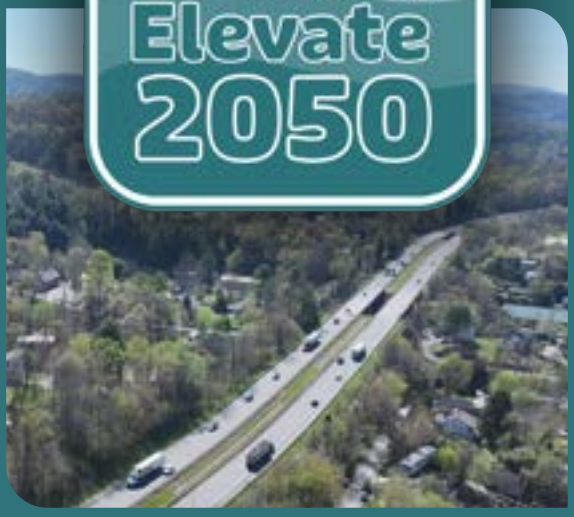

Elevate 2050

Metropolitan Transportation Plan

a program of Land of Sky

FRENCH BROAD RIVER

METROPOLITAN PLANNING ORGANIZATION

Acknowledgements

Elevate 2050 is a regional vision that was made possible through collaboration and partnerships with local, regional, state, federal, and private organizations throughout Western North Carolina, as well as extensive public involvement. The contributions of each to this document are invaluable.

French Broad River Metropolitan Planning Organization

- Tristan Winkler, Director
- Hannah Bagli, Regional Transportation Planner
- Daisy O'Conner, Regional Transportation Planner
- Nicole Samu, GIS Coordinator
- Sandy Broadwill, TDM Coordinator
- Ada McGovern, Safe Routes to School Coordinator

Land of Sky Regional Council

- Vicki Eastland, Assistant Regional Transportation Planning Director

North Carolina Department of Transportation

- Daniel Sellers, Transportation Engineer III
- Stephan Sparks, Division 13 Corridor Development Engineer
- Steve Williams, Division 14 Corridor Development Engineer
- David Wasserman, STIP Western Region Manager

Federal Highway Administration

- Suzette Morales, Planning & Environmental Specialist *(former)*

Steering Committee Members

Town of Waynesville

- Elizabeth Teague, Development Services Director (chair)
- Anthony Sutton, Council Member

Buncombe County

- William High, Lead Transportation Planner

City of Asheville

- Jessica Morriss, Assistant Transportation Director

Town of Weaverville

- Catherine Cordell, Council Member

Henderson County

- Autumn Radcliff, Planning Director

Town of Black Mountain

- Archie Pertiller, Town Council - Vice Mayor

Land Acknowledgement

The FBRMPO acknowledges the Traditional Custodians of the land for which it plans today. For centuries, native peoples cared for and called the land known as Buncombe, Haywood, Henderson, and Madison counties in North Carolina home. These counties sit on land that historically belonged to S'atsoyaha (Yuchi), Catawba, Miccosukee, and the Eastern Band of Cherokee peoples. The FBRMPO acknwledges and respects the history, presence, and future of the native peoples. The FBRMPO also acknowledges the unjust practices and harm imposed on enslaved people and generations of Black Americans who reside or resided on this land.

Consulting Partners

McAdams

- Joel Strickland
- Emily Scott-Cruz
- Kristy Carter
- Allison Anolik
- Kenny Armstrong
- Christopher Normile
- Halee Robinson
- Eliza Monroe
- Nicholas Lucovsky
- Rachael Bronson
- Jeromy Wegrzyn
- Mitchell Smith
- Ryan Sporisky

VHB

- Lyuba Zuyeva
- Connor Klassen
- Natalie Luftman
- Julia McClennen Murphy
- Nicole Bennett
- Lauren Blackburn

FBRMPO Member Jurisdictions

Municipalities

- City of Asheville
- City of Hendersonville
- Town of Biltmore Forest
- Town of Black Mountain
- Town of Canton
- Town of Clyde
- Town of Fletcher
- Town of Laurel Park
- Town of Maggie Valley
- Town of Mars Hill
- Town of Mills River
- Town of Montreat
- Town of Waynesville
- Town of Weaverville
- Town of Woodfin
- Village of Flat Rock

Counties

- Buncombe County
- Haywood County
- Henderson County
- Madison County

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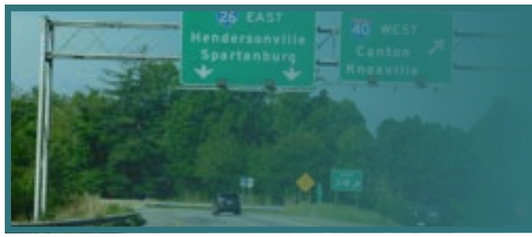

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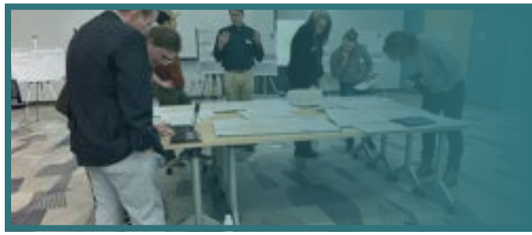

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List of Acronyms

A

- AADT: Annual Average Daily Traffic
- AADTT: Annual Average Daily Truck Traffic
- ACS: American Community Survey
- ACV: Autonomous and Connected Vehicles
- ADA: Americans with Disabilities Act
- ART: Asheville Rides Transit
- AVL: Asheville Regional Airport

B

- BIL: Bipartisan Infrastructure Law
- BRT: Bus Rapid Transit

C

- CAA: Clean Air Act
- CAC: Citizens Advisory Committee
- CID: Corridor Identification and Development
- CMP: Congestion Management Plan
- CRA: Civil Rights Act
- CTP: Comprehensive Transportation Plan

D

- DA: Direct Attributable
- EPA: Environmental Protection Agency

E

- ETJ: Extraterritorial Jurisdiction
- EV: Electric Vehicle

F

- FAST Act: Fixing America's Surface Transportation Act
- FBRMPO: French Broad River Metropolitan Planning Organization
- FHWA: Federal Highway Administration
- FMCSA: Federal Motor Carrier Safety Administration
- FRA: Federal Railroad Administration
- FTA: Federal Transit Administration

G

- GPS: Global Positioning System

H

- HCTDA: Henderson County Tourism Development Authority
- HEV: Hybrid Electric Vehicle
- HOT lanes: High-Occupancy Toll Lanes
- HSIP: Highway Safety Improvement Program

I

- IIJA: Infrastructure Investment and Jobs Act
- ITS: Intelligent Transportation Systems

J

- JARC: Job Access and Reverse Commute

L

- LCP or CPT-HSTP: Coordinated Public Transit-Human Services Transportation Plan
- LIFT: Legacy Investment from Tourism
- LOS: Level of Service
- LOSRC: Land of Sky Regional Council
- LOSRPO: Land of Sky Rural Planning Organization

M

- MAP-21: Moving Ahead for Progress in the 21st Century
- MCTA: Madison County Transportation Authority
- MPO: Metropolitan Planning Organization
- MSA: Metropolitan Statistical Area
- MTP: Metropolitan Transportation Plan

N

- NCDNCR: North Carolina Department of Natural and Cultural Resources
- NCDEQ: North Carolina Department of Environmental Quality
- NCDOT: North Carolina Department of Transportation
- NCOSBM: North Carolina Office of State and Budget Management
- NSFLTP: Nationally Significant Federal Lands and Tribal Transportation Project
- NTD: National Transit Database

O

- OSBM: Office of State Budget and Management

P

- PHEV: Plug-in Hybrid Vehicle
- PIP: Public Involvement Plan
- PM1: Performance Measure 1 (Safety)
- PM2: Performance Measure 2 (Infrastructure Condition)
- PM3: Performance Measure 3 (System Performance)

R

- RAISE: Rebuilding American Infrastructure with Sustainability and Equity
- ROW: Right-of-Way
- RTA: Regional Transit Authority

S

- SAFETEA-LU Law: Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
- SHSP: Strategic Highway Safety Plan
- SIT: Specific Improvement Types
- SOV: Single-Occupancy Vehicle
- SPOT: Strategic Transportation Prioritization
- SRTS: Safe Routes to School
- STBG: Surface Transportation Block Grant Program
- STI: Strategic Transportation Investments
- STIP: State Transportation Improvement Program

T

- TAC: Technical Advisory Committee/MPO Board
- TAM: Transit Asset Management
- TAMP: Transportation Asset Management Plan
- TAZ: Traffic Analysis Zone
- TCC: Technical Coordinating Committee
- TDA: Tourism Development Authority
- TDM: Transportation Demand Management
- TERM: Transit Economic Requirements Model
- TIP: Transportation Improvement Program
- TMA: Transportation Management Area
- TPD: Transportation Planning Division
- TPDF: Tourism Product Development Fund
- TPIMS: Truck Parking Information Management Systems

U

- UA: Urbanized Area
- ULB: Useful Life Benchmark
- USC: United States Code
- USDA: United States Department of Agriculture
- USDOT: United States Department of Transportation
- USFWS: United States Fish and Wildlife Services

V

- V/C: Volume/Capacity
- VMT: Vehicle Miles Traveled
- VRM: Vehicle Revenue Miles

W

- WNC: Western North Carolina

Z

- ZEV: Zero-Emission Vehicle

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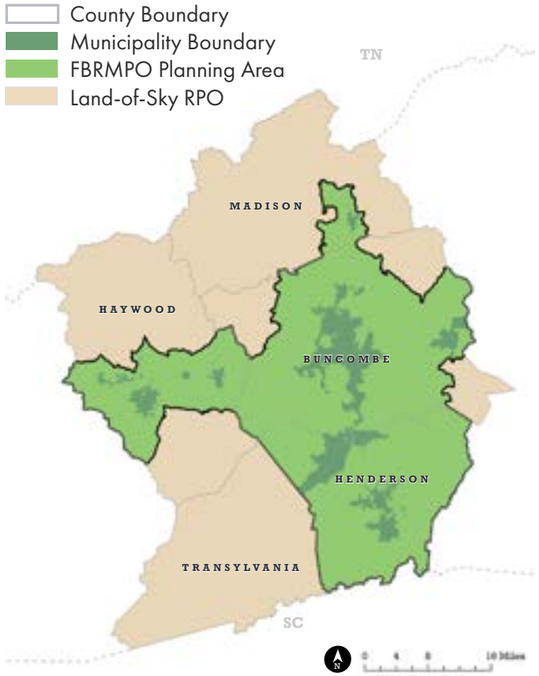
Reed Creek Greenway (credit: Melinda Young Stuart)

01. Introduction

A Metropolitan Planning Organization (MPO) is a federally required transportation planning agency that provides a forum for continuous, coordinated, and collaborative transportation planning processes between local governments, transit agencies, state agencies, federal transportation agencies, and the public, serving urbanized areas with populations over 50,000. Urbanized areas include census tracts and blocks that meet minimum population density requirements strongly linked to the urban core. MPOs with over 200,000 in population receive a designation as a Transportation Management Area (TMA), which carries additional planning requirements. The French Broad River MPO (FBRMPO) is a designated TMA due to its population growth beyond the areas immediately around Asheville.

The FBRMPO has served the Asheville area since the 1960s and is housed within the Land of Sky Regional Council, which serves Buncombe, Henderson, Madison, and Transylvania counties, and provides transportation services to Haywood County. The Asheville urbanized area has expanded to include parts of Buncombe and Henderson counties centered around Asheville and Hendersonville. In addition, the FBRMPO planning area includes all of Henderson County, most of Buncombe County, and parts of Haywood and Madison counties.

Map 1.1: FBRMPO Planning Area



The FBRMPO's Board includes elected officials from member jurisdictions, appointed members from the North Carolina Board of Transportation, transit system representatives, and non-voting members from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). Advising the FBRMPO Governing Board ("the Board") is the Technical Coordinating Committee (TCC), which comprises local government, NCDOT, public transit, and other agency staff. The FBRMPO maintains subcommittees and working groups to advise the TCC and Board, while engaging the public as outlined in its Public Involvement Plan (PIP).

The Land of Sky Rural Planning Organization (LOSRPO) serves the non-urbanized area of the Land of Sky region. An RPO serves a similar function to an MPO for the rural areas of a state. The LOSRPO involves local officials in multimodal transportation planning through a structured process to ensure quality, competence, and fairness in the transportation decision-making process. RPOs consider multimodal transportation needs on a local and regional basis, review long-term needs as well as short-term funding priorities, collaborate with MPOs, and make recommendations to the North Carolina Department of Transportation (NCDOT).

What is an MTP?

The 2050 Metropolitan Transportation Plan (MTP), or Elevate 2050, is FBRMPO's long-range transportation plan that focuses on the region's current and future transportation needs. As part of the transportation planning process, MTPs must look to the region's present and future conditions to determine needs, establish priorities, and identify investments necessary to achieve the region's goals and objectives. Federal guidelines require that Elevate 2050 remains fiscally-constrained, meaning the plan must have reasonable financial assumptions about how much money the region is likely to have available and how the region may apply those funds to identified projects.

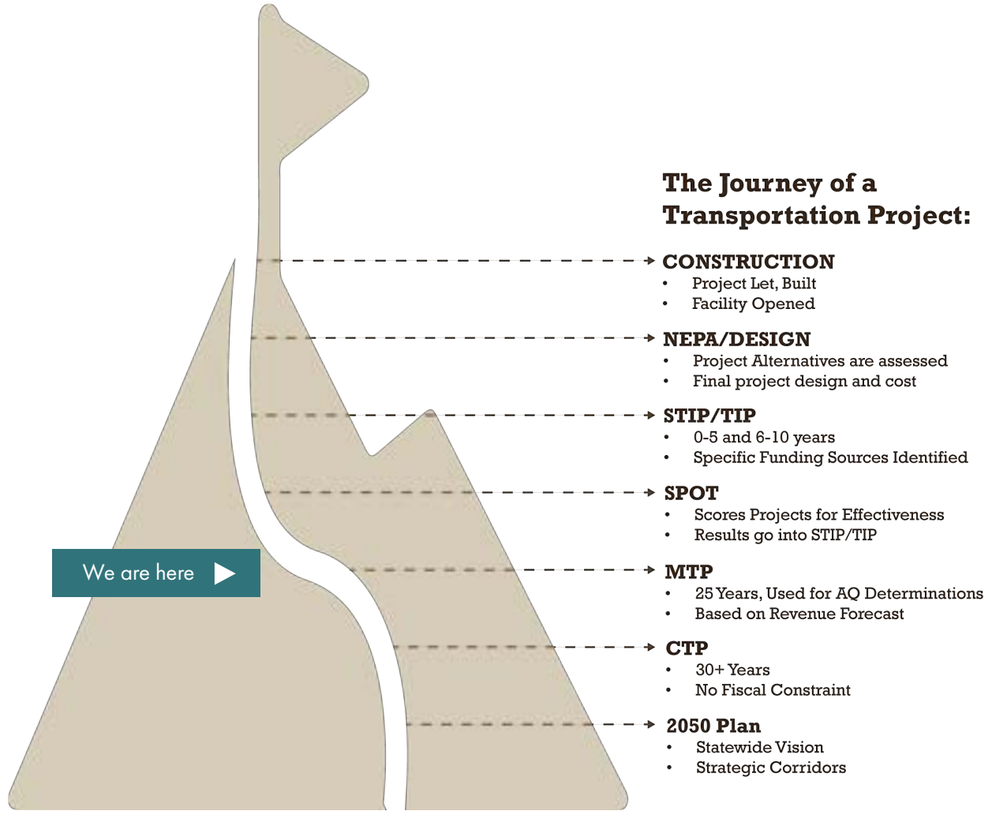


Figure 1.1: The Journey of a Transportation Project

Elevate 2050 meets all federal requirements established by the U.S. Department of Transportation (USDOT) and continues to advance the strategic, performance-based approach to planning and investment as outlined in the national transportation goal areas found in the Moving Ahead for Progress in the 21st Century (MAP-21) Act and Fixing America's Surface Transportation (FAST) Act. Elevate 2050 is the region's blueprint for creating a network of road, bicycle and pedestrian, transit, and rail connections to better meet the needs of the growing region by prioritizing resources in one fiscally constrained, long-range plan. To receive federal transportation funds or have federal actions permitted, the FBRMPO must program projects in the MTP. As such, the MTP is updated every five years and amended as-needed (23 U.S.C. § 134). Planning efforts provide communities with the opportunity to contribute to transportation investment decisions, which can support the local economy and development goals, as well as facilitate safe and efficient movement of people.

The FBRMPO's Prioritization Subcommittee guided the development of this planning effort, acting as the Steering Committee:

Steering Committee Member	Position	Jurisdiction Represented
Elizabeth Teague (chair)	Development Services Director	Town of Waynesville
William High	Lead Transportation Planner	Buncombe County
Jessica Morriss	Assistant Transportation Director	City of Asheville
Catherine Cordell	Council Member	Town of Weaverville
Anthony Sutton	Council Member	Town of Waynesville
Autumn Radcliff	Planning Director	Henderson County
Archie Pertiller	Town Council - Vice Mayor	Town of Black Mountain

Table 1.1: **Prioritization Subcommittee / Steering Committee Members**

FBRMPO staff would also like to thank the numerous other local government elected officials, staff, NCDOT staff, and Citizens Advisory Committee members for their guidance and input. Contributing members for Elevate 2050 include the following staff from NCDOT, FHWA, LOSRPO, and FBRMPO:

Contributing Member	Position	Jurisdiction Represented
Tristan Winkler	Director	FBRMPO
Hannah Bagli	Regional Transportation Planner	FBRMPO
Daisy O'Conner	Regional Transportation Planner	FBRMPO
Nicole Samu	GIS Coordinator	FBRMPO
Sandy Broadwill	TDM Coordinator	FBRMPO
Ada McGovern	Safe Routes to School Coordinator	FBRMPO
Vicki Eastland	Assistant Regional Transportation Planning Director	LOSRPO
Steve Williams	Corridor Development Engineer	NCDOT Division 14
Stephan Sparks	Corridor Development Engineer	NCDOT Division 13
Daniel Sellers	Transportation Engineer III	NCDOT Transportation Planning Division
David Wasserman	STIP Western Region Manager	NCDOT
Suzette Morales	Planning & Environmental Specialist *(former)*	FHWA *(former)*

Table 1.2: **Contributing Members for Elevate 2050**

Notes on Plan Development

COVID-19

The data analyzed for this plan ranged from 2019 to 2023, which includes the height of the COVID-19 pandemic, beginning in early 2020. As such, the FBRMPO and its partners carefully considered changes in travel patterns before, during, and after COVID-19 when analyzing data during the development of Elevate 2050.

- Vehicle Miles Traveled (VMT) dropped significantly in 2020, but returned to or exceeded pre-pandemic levels by 2022.
- Telecommuting surged in urban centers like Asheville, but leading industries in the region such as healthcare, tourism, education, retail, and manufacturing are not telecommutable.
- There was a decline in hours of delay during lockdown. However, the region did not suffer major congestion issues pre-pandemic.
- From 2019-2023, total fatal and serious injury crashes increased across counties in the region. Fatalities were highest in 2023. While the frequency of total crashes decreased in 2020 due to reductions in roadway volumes, the frequency of fatal crashes increased.

Crash Data: Sourced from NCDOT crash data including years 2017-2023 and all severities, modes and types of people
Telecommuting Data: Sourced from Census Bureau's OnTheMap
Hours of Delay Data: Sourced from 2023 Urban Mobility Report (Texas A&M)
VMT Data: Sourced from FBRMPO 2023 CMP Update

Hurricane Helene

On September 27, 2024, Hurricane Helene struck the FBRMPO region and other areas of Western North Carolina (WNC) and Appalachia. Helene went from a category 1 to a category 4 hurricane on the Saffir-Simpson scale between September 25 and September 26, when it made landfall in Florida. As it traveled north Helene caused deadly flooding as it dumped unprecedented amounts of rain throughout WNC. The authorities recorded 60 fatalities in the French Broad River region. Helene caused unprecedented catastrophic damage in the Asheville region, nearly 500 miles from where the hurricane made landfall. Helene altered the landscape of the FBRMPO planning area, destroying roads and properties throughout Buncombe, Haywood, Madison, and Henderson counties. Residents across the region lost power and flooding destroyed water infrastructure, leaving residents in Buncombe County without potable water for months. Haywood County established additional emergency service protocols following Hurricane Fred's destruction in 2021.

Hurricane Helene struck at the beginning of Elevate 2050's second phase of public engagement. As a result, the FBRMPO and planning team reevaluated the public engagement process to determine the most appropriate next steps to ensure continued, effective engagement and remain sensitive to the devastation facing residents throughout the region. Hurricane Helene created a unique circumstance in transportation planning. Helene will likely drastically alter population, employment, and socioeconomic trends that took years and decades to develop, which future MTP updates will reflect.

In general, it is the FBRMPO's responsibility to monitor trends and changes in the region and help determine priorities accordingly. The FBRMPO plans to continue to monitor how the region recovers from this disaster, how these changes impact transportation, and how it can better plan for the region's future while safely keeping communities and the public engaged in the process.

Figure 1.2: **I-40 after Hurricane Helene** *(credit: NCDOT)*

Transportation Planning Regulations

The Fixing America's Surface Transportation (FAST) Act outlines regulations for the metropolitan transportation planning process, including the development of the MTP. The bill was signed into law by President Obama in 2015 as a five-year bill and was extended it for one year until September 2021. In November 2021, President Biden signed the Infrastructure Investment and Jobs Act (IIJA), or Bipartisan Infrastructure Law (BIL) into law, representing the current federal transportation legislation under which the FBRMPO operates. IIJA includes provisions to make federal surface transportation decisions more streamlined, performance-based, and multimodal and to address challenges facing the U.S. transportation system, including improving safety, maintaining infrastructure condition, reducing congestion, improving efficiency of freight movement, modernizing public transportation, protecting the environment, and reducing project delivery delays. In 2025, USDOT cancelled efforts to update federal regulations to align with IIJA. Elevate 2050 aligns goals with the planning factors identified in transportation legislation recognizing that regulations may change.

Federal Planning Factors

The projects and strategies recommended in an MTP must address ten federal transportation planning factors, originally identified through the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and amended through the FAST Act. These planning factors signify key considerations related to the transportation system to be addressed in the metropolitan transportation planning process. Chapter 02. Goals and Objectives describes the Elevate 2050 goals and their alignment with Federal planning factors. References are placed throughout Elevate 2050 to indicate a specific strategy or initiative that addresses these factors. The planning team coordinated extensively with the Steering Committee to ensure the FBRMPO's goals and objectives align with the Federal planning factors.

The FBRMPO will monitor potential changes to the metropolitan planning requirements that could be developed as part of future federal transportation legislation to ensure that any new requirements are implemented for future MTP updates.

Economic Vitality

Safe, efficient, and dependable access to jobs, goods, and services are fundamental to a vibrant, prosperous, and sustainable regional economy. Yet, the region is continually challenged to provide reliable transportation and mobility options to support economic growth and development.[1] Elevate 2050 addresses this challenge by:

- Leveraging land use and socioeconomic data in the regional travel demand model to identify long-term travel needs and evaluate the preferred projects list for the MTP
- Emphasizing access to jobs, goods, and services
- Identifying projects that will reduce congestion and thereby support and enhance the movement of goods and people
- Identifying multimodal transportation improvements that will make transportation safer and more affordable

Safety

The FBRMPO, in collaboration with LOSRPO, is developing a five-county regional safety action plan, Safe Streets for WNC, funded by USDOT's Safe Streets for All program. This parallel planning process provided data on crash locations and severity, crash exposure, expected growth in all injury crashes by 2045, and bicycle and pedestrian crash risk data. Additionally, Elevate 2050 incorporates safety benefits data for projects previously submitted through STI prioritization. Elevate 2050 includes intersection improvements, access management projects, and complete streets projects to support safer travel for all users in the region.

Figure 1.3: Safe Systems Approach to Safety Planning *(credit: USDOT)*

Security

Transportation security covers a wide range of threats, from crimes against transit riders and pedestrians to natural disasters. Proper design, location, and lighting of pedestrian, transit, bicycle, and even parking facilities can help reduce the potential for criminal activity. Surveillance, enforcement, education, and messaging can all help reduce threats and riskier behaviors. During implementation of Elevate 2050, transit agencies, parks and recreation departments, parking operators, and local police have a role in monitoring crime statistics and reviewing and updating their security plans and programs.

Accessibility

The FBRMPO acknowledges the need to balance accessibility for both people and freight. NCDOT has a range of statewide freight, rail, aviation, and transportation studies and plans that are incorporated in the MTP process. Notably, the North Carolina Statewide Multimodal Freight Plan identifies freight transportation investments across the state that support economic growth and an improved quality of life. Elevate 2050 recognizes the importance of improvements to interstates, interchanges, and major thoroughfares as well as the need to invest in multimodal infrastructure, transit, and Americans with Disabilities Act (ADA) improvements to facilitate the movement of both goods and people.

1 Land of Sky Comprehensive Economic Development Strategy (2022/updated in 2024) https://losrc.maps.arcgis.com/apps/Cascade/index.html?appid=3db8474da7e24f36b59ea25af4b6916e

Environment

The FBRMPO recognizes the role of recommended transportation projects in protecting and enhancing the environment, while also improving the quality of life of community members who live, work, or play in the region. Elevate 2050 prioritizes improving existing facilities and increasing connectivity where possible over construction on new alignments. It also emphasizes multimodal options, including bicycle, pedestrian, and transit to reduce environmental impacts by minimizing the footprint of the region's transportation infrastructure. It also considers implementation of express bus routes between centers of commerce in Buncombe County and the surrounding counties and Buncombe County to promote alternatives to single-occupancy vehicle travel and thereby reduce vehicle emissions. Another way that Elevate 2050 supports environmental protection and enhancement is by considering efforts to encourage more widespread adoption of electric vehicles, building on the work previously done by Land of Sky Regional Council as part of the Asheville Area EV Plan (2013). The FBRMPO supports efforts to enhance the environment through planning efforts such as the Wildlife Crossings Plan (2022), Linking Lands (2009), a green infrastructure assessment effort, and GroWNC, which addresses critical resource protection.

Integration and Connectivity

The FBRMPO recognizes the importance of integration and connectivity across and between modes for people and freight. This fundamental principle is reflected in the goals, objectives, recommendations, and performance measures in Elevate 2050. Successful multimodal networks and intermodal connections require access to both passenger and freight rail service in addition to connected roadways and bicycle/pedestrian facilities. Elevate 2050 recognizes the need for quality intermodal connections for goods movement by rail, as well as improved track conditions and addressing concerns at at-grade rail crossings, since these conflict points are sources of infrequent but serious crashes, worsening traffic delays, and ongoing maintenance costs. Elevate 2050 considers transit stop improvements and future mobility hub improvements across the region by continuing the ongoing planning for regional express bus transit routes and evaluating projects that improve transit access throughout the region.

Preservation

Elevate 2050 preserves the existing transportation system through the Financial Plan, where maintenance funding for transportation infrastructure is identified and allocated. The state of good repair for roadways and public transportation infrastructure is also part of the FBRMPO's adopted performance measures. Hurricane Helene gravely affected infrastructure in the region, carrying an estimated $1.5 billion financial impact on NCDOT's maintenance budget. Elevate 2050's public engagement process and project selection methodology emphasize safety, multimodal access, and congestion mitigation by prioritizing incremental roadway upgrades and capacity improvements along existing alignments alongside interchange and intersection improvements, with a focus on resiliency following the impacts of Hurricane Helene.

Efficient System Management

The FBRMPO partners with member municipalities, NCDOT Division 13 and NCDOT Division 14 to support efficient transportation system management and operations during the implementation of Elevate 2050. To support these efforts, the FBRMPO has allocated funding in FY 2025-2026 to initiate a Regional ITS Plan that will engage stakeholders and evaluate options for improving transportation system management and operations across the region. In addition, Elevate 2050 is aligned with the following regional and statewide initiatives to promote efficient management and operation:

- Mountain Traffic Management Center: NCDOT Division 13 monitors traffic to support smooth operations and help emergency responders to reach incident sites faster. This center includes computerized traffic controls to coordinate the timing and operation of key traffic signals across the region, while vehicle detectors collect real-time data and activate signals to synchronize traffic flow.
- Incident Management Assistance Patrol (IMAP): NCDOT has safety service patrols along portions of the freeways in Buncombe and Haywood Counties to detect incidents and respond to traffic-related events.
- DriveNC.Gov Traveler Information: NCDOT operates https://drivenc.gov/ where users can access real-time traffic conditions, camera images, construction or major road closure events, and emergency information such as adverse weather or evacuations. In the immediate aftermath of Hurricane Helene, the website warned travelers against travel to western North Carolina ("assume all roads in western North Carolina are closed").

Travel and Tourism

A safe, efficient, convenient, user-friendly transportation system supports a robust regional travel and tourism industry. The region's latest five-year regional economic development strategy identifies Tourism, Recreation and Retail as one of the target industry clusters, and the FBRMPO planning area saw steady employment growth in this sector prior to the COVID-19 pandemic at levels higher than national growth average. This industry sector is also characterized by relatively high wages as compared with regional average wages.[2] However, as WNC recovers from Hurricane Helene, the region has seen a reduction in visitors and through travelers[3] and challenges related to the transportation system. Key transportation assets such as the Blue Ridge Parkway as well as important tourism assets were devestated by Helene. Restoring key regional roadway linkages and repairing washed out bridges and roads is a critical element for restoring travel and tourism in the region. As this recovery advances, the limited funding for restoring infrastructure will create pressure points. Many of Elevate 2050's bicycle and pedestrian recommendations focus on infrastructure that connects to activity centers, historic and cultural sites, recreation areas, and event venues to support the regional economy.

2 See p. 45 of Land of Sky Labor Shed Target Industry Analysis Report (2022) https://www.landofsky.org/pdf/LGS/CEDS/09.29.22LOSLaborShedTargetIndustryAnalysisReport_FINAL.pdf

3 Asheville's tourism numbers for March 2025 were 6 percent lower as compared to March 2024. More information at WLOS, May 1, 2025. "Asheville sees drop in hotel demand as officials work to lure tourists after Helene". Retrieved from https://wlos.com/news/local/explore-asheville-tourism-sees-drop-hotel-demand-year-helene-airbnb-vacation-rental-revenue-lodging-charlotte-marketing

Resilience and Reliability

A resilient and reliable transportation system recovers quickly—or continues to function adequately— even under severe and unexpected conditions, such as natural disasters, severe weather, changing climate, fuel shortages, economic crises, or other disruptions. While system-wide investments to create redundancy and excess capacity can achieve this goal, they are expensive options especially considering the mountain topography of western North Carolina. A more effective and efficient alternative incorporates careful planning and risk analysis to identify and mitigate significant hazards.

While not covering the whole region, the Buncombe-Madison Regional Hazard Mitigation Plan included a large section of the FBRMPO region. This plan identified, analyzed, and assessed hazards prevalent in Buncombe and Madison Counties. This plan noted that "Flooding is generally the greatest hazard of concern with hurricane and tropical storm events in the Buncombe Madison Region" and listed the following major storms that have impacted the area in the last 25 years:

- **Tropical Storm Frances – September 7-8, 2004**
  Tropical Storm Frances was a slow-moving, relatively large storm with heavy rain. The remnants of Frances produced a swath of 5 to 15 inches of rain across the North Carolina Mountains with reports of 12 to 15 inches of rain in higher elevations and isolated reports in excess of 18 inches. Wind gusts reached between 40 and 60 mph. Crop damages from Frances totaled $55 million statewide, and the federal government provided almost $20.6 million in federal disaster assistance following the storm.
- **Hurricane Ivan – September 16-17, 2004**
  Just a week and a half following Tropical Storm Frances, the remnants of Hurricane Ivan hit western North Carolina when many streams and rivers were already well above flood stage. The widespread flooding forced many roads to be closed, and landslides were common across the mountain region. Wind gusts reached between 40 and 60 mph across the higher elevations of the Appalachian Mountains resulting in numerous downed trees. The federal government provided more than $13.8 million in federal aid across the state to support recovery efforts.
- **Hurricane Florence – September 12 – 15, 2018**
  Hurricane Florence the wettest tropical cyclone on record in the Carolinas. As the storm moved over North Carolina, it produced rainfall across the state of 20 to 30 inches, which produced catastrophic and life-threatening flooding. North Carolina reported 42 fatalities.
- **Tropical Storm Fred – August 20, 2021**
  Tropical Storm Fred caused devestating flooding and landslides, especially along the Pigeon River in Haywood County. Fred produced an additional 7.4 inches of rain after an already rainy week, which caused catastrophic flooding and over $18.7 million in public infrastructure damage. North Carolina reported 6 fatalities.

As a hurricane with stronger and more devastating impacts for WNC than Frances, Ivan, or Florence, Hurricane Helene reached western North Carolina on Friday, September 27, 2024, bringing historic amounts of rainfall, strong winds, and tornadoes. 105 deaths related to Hurricane Helene were recorded in North Carolina, of which 43 were recorded in Buncombe County alone.[4]

Elevate 2050 aims to create a more resilient transportation system by planning for improvements and enhancements across the region for all transportation modes to distribute risks and increase overall system reliability and resilience. The plan also builds on the *Buncombe-Madison Regional Hazard Mitigation Plan* as well as LOSRPO's Regional Resilience Assessment process by integrating the risk of isolation due to flooding and landslides into project evaluation and scoring.

4 Blue Ridge Public Radio. "Person found in Buncombe County listed as 105th fatality from Helene in North Carolina." January 30, 2025. https://www.bpr.org/bpr-news/2025-01-30/person-found-in-buncombe-county-listed-as-105th-fatality-from-helene-in-north-carolina

"Hurricane Helene has left significant, long-term impacts on western North Carolina. In addition to the devastating loss of life, the storm destroyed thousands of homes and damaged tens of thousands more. Millions of North Carolinians lost access to critical services like water and sewer, electricity, telecommunications, and healthcare facilities. Thousands of miles of roads and bridges were damaged, cutting communities off and limiting egress for residents and entrance by essential response and recovery teams. The region's economy has suffered a severe blow, threatening livelihoods and the long-term viability of communities."

- NC OSBM, Hurricane Helene Recovery: Revised Damage and Needs Assessment

Figure 1.4: Swannanoa Residents Walking Along a Washed out Road after Hurricane Helene
(credit: Travis Long/Charlotte Observer)

Federal Emphasis Areas

In 2021, Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) included the following planning emphasis areas - those in teal are discussed in detail:

- Complete Streets
- Public Involvement
- Strategic Highway Network (STRAHNET) /U.S. Department of Defense (DOD) Coordination
- Federal Land Management Agency (FLMA) Coordination
- Planning and Environment Linkages
- Data in Transportation Planning

In a series of 2025 memos, the USDOT signified its intent to "give preference to communities with marriage and birth rates higher than the national average (including in administering the Federal Transit Administration's Capital Investment Grant program)." See Chapter 03. Regional Trends + Area Snapshot: Demographics for more information.

The FBRMPO and its partners have conducted robust planning around the following Federal emphasis areas:

Complete Streets

The demand for active transportation, including walking and bicycling, continues to grow in the FBRMPO region. In response to this demand, the FBRMPO developed a Complete Streets Policy (adopted in 2013[5]) to complement NCDOT's Complete Streets Policy, which requires that all roadway projects (STI submittals, maintenance projects, DA-funded projects)going through project development are screened for inclusion of bicycle, pedestrian and transit elements as appropriate based on the roadway facility type, local land use context and previously adopted regional and local plans.

