% have three or more vehicles. The region's predominantly rural and suburban nature can make it challenging for residents to complete everyday tasks without access to a car.

Table 7. Households by Vehicle Possession

Number of Vehicles	2021 % of Households
No Vehicle Available	5.0%
1 Vehicle Available	31.5%
2 Vehicles Available	38.8%
3+ Vehicles Available	24.6%

Figure 11 shows the distribution of zero-vehicle households in the WNC Coordinated Region. The highest concentrations of these households are located north of Swannanoa, north of Mills River and east of the French Broad River in downtown Asheville.

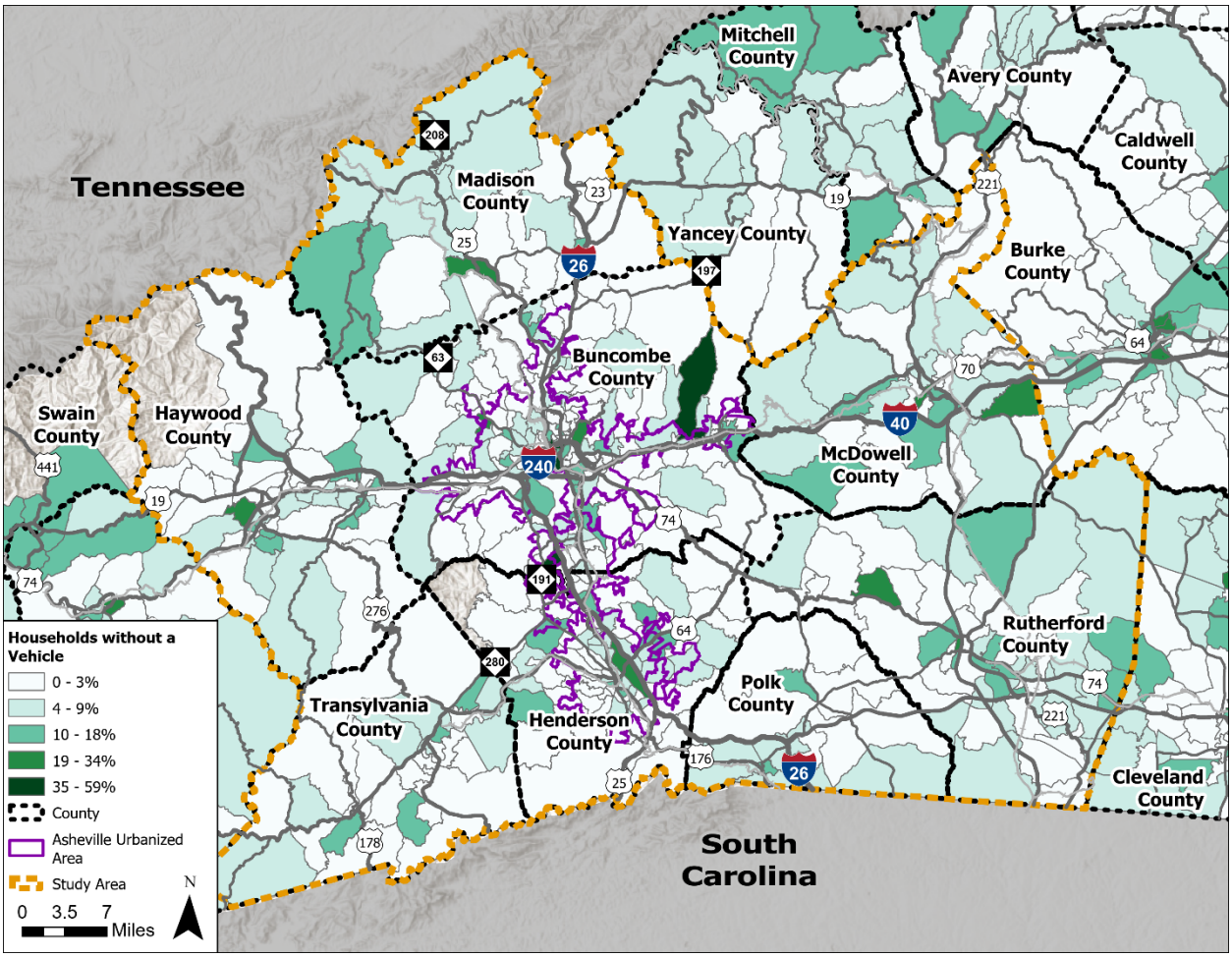


Figure 11. Households Without a Vehicle

Transportation Disadvantaged Index

The North Carolina Department of Transportation (NCDOT) created a Transportation Disadvantaged Index (TDI) tool to identify, describe, and assess barriers that may hinder access to transportation. The TDI tool highlights areas with high concentrations of zero-vehicle ownership, poverty, youth under 15,

seniors over 65, individuals with mobility impairments, and minority racial and ethnic groups. These populations often live in areas with limited multimodal transportation options and are more reliant on public transit or walking to reach jobs and essential services. It calculates a comprehensive score, ranging from 0 to 21, for each block group (BG), ranking these demographics relative to their respective county, division, metropolitan planning organization (MPO), and the state. A higher TDI score indicates a greater transportation disadvantage. The percentages of these demographic groups and the level of transportation disadvantage in a BG influence the index score. This tool helps ensure more equitable transportation planning by highlighting areas with disproportionate challenges. The TDI offers valuable insights into the transportation difficulties faced by communities, guiding recommendations and regional priorities. **Figure 12** illustrates the TDI score breakdown.

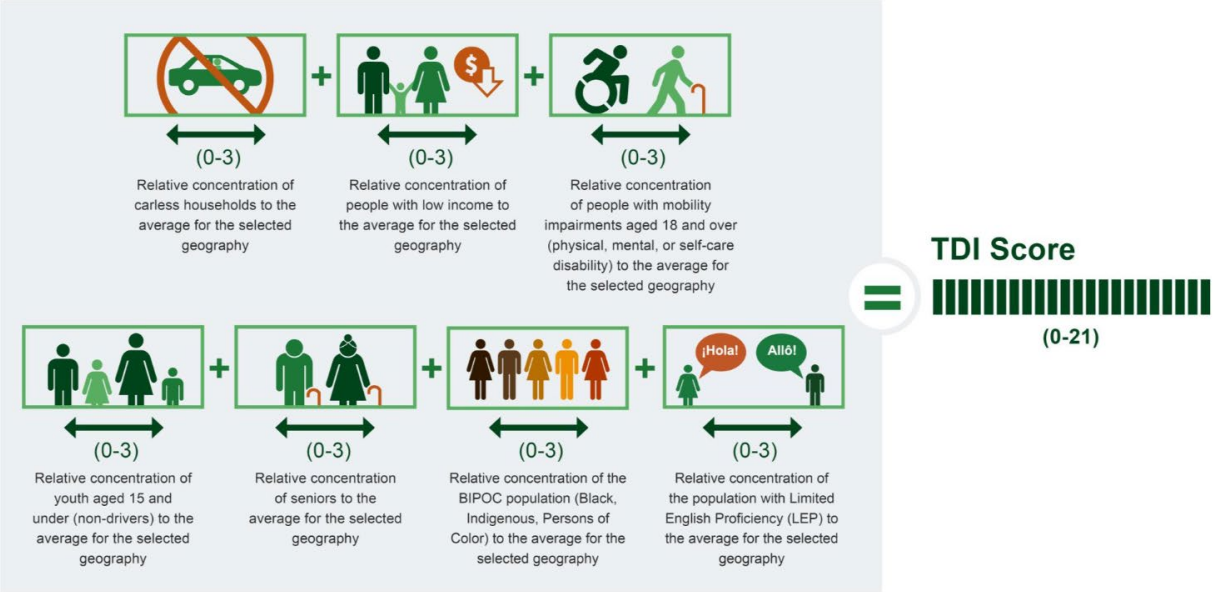


Figure 12. TDI Scoring

Figure 13 illustrates the TDI scores across WNC, compared to the state as a whole. The highest TDI scores are located in areas such as West Marion, southern Forest City, Oak Park (south of Waynesville), south of Center Pigeon, west of Deaverview, and east of the French Broad River in downtown Asheville.

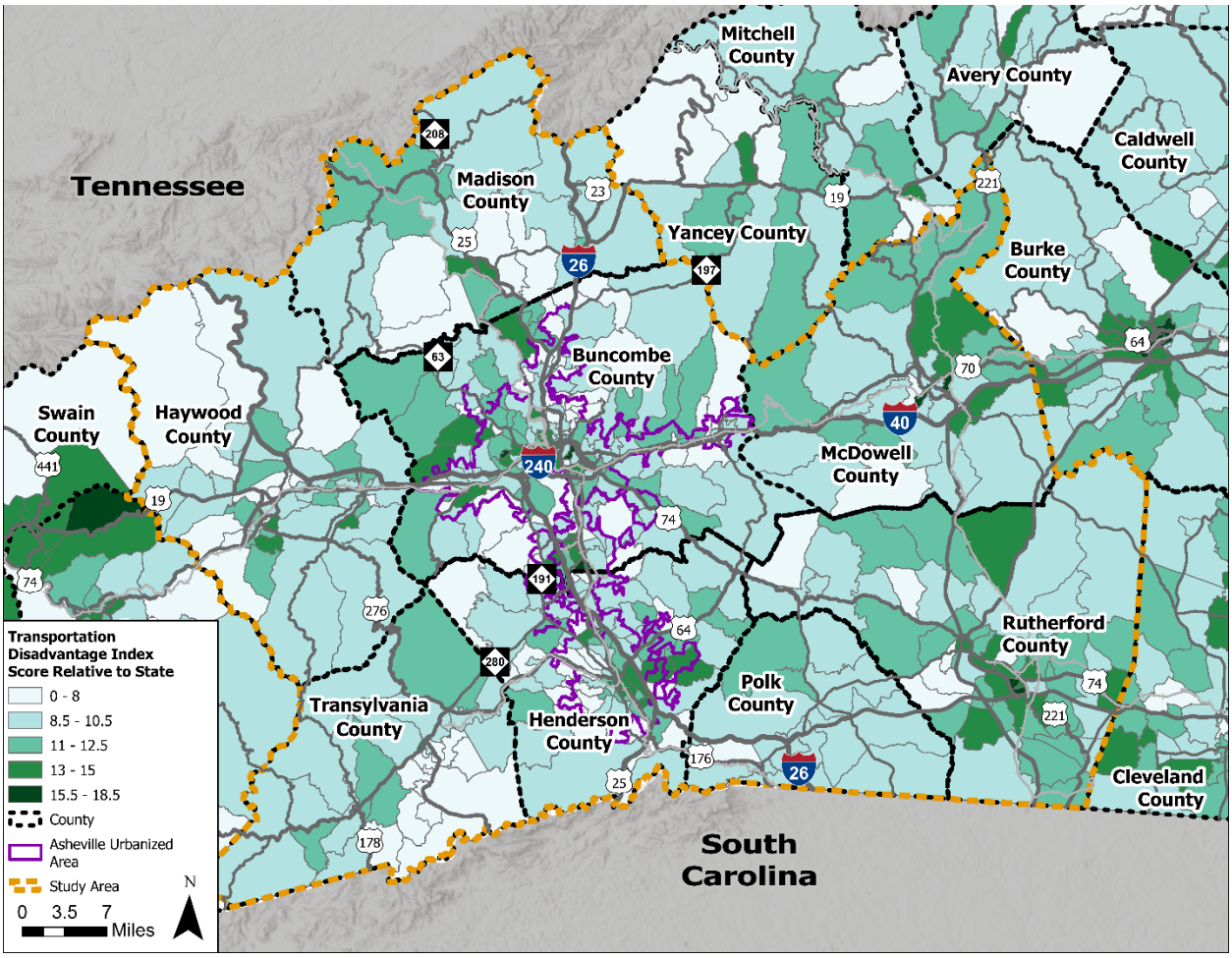


Figure 13. Transportation Disadvantaged Index

Environmental Justice

Environmental Justice (EJ) focuses on identifying and addressing potential disproportionate and harmful effects on human health or the environment caused by transportation policies, programs, and projects, particularly on minority and low-income communities. The NCDOT EJ Tool examines concentrations of race, ethnic minority status, and poverty levels. It ranks each area in comparison to its respective county, division, MPO, and the state.

Figure 14 displays the Environmental Justice Index scores for the WNC Coordinated Region, compared to the state of North Carolina. Areas with the highest EJ scores include southwest Forest City, Biltmore Forest, and west of Deaverview.

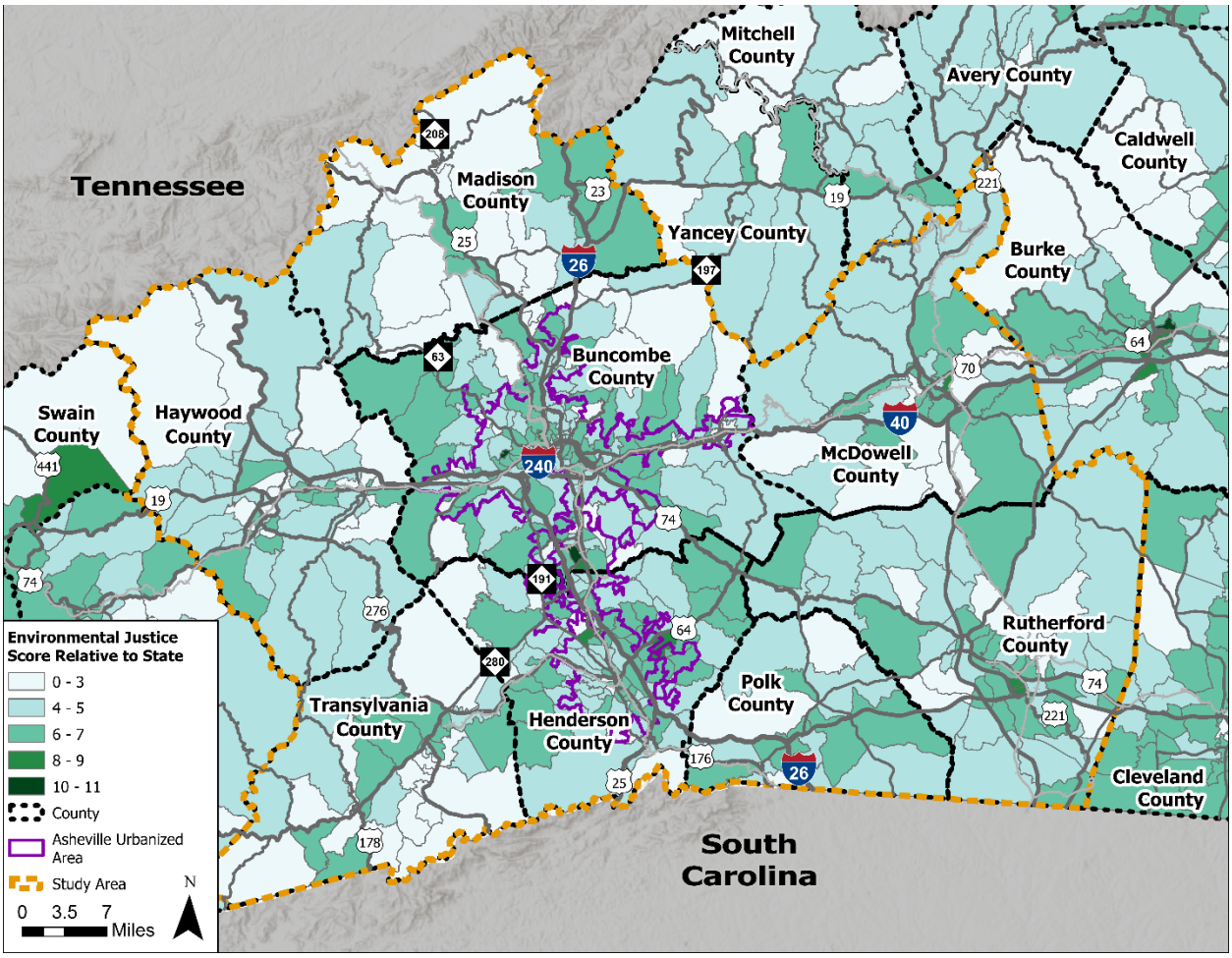


Figure 14. Environmental Justice Communities

2.3 Travel and Commuting Trends

Analyzing commuting patterns is essential for assessing current public transportation services and understanding the potential demand for new local or regional connections. According to Census Transportation Planning Product (CTPP) estimates, 75% of the 250,108 workers in the WNC Coordinated Region reside within the region itself.

The primary commuter flows are concentrated between Buncombe, Henderson, and Haywood Counties, which also have the highest numbers of both residential workers and employment locations in the region. Additionally, a significant share of residents commute out of the region to Mecklenburg and Wake Counties. **Table 8** and **Table 9** use 2022 trip data from the Census LEHD OnTheMap tool to show the top 10 locations where workers living in the study area commute from, and where residents living in the study area commute to, respectively.

Table 8 Commuting to Work Destinations for Residents Living in the Study Area

Municipality	Count	Share
Asheville city, NC	70,271	26.4%
Charlotte city, NC	11,772	4.4%
Hendersonville city, NC	11,222	4.2%
Waynesville town, NC	4,940	1.9%
Brevard city, NC	4,739	1.8%
Raleigh city, NC	4,613	1.7%
Fletcher town, NC	4,267	1.6%
Marion city, NC	4,079	1.5%
Black Mountain town, NC	3,771	1.4%
Mills River town, NC	3,660	1.4%
All Other Locations	142,432	53.6%
Total	**265,766**	**100.0%**

Table 9 Commuting Home Destinations for Workers Employed in the Study Area

Municipality	Count	Share
Asheville city, NC	31,441	12.6%
Hendersonville city, NC	4,654	1.9%
Charlotte city, NC	3,732	1.5%
Fletcher town, NC	2,989	1.2%
Waynesville town, NC	2,758	1.1%
Woodfin town, NC	2,691	1.1%
Mills River town, NC	2,452	1.0%
Black Mountain town, NC	2,347	0.9%
Etowah CDP, NC	2,250	0.9%
Brevard city, NC	2,055	0.8%
All Other Locations	192,739	77.1%
Total	**250,108**	**100.0%**

An important aspect of this plan is examining the commuting patterns of low-income residents (those holding jobs with earnings of $1250 per month or less), who are more likely to depend on public transportation. **Table 10** and **Table 11** highlight the primary commuter origin and destinations from and to the study area. For this subsection of the population, Asheville and Hendersonville are also the primary origin and destination points.

Table 10 Commuting to Work Destinations for Low-Income Residents Living in the Study Area

Municipality	Count	Share
Asheville city, NC	13,138	25.5%
Hendersonville city, NC	2,634	5.1%
Charlotte city, NC	1,922	3.7%
Marion city, NC	1,146	2.2%
Brevard city, NC	1,115	2.2%
Waynesville town, NC	1,093	2.1%
Black Mountain town, NC	980	1.9%
Forest City town, NC	854	1.7%

Municipality	Count	Share
Fletcher town, NC	592	1.1%
Woodfin town, NC	570	1.1%
All Other Locations	27,538	53.4%
Total	**51,582**	**100.0%**

Table 11 Commuting Home Destinations for Low-Income Workers Employed in the Study Area

Municipality	Count	Share
Asheville city, NC	6,199	12.5%
Hendersonville city, NC	934	1.9%
Charlotte city, NC	761	1.5%
Waynesville town, NC	585	1.2%
Woodfin town, NC	552	1.1%
Fletcher town, NC	489	1.0%
Black Mountain town, NC	460	0.9%
Brevard city, NC	455	0.9%
Mills River town, NC	429	0.9%
Forest City town, NC	409	0.8%
All Other Locations	11,273	77.3%
Total	**38,284**	**100.0%**

2.4 Land Use Characteristics

The WNC Coordinated Region features a diverse array of land uses and development patterns. While the Asheville metropolitan area is the primary population center, much of the region remains rural in nature. The area is characterized by its mountainous terrain, with large portions of land outside urban centers dedicated to wilderness preservation, including National Parks and Forests. Low-density residential areas are spread throughout the region, but significant development is mostly concentrated along the major roadways that follow the valleys. The region's mountainous topography plays a central role in shaping both its current and future transportation and development plans.

Each county in the WNC Coordinated Region has its own land use data, and classifications and definitions can differ across these datasets. Moreover, not all areas have detailed future land use plans. Maps illustrating Existing Land Use for counties within the French Broad River MPO and Rutherford County are available in Appendix A: Land Use Maps, along with Future Land Use information for the French Broad River MPO.

2.5 Multimodal Conditions

A variety of transportation, comprehensive, and multimodal plans were reviewed to evaluate how their recommendations align with the development and enhancement of transit in the region. While these plans primarily focus on active transportation, traffic safety, and other non-transit transportation policies, many also include analyses and suggestions that complement transit development. These recommendations often involve improvements like better infrastructure, first-mile/last-mile solutions, walkability enhancements, or transportation safety measures.

This review examines the plans to identify three key elements most pertinent to the regional transit landscape:

- The identification of specific corridors or areas
- Recommendations for projects that enhance multimodal access to transit
- Proposals for initiatives or policies that support multimodal access to transit

Each plan was then ranked regarding its applicability to each of these elements. These are represented in **Table 12** using the following symbols:

	High	Medium	Low
Level of Applicability to Plan Element	●	◐	○

Applicable elements from the various plans will be considered during the alternatives analysis process to ensure compatibility with existing planning priorities and to maximize efficiencies.

Table 12. Multimodal Conditions Plan Review

Plans	Identifies Specific Corridors or Areas	Recommends Projects to Improve Multimodal Access to Transit	Proposes Initiatives or Policies That Support Multimodal Access to Transit
Asheville Mobility Plan	◐	●	●
Living Asheville Comprehensive Plan	◐	●	●
Buncombe County 2024 Comprehensive Plan	◐	○	●
Foothills RPO Comprehensive Transportation Plan	◐	○	○
NCDOT Complete Streets Policy	◐	●	●
French Broad River 2045 Metropolitan Transportation Plan	○	○	●
French Broad River Public Transit Human Services Transportation Plan	◐	●	○
French Broad River Regional Transit Study	◐	◐	○
French Broad River Transportation Improvement Plan (TIP)	●	●	○
Henderson County 2045 Comprehensive Plan	◐	●	◐
Henderson Ecusta Rail Transit Planning Study	●	●	◐
Hot Springs 2032 Comprehensive Plan	○	○	◐

Plans	Identifies Specific Corridors or Areas	Recommends Projects to Improve Multimodal Access to Transit	Proposes Initiatives or Policies That Support Multimodal Access to Transit
Lake Lure & Chimney Rock Comprehensive Transportation Plan	◐	◐	◐
Madison County Comprehensive Transportation Plan	◐	◐	◐
Maggie Valley Comprehensive Plan	◐	○	◐
Maggie Valley Pedestrian Safety Action Plan	●	○	○
Maggie Valley Land Use Plan Update	◐	◐	◐
City of Marion Comprehensive Transportation Plan	●	●	◐
McDowell County Comprehensive Transportation Plan	◐	○	○
NCDOT 2040 Transportation Plan	○	◐	◐
NCDOT 5310 Locally Coordinated Plan	○	●	◐
North Carolina Moves 2050 Plan	◐	●	●
Polk County Transportation Services Plan	○	◐	○
Rutherford County Community Transportation Services Plan	○	◐	○
Rutherford County Comprehensive Transportation Plan	◐	◐	○
Transylvania County 2025 Comprehensive Plan	◐	○	◐
Town of Waynesville 2035 Comprehensive Land Use Plan	◐	●	◐
Town of Waynesville ADA Assessment and Transition Plan	◐	◐	○
Town of Waynesville North Main Street Complete Streets Plan	◐	○	○

Section 3. Existing Services and Performance Evaluation

3.1 Transit Services Profile

As mentioned in Section 1, the transit agencies that provide public transportation to residents within the WNC Coordinated Region are:

- McDowell Transit
- Polk County Transportation
- Rutherford County Transit
- Transylvania County Transportation
- Mountain Mobility
- Haywood Public Transit/Mountain Projects
- Madison County Transportation Authority (MCTA)
- Apple Country Public Transit/WNCSource
- Asheville Rides Transit (ART)

McDowell Transit

McDowell Transit provides curb-to-curb demand response transportation to all destinations in McDowell County. Additionally, out-of-county service to Asheville, Morgantown, and Hickory is available for medical trips on designated days of the week. McDowell Transit is a fare-free service that operates on weekdays only. Rides must be reserved by 10:00 AM the day prior and are scheduled on a first-come, first-served basis.

Polk County Transportation

Polk County Transportation provides transportation services for residents within Polk County, and select destinations out-of-county, including Hendersonville and Asheville. Trips are also offered to surrounding cities in South Carolina, as well as to nearby airports. Fares for in-county service are $2 one-way. Service is offered Monday through Friday and must be reserved the day prior. Prices for out-of-county trips are dependent on distance.