The FBRMPO Complete Streets policy defines Complete Streets as follows:

"Complete Streets are roadways designed to safely and comfortably accommodate all users, including, but not limited to motorists, cyclists, pedestrians, wheelchair users, transit and school bus riders, delivery and service personnel, freight haulers, and emergency responders. 'All users' includes people of all ages and abilities."

Planning for active transportation and public transit improvements, as well as educating the community about the benefits of a transportation system with multimodal options is a key part of ongoing FBRMPO processes.

5 https://frenchbroadrivermpo.org/wp-content/uploads/2020/10/FrenchBroadRiverMPOCompleteStreetsPolicyFinal_Feb28_2013.pdf

FBRMPO supports the creation of safe and accessible bicycle and pedestrian networks by assisting member jurisdictions to complete numerous local and regional bicycle and pedestrian plans in recent years (see Chapter 01. Introduction: Previous Planning Efforts). The FBRMPO also supports the following program and funding initiatives which strengthen the interest in and support for active transportation in the region:

- Pedestrian Counts: the FBRMPO uses a portable counter to count pedestrians on sidewalks and greenways around the region.
- Operating Go Mountain Commuting (GO MTN), the region's Transportation Demand Management program, in partnership with Share the Ride NC which is a statewide initiative to link commuters with carpool options and other sustainable commute alternatives.
- Hosting a series of STRIVE BEYOND events; STRIVE BEYOND is a regional TDM initiative that collaborates with stakeholders in the region each May to think beyond the car. STRIVE BEYOND events include commuter challenges, walk audits, bike to school days and a keynote summit.
- Allocating funding for bicycle, pedestrian and transit projects under the FBRMPO Locally Administered Projects Program (LAPP), through a combination of STBG-DA and TAP funding as well as funding for planning efforts, particularly for multimodal feasibilty studies.
- Annual discussions with NCDOT and local governments on incorporating Complete Streets improvements into maintenance projects, especially through NCDOT Multimodal Planning Grants.
- Hellbender Regional Trail efforts, which seeks to create a regional bike/ped network to connect WNC.

Figure 1.5: Safe Streets for WNC Public Meeting

Public Involvement

Public involvement is key to the FBRMPO planning efforts. FBRMPO and its partners continue to develop new and innovative public engagement techniques and ideas. FBRMPO typical engagement efforts include online surveys, electronic and written input opportunities, in-person public meetings, and innovative pop-up public engagement events. Throughout the development of the Elevate 2050, as well as the TIP and other regional studies and plans, the FBRMPO strives to engage the public at multiple steps to produce a plan based on a continuing, cooperative, and comprehensive process.

During the development of Elevate 2050 development, the FBRMPO team had to pivot and re-evaluate appropriate public engagement strategies as a result of Hurricane Helene. Although delayed, public engagement for the MTP development continued and was successful in reaching a variety of local community groups through public meetings, online surveys, and other public engagement techniques. Elevate 2050 public engagement meetings coordinated with the regional safety plan (Safe Streets for WNC), where possible, and some of the public meetings were able to educate members and solicit feedback for both planning initiatives.

Planning and Environmental Linkages

Planning and Environmental Linkages (PEL) is a collaborative approach that integrates environmental, community, and economic considerations into long-range transportation planning in the FBRMPO region is aligned with this approach, and is rooted in a deep appreciation for the region's natural and cultural resources, local land use context, and the need to protect sensitive areas in order to support the region's vitality, economic development, and tourism while planning for infrastructure improvements. Several planning efforts support PEL, including:

- The Linking Lands Project: This initiative aimed to understand how the natural systems function across Buncombe, Henderson, Madison and Transylvania Counties. This regional approach provides opportunities to implement conservation and growth management priorities and build partnerships. Using the green infrastructure planning approach, the Linking Lands Project identified a physical network comprised of the region's most valuable natural systems – including lands that provide water resources, agricultural lands (farms and forests), wildlife habitat and large functioning ecosystems, recreation lands, and cultural resources. This science-based approach incorporated the best available data from local and state agencies, the land trust community, and featured the "on the ground" knowledge of local experts. As a result, the Land of Sky Regional Council developed a Regional Conservation and Development Network that can serve as a resource for local governments, land trusts, landowners, and developers.
- GroWNC: This three-year project developed a framework of voluntary, locally-implemented, market-based solutions and strategies in Buncombe, Haywood, Henderson, Madison, and Transylvania Counties to ensure that the region's growth has a positive impact on communities. The GroWNC planning process provided a platform for local governments, businesses, non-profits, citizens, and others to realize unprecedented regional coordination on jobs, energy, housing, transportation, resources, and other interconnected issues. Under the GroWNC initiative, the region developed a clearly defined framework and set of implementation strategies to develop the policies and investments necessary to sustain and enhance the economy and quality of life in the region's mountain communities.
- Regional Wildlife Crossings Plan: This plan identified geographic areas and wildlife crossing types for inclusion as part of project submissions in the NCDOT's SPOT process. Elevate 2050 project evaluation took into account roadway project overlap with key wildlife crossing corridors identified in the Regional Wildlife Crossings Plan. Where feasible, the FBRMPO works to integrate wildlife crossings as part of future roadway project development to improve safety for roadway users while accommodating protection for wildlife in the region.

Figure 1.6: RADTIP Project in the River Arts District (Asheville)
This project integrated sidewalk, multi-use path and separated bicycle lane improvements, as well as stormwater, turning lane and roundabout improvements. While the River Arts District suffered significant damage during Hurricane Helene, the multimodal improvements withstood the flooding and are able to serve the area residents and visitors once again.

Performance-Based Planning and Programming

Federal regulations outline a framework that requires the FBRMPO to establish and monitor performance targets that correspond to measures federally defined for a series of highway and transit metrics. This process intentionally requires coordination among state, MPO, and transit providers. The FBRMPO has integrated performance-based planning into various aspects of Elevate 2050 and has established performance targets for each of the required performance categories (see Chapter 09. Evaluating Performance).

Continuous, Cooperative and Comprehensive Planning Process

As required by federal transportation legislation, the metropolitan transportation planning process is a continuous, cooperative, and comprehensive (3C), multimodal and performance-based process. The "Three C's" can be further described as follows:

- Comprehensive: Consideration of a wide range of strategies and investments
- Cooperative: Participation by all relevant agencies, organizations and the public
- Continuing: Including an ongoing performance-based monitoring, evaluation, and update process

This transportation planning process takes place in cooperation with NCDOT and the public transportation providers in the region.

Civil Rights Act of 1964

Title VI of the Civil Rights Act (CRA) of 1964 prohibits discriminatory practices in programs and activities receiving federal funds. The transportation planning regulations issued in 1993 require metropolitan transportation planning processes to be consistent with Title VI. The FBRMPO ensures compliance with Title VI by ensuring that public engagement activities have a broad reach throughout the region (see Chapter 05. Public Involvement and Appendix B. Public Involvement). The Communities of Concern (CoC) analysis is in accordance with the provisions of Title VI of the CRA. The FBRMPO proactively identifies and addresses potential impacts of transportation on minority and low-income population, which guides the process of fair, full, and meaningful participation from CoCs in all phases of the transportation decision making process.

Clean Air Act

Congress passed the Clean Air Act (CAA) in 1970 to protect public health and welfare from different types of air pollution caused by various sources, including ozone and carbon monoxide. The 1990 CAA amendment requires projects in Elevate 2050 to ensure transportation conformity, preventing new air quality violations and delays in meeting standards before federal funding and approval.

Air quality standards dictate how often the FBRMPO must update its MTP. Based on the region's designation status of attainment (meeting standards), the FBRMPO is not a maintenance area and must therefore update its MTP at a minimum of every five years unless attainment status changes.

Amendments to the MTP

While the FBRMPO updates its MTP every five years, it may make amendments during interim years to ensure the document is up to date as needs and conditions change. Items that may trigger an amendment to Elevate 2050 include adding projects to the MTP (due to the allocation of additional funds to the FBRMPO), a shift in the schedule of anticipated project completion, substantial changes to project limits for existing Elevate 2050 projects, or the consolidation of projects. Amendments to Elevate 2050 require public engagement and the plan must continue to demonstrate fiscal constraint as a result of project updates.

Previous Planning Efforts

The FBRMPO region has decades of meaningful planning efforts that guide decision makers. Elevate 2050 builds on those previous plans and policies. The following section provides a brief overview of relevant, regional planning documents and highlights recommendations notable for Elevate 2050. A detailed overview of the past local planning efforts can be found in Appendix A. Plan Review.

NCDOT State Transportation Improvement Program (STIP), 2026-2035

The Statewide Transportation Investments (STI) Act of 2012 governs how transportation projects are prioritized and funded in North Carolina. Under this law, NCDOT must ensure that the STIP is fiscally constrained by funding category and fiscal year. The STI process is periodically updated, with each iteration assigned a sequential number - projects in the 2026-2035 STIP were developed under P7.0, the seventh cycle of prioritization. The STIP is NCDOT's data-driven, multi-year schedule for transportation projects in NCDOT's network. The STIP identifies the construction for and scheduling of transportation projects throughout the state. All regionally-significant projects are reflected in the STIP as are all projects with federal funds or needing federal actions.

The NCDOT Prioritization process uses a transparent, systematic and data-driven process for prioritizing the major transportation in North Carolina and making investment decisions. Projects are evaluated based on their merit through an analysis of the existing and future conditions, the benefits the project is expected to provide, the project's multi-modal characteristics and how the project fits in with local priorities.

Some key highlights of the 2026-2036 STIP include that no new projects received funding, many projects were delayed, and several projects were "decommitted" or "defunded." To ensure compliance with STI law, many projects in the FBRMPO were delayed, resulting in some projects "Scheduled for Delivery" in the 2024-2033 STIP to become "Funded for Preliminary Engineering Only." In determining revised schedules, the STIP unit considered several factors including:

- Current delivery status (e.g. whether right-of-way acquisition is underway or completed)
- A seniority approach favoring projects from earlier STI cycles
- Input from MPOs/RPOs and NCDOT Divisions
- Project cost and sequencing
- Federal funding status (including discretionary grants)
- Overall funding availability

The projects decommitted included those in Table 1.3.

Project	Route	County	Funding Tier	Previous Cost	Revised Cost
U-4712	US 23B (South Main St)	Haywood	Division 14	$57.4M	$57.4M
U-6159	US 276 (Russ Ave)	Haywood	Division 14	$30.2M	$39M
U-6158	US 276 at Crymes Cove Rd	Haywood	Division 14	$3.8M	$6.7M
U-2801AB	US 25A (Sweeten Creek Rd.)	Buncombe	Region G	$117.2M	$215M
U-5832	NC 81 (Swannanoa River Rd)	Buncombe	Division 13	$48M	$145M
U-6047	NC 112 (Sand Hills/Sardis Rd.)	Buncombe	Division 13	$137M	$175.8M
I-4400AB	I-26 at US 64	Henderson	Division 14	$30M	$143.6M

Table 1.3: **Projects Decommitted in the Draft NCDOT 2026-2035 STIP**

NCDOT State Transportation Improvement Program (STIP) 2024-2033

This document lists FBRMPO-specific and statewide transportation improvements planned through 2033. This chapter includes a map of STIP projects in the FBRMPO region. NCDOT updates the STIP every two years, and the NC Board of Transportation adopted the 2026-2035 Draft STIP in Summer 2025.

2045 Metropolitan Transportation Plan, 2020

The FBRMPO's 2045 MTP is a fiscally constrained plan for multimodal transportation needs in the Asheville region through 2045. Recommendations include encouraging member governments to require bicycle and pedestrian infrastructure in new developments, increasing coordination between transportation and land use, and following Complete Streets guidelines based on best practices for facility design.

FBRMPO Comprehensive Transportation Plan (CTP), 2008

The CTP recommended projects based on 25-year growth and development forecasts. The CTP represents the community's consensus on the future transportation system (including the existing system and improvements). The CTP included three key maps—the Highway Map, the Public Transportation and Rail Map, and the Bicycle Map. At the time of adoption, the Pedestrian Map format was not finalized, so it was excluded from the CTP. The projects included in the CTP range from minor projects such as installing signage to major improvements such as new roadways or greenways. The CTP stresses the importance of planning projects across modes together to enhance the cohesion of the transportation network on a systems level.

Note: The CTP is being updated as part of the Elevate 2050 planning process.

FBRMPO Congestion Management Plan (CMP), 2018

This federally mandated plan incorporates methods for addressing congestion amid environmental constraints in the region. The CMP provides recommendations for addressing congestion for corridors in the region based on their land use context, ranging from managed lanes and access management for regional-connector routes to relaxed levels-of-service (LOS) and multimodal facilities for corridors in more walkable contexts.

Regional Transit Feasibility Study, 2021

This study evaluated current transit needs, analyzed potential service options, and recommended feasible regional transit solutions. The study identified potential transit corridors and service types including bus rapid transit (BRT), express bus service, and enhanced local bus routes. The study recommended four express routes (North, East, South, West) connecting to local services and optional microtransit, creating a regional transit service supported by a Regional Transit Authority under Article 25 of Chapter 160A of the General Statutes.

Hellbender Regional Trail Plan, 2021

The Hellbender is a planned regional trail/greenway system for the FBRMPO area, bringing together existing and planned trails to complete a regional vision. The plan outlines a 150-mile greenway network connecting communities, key recreational assets, and towns in Western North Carolina.

WNC Passenger Rail Feasibility Study, 2023

This study identified conceptual level capital costs, operating costs, and a range of ridership and passenger and economic revenue associated with a new intercity passenger service connecting Asheville, NC with passenger rail services in Salisbury, NC operating along the Norfolk-Southern AS-Line for approximately 139 miles.

Blue Ridge Bike Plan, 2013

This plan for Buncombe, Haywood, Henderson, Jackson, Madison, Swain, and Transylvania Counties identifies strategies to bolster the bicycling community in the region. It recommends numerous adjustments to state bike route NC 2 - Mountain to Sea. These changes highlight the priorities of connecting to downtown areas, improving safety conditions, and ensuring the routes are accessible. The plan also identifies how North Carolina can establish scenic bikeways. The plan considers the importance of bicycle corridors in each county. Additionally, this planning effort identified the development of a core network of safe, well-connected bicycle facilities, the adoption of city, county, and region-wide "Complete Streets" policies, and the creation of comprehensive bicycle plans for each town/county as priorities.

Projects in this plan were not considered for funding in Elevate 2050 due to their length and cost; however, they were included in Appendix F. Unfunded Projects (CTP).

WalkBike NC, 2013

The NCDOT Board of Transportation adopted North Carolina's bicycle and pedestrian plan in December 2013. The adoption concluded an 18-month planning process that included comprehensive stakeholder and public engagement across the entire State. The Plan lays out a framework for improving bicycle and pedestrian transportation as a means to enhance mobility, safety, personal health, the economy, and the environment.

Regional Wildlife Crossings Plan, 2023

This report identifies geographic areas and wildlife crossing types for inclusion in the NCDOT's SPOT process, which allocates most Federal and State transportation funds as per the STI Act of 2012. The FBRMPO identified 67 potential wildlife crossing locations in Madison, Buncombe, Henderson, Transylvania, and Haywood Counties, including:

- I-40 through the Pigeon River Gorge
- I-26 at the Appalachian Trail
- I-40 at Kitsuma Peak
- I-40 East of Canton
- US 19 at the Blue Ridge Parkway

Coordinated Public Transit-Human Services Transportation Plan, 2018

The FBRMPO and the LOSRPO developed the Coordinated Public Transit-Human Services Transportation Plan (CPT-HSTP, also known as Locally Coordinated Plan or LCP) to serve the planning area, covering Buncombe, Haywood, Henderson, Madison, and Transylvania counties. The FTA requires this plan for the programming of various Federal monies (Sections 5307, 5310, 5317, SAFETEA-LU, FAST Act, etc.) for the region. The LCP's purpose is to document the potential funding needs that counties have for transit operations and other transportation providers to address and improve the regional transportation system, encouraging coordination and collaboration that results in more cost-effective services. Among other recommendations, the CPT-HSTP identifies the need to:

- Increase and/or improve bicycle and pedestrian infrastructure connecting to bus stops and stations (E-1)
- Study areas with pedestrian and bicycle safety issues (E-2)
- Improve roadway crossings for pedestrians near bus stops (E-3)
- Improve bicycle accommodations on-bus and near bus shelters (E-4).

Feasibility Studies

A feasibility study is a technical investigation of physical and environmental constraints that may impact the ability or cost to construct a multimodal facility. Building infrastructure is a critical step in the process that identifies aspects needing additional investigation before defining the scope and cost. This evaluation typically includes things such as:

- Input from local stakeholders and community members
- Study of environmental features
- Investigation of physical constraints
- Research into right-of-way availability
- Identification of utilities and rail lines

Once completed, local jurisdictions and their partners can use the findings to identify funding opportunities and engage with property owners to shape the final design and pave the way for construction. Numerous organizations have conducted feasibility studies for multimodal facilities across the FBRMPO region, which are summarized in Appendix A. Plan Review:

- Oklawaha Greenway Feasibility Study, 2019
- Richland Creek Greenway Feasibility Study, 2021
- Above the Mud, 2024
- Swannanoa River Greenway Extension Feasibility Study, 2024
- Reed Creek Greenway, 2024
- Ridgecrest Trail Connector Study, 2024
- Otis Duck Greenway Feasibility Study, 2024
- Saluda Grade Rail Trail Feasibility Study, 2025

Other Plans

A first step to implementing transportation infrastructure, prior to conducting a feasibility study, is the identification of the need in an adopted plan. Communities throughout the FBRMPO region have developed plans for building multimodal transportation networks including:

- Town of Mars Hill Pedestrian Plan, 2007
- Haywood County Bike Plan, 2011
- Madison County CTP, 2012
- Buncombe County Greenways and Trails Master Plan, 2012
- Hendersonville Bicycle Plan, 2017
- Black Mountain by Bike, 2017
- ART Transit Master Plan, 2018
- Henderson County Greenway Master Plan, 2019
- Canton Bicycle and Pedestrian Plan, 2019
- Mars Hill Parks and Recreation Plan, 2019
- Close the GAP, 2022
- Buncombe County Regional Hazard Mitigation Plan, 2022
- Active Weaverville Bike/Ped Plan, 2023
- Go Mills River Bicycle & Pedestrian Plan, 2023
- Haywood County Greenway Plan, 2023
- Walk Hendo Pedestrian Plan, 2023
- Apple Country Public Transit Study, 2024
- Town of Mars Hill Bicycle and Pedestrian Plan, 2024

Figure 1.7: Feasibility Study Alternatives for Reed Creek Greenway in Asheville

I-26 and I-240 at I-40 in Asheville

02. Goals and Objectives

Elevate 2050 receives high-level direction from the goals and objectives, which communicate the primary areas the MTP is expected to address. Elevate 2050's Vision Statement and Goals consider federally required transportation planning factors and were developed to reflect community and stakeholder engagement and Steering Committee input.

Development of the Vision Statement, Goals, and Objectives began with public meetings and a public survey, which asked participants to identify the following:

- Their three highest priorities for the transportation system over the next 25 years
- Their vision for the system
- What policies are most important
- Specific concerns in the region
- Their current mode choice

Upon reviewing the survey results (see Chapter 05. Public Involvement), the team developed the draft Vision Statement, Goals, and Objectives.

The Steering Committee reviewed and revised these before publishing them for public review. The goal that received the most public support was "Improve Access + Connectivity." While "Advance Equity" received the lowest average support from the online survey, comments received at in-person events indicated the region's priorities aligned with "Advance Equity." The team considered the goals and their supporting objectives when developing a prioritization methodology for scoring projects (see Chapter 09. Project Selection and Evaluation). As the foundation for the plan, Elevate 2050 references goals and objectives at subsequent planning stages to ensure alignment with regional priorities.

The Plan's goals focus on moving people and goods around the region while also supporting initiatives tied to livability and sustainability in areas where appropriate. These guiding principles helped inform target metrics for Elevate 2050 and the project development and prioritization process. The FBRMPO Board approved the Vision Statement, Goals, and Objectives on January 16, 2025.

Vision Statement

The FBRMPO region envisions a resilient, equitable, connected, and well-maintained multimodal transportation system that reflects the unique character of the region and its terrain, while getting all travelers and goods to their destinations safely, easily, and reliably. This system supports an inclusive, healthy, and economically vibrant region that aligns with land use goals and expands mobility choices.

Goal 1. Improve Access + Connectivity

Goal: Support an efficient, reliable, and connected multimodal transportation system that equitably improves access to all activities for all users.

Objectives:

- 1.a. Create a connected network of bikeways and pedestrian routes by expanding existing facilities and closing gaps.
- 1.b. Enhance and expand transportation options and choices for all users to ensure network efficiency and reliability.
- 1.c. Implement transportation facilities that are appropriate for intended adjacent land use.
- 1.d. Support transit initiatives to improve service frequency, quality, access, and reliability.

Goal 2. Advance Equity

Goal: Promote equity and public participation throughout all stages of planning.

Objectives:

- 2.a. Increase engagement with historically underrepresented and traditionally underserved groups in the planning process.
- 2.b. Reduce harmful environmental, health, and safety effects of the transportation system on people in disadvantaged communities.
- 2.c. Invest in transportation options in disadvantaged communities to meet residents' needs more effectively.
- 2.d. Invest in projects that reconnect and rebuild previously harmed disadvantaged or historically underserved communities.

Goal 3. Promote Sustainability + Resiliency

Goal: Preserve and enhance the natural and human environment while creating a safe, secure, and more resilient and sustainable transportation network.

Objectives:

- 3.a. Maximize investments to mitigate impacts of extreme weather on transportation infrastructure and reduce impacts of transportation projects and travel patterns on the environment.
- 3.b. Plan, improve, and maintain facilities in a manner that supports context sensitive design and promotes a system that is compatible with community needs and the natural environment, incorporating resiliency measures in projects to the extent possible.
- 3.c. Minimize effects of transportation projects on water quality, incorporating nature-based solutions to address stormwater runoff proactively.
- 3.d. Reduce greenhouse gas emissions from mobile sources to meet EPA air quality standards continuously and increase utilization of other modes.

Goal 4. Address Capacity Management + Mobility

Goal: Implement strategies that address congested roadway segments and increase roadway connectivity and regional mobility.

Objectives:

- 4.a. Develop strategies that address system performance and congested segments.
- 4.b. Improve travel time reliability for all modes.
- 4.c. Improve safe and efficient freight movement within and through the region.

Goal 5. Enhance Safety, Security, and System Preservation

Goal: Provide and maintain safer and more secure places to live, walk, bike, ride the bus, and drive.

Objectives:

- 5.a. Improve the safety of travelers and residents.
- 5.b. Improve system resilience and security by reducing existing vulnerabilities and improving the ability to achieve timely emergency response.
- 5.c. Maintain the current transportation network across all modes in a state of good repair.
- 5.d. Minimize conflict between different modes of travel, reduce unsafe behaviors, and increase attentiveness and awareness.
- 5.e. Maximize cost-efficient maintenance investments to improve system resilience and user safety.

Goal 6. Foster Economic Vitality

Goal: Develop a transportation system that supports a thriving, sustainable, broad-based economy while maintaining the surrounding area's character and expanding extra-regional travel, job access, and efficient movement of freight and goods.

Objectives:

- 6.a. Promote an adaptable transportation system that supports the local and regional economy and job growth and enhances economic prosperity.
- 6.b. Invest in projects that enhance tourism and extra-regional travel, including aviation, bicycle, pedestrian, transit, safety, rail, and roadway projects.
- 6.c. Improve job access for non-motorized users (i.e. bicyclists, pedestrians, and transit users).
- 6.d. Increase transportation connections between where people live and where people work to enhance the region's affordability as a place to live, work, and visit.

Federal Planning Factors	Elevate 2050 Goals					
	Goal 1: Improve Access + Connectivity	Goal 2: Advance Equity	Goal 3: Promote Sustainability + Resiliency	Goal 4: Advance Capacity Management + Mobility	Goal 5: Enhance Safety, Security and System Preservation	Goal 6: Foster Economic Vitality
Support the ***economic vitality*** of the metropolitan area	●	○	○	●	○	●
Increase the ***safety*** of the transportation system for motorized and non-motorized users	○	○	○	●	●	○
Increase the ***security*** of the transportation system for motorized and non-motorized users		○			●	
Increase the ***accessibility*** and mobility of people and freight	●	○	○	●	●	○
Protect and enhance the ***environment***, promote energy conservation, and improve the quality of life	○	○	●			○
Enhance the ***integration and connectivity*** of the transportation system, across and between modes, for people and freight	●	●	○	○	●	○
Promote ***efficient system management*** and operations	○	○	○	●	○	
Emphasize the ***preservation*** of the existing transportation system	○		○	●	●	○
Improve the ***resiliency and reliability*** of the transportation system and reduce or mitigate stormwater impacts of surface transportation	●	○	●		●	○
Enhance ***travel and tourism***	●		○	○	○	●

● *Fully Addressed* ○ *Partially Addressed*

Table 2.1: Federal Planning Factors Addressed by Goals and Objectives

Asheville skyline (credit: Ken Lane)

03. Regional Trends + Area Snapshot

The Asheville urbanized area (UA) centers the FBRMPO planning area in Western North Carolina. Defined by its mountainous terrain, natural beauty, and a growing population that includes many seniors and retirees, the region faces unique transportation challenges. These characteristics shape the area's identity and influence how people move around it. Elevate 2050 outlines a strategy to meet the current mobility needs of FBRMPO residents while anticipating future demands. This chapter examines the current conditions, travel and development trends, and existing plans and visions for the future of the planning area.

Demographics

Planning factors addressed

Economic Vitality

Accessibility

In 2020, the four-county Asheville Metropolitan Statistical Area (MSA) comprising Buncombe, Haywood, Henderson, and Madison counties included 459,015 residents, an 8% increase from 424,858 residents in the 2010 Census. From 2010 to 2020 the population within the FBRMPO planning area grew from 414,000 to over 440,000, a 6.3% increase. The FBRMPO Socioeconomic and Land Use model predicts an increase from 223,100 households in 2020 to 297,091 by the year 2050. The model used 813 traffic analysis zones (TAZs), which are geographic units consisting of one or more block groups that group households, jobs, and travel activity for analysis to project growth in population, households, and employment in the region through 2050. See Appendix C. Land Use Study for a detailed description of how the Travel Demand Model used TAZs to make 2050 predictions.

Regional Growth

The recent growth has been transformative, affecting nearly every part of the FBRMPO planning area. The 2019-2023 American Community Survey (ACS) shows that nearly all jurisdictions in the FBRMPO's planning area have increased in population since the 2010 Census, with varying growth rates. The Town of Canton in Haywood County has only grown by 190 residents, or nearly 5%, during this period, while the Town of Montreat has lost nearly 35% of its population over the same period. This decline is likely due to some homeowners being part-time residents who consider themselves residents of a different location. However, considerable growth has occurred in Maggie Valley (101% population increase between 2010 and 2023), Weaverville (48% increase), and Mars Hill (nearly 47% increase), indicating continued population movement away from the center of the region—Asheville and Hendersonville. Despite this trend, the largest communities also saw steady growth, with Asheville increasing by 13% to a population of 94,369 and Hendersonville increasing by 16% to a population of 15,253.

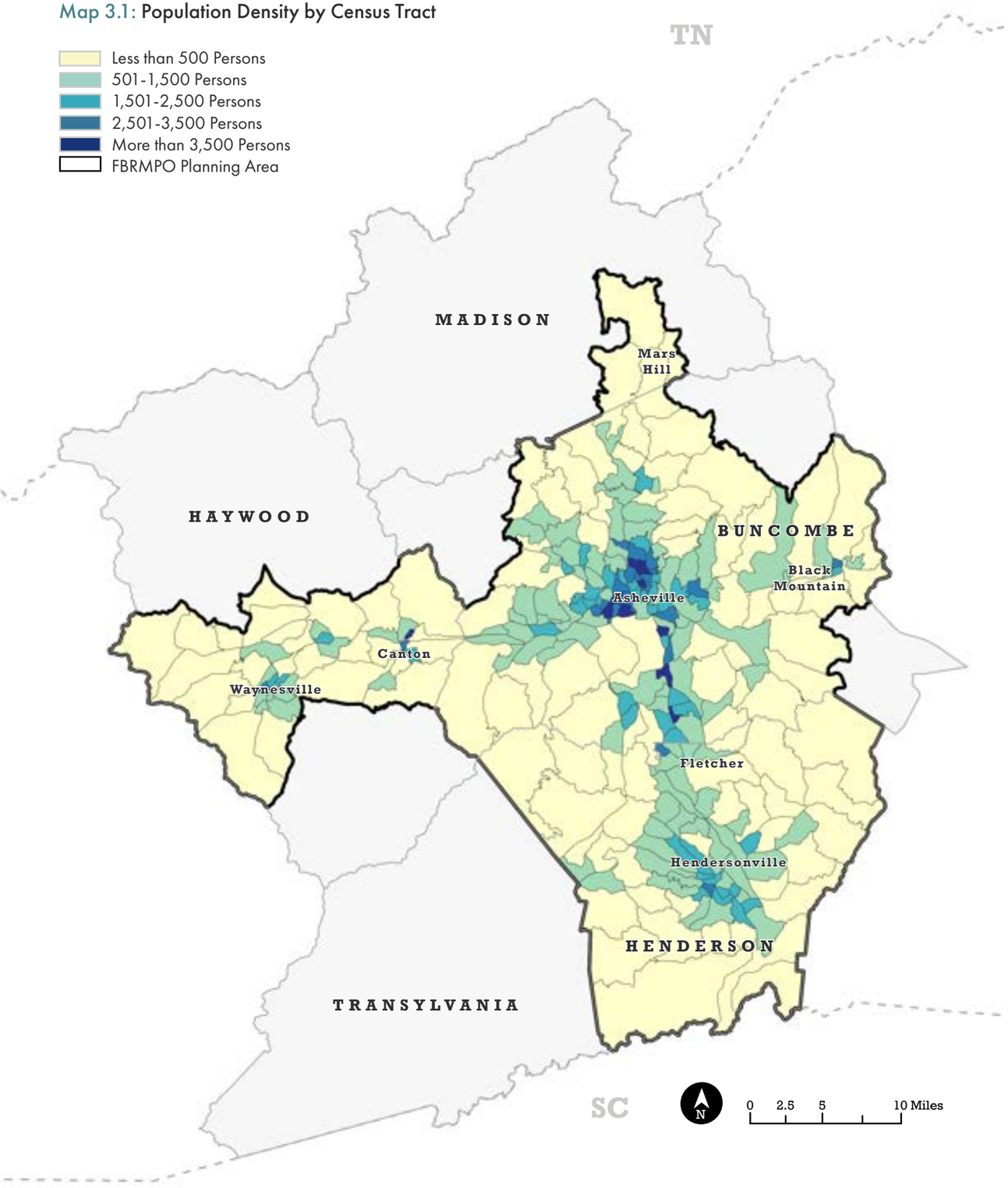
The population growth within the FBRMPO Planning Area has contributed to its designation as a Transportation Management Area (TMA). This designation grants the FBRMPO expanded responsibilities, along with increased resources and a more significant role in the regional transportation network.

Table 3.1 summarizes population change using data from both the 2010 and 2020 Decennial Censuses and ACS 5-year Estimates for 2019-2023 where available.

Jurisdiction	2010	2020	2019-2023	# Change, 2010-2023	% Change, 2010-2023	Annualized Growth Rate
Asheville	83,393	94,589	94,369	10,976	13.16%	1.01%
Biltmore Forest	1,343	1,409	1,536	193	14.37%	1.11%
Black Mountain	7,848	8,426	8,462	614	7.82%	0.60%
Canton	4,227	4,422	4,417	190	4.49%	0.35%
Clyde	1,223	1,368	1,522	299	24.45%	1.88%
Flat Rock	3,114	3,486	3,502	388	12.46%	0.96%
Fletcher	7,187	7,987	8,022	835	11.62%	0.89%
Hendersonville	13,137	15,137	15,253	2,116	16.11%	1.24%
Laurel Park	2,180	2,250	2,391	211	9.68%	0.74%
Maggie Valley	1,150	1,687	2,311	1,161	100.96%	7.77%
Mars Hill	1,869	2,007	2,738	869	46.50%	3.58%
Mills River	6,802	7,078	7,214	412	6.06%	0.47%
Montreat	723	901	474**	(-249)	(-34.44%)	(-2.65%)
Waynesville	9,869	10,140	10,408	539	5.46%	0.42%
Weaverville	3,120	4,567	4,618	1,498	48.01%	3.69%
Woodfin	6,123	7,936	7,957	1,834	29.95%	2.30%
Buncombe County	238,318	269,452	271,790	33,472	14.05%	1.08%
Haywood County	59,036	62,089	62,432	3,396	5.75%	0.44%
Henderson County	106,740	116,281	117,387	10,647	9.97%	0.77%
Madison County	20,764	21,193	21,640	876	4.22%	0.32%
FBRMPO Planning Area	414,000	440,041	-	26,041*	6.29%*	0.63%*
Asheville MSA	424,858	459,015	473,249	48,391	11.39%	0.88%
Urbanized Area	280,648	285,776	295,054	14,406	5.13%	0.39%
North Carolina	9,535,483	10,439,388	10,584,340	1,048,857	11.00%	0.85%

**2019-2023 data not available for FBRMPO region, so 2010-2020 data is used.*
***The North Carolina Office of State Budget and Management projects a population closer to 2020 Census estimates.*
Table 3.1: **Population Change in FBRMPO Region.**

Map 3.1: Population Density by Census Tract



Communities of Concern

There are key demographics to note in providing context for this planning effort. The Communities of Concern section of this document delves further into the implications of the demographic data for communities of concern.

One key demographic trend is the FBRMPO area's aging population. Seniors made up 26% of Henderson County's population in 2023, over 9% higher than the statewide average (16.9%). While Buncombe County has a relatively low percentage of seniors in the region (20.8%), it still exceeds state and national averages. This growth trend has continued since the last MTP. Having larger senior populations creates distinctive transportation challenges and opportunities. There continue to be discussions surrounding aging in-place, where communities try to accommodate and promote healthy and independent lifestyles. For example, the Land of Sky Regional Council's Area Agency on Aging helps older adults stay active and independent by connecting them with transportation options, caregiver support, and wellness programs that make it easier to age in place and stay engaged in their communities. Where senior populations do not maintain independence, there may be a higher demand for public transit services and greater consideration for programs that aid these populations.

The FBRMPO demographic comparison provides insight on how the FBRMPO compares to North Carolina and the United States in a set of chosen demographic categories using current US Census data. Chapter 10. Communities of Concern and Title VI provides a more detailed analysis of the distribution of Communities of Concern in the FBRMPO planning area; however, this section identifies high-level observations pertaining to Communities of Concern in the region.

Characteristics define Communities of Concern, which make them more vulnerable to changes or costs in the transportation network, reduced access to multiple transportation options, or reduced ability to use the transportation network. Elements evaluated in this section include:

- Limited English Proficiency (LEP)
- Households Without Access to a Vehicle
- Disability Status
- Older Adults (65+ Population)
- Minority Population

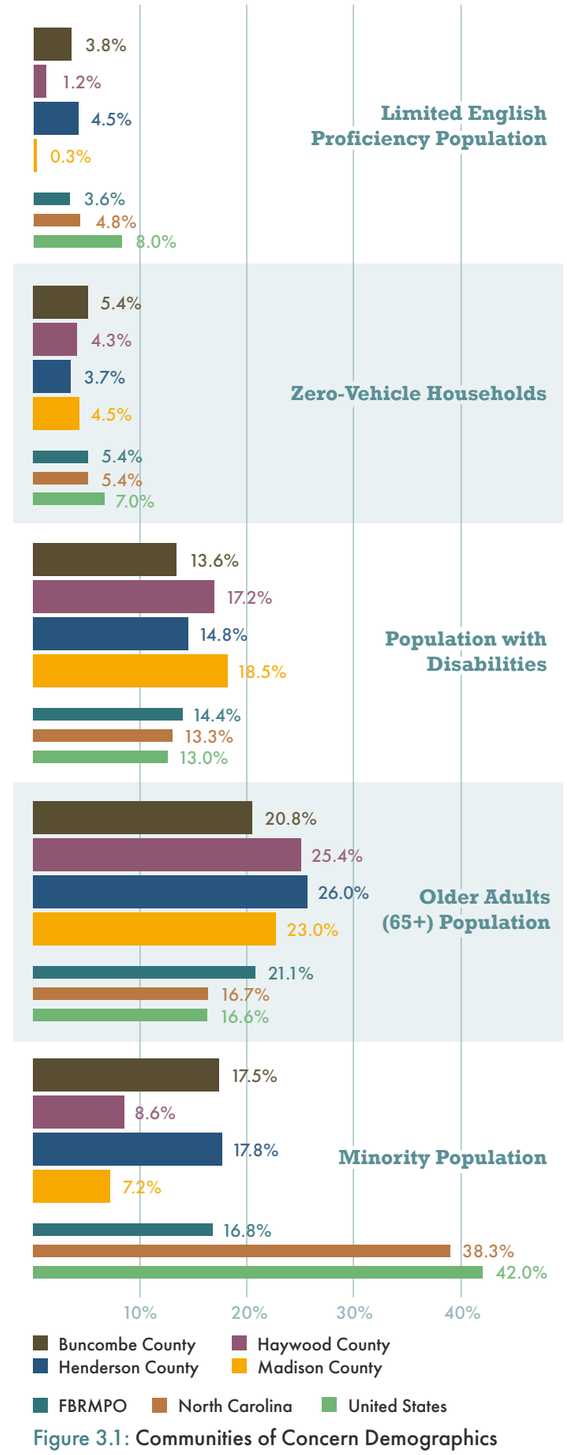
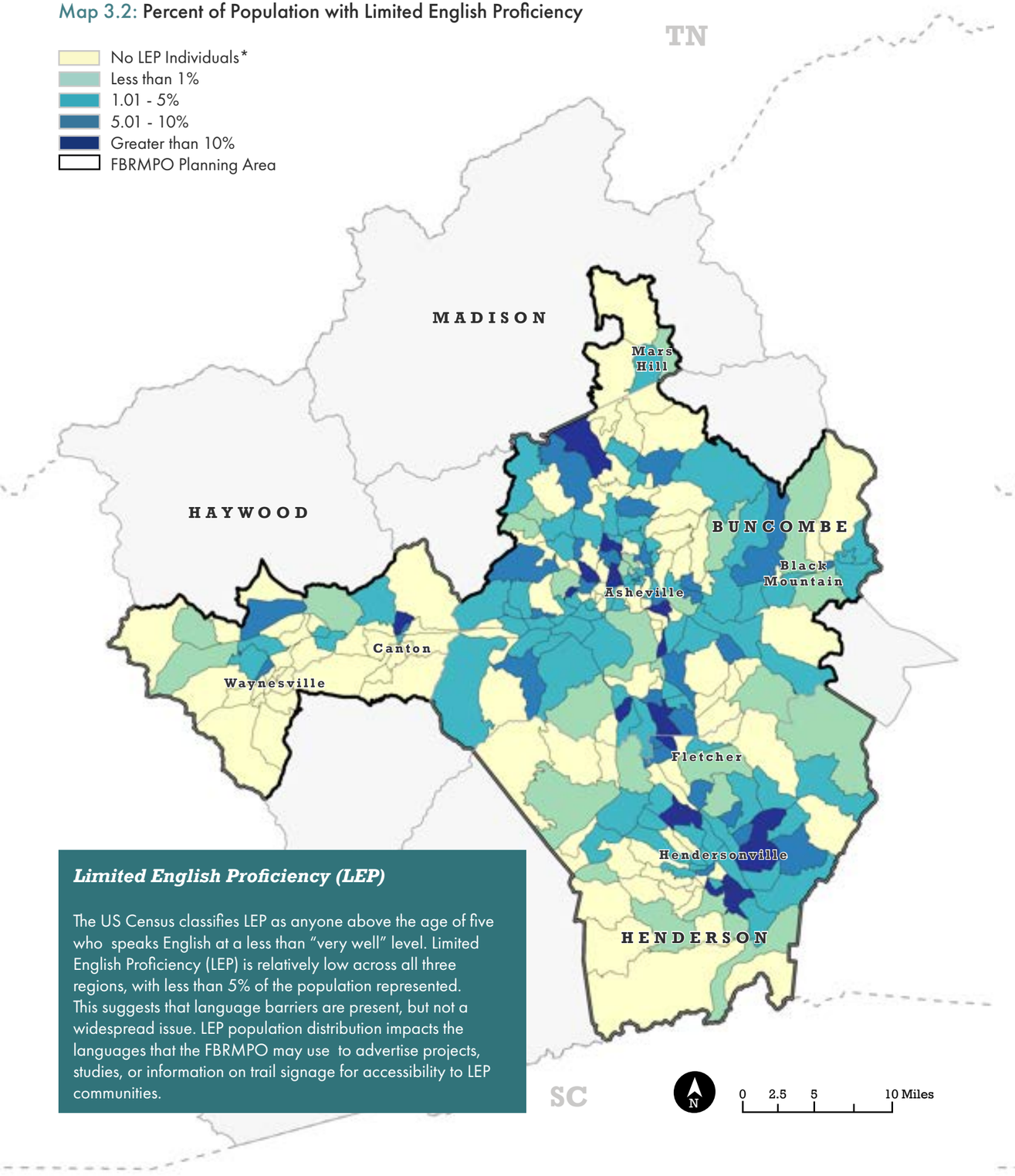


Figure 3.1: Communities of Concern Demographics

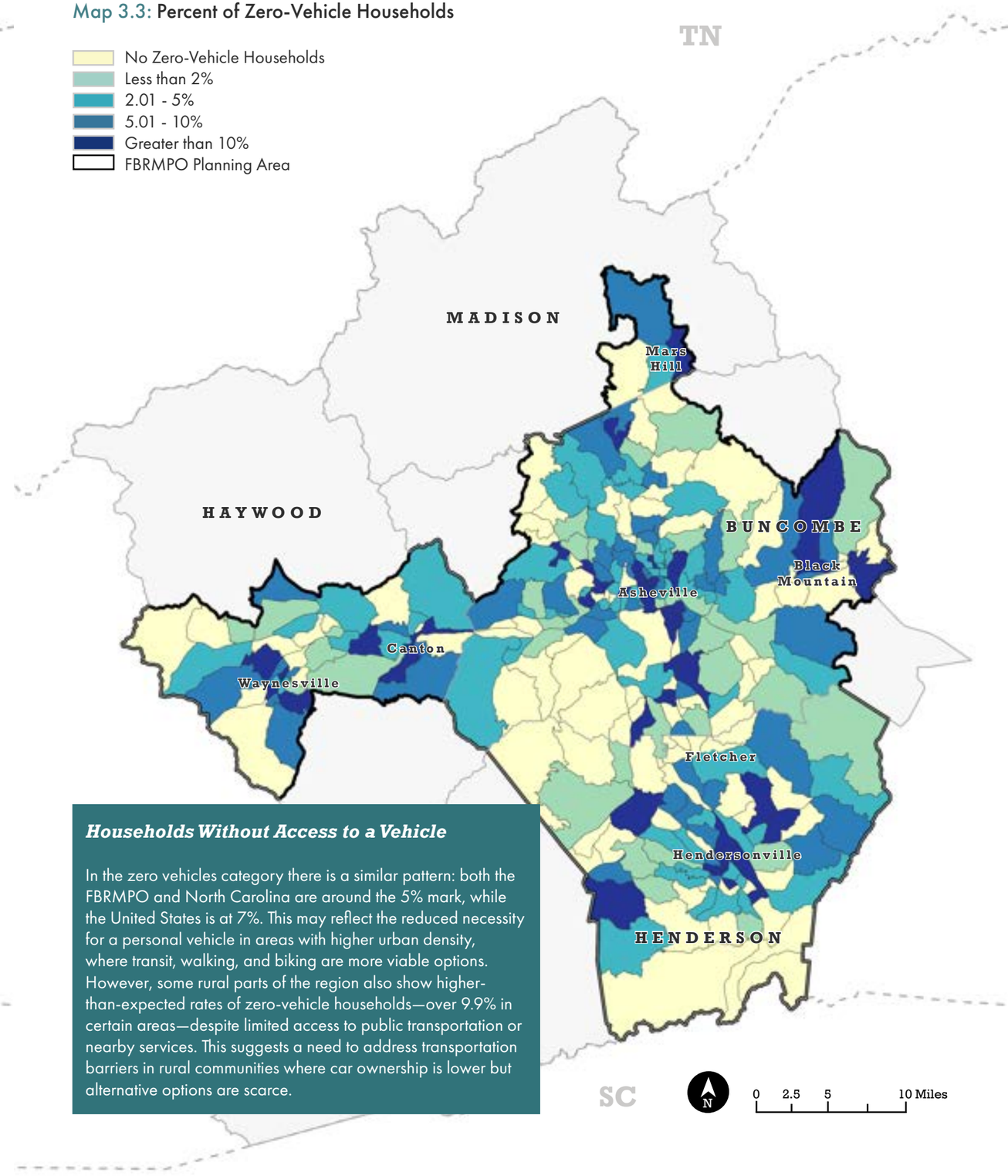
Map 3.2: Percent of Population with Limited English Proficiency



Limited English Proficiency (LEP)

The US Census classifies LEP as anyone above the age of five who speaks English at a less than "very well" level. Limited English Proficiency (LEP) is relatively low across all three regions, with less than 5% of the population represented. This suggests that language barriers are present, but not a widespread issue. LEP population distribution impacts the languages that the FBRMPO may use to advertise projects, studies, or information on trail signage for accessibility to LEP communities.

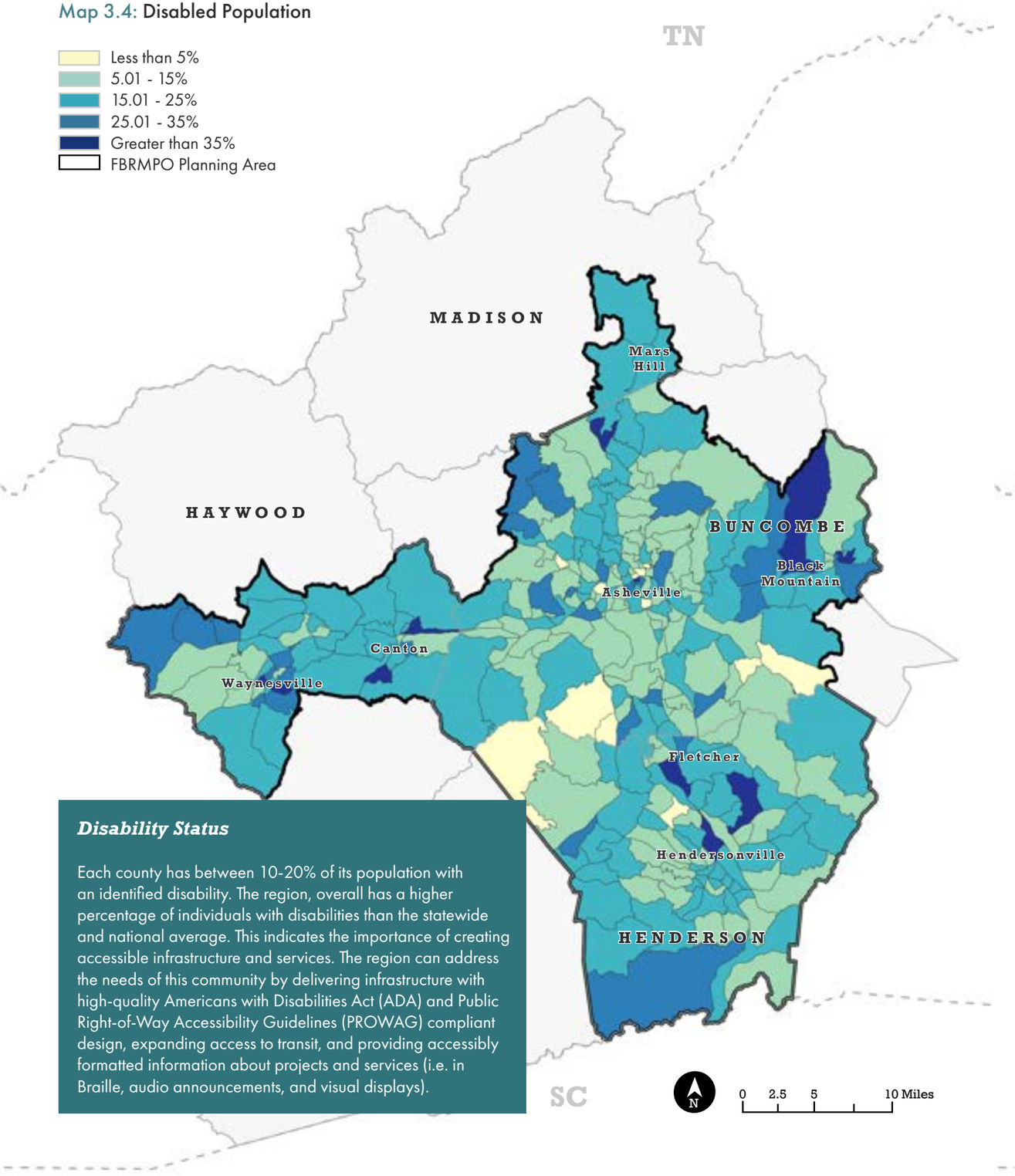
Map 3.3: Percent of Zero-Vehicle Households



Households Without Access to a Vehicle

In the zero vehicles category there is a similar pattern: both the FBRMPO and North Carolina are around the 5% mark, while the United States is at 7%. This may reflect the reduced necessity for a personal vehicle in areas with higher urban density, where transit, walking, and biking are more viable options. However, some rural parts of the region also show higher-than-expected rates of zero-vehicle households—over 9.9% in certain areas—despite limited access to public transportation or nearby services. This suggests a need to address transportation barriers in rural communities where car ownership is lower but alternative options are scarce.

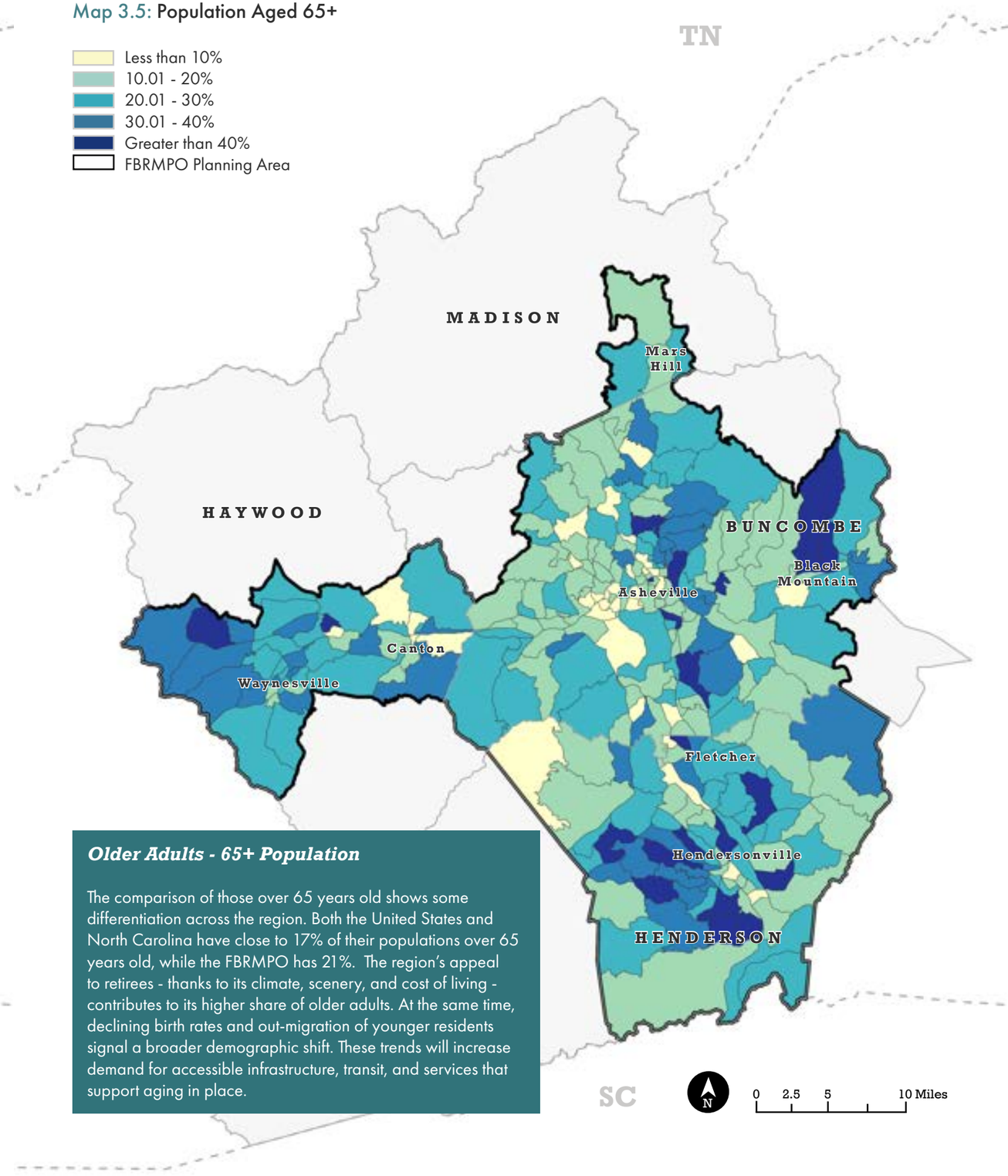
Map 3.4: Disabled Population



Disability Status

Each county has between 10-20% of its population with an identified disability. The region, overall has a higher percentage of individuals with disabilities than the statewide and national average. This indicates the importance of creating accessible infrastructure and services. The region can address the needs of this community by delivering infrastructure with high-quality Americans with Disabilities Act (ADA) and Public Right-of-Way Accessibility Guidelines (PROWAG) compliant design, expanding access to transit, and providing accessibly formatted information about projects and services (i.e. in Braille, audio announcements, and visual displays).

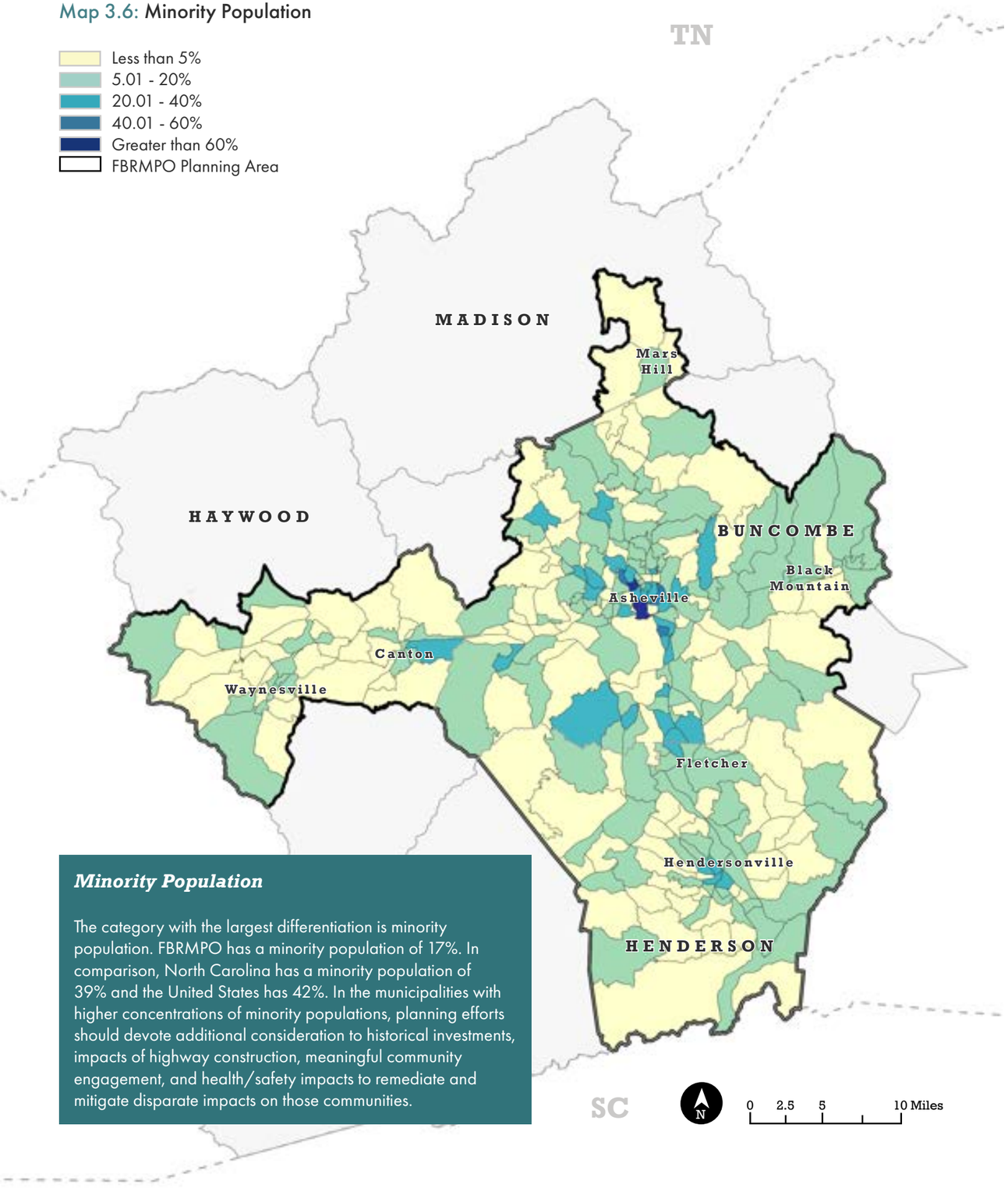
Map 3.5: Population Aged 65+



Older Adults - 65+ Population

The comparison of those over 65 years old shows some differentiation across the region. Both the United States and North Carolina have close to 17% of their populations over 65 years old, while the FBRMPO has 21%. The region's appeal to retirees - thanks to its climate, scenery, and cost of living - contributes to its higher share of older adults. At the same time, declining birth rates and out-migration of younger residents signal a broader demographic shift. These trends will increase demand for accessible infrastructure, transit, and services that support aging in place.

Map 3.6: Minority Population



Minority Population

The category with the largest differentiation is minority population. FBRMPO has a minority population of 17%. In comparison, North Carolina has a minority population of 39% and the United States has 42%. In the municipalities with higher concentrations of minority populations, planning efforts should devote additional consideration to historical investments, impacts of highway construction, meaningful community engagement, and health/safety impacts to remediate and mitigate disparate impacts on those communities.

Federal Administrative Priorities (2025)

Birth Rate

Birth rate data from 2023 (Map 3.7) shows that per census block, the average rate over twelve months is relatively low, with fewer than 50 births. An aging population, smaller families, and economic conditions could influence a generally low birth rate across the region. Central Asheville is the most densely populated area but does not see the highest birth rates.

This pattern likely reflects a combination of factors, including an aging population, smaller family sizes, and broader economic conditions. Residential areas outside the urban core more commonly have higher birth rates, particularly neighborhoods with more family-oriented housing and greater affordability.

This pattern is typical for urbanized regions, where families often seek more space and stability in suburban or rural settings. Some census blocks, such as one in northwestern Asheville and one between Mills River and Fletcher, have relatively higher birth rates, reaching up to 300 births in a 12-month period, marking them as areas of ongoing growth and development. The federal government views these census blocks as areas of growth and development in the region.

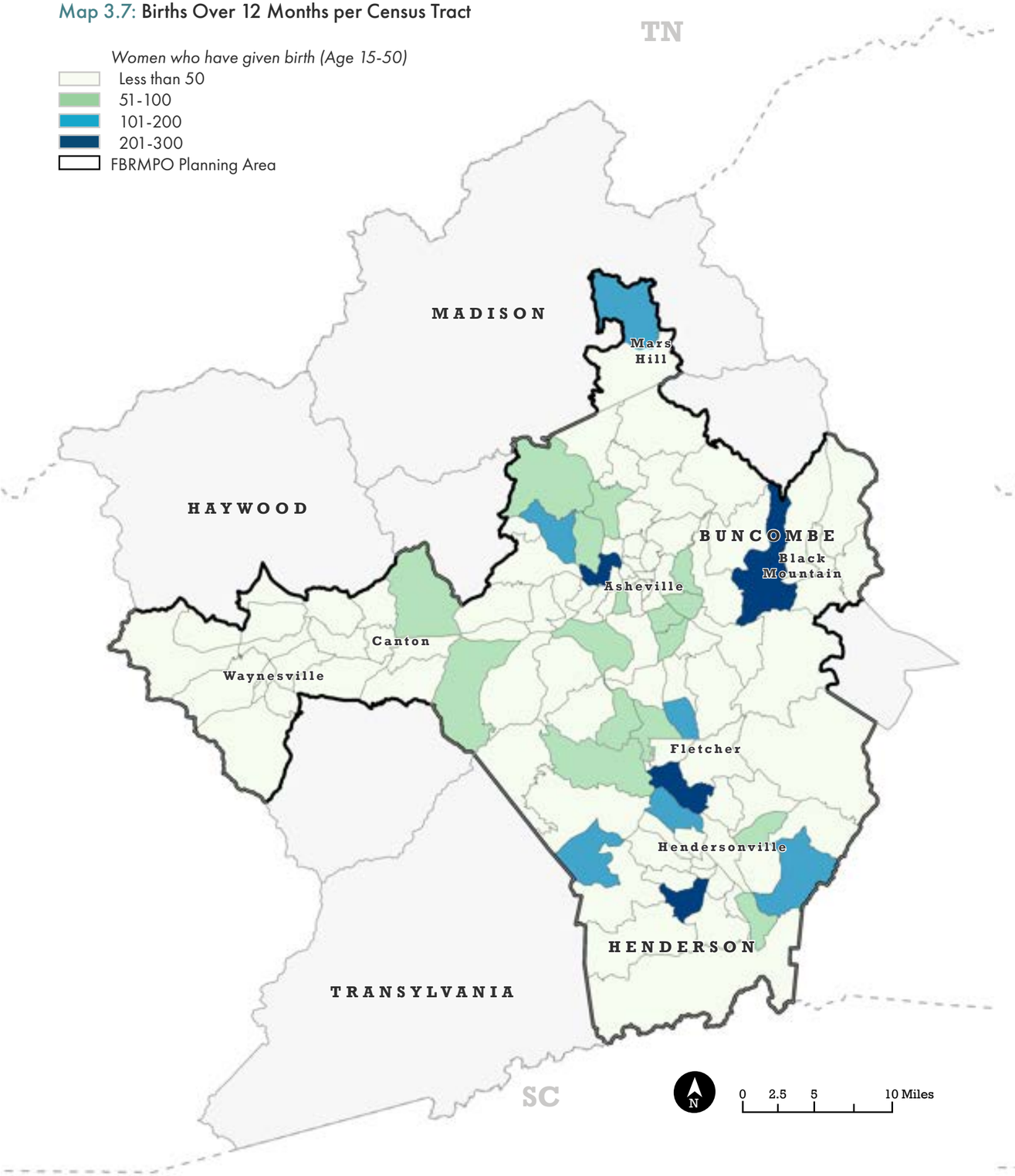
Marriage Rate

The percentage of individuals who are married within each census block represents its own marriage rate and the blocks across the FBRMPO, based on data from 2023, are depicted in Map 3.8. Census blocks with higher population densities—especially in and around downtown Asheville—tend to have lower marriage rates, often below 30%.

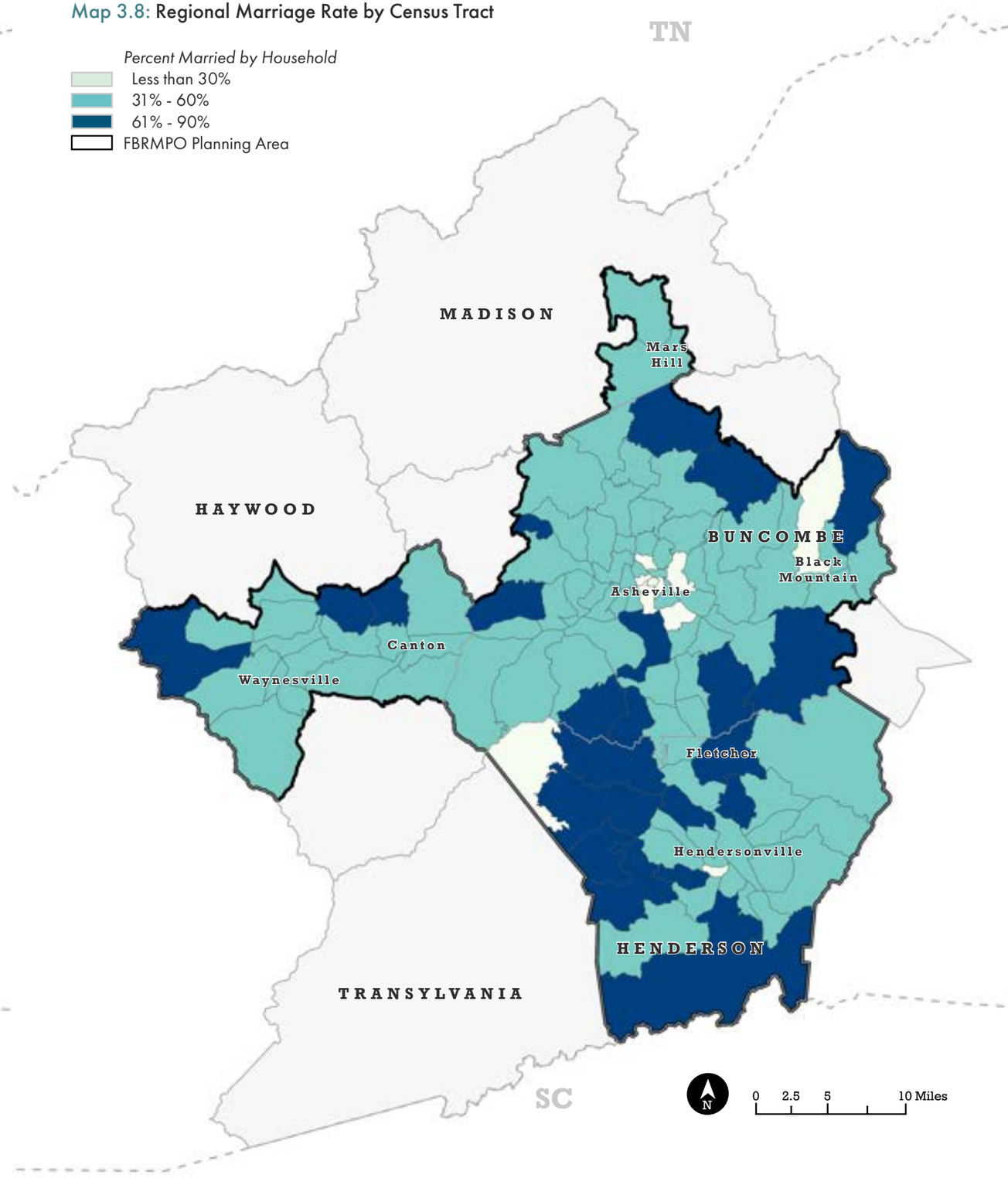
Nationally, the average age for first marriage has increased and is now typically in the late twenties to early thirties, meaning urban areas with a youthful population naturally report lower marriage rates. This also correlates with lower birth rates observed in these areas, as each stem from similar lifestyles. In contrast, less densely populated areas with an older demographic primarily contain census blocks where marriage rates are 50-70%, and this demographic is more likely to be married.

Flat Rock and Mills River contain two census tracts with high marriage rates, where 75% and 65% of the population are married, respectively. Additionally, cultural or religious influences in these areas may also contribute to higher marriage rates, as such values often place a stronger emphasis on traditional family structures.

Map 3.7: Births Over 12 Months per Census Tract



Map 3.8: Regional Marriage Rate by Census Tract



Economy

Planning factors addressed

Economic Vitality | Efficient System | Accessibility | Integration and Connectivity | Travel and Tourism

The economy of the planning area is somewhat distinctive for a large urbanized area, with a strong foundation in leisure and hospitality. Certain sectors within the region's economy are notably larger than the state average. As the nature of work evolves, the region's economy is also undergoing changes. Census and other data indicate that Asheville is emerging as a major hub for telecommuters—residents who work remotely from home, cafés, or co-working spaces for employers located elsewhere.

As Asheville continues to grow, limited housing supply and rising demand have increased housing prices significantly, likely contributing to a trend of workers relocating from urban centers to more rural neighboring communities.

Regional Economy Overview

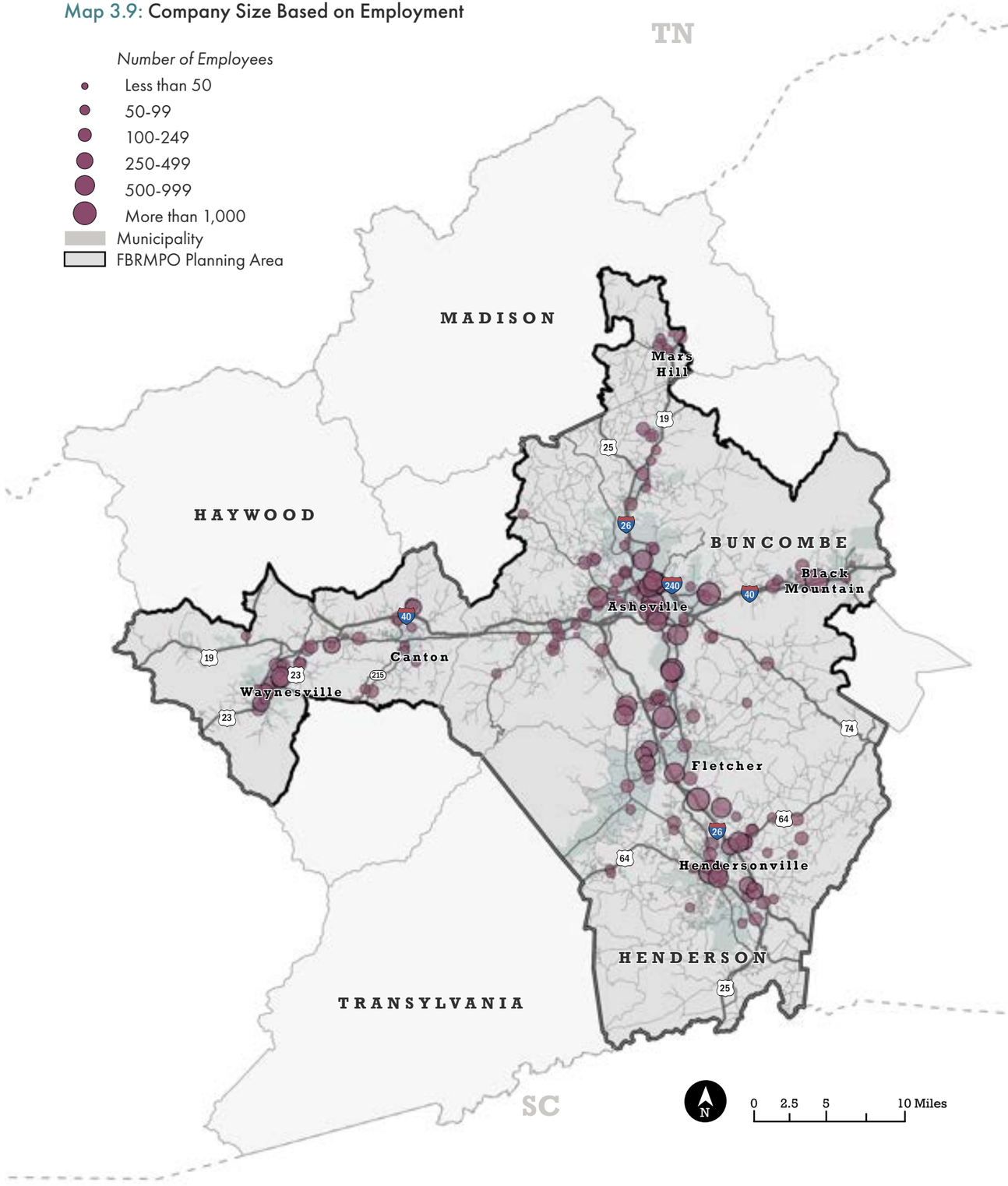
Historically, Asheville has been known as a resort town—a destination where wealthy individuals from the East Coast would escape hot summers, air pollution, and enjoy the outdoors. Many of Asheville's iconic attractions, such as the Biltmore Estate, the Grove Park Inn, and the Grove Arcade, were established during the early waves of seasonal visitors and are renowned for their beauty and preserved green spaces. Tourism continues to shape the region's identity, fueling hotel booms, the rise of short-term rentals (e.g., AirBnB), the expansion of outdoor recreation sectors, the creation of new attractions, and a nationally recognized service industry.