Rutherford County Transit

Rutherford County Transit provides fixed-route public transit services throughout Rutherford County. The Tri-City Express offers weekday bus service across two routes to destinations in Rutherfordton, Spindale, and Forest City. Buses run between 7:30 AM and 4:30 PM. With advanced reservation, buses may deviate up to a half-mile from the route to pick up or drop off passengers. Regular service is fare-free, and there is a $1 charge for route deviation.

Rutherford County Transit also provides demand response service, including out-of-county medical trips. However, these services are not open to the general public. Demand response service is available for individuals over 60 and disabled individuals. Non-emergency medical transportation is also available to those receiving Medicaid benefits.

Transylvania County Transportation

Transylvania County Transportation provides both fixed route and demand response transportation. Bus service runs across two routes from 6:30 AM to 4:30 PM on weekdays. Demand response service is provided from 8:30 AM to 5:00 PM on weekdays. Fares for both services are $1, and riders have the option of purchasing either monthly passes or ticket books at a discounted rate.

Mountain Mobility

Mountain Mobility provides transit service for Buncombe County, along with Human Services Transportation for a number of social service programs. Mountain Mobility is also the provider of complementary ADA paratransit service within the Asheville Rides Transit (ART) service area. Analysis for this plan will focus on the transportation systems that are open to the public and funded through the Federal Transit Administration's (FTA's) Sections 5307 and 5311 programs. This includes their Community Service demand response service, ADA Paratransit, and the three deviated fixed route Trailblazer Routes. These buses operate on fixed routes in the Black Mountain, Enka-Candler, and North Buncombe areas, but will deviate off route for up to a quarter mile if requested in advance. The Black Mountain Route runs Monday through Saturday, while the other routes operate Monday through Friday. Fares are $0.50.

Haywood Public Transit/Mountain Projects

Haywood County Transit provides both county-wide demand response transportation and two fixed routes. The Black Bear route runs primarily along U.S. Route 23 and connects Junaluska, Clyde, and Canton, including destinations such as Haywood Community College, Downtown Canton, and Haywood Regional Hospital. The Mountaineer Route connects downtown Waynesville with Junaluska, Frog Level, and Hazelwood, with stops at major destinations such as Haywood Industrial Park and the County Courthouse. Demand response trips are available with a two-day advance reservation.

Fares for either fixed route are $1, and demand response fares are $3 for one-way, in-county trips. Out-of-county trips are available for medical purposes, and fares vary between $6 to $10.

Madison County Transportation Authority (MCTA)

MCTA provides demand response services within Madison County, along with special trips to Weaverville or Asheville. Service is available from 8:00 AM to 4:30 PM on weekdays, and riders must schedule trips in advance. Fares are $2.50 within Madison County, $3 to Weaverville, and $6 to Asheville. Seniors, veterans, and those with disabilities may qualify for fare-free transportation.

Apple Country Public Transit (ACPT)/WNCSource

ACPT is the public transit service provider for Hendersonville and other urbanized parts of Henderson County, operating fixed route service along three routes, along with complementary ADA paratransit. ACPT contracts out operation of these services to WNCSource, who also serves as the demand response service provider to the rural areas of Henderson County. WNCSource service is offered on weekdays between the hours of 6:30 AM and 6:30 PM. Service is fare-free and must be reserved in advance.

ACPT's three routes serve Hendersonville, Fletcher, Laurel Park, and Asheville Regional Airport, along with other locales. Cash fare is $0.75, though riders may purchase ticket booklets or monthly passes at a discount. Seniors, Medicare recipients, and children under 12 may ride for free. Transfers between ACPT routes are free.

Asheville Rides Transit (ART)

ART provides fixed route transit services in the City of Asheville, including the Asheville Regional Airport, and certain surrounding areas such as Black Mountain. ART operates only one transit mode (i.e., fixed route bus service) across 18 routes; complementary ADA paratransit service is provided through a contract with Mountain Mobility. Buses run seven days a week. ART operates on a "hub-and-spoke" model, with all routes originating at the ART Transit Station in Downtown Asheville. The busier routes operate on peak headways of 30 minutes, while other buses run hourly.

Fares are $1 per trip, payable in cash. Riders may also purchase 11 ride ticket books, monthly passes, or annual passes at a discounted rate. Seniors, students, and those with disabilities are eligible to ride at half price. Electronic ticketing is not offered, and riders must present exact change. City and county employees, employees of Biltmore Company and Grove Park Inn, and University of North Carolina Asheville (UNCA) students, faculty, and staff ride for free through ART's Passport Program, which is open to organizations with 50 or more employees.

Transit Service Performance and Trends

Transit usage in WNC reached its highest point in 2016, with approximately 2.61 million trips. However, between 2016 and 2019, total transit ridership decreased by 7.8% across all modes of transportation. Similar to national trends, transit usage sharply declined in 2020 due to the COVID-19 pandemic. This decline continued into 2021, as usage dropped to a low of 1.68 million trips. By 2022, ridership slightly increased, reaching 1.81 million trips. Demand response services experienced a particularly steep decline, with a 39.6% drop in usage between 2019 and 2021, while fixed-route bus services saw a 24.2% decrease in trips during the same period.

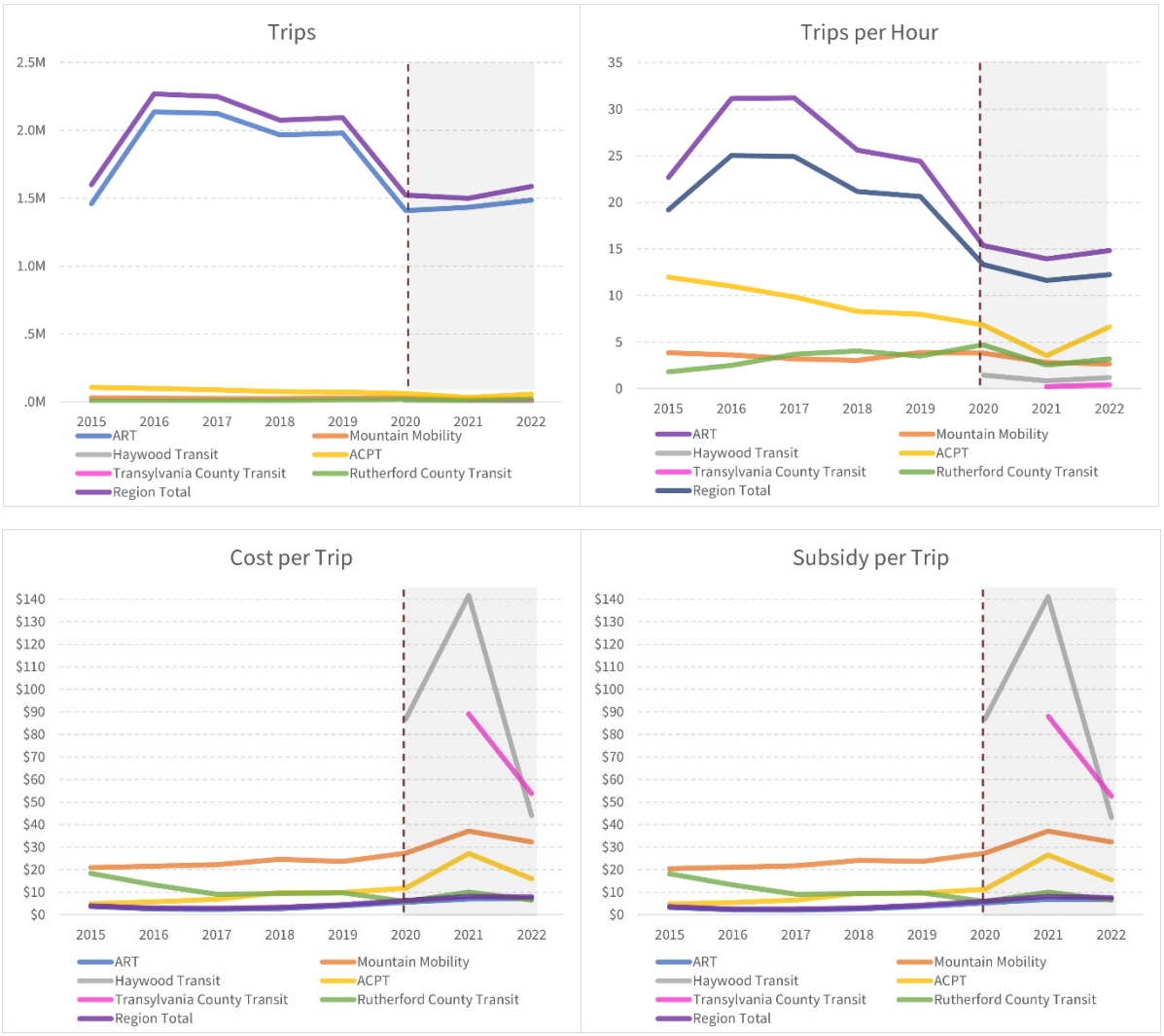
The analysis of the region's transit systems was based on data collected from the National Transit Database and NCDOT's OpStats, using four key performance metrics:

- **Unlinked Passenger Trips**: This metric tracks the total number of rides taken on a system's vehicles within a year, without accounting for transfers. For instance, a rider making one transfer during their trip would be counted as two separate trips.
- **Trips per Hour**: This measure calculates the number of unlinked passenger trips divided by vehicle revenue hours. It reflects the efficiency of the system by showing how many riders are served per hour of vehicle and driver time. In simple terms, this metric indicates how "full" the buses are.
- **Cost per Trip**: This metric assesses the operational costs of the system by dividing total expenses by the number of unlinked passenger trips. It serves as an important indicator of fiscal efficiency, illustrating how much service a system delivers with its limited operational funding.
- **Subsidy per Trip**: Derived from the cost per trip, this metric reveals the amount of local, state, and federal funding needed to supplement the fares collected by a transit system. Since most

transit systems operate under similar funding conditions, this metric tends to align closely with cost per trip.

The graphs below show performance trends for WNC's public transit services, grouped by mode.

Fixed Route Services



Note: As mentioned in the descriptions of the performance metrics, cost per trip and subsidy per trip tend to align closely due to most transit systems operating under similar funding conditions.

Figure 15. Performance Trends for Fixed Route Transit in the Region

As the region's largest fixed-route transit provider in terms of trip volume, ART significantly influences the regional totals and typically demonstrates the strongest performance across the analyzed metrics. Compared to smaller operators, ART benefits from economies of scale that result from the ability to provide more service to a larger number of riders. Although newer services, such as the fixed routes in Haywood and Transylvania Counties, initially showed weaker performance, these routes were launched during the period most severely impacted by the COVID-19 pandemic. By 2022, however, performance on these newer routes had started to improve, with higher trip volumes and reduced average costs, including lower figures for cost and subsidy per trip.

Demand Response Services

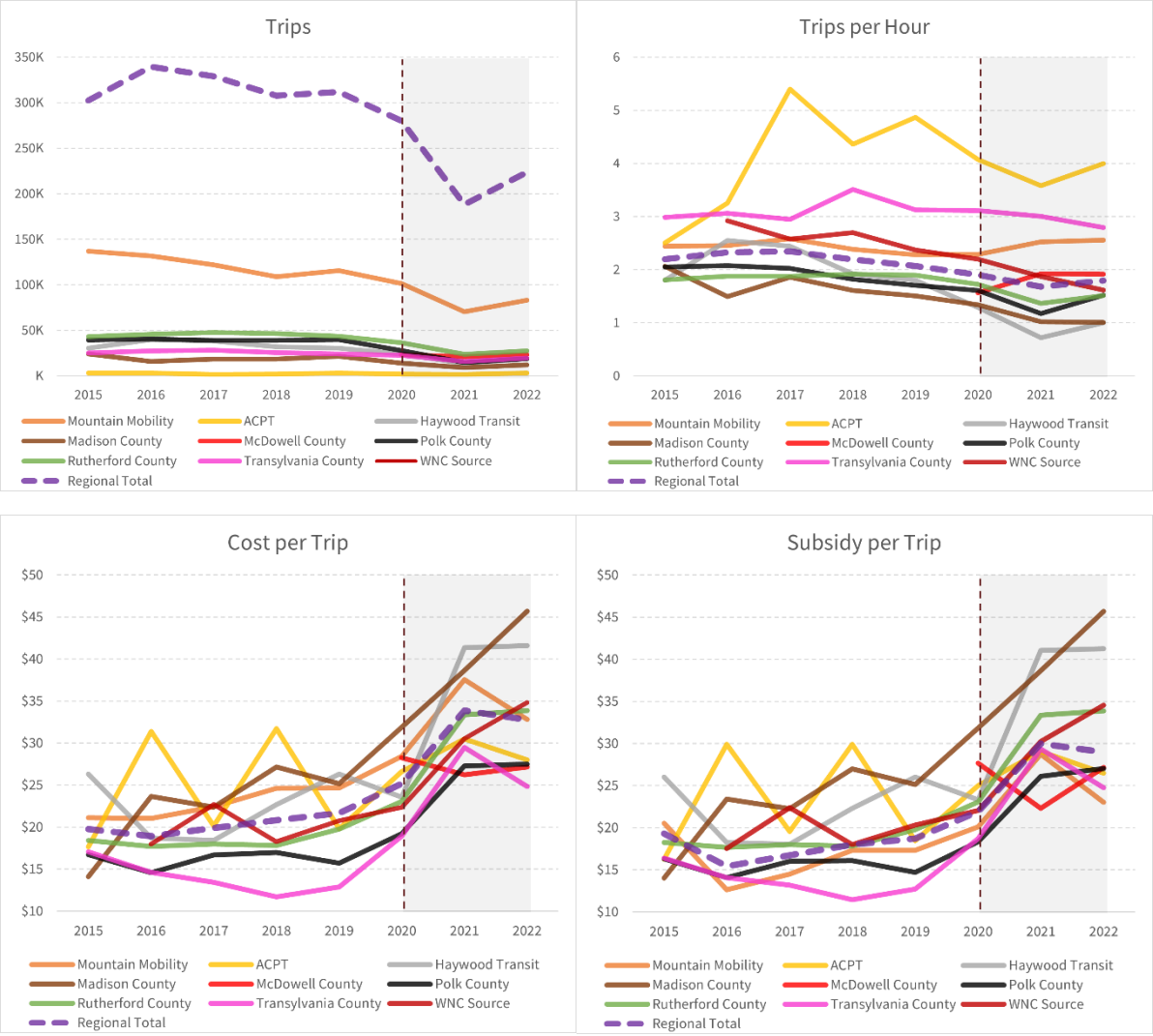


Figure 16. Performance Trends for Demand Response Transit in the Region

Total trips provided by the region's demand response systems have been on a decline since peaking at 339,487 trips in 2016. The number of trips hit a pandemic-era low point in 2021, but there was an 18.7% recovery in ridership between 2021 and 2022. Alongside the drop in trips, the pandemic also negatively impacted cost-efficiency measures, although trips per vehicle revenue hour remained relatively stable for most systems.

Among the region's demand response operators, Mountain Mobility stands out as the largest provider of trips. Serving rural Buncombe County and acting as the paratransit operator for ART, Mountain Mobility caters to the largest population base in the region. Smaller, more rural operators typically experience higher costs and subsidies per trip, as they face relatively higher overhead expenses and longer travel distances, sometimes crossing state lines, to transport residents to critical medical services in larger urban centers.

3.2 Peer Analysis

The transit systems in the WNC Coordinated Region were also compared to those of peer regions outside the area. One part of this analysis focuses on Asheville Rides Transit, comparing it to systems in cities of similar size. Another section examines the community transportation providers serving the region's rural areas, comparing their performance to peers within NCDOT's "CT5" peer group.

Peer comparisons offer valuable insights into system performance and can help guide the development of future improvements. High-performing peer systems may serve as examples of best practices, providing models that could be incorporated into recommendations for enhancing transit in the region.

Urban System

This section presents a comparative analysis of the region's transit systems alongside several peer groups. The urban portion of the analysis centers on Asheville Rides Transit (ART), as the region's primary urban fixed-route operator. ART's operational performance is compared to two sets of peer cities. The first set includes cities from NCDOT OpStats' "U2" urban peer group: Jacksonville, Greenville, and Concord-Kannapolis. In addition, three metropolitan peers were selected to provide an alternative view of ART's performance: the Chattanooga Area Regional Transportation Authority (CARTA), Wilmington, North Carolina's Wave Transit, and Valley Transit in Roanoke, Virginia. These peer systems operate in areas with similar demographics, operational conditions, and socioeconomic profiles. While these peers offer various modes of transit, this analysis focuses specifically on fixed-route bus services, the common mode shared by all systems in the comparison.

Table 13. Peer Analysis for Asheville Rides Transit

Performance Measure	Asheville Rides Transit	North Carolina Peer Group Average	Metro Peer Group Average	WNC Coordinated Region Comparison
Trips	1,978,720	354,318	1,728,632	👍
Trips per Hour	24.42	12.28	13.96	👍
Cost per Trip	$3.95	$6.16	$6.16	👍
Subsidy per Trip	$3.69	$5.50	$5.16	👍

Source: NCDOT OpStats, National Transit Database

ART surpasses both peer groups in all four of the analyzed metrics. Its cost per trip is just 64% of the average for its peers ($3.95 compared to $6.16 for both peer groups). ART also delivers nearly twice as many trips per hour as the peer systems, contributing to its superior cost efficiency. Although government subsidies account for a larger share of ART's operating costs (93% compared to 89% for North Carolina peers and 84% for metropolitan peers), ART's subsidy per trip remains significantly lower than that of both peer groups.

Community Transportation Systems

The rural transit systems of WNC have been compared to a peer group of systems selected from NCDOT's OpStats CT5 group. This group includes the Ashe County Transportation Authority, Cherokee County Transit, and Mitchell County Transportation Authority. These systems operate in the rural,

mountainous regions of the western part of the state and face similar operational challenges and conditions.

Table 14. Peer Analysis for Community Transportation Systems

Performance Measure	WNC System Average	North Carolina Peer Group Average	WNC Coordinated Region Comparison
Trips	33,235	53,057	👎
Trips per Hour	2.03	2.17	👎
Cost per Trip	$18.86	$15.27	👎
Subsidy per Trip	$18.56	$13.97	👎

Source: NCDOT OpStats, National Transit Database

The peer systems outperform the region's transit systems across all analyzed metrics. While the WNC systems provide a comparable number of trips per hour (2.03 vs 2.17), their cost per trip is 24% higher than the peer group average. Additionally, the systems in the study area require more government subsidy per trip. However, several of these systems operate fare-free or offer intentionally low fares as a community service, which contributes to the higher observed subsidy levels.

Section 4. Public and Stakeholder Involvement

4.1 Public Involvement Plan

Public participation served as a guiding force in the development of the WNC CRTP. A Public Involvement Plan (PIP) was developed to outline the approach for engaging with the community and stakeholders throughout the project. The PIP was designed to be adaptable, therefore the strategies detailed in it were able to be adjusted based on public interest, stakeholder engagement, and the analysis of data collected throughout the process.

Public Involvement Process

The public involvement for the WNC CRTP engaged a wide range of stakeholders, including transit agencies, passengers, major employers, social service providers, public transportation workers, planning organizations, and the general public. The transit providers within the region were included throughout these efforts.

Goals of the Public Involvement Plan

The goals of the PIP were as follows:

- To define the goals and objectives for public engagement throughout the project.
- To identify stakeholders and the public engagement activities necessary for shaping the plan and recommendations. Special attention was given to gathering insights from diverse stakeholders, particularly underrepresented populations, and potential riders when relevant.
- To actively encourage community involvement and perspectives, ensuring that the recommendations align with their needs and address both current and future regional transit requirements.
- To create a timeline for activities related to public and stakeholder engagement.

4.2 Public Involvement Activities and Outcomes

The following section outlines the engagement tools and activities recommended for the planning process. To begin, it is essential to identify the key groups that played a critical role in the success of the PIP:

- **Stakeholder Committee**: A collaborative group that can help guide the vision and overall direction of the planning process. This committee includes a diverse mix of critical stakeholders, such as:
  - Foothills RPO
  - FBRMPO
  - LOSRPO
  - Transit Agency Directors
- **Focus Groups**: These sessions can bring together stakeholders from different sectors within the study area. Examples of possible groups include:
  - Business
    - Workforce Development / Economic Development
    - Community colleges and universities
  - Social Services
    - Department of Health and Human Services (DHHS)
    - Area Aging Agencies
  - Community Transportation Advisory Board (CTAB) Board Members
- **General Public Surveys**: A public survey was available for a specified period to gather input from residents within the study area. The survey aimed to capture public needs, opportunities, and levels of support. It was available in English and Spanish.
- **On-Board Surveys**: Riders had the opportunity to participate in surveys while on-board their respective transit services.

Stakeholder Involvement

An initial Stakeholder Visioning Session was held in August 2023 to discuss and agree upon the main purposes of the WNC CRTP, and to discuss the project scope and schedule. Throughout the project, regular meetings were held with project stakeholders to ensure the project remained on track and that key priorities continued to be addressed.

From February to April 2023, one-on-one interviews, group workshops, and a survey were conducted to better understand the current practices, identify challenges and opportunities, and gather feedback from the transit agencies to inform project recommendations.

Focus Groups

Focus groups played a crucial role in this project. We recommend that the majority of engagement come from individuals who work closely with the community, rather than the general public, as these groups have direct experience with the barriers individuals face in accessing opportunities for a productive life. Focus groups were selected from the RPO and MPO community stakeholder lists, with additional recommendations provided by the stakeholders. These sessions were conducted virtually via Teams.

Virtual focus groups held in September 2023 brought together representatives from across the region to gather input from key sectors, including the business community, social services, and others.

Surveys

The team created both a public survey and a rider survey, which were made available to residents and riders in the study area. The surveys aimed to capture the needs and opportunities within the region, focusing on key areas such as where transit connections are most important, when service is most needed, and the potential model for regional transit service that would be best suited for WNC. The surveys closed in December 2023.

Section 5. Regional Appraisal

5.1 Introduction

The regional evaluation examines factors that may influence the delivery of transit services within the region. A Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis was conducted using data gathered from public outreach, focus group meetings, and assessments of operations and resources. The analysis considers various elements such as existing services, organizational structure, policies, facilities, fleet, and technology, with a focus on integrating new mobility options to enhance and expand the WNC Coordinated Regional Transit System.

The SWOT model (**Figure 17**) is valuable for its flexibility and its capacity to highlight systemic opportunities and challenges that warrant further examination. The assessment provides a detailed review of all components of the WNC Coordinated Regional Transit System, including service management, customer usage and perceptions, and the fixed assets that support both operations and access. Additionally, the SWOT analysis evaluates the regional transit market and how well the services align with local needs and conditions. The assessment will help identify ways to improve the current services and explore alternative modes that may be better suited for specific situations, such as on-demand transit options in areas with lower demand.

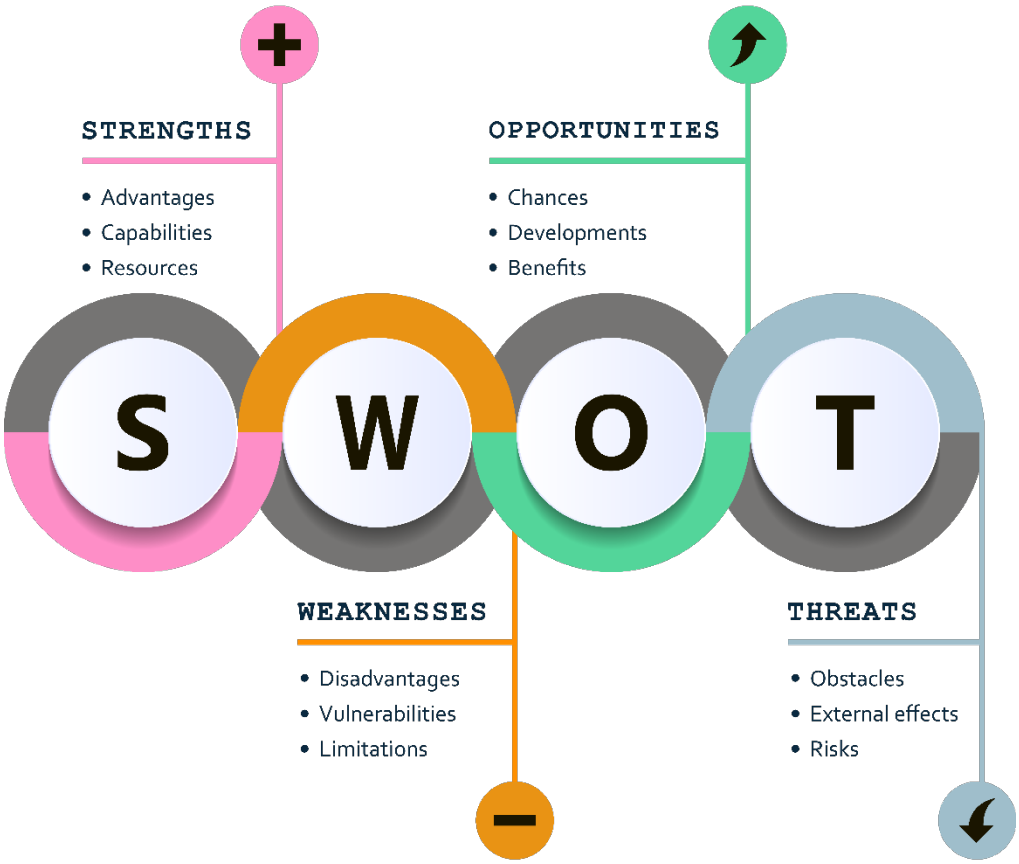


Figure 17. SWOT Model

5.2 Agency Engagement and Input Process

The consultant team engaged with the transit agencies on two separate occasions: initially through individual interviews, followed by a series of workshops. The interviews provided each agency with an opportunity to identify challenges and opportunities within the grants administration process. Afterward, the consultant team held two workshops—one for urban agencies and another for rural agencies. During these workshops, the findings from the earlier interviews were presented, and discussions took place among the agencies regarding potential options for regional governance. The feedback gathered from both the interviews and workshops was instrumental in conducting the SWOT analysis.