The 2050 Land Use and Socio-Economic Forecast projected that employment in the FBRMPO region will rise from 248,972 in 2020 to 317,553 by 2050. According to the NC Office of State Budget and Management (NCOSBM), Health Care and Social Assistance account for the highest percentage of employment in each of the four counties, with roughly 31-33% of employees in Buncombe, Haywood, Henderson, and Madison falling in that category in 2021.[6] The second most significant industry in 2021 was Accommodations and Food Service, with 22.9% of Haywood County employees, 19.7% of Buncombe County employees, and 15.2% of Henderson County employees. In Madison County, the second most popular industry was Educational Services (17.3%) followed by Accommodation and Food Service (15.5%).

The previous MTP was completed in early 2020, just before the COVID-19 pandemic, which significantly impacted the regional economy—especially the Accommodations and Food Service sector, which bore most of the early job losses. While recovery is underway and new industries are emerging, the long-term effects and full extent of adaptation across sectors are still unfolding.

As mentioned, Elevate 2050 was written during the aftermath of Hurricane Helene. Subsequent MTPs will likely reflect Helene's impact on the planning area's population and economy; however, it is important to note certain immediate observations following the storm. In 2023, the Asheville metropolitan area's unemployment rate was 2.5%. Following Hurricane Helene, the unemployment rate increased in October 2024 to 8.5% and was 5.1% in December 2024.[7]

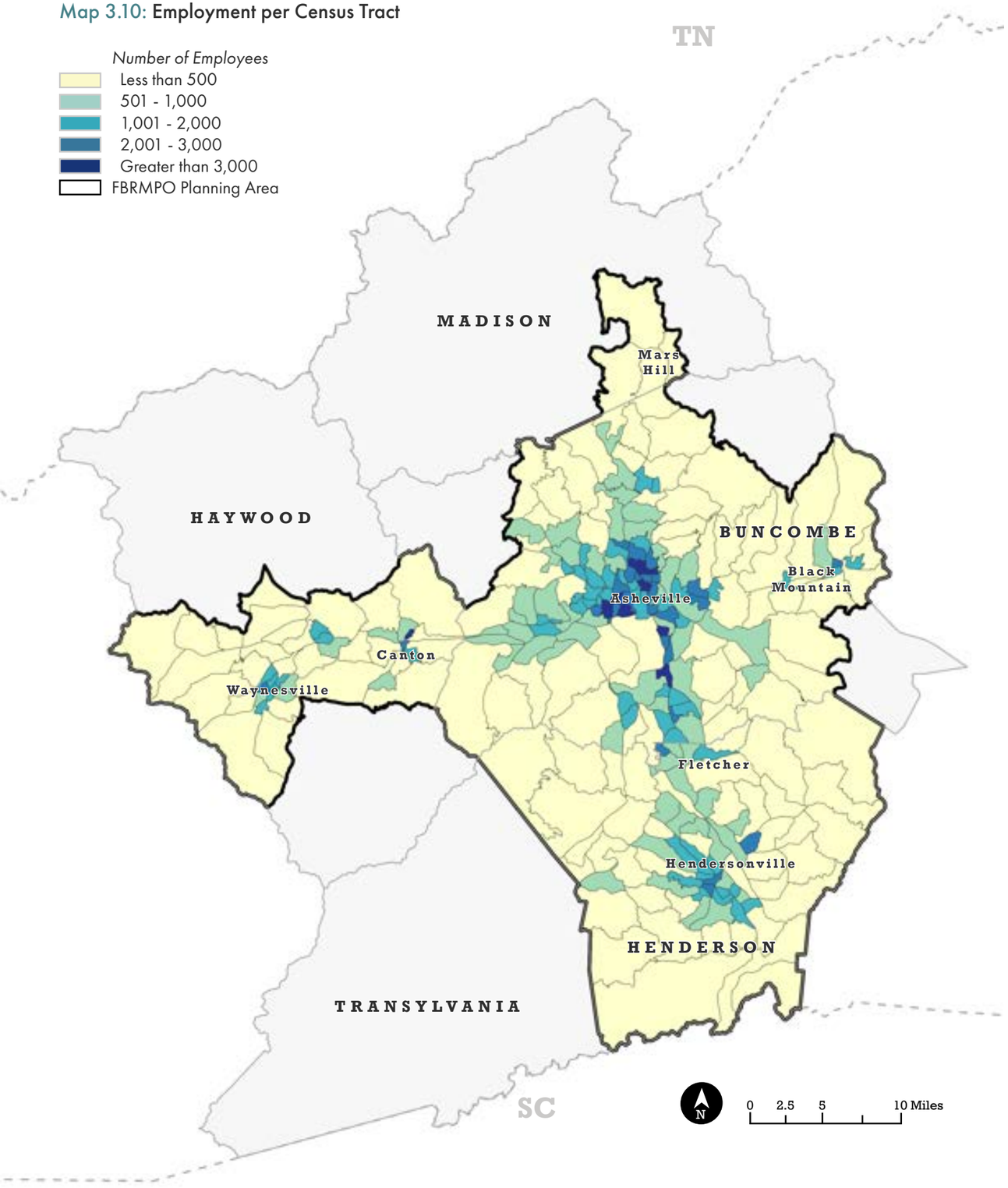
Map 3.9: Company Size Based on Employment



6 North Carolina Office of State Budget and Management. (n.d.). Employment and Income. Retrieved February 26, 2025, from https://ncosbm.opendatasoft.com/pages/employment-income/

7 U.S. Bureau of Labor Statistics, Unemployment Rate in Asheville, NC (MSA) [ASHE737URN], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/ASHE737URN , February 28, 2025.

Map 3.10: Employment per Census Tract



Telecommuting

There is evidence of an increase in telecommuting in the FBRMPO's planning area, with residents working remotely for employers. This trend has become an increasingly important component of the region's economy. According to the 2023 ACS 5-year Estimates from the US Census Bureau, 14% of workers in the Asheville MSA work from home. However, data on the specific sectors in which these telecommuters are employed remains limited.

Telecommuting offers significant opportunities for residents of the planning area, specifically in Asheville, a region historically known for its low wages and high poverty rates.[8] By working remotely, residents can access higher-paying jobs based in other metropolitan areas. This shift toward telecommuting also has implications for the region's transportation network and infrastructure. On one hand, the increase in telecommuting may reduce roadway demand, especially during peak times, potentially easing congestion. In 2019, only 9.4% of workers in the Asheville area were telecommuters. By 2023, roughly 16.3% of the Asheville area identified as telecommuters. Buncombe and Henderson County ranked in the top 8 counties in NC for work-from-home in 2023, according to the NC Department of Commerce.

Across the region, there has been an increase in telecommuting, with every county except Haywood more than doubling the number of residents working from home between 2010 and 2023. Buncombe County has the highest concentration of remote workers, accounting for three quarters of he region's remote worker growth.

The rise of telecommuting highlights challenges related to broadband access. Quality internet service enables telecommuters to perform jobs effectively. Despite the growing telecommute trend, some areas in the region have limited broadband or internet access. Limited access can be a barrier to realizing the benefits of telecommuting to the region's economy.

The FBRMPO hosts GO Mountain Commuting, a regional TDM program which encourages ridesharing and sustainable commuting options, thus reducing congestion and emissions associated with the transportation sector. Teleworking remains a very promising sustainable commute strategy in the region. Work from home data for Haywood County and Madison County was excluded from the 2023 5-Year ACS; however, in comparing the 2018 5-Year ACS to 2022 5-Year ACS (Figure 3.2) rates of working from home, each county in the FBRMPO region shows an increase in percentage of residents who identify as working from home. Rates continue to increase and the 2023 5-Year ACS shows 18.7% of workers in Buncombe County and 11.9% of workers in Henderson County were primarily working from home.[9]

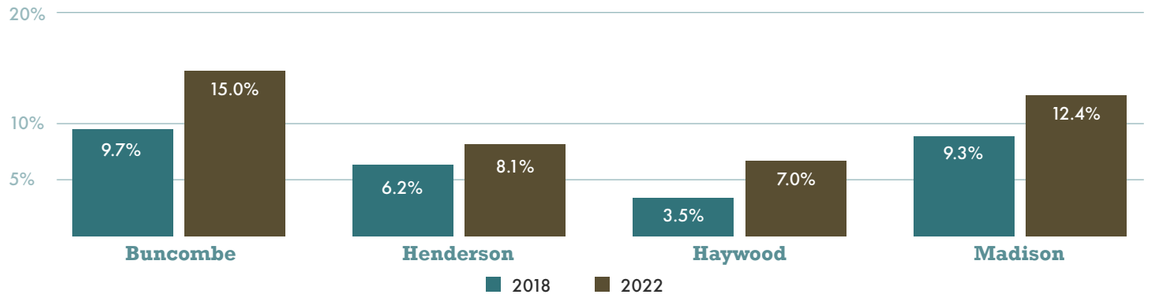


Figure 3.2: Change in "Working From Home" in the FBRMPO Region 2018-2022 *(US Census American Community Survey)*

8 Walton, B. (2016, October 29). WNC poverty: Hidden in plain sight. The Asheville Citizen Times. https://www.citizen-times.com/story/news/local/2016/10/29/life-below-line-demographics-poverty-wnc/87391448/

9 NC Department of Commerce, March 4, 2025. NC's Most Popular Places for Working from Home: 2023 Update. https://www.commerce.nc.gov/news/the-lead-feed/nc-most-popular-places-to-work-from-home

Housing + Commuting Patterns

With an influx of residents to the region, the City of Asheville and surrounding areas have experienced population growth that impact housing prices and commuting patterns. The housing supply has increased with the population, although at a pace that lags demand. When combined with other economic factors, home prices have risen to some of the highest in North Carolina.[10] According to the USDOT, housing costs are the single largest expense for most households. Long-standing metrics used to measure affordable housing do not consider the transportation costs associated with home locations. It is also more common to find more affordable homes located further away from jobs, public transportation, and other amenities. Even though a home located further away may be more affordable, the increased auto dependency leads to higher transportation costs in fuel usage and vehicle maintenance. Household transportation costs and available public transportation are equity considerations.

Furthermore, a report in April 2024 indicated that Asheville ranked second in the country for the highest move-in/move-out ratio at 3.29, meaning that for every 329 planned moves to the area, there were only 100 residents planning to leave.[11] This data will likely change in the years following Hurricane Helene. Tracking resident out-migration and the resulting impacts that it will have on the region's economy is important to future transportation planning.

While housing affordability is outside the control of the FBRMPO, the agency aims to reduce transportation costs in the region by supporting planning initiatives and allocating funding to projects that increase multimodal transportation options and access to jobs and services.

Commuting trends have shifted in the region as urban centers grow and rural and suburban areas become more popular housing markets for residents commuting to urban centers. Between 2018 and 2022, the percentage of workers who work and live in the FBRMPO region decreased slightly (by roughly 2%). Fewer people in Haywood and Henderson counties worked in their home county in 2022, supporting the idea that area residents who work in Asheville are increasingly choosing to live in further locations with lower housing costs.

Figure 3.3: Inflow/Outflow of Workers in the FBRMPO Region

	2018		2022	
	Count	Share	Count	Share
Employed in Selection Area	188,220	100%	196,648	100%
Employed in Selection Area but Living Outside	58,057	30.8%	65,207	33.2%
Employed and Living in Selection Area	130,163	69.2%	131,441	66.8%
Living in Selection Area	176,170	100%	181,809	100%
Living in Selection Area but Employed Outside	46,007	26.1%	50,368	27.7%
Living and Employed in Selection Area	130,163	73.9%	131,441	72.3%

Table 3.2: 2018 and 2022 Inflow/Outflow of All Jobs

10 https://marketstatsreports.showingtime.com/CRRA_kcohd/sst/Asheville/Asheville-MSA.pdf

11 Seaton, I. (2024, April 3). Asheville ranks No. 2 in the country for highest planned move-in vs. move-out ratio. Asheville Citizen Times. https://www.citizen-times.com/story/news/local/2024/04/03/asheville-is-2-in-the-country-for-highest-move-in-vs-move-out-ratio/73144952007/

Land Use and Growth Projections

Planning factors addressed

Economic Vitality | Integration and Connectivity | Accessibility

One initial, critical step in developing Elevate 2050 was to forecast the amount, type, and location of population and employment growth over the plan's time frame. The Socioeconomic Projections for Elevate 2050 began in 2024.

Land use planning in the FBRMPO region is the responsibility of the local governments that maintain comprehensive plans, zoning ordinances, or small area plans to guide future growth and development decisions. While these plans are created independently of the MPO, TCC and Board representatives—along with project-specific committees—convey the land use priorities of their jurisdictions during regional planning efforts. During the update for the Socioeconomic and Land Use study, which happens every four years, the FBRMPO studies and analyzes land use and development data from member governments.

Growth Projections

The FBRMPO contracted with a consultant to conduct the 2050 Socioeconomic Projections, which included household, population, employment, and land use projections for the region in order to determine where that growth was likely to occur based on land use plans, development patterns, employment data, and land supply constraints. The socioeconomic and land use model allocates the growth variables to traffic analysis zones (TAZs), small geographic blocks that divide the region for the region's travel demand model. Census block groups loosely inform these TAZs, but they do not align with block group boundaries in many places. Each TAZ is designed to represent an area with similar transportation characteristics, but some TAZs include large swaths of state or nationally protected lands. This means that while some TAZs may be geographically large, only a small portion of their area may be suitable for population or employment growth. Throughout the data collection process, local governments validate inputs, enabling the consultant to develop and refine different regional growth scenarios. Four projections were created using the same overall population and employment forecasts, but with varying patterns of distribution. These scenarios were reviewed by the Prioritization Subcommittee and include:

- Business as Usual – growth based on market forces and comprehensive plans
- Consolidated Growth – increased growth in urban areas with lower vehicle miles traveled
- Dissipated Growth – increased growth in more rural areas, less growth in urban areas
- Accelerated Growth – more population and employment growth than currently projected by the OSBM.

Analysis shows that the Consolidated scenario performs best in terms of transportation efficiency, reducing regional VMT by 9% compared to the Business as Usual scenario by 2050. This reduction implies substantial benefits for air quality, public health, and infrastructure efficiency. Conversely, the Dissapated scenario yields slightly higher VMT than the Business as Usual scenario due to longer average travel distances, while the Accelerated scenario results in significantly higher VMT due to the increased number of households, despite a reduction in external commuting. As a result of this analysis, in March 2025, the FBRMPO Board adopted the Consolidated scenario as the preferred regional growth strategy, prioritizing investments in infrastructure and development policies that support concentrated growth in urban centers and walkable neighborhoods.

Appendix C. Land Use Study provides full details on the methodology behind the preferred growth model.

Topography

Planning factors addressed

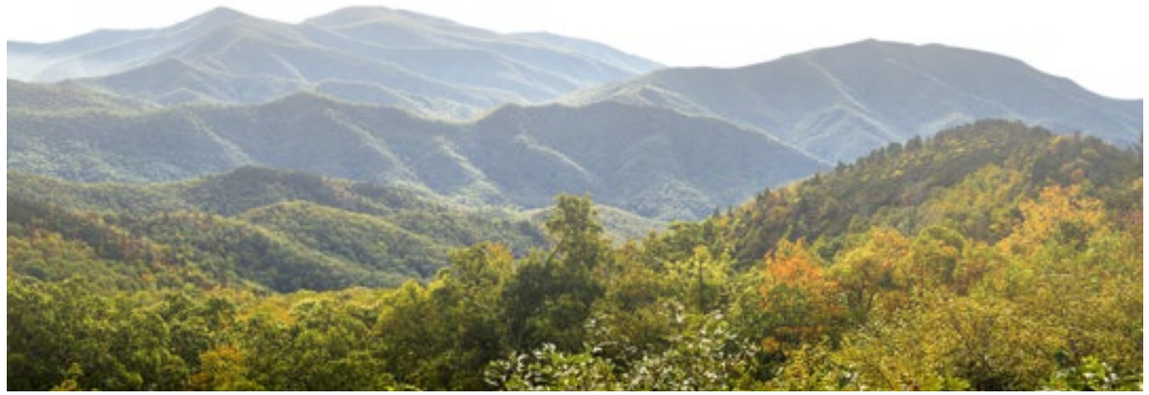
Safety | Accessibility | Environment | Preservation | Resiliency and Reliability

As part of the Southern Appalachian Mountain Range, the region surrounding Asheville, Hendersonville, and Waynesville includes some of the highest peaks east of the Rockies - most notably Mount Mitchell, the tallest mountain in the Eastern United States. The mountainous terrain shapes many aspects of economic development and infrastructure. Long celebrated for its natural beauty, clean air, and clear water, the region has drawn people for over a century, offering scenic views, rich biodiversity, and outdoor recreation. People know the region's rivers for their abundance of trout—a species that demands cold, clean water. These assets continue to support the Accommodation and Food Service sector of the region, which employs an estimated 20% of the region's workforce.

The region's population and employment centers align very closely with areas with fewer slope challenges, which pushes a substantial amount of development into flood prone areas. Development and infrastructure require buildable topography, yet flat land with minimal constraints or environmental hazards is often scarce or difficult to access in the FBRMPO region. Major municipalities are located primarily in valleys, often hemmed in by mountains and steep terrain.

These valleys have largely constrained the development of the regional transportation network, with only a few routes providing connections through steeper terrain. One of the major challenges for the region's transportation network is its lack of connectivity. The topographic challenges have led to a network of roads that often taper off where the terrain becomes too difficult to traverse. Consequently, travel in the region depends heavily on a limited number of major regional connections where traversing the mountainous landscape is feasible. This terrain also leads to higher construction and maintenance costs compared to other parts of the state.

Hurricane Helene highlighted some of the resilience challenges directly connected to topography. The storm washed out critical corridors, such as I-40 through the Pigeon River Gorge, shutting down interstate travel between WNC near Ridgecrest and Tennessee for over four months. Many routes in the region are prone to major flooding, and when the mountains experience heavy rainfall, they act like a funnel, accelerating stormwater into valleys and quickly overwhelming streams and rivers.



Transportation Demand Management (TDM)

Transportation Demand Management (TDM) includes programs and strategies that promote the reduction and elimination of vehicular trips through a variety of methods. Some of these strategies include public transit, carpooling, vanpooling, active and multimodal travel, teleworking, car sharing and incentivizing businesses and individuals to adopt TDM practices. When combined, these approaches can help make long-distance trips more efficient and reduce peak-hour congestion.

The FBRMPO has employed a TDM coordinator since 2016. The TDM Coordinator is responsible for encouraging businesses to develop commuting programs and organizing regional events and initiatives to reduce demand or peak-hour demand on congested roadways. There are multiple active TDM programs in the FBRMPO area:

- GO Mountain Commuting was developed to offer sustainable commute solutions for the region by promoting van/carpools, transit, and active transportation modes. By connecting individuals to carpooling opportunities, residents can save up to $800 a year in transportation costs. Go Mountain Commuting encompasses two primary projects, Strive Not to Drive and Recovery to Careers Vanpool.
- Strive Not to Drive focuses on a week in May each year to encourage those in the region to "think beyond the car." The month of May includes events such as walk audits, bike to work events, and walk to school events. The intention of having these programs throughout May is to carry the momentum through the year and establish partnerships that reduce single-occupancy vehicle trips.
- Recovery to Careers Vanpool is a new program created through Federal Transit Administration (FTA) Job Access and Reverse Commute (JARC) funding with matching funds from the Dogwood Health Trust. The goal of the program is to provide citizens in recovery from substance abuse, housed in sober living residences, with access to vanpools for transportation, involving pickup from designated areas and transportation to jobs outside current bus routes. The service is planned to operate seven days a week and partnerships with Linamar Light Metals in Mills River and Givens Estates in Asheville are underway.

Figure 3.4: **ART Bus** *(Credit: City of Asheville)*

GO MOUNTAIN COMMUTING

STRIVE
Thinking, Working + Moving Beyond the Car

Figure 3.5: **Go Mountain Commuting logo** *(top)*
Figure 3.6: **Strive logo** *(bottom)*

Downtown Hendersonville (credit: Todd Bush/Henderson County Tourism Development Authority)

04. Existing Conditions

The FBRMPO faces challenges and opportunities within its transportation network with regard to safety, security, congestion, freight movement, environmental concerns, infrastructure resiliency, public transit, bicycle and pedestrian mobility, rail, aviation, emerging trends in technology, and tourism and travel. This chapter provides context, data, and subsequent interpretation of each aforementioned facet of the transportation network in the FBRMPO region. This chapter will provide an explanation of why the topic matters, a summary of key data points, and a review of what the data means for the region in the next 25 years.

Safety

Planning factors addressed

Safety
Security
Preservation
Efficient System
Resiliency and Reliability

Background

Safety is a foundational element of a functional and equitable transportation system. It ensures the secure movement of people and goods, regardless of mode or geography. Federal legislation such as SAFETEA-LU (2005), the FAST Act, and IIJA has reinforced this priority, requiring MPOs to consider projects and strategies that enhance the safety of the transportation system for both motorized and nonmotorized users.

For the FBRMPO, which serves a mix of urban and rural areas with a significant walking and biking population, enhancing safety is both a federal mandate and a regional imperative. The FBRMPO, in partnership with NCDOT and local jurisdictions, uses crash data, engineering best practices, and public input to inform proactive safety planning and investment.

The Data

Since the adoption of the last MTP in 2019, safety performance within the FBRMPO region has steadily declined, with the City of Asheville moving from 6th worst among NCDOT's safety criteria for the 90 cities with a population of over 10,000 in 2020 to 4th worst in 2023. While Asheville became less safe, Henderson County, adversely, moved from 93rd worst among all 100 counties in 2020 to 76th in 2023. Within the FBRMPO region between 2019 and 2023, over 63,000 crashes were reported on roadways. Of those, 256 were fatalities and 587 resulted in serious injuries. Fifty percent of all fatal/serious injury crashes occurred on 2-lane undivided roads, 33% of those crashes occurred on US Routes.

Figure 4.1: Crash on I-26 *(credit: NCDOT)*

Safety and Roadway Characteristics

Various factors influence crash rates and severity, with roadway characteristics playing a significant role. Roads with high speeds and multiple conflict points can contribute to frequent and severe crashes, but other factors such as driver behavior and road conditions also play a role. According to Vision Zero, more than one-third of fatal crashes are speeding related, and the most significant way to prevent traffic deaths and severe injuries is to manage speed for safety.[12] NCDOT and other agencies often intervene when roadway features contribute to crashes. The planning effort, *Safe Streets for WNC Safety Action Plan (SS4WNC)*, provides the region with a package of safety countermeasures that can improve safety. For example, solutions range from increased signage or rumble strips to more extensive measures like adding guardrails, turn lanes, or major redesigns.

While Interstates, US routes, and NC routes represent only about 7% of the roadway network, over 61% of the fatal and serious injury crashes occurred on these roads. Furthermore, 76% of all fatal/serious injury crashes occurred in rural areas (SS4WNC). The following crash types most commonly resulted in serious injury or fatal outcomes:

- Lane departure
- Higher speed
- Involving a person riding a bicycle or a person riding a motorcycle
- Involving an older driver
- Lacking safety restraint (seat belt or car seat)

Additionally, according to the most recent NCDOT data available from 2019 to 2023, 498 crashes involving non-motorized users occurred within the FBRMPO jurisdiction. Of these, 55 were fatal, claiming the lives of 10 bicyclists and 45 pedestrians.

Location	Total Crashes	Fatal Crashes	Serious Injury Crashes	2020 Ranking	2021 Ranking	2022 Ranking	2023 Ranking
Buncombe County	40,234	163	341	59	76	75	62
Haywood County	7,461	52	188	70	91	80	69
Henderson County	15,583	66	199	93	87	83	76
Madison County	1,736	16	49	77	95	89	99
FBRMPO	63,098	256	587	-	-	-	-

Table 4.1: 2019-2023 Crash Data

12 Shahum, Leah. "Safety Over Speed." Vision Zero Network, January 27, 2025. https://visionzeronetwork.org/resources/safety-over-speed/.

Highway Safety Improvement Program

NCDOT's Highway Safety Improvement Program (HSIP) supports a systematic review of safety concerns along corridors and intersections. A roadway segment qualifies as an HSIP location if, over five years, it meets specific crash and crash-per-mile thresholds. NCDOT then categorizes and prioritizes these projects as intersections or roadway sections. The *2023 North Carolina Highway Safety Improvement Program Annual Report*[13] provides insight into the safety of roadways within the region.

There are 846 HSIP sections in the state, with 56 of those sections falling within the FBRMPO planning area. The FBRMPO has 113 intersections that fall within the top 1,000 statewide HSIP intersections. A number of factors determine top HSIP intersections, including the number of fatal and severe, frontal, nighttime crashes, and recent increases in crash frequency.

Safety Emphasis Areas

The *North Carolina Strategic Highway Safety Plan 2024 Update (SHSP Update)* identifies these emphasis areas, sets targets and metrics related to key crash factors, and suggests potential infrastructure and behavioral improvements.[14] The *SHSP Update* set goals for nine emphasis areas:

- Lane departure
- Intersections
- Pedestrians, bicyclists, and personal mobility
- Seat belts and car seats
- Substance impaired driving
- Safer speeds
- Older drivers
- Motorcyclists
- Younger drivers

The *SHSP Update*'s safety emphasis areas highlight the

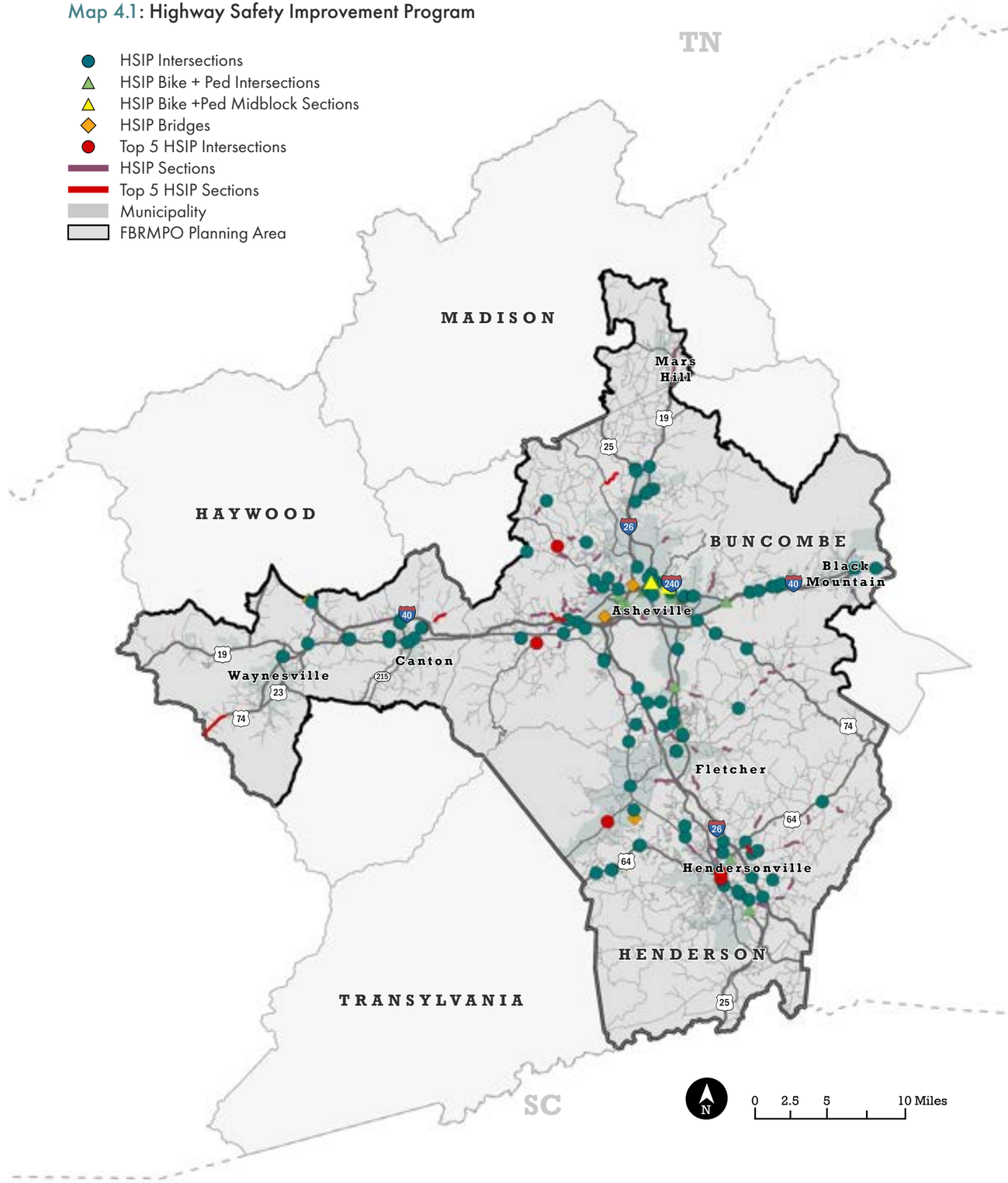
Jurisdiction	Section/Road	Statewide Rank (out of 846)
Haywood County	US-23 near Walker Road (SR 1155)	14
Buncombe County	Monte Vista Road (SR 1224) near Asbury Road (SR 1234)	26
Buncombe County	Monticello Road (SR 1727) near Old Farm View	42
Haywood County	Newfound Road (SR 1004) near McCracken Road (SR 1611)	105
Henderson County	Howard Gap Road (SR 1006) near Linwood	108

Table 4.2: **Highest Scoring (Most Dangerous) 2023 HSIP Sections in FBRMPO Counties**

Jurisdiction	Intersection/ Road	Statewide Rank (out of 3,672)
Mills River	NC 280 at Ray Hill Road (SR 1316)	58
Buncombe County	NC 63 at Dix Creek Chapel Road (SR 1375)	164
Buncombe County	Candler School Road (SR 1126) at Old US 19 23 Hwy (SR 1130)	180
Hendersonville	US 64 Westbound (WB) Couplet at US 25 Business	191
Hendersonville	US 25 Bus at Allen St.	271

Table 4.3: **Highest Scoring (Most Dangerous) 2023 HSIP Intersections in FBRMPO Region**

Map 4.1: **Highway Safety Improvement Program**



13 2023 North Carolina Highway Safety Improvement Program Annual Report." State Department of Transportation. 2024. https://highways.dot.gov/sites/fhwa.dot.gov/files/2024-04/HSIP%28North%20Carolina%29%202023%20Report.pdf

14 "North Carolina Strategic Highway Safety Plan (SHSP) 2024 Update." North Carolina Department of Transportation, 2024. May 10. https://connect.ncdot.gov/groups/echs/Documents/2024/2024%20NC%20SHSP.pdf

most common causes of crashes, injuries, and fatalities within a region or state. For example, the report shows that senior drivers are involved in the highest percentage of crashes of all types and the highest percentage of crashes resulting in serious injury or fatality. Crashes involving pedestrians are not as frequent, but 67.4% of them resulted in a serious injury or fatality.

Many MPOs in the state adopt SHSP goals and targets to guide their region's safety work. In March 2025, the FBRMPO Board rejected statewide safety targets, which identify a goal of a 50% reduction in fatalities by 2035 and zero roadway deaths by 2050. After not making progress towards the State's ambitious safety targets, the Board adopted more realistic safety targets for the region, opting for a steady annual reduction (0.5%) of fatalities moving towards zero by 2055. Chapter 04. Existing Conditions: Bicycle and Pedestrian Mobility summarizes safety concerns for non-motorized users, and Chapter 09. Evaluating Performance details the targets set by the FBRMPO.

While crashes of any type can be devastating or even fatal, some transportation system users are at greater risk of serious injury or death. Those who have little protection if involved in a crash with a vehicle are known as vulnerable road users. These include pedestrians, bicyclists, motorcyclists, scooter users, skateboarders, people in wheelchairs, and other non-motorized users. The FBRMPO planning area is known for its walking and biking community. With the region growing, especially in the Asheville area, protecting people on and off the roads is a concern. According to the most recent NCDOT data available from the years 2019 to 2023, 498 crashes involving non-motorized users occurred within the FBRMPO jurisdiction. Of these, 55 were fatal, claiming the lives of 10 bicyclists and 45 pedestrians.[15] Planning for transportation facilities that safely and comfortably accommodate these vulnerable users is an important element of reducing severe and fatal crashes. Focusing on vulnerable road users is central to achieving Vision Zero goals that communities across North Carolina, including Brevard in nearby Transylvania County, have adopted.

Figure 4.2: Crash on I-26
(credit: WLOS. https://wlos.com/news/local/gallery/i-26-west-in-south-asheville-closed-after-tractor-trailer-crash?photo=1)

15 North Carolina Department of Transportation. "Crash Data and Maps." Accessed May 13, 2025. https://connect.ncdot.gov/resources/safety/pages/crash-data.aspx

Considerations

With the region growing, especially in the Asheville area, protecting people both on and off the roads will be a prioritized concern. The FBRMPO is working to further emphasize safety through a series of programs. The FBRMPO commits to creating a safer transportation network. Both NCDOT and the FBRMPO place a strong emphasis on safety when evaluating project priorities, programs, and initiatives.