5.3 Strengths, Weaknesses, Opportunities, and Threats

Strengths

The strengths identified in the SWOT analysis are organized into key focus areas: services, resources, regional connectivity, community and stakeholder perception, and funding. Several factors affecting service provision were also discussed, including service area, demographics, ridership, and operations. Strengths are the valuable assets within the current conditions of the WNC Coordinated Regional Transit System that should be preserved or enhanced.

General Strengths:

- Transit service provided throughout the WNC Coordinated Region.
- The region's coordinated response to the unprecedented natural disaster of 2024, Hurricane Helene, shows the incredible strength and ability of this region.

Services:

- Several agencies offer fare-free services across the region, such as WNCSource in rural Henderson County, McDowell Transit, and Rutherford County Transit. Apple Country Public Transit and Madison County Transportation Authority offer fare-free services to specific groups, including seniors, Medicare recipients, and children under 12.
- Routes in the region serve key destinations, including Asheville Regional Airport, schools, hospitals, medical offices, government buildings, drug stores, apartment and mobile home complexes, parks, and recreational centers, and more.
- The region provides both fixed-route and demand-response services, depending on the agency.

Resources:

- Representatives from counties that offer services in urbanized areas, such as Apple Country Public Transit and Asheville Rides Transit, expressed that they are fully staffed and therefore capable of handling duties and servicing their communities.
- The number and quality of training programs have improved, including FTA training kits, circulars, presentations, and management courses.
- The state's implementation of DocuSign for agreements has streamlined processes.
- The leadership at NCDOT is supportive throughout the review process. NCDOT offers valuable training and support, particularly for new staff at agencies.

Regional Connectivity:

- Various transportation, comprehensive, and multimodal plans from the region highlight a commitment to enhancing and supporting multimodal access to transit options.
- The most common travel patterns involve people moving to and from Buncombe, Henderson, and Haywood counties.
- Several agencies offer cross-county services, reaching Asheville, Hendersonville, cities in South Carolina and other important destinations like employment centers and medical facilities.

Community and Stakeholder Perception:

- Most riders rate their bus service as "good" or "very good," citing convenience as a key factor.
- Nearly 75% of survey respondents expressed strong support for increasing public transportation funding.
- Both community members and stakeholders recognize the value of local transit services and their importance to the region.

Funding:

- The City of Asheville is working on spending plans to ensure all regional funds are utilized effectively.

- The grant-writing process has been streamlined with revised and digitized checklists, making it easier for agencies to apply for funding. The state also offers training and support to improve the process.
- All transit agencies benefit from funding provided by the FTA and NCDOT, maximizing resources to deliver essential services to their communities.

Weaknesses

The weaknesses identified in the SWOT analysis reflect the short-term challenges or drawbacks within the region's current conditions, which need to be addressed to prevent long-term issues that could impact the sustainability of the transit system.

General Weaknesses:

- Bicycle and pedestrian infrastructure are insufficient across the region, with both rural and urban areas having gaps in their networks.
- Nearly half of major trip generators—such as schools, government offices, drug stores, apartment and mobile home complexes, and parks and recreation centers—are located more than half a mile from existing transit service stops.
- Ridership has decreased across both fixed-route and demand-response services since 2016.

Services:

- Vehicle and driver shortages are significant challenges the agencies are facing, particularly in the more rural and less population dense areas of the region.
- Limited hours of operation restrict service availability, with many routes not running on weekends and ceasing operations by 4:30 pm on weekdays. This limits access to jobs, education, healthcare, and other essential services.
- Transit agencies with fares require exact change, which may prevent people who do not have the correct amount from using the service. Additionally, there are no options for electronic payments when boarding.
- WNC's rural transit systems have a higher cost per trip compared to the NCDOT "CT5" peer group.
- Due to the fare-free or low-fare services offered in many areas, the region experiences higher levels of government subsidy per trip than peer systems.
- Several populations remain underserved, including low- and fixed-income individuals just above the Medicaid threshold who need access to basic services. This population is often elderly or resides in remote areas, such as parts of western Henderson County, southern Transylvania County, and northern Haywood County. Other underserved groups include zero-vehicle households, low-income households, people with low English proficiency, individuals with disabilities, and veterans.
- Some populations, such as seniors, struggle to access destinations outside of senior centers, like grocery stores or non-medical services. Veterans face similar challenges in securing transportation to medical facilities like the Rutherford VA Clinic and VA Hospital in Asheville.
- The region lacks high-frequency routes, with most routes operating at intervals of 30 minutes or more.

Resources:

- The transition to a brokerage system for Medicaid management has forced agencies to function more like a taxi service, as requests for trips now go to a wider array of medical and therapeutic facilities. This has reduced revenue and increased operational costs since the system is now on-demand instead of providing pre-scheduled, fully-loaded trips.
- Smaller agencies are facing staffing shortages, and key knowledge of certain tasks is often concentrated on a single individual. If that person is unavailable, it can create significant disruptions.
- Submitting training records can be cumbersome, and getting all employees—especially drivers—to complete training on physical computers is difficult.
- Staff turnover in the City of Asheville has created inconsistencies in grant administration and oversight, leading to challenges in maintaining smooth operations.

Regional Connectivity:

- Limitations like intercounty travel restrictions and reservation availability hinder demand-response systems from reaching trip generators located more than half a mile from existing service stops.

Community and Stakeholder Perception:

- Riders who rated their bus service as "poor" or "average" in the surveys primarily cited that the service does not go to the places they need to visit, limiting its usefulness.

Funding:

- The introduction of the Smartsheet system for grants has led to an earlier start to the grant cycle, creating a constant grant cycle that is difficult for agencies to keep up with. Agencies are struggling with the back-to-back timeline.
- Grant reporting is cumbersome, requiring a lot of back-and-forth due to some personnel lacking access to the necessary software.
- The grants application process is repetitive and time-consuming, often asking the same questions multiple times.
- Federal compliance requirements are seen as tedious and time-consuming. In the past, the NCDOT has sent a desk audit first to be filled out by the agency, followed by a person who asks the same questions that were on the desk audit.
- The reimbursement and claims process is currently complex and confusing, with frequently changing requirements that result in rejected submissions. Agencies feel as though they are constantly re-learning the process.
- A lack of clarity on specific activity line items causes funding to become tied up, preventing agencies from accessing money they may need for other purposes. Additionally, overbudgeting an expected cost will also cause money to get tied up. For instance, Henderson County has money earmarked for vans from fiscal year 2015 that cannot be accessed because the vans are no longer needed.
- The Section 5311 application process is cumbersome due to extensive documentation requirements, including public hearings and newspaper advertisements. Additionally, NCDOT

requests the application be submitted through two platforms, Smartsheet and "EBS," which can be inconsistent and confusing.

Opportunities

Opportunities identified in the SWOT analysis highlight positive long-term trends and potential strategies for the region's transit system to evolve and improve.

General Opportunities:

- As the Asheville Regional Airport continues to expand, ridership is expected to grow, increasing demand for transportation services.
- The overall population in the region is growing, with a notable increase in the number of residents aged 85 and older, which presents an opportunity to tailor services to meet the needs of an aging population.
- A significant portion of residents lacks access to personal vehicles, making affordable public transportation a continual necessity. In 2021, 5% of households were classified as zero-vehicle households.
- In 2021, 12.1% of the population in the WNC Coordinated Region lived below the poverty line. Low-income residents are more reliant on public transportation compared to those who can afford vehicle ownership. Nearly half of riders surveyed in 2022 reported household incomes under $20,000, indicating continued reliance on transit.
- In 2021, 15.6% of the population in the region had a disability. The highest percentage of residents with disabilities was amongst people over the age of 65. Individuals with disabilities often depend on public transportation for mobility if they cannot drive or walk long distances. This population will continue to require access to transit services, and their ability to do so should continue to be prioritized.

Services:

- Expanding service hours to include weekends and extend later into the evening could better serve individuals who rely on public transportation for essential trips.
- Some agencies operate a first-come, first-served reservation system for rides. Increasing ride availability could minimize this reservation system, allowing riders to use services without needing to plan ahead.
- Some of the demand response services available by agencies are available only to disabled individuals and individuals over 60 years of age. It could be beneficial to open these services to more people (e.g., the general public).
- With survey results indicating that many riders walk to bus stops, improving infrastructure like sidewalks, shelters, and signage would enhance safety and overall rider experience.
- Providing more transportation options for seniors to reach destinations such as grocery stores, pharmacies, and farmers' markets would alleviate challenges seniors face when accessing these services.

Resources:

- Having a regional trainer dedicated to administering NCDOT-required training could ensure consistency across agencies and be cost-effective if contracted out with shared expenses among local agencies.
- Raising awareness about the importance of public transportation at the local level could lead to greater prioritization of transit services by local decision-makers.

Regional Connectivity:

- Establishing a mentorship or guidance network for agencies would benefit staff, particularly new employees, by fostering a collaborative environment for shared knowledge and best practices.
- Developing an information-sharing "dashboard" would allow agencies to track each other's activities, share solutions to challenges, and exchange policy and procedural examples, improving transparency and cooperation.
- Hosting regular in-person collaboration opportunities, such as regional "get-togethers," would help agencies build relationships and discuss common challenges.
- Working closely with the City of Asheville on service-level changes, such as route modifications, would streamline the process.
- Many agencies expressed a desire for cross-regional and cross-county trips, especially since medical and work-related trips tend to be in counties other than a rider's own. This could include park-and-rides at useful locations. Existing services and forecast needs should be assessed to identify what improvements can be made and where. Reviews of commuting patterns showed that the most common inflows and outflows are both into and out of Buncombe, Henderson, and Haywood Counties. Workers also commute into the region from Mecklenburg, Polk, and Cleveland Counties. Additionally, Waynesville and Black Mountain see a high percentage of low-income trips.

Community and Stakeholder Perception:

- Riders have indicated a desire for increased service, including weekend operations, more frequent routes, extended hours, and additional routes to enhance accessibility and convenience.

Funding:

- To minimize the back and forth in the grant reporting process due to multiple software, a cloud-based approach could be created for the Integrated Mobility Division (IMD). This would increase transparency on all sides as everyone would go to the same place for information. This information would also always be available, so future retrieval would be easy.
- The Smartsheet system implemented by the state for the grants process could benefit from having additional instructional modules. These could be similar to the YouTube "how-to" videos that NCDOT has. Additionally, there could be a "Questions & Answers" type page that makes navigation easier.
- Simplifying the reimbursement process with clearer guidelines, a list of submission requirements, and more definitive definitions would reduce confusion and speed up claims processing.

- The auditing process is a system with barely any issues. There should be efforts to reduce the time involved with the process, such as agencies keeping a record of receipts and proof of payments instead of submitting them and being micromanaged. IMD could also have a how-to-guide on how to perform audit reviews, so the process does not become repetitive between desk audits and in-person audits.
- Centralizing the grants administration and procurement processes could free up agencies to focus on other essential tasks. For example, joint contracts for commonly procured items, such as bus shelters, could be made for multiple agencies rather than individually for each.
- Implementing systems to track and account for all grant funding would help ensure that funds are used efficiently, reducing the likelihood of unused funds being pulled in future years.
- Clearly defining roles and responsibilities in the federal funding process would minimize confusion and ensure that all parties understand their duties.
- Efforts should be going towards improving the line-item process. There needs to be more guidance on the line items, including specifics about what the line item includes. Direct recipients should also be working with subrecipients to reallocate funding and amend line items to make the money spendable.
- Offering more training on the grants process would increase knowledge among subrecipients, helping them maximize funding opportunities.
- Streamlining the Section 5311 application process, particularly by reducing the need to submit on two separate platforms (Smartsheet and Electronic Business Services), would make the process more efficient. Reevaluating certain requirements, such as the necessity of public hearings, could further improve this process.
- Standardizing procurement terms and conditions for subrecipients would help keep them up to date and aligned with current best practices.

Threats

Challenges for the SWOT analysis represent potential obstacles that could hinder efforts to achieve the set transit goals.

General:

- Although the population in the region is largely concentrated around the Asheville metropolitan area, much of the surrounding area remains rural and mountainous. The region's terrain, geography, and limited roadway network could impede efforts to serve these more isolated populations.
- Disparities in transit demand and support across the region may complicate the pursuit of consistent and effective transit improvements.
- Natural disasters such as hurricanes disrupt operations and risk assets that threaten the progress of a region's transit service.

Services:

- Expanding services for smaller agencies is particularly difficult due to staffing limitations. For instance, recruiting drivers is challenging as many positions are part-time and lack benefits, making it hard to attract new employees.
- Providing transit service to remote rural areas can become prohibitively expensive.

Resources:

- Local decision-makers often do not fully understand or support the potential benefits of public transit in their communities.

Regional Connectivity:

- Many agencies are concerned that collaborating on regional efforts could result in a loss of control or influence over their individual operations.

Community and Stakeholder Perception:

- There is a level of uncertainty among the public about whether they will be able to use public transit to reach destinations outside their own county.

Funding:

- Some agencies fear that a regional approach to grant administration could reduce the funding they currently receive.

Section 6. Transit Demand and Needs Assessment

6.1 Transit Demand Assessment

Transit demand estimates are designed to assess the extent of transit needs within the study area, serving as the basis for developing improvements and solutions. The Transit Market Assessment is divided into several key components, including an analysis of the following:

- Regional Transit Market
- Transportation Disadvantaged Index (TDI)
- Demand Response Transportation Planning and Visualization Tools
- Market Density Assessment
- Environmental Justice (EJ) Index

Transit Market Assessment

Regional Transit Market

The Regional Transit Market analysis explores origin-destination pairs to identify potential travel markets that are currently underserved. As shown in Table 8 from Section 2 of the study, origin-destination counts by municipality within the WNC Coordinated Region show that, within the region's boundaries, many commuters travel from their homes to jobs in Asheville, Hendersonville, or Fletcher.

Demand Response Transportation Planning and Visualization Tools

NCDOT's Demand Response Transportation Planning and Visualization web-mapping tool is an essential resource for Demand Response Transportation (DRT) providers, as it highlights areas with high demand and reveals movement patterns across regions. This platform enables DRT providers to optimize service routes, providing the flexibility to revise and update transportation services within their communities. Given the persistent reduction in funding faced by DRTs, this tool offers a way to adapt services to be both more efficient and cost-effective.

However, the Demand Response Transportation Planning and Visualization Tool relies on point-to-point data, which is currently unavailable. It is recommended that such data be collected and analyzed for future planning updates. If transit agencies in the region can eventually compile trip-origin and destination data, it would be possible to model movement patterns more accurately, thereby unlocking the full potential of the tool and improving both planning and operational decisions.

Market Density Analysis

A Market Density Analysis examines the relationship between the discretionary (or choice) rider market and the use of transit as a travel alternative. For this analysis, zero-vehicle household, and employment data from the US Census Bureau's 2017-2021 American Community Survey (ACS) were utilized. This data helps assess density levels in order to identify areas that may be supportive of transit.

As discussed in the NCDOT *Coordinated Regional Transit Plan Guidebook*, the Market Density Analysis applies industry-standard thresholds to pinpoint regions within the WNC Coordinated Region study area that exhibit transit-supportive residential and employment densities. These thresholds represent the necessary densities to sustain fixed-route transit operations, though they can be adjusted based on regional requirements and data. The findings are then used to assess the region's potential to support transportation service investments relative to employment or housing density. It is important to highlight that, since the initial levels of investment start at a minimal amount, the thresholds do not indicate areas with density levels that justify no investment at all. The three defined thresholds are outlined below and are further detailed in **Table 15**:

- **Minimum Investment** – represents the minimum dwelling unit or employment densities required to consider basic fixed-route transit services (e.g., local bus service).
- **High Investment** – indicates higher dwelling unit or employment densities that could support more frequent or expanded transit services (e.g., express bus routes).
- **Very High Investment** – refers to very high dwelling unit or employment densities that could support premium transit services (e.g., rapid transit or high-capacity transit) compared to areas meeting the minimum or high-density thresholds.

Table 15. Market Density Analysis Levels of Investment

	Minimum Investment	High Investment	Very High Investment
Workers per Square Mile	0-562	563-1,549	1,550-3,330
Zero-Vehicle Households per Square Mile	0-135	136-828	829-1,779

Workers Per Square Mile

Figure 18 illustrates the number of workers per square mile within the WNC Coordinated Region. The majority of the region falls under the "Minimum" investment category for employment density, with a significant portion of the "High" and "Very High" investment areas concentrated within Asheville's urbanized zone.

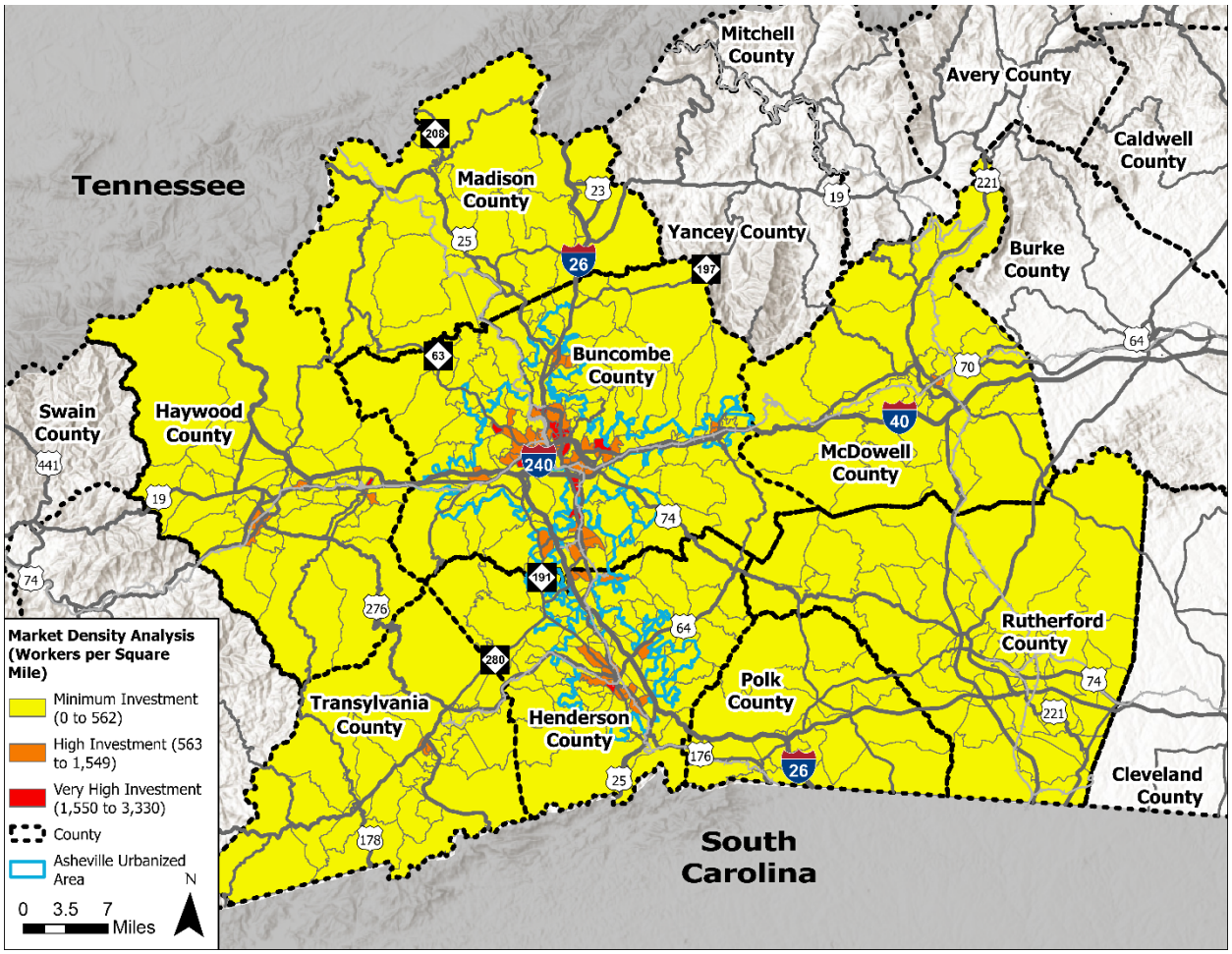


Figure 18. Market Density Analysis – Workers per Square Mile

The 'Very High' investment areas are largely limited to the urbanized area and are predominantly block groups containing major employers such as the Charles George VA Medical Center, UNC Asheville, and the Walmart Supercenter on Hendersonville Road. (see **Figure 19**).

This largely residential neighborhood will soon have access to the Reed Creek Greenway, which is currently undergoing a feasibility study for expansion. Two Asheville Rides Transit (ART) routes run parallel to the greenway corridor, and once completed, the greenway could seamlessly integrate with the city's transit system. Commuters who use active transportation methods, such as walking, biking, or scooters, would benefit from convenient access to both the greenway and the city's transit network. Additionally, several ART route N4 stops are located near this BG. Nearby points of interest include the Asheville Botanical Garden, Asheville Skatepark, Hummingbird Park, Whole Foods, Harris Teeter, Trader Joe's, Claxton Elementary School, and Isaac Dickson Elementary School.

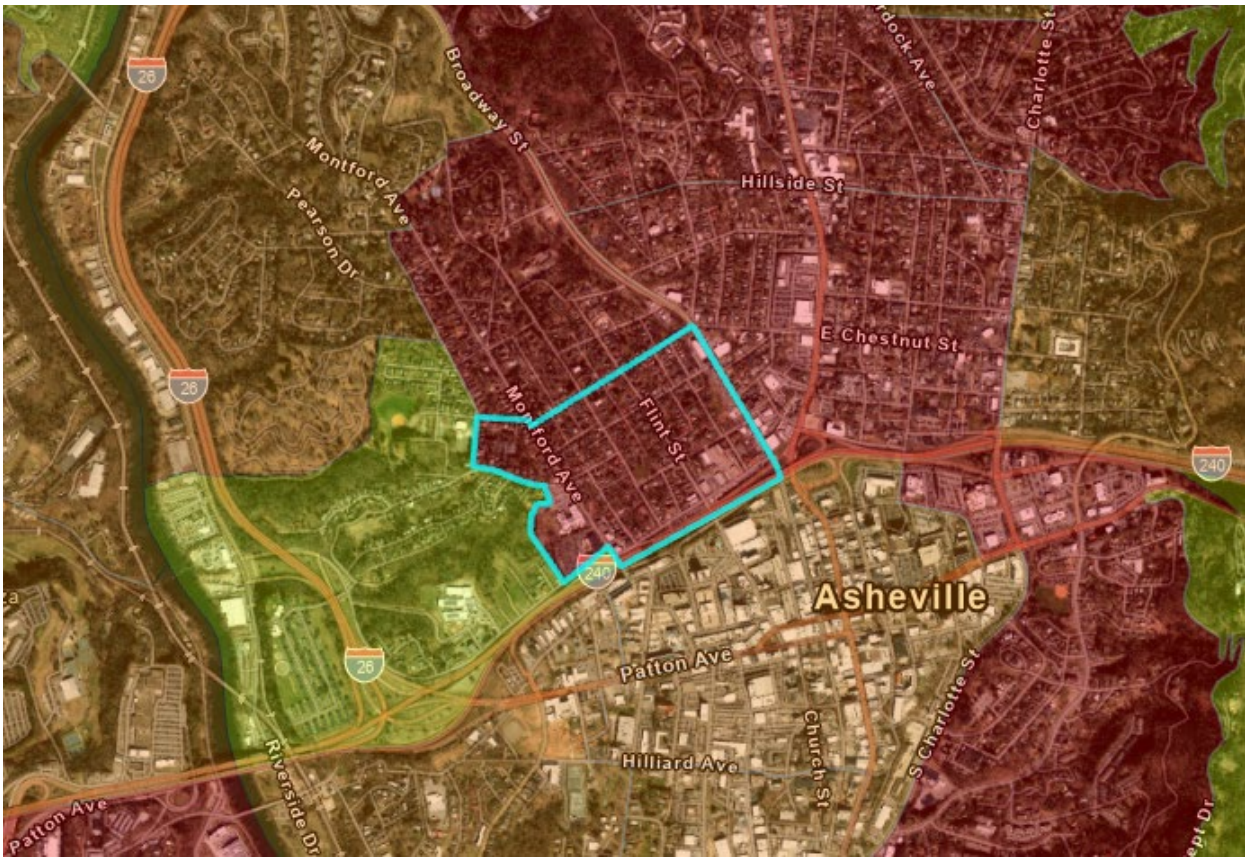


Figure 19. Very High Investment in Asheville - Workers

Zero-Vehicle Households Per Square Mile

The Technical Memorandum on Existing Conditions and Performance Evaluation indicates that 5.0% of households in the WNC Coordinated Region do not have access to a vehicle, while 31.5% have one available, 38.8% have two, and 24.6% have three or more. Given the region's largely rural and mountainous terrain, residents may face challenges in accessing employment, healthcare, government services, education, and completing daily errands without a vehicle.