Given the safety concerns across the region, the FBRMPO leverages available resources and programs to develop a culture of roadway safety for all users. A sample of the safety initiatives include:

- Highway Safety Improvement Program (HSIP) conduct studies to address specific safety concerns along roadway corridors and intersections.
- Watch for Me NC provides bicycle and pedestrian safety education and enforcement.
- The Strategic Transportation Investments (STI) process finances most of the state's roadway projects and incorporates safety as a key factor in its quantitative criteria for project selection. STI evaluates crash severity, frequency, and rate along with the effectiveness of proposed countermeasures.
- Safe Routes to School (SRTS) is an approach that promotes walking and bicycling to school by facilitating the planning, development, and implementation of projects and activities to improve safety and reduce traffic, fuel consumption, and air quality near K-12 schools. According to USDOT, 10–14% of car trips during morning rush hour are for school travel. SRTS initiatives aim to improve safety and levels of physical activity for students.[16] The Land of Sky Regional Council (LOSRC), which houses the FBRMPO, hired a SRTS Coordinator in 2024.
- Roadway safety audits bring together stakeholders to identify issues and potential solutions in areas with pedestrian and bicycle safety concerns. Stakeholders document these issues and explore best practices and funding sources for related projects.
- Since there is no standard method for projecting future safety concerns, the Safe Streets for WNC planning effort, funded through a Safe Streets for All grant, uses the Travel Demand Model data, which can project traffic volumes and congestion, and helps determine where crashes are likely to happen (e.g. on curvy roads where high concentrations of older adults live). This planning effort will conclude in 2025 and will provide strategies and countermeasures for the region to implement to improve roadway safety for all users. It is important to note that Safe Streets for WNC covers a region with a larger footprint than the FBRMPO—encompassing Buncombe, Haywood, Henderson, Madison, and Transylvania counties.
- The FHWA and NCDOT require the FBRMPO to maintain safety performance targets. See Chapter 09. Evaluating Performance for more information.

16 SEH Inc. "5 Tools to Guide Your Safe Routes to School (SRTS) Program." Accessed May 13, 2025. https://www.sehinc.com/insights/5-tools-guide-your-safe-routes-school-srts-program

Security

Planning factors addressed

Accessibility
Security
Preservation
Travel and Tourism
Resiliency and Reliability

Background

In 2005, SAFETEA-LU formally incorporated safety and security as mandatory MPO planning factors. The FAST Act further required MPOs to address security by considering projects and strategies that **improve the security of the transportation system for both motorized and nonmotorized users.**

Recent events, including Tropical Storm Fred (2021), and Hurricane Helene (2024), have highlighted key security challenges in the FBRMPO region. The area's rugged terrain and limited transportation networks make accessing alternative routes difficult, while the absence of a grid system hampers emergency responders' ability to plan for evacuations and other critical responses.

A prime example is the Duke Energy natural gas plant south of Asheville—the only plant of its kind in the region—located near a major interstate. In the event of an emergency, such as an explosion at the plant, access to I-26 would be important. Ongoing construction and frequent congestion often restrict this access, further complicating emergency response efforts; however, recent I-26 improvements will improve conditions and access.

Residents of the FBRMPO region rely on the transportation network daily, so security and emergency management are essential considerations as the system grows and evolves to enhance safety and resilience. Security planning involves coordination among federal, state, and local partners.

The Data

The FBRMPO planning area has over 10,000 miles of roadway, the third busiest airport in North Carolina, behind only Charlotte-Douglas International Airport (CLT) and Raleigh-Durham International Airport (RDU), 3 major interstates, and 8 US routes.[17] Through the FBRMPO and its partners, the region is addressing security through a number of programs:

- **Strategic Highway Network:** The FHWA, in partnership with the Department of Defense, designated a system of roads deemed necessary to support US military operations called the Strategic Highway Network (STRAHNET). The network is comprised of almost 63,000 miles of interstates, defense highways, public highways, and connectors. I-26, I-40, I-240, and US 23 are STRAHNET routes in the FBRMPO region.
- **ReadyNC:** The NC Department of Public Safety (DPS) protects the state from threats and hazards related to security, recovery and resiliency, and emergency management. DPS also administers the ReadyNC program to help North Carolinians plan, prepare for and stay informed in case of an emergency situation. ReadyNC provided useful resources during and after Hurricane Helene including Federal Emergency Management Agency (FEMA) information, the NC Disaster Case Management Program to guide survivors through the recovery process, and links to individual assistance programs.[18]

Figure 4.3: **Asheville Combined Cycle Station**
(credit: Duke Energy)

- **Resilience Strategy Report:** NCDOT maintains a Resilience Strategy Report that outlines existing initiatives and future short-, medium-, and long-term steps to advance and deepen agency-wide resilience practices and capabilities, along with publishing studies and reports assessing the state's current level of resiliency.[19] It also manages the Incident Management Assistance Patrol (IMAP) program, a safety service patrol that implements strategies and increased enforcement to reduce transportation impacts due to unexpected incidents.This study focuses on Interstates, US routes, and NC routes and does not include secondary, municipal, or private roads.
- **Regional Resilience Assessment:** The LOSRC is in the process of completing a multi-year, multi-phase project that builds on previous work to complete a Regional Resilience Assessment with a comprehensive flood vulnerability evaluation across the region. In partnership with the University of North Carolina Asheville's National Environmental Modeling and Analysis Center (NEMAC), LOSRC is conducting a regional assessment and developing a Regional Resilience Plan, which will prioritize actions and support decision-making across the region. Elevate 2050 incorporates preliminary results of this plan in the Tier 2 project scoring process, which considers flood isolation and landslide isolation risk by block group (see **Chapter 08. Project Evaluation and Selection** and **Appendix D. Project Scoring**).
- **Hazard Mitigation Plans:** In addition to natural disaster preparedness, the FBRMPO works to enhance resilience against other security threats. Buncombe, Haywood, Henderson, and Madison counties have established Hazard Mitigation Plans in collaboration with transportation, law enforcement, and planning agencies. Each county also operates a 9-1-1 system to prevent issues with street naming or addressing that could slow emergency response times.
- **Transit Safety Plans:** The public transportation agencies in the FBRMPO planning area are responsible for transit security planning, prevention, response, and recovery phases. Each transit agency maintains a Safety Plan that contains a Safety Risk Management Component, outlining processes for hazard identification, risk assessment, and mitigation strategies.

Considerations

These planning efforts and strategies—ranging from crash data analysis and infrastructure improvements to emergency preparedness and transportation demand management—contribute to the overall safety and security of the transportation system in the FBRMPO planning area. Together, they help reduce risk, improve response to natural disasters and other emergencies, and create a more resilient network for all users, including drivers, pedestrians, cyclists, and transit riders. County and transit agency representatives participate in the FBRMPO's planning activities through membership on its TCC and FBRMPO Board. The FBRMPO regularly engages member jurisdictions and transit agencies to participate in various planning initiatives, ensuring there is ongoing coordination to consider and address safety and security issues related to transportation.

17 French Broad River Metropolitan Planning Organization. *FBRMPO 2024 Orientation: All Presentations.* March 2024. Accessed May 13, 2025. https://frenchbroadrivermpo.org/wp-content/uploads/2024/03/FBRMPO_2024Orientation_AllPresentations.pdf

18 North Carolina Department of Public Safety. "Tropical Storm Helene." Last modified April 28, 2025. Accessed May 13, 2025. https://www.ncdps.gov/our-organization/emergency-management/tropical-storm-helene

19 North Carolina Department of Transportation. *NCDOT Resilience Strategy Report.* March 2021. Accessed May 13, 2025. https://files.nc.gov/ncdeq/climate-change/resilience-plan/agency-reports/Department-of-Transportation-2021-Resilient-Strategy-Report.pdf

Congestion

Planning factors addressed

Accessibility | Efficient System | Preservation | Integration and Connectivity | Resiliency and Reliability

Background

Roadway congestion can arise for various reasons, but the outcome is always the same – vehicles come to a stop or take significantly longer to reach their destination due to traffic. This leads to frustration, delays, negative environmental impacts, and disruptions for both individuals and professional drivers. While public feedback often identifies congestion as a key concern, ongoing roadwork on major roadways complicates that observation. In the FBRMPO planning area, as in many urban areas across the country, congestion is a regular part of life. However, understanding the causes of congestion can aid in planning effective interventions.

Recurring congestion occurs daily, usually around the same times each day, particularly on weekdays. The primary causes of this type of congestion are caused excessive demand and bottlenecks. Excessive demand typically happens during the morning and evening commutes when most people are on the road, driven by work and school schedules, appointments, and development patterns. It is likely that commuters will continue to drive during these peak-demand periods. Seasonal traffic patterns can also contribute to recurring congestion. Bottlenecks, on the other hand, occur in locations where a road's capacity is suddenly reduced, causing traffic to slow or back up. This often happens when a road narrows to fewer lanes when capacity is suddenly reduced, such as at some highway exits or merges, or due to a long-term construction zone.

Non-recurring congestion, however, is typically unexpected and results from unforeseen incidents like crashes, disabled vehicles, special events, or weather conditions. These events can cause free-flowing traffic to slow abruptly, leading to immediate congestion. As illustrated in Figure 4.4, non-recurring events often contribute more to congestion than recurring ones.[20] While capacity improvements, such as highway widening, aim to alleviate recurring congestion, a significant portion of congestion persists due to non-recurring events. Therefore, solutions must address both types of congestion to be effective.

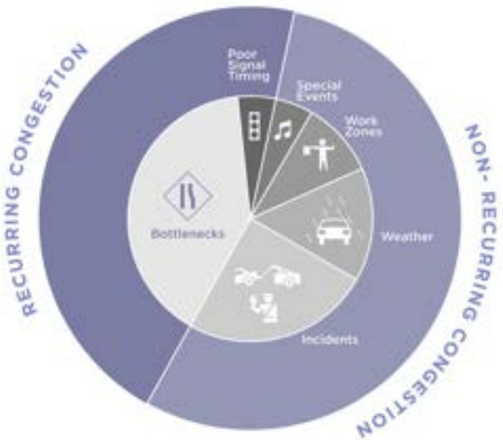


Figure 4.4: **Sources of Congestion Classified by Type of Recurrence** *(Credit: FHWA)*

Figure 4.5: **Traffic on Patton Ave in Asheville** *(credit: 828newsNOW. https://828newsnow.com/news/228822-828-road-report-weekend-i-40-closure-planned/)*

20 Texas A&M Transportation Institute. *Congestion Pie Chart for Different Sources of Congestion: Task 3 – Develop Performance Assessment and Evaluation Analytical Tools.* By Kartikeya Jha and Luke Albert. College Station, TX: Texas A&M Transportation Institute, August 2021. Accessed May 13, 2025. https://static.tti.tamu.edu/tti.tamu.edu/documents/TTI-2021-2.pdf

The Data

The FBRMPO planning area's major corridors include:

- 3 Interstate facilities: I-26, I-40, I-240
- 8 US routes: US 19, US 23, US 25, US 64, US 70, US 74, US 176, US 276
- 16 NC routes: NC 9, NC 63, NC 81, NC 110, NC 112, NC 146, NC 151, NC 191, NC 197, NC 209, NC 213, NC 215, NC 225, NC 251, NC 280, NC 694

	Total	Truck
Annual Delay	10,426,000 hours	445,000 hours
Annual Congestion Cost	$270,000,000	$29,000,000
Excess Fuel Consumed	3,787,000 gallons	774,000 gallons

Table 4.4: **Urban Mobility Report Summary**

According to the Urban Mobility Report (2023), the Asheville area experienced 10,426,000 hours of congestion in 2022.[21] Freight trucks make up about 4% of the annual delay in Asheville, but 11% of total congestion costs. Overall, the average commuter in Asheville experienced 34 hours of delay due to congestion in 2022. While congestion occurs in other FBRMPO areas, there is limited data to describe congestion patterns outside of Asheville.

The Asheville area is the economic and health care center of Western North Carolina, and as a destination for tourism. As a result, congestion can shift based on the day of the week or season of the year. In the Asheville Area Congestion Report 2023 Update, post-pandemic causes of delay shifted, and recurring congestion (traffic jams) decreased significantly.[22] Though a smaller factor overall, road work delays contribute to congestion.

As an example, the construction projects and work zone activities along I-26 (projects I-4700 and I-4400) increased congestion. The upcoming I-26 Connector project in Asheville will create major bottlenecks and sustained congestion throughout the city, as years of construction shift traffic patterns, reduce capacity, and increase delays on already burdened corridors. With a construction timeline stretching over a decade, residents and commuters should anticipate significant and prolonged impacts to mobility.

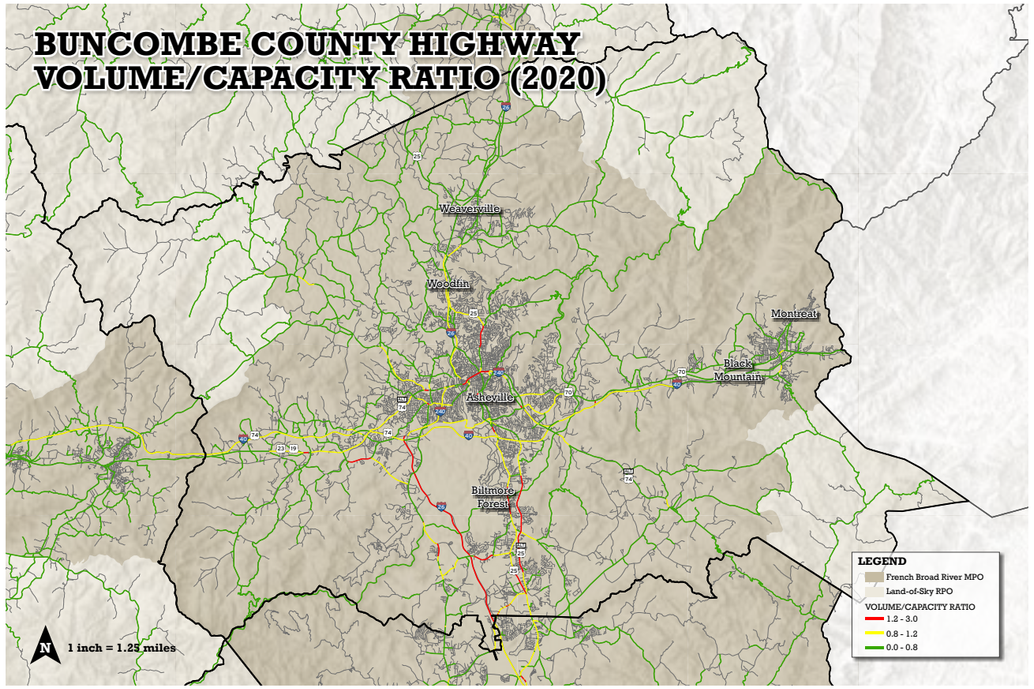
Engineers design roads to carry a certain number of cars, which is what capacity means. For example, small neighborhood roads are designed to carry a small number of cars each day. Interstates are designed to carry many. Volume is the number of cars on a roadway during the day. Volume should be less on a neighborhood road and more on a US Highway. When environments change by new land uses, employment centers or population growth, there may be more cars (volume) on a road than its design (its capacity) intended. The measurement for whether a road has the right amount of capacity for the number of cars using the road (volume) is volume-to-capacity (V/C).

Elevate 2050's congestion maps indicate travel conditions in 2019 and future travel conditions anticipated for 2050 (Elevate 2050's horizon year). Thicker lines depict roadways with higher traffic volumes while thinner lines carry lower volumes. The colors correspond to V/C ratios, which represents the number of vehicles divided by the designated capacity of the road. A higher V/C ratio corresponds with more congestion.

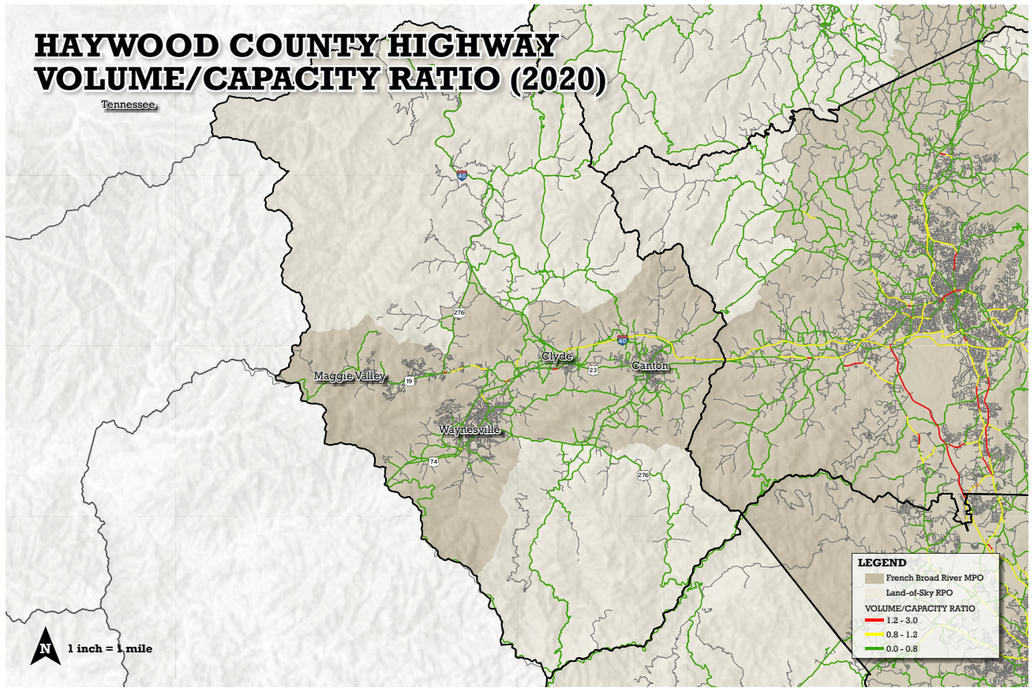
The Existing V/C map shows how traffic flows on roads/highways in the current state of the transportation network, highlighting where congestion is already occurring. The Committed V/C maps show predictions of congestion if the projects selected for funding through Elevate 2050 were factored in. The 2050 Existing and Committed V/C maps for 2050 show estimated areas of congestion in a no build scenario. A No Build scenario assumes that no additional transportation projects beyond those already committed or under construction will be implemented. Planners use it to forecast future traffic conditions based on expected population and employment growth, helping planners understand how roadways will perform if no new improvements are made. Comparing the No Build scenario to potential build alternatives helps evaluate the need for investment and identify where congestion and capacity issues may worsen over time.

21 Texas A&M Transportation Institute. (2023). *2023 Urban Mobility Report.* Texas A&M University. https://mobility.tamu.edu/umr/report/

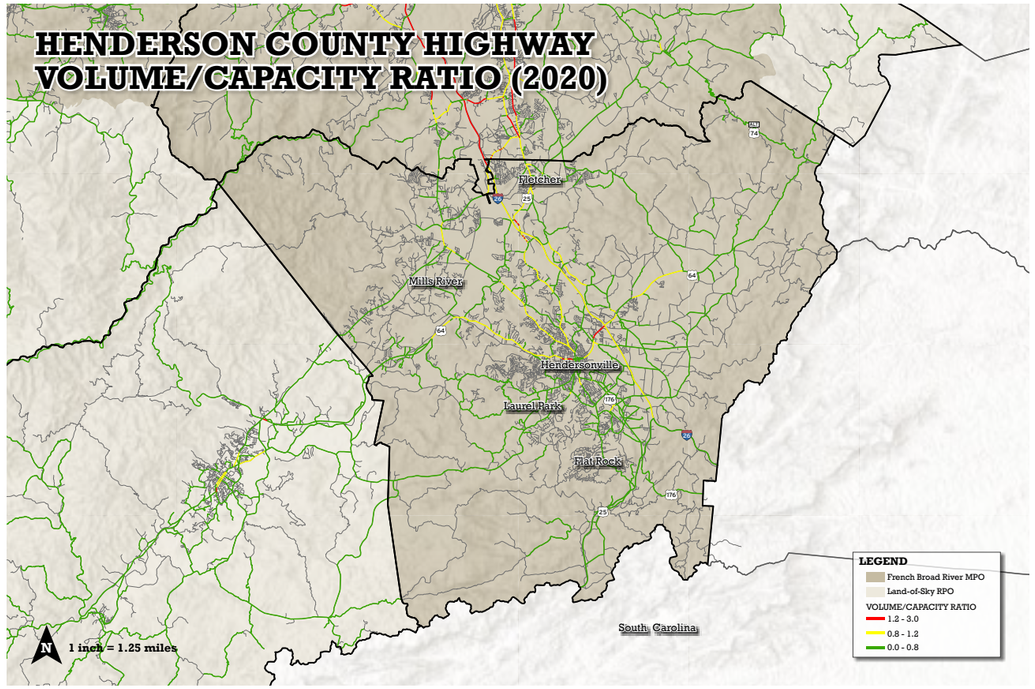
22 French Broad River Metropolitan Planning Organization. *Asheville Area Congestion Report 2023.* July 2023. Accessed May 13, 2025. https://frenchbroadrivermpo.org/wp-content/uploads/2023/07/Asheville-Area-Congestion-Report-2023.pdf



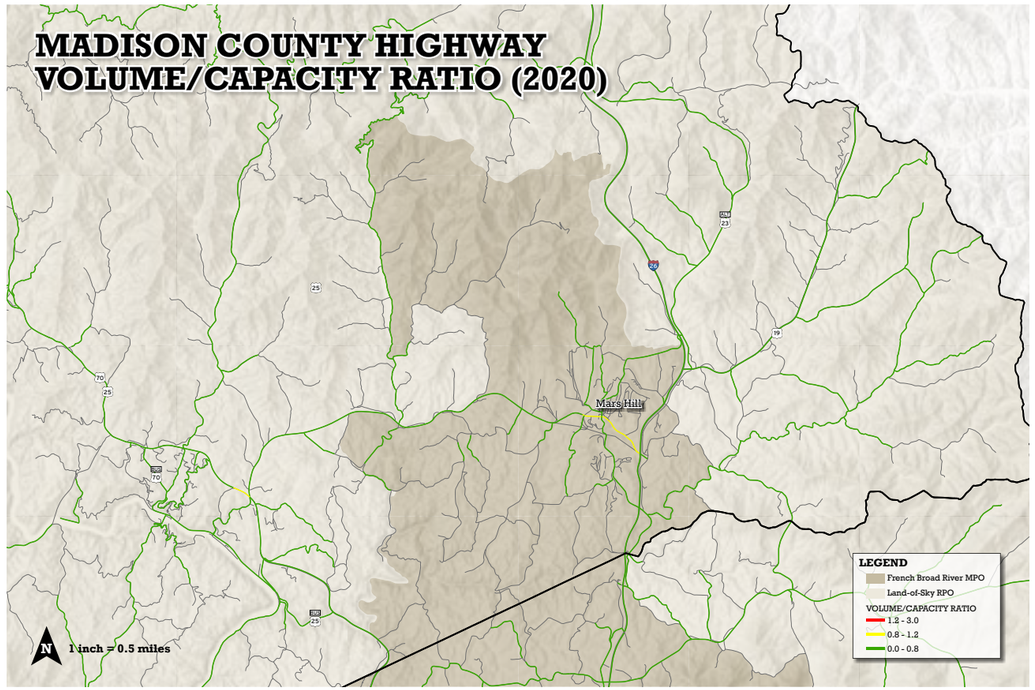
Map 4.2: Buncombe County Highway Volume/Capacity Ratio Map (2020)



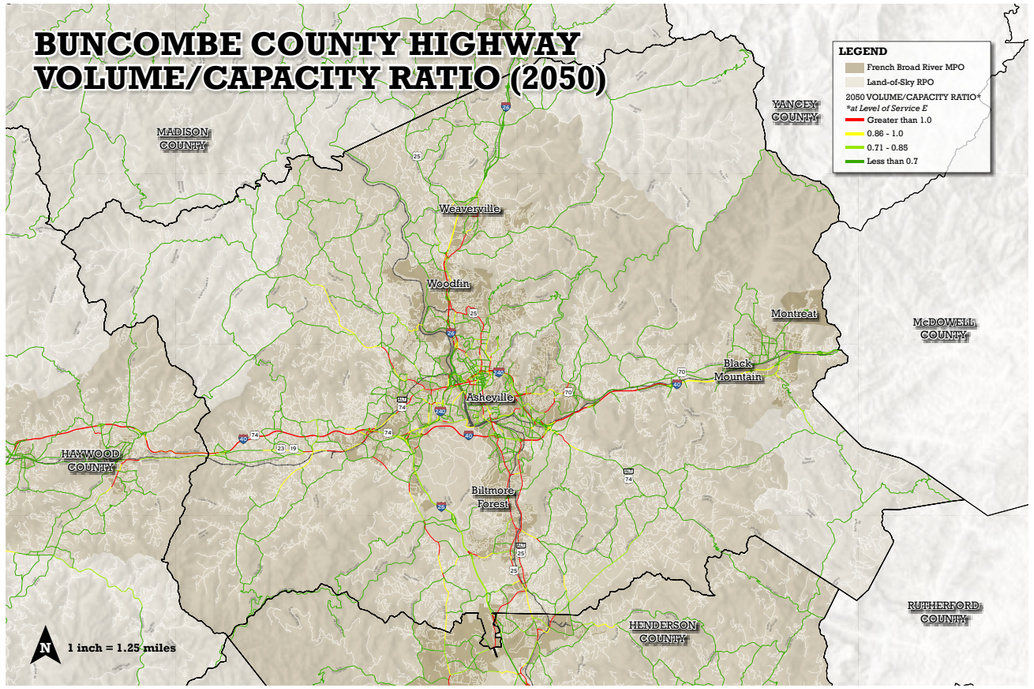
Map 4.3: Haywood County Highway Volume/Capacity Ratio Map (2020)



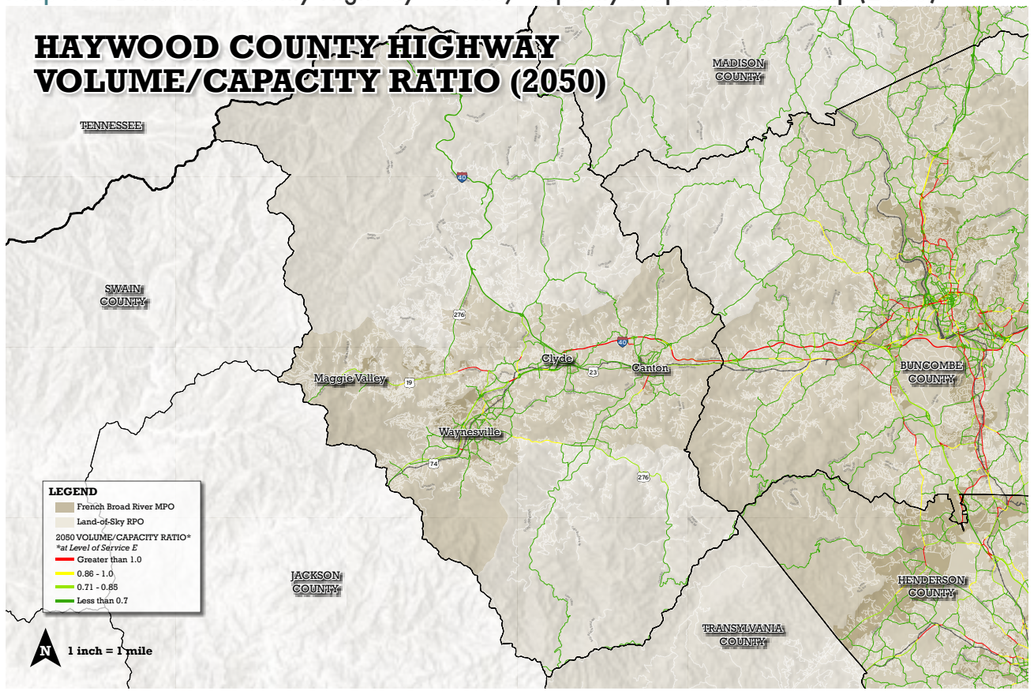
Map 4.4: Henderson County Highway Volume/Capacity Ratio Map (2020)



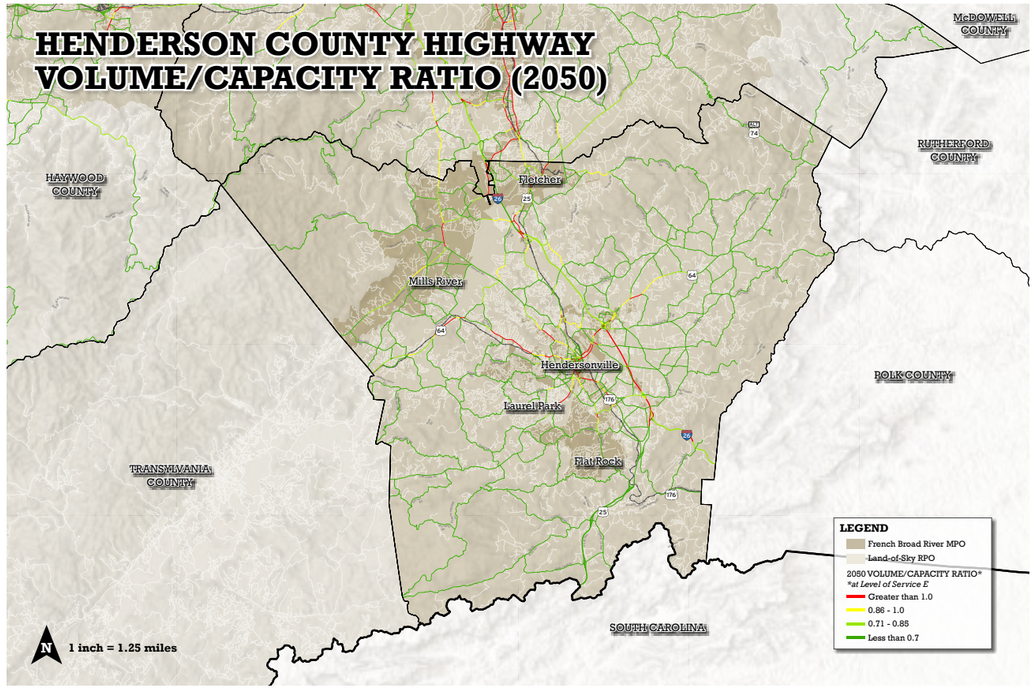
Map 4.5: Madison County Highway Volume/Capacity Ratio Map (2020)



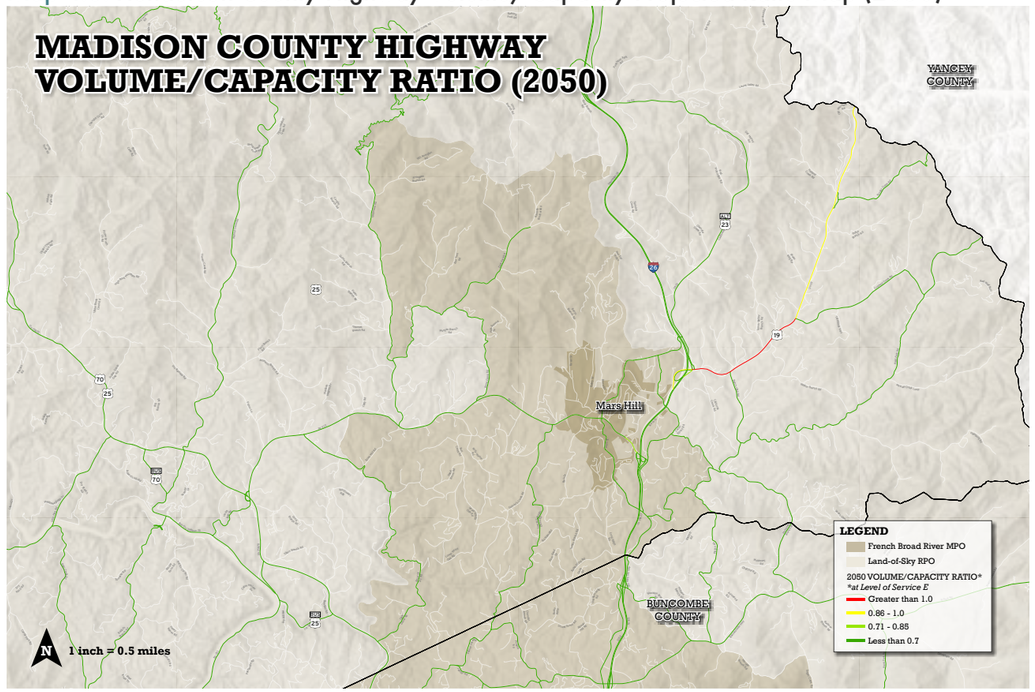
Map 4.6: Buncombe County Highway Volume/Capacity Projected Ratio Map (2050)



Map 4.7: Haywood County Highway Volume/Capacity Projected Ratio Map (2050)



Map 4.8: Henderson County Highway Volume/Capacity Projected Ratio Map (2050)



Map 4.9: Madison County Highway Volume/Capacity Projected Ratio Map (2050)

Projected key locations that will be above capacity in 2050 include:

- I-26 between US-64 and US-25 in Henderson County
- I-40 in Buncombe County
- US-25 and Sweeten Creek Rd south of Asheville
- I-40 east of Asheville

Appendix G provides an overview of the outputs from the regional travel demand model with and without the fiscally constrained Elevate 2050 projects to show the impact that the projects will have on forecasted volumes and capacity on roadways in the region.

Level of Service (LOS)

The relationship of travel demand compared to the roadway capacity determines the level of service (LOS) of a roadways. LOS is a qualitative measure used to determine the performance level at which transportation infrastructure is functioning. LOS is used across all modes as it provides a generalized and conceptual planning measure that assesses multimodal service inside the roadway environment (inside right-of-way).LOS is categorized into six letter grads of A through F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions:

- LOS A: Describes primarily free flow conditions.
- LOS B: Represents reasonably free flow conditions.
- LOS C: Characterizes stable flow, but the ability to maneuver is noticeably restricted.
- LOS D: The point of "practical capacity" where speeds begin to decline and drivers notice signficant restrictions and reduced comfort.
- LOS E: Represents operations at or near capacity, with highly volatile or unstable traffic flow.
- LOS F: Describes forced or breakdown flow, where traffic demand exceeds capacity, resulting in long delays and queuing.

As depicted in Map 4.6, Map 4.7, Map 4.8, and Map 4.9, the future V/C maps held the target level of LOS E for existing facilities. The colors on the maps correspond to V/C ratios, which compare the number of vehicles on a road to its theoretical capacity. Higher V/C ratios indicate increased congestion. A V/C ratio below 0.7 (shown in green) suggests a relatively free-flowing roadway with minimal or no congestion. As the V/C ratio approaches 1.0, motorists are likely to encounter more frequent congestion. Ratios exceeding 1.0 (shown in red) signify roadways that experience consistent congestion during and beyond peak travel periods.

Closely related to LOS is seasonality. Tourism plays a major role in the FBRMPO region's economy and presents challenges to the transportation network. Seasonal patterns influence traffic forecasting. While most tourist activity is evenly spread throughout the year, there is a measurable seasonal peak from March to October (see Tourism). Traffic data and forecasting is adjusted for seasonal factors to ensure AADT represents a typical day of the week from any month. Maps 4.2 through 4.9 depict the adjusted average weekday data.

Congestion Management Process (CMP)

The Congestion Management Process (CMP), according to FHWA, is a systematic and regionally accepted approach for managing congestion. It provides accurate information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. MPOs with a population over 200,000 require a CMP. The CMP recommends strategies to manage congested facilities to ensure the region has examined all potential alternatives to address congestion. The FBRMPO divides corridors in its CMP into three categories—freight, mobility, and destination—because congestion along a corridor may differ based on context.

The CMP identifies multiple goals, including "Address Bottlenecks and Congestion." Two objectives define the aim of the goal and the established performance measures aid the region in quantifying progress.

Additionally, the CMP acknowledges that land use changes, with their resulting population and job growth, play a role in determining future transportation needs. The FBRMPO monitors ongoing congestion and travel trends by generating a biennial CMP report. The 2023 CMP Report notes that cross-county commuting has increased significantly over the preceding 18 years. Henderson County residents commute to Buncombe County, forming the largest cross-county commuting pattern, which increased by 142% between 2002 and 2020 to 12,305 workers, while the number of workers commuting from Buncombe to Henderson decreased.