Figure 20 shows the distribution of zero-vehicle households per square mile across the WNC Coordinated Region. The highest concentrations are found in the City of Asheville, particularly around Five Points, Downtown Asheville, and Biltmore Avenue. These areas are marked by BGs with “High” levels of investment.

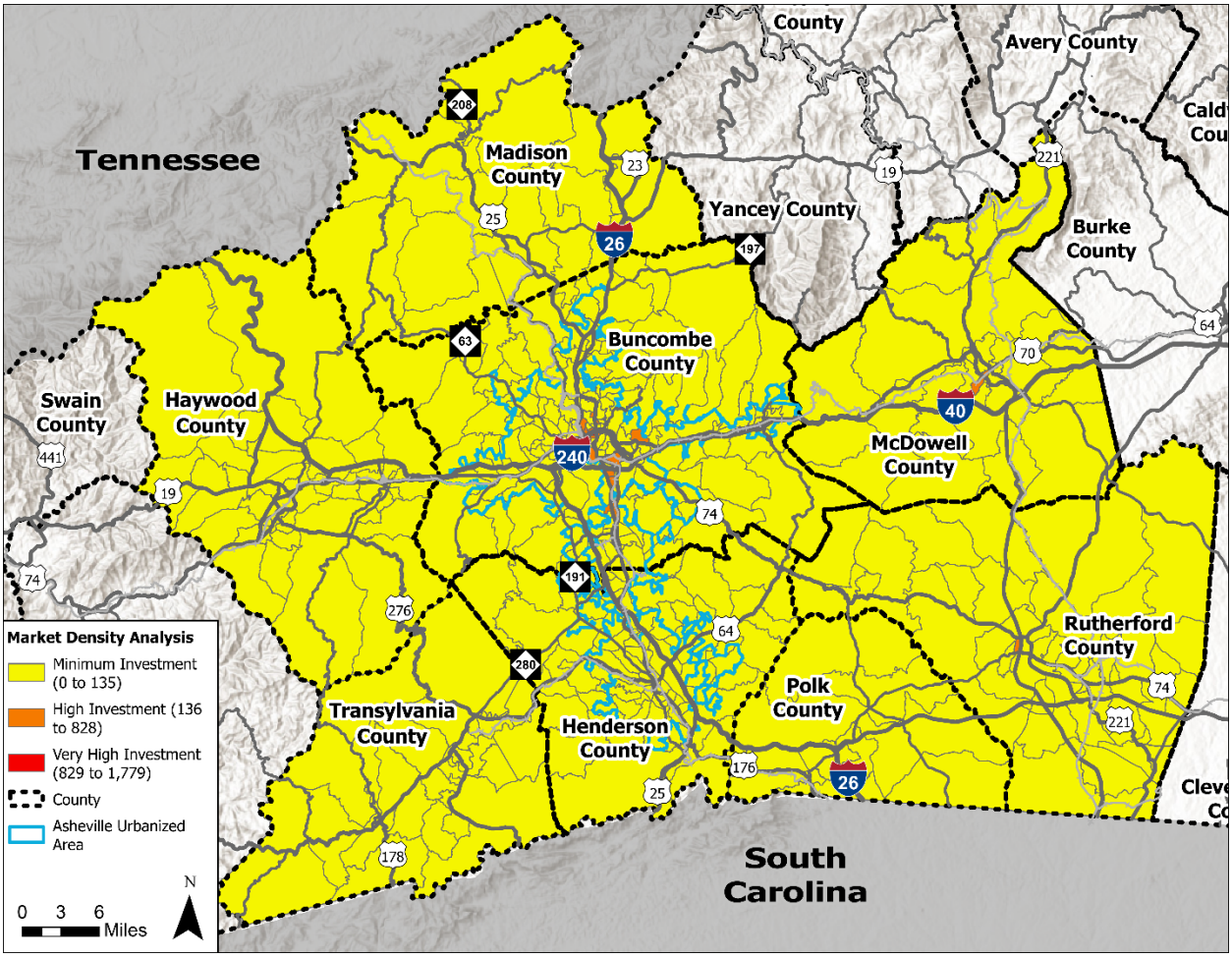


Figure 20. Market Density Analysis – Zero-Vehicle Households per Square Mile

Very High" investment is located in Block Group (BG) 370210001001, situated between I-240 and Patton Avenue in Asheville, just south of the "Very High" investment BG highlighted in the employment section above (see **Figure 21**). This area is overwhelmingly made up of businesses, hotels, and restaurants. Several bus stops are scattered throughout the BG, including on Haywood Street, Patton Avenue, and College Street. Given the area's high density, public transit, walking, and biking may offer practical alternatives to driving a personal vehicle.

Figure 21. Very High Investment in Asheville – Zero-Vehicle Households

Environmental Justice Index

NCDOT's EJ Tool can be utilized to pinpoint areas where Environmental Justice (EJ) populations are concentrated within a specific geographic region. This tool calculates a dynamic index score, ranging from 0 to 12, based on the relative concentration of various populations in the chosen area (see **Figure 22**). Higher scores indicate a greater concentration of protected populations compared to other regions in the state.

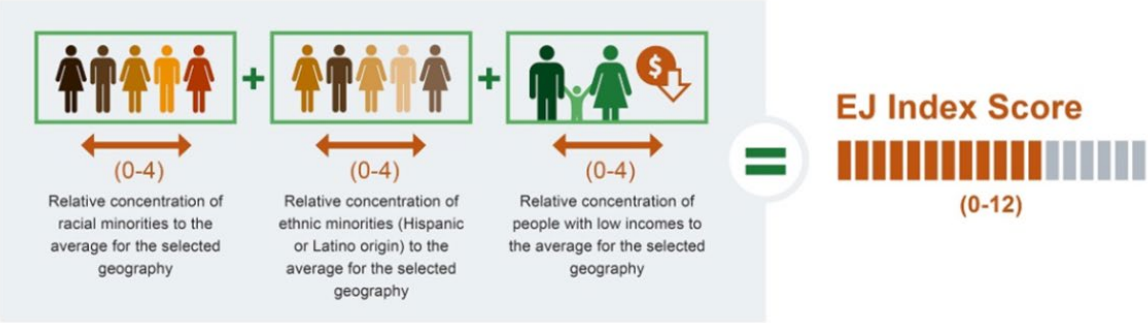


Figure 22. EJ Index Scoring

Figure 23 illustrates the EJ index scores for the Western North Carolina (WNC) Coordinated Region in comparison to the entire state of North Carolina. The areas with the highest environmental justice scores are located in southwest Forest City, Biltmore Forest, and west of Deaverview.

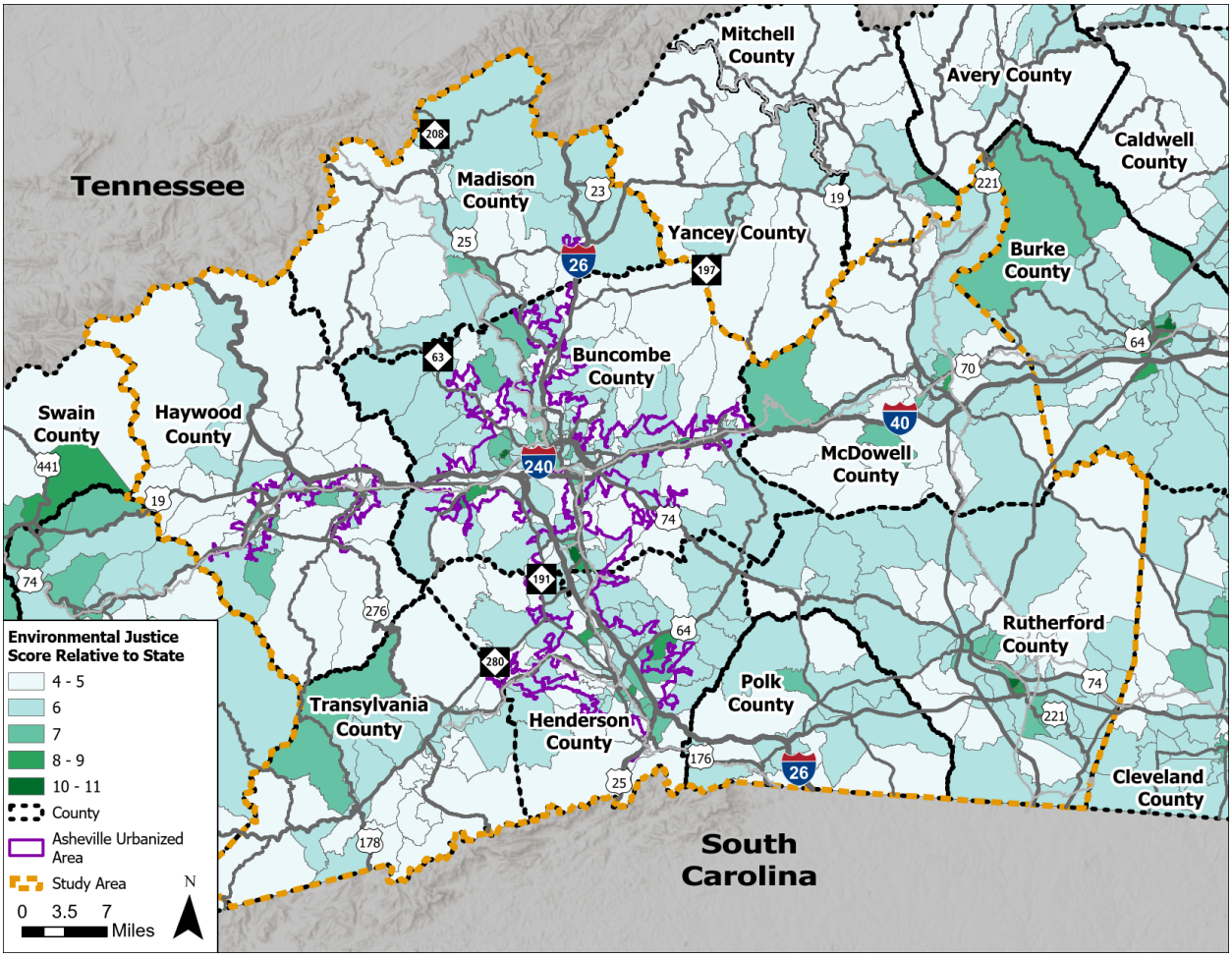


Figure 23. EJ Scoring Relative to the State

6.2 Transit Needs Identification

The identification and evaluation of transit options, or alternatives, to address unmet demand and mobility needs are supported by the outcomes of operational conditions assessments, public outreach efforts, regional appraisals, and demand assessments. These strategies may encompass programmatic and policy changes, or focus on infrastructure, financing, technology, or service improvements. In the process of identifying transit needs and potential upgrades or solutions, it is essential to ensure compliance with all relevant local, state, and federal regulations and programs.

Service Needs

Expanded Service Hours: Public surveys conducted throughout the region revealed that riders are interested in extended service hours, including both earlier start times and later evening hours, as well as service on weekends. With these expanded hours, riders would find it easier to access jobs, healthcare, and other essential services.

Additional Service Capacity: Additionally, riders could benefit from greater availability of rides, as some agencies offer ride reservations that are first-come, first-served, requiring riders to plan ahead, or services that are only available to disabled individuals and individuals over 60 years of age.

Access to Key Destinations: Riders reported challenges in reaching certain destinations. Nearly half of the region's major trip generators—including schools, government offices, pharmacies, apartment and mobile home complexes, and parks and recreation centers—are located more than half a mile from existing transit stops. Seniors, in particular, face difficulties reaching destinations other than senior centers, such as grocery stores or non-medical services, while veterans often struggle to secure medical transportation to locations like the Rutherford VA Clinic and the VA Hospital in Asheville. Many agencies have expressed interest in facilitating cross-regional and cross-county trips, especially as medical and work-related trips often take riders outside their home counties. This could involve the addition of park and ride locations in strategic areas.

Addressing Transit-Dependent Population Growth: Certain populations remain underserved, including low- and fixed-income individuals just above the poverty threshold who are either elderly or live in remote areas of the region. This is particularly concerning as the region continues to experience population growth, including an increase in residents aged 85 and older. As the Asheville Regional Airport expands, ridership demands are expected to rise as well.

Capital Needs

Bicycle and Pedestrian Infrastructure: Both agencies and riders have highlighted a significant gap in bicycle and pedestrian infrastructure across the region. Since many riders walk to fixed-route bus stops, the addition of sidewalks, shelters, and clear signage would improve safety and enhance the overall rider experience.

Expanded Payment Options: All transit agencies with fares in the region currently require exact change, which can be an obstacle for those who do not have the correct amount. Implementing electronic payment methods would provide a more convenient and inclusive solution for riders.

Operational Needs

Staffing and Vehicle Shortages: Smaller transit agencies have raised concerns about understaffing, with not enough personnel to manage the volume of work. Knowledge of certain duties is usually limited to one individual, creating challenges if that person is unavailable. Additionally, agencies are grappling with critical shortages of both vehicles and drivers, further complicating service delivery.

Staff Retention Issues: High staff turnover has been a persistent challenge for agencies in the region, particularly in the City of Asheville, which serves as the main direct recipient of grants for much of the area. This turnover has caused difficulties in properly managing grants for subrecipients and has necessitated continuous re-training of new designated direct recipient staff on local and county issues.

Technology/Innovation Needs

Smartsheet: Agencies have expressed a desire for improvements to the software and technologies they frequently utilize. One key issue is the Smartsheet system used by the state for the grants process. The current setup creates a tight, back-to-back timeline for grants, resulting in a continuous cycle that is difficult for agencies to keep up with. Furthermore, agencies have highlighted that grant reporting involves excessive back-and-forth, as not everyone has access to the required software. A cloud-based solution tailored to the Integrated Mobility Division (IMD) could improve transparency and streamline processes. Additionally, the Section 5311 application process is burdensome, as it requires submissions on two separate platforms—Smartsheet and Enterprise Business Services (EBS)—which can be confusing and inconsistent.

Information Sharing: During workshops, agencies collaborated on ideas for improving communication and knowledge sharing. One proposal was to create a platform for sharing information across agencies, given that many agencies perform similar tasks. An information-sharing dashboard could be developed to help agencies stay informed about each other's activities, foster connections for mentorship or guidance, and facilitate the exchange of solutions, policies, procedures, and best practices.

Training Needs: Agencies have identified several areas where additional training is needed. For example, regarding the Smartsheet system, agencies would benefit from instructional modules, such as "how-to" videos or a clear, user-friendly "Questions and Answers" page. Agencies also expressed interest in more training related to the grants process, which would enhance the knowledge of subrecipients about available funding opportunities.

Programmatic/Policy Needs

Regional Trainer Position: To improve coordination between NCDOT and both urban and rural agencies, the agencies proposed creating a regional trainer role, who would travel throughout the region to administer the required NCDOT training sessions. This role would help minimize the difficulties agencies face with submitting training records. Additionally, opportunities for in-person collaboration between agencies would help foster alignment, build relationships, and encourage shared learning.

Reaching Trip Generators: Agencies are facing challenges with demand response transit services reaching trip generators located more than half a mile from existing transit stops due to restrictions on intercounty travel, reservation availability, and other operational limitations. Additionally, Medicaid management in the region has switched to a brokerage system. Previously, agencies would receive the request for transit and then they would send it out to a cab company. However, trips are now assigned to anyone, which has forced the agencies to act like a taxicab instead of a transit system, reducing revenue and increasing operational costs. Previously, agencies could consolidate trips a few times a week, but now they are forced to manage individual on-demand rides.

Streamlining the Grants Process: Agencies have raised concerns about the complexity and inefficiency of various processes. The grant application process is time-consuming and repetitive, while federal compliance requirements for audits are burdensome. Additionally, the reimbursement and claims processes are complicated, with frequent changes to the requirements, and the lack of clear guidance on activity line items often results in funds being tied up. These processes need to be simplified, standardized, and more transparent, with clear definitions of roles for all parties involved. Furthermore, it would be helpful for the agencies to distinguish between direct recipients and subrecipients to further streamline the processes. Agencies also noted inconsistencies in grant administration and oversight, suggesting that closer collaboration with the City of Asheville could improve administrative functions, enhance guidance on developing activity line items, help balance competing priorities, and prevent the loss of funds due to unspent allocations.

Promoting Transit: Agencies are concerned about the lack of local decision-maker support for public transit. They worry that the community is not fully aware of the potential positive impact of public transit. To raise awareness and garner support, agencies suggest utilizing tools such as newsletters featuring personal stories and local transit data, hosting public forums and meetings, launching social media campaigns, and engaging with local media outlets. Additionally, a regional campaign could be

developed to highlight the broader benefits of public transit, beyond just human services, to increase its visibility and importance in the eyes of local decision-makers.

Centralized Grant Approach: A centralized approach to grants administration and procurement, along with an opt-in model, could greatly benefit agencies, particularly those in rural areas that are often understaffed and overworked. By centralizing certain tasks, these agencies would have more time to focus on other critical work. The Land-of-Sky Regional Council and Foothills RPO are potential entities that could support integrated grants administration. The Land-of-Sky Regional Council already assists some agencies with grant functions and has experience with the processes involved.

6.3 Alternative Solutions Development

After conducting the needs assessment, the project team identified alternative solutions to address the region's unmet needs. These solutions have been grouped into four categories: service improvements, capital and infrastructure enhancements, technology/innovation advancements, and policy/coordination strategies.

Service Improvements

Service improvements that enhance regional mobility, connectivity, and travel experience include (additional funding may be needed for some items):

- Conduct a 6-month trial of expanded service hours, including limited Saturday service, for Apple Country Public Transit, Haywood Public Transit, and Mountain Mobility
- Ensure all services are open to the general public
- Improve and add infrastructure and amenities around stops for all services
- Designate additional park-and-ride facilities in the region, such as at Turkey Pen Gap, with convenient access to transit services
- Establish additional flex route services

Capital/Infrastructure Improvements

Capital or other infrastructure improvements that support regional mobility, connectivity, and travel experience include:

- Allow funding allocated to a specific line item to be used for something else, as allowed by federal requirements, if funding has not been touched
- Create efforts to improve infrastructure at and near stops
- Offer occasional rides, via the transit agencies and their vehicles, to events (concerts, sporting events, etc.) to increase popularity of transit

Technology/Innovation

Technology or other innovative efforts that improve regional mobility, connectivity, and travel experience include:

- Expand payment options to include electronic payments instead of only exact change
- Limit 5311 application process to one software instead of two to minimize inconsistencies
- Allow agencies to share information via an online portal so they can collaborate and learn from each other’s experiences

- Follow a cloud-based approach for IMD to increase transparency in the grant reporting process as everyone would go to the same place for information. This information would also always be available, so future retrieval would be easy.
- Allow advanced booking reservations
- Allow for recurring reservations and offer discounts to targeted audiences through a subscription option

Policy/Coordination

Policy, programmatic, or other coordination changes that improve regional mobility, connectivity, and travel experience include:

- **Training Opportunities:**
  - Increase access to grant process training
  - NCDOT may send out newsletters that contain information from FHWA on training announcements
  - Any FTA/FHWA online resources should feature direct and simple ways to find training newsletters on their sites
  - Develop instructional videos for the Smartsheet system
  - Develop a Regional Trainer position
  - Partner with community colleges and schools for workforce development and training opportunities
- **Process and Guidance Improvements:**
  - Develop a comment response system for riders with a process to respond to comments in a timely manner
  - Develop a grant funding process for tracking so funds do not get lost due to lack of spending
  - Clearly define roles in processes so nothing gets overlooked
  - Create guidance documents for online processes
  - Develop a clear list of requirements and expectations with examples for reimbursement process
  - Document the spending plans in a transparent manner so that all agencies may see the standings
  - Create a clear process for auditing so the process is not repetitive
  - Clearly state reimbursement expectations with examples and step-by-step instructions
  - Develop a clear guide on how to perform audits so they are not time consuming and repetitive
  - Document funding opportunity timelines, including which opportunities were achieved and lessons learned for opportunities that were not secured
- **Enhanced Communication:**
  - Partner with NCDOT on a 6-month educational campaign to raise awareness about transit offerings across the region
  - Draft and distribute newsletters to local communities to show them how public transportation is regularly helping their neighbor
  - Develop a process where the community can coordinate with the Regional Transportation Demand Management (TDM Program) to possibly arrange carpooling to transit stops

- **Enhanced Coordination:**
  - Schedule regular check-ins between the City of Asheville and local agencies
  - Create opportunities for agencies to connect online to share information and in-person to build relationships (consider hosting online materials and forums on a website)
  - Provide partnerships with agencies to provide riders with direct connections to places of employment and medical appointments
  - Allow agencies to manage Medicaid trips so they can assist with the majority of medical trip requests. Some agencies expressed interest in a collaborative system for rides, where one agency handles drop-offs while another manages pick-ups
  - Allow agencies to opt-in to regionalized efforts to create operational and administrative efficiencies
- **Other:**
  - Develop a regional multimodal plan (Identify ADA needs, connections to key destinations, and transit stops/hubs.)

6.4 Alternative Solutions Evaluation

The alternatives outlined in the previous section were carefully evaluated to assess their potential benefits. These alternatives, organized into categories of service improvements, capital/infrastructure enhancements, technology/innovation advancements, and policy/coordination strategies, were shared with transit agencies across the region for feedback. This collaborative process allowed agencies to contribute valuable insights, highlighting the alternatives they felt would most effectively address regional needs, considering factors such as feasibility, cost, and potential community impact. As a result, the final recommendations reflect the priorities of regional stakeholders, ensuring a more informed and inclusive decision-making process.

The prioritized solutions are organized as follows:

Service Improvements

Key service improvements that would boost regional mobility, connectivity, and the overall travel experience include:

- Expanding routes to Asheville Regional Airport
- Modifying current services to Asheville Regional Airport by incorporating microtransit options

Capital/Infrastructure Improvements

Important infrastructure improvements that would support better regional mobility and connectivity include:

- Increasing public awareness and popularity of transit options

Technology and Innovation

Innovative technologies and strategies that would improve regional transit and connectivity include:

- Implementing an online portal for information sharing among agencies
- Some agencies expressed interest in learning how others handle Medicaid trip management
- Enabling agencies to share recovery efforts in the event of natural disasters

Policy and Coordination

Policy, program, or coordination changes to enhance regional transit systems include:

- Establishing a regional trainer to facilitate consistent training across the region
- Agencies suggested shared training in tools like social media and advertising to help overcome the stigma surrounding transit
- Developing clear documentation of spending plans and funding opportunity timelines
- Ensuring transparency throughout the funding process to minimize gaps in agency funding
- Creating partnerships between agencies to help riders reach their destinations
- Facilitating connections between agencies to serve frequently requested destinations
- Exploring collaboration opportunities where one agency handles drop-offs and another manages pick-ups
- Allowing agencies to manage Medicaid trips to clarify the grant process and ensure local riders have access to services

Section 7. Financial and Implementation Plan

7.1 Introduction

The proposed projects for the WNC CRTP are organized into three primary categories: Local, Inter-local, and Regional. Each category covers various transit-related improvements, detailed as follows:

- **Local**
  - Micro-mobility
    - Trail widening (8-14 ft, unpaved)
  - Walking
    - Crosswalks (high visibility)
    - Wayfinding signage
    - Greenways (minimum 10 ft paved asphalt)
    - Sidewalks (5 ft concrete)
    - Trails (8 ft unpaved)
    - Urban gateway
    - Pedestrian refuge island
    - Bulb-out/ curb extension
    - Reduced curb radii
    - Pavement marking
    - Lane narrowing (restriping)
- **Inter-local**
  - Local Bus Stops
    - Signage
    - Seating
    - Lighting
    - Bike racks
    - Shelters
    - Park-and-Ride at Turkey Pen Gap (asphalt, no land purchase required)
    - Fixed route service from Park-and-Ride

  - On-demand microtransit
    - Feeder shuttle - Rosman to Brevard
    - Feeder shuttle - Cedar Mountain to Brevard
  - Other
    - Hendersonville Shopping Shuttle (extra days)
    - Vanpool (vehicle cost)
- **Regional**
  - Regional/Intercity bus
    - Henderson-Asheville Express (annual operating)
    - Asheville Rutherford Connector (annual operating)
    - Haywood-Buncombe Connector (annual operating)
    - Brevard to Hendersonville Express Route
    - Haywood County Trail (within and out of Waynesville)
    - South Link West (Brevard to Hendersonville)
    - South Link East (Hendersonville to Spindale)
    - Brevard to Asheville Regional Airport Express Route (annual operating)
    - Bus Stop Improvements for Regional Routes
    - Regional call center
  - Other
    - Interagency smartphone application
  - Supporting
    - Marketing and educational campaign

7.2 Methodology

Cost estimates were obtained from a variety of organizations, including the Pedestrian & Bicycle Information Center (PBIC), the Federal Highway Administration (FHWA), and the National Transit Database (NTD) profiles for transit systems. A full list of sources can be found in Appendix B: Detailed Cost Estimates. The operating hours for local and intercity bus projects were determined using Remix, a comprehensive transportation planning and scheduling software.

Routes were designed to serve key stops, such as significant destinations, transfer points for the county or region (ex: Asheville Regional Airport, Haywood Public Transit facility), major employers, essential services in the community (ex: Blue Ridge Mall, Waynesville Plaza), or downtown centers.

7.3 Cost Estimates

To ensure accuracy, all cost values were adjusted for inflation to reflect 2025 dollars. Inflation conversion factors were pulled from Personal Consumption Expenditures Excluding Food and Energy (PCEPILFE), provided by the Federal Reserve. For multimodal projects and components such as bus shelters and intersections, costs are presented by their respective unit. Costs for the regional call center were simplified by using the average annual salary of a call center employee. The average salary for a call center representative in Hendersonville, as reported by Indeed, was used to estimate this cost.

The 5-year budget model is based on the most recent (January 2025) Economic Projections from the Congressional Budget Office (CBO). The federal funds rate for each fiscal year from 2026 to 2030 were applied to calculate inflation factors for future years, which in turn were multiplied by the initial project

estimates FY2025 base year costs. Costs are presented by project for the year they are slated to begin and the years going forward.

For a detailed breakdown of all cost estimates, including their sources, please refer to Appendix B: Detailed Cost Estimates.

Local Projects

Local projects focus on enhancing infrastructure for cyclists and pedestrians. These initiatives involve both the construction and upgrading of walkways and bike paths, as well as implementing safety improvements at intersections to better support active transportation.

Table 16. Local Project Cost Estimates

Project Type	Item	Cost Estimate (2025$)	Unit
Micro-mobility	Trail widening (8-14 ft, unpaved)	$161,000	Mile
Walking	Crosswalks (high visibility)	$3,400	Each
	Wayfinding signage	$1,800	Each
	Greenways (paved)	$639,000[2]	Mile
	Sidewalks (concrete)	$42	Linear Ft
	Trails (unpaved)	$161,000	Mile
	Urban gateway	$31,000	Each
	Pedestrian refuge island	$18,000	Each
	Bulb-out/ curb extension	$17,000	Each
	Reduced curb radii	$15,000	Each
	Pavement marking	$13	Square Ft
	Lane narrowing (restriping)	$10,000	Mile

Inter-local Projects

Inter-local projects aim to connect nearby communities, typically within a larger urban area or the broader county region. These projects enhance traditional fixed-route transit services and improve amenities at stops to ensure rider safety and comfort. Additionally, on-demand microtransit shuttles would offer services to more remote areas within Transylvania County, facilitating connections to neighboring counties through Brevard.

[2] Note that while regional greenway costs have historically been higher, cost estimates from the PBIC *Costs for Pedestrian and Bicyclist Infrastructure Improvements* are based on the document's reported averages. Using the maximum reported unit cost ($4,288,520 per mile in 2013), the 2025 estimate would be $5,691,000 per mile.

Table 17. Inter-local Project Cost Estimates

Project Type	Item	Cost Estimate (2025$)	Unit
Local Bus Stops	Signage	$100	Each
	Seating	$1,100	Each
	Lighting	$500	Each
	Bike racks	$400	Each
	Shelters	$7,600	Each
	Park-and-Ride at Turkey Pen Gap (asphalt, no land purchase required)	$1.50	Square Ft
On-demand Microtransit	Feeder Shuttle - Rosman to Brevard	$564,000	Annual OE
	Feeder Shuttle - Cedar Mountain to Brevard	$564,000	Annual OE
Other	Hendersonville Shopping Shuttle (additional days for Monday and Friday weekly service)	$26,000	Annual OE
	Vanpool (vehicle cost)	$56,000	Each

Regional Projects

Regional projects involve long-distance routes designed to link municipalities and counties across WNC. These routes operate less frequently and connect downtown areas or key transportation hubs within the region. Express routes, designed for commuters, would run more frequently but only originate and destinate at two terminal stops. Bus stop improvements would include amenities listed under local bus (seating, signage, lighting, and shelter) for both existing and proposed regional bus routes throughout the WNC counties. Service windows and frequencies for each route are listed in **Table 19** and routes are shown in **Figure 24**. Cost estimates for each route, listed in **Table 18**, are derived from operating hour estimates from Remix route planning software and operating expense per vehicle revenue hour (OE per VRH) for busses from National Transit Database (NTD) Profiles. For each route, the NTD Profile was chosen based on the highest OE per VRH of the transit systems of the jurisdictions it crosses, ex: Asheville Rutherford Connector uses the OE per VRH value of the City of Asheville's Asheville Rides Transit ($117.10 in 2023) rather than the profile and OE per VRH for Rutherford County Transit ($17.64 in 2023). The operating hour estimates are multiplied by the OE per VRH to get the 2023 annual cost estimate to operate the route, and that cost multiplied by the 2023 to 2025 conversion factor from PCEPILFE (1.058) to obtain the 2025 annual cost estimate.

Table 18. Regional Project Cost Estimates

Project Type	Item	Cost Estimate (2025$)	Unit
Regional/Intercity Bus	Henderson-Asheville Express (annual operating)	$2,799,000	Annual OE
	Asheville Rutherford Connector (annual operating)	$1,535,000	Annual OE
	Haywood-Buncombe Connector (annual operating)	$458,000	Annual OE
	Brevard to Hendersonville Express Route	$1,964,000	Annual OE
	Haywood County Trail (within and out of Waynesville)	$414,000	Annual OE
	South Link West (Hendersonville to Spindale)	$628,000	Annual OE
	South Link East (Brevard to Hendersonville)	$70,000	Annual OE
	Brevard to Asheville Regional Airport Express Route (annual operating)	$1,964,000	Annual OE
	Bus Stop Improvements for Regional Routes	$66,000	8 Stops Total
	Regional call center (per staffer)	$60,000[3]	Annual Salary
Other	Interagency smartphone application		
Supporting	Marketing and Educational Campaign		

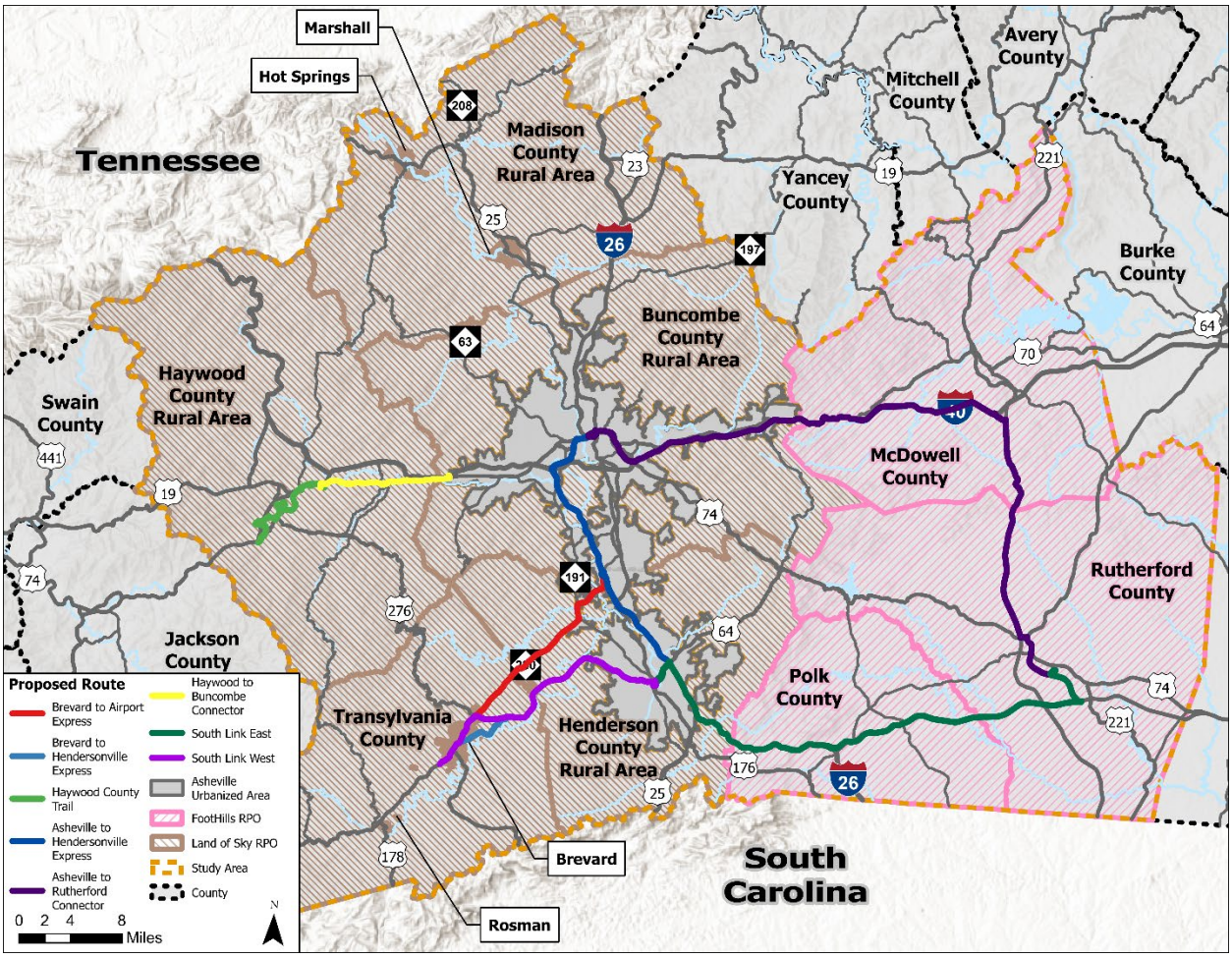
Table 19. Regional and Intercity Bus Route Schedules

Route	Weekday Service Window	Weekday Frequency	Saturday Service Window	Saturday Frequency	Sunday Service Window	Sunday Frequency
Henderson-Asheville Express	6 AM to 7 PM	30 min	8 AM to 7 PM	30 min	8 AM to 7 PM	30 min
Asheville Rutherford Connector	6 AM to 7 PM	60 min	8 AM to 7 PM	60 min	8 AM to 7 PM	60 min
Haywood Buncombe Connector	6 AM to 7 PM	60 min	8 AM to 7 PM	60 min	8 AM to 7 PM	60 min
Brevard to Hendersonville Express Route	6 AM to 7 PM	30 min	N/A	N/A	N/A	N/A
Haywood County Trail	7 AM to 7 PM	60 min	N/A	N/A	N/A	N/A

[3] This salary estimate includes salary, fringe benefits, and taxes.

Route	Weekday Service Window	Weekday Frequency	Saturday Service Window	Saturday Frequency	Sunday Service Window	Sunday Frequency
South Link West	6 AM to 7 PM	60 min	8 AM to 7 PM	60 min	8 AM to 7 PM	60 min
South Link East	6 AM to 7 PM	60 min	8 AM to 7 PM	60 min	8 AM to 7 PM	60 min
Brevard to Asheville Regional Airport Express Route	6 AM to 7 PM	30 min	N/A	N/A	N/A	N/A

Figure 24. Proposed Regional and Intercity Bus Routes



7.4 Funding Strategies

This section explores the available transit funding sources for the WNC Coordinated Region. While funding for transit projects typically comes from federal, state, and local sources, there are also non-traditional alternatives such as vehicle registration fees or sales taxes that can be used to support transit

services. Traditional funding sources, however, are limited, and their growth over time cannot accommodate system expansion. Transit systems aiming to expand must identify alternative ways to increase funding, and those that have done so in the past have mostly relied on local sources.

Seeking a dedicated funding source to sustainably support service improvements over time remains one of the greatest challenges faced by transit systems. It is also critical to the long-term success of the transit systems. The following sections discuss both traditional and non-traditional funding sources. A more detailed examination of the pros and cons of these funding sources, as well as their feasibility in the WNC Coordinated Region, is provided as recommendations and implementation strategies are developed.

Federal Funding

Federal funding, either directly from the Federal Transit Administration (FTA) or through a designated recipient, can be used to support both transit operations and capital needs. The cost share between local, state, and federal funding varies depending on the specific cost category.

Discretionary Grants

Transit projects can be funded through various discretionary grant programs, including the United States Department of Transportation's (USDOT) Rural Surface Transportation Grant and the USDOT's Advanced Transportation Technologies & Innovative Mobility Development (ATTAIN) program, among others.

USDOT Rural Surface Transportation Grant

The USDOT Rural Surface Transportation Grant Program supports projects that improve and expand the surface transportation infrastructure in rural areas to increase connectivity, improve the safety and reliability of the movement of people and freight, and generate regional economic growth and improve quality of life.

NCDOT's Integrated Mobility Division (IMD) applied for and won the grant in FY2022 to fund microtransit or on-demand mobility as it was referred to in the USDOT notice of funding opportunity. Mobility for Everyone, Everywhere in NC (MEE NC), will accelerate the deployment of high-quality, on-demand transit services to rural, low-income communities throughout North Carolina, leading to more equitable mobility and improved access to opportunities, services, and resources for transportation disadvantaged populations. In late December 2022, FTA announced that the MEE NC grant application was awarded in the amount of $10.4 million.

Enhancing Mobility Innovation (EMI)

In addition to the USDOT Rural Surface Transportation Grant, FTA has typically released a notice of funding availability for innovative microtransit projects. The most recent grant opportunity, Enhancing Mobility Innovation (EMI), awards projects that 1) improve mobility and enhance the rider experience with a focus on innovative service delivery models, creative financing, novel partnerships, and integrated payment solutions or 2) support the development of software solutions that facilitate integrated demand response public transportation that dispatches transit vehicles through riders' mobile devices or other means.

Partnering is encouraged and eligible applicants include transit systems; state or local departments of transportation; Indian tribes; private and nonprofit organizations; colleges and universities; and state

and local governments, including MPOs. Counties may also still apply even if they received funding through another FTA source.

Advanced Transportation Technologies & Innovative Mobility Development (ATTAIN)

The ATTAIN program makes funds available to employ, install, and operate advanced transportation technology, including on-demand transportation services and other forms of shared-use mobility. This is a competitive grant that the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law, provided $900 million towards in total and is available to transit systems, local or state governments, MPOs, or academic institutions. Eligible activities include Planning; Construction; Equipment and Materials; Operations and Maintenance; Technology Demonstrations and Deployment; Technical Assistance, Workforce Development, and Training/Education; Research and Development; Climate and Sustainability; and Accessibility.

Research, Development, Demonstration, and Deployment Projects

IIJA provides approximately $132.2 million in competitive grants, cooperative agreements, and contracts to states, cities, townships, special districts, and other institutions to assist innovative projects that advance and sustain safe, efficient, equitable, and climate-friendly public transportation. The eligible research and demonstration explore novel approaches to improve public transportation for transit dependent individuals, meeting equity and climate goals.

Formula Funds

In addition to discretionary grants, there are several formula programs that can fund transit projects in the region.

Metropolitan Transportation Planning Program – FTA Section 5303 Program

FTA Section 5303 provides funding and procedural requirements for multimodal transportation planning in metropolitan areas and states. Planning needs to be cooperative, continuous, and comprehensive, resulting in long-range plans and short-range programs reflecting transportation investment priorities. In North Carolina, each urbanized area receives a Section 5303 allocation from NCDOT for MPO transit planning activities based on a funding formula. The NCDOT Integrated Mobility Division (IMD) provides one half the local match (10 percent) for FTA Section 5303-funded transit planning tasks.

Urbanized Area Formula Grant – FTA Section 5307 Program

The Section 5307 formula grant provides transit capital, operating and planning assistance to urbanized areas with populations of more than 50,000. This program has the most encompassing eligibility of any federal program providing funding to transit systems. Grant funds are utilized to support the development, maintenance, and improvement of public transportation in urbanized areas. Eligible projects fall into three primary categories: Planning Projects, Capital Projects, and Operating Projects.

Planning eligible activities include, but are not limited to: studies relating to management, operations, capital requirements, and economic feasibility; work elements and related activities preliminary to and in preparation for constructing, acquiring, or improving the operation of facilities and equipment; plans and specifications; evaluation of previously funded projects; job access and reverse commute projects;

and other similar or related activities before and in preparation for the construction, acquisition, or improved operation of public transportation systems, facilities, and equipment.

Capital projects eligible under the Urbanized Area Formula Program include all projects under 49 U.S.C. 5302(3). In general, capital project expenses involve purchasing, leasing, constructing, maintaining, or repairing facilities, rolling stock, and equipment for use in a public transportation system. Capital project costs may include all direct costs and indirect costs associated with the project (provided that the grantee has an approved cost allocation plan or indirect cost proposal). It is noted that a listing of eligible projects is not shown here because of the breadth of projects. All eligibility of projects is generally determined by the FTA regional offices. Example eligible projects include engineering design and evaluation of transit projects, capital investments in bus and bus-related activities such as replacement and overhaul of buses, rebuilding of buses, crime prevention and security equipment, construction of maintenance and passenger facilities, and capital investments in new and existing fixed guideway systems. All preventive maintenance and some ADA complementary paratransit service costs are considered eligible.

FTA provides funding to eligible recipients for costs incurred in the operation of public transportation service. In general, operating expenses are those costs necessary to operate, maintain, and manage a public transportation system. Operating expenses usually include such costs as driver salaries, fuel, and items having a useful life of less than one year (i.e., office supplies). Recipients in small Urbanized Areas (UZA), such as ART, may use Section 5307 funds for operating assistance. There is no limitation on the amount of the apportionment that recipients in these UZAs may use for operating assistance.

The local match required for the FTA Section 5307 funding can vary from 10 percent to 50 percent depending on the type of project. The federal share for planning and capital projects that receive funding under the FTA Section 5307 Program may not exceed 80 percent of the project cost. There are several notable exceptions in which the federal share may exceed 80 percent for certain projects related to Americans with Disabilities Act (ADA), the Clean Air Act (CAA), and certain bicycle projects as follows:

- Vehicles. The federal share is 83 percent for the acquisition of vehicles for purposes of complying with or maintaining compliance with the Americans with Disabilities Act of 1990 (ADA; 42 U.S.C. 12101 et seq.) or the Clean Air Act (CAA; 42 U.S.C. 7401 et seq.).
- Vehicle-Related Equipment and Facilities. The federal share for project costs for acquiring vehicle-related equipment or facilities (including clean fuel or alternative fuel vehicle-related equipment or facilities) for purposes of complying or maintaining compliance with the CAA, or required by the ADA, is 90 percent.

The federal share for operating expenses may not exceed 50 percent of the net operating cost.

Bus and Bus Facilities Grant – FTA Section 5339

The Bus and Bus Facilities is a formula grant program created by MAP-21 legislation which replaced the previous FTA Section 5309 discretionary Bus and Bus Facilities program. This capital program provides funding to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities. Distribution of this grant is formula-based and requires a 20 percent local match. A portion of the total FTA Section 5339 program has also been set aside as a discretionary source of funding through the FAST Act. These competitive grants also provide additional federal resources to

state DOTs and designated and direct recipients to replace, rehabilitate and purchase buses and related equipment and to construct facilities including technological changes or innovations to modify low or no emission vehicles or facilities. A sub-program, the Low- or No-Emission Vehicle Program, provides competitive grants for projects that support the purchase or rehab of those specified vehicles.

Flexible Funding Program – Surface Transportation Program (STP) Funds

The STP program provides a national annual appropriation to the FHWA. This funding has a broad project eligibility and funding may be used for projects to preserve or improve conditions and performance on any federal-aid highway, bridge project on any public road, facilities for non-motorized transportation, transit capital projects and public bus terminals and facilities. This program funding can also be "flexed" to FTA for use by transit systems.

Congestion Mitigation and Air Quality (CMAQ) Program

CMAQ provides funds to states for transportation projects that reduce traffic congestion or improve air quality, including "on-demand transportation service technologies" such as microtransit. Projects must be located in counties designated "nonattainment" or "maintenance" under certain pollutant standards, except if a state has no such counties, in which case they may be spent anywhere.

In this case, Haywood County, located within the WNC Coordinated Region, is designated as a maintenance area for certain pollutant standards having previously been designated as nonattainment[4]. Funds generally flow to state DOTs and MPOs. These funds may be used for both capital and operating expenses.

Carbon Reduction Program (CRP)

The CRP formula funding opportunity was created by the IIJA. CRP provides funds for a variety of capital and operating projects which reduce carbon emissions, including microtransit. These funds are apportioned to states, which then manage their own processes for awarding CRP funding to projects. NCDOT distributes CRP funds in North Carolina. Of those funds, 65 percent are distributed based on population while the remaining 35 percent can be disbursed into projects anywhere throughout the state.

Other Federal Programs

There are other federal funding sources that may be used as local match, as described by FTA in an FAQ2:

1. If another federal agency permits its funds to be used by a local share, the following programs are authorized to accept that funding as local share and are available:
    a) Section 5310 (Enhanced Mobility for Seniors and Individuals with Disabilities)
    b) Section 5307 (Urbanized Area Formula Grants)
2. Funding for Temporary Assistance for Needy Families (TANF) is expressly authorized for used as local share for Section 5310, Section 5307, Section 5311.

[4] EPA Greenbook: NC Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants: https://www3.epa.gov/airquality/greenbook/anayo_nc.html

State Funding

There are several grants and formula funds available through NCDOT IMD in addition to federal funding opportunities. Additional information on these funding sources can be found in the NCDOT Unified Grant Application (UGA): https://connect.ncdot.gov/business/Transit/Pages/Unified-Grant-Application.aspx.

Capital Cost of Contracting

IMD has established a grant for Capital Cost of Contracting, part of the State's Section 5311 or 5339 funding, to support microtransit system development. This grant aids transit systems working with contractors for operations, maintenance, or vehicle services. The FTA funds the capital used in these contracts, shared by the FTA, private contractors, and transit systems. Only costs for privately owned contractor assets are eligible, excluding items bought with federal, state, or local funds. The cost shares vary by the contract type and are located in Appendix F of the FTA Section 5311 Circular 9040.1G.

ConCPT CO Funding

NCDOT IMD administers the ConCPT Coordination Program to enhance coordination between NCDOT IMD grantees. Funding has typically been provided for coordination activities where three or more public transportation grantees agree to establish formal relationships to maximize resources, gain efficiencies, and improve access to public transportation. This is a state-funded program that provides a 50 percent operating match to transit systems.

This funding source would be applicable if transit stakeholders coordinate services with other transit systems in the region. Stakeholders would need to identify non-state sources of funding to match ConCPT funds. Coordination funds may only be used for operating expenses. One of the coordinating agencies would need to serve as the lead agency, which is the applicant and recipient of the funds. The lead agency enters into a memorandum of understanding with the participating agencies.

Combined Capital

The Combined Capital Program allows identified rural and small urban systems the opportunity to apply for funding for capital projects in a single application, including vehicles, bus stops, and bus terminals. The funding is open to 5311 and/or small urban 5307 grantees. Replacement vehicles must meet the minimum useful life mileage outlined in the capital replacement schedule included in the UGA. The Combined Capital Program cannot be used for expansion vehicles. Systems can apply for electric vehicles (EV) but are only eligible if they have initiated a feasibility study and EV infrastructure design or already have charging infrastructure in place.