Objective	Performance Measure
Improve travel time reliability	Travel Time Reliability Index for peak periods
Improve transit on-time performance	Average % on-time performance for the Asheville Rides Transit (ART) system, for the latest data available

Table 4.5: **CMP Objectives and Performance Measures**

Notably, Mecklenburg County, some two hours away has emerged as the fourth largest county employment connection in the FBRMPO region, with 4,682 workers based in Buncombe County and 59% growth. Some economic centers have seen shifts in where lower-income workers are coming from, likely reflecting displacement from the region's continuing housing shortage. As housing costs increase, workers live farther out in surrounding counties, which increases reverse and cross-county commuting as people travel to jobs across county lines not just to urban cores. Additionally, employment centers are becoming more centralized with job growth spreading beyond Asheville to smaller towns and rural nodes.

Considerations

Considering the trends that the 2023 CMP Report presents, the FBRMPO can use tools to reduce congestion. Examples include:

- Corridor Studies can identify changing growth and commuting patterns while encouraging local governments to integrate land use planning especially along key corridors.
- To reflect changing commute patterns, the FBRMPO should encourage the use of carpool and vanpool programs tailored for longer, rural commutes.
- Ensure transportation systems support workforce mobility amid climate change, fuel price increases, and infrastructure challenges, with a focus on equity and resilience in underserved areas.
- Address shifting commuting trends through strategic planning and investment such as conducting a Regional Managed Lanes Strategic Plan to discuss managed lanes in places where capacity additions may be in demand.

These efforts position the region to adapt to changing travel demands while fostering a more efficient, accessible, and sustainable transportation system. In doing so, the FBRMPO helps ensure that future growth supports the well-being of all residents and the vitality of the regional economy.

Figure 4.6: **Traffic on I-40 in Haywood County following Hurricane Helene**
(credit: Becky Johnson/The Mountaineer. https://www.themountaineer.com/news/i-40-sight-seeing-not-advised-what-you-need-to-know-about-i-40-reopening/article_98ad2548-f600-11ef-95e3-0761a252092a.html)

Freight

Planning factors addressed

Accessibility

Economic Vitality

Integration and Connectivity

Efficient System

Background

Freight is property or goods transported in bulk by truck, train, ship, or aircraft. Many sectors such as industry, retail, and agriculture rely on the efficient movement of freight within and through a region. As such, freight is critically important to MPOs as it directly impacts regional economic vitality, safety, and livability. Under the FAST Act, freight and urban goods management is an area of key planning consideration for MPOs. The FAST Act also requires states to set performance targets for freight movement and system reliability, which should be reflected in MTPs.

The Data

The FBRMPO's location in Western North Carolina positions it as a key freight corridor linking Midwestern manufacturing hubs with the ports of Savannah and Charleston—two of the busiest on the East Coast.[23] As freight moves through the region along I-40, I-26, and US-74, Asheville experiences significant through-traffic from long-haul trucks. Just-in-time logistics models intensify this flow, as retailers, food/beverage industry, and e-commerce use them, increasing the frequency and urgency of freight movement. A company uses just-in-time logistics to deliver materials and products to its production or customer location as needed, minimizing inventory and reducing costs, which enhances accessibility. Successful economic development hinges on fast and reliable movement of people, goods, and information.

The Asheville region faces a growing need for safe and accessible truck parking, driven by rising freight volumes and limited existing infrastructure. Jason's Law, a federal provision established after the death of truck driver Jason Rivenburg, which calls for improved access to safe rest areas for long-haul truck drivers, underscores this demand. The law emphasizes the importance of adequate parking facilities to reduce fatigue-related crashes and ensure compliance with federally mandated Hours of Service (HOS) regulations. Beginning with MAP-21, Congress prioritized truck parking through Jason's Law. The Federal Motor Carrier Safety Administration (FMCSA) evaluated Truck Parking Information Management Systems (TPIMS). In 2022, NCDOT updated the Truck Parking Plan as part of the NC Statewide Multimodal Freight Plan, outlining strategies to address the shortage of truck parking, which affects driver safety, such as the assessment of current facilities, strategic expansion, public private partnerships, and technology integration. Following the elimination of the rest area program from the STIP in 2015, rest area projects rely solely on state funding, making new or greatly expanded rest areas only feasible by tying them to major widening projects. The I-26 widening projects in Henderson County (I-4400 and I-4700) included reconstruction of existing rest areas, which added an additional 44 truck parking spaces when it reopened in June 2022.

However, the scarcity of truck parking facilities—both public and private—creates safety, congestion, and economic efficiency concerns. Truck drivers often resort to parking on highway shoulders, ramps, or in unauthorized commercial lots, leading to unsafe conditions and community pushback. The area's terrain, limited land availability, and growing regional development pressure exacerbate these challenges.

Addressing this issue requires coordinated regional planning, investment in public-private partnerships, and prioritization of truck parking within broader freight and land use strategies. Ensuring adequate truck parking aligns with Jason's Law and supports economic competitiveness, supply chain reliability, and roadway safety in the Asheville region and the Southeast freight network at large.

23 Bureau of Transportation Statistics. "Tonnage of Top 50 U.S. Water Ports, Ranked by Total Tons." Last modified August 15, 2024. Accessed May 13, 2025. https://www.bts.gov/content/tonnage-top-50-us-water-ports-ranked-total-tons

The FBRMPO travel demand model anticipates an increase in trips made by freight, delivery, and commercial vehicles between 2020 and 2050. The Asheville Area Congestion Report 2023 update provided an overview of where bottlenecks and delays occurred, which affects freight trends and planning. Table 4.6 provides detail on the top bottleneck location in the FBRMPO region from 2019.

I-40 is among the three most utilized freight corridors in North Carolina based on truck volumes. I-40 brings freight into and through the area via Buncombe and Haywood counties. Major movement occurs along the segment west of Asheville, continuing through Haywood County and to Tennessee. US-70 has also become more popular in recent years, especially in the wake of hurricane Helene. Other major highways that facilitate the movement of goods to and from the region, and supplement I-40 include:

- **Interstate 26 (I-26):** A critical north-south freight spine, I-26 links Asheville to Johnson City, TN and Spartanburg, SC, facilitating long-haul freight movement through the Appalachian region and connecting WNC to national and international markets via I-40 and the I-85 corridor.
- **U.S. Route 19/23:** Running parallel to I-26, these routes serve as vital local and regional freight corridors, providing alternative access for distribution networks and reducing congestion pressure on the interstate, particularly for short-haul and intra-regional freight.
- **U.S. Route 23/74 (Haywood County):** This corridor acts as a gateway to far western North Carolina, supporting freight traffic between Asheville and rural counties like Jackson, Swain, and Macon. It is crucial for connecting these areas to distribution hubs and the broader highway system.
- **I-240:** As a central urban loop through Asheville, I-240 is a key connector for freight entering or exiting the city's core. It links major routes like I-26 and I-40, facilitating urban deliveries and access to industrial zones.
- **NC-280 (between I-26 and Brevard):** This route supports freight traffic between Transylvania County (Brevard) and the I-26 corridor, playing an important

#1 Westbound I-26 at NC 191 (Exit 33)	
# of Events	543
Average Daily Duration	1 hour, 6 minutes
Total Hours of Delay	183,387,389
2019 Top Bottleneck Location Ranking (in the FBRMPO)	#1

Table 4.6: **Congestion at an Interchange of I-40**

Figure 4.7: **I-26 Rest Area in Henderson County** *(credit: Summit Design and Engineering Services)*

role in supporting local industries, forestry, and manufacturing. It's a critical connection for moving goods from more rural, mountainous areas to interstate networks.

- U.S. Route 70: Running east-west, U.S. 70 complements I-40 as a freight route connecting Asheville with towns like Black Mountain, Marion, and Old Fort. It provides redundancy and flexibility in the regional freight network and supports local economic activity.

Together, these corridors form a strategic freight network that supports regional economic vitality, especially for manufacturing, agriculture, and logistics industries. Maintaining and improving them is essential for ensuring efficient goods movement, economic resilience, and supply chain reliability in the FBRMPO region.

Considerations

The 2023 Statewide Multimodal Freight Plan Study recommended an expansion of truck travel centers and the deployment of technological solutions. As the region continues to grow, several freight-related challenges have emerged. Most truck drivers now rely on Global Positioning Systems (GPS) navigation, which often directs them onto secondary roads not designed for heavy freight, a major problem for rural areas following Helene. Increased freight traffic on these routes can accelerate pavement wear, creating safety hazards such as potholes, cracks, debris, and hazards for other drivers on local roads not built for freight. Incorporating freight needs into the design and construction of arterial roads can help protect local infrastructure, extend pavement life, and improve overall freight access.

Figure 4.8: **Damage to I-40 in Haywood County resulting from Hurricane Helene** *(credit: NCDOT)*

The region's mountainous terrain and occasional severe weather present ongoing challenges for freight movement. In September 2024, Hurricane Helene triggered a mudslide that resulted in a partial collapse of I-40 at mile marker 3 in Haywood County. A second collapse occurred in December 2024, further damaging the eastbound lanes through the Pigeon River Gorge. The closed section of I-40 supported over 7,600 trucks and 26,000 vehicles daily. I-40 traffic has been diverted to I-26 WB to Tennessee or US 25/70 through Hot Springs in response to these closures. The road is now two narrowed lanes with a reduced speed limit of 40 miles per hour (mph) accommodating eastbound and westbound traffic while leaving space for crews to continue to work on long-term repairs. As freight volumes in the region increase, crash rates have also risen. There were 486 tractor-trailer crashes across the FBRMPO region in 2022, according to the North Carolina DMV, with 95% occurring in Buncombe, Haywood, and Henderson counties.

Other modes of transportation serving freight include rail and air. Rail transportation plays an important role in Asheville's freight network. The railroad serves the region and connects Asheville to the broader rail network, including major lines serving Charlotte and beyond. The Blue Ridge Southern Railroad spans 91.8 miles of track and provides critical services for industries like automotive, manufacturing, and construction. Norfolk Southern carries a bulk of freight in the region. Rail provides an economical and sustainable option for transporting bulk commodities and heavy freight across both short and long distances.

Asheville Regional Airport (AVL) provides essential air freight services, particularly for high-value or time-sensitive shipments. While AVL is not a major international cargo hub, it provides access to broader networks through air cargo services for companies like UPS and FedEx operate at AVL, offering express and overnight services. Regional airlines and cargo operators provide the flexibility to ship goods to major cities in the U.S. and globally. Strategically located, Asheville's airport provides access for connections to major cargo hubs like Charlotte Douglas International Airport, Atlanta Hartsfield-Jackson, and others.

Figure 4.9: **The first train to arrive in Asheville since Hurricane Helene, on April 8, 2025**
(credit: David Pressley/Trains.com. https://www.trains.com/trn/news-reviews/news-wire/news-photo-ns-train-reaches-asheville-n-c/)

Figure 4.10: **Runaway truck ramp near Mars Hill**
(credit: AARoads. https://www.aaroads.com/guides/i-026-east-mars-hill-nc/)

The Environment + Resiliency

Planning factors addressed

Environment | Security | Resiliency and Reliability

Background

The FHWA's Turner-Fairbank Highway Research Center defines resilience as the ability to anticipate, prepare for, or adapt to conditions or withstand, respond to, or recover rapidly from disruptions. Measuring resilience proactively is challenging; however, incorporating it into long-range transportation plans is increasingly important, especially in the context of extreme weather and public health crises. Resilience planning is also key for addressing disruptions equitably, as natural disasters and other events can disproportionately impact disadvantaged populations. Therefore, it is essential to consider how resilience planning will affect different communities in distinct ways.

Climate change, severe weather, natural disasters, and unforeseen events such as the COVID-19 pandemic can significantly disrupt transportation systems. To address these challenges, resilience and sustainability have become essential components of transportation planning:

- Resilience refers to the ability to anticipate and prepare for unexpected events, absorb their impacts, and adapt and recover swiftly.
- Sustainability focuses on meeting present transportation needs while protecting the system's long-term viability and minimizing harm to future generations.

A resilient and sustainable transportation network facilitates access to jobs and services, minimizes economic and environmental effects, and can adapt to changing conditions with major disruptions.

Remote areas within the FBRMPO region can be challenging to reach during natural disasters like hurricanes, rockslides, wildfires, and landslides. Rainfall and development on steep slopes have increased the region's vulnerability to such events. Limited road networks can delay first responders, as impacted roads may force lengthy detours that hinder police, fire, or medical emergency responses.

Current Conditions

At the time of drafting this plan, thousands within the FBRMPO area are recovering from the devastation of Hurricane Helene, which caused significant destruction and damage throughout the region. Recovery will take many years with support from plans like this one to understand its magnitude fully. While the FBRMPO must follow formal data processes to meet funding requirements, the project team acknowledges the importance of local grassroots efforts happening every day. Due to the ongoing nature of recovery and assessment efforts, some resiliency conditions and actions described in this report may become outdated quickly as new information emerges.

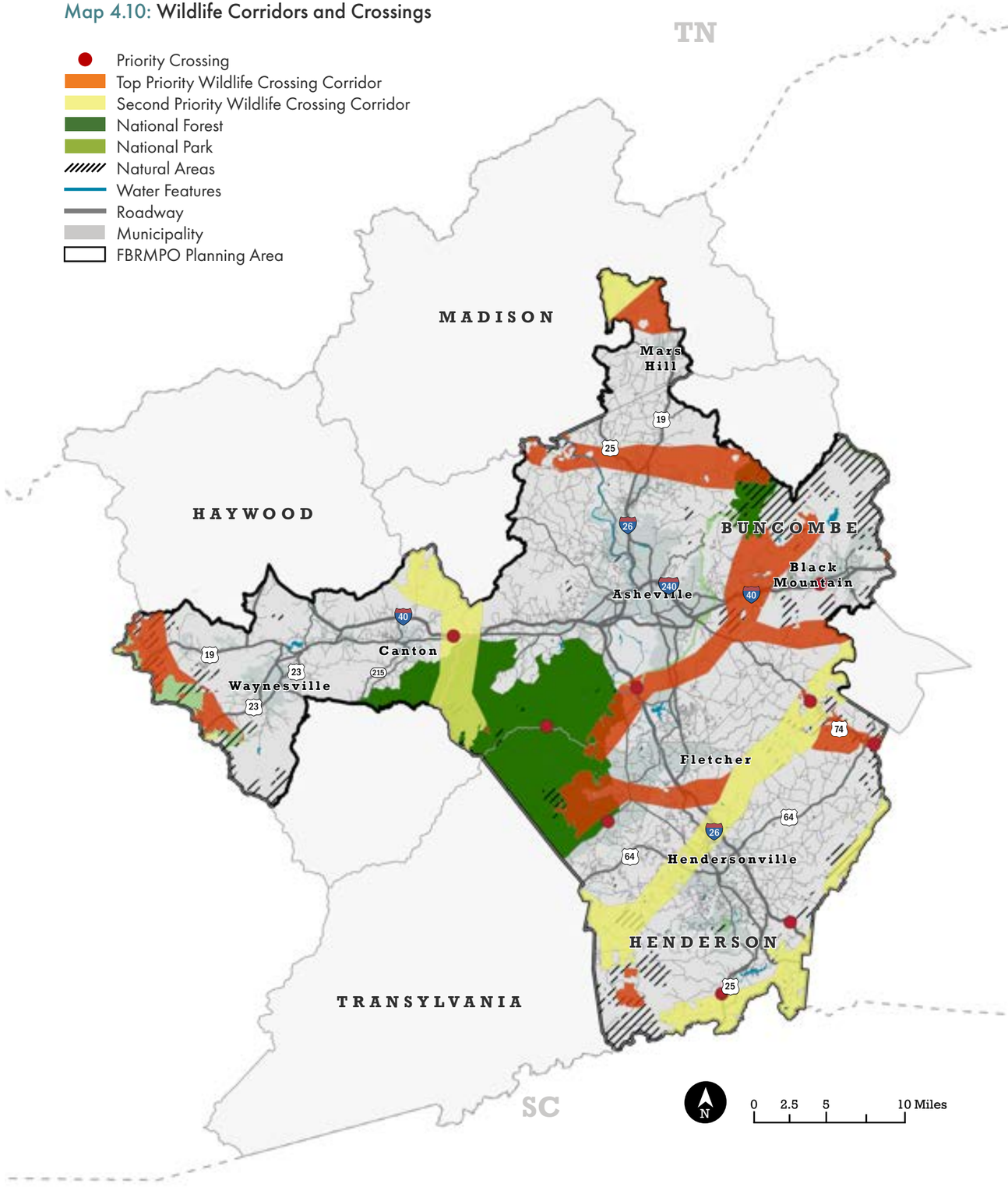
Ongoing Efforts

The Regional Wildlife Crossings Plan (2023) identified critical areas where wildlife crossings can mitigate the impacts of road infrastructure on wildlife such as habitat fragmentation and wildlife-vehicle collisions:

- I-40 near Canton: High rates of wildlife-vehicle collisions suggest the need for dedicated wildlife crossing structures
- US Route 19/23 in Buncombe County: Significant wildlife movement and collision incidents
- NC-280 near Brevard: A vital link between habitats that requires measures to facilitate safe wildlife passage

Statewide efforts complement regional initiatives. NCDOT and the NC Wildlife Resources Commission have renewed their focus on wildlife passages, aiming to reduce wildlife-vehicle collisions and maintain ecological connectivity. Furthermore, funding through NC General Assembly specifically targets areas like Haywood County. The Wildlands Network is working to reconnect, restore, and rewild North America. In WNC, they focus on biodiversity conservation and wildlife crossings to help wildlife move safetly and reduce collisions with vehicles.

Map 4.10: Wildlife Corridors and Crossings



The LOSRC is leading an ongoing resiliency initiative to evaluate asset and threat pairings across the region (see Security). The *Regional Resilience Assessment* grounds analysis in the best available data on specific regional threats and assets, providing quantitative insights while acknowledging uncertainties and assumptions in the data. Individual counties within the FBRMPO area also adopt their own resiliency and hazard mitigation plans that address their specific needs and risks.

Figure 4.11: Black Bears Crossing I-40
(credit: WBIR. https://www.wbir.com/article/news/local/bridges-for-bears-interstate-40-wildlife-crossings/51-20905250-6fd0-4135-864c-c021187f9917)

The Data

The environment continues to impact the transportation network in WNC significantly through events like flooding, wildfires, and landslides. However, the transportation network itself also influences the environment, making it important to prioritize planning that reduces and mitigates these impacts.

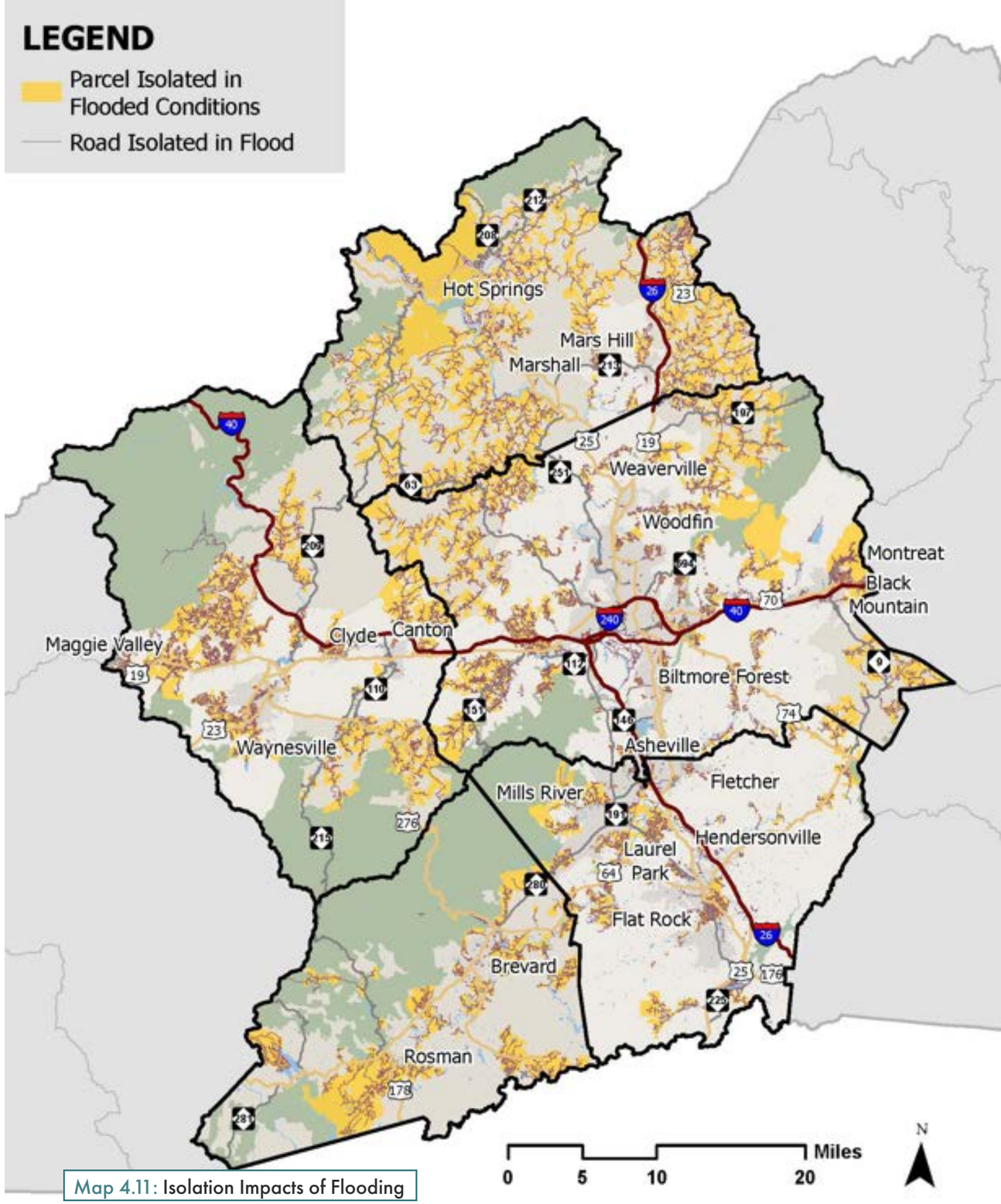
Recognizing a roadway's impact on the environment is particularly important given the region's natural assets, including its pristine waterways, which include protected trout streams. Trout thrive in cool, clean water, reflecting the success of community and non-profit efforts to protect the environment in this region. To maintain these valuable waterways, efforts can be made to minimize stormwater runoff from roadways. As rainwater flows over roads, it picks up pollutants and carries them into nearby creeks, streams, and rivers. Stormwater runoff can impact waterways by carrying pollutants into the water and by increasing water flow, which causes erosion and warms the streams, harming aquatic life. While NCDOT and other agencies manage stormwater impacts, the region needs better planning to ensure projects incorporate stormwater mitigation strategies from the outset, with accurate cost estimates for necessary measures.

Additionally, roadways have a significant effect on wildlife movement in the region. Non-profits and land conservancies have mapped the migration patterns of species such as elk, black bears, and deer, identifying numerous conflict points along major roads like I-40, I-26, US 74A, and US 19. Regional efforts alongside statewide investments reflect the growing commitment to integrating ecological considerations into transportation planning, ensuring that transportation planning in the FBRMPO region supports both human mobility and wildlife conservation. Statewide efforts complement regional initiatives. NCDOT and the NC Wildlife Resources Commission have renewed their focus on wildlife passages, aiming to reduce wildlife-vehicle collisions and maintain ecological connectivity. Furthermore, funding through NC General Assembly specifically targeted Haywood County passages. NCDOT received $25 million in construction funding to install wildlife underpass structures and fencing in Dare County to reduce wildlife collisions. The FBRMPO should consider applying for future Wildlife Crossings Pilot Program funding to implement the adopted *Regional Wildlife Crossings Plan*.

The FBRMPO region faces environmental vulnerabilities, including:

Flooding

Mountainous terrain and steep slopes contribute to development challenges along rivers and streams, which can lead to more frequent flooding of buildings and transportation infrastructure. Flooding can cause extensive road closures, bridge failures, and costly damage. Local land use planners, emergency managers, NCDOT, NC Department of Cultural and Natural Resources (NCDCNR), NC Department of Environmental Quality (NCDEQ), and other stakeholders collaborate to assess potential impacts and explore mitigation or redesign options.



Map 4.11: Isolation Impacts of Flooding

Slope Failure/Landslides

The mountainous landscape can result in roads situated in steep, narrow valleys that are prone to rockslides or slope failures. Current efforts are underway to map landslide data and identify landslide prone areas. Landslides can have severe economic impacts, disrupting trade flows and resulting in loss of business.

Wildfires

WNC has one of the largest acreages of wildland-urban interface in the country with many houses built within or bordering nearby forests. Since a majority of fires are human-caused, this complicates fire prevention and increases the potential for evacuation. Periods of extended droughts and longer heat waves as well as debris from Helene and continued population growth can intensify the probability for and impact of wildfires. Wildfires in Gatlinburg, TN in 2016 as well as fires in WNC in 2024 following Hurricane Helene led to evacuations and produced significant impacts on air quality (see Figure 4.13).

Wildlife Collisions

Wildlife collisions are frequent in urbanized areas near large, preserved lands and key wildlife corridors. FBRMPO staff explored innovative solutions to accommodate wildlife and enhance safety for both drivers and animals at risk. The FBRMPO adopted a Regional Wildlife Crossings report (see Chapter 01. Introduction: Previous Planning Efforts).

Considerations

To prepare effectively for and respond to disasters like Hurricane Helene, resilience planning should consider a multidimensional approach. The development of Elevate 2050 highlighted the lack of reliable resilience data in the wake of Hurricane Helene, complicating funding decisions for this effort. This means not only addressing current vulnerabilities but also looking 50 to 100 years ahead to design infrastructure that can withstand future risks. A comprehensive strategy requires collaboration among community groups, government agencies, and private stakeholders, ensuring that different priorities align for the best possible outcomes. Resilience is not a one-size-fits-all solution. To overcome the challenges posed by competing organizational goals, agencies must prioritize strong communication, cross-sector coordination, and a systems-level perspective. By integrating long-term planning with adaptive strategies, the FBRMPO region can build a more resilient future.

The challenge with resilience is the lack of comprehensive regional transportation data. The FBRMPO should conduct a Resilience Improvement Plan (RIP) for the region to identify priorities, possible solutions, and feasible paths forward.

Figure 4.12: Landslide on I-40 near Old Fort
(credit: Joshua Pile, Asheville Citizen-Times. https://www.citizen-times.com/picture-gallery/news/2024/09/27/asheville-residents-impacted-by-helene/75410528007/)

Figure 4.13: Deep Woods Fire in April 2025
(credit: North Carolina Forest Service/Carolina Public Press. https://carolinapublicpress.org/69767/wildfires-north-carolina-forest-service/)

Aviation

Planning factors addressed

Accessibility
Economic Vitality
Integration and Connectivity
Travel and Tourism

Background

"First in Flight" is inscribed on all standard North Carolina license plates, an expression of the state's pride in our aviation history. Airports continue to form a critical part of the transportation system in North Carolina by connecting the state's residents and economy to the world. According to the 2025 NCDOT Division of Aviation's State of Aviation report, the annual economic impact of the 72 public airports across the state is more than $88 billion, or 11% of the state's gross domestic product. Airports support over 427,000 jobs that generate $34 billion in personal income, and $4.8 billion in state and local tax revenues. The report notes that 96% percent of the state's population lives within a 30-minute drive of a public airport. By bringing in tourists, providing jobs, and carrying freight, airports contribute immensely to regional growth, economic strength, and residents' quality of life.[33]

Asheville Regional Airport (AVL) opened in 1961 and is a Class C (moderate- to high-traffic) airport located in South Asheville. In 2021, AVL became the third busiest in North Carolina amid the COVID-19 pandemic and serves 27 domestic destinations via airline partnerships with Allegiant, American, Delta, JetBlue, and United.[34] The airport capitalized on this momentum by intensifying business development efforts with airlines to expand leisure travel options. It also partnered with travel and tourism organizations to promote the message that Asheville is a destination people want to visit.

In 2024, AVL served 2,174,125 passengers, its second consecutive year exceeding 2 million passengers. Usage

Commercial Service Airport Impacts[33]

Airport	City/Town	Jobs	Personal Income	State and Local Taxes	Economic Output
AVL	Asheville	22,475	$1,125,920,000	$324,610,000	$3,855,480,000
CLT	Charlotte	167,045	$15,235,690,000	$2,007,160,000	$36,578,000,000
EWN	New Bern	2,145	$119,110,000	$20,260,000	$346,750,000
FAY	Fayetteville	5,285	$276,980,000	$48,870,000	$829,230,000
GSO	Greensboro	28,990	$3,159,900,000	$385,570,000	$9,903,900,000
ILM	Wilmington	20,905	$1,092,240,000	$192,320,000	$3,331,930,000
JQF	Concord	5,310	$474,140,000	$66,810,000	$1,110,350,000
OAJ	Jacksonville	3,805	$205,360,000	$37,950,000	$612,340,000
PGV	Greenville	1,275	$90,760,000	$15,870,000	$234,070,000
RDU	Raleigh	139,745	$9,848,490,000	$1,327,760,000	$24,130,240,000
Total		396,980	$31,627,590,000	$4,427,180,000	$80,932,290,000

Table 4.7: Commercial Service Airport Impacts

33 "The State of Aviation: What Aviation Means to Our Economy." *NC Department of Transportation Division of Aviation*. Jan. 2025. https://www.ncdot.gov/divisions/aviation/Documents/state-of-aviation.pdf

34 "Asheville Regional Airport is now the third busiest airport in North Carolina." *Asheville Regional Airport,* 12 Aug. 2022. https://flyavl.com/article/asheville-regional-airport-now-third-busiest-airport-north-carolina

35 "The Numbers are in: Asheville Regional Airport posts a second year of historic growth." *Asheville Regional Airport,* 6 Feb. 2025. https://flyavl.com/article/numbers-are-asheville-regional-airport-posts-second-year-historic-growth

declined only 3% from the airport's record-setting year in 2023, attributed to Helene-related impacts. AVL impacts 22,475 jobs in the region, with an economic output of over $3.8 billion.[35]

The airport expects peak passenger projections to continue to grow as the region and tourism in the region grows. The peak month for passenger travel historically is the month of July, which is reflected in Table 4.8.

The Data

Asheville Regional Airport is expanding under the AVL Forward plan. The design process for a new terminal began in 2019, with groundbreaking and demolition occurring in Fall 2023. The first phase, featuring a new concourse, will open in the summer of 2025. Additional components include expanded parking and a new central energy plant. This expansion follows other significant investments, including the construction of a new air traffic control tower, set to be completed in 2025[36] and the construction of a new runway and taxiway as part of Project SOAR.[37]

Figure 4.14: Construction on New Concourse at AVL
(credit: AVLtoday. https://avltoday.6amcity.com/developement/the-status-of-asheville-regional-airports-landmark-expansion)

While the airport anticipates passenger service and enplanements to grow at a "medium" growth rate per the most recent AVL Master Plan, currently, AVL does not have cargo operations. However, assessing potential cargo activity is important for long-range planning efforts.The airport currently assumes that cargo flights could start in the next 5 years, with twice-weekly service using ATR-42 or Cessna 208 Caravan aircraft, totaling about 208 operations annually. This would increase to three times per week in the mid to long term (10 to 20 years), with roughly 312 annual operations.

With the potential for cargo flights in addition to growing enplanements, more expansion and improvements are underway and expected at the airport. In 2020, AVL completed a runway reconstruction, replacing Runway 16/34 with Runway 17/35, which is 8,002 feet by 150 feet and capable of handling larger aircraft. The runway shifted 75 feet west in 2023 to provide proper separation from the parallel taxiway. A future runway extension of about 1,000 feet (to reach 9,000 feet total length) will longer takeoff distances on hot days or with heavy payloads.

AVL will also need approximately 82,300 square feet of additional hangar space based on projected growth. Additionally, installing electric charging stations for general aviation aircraft will support electric motors and batteries.

Year	Passengers	Peak Month %	Peak Month Passengers	% of Peak Month	Peak Month Average Day	% of Peak Hour	Peak Hour
2021	1,428,266	12.8%	182,470	3.2%	5,886	14.4%	849
2026	2,077,152	12.8%	265,369	3.2%	8,571	19.6%	1,684
2031	2,324,364	12.8%	296,952	3.2%	9,591	19.6%	1,885
2036	2,600,999	12.8%	332,294	3.2%	10,733	19.6%	2,109
2041	2,910,557	12.8%	371,842	3.2%	12,010	19.6%	2,360

Table 4.8: AVL Peak Passenger Data

36 "Airport breaks ground on new Air Traffic Control Tower, a once-in-decades historic event." *Asheville Regional Airport,* 25 Jan. 2023. https://flyavl.com/article/airport-breaks-ground-new-air-traffic-control-tower-once-decades-historic-event

37 "Project SOAR: A Summary." *Asheville Regional Airport.* https://flyavl.com/project-soar/summary-significance

Considerations

The FBRMPO should continue to prioritize regional aviation planning and coordination, with a particular focus on supporting the ongoing expansion of AVL as a critical transportation and economic hub. AVL has experienced rapid growth, serving over 2 million passengers for two consecutive years and generating an economic impact of nearly $3.9 billion—placing it among the most impactful airports in the state. As AVL implements its AVL Forward expansion plan, including a new terminal, concourse, and air traffic control tower, the FBRMPO should work closely with airport leadership, local governments, and NCDOT to ensure that surface transportation infrastructure keeps pace with airport growth. This includes planning for multimodal access improvements, expanded transit connections, and sustainable development around the airport.

Given AVL's role in tourism, job creation, and freight movement, ensuring its continued functionality and resilience—particularly in the wake of events like Hurricane Helene—is essential. The FBRMPO should also monitor and support broader statewide aviation trends, recognizing airports as vital components of the region's long-term mobility, economic vitality, and emergency preparedness strategy.

As is the case with all transportation planning, land use compatibility is important. In reviewing the airport and surrounding land uses, it is important to continue ensuring that nearby land uses do not expose people to significant environmental impacts, considering factors like noise, airspace, visual interference, wildlife, and development density.

Figure 4.15: Construction on Temporary Runway at AVL
(credit: Tully Group. https://tullygroup.us/capabilities/greater-asheville-regional-airport-temporary-runway-17-35/)

Bicycle + Pedestrian Mobility

Planning factors addressed

Accessibility | Environment | Integration and Connectivity | Travel and Tourism

Background

Bicycle and pedestrian travel are essential components of the FBRMPO's transportation system. The FBRMPO emphasizes coordination between different travel modes - including walking, biking, and driving - to create a safe, connected, and efficient network for moving both people and goods. Although modern communities in the U.S. center around automobiles, roads were originally designed for pedestrians and horse-drawn travel. This shift created a disconnect between current roadway designs and the needs of pedestrians and cyclists. Walking and bicycling are more than just a recreational activity—for many, they are a vital means of daily transportation. Properly designing infrastructure around key activity centers is crucial to supporting those who rely on these modes of travel.

The FBRMPO generally expends 97% of its DA funds to bicycle and pedestrian projects due to selection criteria that emphasizes low-cost, high impact projects. Most of the bicycle and pedestrian projects in the FBRMPO region receive Direct Attributable (DA) funding—through either the Transportation Alternative (TA), Carbon Reduction Program (CRP)-DA funding, or Surface Transportation Block Grant (STBG) programs. In recent years, DA projects awarded through the FBRMPO include:

- Ecusta Trail
- Woodfin Greenways
- Enka Heritage Trail
- Nasty Branch Greenway
- Wilma Dykeman Extension
- Clear Creek Greenway,
- Asheville Bond-Sidewalk Projects
  - New Haw Creek Road
  - Onteora Boulevard
  - Johnston Boulevard
- NC 63 Sidewalks
- US 19 Pedestrian Refuge Islands
- North River Arts District Greenway
- NC 110 at Locust Street Roundabout
- Asheville Greenway COnnector
- BIltmore Avenue at White Fawn Drive Intersection Improvements
- Broadway Street Sidewalks
- Charlotte Street at I-240 Pedestrian Improvements
- Riceville Road Sidewalks
- French Broad River West Greenway
- Hendersonville Road Sidewalks
- Coxe Avenue Improvements
- Riverwalk Greenway

Ongoing Efforts

Communities within the FBRMPO are making significant investments in planning to enhance bicycle and pedestrian networks. Since the adoption of the 2045 MTP in September 2020, communities around the region conducted and adopted numerous new bicycle and pedestrian studies (summarized in Appendix A. Plan Review and listed in Chapter 01. Introduction: Previous Planning Efforts).