5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program

The FTA Section 5310 program provides formula funding to states for assisting private non-profit groups in meeting the transportation needs of older adults and people with disabilities when/where the transportation service provided is unavailable, insufficient, or inappropriate in meeting these needs. The program aims to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding mobility options.

FTA Section 5310 funding is managed by the City of Asheville and administered by the French Broad River MPO (FBRMPO). In accordance with federal rulemaking, IMD makes FTA Section 5310 funding

available to rural areas and small urban areas for operating projects through a specific FTA Section 5310 Operating Program with its own application. Operating funds are available through this program only after FTA Section 5310 capital funding has been allocated and are funded with a 50 percent local match requirement when available. Applications for this competitive program must demonstrate project value towards enhanced mobility for seniors and individuals with disabilities to include filling a gap in service to these populations or otherwise expanding their access through the service.

5311 Non-Urbanized Area Formula Program

Section 5311 funding is a federal formula grant for rural areas established to help support public transportation in areas with populations of less than 50,000. This funding may be used to address the needs of rural area residents who often rely on public transit to reach their destinations. Section 5311 funding may be used for eligible capital, operating, and planning expenditures. Eligible transportation systems can use Section 5311 funds for public transportation projects in non-urbanized areas. Because most rural trips end in urbanized areas, Section 5311 funds can be used for portions of trips in urbanized areas; however, the primary beneficiary of Section 5311-funded transportation activity must be rural areas. A rural transit provider should consider designing its Section 5311-funded services to maximize use by members of the general public who are transportation disadvantaged such as elderly people and people with disabilities.

The Formula Grants for Rural Areas program provides capital, planning, and operating assistance to state DOTs to support public transportation in rural areas with populations of less than 50,000, where many residents often rely on public transit.

The FTA Section 5311 program supports both the maintenance of existing public transportation services and the expansion of those services through the program goals of:

- Enhancing access in rural areas to health care, shopping, education, employment, public services, and recreation.
- Assisting in the maintenance, development, improvement, and use of public transportation systems in rural areas.
- Encouraging and facilitating the most efficient use of all transportation funds used to provide passenger transportation in rural areas through the coordination of programs and services.
- Providing financial assistance to help carry out national goals related to mobility for all, including seniors, individuals with disabilities, and low-income individuals.
- Increasing availability of transportation options through investments in intercity bus services.
- Assisting in the development and support of intercity bus transportation.
- Encouraging mobility management, employment-related transportation alternatives, joint development practices, and transit-oriented development.
- Providing for the participation of private transportation providers in rural public transportation.

The program also provides funding for state and national training and technical assistance through the Rural Transportation Assistance Program (RTAP). Funds may be used for capital, operating, and administrative assistance to state agencies, local public bodies, Indian tribes, and non-profit organizations, and operators of public transportation services. The maximum FTA share for operating assistance is 50 percent of the operating costs.

Funds in the FTA Section 5311 program have a very wide compass of eligibility. Eligible capital expenses include the acquisition, construction, and improvement of public transit facilities and equipment needed for a safe, efficient, and coordinated public transportation system, as well as certain other expenses classified as capital in Section 5302(3). Operating expenses are those costs directly related to system operations. At a minimum, states must consider the following items as operating expenses: fuel, oil, drivers' salaries and fringe benefits, dispatcher salaries and fringe benefits, and licenses.

The governor designates a state agency that will have principal authority and responsibility for administering the FTA Section 5311 program. For North Carolina, the agency given charge over the FTA Section 5311 program is NCDOT IMD. Specifically, the role of the state agency is to do the following:

- Document the state's procedures in a state management plan.
- Notify eligible local entities of the availability of the program.
- Plan for future transportation needs and ensure integration and coordination among diverse transportation modes and providers.
- Solicit applications from transit providers.
- Develop project selection criteria.
- Review and select projects for approval.
- Forward an annual program of projects and grant application to FTA.
- Certify eligibility of applicants and project activities.
- Ensure compliance with federal requirements by all sub-recipients.
- Monitor local project activity.
- Oversee project audit and closeout.
- File an NTD report each year for itself and each sub-recipient.

Rural Strategic Transportation Investments (STI) Program

The Rural STI Program is for capital expenses including land purchase and construction, vehicles, bus stops, and facilities. Technology is not eligible. Systems awarded a grant through STI in NCDOT's Prioritization Process must complete an application in the fiscal year they are using the funds to receive the state match of Highway Trust Funds. The Rural STI application allows systems to add federal funds where IMD has oversight of the application for the project and receives reimbursement.

Non-STI Rural Expansion Vehicle Program

This funding opportunity is for rural systems who are interested in applying for an expansion vehicle. State matching funds will not be provided for projects funded through this program. Eligible projects are expansion vehicles and the security cameras, lettering and logos, and other such additions to the vehicle only. Computers, furniture, and other capital requests are not eligible under this grant. All projects eligible for STI to be funded with FTA Section 5311 funds or 5307 funds must be submitted and scored under STI.

Rural Operating Assistance Program (ROAP)

NCDOT provides state-funded transportation assistance for rural transit providers through the Rural Operating Assistance Program (ROAP). ROAP has three components outlined below:

1. Elderly and Disabled Transportation Assistance Program (EDTAP): Provides operating assistance for the transportation of the state's elderly and disabled citizens.
2. Employment and Transportation Assistance Program (EMPL): (a) Intended to help DSS clients that transitioned off Work First or Temporary Assistance for Needy Families (TANF) in the previous 12 months; or Workforce Development Program participants; or, (b) Intended to help the transportation of disadvantaged public; and/ or, (c) Intended to help the general public travel to work, employment training, and/or other employment-related destinations.
3. Rural General Public Program (RGP): (a) Intended to provide transportation services for individuals from the county who do NOT have a human service agency or organization that will pay for the transportation service; (b) The passenger's origin or destination must be in the rural area; and (c) RGP trips can be coordinated on vehicles with other human services trips.

It is important to note that ROAP has a different application and award schedule, which is subject to an approved State budget before disbursements can be made. ROAP funding goes to each individual county.

State Maintenance Assistance Program (SMAP)

The State Maintenance Assistance Program (SMAP) funds are a state funding source administered by the NCDOT IMD to provide operating assistance to urban, small-urban, and urban regional fixed route and commuter bus systems with low overhead and paperwork. Eligible uses of SMAP funds are limited to a system's operating costs as defined by the FTA C 9030.1E circular for the FTA Section 5307 program. Projects such as preventative maintenance and ADA that are defined as capital-eligible expenses in federal grants are still eligible as operating expenses for SMAP.

Urban Advanced Technology Grant Program

NCDOT IMD encourages North Carolina's transit systems to employ advanced technologies, fostering increased efficiencies throughout the state using a competitive Urban Advanced Technology grant program. Urban Advanced Technology funding is used to benefit transit systems in North Carolina utilizing the wide selection of technologies available today, enhancing both the passenger experience and enabling transit systems to improve safety and operational efficiency. These competitive grants are available to urban and regional transit systems in North Carolina where projects are included in the Regional Intelligent Transportation System (ITS) Strategic Deployment Plan.

Mobility Manager Program

NCDOT IMD considers applications for a competitive and limited Mobility Manager Program for regional systems. Applicants must complete a mobility management worksheet and budget sheet to submit with application documents for consideration of funding. IMD only considers applications from multi-county or regional systems and will not fund a mobility management program that it determines duplicates efforts within the same geographic and/or service area.

NCDOT Urban State Match Program

NCDOT IMD provides an Urban State Match funding program to be used as a match for both federally (FTA and FHWA) funded and locally funded urban transit projects. Federal funds matched through this program include 5307 Urbanized Area Formula Grants, 5339 Bus and Bus Facilities, 5310 Elderly and

Disabled, and Discretionary grants from the FTA. Applicants can submit an unlimited number of requests for a ten percent state match for projects funded with federal funds or local funds for facility and vehicle replacement projects. Funding is allocated based on transit system operating performance factors, vehicle fleet characteristics, past receipt of state matching funds, and availability of state funds.

Local Funding

The following section highlights several local funding opportunities that are available to support future transit projects in the region.

Employer Support/Partnerships

There is a significant opportunity for financial support from employers given the strong workforce base in the WNC Coordinated Region. There is incentive for employers in partnering with transit services to provide reliable transportation options for employees. Advanced transit technologies allow for multiple options of employer support:

- General contributions to the annual operating cost of the service
- Subsidies for trips to/from the specific employer based on the rider's origin and destination
- Coupon codes paid for by the employer and given to employees that cover the full or partial cost of rides
- Vehicle purchase

General contributions would be the least restrictive, allowing transit stakeholders to provide service throughout the region whereas subsidies and coupon codes would only apply to that employer's employees. Accounting for subsidies and coupon codes would require more time and effort, but transit software can automate some of this administration.

Local Contributions

The transit operators will most likely need to contribute local funds to support transit services unless contributions from employers or other organizations are sufficient to cover the required matches mentioned for state and federal programs.

Fare and Advertising Revenue

Modest fare revenue could be generated from the proposed transit projects. Transit services such as Apple Country Public Transit may continue to decide to operate their service fare-free, with the missed fare revenues offset by employer and organization contributions.

Affordability was a key concern of the focus group attendees surveyed as part of this study. Attendees voiced preference for fare-free service and transfers. Additionally, while conducting surveys amongst public transit riders within the region, over a quarter of them stated that they were content with their bus experiences over the past year due to the cost saving aspects associated with public transportation. Nearly half of the respondents to the survey indicated that their household income in 2022 was less than $20,000. As such, trip fare is recommended to remain low, if not fare free.

Sales Tax

G.S. 105 Article 43 permits counties and transportation authorities to levy a sales and use tax to finance public transportation systems. All such taxes must be approved through a referendum. If voters approve the tax, the county board of commissioners may, by resolution, levy a one-quarter percent (1/4%) local sales and use tax in addition to any other state and local sales and use taxes. Special legislation may authorize higher tax rates and variations to procedural requirements, as seen in Mecklenburg County, the Piedmont Authority for Regional Transportation (PART), and GoTriangle, to address specific regional needs.

County Vehicle Registration Tax

As of 2009, counties can impose a vehicle registration fee for transit, which would be shared on a pro rata basis with municipalities within their boundaries that operate transit systems (G.S § 105-570). This fee can be up to $7 per registration, and the proceeds can be used for financing, constructing, operating, and maintaining a transit system. To enact this fee, a County Commission must adopt a resolution following a public hearing.

Additionally, a second option allows “public transportation authorities,” consisting of two or more counties, to impose a fee of up to $8 per registration per year (G.S § 105-561). The commissions of all counties in the authority must adopt resolutions authorizing this fee.

Vehicle Rental (U-Drive-It Vehicle) Tax

Counties and transportation authorities may collect a 5 percent rental car fee (or “U-Drive-It Vehicle Fee”) by law to finance public transportation systems. For example, Mecklenburg County, GoTriangle (in all three counties that it serves), and PART (in seven of the counties that it serves) currently levy a 5 percent rental car fee. In general, the county’s approval is required to levy a rental car fee. The process may vary depending on the nature of the transit operator.

General Obligation Bonds

Under North Carolina law, any local government may issue bonds secured by its tax levying authority, known as General Obligation Bonds. These bonds are an excellent way to generate additional revenue for specific capital projects. The first step is to apply to the N.C. Local Government Commission for approval and obtain approval from the governing body (City Council or County Commissioners) after a public hearing. The bonds must be approved by referendum, with a majority of voters in favor. The funds from these bonds must be directed to specific improvements and are a one-time revenue source. Bonds may be issued up to seven years after approval.

Property Tax Levied Through Municipal Service Districts (MSDs)

G.S. 160A Article 23 provides that a city council may by ordinance define a Municipal Service District (MSD) based on its finding of need or petition by a majority of property owners within the district. The city council may define any number of service districts in order to finance, provide, or maintain for the district services, facilities, or functions in addition to or to a greater extent than those financed, provided, or maintained for the entire city. The statute specifically authorizes the establishment of an MSD to finance service and facilities for transit-oriented development, and more generally other public services a city may provide by law.

The city may levy property taxes within defined service districts in addition to those levied throughout the entire city. The property tax levied within an MSD cannot exceed the statutory limit of combined property tax rate of one dollar and fifty cents ($1.50) on the one hundred dollars ($100) appraised value of property subject to taxation, unless approved by qualified voters.

Establishing MSDs may be a potential way for the FBRMPO region to fund new regional transit services. MSDs can be created in areas served directly by the new services, in particular around terminals or bus stops. An MSD can be created by a city council in the form of adopting an ordinance defining the service district.

Property Tax Levied Through County Service Districts (CSDs)

G.S. Ch. 153A, Art. 16, Part 1 (CSDs), is a general statute that authorizes counties to designate a part of the county as a service district. This allows them to levy a property tax in the district in addition to the county-wide property tax, with the proceeds used to fund specific projects or services within the district. Establishing CSDs could be a potential way for the WNC Coordinated Region to fund new transit services, as they can be created in areas directly served by these new services.

Funding Source Summary

All funding opportunities are summarized below in **Table 20.** Summary of Funding Sources. The table also specifies the type of funding and whether it covers transit operations, vehicles, planning, or supporting infrastructure. Included in supporting infrastructure would be capital items such as in-vehicle driver tablets or infrastructure at mobility hubs such as shelters, benches, and lighting. For additional information on funding resources please visit NCDOT IMD's Unified Grant Application webpage: https://connect.ncdot.gov/business/Transit/Pages/Unified-Grant-Application.aspx.

Table 20. Summary of Funding Sources

Funding Source	Type	Transit Operations	Vehicles	Supporting Infrastructure	Planning
Federal					
USDOT Rural Surface Transportation Grant	Discretionary	●	●	●	
Enhancing Mobility Innovation (EMI)	Discretionary	●		●	
Advanced Transportation Technologies & Innovative Mobility Development (ATTAIN)	Discretionary	●		●	●
Research, Development, Demonstration, and Deployment Project	Discretionary	●		●	

Funding Source	Type	Transit Operations	Vehicles	Supporting Infrastructure	Planning
Metropolitan Transportation Planning Program – FTA Section 5303 Program	Formula				●
Section 5307	Formula	●	●	●	●
Bus and Bus Facilities Grant – FTA Section 5339	Formula		●	●	
Flexible Funding Program – Surface Transportation Program (STP) Funds	Formula			●	●
Congestion Mitigation and Air Quality (CMAQ) Program	Formula	●	●	●	
Carbon Reduction Program (CRP)	Formula	●	●	●	●
State					
Capital Cost of Contracting	Discretionary	●			
ConCPT CO Funding	Discretionary	●			
Combined Capital	Discretionary		●	●	
5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program	Formula	●			
5311 Non-Urbanized Area Formula Program	Formula	●			●
Rural Strategic Transportation Investments (STI) Program	Formula		●	●	
Non-STI Rural Expansion Vehicle Program	Discretionary		●		
Rural Operating Assistance Program (ROAP)	Formula	●			

Funding Source	Type	Transit Operations	Vehicles	Supporting Infrastructure	Planning
State Maintenance Assistance Program (SMAP)	Formula	●			
Urban Advanced Technology Grant Program	Discretionary			●	
Mobility Manager Program	Discretionary				●
NCDOT Urban State Match Program	Discretionary		●	●	
Local					
Employer Support/ Partnerships	N/A	●	●	●	●
Local Contributions	N/A	●	●	●	●
Fare and Advertising Revenue	N/A	●	●	●	●
Sales Tax	N/A	●	●	●	●
County Vehicle Registration Tax	N/A	●	●	●	●
Vehicle Rental (U-Drive-It Vehicle) Tax	N/A	●	●	●	●
General Obligation Bonds	N/A			●	
Property Tax Levied Through Municipal Service Districts (MSDs)	N/A			●	●
Property Tax Levied Through County Service Districts (CSDs)	N/A			●	

7.5 Implementation Guidance

In addition to exploring various revenue scenarios, the team has developed an implementation plan for the region, outlining the administrative, operational, and financial actions required to plan, fund, and launch each project. This plan is organized into a year-by-year timeline for executing each project from Section 7.1 over the five-year period (see **Table 21**). Project actions are listed in order of the steps needed to successfully execute each recommendation. It is important to note that this timeline may be adjusted as priorities shift or funding availability changes during the planning and implementation phases. Specific funding sources listed in the timeline can be substituted with other grants or funding opportunities, as described in the Funding Strategies section. The 5-Year Cost Projections section should be viewed as a general guide, listing associated costs for each year within the five-year period. These projections are not meant to be strictly adhered to, especially in cases where annual funding cannot be

secured, or project launches are delayed. The cost estimates were calculated by applying the inflation factor for each year (refer to **Table 22**) to the FY2025 unit cost estimates (see Appendix B: Detailed Cost Estimates). For items where unit costs are not listed as annual operating expenses, planned quantities have been estimated for budgeting purposes (e.g., 10 bus stops per year, 5 curb radius reductions, 5 miles of lane narrowing per year, etc.). These quantities serve as reasonable assumptions for each project type but are not binding commitments for the agencies involved.

Table 21. Implementation Plan Action Timeline

Action	Mode	Target Year	Lead Entity
Gap analysis of bike and ped facilities, entry of projects into SPOT 8.0	Walking and Biking, Micro-mobility	2025	FBRMPO, Foothills RPO
Bike-ped crash analysis of intersections, entry of intersection improvements into SPOT 8.0	Walking and biking	2025	FBRMPO, Foothills RPO
Inventory of existing bus stop amenities	Local bus	2025	Asheville Rides Transit, Apple Country Public Transit, Haywood Public Transit, Transylvania County Transportation
Determine org structure, SaaS or TaaS model, and capital costs for Brevard microtransit shuttle services. Application to Rural Surface Transportation grant for operations and additional vehicles if necessary	On-Demand Microtransit	2025	Transylvania County Transportation
Secure ROAP funding for vanpool operations, purchase vehicle for vanpool	Other	2025	McDowell Transit, Rutherford County Transit
Secure 5311 funding for Henderson Shopping Shuttle service expansion	Other	2025	Polk County Transportation Authority
Identify office space to lease for regional call center, advertise job postings for staffer positions	Regional / Intercity Bus	2025	Buncombe County
Secure 5307 funding and local match for all regional routes	Regional / Intercity Bus	2025	Asheville Rides Transit, Apple Country Public Transit, Mountain Mobility, Haywood County Transit
Begin expanded service for Henderson Shopping Shuttle	Other	2026	Polk County Transportation Authority
Launch Vanpool service	Other	2026	McDowell Transit, Rutherford County Transit
Procure SaaS/TaaS vendor, develop branding and marketing campaigns, procure necessary	On-Demand Microtransit	2026	Transylvania County Transportation

Action	Mode	Target Year	Lead Entity
additional vehicles, and hire additional staff if SaaS, market microtransit service, conduct any necessary staff training			
Secure 5307 funding and local match for local and regional bus stop improvements within Asheville Urbanized Area	Regional / Intercity Bus, Local Bus	2026	City of Asheville
Apply to Rural STI Program for bus stop local and regional improvements beyond Asheville Urbanized Area, and for any necessary land purchase for Turkey Pen Gap Park-and-Ride	Regional / Intercity Bus, Local Bus	2026	Land of Sky RPO/Foothills RPO
Order vehicles for new regional routes, hire additional drivers, advertise new routes, coordinate with Greyhound / Flixbus for timing where stops are shared	Regional / Intercity Bus	2026	Asheville Rides Transit, Apple Country Public Transit, Mountain Mobility, Haywood County Transit
Launch Brevard microtransit shuttle pilot, continue pursuing grant and funding opportunities	On-Demand Microtransit	2027	Transylvania County Transportation
Installation of bus stop amenities	Regional / Intercity Bus, Local Bus	2027	Asheville Rides Transit, Apple Country Public Transit, Haywood Public Transit, Transylvania County Transportation
Lease space for call center, conduct any necessary renovations, onboard staffers, conduct trainings	Regional / Intercity Bus	2027	Buncombe County
Construction of Turkey Pen Gap Park-and-Ride	Local Bus	2027	Henderson County
Begin service of new regional routes, excluding Brevard to Asheville Regional Airport route	Regional / Intercity Bus	2027	Asheville Rides Transit, Apple Country Public Transit, Mountain Mobility, Haywood County Transit
Continue pursuing grant and funding opportunities for regional routes	Regional / Intercity Bus, Local Bus	2027	City of Asheville
Connect call center lines to local transit systems	Regional / Intercity Bus	2028	Call center management
Conduct rider, resident, and local stakeholder surveys, and assess performance of Brevard microtransit pilot	On-Demand Microtransit	2028	Transylvania County Transportation
Begin service of Brevard to Asheville Regional Airport route	Regional / Intercity Bus	2028	Asheville Rides Transit

Action	Mode	Target Year	Lead Entity
Modify Brevard microtransit area and/or service windows if beneficial based on feedback	On-Demand Microtransit	2029	Transylvania County Transportation
Assess regional route ridership, consult stakeholders throughout the WNC Coordinated Region	Regional / Intercity Bus	2029	Asheville Rides Transit, Apple Country Public Transit, Mountain Mobility, Haywood County Transit
Modify regional route frequency and add or relocate stops if beneficial	Regional / Intercity Bus	2030	Asheville Rides Transit, Apple Country Public Transit, Mountain Mobility, Haywood County Transit

7.6 5-Year Cost Projections

Please note due to current and future changes to federal transportation funding, an accurate estimation of revenues is not possible at this time. To best approximate costs, the following inflation percentages and inflation factors were applied from the CBO's listing of federal funds rates:

Table 22. Projected Inflation

	FY2026	FY2027	FY2028	FY2029	FY2030
Inflation Percentage	3.6%	3.3%	3.4%	3.3%	3.3%
Inflation Factor	1.036	1.070	1.107	1.143	1.181

Table 23. Five-Year Cost Projections

Pillar	Type	Project	Unit	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	Five-Year Total
Local	Micro-Mobility	Trail widening (8-14 ft, unpaved)	5 Miles per Year	$834,000	$862,000	$891,000	$920,000	$951,000	$4,458,000
	Walking and Biking	Crosswalks (High Visibility)	10 per Year	$35,000	$36,000	$38,000	$39,000	$40,000	$188,000
		Wayfinding Signage	10 per Year	$19,000	$19,000	$20,000	$21,000	$21,000	$100,000
		Greenways (paved)	5 miles per year	$3,310,000	$3,420,000	$3,540,000	$3,650,000	$3,770,000	$17,690,000
		Sidewalks (concrete)	1000 LF per Year	$44,000	$45,000	$46,000	$48,000	$50,000	$233,000
		Trails (unpaved)	5 Miles per Year	$834,000	$862,000	$891,000	$920,000	$951,000	$4,458,000
		Urban Gateway	5 per Year	$161,000	$166,000	$172,000	$177,000	$183,000	$859,000
		Ped Refuge Island	5 per Year	$93,000	$96,000	$100,000	$103,000	$106,000	$498,000
		Bulb-Out / Curb Extension	5 per Year	$88,000	$91,000	$94,000	$97,000	$100,000	$470,000
		Reduced curb radii	5 per Year	$78,000	$80,000	$83,000	$86,000	$89,000	$416,000
		Pavement marking	1000 Sq Ft per Year	$13,000	$14,000	$14,000	$15,000	$15,000	$71,000
		Lane Narrowing (restriping)	5 Miles Per Year	$52,000	$54,000	$55,000	$57,000	$59,000	$277,000
Inter-local	Local Bus	Stop signage	10 per year	$1,000	$1,100	$1,100	$1,100	$1,200	$5,500
		Stop seating	10 per year	$11,000	$12,000	$12,000	$13,000	$13,000	$61,000
		Stop lighting	10 per year	$5,200	$5,400	$5,500	$5,700	$5,900	$27,700
		Stop bike racks	10 per year	$4,100	$4,300	$4,400	$4,600	$4,700	$22,100
		Stop shelters	10 per year	$79,000	$81,000	$84,000	$87,000	$90,000	$421,000
		Park-and-Ride at Turkey Pen Gap (Just asphalt, no land purchase)	Half acre (21780 Sq Ft) per year	$34,000	$35,000	$36,000	$37,000	$39,000	$181,000
	On-Demand Microtransit	Feeder Shuttle Rosman to Brevard	Annual OE	$584,000	$604,000	$624,000	$645,000	$666,000	$3,123,000
		Feeder Shuttle Cedar Mountain to Brevard	Annual OE	$584,000	$604,000	$624,000	$645,000	$666,000	$3,123,000
	Other	Hendersonville Shopping Shuttle (extra days)	Annual OE	$27,000	$28,000	$29,000	$30,000	$31,000	$145,000
		Vanpool (vehicle cost)	One vehicle per year	$58,000	$60,000	$62,000	$64,000	$66,000	$310,000
Regional	Regional/Intercity Bus	Henderson-Asheville Express (Annual Operating)	Annual OE	$2,900,000	$2,995,000	$3,097,000	$3,200,000	$3,305,000	$15,497,000
		Asheville Rutherford Connector (Annual Operating)	Annual OE	$1,590,000	$1,643,000	$1,699,000	$1,755,000	$1,813,000	$8,500,000
		Haywood-Buncombe Connector (Annual Operating)	Annual OE	$474,000	$490,000	$507,000	$524,000	$541,000	$2,536,000
		Brevard to Hendersonville Express Route	Annual OE	$2,035,000	$2,102,000	$2,173,000	$2,245,000	$2,319,000	$10,874,000
		Haywood County Trail (within and out of Waynesville)	Annual OE	$429,000	$443,000	$458,000	$473,000	$489,000	$2,292,000
		South Link West (Brevard to Hendersonville)	Annual OE	$651,000	$672,000	$695,000	$718,000	$742,000	$3,478,000

Pillar	Type	Project	Unit	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	Five-Year Total
		South Link East (Hendersonville to Spindale)	Annual OE	$73,000	$75,000	$77,000	$80,000	$83,000	$388,000
		Brevard to Asheville Regional Airport Express Route (Annual Operating)	Annual OE	$2,030,000	$2,100,000	$2,170,000	$2,250,000	$2,320,000	$10,870,000
		Bus Stop Improvements for Regional Routes	Eight Stop Package (single purchase installed once)	$68,000	$71,000	$73,000	$75,000	$78,000	$365,000
		Regional call center	Annual Wage for 5 Staffers	$171,000	$177,000	$183,000	$189,000	$195,000	$915,000
	Total			**$17,369,000**	**$17,948,000**	**$18,558,000**	**$19,174,000**	**$19,803,000**	**$92,852,000**

Appendix A: Land Use Maps

Figure 25. Buncombe County Existing Land Use

Buncombe County

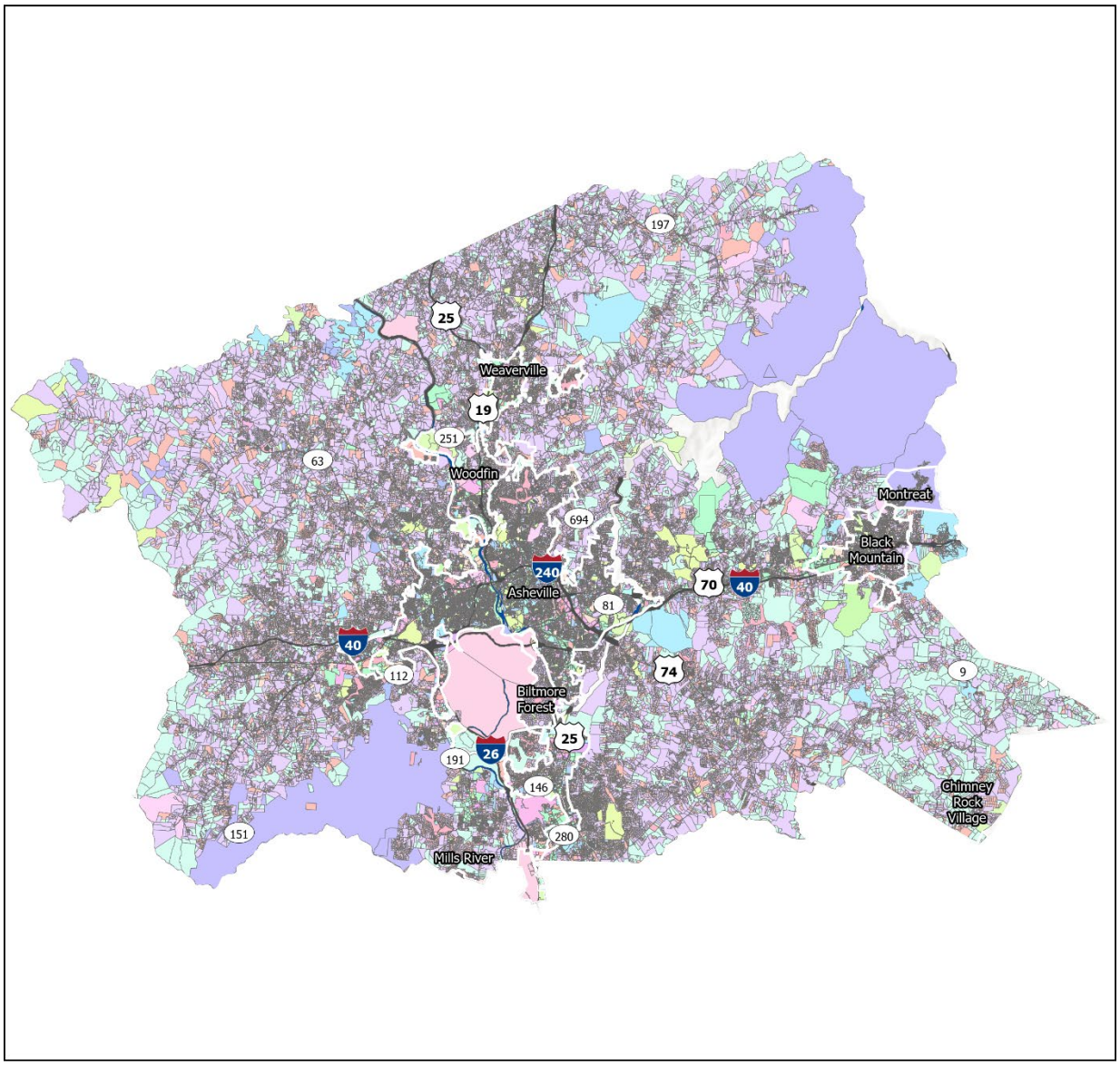


Figure 26. Haywood County Existing Land Use

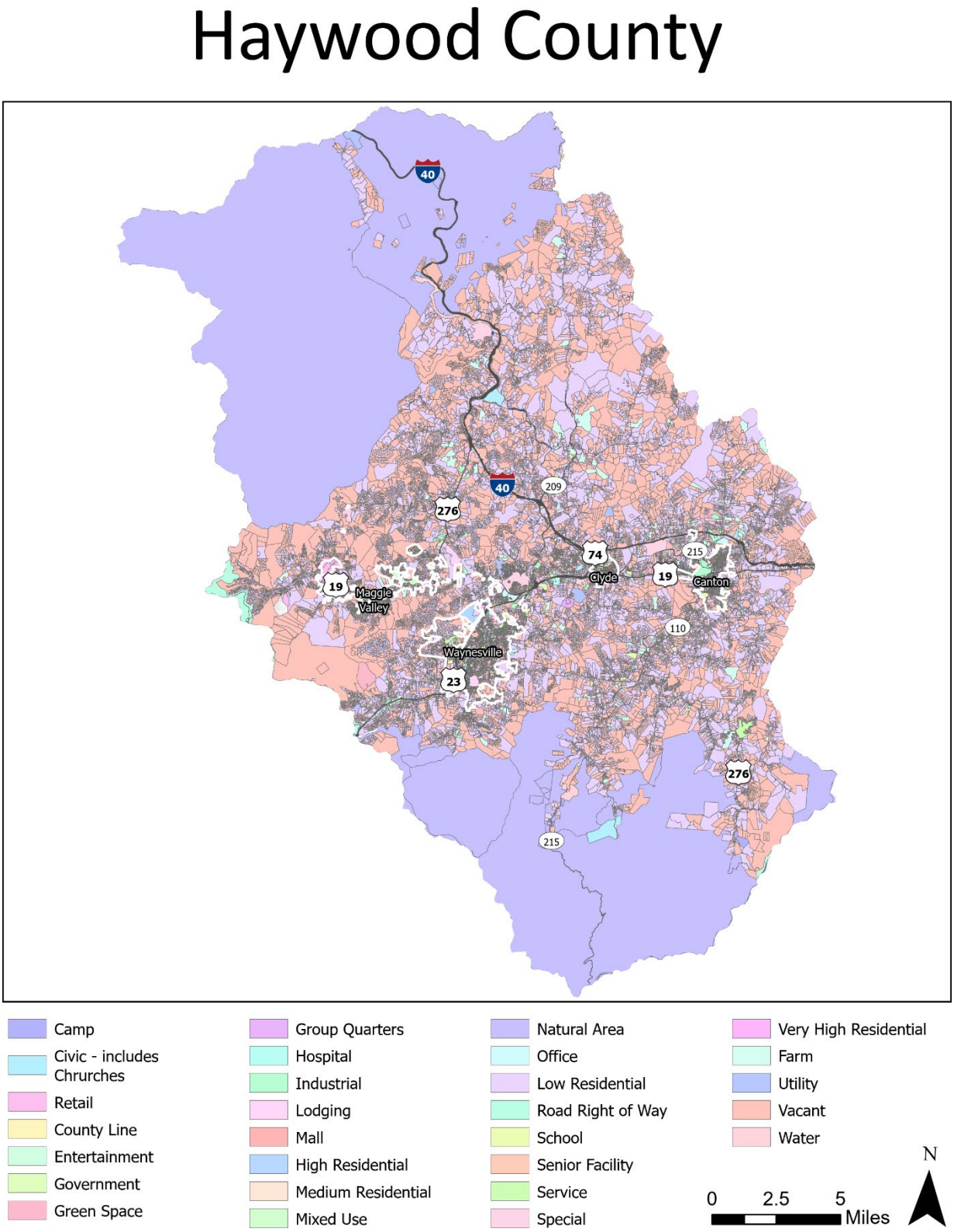


Figure 27. Henderson County Existing Land Use

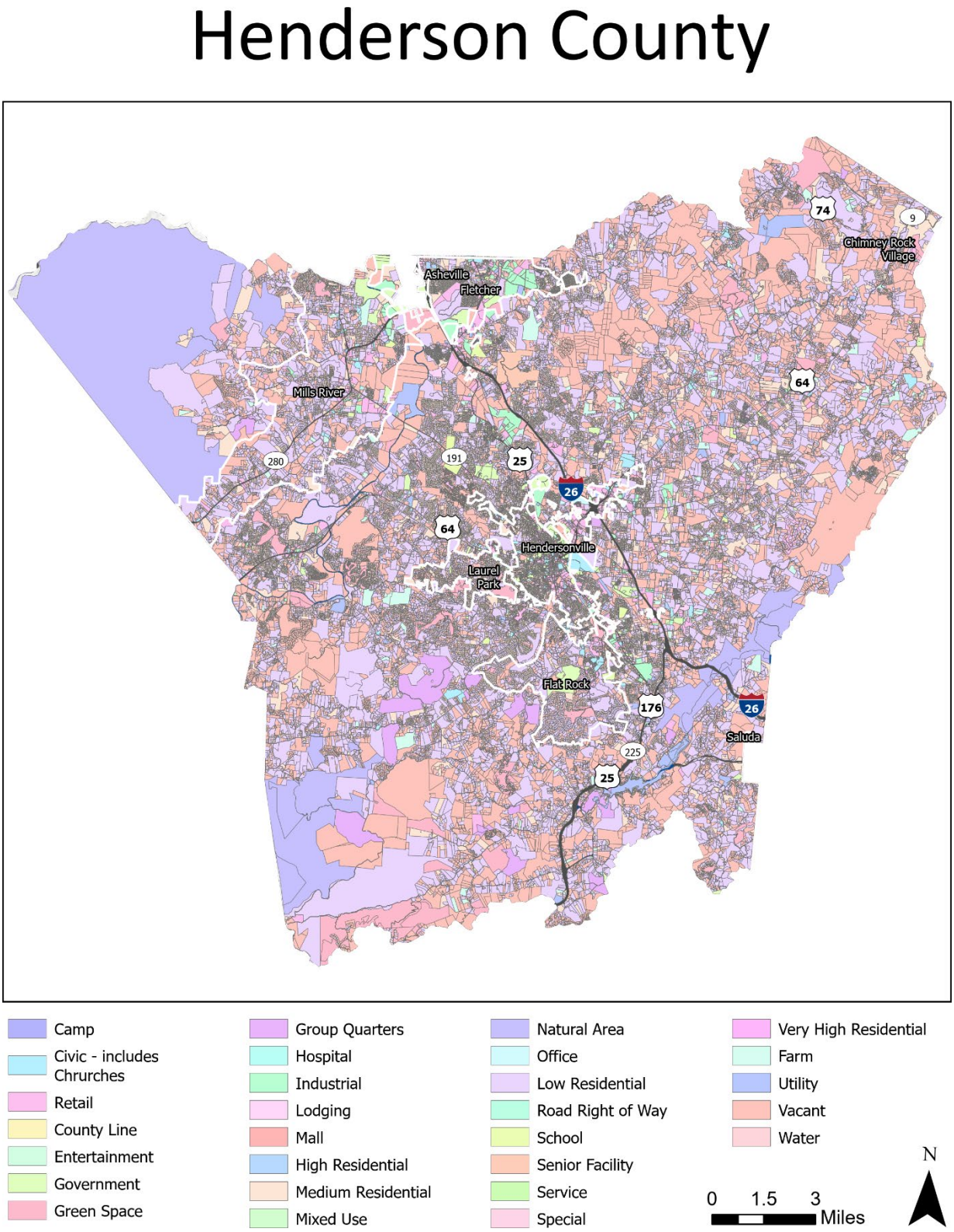


Figure 28. Madison County Existing Land Use

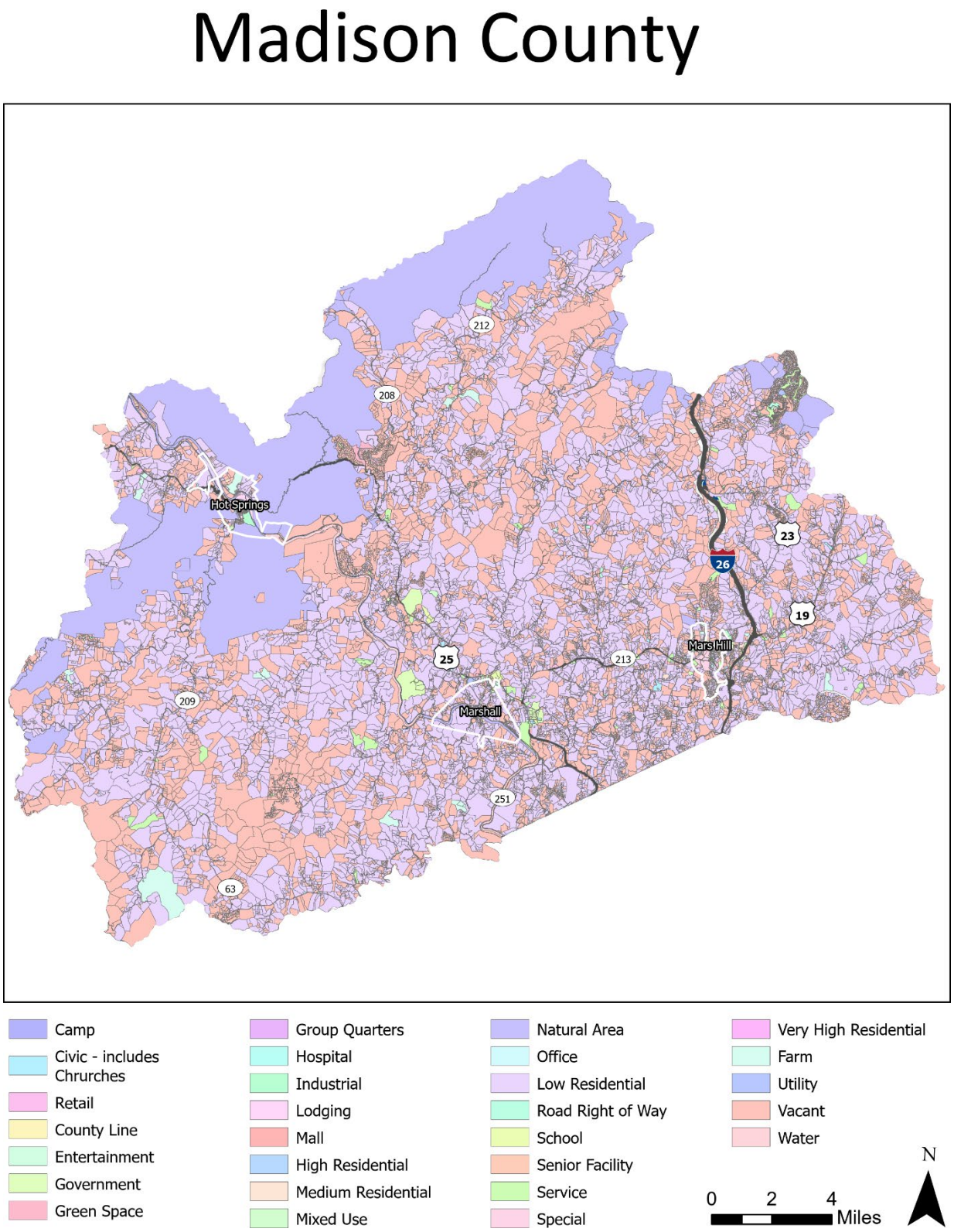


Figure 29. Transylvania County Land Use

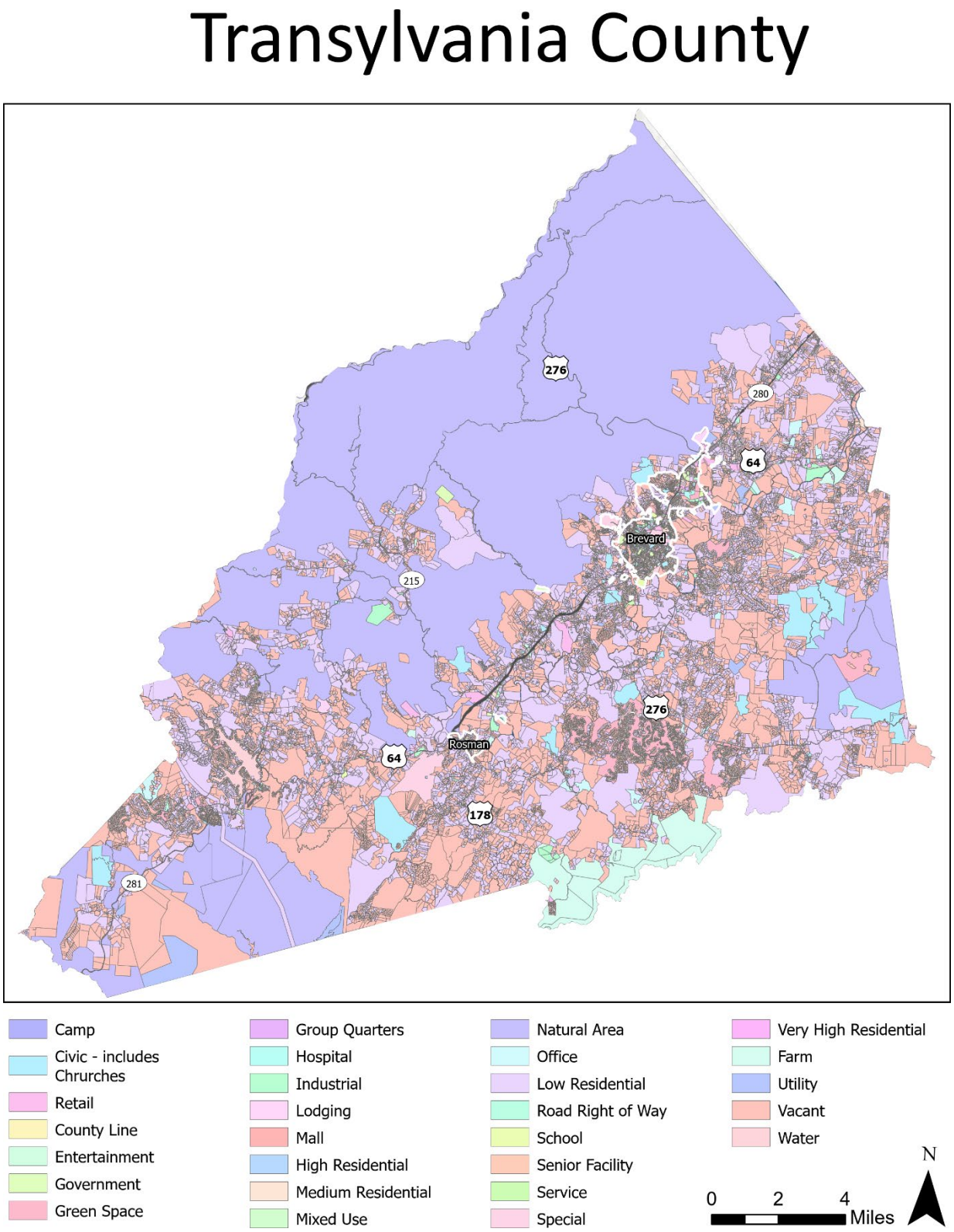


Figure 30. Rutherford County Existing Land Use

Rutherford County

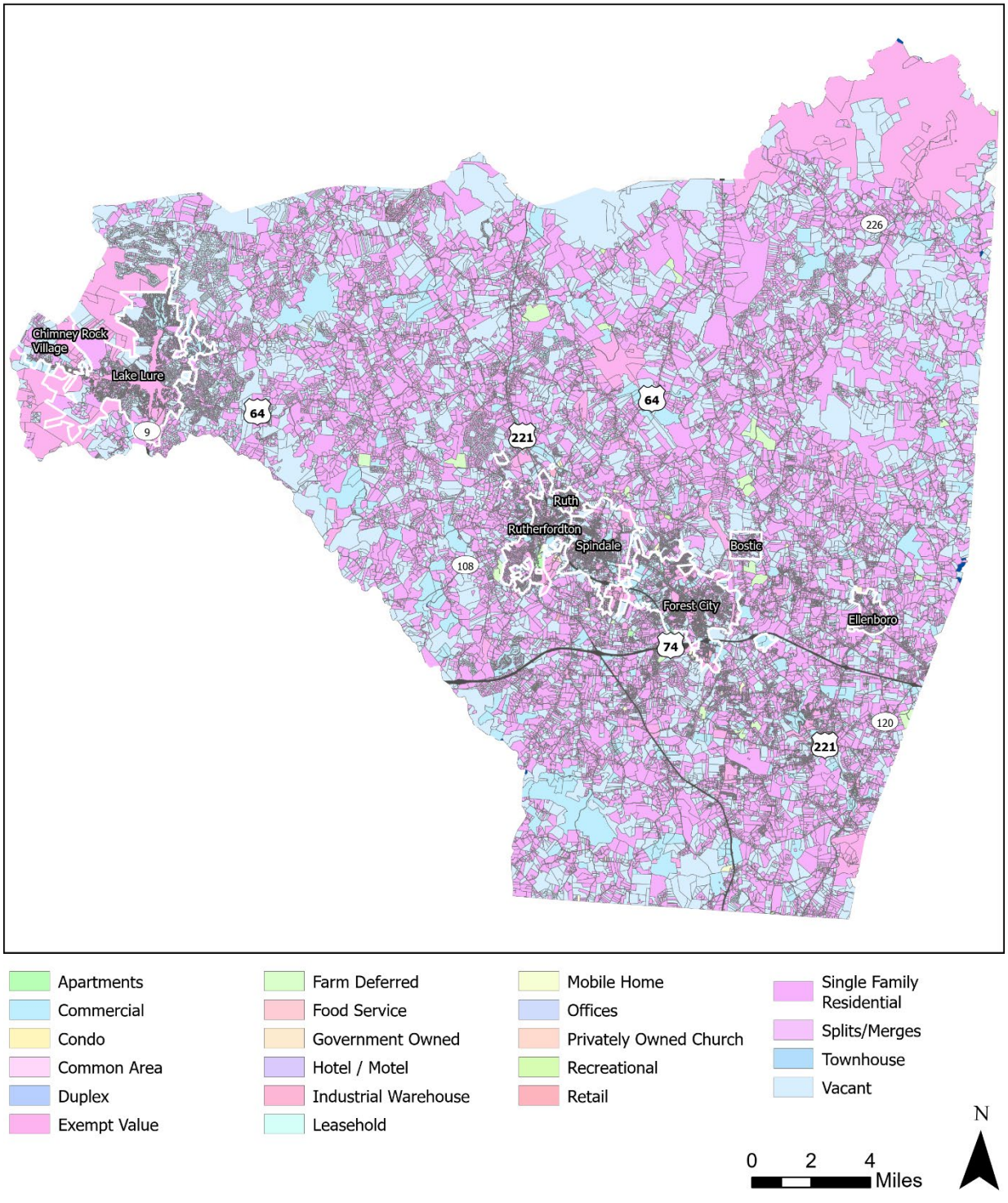
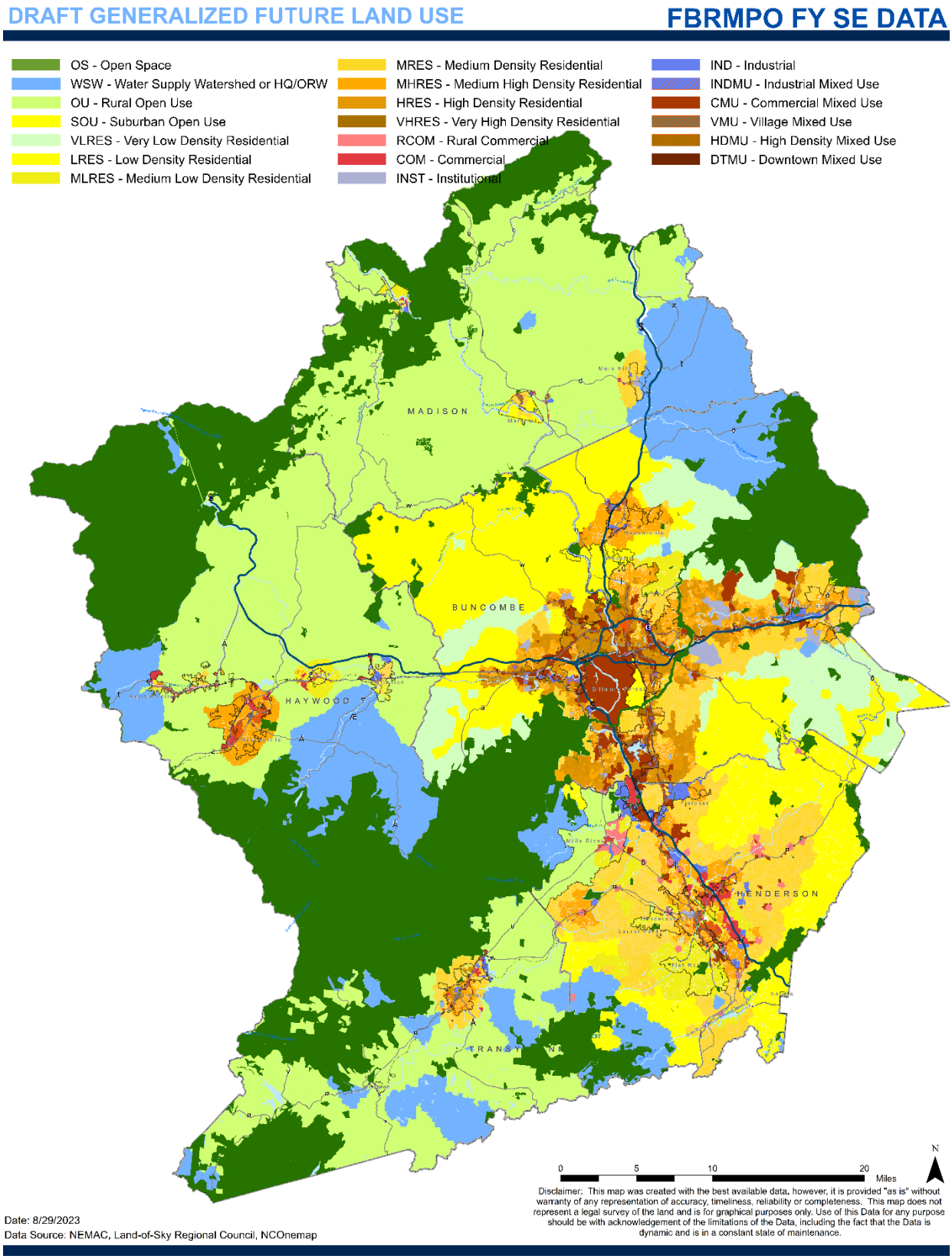