In 2020, the Hellbender Regional Trail was proposed as a plan for a 150-mile network of interconnected bicycle and pedestrian paths linking Haywood, Buncombe, Henderson, Transylvania, and Madison Counties.

In 2023, the Ecusta Trail between Brevard and Hendersonville received $21.4 million through Nationally Significant Federal Lands and Tribal Transportation Projects (NSFLTP) grant program, one of seven projects awarded nationwide. With the funding, NCDOT will construct 18 miles of greenway along an unused rail corridor to provide a safe alternative for cyclists and pedestrians in the region. The Ecusta Trail also won $24.5 million in Rebuilding American Infrastructure with Sustainability and Equity (RAISE) funding in 2023.

Following the completion of the Saluda Grade Trail Feasibility Study (2024), which identified alternatives and cross sections for a future rail trail between Inman, SC and Saluda, NC, the FBRMPO may explore connections between the Saluda Grade Trail and the Ecusta Trail in future years via an Ecusta Connector. For a summary of the Saluda Grade Trail Feasibility Study, see Appendix A. Plan Review.

Walking and bicycling, and the facilities that support them, are key elements of a complete transportation system. However, implementing active transportation facilities faces numerous challenges, including some specific to the FBRMPO region:

- Limited funding: The current transportation project prioritization system in North Carolina—known as SPOT—uses a scoring process to evaluate submitted projects based on specific criteria. However, NCDOT policy requires only 6% of transportation funding to go toward non-highway modes (including rail, aviation, bicycle, and pedestrian infrastructure), and the SPOT process caps non-highway projects at 10% of total available funds. As a result, highway projects receive the majority of funding (90%), while non-highway modes compete for a much smaller share. Other funding sources, particularly at the federal level, often require a 20% local match—an added barrier for small communities or those with limited tax bases. Rising infrastructure costs compound this challenge for bicycle and pedestrian facilities.
  - Despite these barriers, recent policy changes created new opportunities. The Complete Streets Planning and Design Guidelines (2012) required consideration of Complete Streets with every project, and the 2019 update changed NCDOT's cost-share considerations. When such facilities are identified in an adopted local plan, NCDOT will cover the full cost of construction—creating a strong incentive for communities to plan and keep local plans current.
  - It is also important to note that securing funding is only one part of the challenge. For many local governments, meeting federal reporting and administrative requirements to expend these funds—particularly for smaller-scale bike and pedestrian projects—can be a significant burden.
- Land use: For many decades, land use policies and development practices encouraged sprawling suburban growth centered around the private automobile, which spreads residents, jobs, services, and destinations apart from each other. Low-density land use discourages walking and bicycling as a practical form of transportation, and many places do not provide any multimodal facilities to support safe walking and bicycling.
- Lack of usage data: New investments in transportation infrastructure, including bicycle and pedestrian facilities, may fill mobility needs and support trips, require usage data to justify their expense. Many communities do not have usage data or the equipment to collect it, and furthermore this data is difficult, unreliable, and expensive to collect. The FBRMPO assists with their jurisdictions interested in bike/ped counts.
- Topography: Western North Carolina's mountainous terrain presents significant challenges for planning and constructing infrastructure, including bicycle and pedestrian facilities. Steep slopes complicate design, limit where facilities can be built, and increase construction costs. Topography can also discourage walking and biking—particularly for people with mobility limitations.
- Limited right-of-way: Right-of-way (ROW) is often limited, particularly along the mountainous roads of western North Carolina. In many cases, there isn't enough space within the existing ROW to add bicycle and pedestrian facilities, requiring additional ROW or easement acquisition—often adding significant cost and complexity to projects.

Figure 4.16: Sidewalk along Charlotte St in Asheville

The Data

Community members in the FBRMPO region have consistently prioritized the need for better bicycle and pedestrian infrastructure. Several adopted plans support this goal, including numerous local bicycle and pedestrian plans, the regional *Blue Ridge Bike Plan*, and the Hellbender Trail initiative, which will connect downtown areas to surburban areas in the FBRMPO region. Nearly every municipality in the FBRMPO planning area also has an adopted pedestrian plan. While the region offers scenic and enjoyable opportunities for walking and biking, safety remains a significant concern. Like many areas across the country, Western North Carolina experienced a rise in pedestrian and bicycle crashes in recent years. This growing risk raises equity concerns, particularly for older adults who value active lifestyles and for residents without access to a vehicle. These individuals are more likely to walk or bike to reach jobs, healthcare, and other essential services—and without safe infrastructure, they may be either severely limited in mobility or forced to travel under dangerous conditions.

The disproportionate safety risk for people walking and biking poses a problem with equity. As discussed in Chapter 03. Regional Trends/Area Snapshot – Demographics, the FBRMPO region has a prominent aging population. When compared to the statewide average, the FBRMPO region has a higher concentration of people with disabilities and a comparable percentage of zero-vehicle households. These groups are more likely to make trips by walking and biking and require safe infrastructure to access services and destinations.

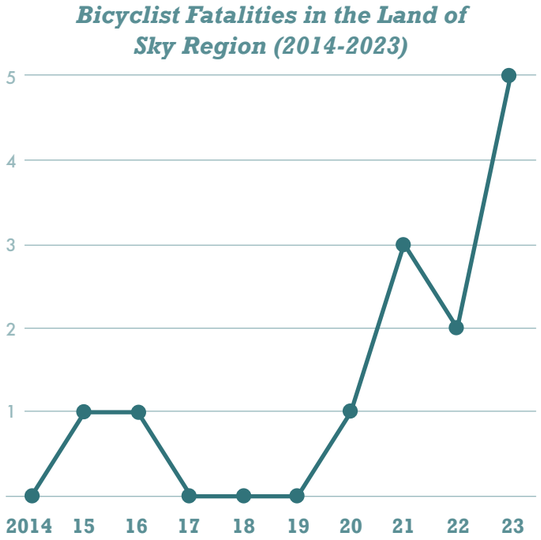


Figure 4.17: Bicyclist Fatalities in the Land of Sky Region (2014-2023)[27]

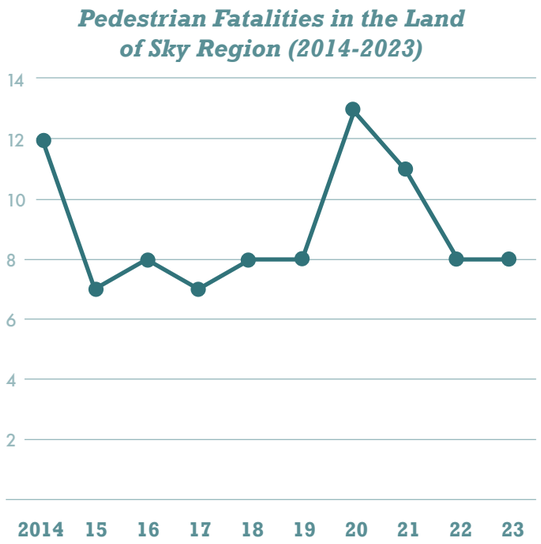


Figure 4.18: Pedestrian Fatalities in the Land of Sky Region (2014-2023)[27]

27 Crash Facts & Reporting. *North Carolina Department of Transportation.* https://connect.ncdot.gov/business/DMV/Pages/Crash-Facts.aspx

Bicycle and pedestrian infrastructure funding and patterns of regional growth further complicate the issue of equitable access. In North Carolina, most walking and biking facilities are within municipalities, as counties do not maintain roadways. Roads outside town or city limits are maintained by the state or private entities. In addition, some municipalities lost their extraterritorial jurisdictions (ETJs), which previously extended planning authority into adjacent unincorporated areas. As a result, fast-growing areas just beyond municipal boundaries are often left without adequate infrastructure for walking and biking. These same areas frequently offer more affordable housing, attracting low-income residents who are also more likely to depend on walking, biking, or transit. Increasingly, the people who most rely on active transportation are living in the very places with the fewest resources to support them safely and effectively.

Considerations

The FBRMPO region continues to thrive with cities and towns, parks, and activity centers that encourage active transportation. An asset for walkability in the region is the number of towns with walkable downtowns and the work that has been put in to make main streets more walkable. Expanding bicycle and pedestrian infrastructure is essential to improving access to services, boosting local economies, and driving tourism. The region's population growth fuels a growing demand for better bike lanes, sidewalks, and trails. Small business owners now frequently cite the availability of parks and open spaces, as well as safe multimodal ways to access them, as a key factor in choosing their locations. In the midst of regional growth, it is important to plan for more walkable and bikeable communities to improve safety, job access, and help accommodate more trips without the use of a car. Creating a walkable and bikeable environment starts with a supportive built environment. The FBRMPO anticipates tripling the number of greenway miles in the next five years through projects like the Ecusta Trail, Woodfin Greenways, Enka Heritage Trail, and US 19/23 Sidepath.

Figure 4.19: Pedestrians Walking on Forest St in Mars Hill

NCDOT Division 13, NCDOT Division 14, FBRMPO, and local municipalities should continue to coordinate on an annual basis to review the upcoming roadway maintenance list for the next three years to identify opportunities for implementing bicycle lanes or other quick-and-easy bicycle and pedestrian improvements at the time of resurfacing.

While the FBRMPO is making notable investments in bicycle and pedestrian infrastructure, continued support will require sustained funding, integration with land use planning, and expanded data collection to guide decisions. With pedestrian and bicyclist injuries on the rise, improving safety is a critical priority, especially for older adults, people with disabilities, and residents without access to a car. These populations are often concentrated in areas with limited infrastructure—particularly outside municipal boundaries—highlighting the need for regional coordination and planning across jurisdictions. The mountainous terrain, limited right-of-way, and growing suburban development patterns present real challenges, but updated policies like NCDOT's Complete Streets and recent federal grant wins create strong opportunities to build out a more accessible active transportation system.

As demand grows for alternative transportation options, the FBRMPO must also plan strategically for long-distance trail connections and prioritize infrastructure that supports everyday trips—helping to shift the region toward a more inclusive, healthy, and sustainable transportation future. In planning for long-distance trail connections while considering short, high-impact projects, the FBRMPO should incorporate Vision Zero into trail planning and continue conducting network analyses. Often, long-distance trail connections and short-distance safety interventions are peceived as being in conflict due to funding structures, planning silos, and differing goals. When trail planning is rooted in closing gaps, serving vulnerable users, and delivering co-benefits, broad safety, equity and mobility outcomes can be achieved.

Public Transit

Planning factors addressed

Accessibility

Integration and Connectivity

Travel and Tourism

Background

Public transit provides mobility options for everyone in a community, particularly benefiting underserved populations such as the elderly, people with disabilities, and those with limited economic resources or those without access to a car. Transit efficiently connects people to essential services, supports the local economy, enhances community life, facilitates freight movement, reduces environmental impacts, and accommodates diverse land use and development patterns. According to the Asheville Rides Transit (ART) 2018 Transit Master Plan survey, roughly one third of riders in the City of Asheville are "choice riders," meaning they choose to travel via transit despite the availability of other options, which underscores the importance of maintaining an equitable transit service that supports existing users and attracts new riders.

The Data

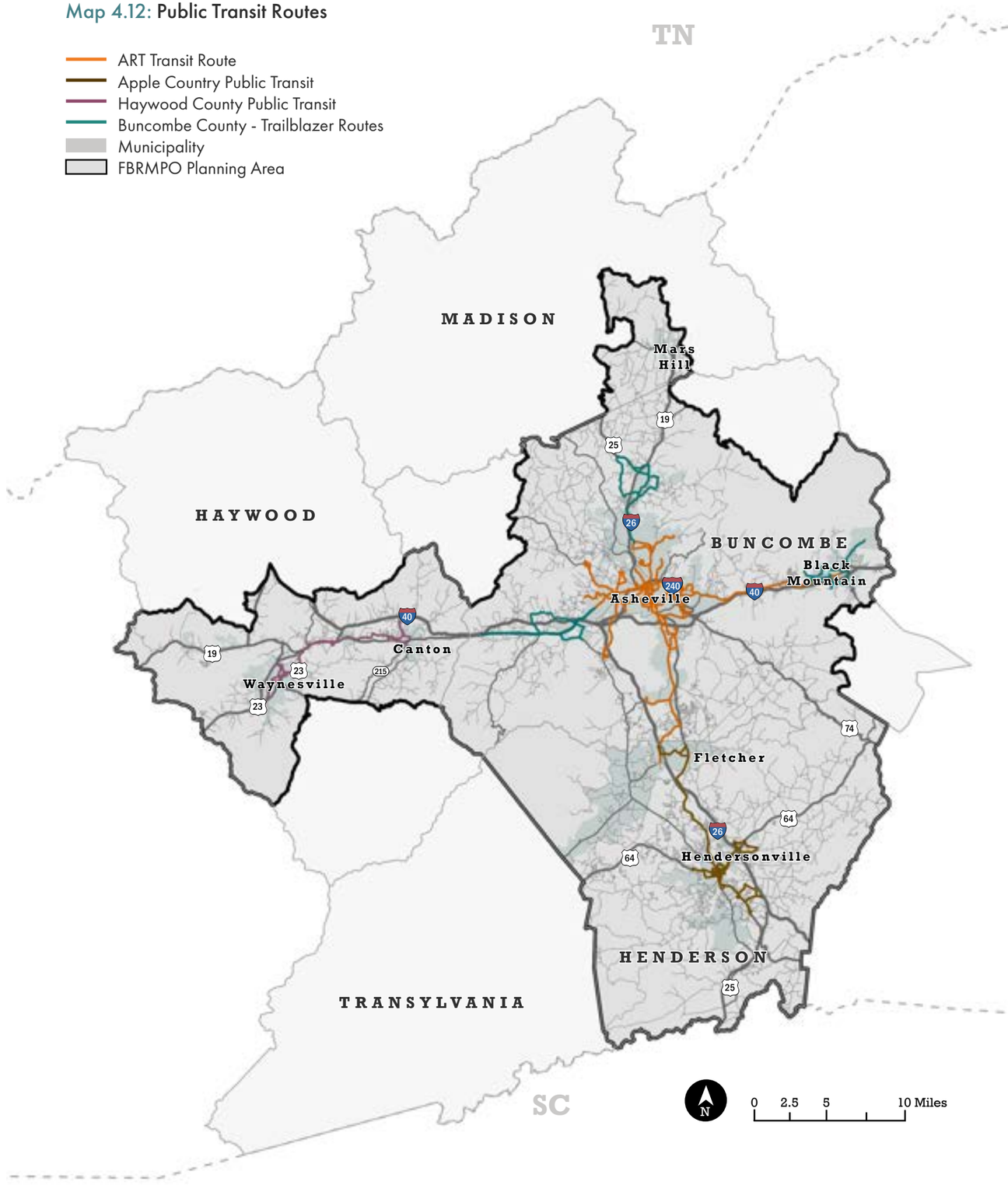
Public transit service in the FBRMPO region differs based on location and destination. The City of Asheville, Buncombe County, Haywood County, and Henderson County offer fixed-route services, running specific routes with set schedules, with complimentary deviations to accomodate more riders. Each county in the FBRMPO operates demand response transit that serves rural, elderly, and disabled populations. Demand-response service is shared transportation based on passenger demand rather than a set schedule and does not follow a fixed route but serves the specific travel needs of its riders. Fares for public transit also vary based on the system. This section summarizes the different transit services across the FBRMPO region.

Figure 4.20: ART Bus Depot
(credit: Angela Wilhelm/Asheville Citizen-Times. https://www.citizen-times.com/story/news/2021/08/11/asheville-applies-federal-grant-asheville-rides-transit-center-mixed-use-development/5551485001/)

Service Provider	Service Type	Service Location	Managed By
Asheville Rides Transit (ART)	Fixed Route	Buncombe County	City of Asheville
Mountain Mobility	Fixed Route	Buncombe County	Buncombe County
	Demand Response		
Haywood Public Transit	Fixed Route	Haywood County	Haywood County
	Demand Response		Mountain Projects, Inc.
Apple Country Public Transportation	Fixed Route	Henderson County	Henderson County
	Demand Response		
WNCSource Transportation	Rural Demand Response	Henderson County	WNCSource
Madison County Transportation Authority	Demand Response	Madison County	Madison County

Table 4.9: Transit Service Overview

Map 4.12: Public Transit Routes



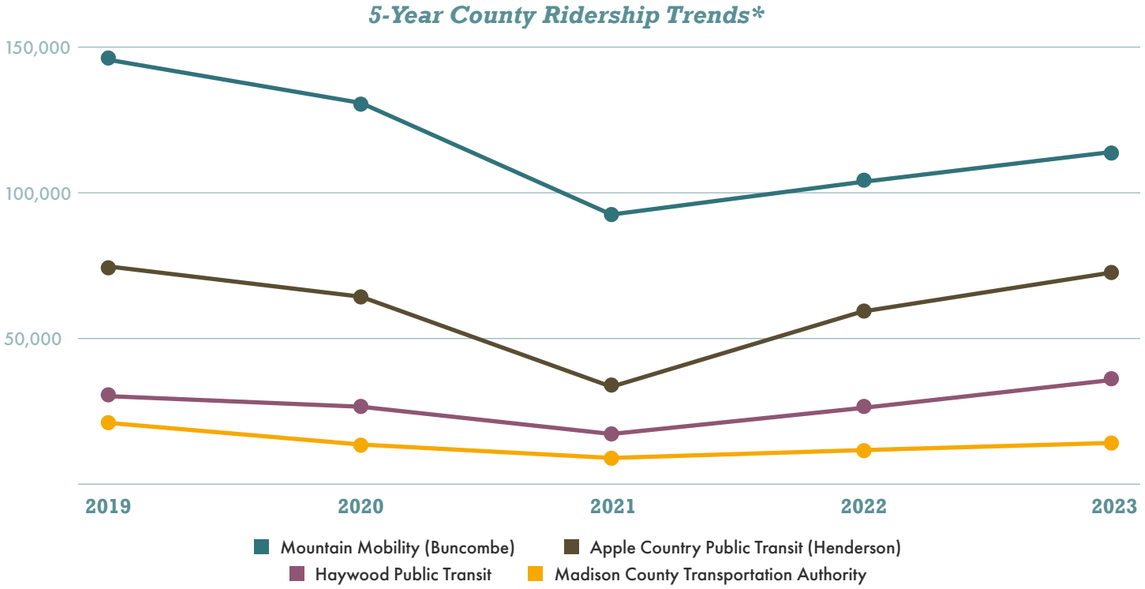


Figure 4.21: Ridership Trends for Countywide Agencies
**ART ridership is detailed on p. 72*

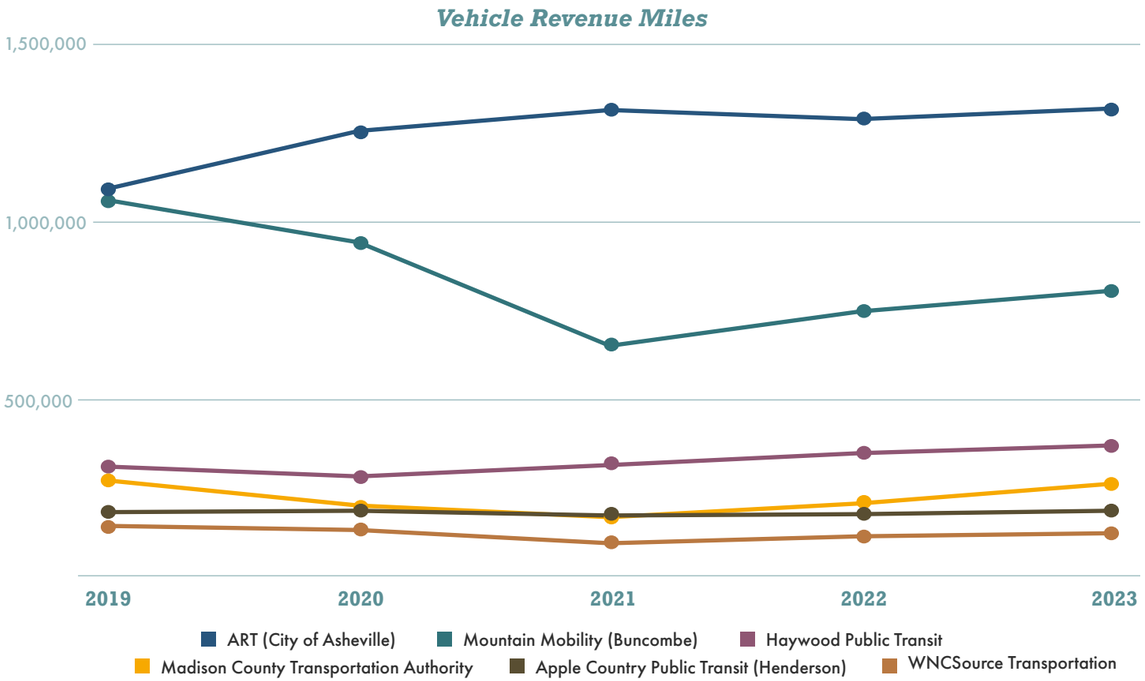


Figure 4.22: Vehicle Revenue Miles across Agencies

Buncombe County

There are two transit systems in Buncombe County—Asheville Rides Transit (ART) and Mountain Mobility.

Asheville Rides Transit

ART offers an extensive fixed-route service in the region, operating 18 routes that run 7 days a week. The routes in the ART system begin and end at a central location in downtown Asheville. In 2023, ART provided 1,377,810 unlinked passenger trips, a decrease from pre-COVID ridership. ART is currently undergoing a Comprehensive Operational Analysis (COA) to improve operational efficiencies.

The Asheville Rides Transit (ART) system has initiated a COA to enhance service efficiency, reliability, and alignment with community needs. The overarching goal of the plan is "to create a more efficient, convenient, and community-centered public transit system that effectively serves the needs of Asheville". The ongoing COA will produce short-term and long-term goals for the transit system, which will complement ongoing changes and enhancements planned for ART, including:

- Bus Stop Enhancements
  - With a recent $1 million Section 5339 grant (2020), the system and city will:
    - Add 45 new shelters/seating & trash cans
    - Improve lighting at 71 stops
    - Build 35 ADA-compliant pads, install map holders at 34 shelters, and put digital signs at UNC Asheville and Asheville Housing Authority sites
- Buses & Green Fleet Transition
  - A $4.2 million Low or No Emission grant (FY22) will fund the purchase of six new hybrid, U.S.-made buses and replacement batteries for existing hybrids.
  - Other public transportation agencies continue to enhance and optimize transit service throughout the region as well. These efforts include the replacement of older buses that have reached the end of their useful life, as regulated by federal standards, and continued service expansions as needed to meet system demand.

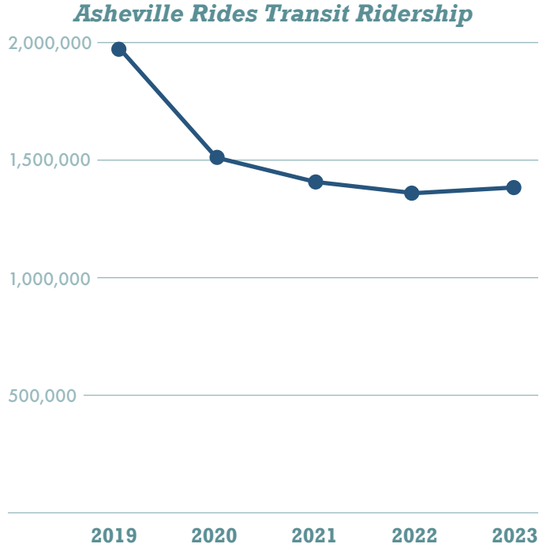


Figure 4.23: Asheville Rides Transit Ridership

Further integration and coordination between ART and other transit providers in the region stand to produce additional enhancements and opportunities for public transportation in the region. Similarly, the inclusion of public transportation agencies with the FBRMPO TDM program may create infrastructure opportunities and improvements that benefit the region, such as:

- Implementation of proposed Park and Ride lot study
- A holistic approach connecting transit with rail possibilities and the vast active transportation network
- Increased viability of public transportation as a mobility option as hours are extended, routes are improved, and amenities are improved
- Broader sustainability goals from the implementation of hybrid and electric fleets and increases in transit ridership

Mountain Mobility

Mountain Mobility runs three deviated fixed routes, called the Trailblazer Routes that run to Black Mountain, Enka-Candler, and North Buncombe. Mountain Mobility also offers ADA/paratransit services within ¾ miles of ART fixed routes. In 2023, Mountain Mobility completed 113,858 unlinked passenger trips, making their most recent ridership numbers 27.7% less than pre-COVID annual ridership.

Haywood County

- Haywood Public Transit contracts with Mountain Projects, Inc., a nonprofit organization, to provide demand response and fixed route services throughout Haywood County and to Buncombe County. The Haywood Public Transit fixed route service named URBAN, launched in 2020. There are two routes—the Black Bear "EAST" Route, which serves Haywood Community College, Clyde, and Canton, and Mountaineer "WEST" Route, which serves Russ Avenue North, Hazelwood, Downtown/Frog Level, and East Waynesville.

Henderson County

- The county manages Apple Country Transit and WNCSource (formerly Western Carolina Community Action) provides rural demand response services. Apple Country Transit provides urban fixed-route transit service with complimentary paratransit, while WNCSource Transportation maintains rural demand-response transit services independent of the county.

Madison County

- Madison County Transportation Authority (MCTA) provides demand response service, working closely with senior-care providers to offer transportation to individuals seeking medical care or on-demand trips.
- Since the 2045 MTP, municipalities around the region have adopted three transit plans (summarized in Previous Planning Efforts and Appendix A: Plans Review), including: Regional Transit Feasibility Study, WNC Passenger Rail Feasibility Study, Apple Country Public Transit Study (2024).

The FBRMPO region faces numerous challenges relating to the continued provision of useful, effective, and reliable public transit service. Among these are ridership declines and slow recovery since the COVID-19 pandemic, continued population growth and suburban sprawl, and fiscal constraints. With very limited cross-county transit service and growing commuter patterns showing cross-county employment, transit has the potential to mitigate costs for residents and reduce congestion from commuting patterns. In September 2024, Hurricane Helene compounded the challenges faced by many people in the community—particularly public transit riders—as the region continues to recover and adapt.

- Declining ridership: Transit ridership was saw a decline in 2020 and 2021 during the COVID-19 pandemic and was declining prior to the pandemic in all counties except Haywood, and many systems have struggled to reach or exceed pre-COVID ridership numbers. Of the systems in the FBRMPO region, only Haywood County Public Transit (formerly Mountain Projects, Inc.) achieved this distinction. Beyond the impacts of the COVID-19 pandemic and, more recently, Hurricane Helene, transit ridership faces other challenges from limited resources and population increase.
- Demand response: Vehicle Revenue Miles (VRM) increased during COVID in part because agencies struggled with ridership and had to travel more miles for the same number of passengers. VRM for demand response may decrease now that passengers no longer need to social distance.
- Fiscal constraints: The availability of funding at the local, state, and federal levels to provide public transit service remains limited and does not permit transit agencies to provide the level and quality of service they would like to. During the COVID-19 pandemic, ART suspended fare collection and resumed collecting fares on June 1, 2021. The National Transit Database (NTD) notes that Federal funding as a percentage of operating expenses increased substantially during the pandemic to a peak of 38.5% in 2022,[24] partially offsetting decreased revenue generated through ridership. Additionally, increases in operating expenses, inflation, the growing availability of affordable electric and more fuel-efficient vehicles, and declining transit ridership and associated fare revenue limit the ability of transit providers to invest in their services, fleets, and operators.
- Land use and population growth: Fixed-route transit service is more productive and politically viable, often identified as approximately 3,200 residents per square mile.[25] Additionally, sprawling land use patterns that center around easy automobile access and plentiful free parking disincentivize people from using transit even when it is provided, often leaving only those with no other choice as the majority of riders. While the topography of the FBRMPO region encourages denser development patterns due to scarcity of developable land, it is difficult to serve suburban and rural areas of the region effectively with public transit. Yet at the same time, population growth presents an opportunity to move people more efficiently and quickly, reducing the need to expand roadways.
- Hurricane Helene: Hurricane Helene hit western North Carolina in September 2024, causing billions of dollars in damage to many areas, resulting in over 64 deaths across the five-county Land of Sky region.[26] The storm damaged key infrastructure supporting transit services - such as roads, communication systems, and vehicles - forcing multiple agencies to suspend operations or modify routes through February 2025. As the region continues to recover and rebuild, transit service and the experience of riders who rely on it may differ significantly from pre-Helene conditions.

Intercity Bus Transportation

The North Carolina Department of Transportation (NCDOT), in conjunction with Greyhound Lines, Inc (Greyhound), provides two intercity bus connections to and from the Asheville region:

- The Piedmont Pass
- The Cardinal Flyer

The two bus lines operate daily out of downtown Asheville outside of the ART Transit Station. The service was restarted in August 2025, after a temporary pause in service due to the effects of Hurricane Helene including roadway and bus stop damage. Fares can be purchased directly from Greyhound online or over the phone. Intercity bus routes provided through NCDOT are ADA accessible and include onboard restroom facilities.

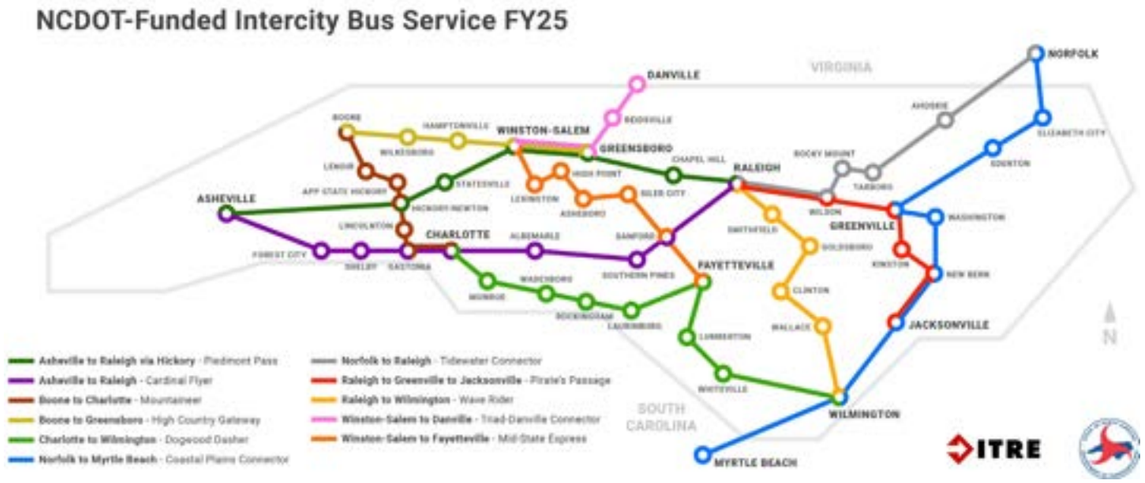


Figure 4.24: NCDOT-Funded Intercity Bus Service FY25
(credit: NCDOT. https://www.ncdot.gov/divisions/integrated-mobility/public-transit-services/Pages/intercity-bus-service.aspx*)*

24 National Transit Summaries and Trends, 2023 Edition. *Federal Transit Administration Office of Budget and Policy.* https://www.transit.dot.gov/sites/fta.dot.gov/files/2024-12/2023%20National%20Transit%20Summaries%20and%20Trends_1.2.pdf

25 Transit Propensity Technical Memo. *Thomas Jefferson Planning District Commission.* https://tjpdc.org/wp-content/uploads/Transit-Propensity-Technical-Memo-TVP-web.pdf

26 Hurricane Helene Storm Related Fatalities. *North Carolina Department of Health and Human Services.* https://www.ncdhhs.gov/assistance/hurricane-helene-recovery-resources/hurricane-helene-storm-related-fatalities

Stop Locations:

Asheville
Asheland Avenue, Asheville, NC
Curbside pick-up 200 feet south of the ART Transit Station (located at 49 Coxe Avenue)
Links to ART and additional intercity bus service.

Chapel Hill
Eubanks Park & Ride
2000 Eubanks Rd. Chapel Hill, NC
Links to Chapel Hill Transit.

Greensboro
J. Douglas Galyon Depot
236 E Washington Street, Greensboro, NC
Links to GTA, PART, Amtrak, and additional intercity bus service.

Hickory/Newton
CITGO
3361 Hwy 70 SE, Newton, NC
Links to Greenway Public Transportation.

Raleigh
Greyhound Bus Station
2210 Capital Boulevard, Raleigh, NC
Links to GoRaleigh and additional intercity bus service.

Statesville
Service temporarily suspended.

Winston-Salem
Clark Campbell Transportation Center
100 W 5th Street, Winston-Salem, NC
Links to WSTA, PART, and additional intercity bus service.

Ticketing machine or on-site ticket sales

Eastbound

1 Asheville North Carolina	2 Hickory/Newton North Carolina	3 Statesville North Carolina	4 Winston-Salem North Carolina	5 Greensboro North Carolina	6 Chapel Hill North Carolina	7 Raleigh North Carolina
9:35am	10:55am	***	12:15pm	1:05pm	2:05pm	2:45pm*

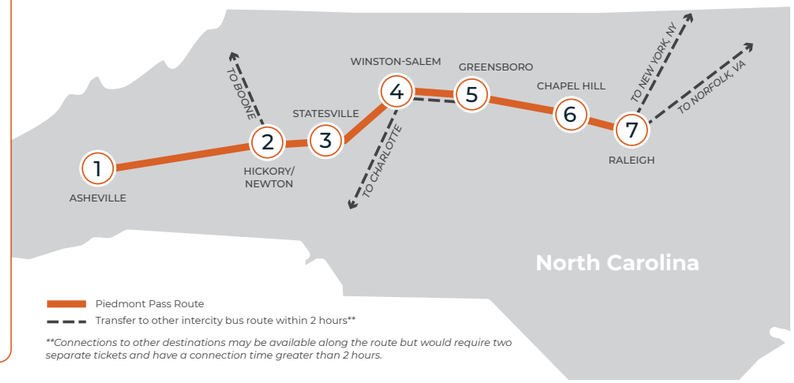
Westbound

7 Raleigh North Carolina	6 Chapel Hill North Carolina	5 Greensboro North Carolina	4 Winston-Salem North Carolina	3 Statesville North Carolina	2 Hickory/Newton North Carolina	1 Asheville North Carolina
12:50pm	1:35pm	2:40pm	3:30pm	***	4:55pm	6:15pm*

Service operated 7 days a week, 365 days a year!

* Arrival time
***Service temporarily suspended

Disclaimer: Travelers should refer to their purchased ticket for final departure/arrival time.