Figure 31. Future Land Use in FBRMPO



Appendix B: Detailed Cost Estimates

Pillar	Type	Item	Source Year	Source Cost	Cost Estimate (2025)	Unit	Quantity	Estimated Cost	Source
Local	Micro-Mobility	Trail widening (8-14 ft, unpaved)	2013	$121,390	$ 161,000	Mile			Costs for Pedestrian and Bicyclist Infrastructure Improvements (pedbikeinfo.org)
	Walking and Biking	Crosswalks (High Visibility)	2013	$2,540	$3,400	Each			Costs for Pedestrian and Bicyclist Infrastructure Improvements (pedbikeinfo.org)
		Wayfinding Signage	2013	$1,340	$1,800	Each			Costs for Pedestrian and Bicyclist Infrastructure Improvements (pedbikeinfo.org)
		Greenways (paved)	2013	$481,140	$639,000	Mile			Costs for Pedestrian and Bicyclist Infrastructure Improvements (pedbikeinfo.org)
		Sidewalks (concrete)	2013	$32	$42	LF			Costs for Pedestrian and Bicyclist Infrastructure Improvements (pedbikeinfo.org)
		Trails (unpaved)	2013	$121,390	$161,000	Mile			Costs for Pedestrian and Bicyclist Infrastructure Improvements (pedbikeinfo.org)
		Urban Gateway	2013	$23,090	$31,000	Each			Costs for Pedestrian and Bicyclist Infrastructure Improvements (pedbikeinfo.org)
		Ped Refuge Island	2013	$13,520	$18,000	Each			Costs for Pedestrian and Bicyclist Infrastructure Improvements (pedbikeinfo.org)
		Bulb-Out / Curb Extension	2013	$13,000	$17,000	Each			Costs for Pedestrian and Bicyclist Infrastructure Improvements (pedbikeinfo.org)
		Reduced curb radii	Pre-2013	$11,000	$15,000	Each			Road Design Curb Radius Reduction
		Pavement marking	2013	$10	$13	SF			Costs for Pedestrian and Bicyclist Infrastructure Improvements (pedbikeinfo.org)
		Lane Narrowing (restriping)	Pre-2013	$7,500	$10,000	Mile			Road Design Roadway Narrowing (FHWA)
Inter-local	Local Bus	Stop signage	2024	$143.27	$100	Each			Rice Signs
		Stop seating	2024	$1,100	$1,100	Each			The Park And Facilities Catalog
		Stop lighting	2024	$494	$500	Each			LED Lighting Wholesale Inc
		Stop bike racks	2024	$354	$400	Each			The Park And Facilities Catalog
		Stop shelters	2024	$7,362	$7,600	Each			The Park And Facilities Catalog
		Park-and-Ride at Turkey Pen Gap (Just asphalt, no land purchase)	2024	$1.46	$1.50	SF			ProMatcher
	On-Demand Microtransit	Feeder Shuttle Rosman to Brevard	2023	$85.50	$90.46	OE per VRH	6,240	$564,000	2023 NTD Profile, Transylvania County
		Feeder Shuttle Cedar Mountain to Brevard	2023	$85.50	$90.46	OE per VRH	6,240	$564,000	2023 NTD Profile, Transylvania County
	Other	Hendersonville Shopping Shuttle (extra days)	2023	$24,564.15	$26,000	Net difference (Monday and Friday weekly vs Friday biweekly)			2023 NTD Profile Polk County
		Vanpool (vehicle cost)	2024	$54,820	$56,000	Each			2024 Ford Transit
Regional	Regional/Intercity Bus	Henderson-Asheville Express (Annual Operating)	2023	$117.10	$123.89	OE per VRH	22,596	$2,799,000	2023 NTD Profile, City of Asheville
		Asheville Rutherford Connector (Annual Operating)	2023	$117.10	$123.89	OE per VRH	12,388	$1,535,000	2023 NTD Profile, City of Asheville
		Haywood-Buncombe Connector (Annual Operating)	2023	$58.96	$62.38	OE per VRH	7,335	$458,000	2023 NTD Profile, Mountain Projects, Inc
		Brevard to Hendersonville Express Route	2023	$89.88	$95.09	OE per VRH	20,655	$1,964,000	2023 NTD Profile, Henderson County

Pillar	Type	Item	Source Year	Source Cost	Cost Estimate (2025)	Unit	Quantity	Estimated Cost	Source
		Haywood County Trail (within and out of Waynesville)	2023	$58.96	$62.38	OE per VRH	6,630	$414,000	2023 NTD Profile, Mountain Projects, Inc
		South Link West (Brevard to Hendersonville)	2023	$89.88	$95.09	OE per VRH	6,602	$628,000	2023 NTD Profile, Henderson County
		South Link East (Hendersonville to Spindale)	2023	$89.88	$95.09	OE per VRH	734	$70,000	2023 NTD Profile, Henderson County
		Brevard to Asheville Regional Airport Express Route (Annual Operating)	2023	$89.88	$95.09	OE per VRH	20,655	$1,964,000	2023 NTD Profile, Henderson County
		Bus Stop Improvements for Regional Routes	2025			All 8 stops		$66,000	(Local Bus Sources)
		Regional call center	2025	$15.95	$15.95	Hourly rate per employee	2,080	$33,000	Call Center Representative salary in Hendersonville NC

Appendix C: Disaster Response and Recovery

Hurricane Recovery

This section outlines the effects of Hurricane Helene on transit services within the WNC Coordination Region, highlights the vital role of transit agencies in hurricane response and recovery, and suggests potential actions moving forward.

Introduction

Hurricane Helene has had a profound impact on transit agencies in the WNC Coordinated Region, primarily due to severe flooding and damage to highways, local roads, and other critical transportation infrastructure. As a result, many transit routes were disrupted, making it challenging for agencies to maintain regular service. However, transit agencies also played an essential role in the hurricane's response, facilitating 450 evacuation trips and transporting over 2,000 individuals to safety. In light of the recent impact of Hurricane Helene on the WNC Coordinated Region, this section outlines the necessary adjustments to the WNC CRTP to enhance disaster response and recovery efforts. Given the extent of the disruptions caused by the hurricane, it is essential to adapt the region's transit services to better support affected communities and local transit staff.

Impacts

The hurricane has had two major impacts on the region: disruptions to local transit services and an increased demand for transportation. Many existing and proposed transit routes have been severely affected by flooding and debris, necessitating extensive cleanup efforts and possible rerouting. Some of the affected roadways may take years to fully reconstruct, complicating recovery efforts and limiting access for residents. Additionally, there is an immediate need for public transportation to connect individuals with shelters, medical facilities, and recovery centers.

Potential Actions

Collaboration with neighboring states and communities across North Carolina highlights the critical importance of regional partnerships in restoring transit services and improving community mobility during this recovery phase. By working together, the WNC Coordinated Region can more effectively address the challenges created by the hurricane and ensure that residents have access to essential transportation.

To support these collaborative efforts, several key considerations have been identified, with a focus on route assessment and rerouting, emergency services coordination, public communication, and resource allocation. Each of these considerations is outlined below:

Route Assessment and Rerouting

To address the impacts of the hurricane on transit services, a comprehensive evaluation of all affected transit routes should be conducted. After assessing the damage, safe temporary routes should be implemented, redirecting transit vehicles to service roads and alternative routes that are still accessible. It is crucial to evaluate whether these alternative routes can accommodate the expected traffic volume without causing significant delays. Real-time updates should be provided to keep riders informed about route conditions and any necessary detours. Encouraging riders to report conditions along the routes will improve situational awareness. Finally, the data collected during this process should inform future infrastructure improvements, ultimately strengthening resilience against future storms.

Emergency Services Coordination

In order to support evacuation and relief efforts, close coordination with local emergency management agencies is essential to prioritize transit services. Establishing strong communication with shelters will ensure timely transportation for residents in need, enabling their access to safety and resources during emergencies. This coordinated approach not only enhances the efficiency of response efforts but also contributes to the community's well-being during critical times.

Additionally, the Federal Transit Administration (FTA) provides technical assistance, guidance, and regulatory flexibility to transit agencies affected by natural disasters. The FTA's Emergency Relief (ER) Program, established under the Moving Ahead for Progress in the 21st Century Act (MAP-21), offers support to public transit operators following emergencies or major disasters. This program helps states and transit systems cover costs associated with protecting, repairing, or replacing damaged equipment and facilities, such as those affected by floods, hurricanes, and tornadoes. It also funds projects aimed at safeguarding or restoring these assets and covers operating costs for evacuation, rescue operations, and temporary transit services before, during, or after an emergency.

EMERGENCY RELIEF FROM FTA REGULATORY REQUIREMENTS[5]

Four processes are outlined under the FTA's Emergency Relief (ER) program, which are critical for ensuring effective emergency response and recovery. These processes include charters, the National Environmental Policy Act (NEPA), planning, and procurement. Each of these steps plays a key role in managing emergencies efficiently:

- **Charters** facilitates the transportation of individuals and resources during emergencies.
- **NEPA** ensures that environmental considerations are integrated into the decision-making process.
- **Planning** involves strategic preparations to enhance resilience and response capabilities.
- **Procurement** streamlines the acquisition of necessary goods and services to support emergency operations.

Together, these processes form a comprehensive framework for effective emergency management.

Charters

Transit agencies are authorized to take specific actions during emergencies, such as facilitating evacuations, transporting evacuees back home from shelters, moving utility workers, and providing services to shelter residents. In the case of the WNC Coordinated Region, these actions are contingent upon a formal emergency declaration by the President, governor, or mayor and may be carried out without violating charter rules. Agencies may offer these services for up to 45 days following the emergency declaration.

Extension of Emergency Transportation Services

If transit agencies need to extend emergency transportation services beyond the initial 45-day period, they must follow the procedures outlined in 49 Code of Federal Regulations (CFR) Part 601, Subpart D—

[5]Emergency Relief from FTA Regulatory Requirements: https://www.transit.dot.gov/funding/grant-programs/emergency-relief-program/fta-hurricane-natural-disaster-response

Emergency Procedures for Public Transportation Systems. This section outlines the emergency procedures for public transportation systems in the United States, specifically targeting FTA grantees and subgrantees during national or regional emergencies declared by the President, state governors, or local authorities.

In these situations, grantees may petition the FTA Administrator for temporary relief from specific federal policies, guidance documents, or regulations that may impede their response efforts. To facilitate this process, the FTA establishes an Emergency Relief Docket each year, which is made publicly available within two business days of an emergency declaration. This ensures that communication and documentation of relief efforts are streamlined. The FTA also notifies the public about the opening of this docket through its website, promoting transparency and accessibility of information related to emergency procedures. In the case of predictable emergencies, such as hurricanes, the FTA may open the docket preemptively to expedite responses. Grantees are required to document their requests, as well as the nature of the emergency, to ensure that all actions taken are recorded for accountability and future reference. This framework is designed to ensure that public transportation systems can respond effectively and efficiently during emergencies, maintaining essential services for affected communities.

NEPA

Under 23 CFR 771.118(c)(11), the FTA has identified certain activities related to the repair of transportation infrastructure damaged by disasters with a Presidential disaster or emergency declaration as categorical exclusions, meaning they do not typically require additional NEPA approvals. These activities include:

- Emergency repairs under 49 U.S.C. 5324 (FTA's ER Program).
- The repair, reconstruction, restoration, retrofitting, or replacement of roads, highways, bridges, tunnels, or transit facilities (like bus transfer stations), including ancillary facilities such as pedestrian and bicycle paths.

To qualify for this exemption, these actions must occur within the existing right-of-way and align with the original design, function, and location, with possible upgrades to meet current standards. These repairs must also begin within two years of the emergency declaration. They must also begin within two years from the date of the emergency declaration. These provisions streamline the process of repairing damaged transportation infrastructure, facilitating faster recovery.

Planning

According to the regulations in 23 CFR Part 450, emergency relief projects that do not involve significant changes to function, location, or capacity are exempt from inclusion in the Transportation Improvement Program (TIP) or the Statewide Transportation Improvement Program (STIP). This simplifies the process for implementing necessary emergency projects without requiring extensive planning documentation.

To enhance future resilience, it is essential to develop or update disaster response plans by incorporating lessons learned from Hurricane Helene. These plans should outline emergency protocols, communication strategies, and resource allocation processes. Additionally, providing staff training on emergency response and recovery operations will ensure readiness for future events. By adopting these measures, WNC can strengthen its transportation system and better prepare for future challenges.

Procurement

While transit agencies typically need to procure goods and services through competitive bidding, 2 CFR 200.320 allows for sole source contracting during public exigencies or emergencies where competitive solicitation is not feasible. The federal awarding agency can also approve non-competitive proposals if the transit agency submits a written request.

Transit agencies must document their justification for using sole source contracts. The FTA encourages grant recipients considering this option to contact their FTA regional office for technical assistance or to obtain express authorization for a noncompetitive proposal.

EMERGENCY RELIEF (ER) PROGRAM

The FTA's Emergency Relief (ER) Program provides support to states and transit agencies affected by declared emergencies or disasters seeking funding. For comprehensive guidance, refer to the ER Program guide, with particular attention to the FAQs on page 59.

Agencies impacted by a declared emergency should maintain thorough documentation of all expenses related to disaster response—before, during, and after the event. This documentation is crucial for assessing eligibility for reimbursement if funding becomes available. Key data points to track include:

- Types of emergency transportation services provided (e.g., vehicle types, number of trips, passengers transported, service dates and hours, and fares collected).
- Emergency protective measures implemented to safeguard transit assets and personnel.
- Damages to vehicles, facilities, or equipment.
- Temporary or permanent repairs made to damaged assets.

Additionally, the FTA publishes an annual Emergency Relief Docket, which allows grantees and subgrantees impacted by national or regional emergencies to request temporary relief from certain administrative and statutory requirements.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) PUBLIC ASSISTANCE PROGRAM

The FEMA Public Assistance (PA) program reimburses state and local governments, federally recognized tribes, and certain nonprofit organizations in designated counties for eligible expenses incurred before, during, and after an emergency, on a cost-share basis. This funding helps support efforts to protect people and property, restore power, repair roads, and clean up neighborhoods.

It is important to note that any emergency-related expenses reimbursed by FEMA cannot also be reimbursed by the FTA's ER Program if funding becomes available. In these cases, the FTA will assume primary responsibility for covering transit-related emergency relief expenses. For further details, refer to the information on FEMA PA grants and Direct Federal Assistance.

FTA'S ER MANUAL: A REFERENCE MANUAL FOR STATES & TRANSIT AGENCIES ON RESPONSE AND RECOVERY FROM DECLARED DISASTERS AND FTA'S ER PROGRAM (49 U.S.C. 5324) [6]

The FTA's Emergency Relief Manual provides guidance for transit agencies preparing for, responding to, or recovering from federally declared emergencies or disasters. Building upon the 2013 update of the document "Response and Recovery for Declared Emergencies and Disasters", it includes updated information about the FTA's Emergency Relief Program, which was authorized under MAP-21.

The manual outlines the steps transit agencies can take to improve their preparedness before an emergency occurs and the actions to follow afterward to secure FTA assistance. It includes crucial information on program eligibility and requirements, and the application process for Emergency Relief Program funding. This funding helps transit agencies receive reimbursement for response, restoration, repair, and resilience efforts aimed at enhancing resilience in the aftermath of emergencies or disasters.

Public Communication

During a natural disaster, transit agencies could actively use social media (if accessible), local news outlets, and transit apps to keep the public updated about service changes, available routes, and essential safety information. Agencies should also plan for alternative communication methods in case of power outages. These may include radio station broadcasts or posting flyers on community bulletin boards or at local meeting locations, such as shelters or supply distribution points.

It is important to provide regular updates about recovery efforts and communicate anticipated timelines for the restoration of regular services. Additionally, agencies should consider setting up hotlines or online platforms to allow citizens to report issues or request assistance, ensuring that the community remains informed and connected throughout the emergency. Communications should also be available in all languages identified in the agencies' Title VI plans.

Resource Allocation

During a natural disaster, transit agencies must collaborate with key stakeholders to implement emergency response plans. This coordination ensures that all parties are aligned and can contribute effectively to the response efforts. Additionally, transit agencies should participate in future county hazard mitigation plans to include long-term transit considerations. By doing so, these plans can better support transit system operations and accessibility during crises, improving the overall effectiveness of emergency responses.

Agencies should continuously monitor the situation and be ready to adjust their responses as needed based on ongoing assessments. This proactive approach enables flexibility and responsiveness to the changing needs of the community during emergencies, ultimately enhancing the resilience of both the transit system and the community it serves.

[6] FTA's ER Manual: https://www.transit.dot.gov/funding/grant-programs/emergency-relief-program/emergency-relief-manual-reference-manual-states

Mutual aid agreements, as defined by FEMA, provide a legal framework for two or more entities to share resources effectively. These agreements can involve states, jurisdictions, neighboring communities, federal agencies, and even international partners. Their primary goal is to facilitate the rapid and short-term deployment of emergency support before, during, and after an incident.

For example, during Hurricane Florence in 2018, various transit agencies, including GoTriangle, collaborated to transport supplies and resources to affected areas like Wilmington. This effort involved filling buses with essential items to assist those impacted by the storm. Such mutual aid agreements between transit agencies are crucial for ensuring timely support during emergencies, ultimately enhancing the resilience of communities during crises.

Next Steps

During a natural disaster, it is crucial for transit agencies to engage with key stakeholders to coordinate the execution of emergency response plans. This collaboration ensures alignment among all parties and maximizes the effectiveness of the response efforts. In addition, agencies should remain vigilant and continuously assess the situation, adjusting their response strategies as needed. This proactive approach provides the flexibility and responsiveness required to address the changing needs of the community throughout the emergency.

In response to Hurricane Helene, the ongoing involvement of local transit agencies, alongside support from NCDOT, is critical to ensuring the safety and mobility of the WNC community. By implementing or referring to the measures outlined above, the region can effectively aid recovery efforts and maintain essential transit services during this critical period.

Additional Resources

National Rural Transit Assistance Program

The National Rural Transit Assistance Program (RTAP) offers additional resources and guidance on disaster preparedness and response. Transit agencies can access valuable materials to help them plan for, respond to, and recover from various disasters, including natural disasters and extreme weather events, through the following link: https://www.nationalrtap.org/Resource-Center/Topic-Guides/Disasters.

These resources include toolkits and guides from organizations such as the American Association of Retired Persons (AARP), the American Association of State Highway and Transportation Officials (AASHTO), and FEMA, focusing on emergency management and transportation during disasters. The materials cover key topics like disaster resilience, emergency operations, and community recovery.

- **Disaster Planning:** This section of the guide includes several toolkits and reports related to disaster planning.
- **Disaster Response:** The disaster response section of the guide discusses best practices for transit agencies during emergencies, highlighting essential decision-making tools, and effective communication strategies. It emphasizes the critical role of public transit in both emergency response and recovery efforts.
- **Disaster Recovery**: The disaster recovery section of the guide provides valuable frameworks for community recovery management, focusing on improving the resilience of transit systems after a disaster.

Overall, this guide acts as a comprehensive resource to strengthen disaster preparedness and response capabilities for transit agencies, ensuring they can effectively support their communities during emergencies.

FTA Transit Resilience Guidebook

The FTA's Transit Resilience Guidebook (2024)[7] is a key resource aimed at helping transit agencies, local government officials, metropolitan planning organizations (MPOs), and other public transportation entities better prepare for and respond to service disruptions caused by extreme weather events, natural disasters, and the effects of climate change. The guidebook offers strategies for identifying and addressing vulnerabilities, building resilience, protecting vulnerable populations, and includes relevant examples and case studies.

One notable example is the regional collaboration that took place after Hurricane Sandy in 2012. In the wake of the storm, transit agencies in the New York-New Jersey area, including the Metropolitan Transportation Authority (MTA), New Jersey Transit, and the Port Authority of New York and New Jersey, worked closely together. They shared resources, coordinated schedules, and provided mutual aid to ensure the rapid restoration of essential transit services.

Another example featured in the guidebook comes from the response to Hurricane Harvey in August 2017, which devastated parts of Southeast Texas. Following the storm, transit agencies in Texas, such as Houston METRO, collaborated with neighboring systems to deliver emergency transportation services. They coordinated evacuation efforts, transported emergency personnel, and delivered essential supplies. Houston METRO also utilized checklists of extreme weather event responsibilities that it had developed based on lessons from previous flood events. This preparation helped them prioritize which services to restore first and identify key partners for cleanup tasks.

Disaster Response and Recovery

Findings from the Disaster Response and Recovery report were presented to agencies alongside the alternative solutions presented in Section 6, allowing the agencies to provide input regarding their disaster recovery experiences following Hurricane Helene:

- Agencies shared that VIPER radio and SMS were the most effective forms of communication after Hurricane Helene and during the recovery efforts
    - Communication was essential, as facilities did not open until communication within the region improved
- The importance of relationships between the agencies and emergency management teams and directors was emphasized
    - Emergency evacuations were facilitated by strong connections and shared knowledge between the agencies and emergency management

The proposed alternative solution for information-sharing between agencies via an online platform would allow agencies to share information on recovery efforts following potential natural disasters

[7] FTA Transit Resilience Guidebook (2024): https://www.transit.dot.gov/sites/fta.dot.gov/files/2024-05/TPE-FTA-Resilience-Guidebook-05-29-2024.pdf