Piedmont Pass Route
Transfer to other intercity bus route within 2 hours**

***Connections to other destinations may be available along the route but would require two separate tickets and have a connection time greater than 2 hours.*

Figure 4.25: **Piedmont Pass Map and Schedule**
(credit: NCDOT. https://www.ncdot.gov/divisions/integrated-mobility/public-transit-services/Pages/intercity-bus-service.aspx)

The Piedmont Pass route provides a daily bus service from Asheville to Raleigh by way of Interstate 40. This route includes stops in Hickory, Statesville, Winston-Salem, Greensboro, and Chapel Hill. Service leaves the Asheville region in the morning with expected arrival to Raleigh five hours after departure. Westbound service departs from Raleigh early afternoon with expected arrival in Asheville in late afternoon. Along this route, there are additional transfer opportunities to Boone, Charlotte, New York City, and Norfolk, Virginia within two hours of arrival at the transfer city. Additional transit connections to local services are available to Asheville Ride Transit (ART), Chapel Hill Transit, GoRaleigh, Grenway Public Transportation (in the greater Hickory area), Greensboro Transit Agency (GTA), Piedmont Authority for Regional Transportation (PART), and Winson-Salem Transit Authority (WSTA).

The Cardinal Flyer route provides a daily bus connection from Asheville to Raleigh by way of Charlotte. This route includes stops in Forest City, Shelby, Gastonia, Charlotte, Albemarle, Southern Pines, and Sanford. Service leaves Asheville in the morning with expected arrival to Raleigh seven hours after departure. Westbound service departs from Raleigh early afternoon with expected arrival in early evening. Along this route, there are additional transfer opportunities to Boone, Greenville, South Carolina, Winston-Salem, Greensboro, and Norfolk, Virginia within two hours of arrival at the transfer city. Additional transit connections to local services are available to Charlotte Area Transit System (CATS), County of Lee Transit System, Gaston County Access, GoGastonia, GoRaleigh, and TriCityXpress.

As intercity bus routes return to the region, local transit connections will become important for intercity bus riders. The new intercity bus stop is located next to the ART transit station in downtown Asheville (about 200 feet to the south, on Ashland Avenue).

Stop Locations:

Albemarle
Vac & Dash
154 S 1st Street, Albemarle, NC

Asheville
Asheland Avenue, Asheville, NC
Curbside pick-up 200 feet south of the ART Transit Station (located at 49 Coxe Avenue)
Links to ART and additional intercity bus service.

Charlotte
Greyhound Bus Station
518 W 4th Street, Charlotte, NC
Links to CATS and additional intercity bus service.

Forest City
OHM Food Mart
536 S Broadway Street, Forest City, NC
Links to Tri-City Xpress.

Gastonia
Gastonia Transit – Bradley Station
121 N Oakland Avenue, Gastonia, NC
Links to CATS, Gaston County ACCESS, GoGastonia Microtransit, and additional intercity bus service.

Raleigh
Greyhound Bus Station
2210 Capital Boulevard, Raleigh, NC
Links to GoRaleigh and additional intercity bus service.

Sanford
Sam's Place
133 S Gulf Street, Sanford, NC
Links to COLTS.

Shelby
Khodal Mini Mart
815 W Marion Street, Shelby, NC

Southern Pines
BP Gas Station
912 W Pennsylvania Avenue
Southern Pines, NC

Ticketing machine or on-site ticket sales

Eastbound

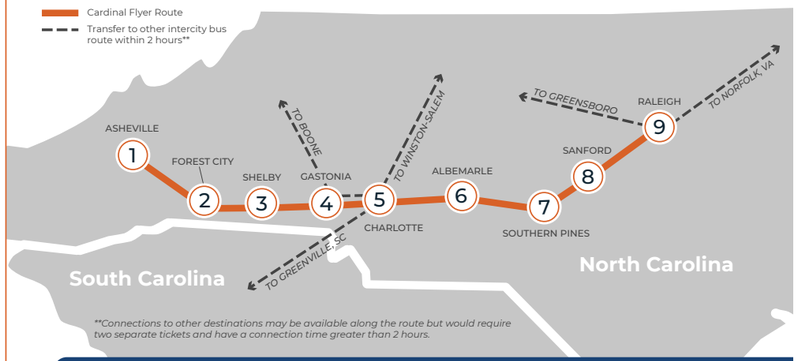
1 Asheville North Carolina	2 Forest City North Carolina	3 Shelby North Carolina	4 Gastonia North Carolina	5 Charlotte North Carolina	6 Albemarle North Carolina	7 Southern Pines North Carolina	8 Sanford North Carolina	9 Raleigh North Carolina
8:00am	9:10am	9:35am	10:10am	11:15am	12:20pm	1:35pm	2:10pm	3:00pm*

Westbound

9 Raleigh North Carolina	8 Sanford North Carolina	7 Southern Pines North Carolina	6 Albemarle North Carolina	5 Charlotte North Carolina	4 Gastonia North Carolina	3 Shelby North Carolina	2 Forest City North Carolina	1 Asheville North Carolina
12:50pm	1:40pm	2:25pm	3:40pm	5:10pm	5:35pm	6:15pm	6:45pm	7:50pm*

Service operated 7 days a week, 365 days a year!

* Arrival time
Disclaimer: Travelers should refer to their purchased ticket for final departure/arrival time.



***Connections to other destinations may be available along the route but would require two separate tickets and have a connection time greater than 2 hours.*

Figure 4.26: **Carolina Flyer Map and Schedule**
(credit: NCDOT. https://www.ncdot.gov/divisions/integrated-mobility/public-transit-services/Pages/intercity-bus-service.aspx)

Considerations

Going forward, the FBRMPO region should prioritize a coordinated, resilient, and equitable approach to public transit planning that reflects both current needs and future growth. Approaches to transit planning may include:

- As ridership continues to recover unevenly following COVID-19, efforts must focus on rebuilding reliable service, especially for vulnerable populations who rely on demand-response transit and fixed-route systems.
- Strategic investment is needed to improve cross-county connectivity in response to growing commuter patterns, while balancing fiscal constraints and recognizing the challenges of serving low-density or sprawling areas.
- Supporting population growth through transit-oriented development and focusing on areas with density sufficient to sustain fixed-route services can make transit more effective and efficient.
- Revisit the Regional Transit Plan to consider implementation of its recommendations.
- Rebuilding infrastructure damaged by Hurricane Helene offers an opportunity to enhance system resilience and modernize transit operations, ensuring the region's network is better prepared for future disruptions.

Coordination across jurisdictions, diversified funding strategies, and community engagement will be critical to achieving a more integrated and sustainable transit future in the FBRMPO region.

Rail

Planning factors addressed

Accessibility

Economic Vitality

Integration and Connectivity

Travel and Tourism

Background

The passenger rail once played a vital role in connecting Western North Carolina (WNC) to the rest of the state and beyond. The Western North Carolina Railroad – later part of the Southern Railway Company - offered regular service to Salisbury until 1975. Its Murphy Branch revolutionized travel and commerce in the region, linking WNC residents to eastern markets. By the early 1900s, demand was strong enough to support six daily trains between Asheville and Lake Junaluska and four between Asheville and Murphy.

As automobile ownership grew in the mid-20th century, passenger rail use declined, ultimately leading to the discontinuation of service. Still, community support for restoring service persisted. Less than 25 years later, steps were taken to reconnect WNC to Salisbury and the North Carolina Railroad Company mainline via the Norfolk Southern AS-Line. In 1997, NCDOT completed the *Western North Carolina Passenger Rail Study*, which outlined detailed plans and cost estimates for a Raleigh-to-Asheville route via Salisbury. However, the 2002 update—estimating a total cost of over $134 million—recommended against implementation at that time.

In the years since, interest in passenger rail has grown nationwide, with new investments in Amtrak services at both the state and federal levels. In 2024, passenger rail ridership in North Carolina hit a record high, exceeding 720,000 riders—a 55% increase over pre-COVID levels in 2019—thanks in part to the addition of a fifth daily round-trip train in 2023.[28] The current intercity passenger rail network in North Carolina has stations serving 15 of North Carolina's 100 of North Carolina's counties, but none closer to the FBRMPO planning region than Gaston County.

The Data

In December 2023, the *Western North Carolina (WNC) Passenger Rail Feasibility Study* was released, estimating a capital cost of roughly $665 million in 2023 dollars and conceptual operating costs of up to $9.7 million annually. The service would connect Asheville with train services in Salisbury, running three round trips per day. This study is summarized in Chapter 01. Introduction: Previous Planning Efforts.

In 2021 Amtrak released *Connects US: Amtrak's Vision for Improving Transportation Across America*, which creates a blueprint for intercity passenger rail expansion nationwide. Included in this network is Western North Carolina rail service via a 139-mile route from Salisbury to Asheville along Norfolk Southern tracks, with potential intermediate stops in Black Mountain, Old Fort, Marion, Morganton, Hickory, and Statesville.[29] The passage of the Infrastructure Investment and Jobs Act or Bipartisan Infrastructure Law (BIL) in 2021 included funding to plan for and implement expanded passenger rail. In 2023 NCDOT applied for and received funding through the Corridor Identification and Development (CID) program to conduct scoping for the Asheville to Salisbury corridor, along with six other corridors across the state. The CID program is a 3-step process, and this first step is expected to be completed for all selected corridors by the end of 2025. Following this, corridors will be eligible to enter Step 2, which requires a 10% state and local match to leverage additional Federal funding for the completion of service development planning. A final step in the program requires a 20% state and local match to complete preliminary engineering and environmental planning and is intended to create a pipeline of shovel-ready projects that can be funded under other programs authorized by the BIL.

North Carolina's freight rail network serves 86 counties, providing access to strategic locations such as two coastal ports and facilitating the movement of goods. Most NC's rail system is privately owned, operated, and maintained. According to NCDOT's Rail Division, there are 3,416 rail miles in the state, including 2 Class I railroads and 24 short lines.[30]

In 2017, the Western North Carolina Rail Committee, Inc. was reconstituted and incorporated after nearly 20 years as the WNC Rail Corridor Committee, Inc. The Committee has three goals:

- To improve and expand freight rail service in Western North Carolina;
- To increase the number of tourist and excursion trains in the region, such as the Great Smoky Mountain Railroad and the Craggy Mountain Line; and
- Re-establish a passenger rail connection to Western North Carolina beginning with Amtrak Thruway Bus service between Asheville and Salisbury as the first step toward launching a dedicated train to serve communities along this route.

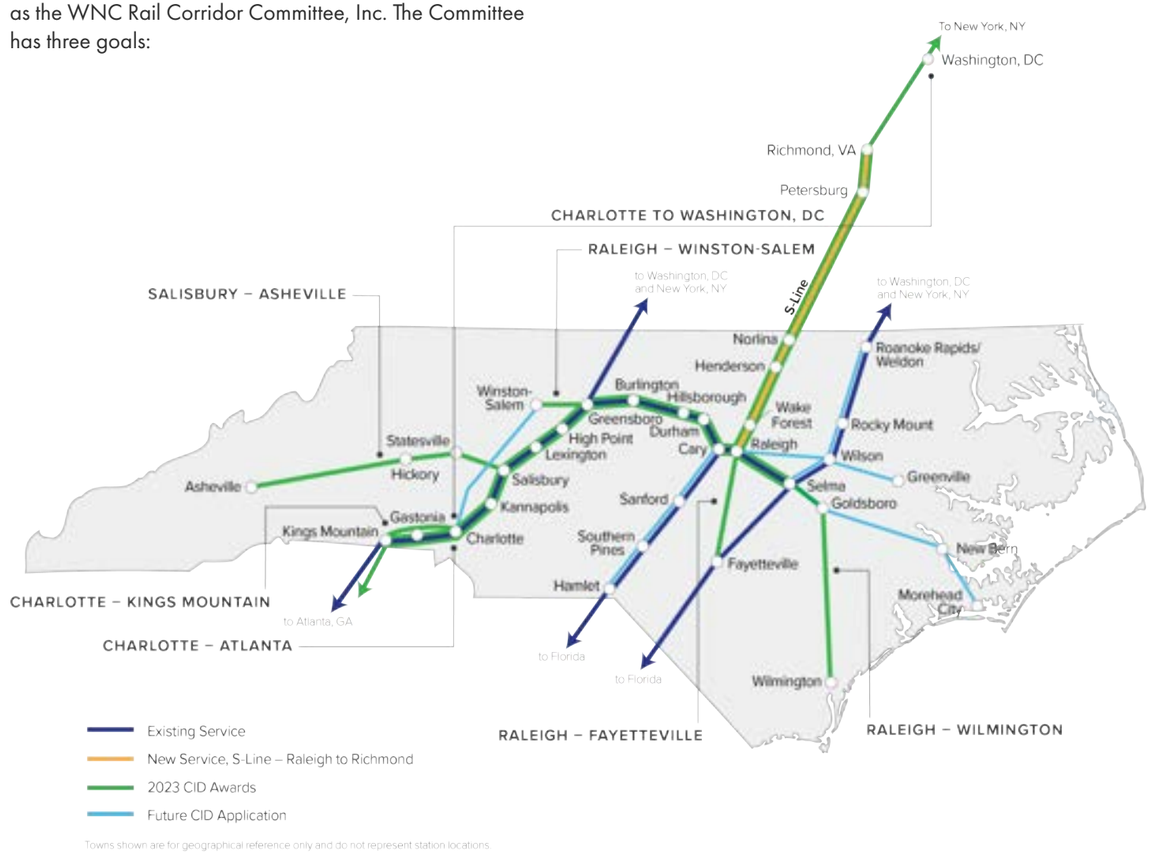


Figure 4.27: **Existing and Future Passenger Rail Service in North Carolina**
(credit: NCDOT. https://www.ncdot.gov/divisions/rail/projects/corridor-identification-development/Pages/default.aspx)

28 "This Week at NCDOT: NC By Train Record Ridership, GHSP Grant Applications." *NC Department of Transportation,* 17 Jan. 2025. https://www.ncdot.gov/news/press-releases/Pages/2025/2025-01-17-this-week-at-ncdot.aspx

29 "More Trains. More Cities. Better Service. Amtrak's Vision for Improving Transportation Across America." *Amtrak,* June 2021. https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/reports/Amtrak-2021-Corridor-Vision-060121.pdf

30 https://www.ncdot.gov/divisions/rail/Documents/economic-contributions-rail-nc-executive-summary.pdf

Currently, intercity passenger rail service in North Carolina includes six routes with stops in 16 cities, with the nearest stations to the FBRMPO region located in Gastonia and Charlotte. Many visitors to the region, however, originate from areas served by Amtrak. Without a rail connection to Western North Carolina, travelers must rely on driving or flying—options that contribute to highway congestion and increase pressure on Asheville Regional Airport (AVL).

In recent years, preliminary steps were taken to address this gap through the development of intercity bus service along the Asheville–Salisbury corridor. This service was approved but never implemented. This service aimed to provide interim connectivity, offer a more sustainable alternative for travelers, and demonstrate potential demand for expanded passenger rail. However, several significant challenges remain—including the high cost of service and extensive infrastructure repairs needed following the damage caused by Hurricane Helene—that continue to delay the implementation of rail service.

Despite these obstacles, North Carolina remains a strong advocate for expanding passenger rail. The state has secured multiple federal grants to purchase new trainsets, upgrade rail corridors, and construct new track. In partnership with Virginia, North Carolina is working to restore service along the S-Line corridor, which will provide a more direct connection between Raleigh and Richmond. These investments support consistent growth in ridership and helped position North Carolina as a leader in rail transportation in the Southeast. Building on this momentum, the state has identified Asheville, Wilmington, and Winston-Salem as priority destinations for future rail expansion.

There are various challenges facing rail infrastructure, planning, construction, and investment in the FBRMPO region, including:

- **High cost and funding limitations:** The cost of constructing new rail infrastructure and upgrading existing facilities to meet current standards is substantial, making it difficult to fund rail projects. In North Carolina, non-highway investments—including rail—are capped at 10% under the Strategic Transportation Investments (STI) law, increasing the dependence on local match funding or securing competitive federal grants. Despite these challenges, many improvements to the rail system are often delivered in conjunction with roadway projects, such as grade separation projects, which enhance both rail and highway safety and efficiency.
- **Political support:** Rail is popular among many community members, as evidenced by the formation of citizen committees in support of restoring service, received priority within the FBRMPO region during the P7 prioritization cycle, but failed to receive funding through SPOT.
- **Hurricane Helene:** The impact of Hurricane Helene in the FBRMPO region devestated the rail network. Dozens of miles of track and numerous bridges washed out due to landslides, preventing them from continuing service. Norfolk Southern, the owner and operator of the region's mainline, continues restoration work along the corridor between Salisbury and Morristown, TN. Service resumed between Grovestone Road in Black Mountain and Newport, TN by the end of April 2025. However, repairs between Grovestone Road and Old Fort—including the historically significant Old Fort Loops—are not expected to be complete until winter 2025-26 due to the extent of the damage.[31] Additional impacts were sustained along the 91-mile Blue Ridge Southern line west of Asheville. Rail service is a vital supply chain lifeline for the region, supporting many local businesses, and full restoration—particularly of the Old Fort Loops—remains a high priority.[32]

31 "Freight Rail Service Returns to Asheville and Western North Carolina for First Time Since Hurricane Helene." *Norfolk Southern,* 20 May 2025. https://norfolksouthern.mediaroom.com/2025-05-20-Freight-Rail-Service-Returns-to-Asheville-and-Western-North-Carolina-for-First-Time-Since-Hurricane-Helene

32 "Getting back on track with rail in NC disaster area." Jane Winik Sartwell, *Carolina Public Press,* 22 Nov. 2024. https://carolinapublicpress.org/67267/getting-back-on-track-with-rail-in-nc-disaster-area/

Considerations

Going forward, the FBRMPO should continue to actively support efforts to restore passenger rail service to Western North Carolina, recognizing its potential to improve regional connectivity, support economic development, and offer a sustainable alternative to highway travel. While the region faces considerable challenges—including high capital and operating costs, the need for significant infrastructure repairs, and state-level funding constraints—recent developments present new opportunities.

Federal initiatives like Amtrak's *Connects US* vision and the Corridor Identification and Development (CID) program offer a pathway for advancing rail planning along the Asheville-to-Salisbury corridor, especially with state and local commitment to required funding matches. The Asheville-Salisbury project is in Phase One of CID with Phase Two expected to begin in October 2025.

The FBRMPO should work with local jurisdictions to prioritize participation in these programs, explore interim solutions such as enhanced intercity bus service, and coordinate with the Western North Carolina Rail Committee to advocate for long-term investments. Rail planning should also account for the role of freight service, tourism-based excursion trains, and climate resilience, particularly in light of damage from Hurricane Helene. As interest in rail travel continues to grow statewide and nationally, the FBRMPO is well-positioned to help catalyze a return of passenger rail service that benefits residents, businesses, and visitors alike.

The FBRMPO should encourage improving the use of existing freight rail in the region to address efficient freight movement.

The FBRMPO should consider the feasibility of using existing infrastructure for excursion or commuter train service, something that arose multiple times in public comments for the Elevate 2050 process.

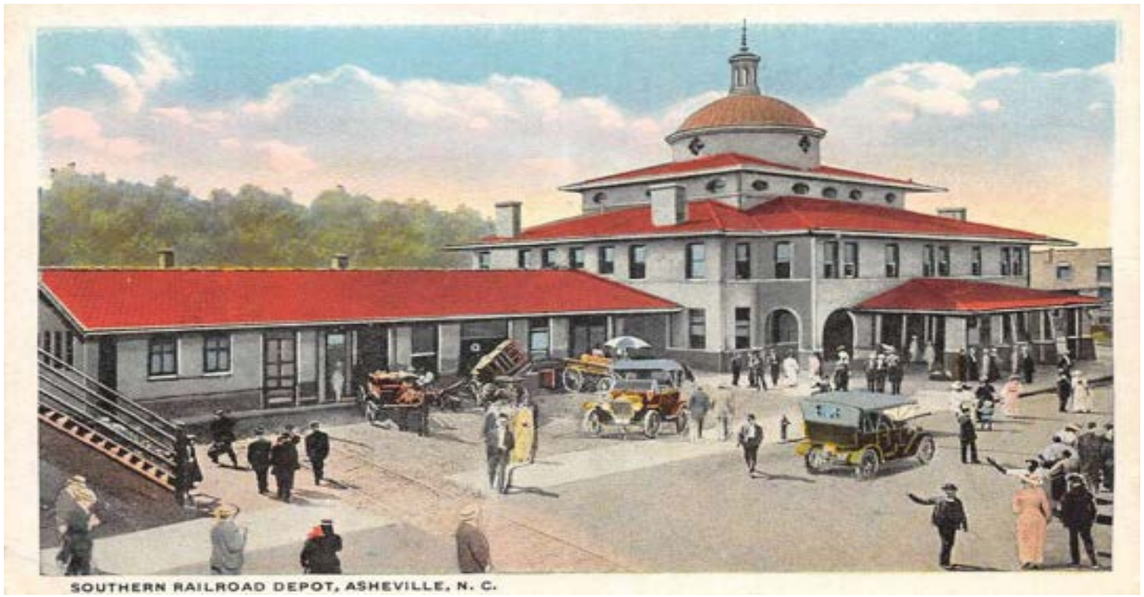


Figure 4.28: **Southern Railroad Depot, Asheville**
(credit: Mary L. Martin Vintage Postcards. https://www.marylmartin.com/product/asheville-north-carolina-southern-railroad-depot-vintage-postcard-aa83209/)

Emerging Trends in Technology

Planning factors addressed

Accessibility
Security
Efficient System
Integration and Connectivity
Travel and Tourism

Background

As technology continues to evolve in infrastructure and mobility, it is important for the FBRMPO to recognize and integrate these emerging trends into its long-term planning efforts. This chapter of Elevate 2050 highlights key technological trends and explores their potential impacts on the region's transportation system. The goal for the FBRMPO, in terms of technological changes, is to understand the effects of advancing technologies and proactively plan for an unpredictable future.

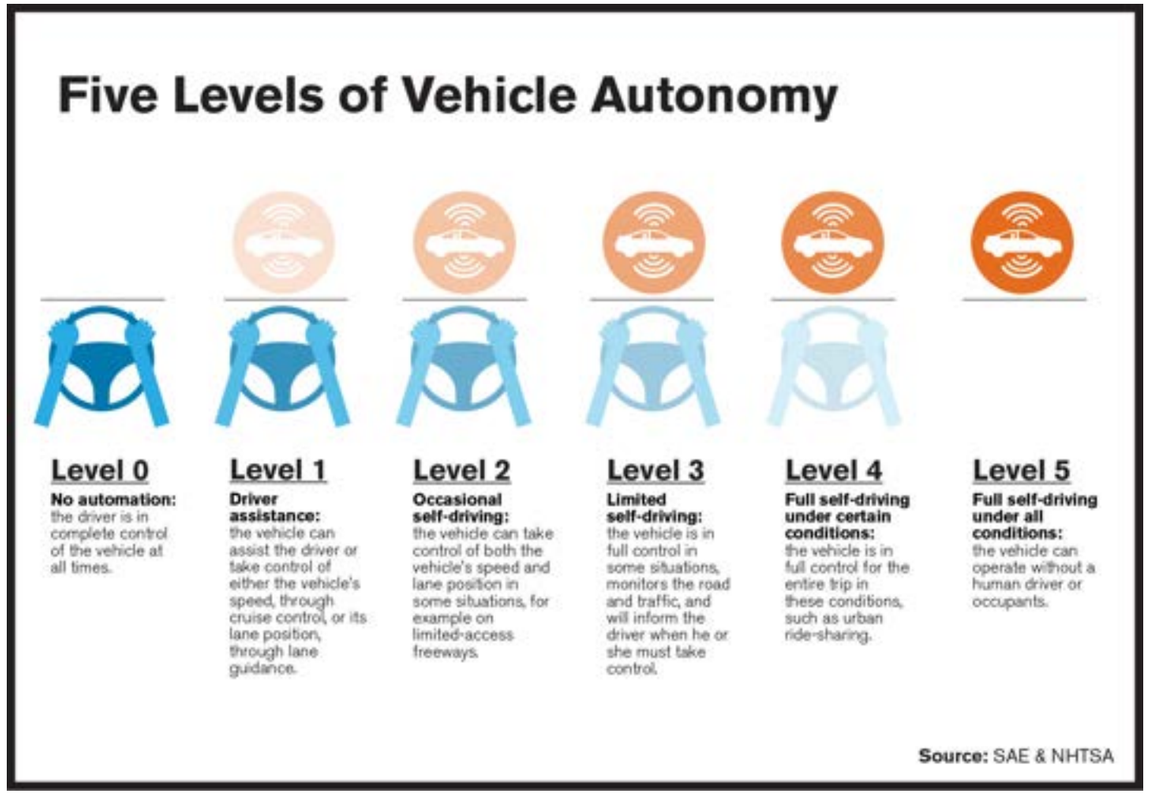


Figure 4.29: **Five Levels of Vehicle Autonomy** *(credit: Utah Department of Public Safety)*

The Data

Connected + Autonomous Vehicles

The topic of connected and autonomous vehicles (CAVs), also known as self-driving cars, can detect their surroundings and navigate without human control, relying on sensors, algorithms, and processors to monitor and react to road conditions. Figure 4.29 outlines the level of autonomy by which CAVs are categorized. Today's cars often feature Level 1 and 2 technologies, such as automatic braking, adaptive cruise control, lane assist, and parking assist. A Level 3 vehicle, like certain Tesla models, can perform tasks such as self-parking without the driver needing to control the gas, brake, or steering wheel. While Levels 4 and 5, which represent full automation, are not yet available to consumers, they remain the focus of ongoing development.

As CAVs advance, planners have a brief window to prepare for their impact. Current urban designs prioritize single-occupancy vehicles (SOVs), limiting alternative transportation options like walking and biking, as well as future modes such as fully autonomous vehicles. While CAV technology is progressing, its widespread market adoption may not significantly influence public infrastructure investment in areas like the FBRMPO until the long-term horizon of this plan. Forecasts for market penetration vary, but Level 4 and Level 5 vehicles may only make up a significant market share long into the future, affecting infrastructure design and capacity. Nonetheless, it is valuable to consider the potential impacts of faster or slower market penetration when making decisions about costly, long-lived assets like roadway widenings, especially if these assets may be challenging to repurpose for a society with widespread CAVs.

Intelligent Transportation Systems (ITS)

Intelligent Transportation Systems (ITS) is a program that leverages technology and communication systems to enhance the efficiency and safety of transportation networks. By integrating advanced information and electronic technologies into infrastructure and vehicles, ITS improves traffic management and mobility. Examples of ITS include coordinated traffic signal systems, dynamic and portable message signs, ramp meters on freeways, traffic cameras that monitor flow and incidents, and transit systems that track the real-time location of public transportation vehicles. The FBRMPO's FY2025 Unified Planning Work Plan (UPWP) identifies a Regional ITS Plan for completion, funded by Coronavirus Response and Relief Supplemental Appropriations Act (CRRSAA), as one of the Special Studies for the year.

Electric/Hybrid Vehicles

Electric vehicles (EVs) have continued to grow in popularity. EVs typically fall under three distinct categories: hybrid electric vehicle (HEV), plug-in hybrid electric (PHEV), and electric (EV). HEVs contain both an internal combustion engine and an electric motor. PHEVs also contain both engines but can be recharged from a wall outlet or charging station. EVs only contain an electric motor and are recharged from a wall outlet or charging station. EVs produce zero tailpipe emissions while HEVs produce no tailpipe emissions when in all-electric mode.

The Bipartisan Infrastructure Law (BIL) established the National Electric Vehicle Infrastructure Program (NEVI), providing nearly $5 billion to help states create a national network of 500,000 EV charging stations along designated alternative fuel corridors. In Phase 1 of NEVI, NCDOT identified potential sites for new charging stations on alternative fuel corridors, including a cluster in McDowell County close to Black Mountain and Swannanoa. The FBRMPO adopted a resolution to request NCDOT include US 23/74 as a NEVI corridor due to a lack of corridors in WNC, but that was not implemented by NCDOT. In 2022, Governor Cooper's Executive Order (EO) 246 called for North Carolina to increase the total number of registered, ZEVs to at least 1,250,000 by 2030 and increase the sale of zero-emission vehicles (ZEVs) so that 50% of in-state sales of new vehicles are zero-emission by 2030.

As technology continues to advance, more resources become available for use. In January 2025, the *Charge Smart Program Guide*[38] published by the NC Clean Energy Technology Center at NC State University identified criteria for local governments to achieve a Charging Smart designation: Planning, Regulation, Utility Engagement, Education and Incentives, Government Operations, and

38 Charging Smart Program Guide (Version 3.1). NC Clean Energy Technology Center. Jan. 2025. https://energy-ready.org/wp-content/uploads/2025/01/Charging-Smart-Program-Guide-v3.1.pdf

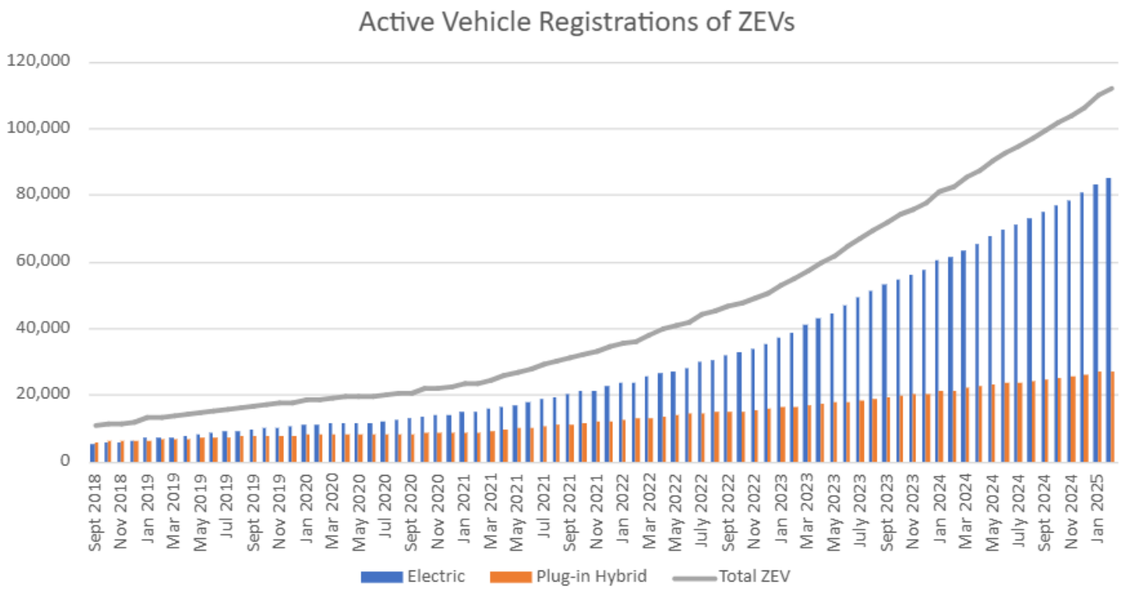


Figure 4.30: ZEV Registration in North Carolina *(credit:* NCDOT)

Shared Mobility. The Charging Smart Program recognizes that the transition to EVs should benefit all members of a community, particularly focused on disadvantaged communities that are marginalized, underserved, and overburdened by pollution. The Charge Smart Program could be an opportunity for municipalities across the FBRMPO to improve access to EV infrastructure.

In the FBRMPO region, Land of Sky Regional Council houses the Clean Vehicles Coalition. As a subset of the Clean Cities Program, the Clean Vehicles Coalition aims to reduce petroleum use and improve air quality in the region by creating public/private partnerships to enhance the development of an alternative fuel and advanced technology vehicle marketplace and supporting infrastructure.

Funding for the Clean Cities Program and its subsets were frozen in 2025, and the future of funding is unknown. Since 2012, the Clean Vehicles Coalition has worked towards encouraging alternative fuels and vehicles, educating the community on clean energy alternatives, and participating in community events.

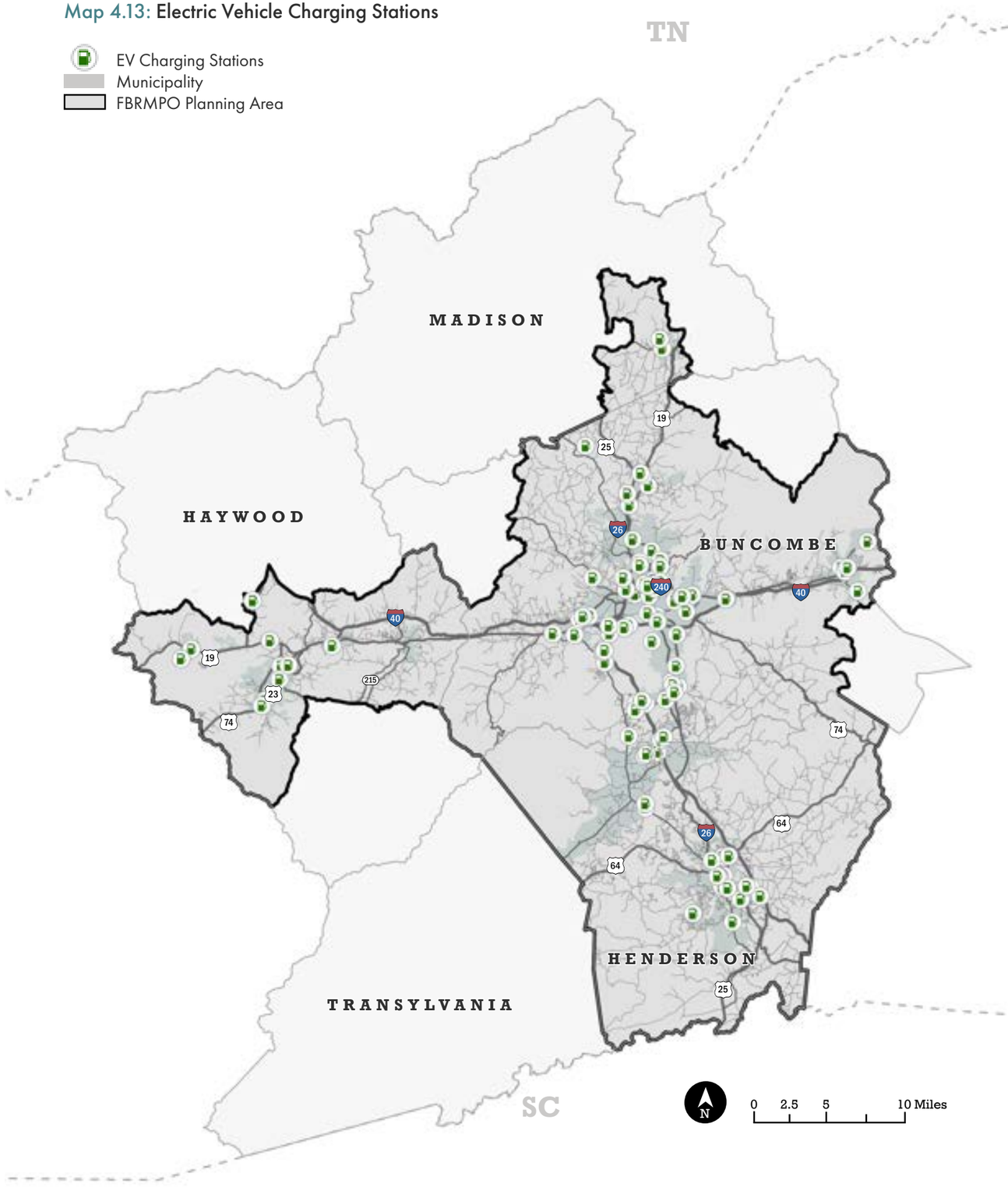
Electric Vehicle Infrastructure

Electric vehicle (EV) infrastructure encompasses the systems and facilities needed to support the widespread use of EVs, primarily centered around charging networks. These include Level 1, Level 2, and DC fast chargers installed in homes, public areas, commercial sites, and along highways. To support increased electricity demand, utilities are upgrading the grid, integrating smart charging, and exploring vehicle-to-grid technologies. Software platforms assist with locating, reserving, and paying for charging, while interoperability and roaming agreements enhance user convenience. Local governments in the FBRMPO region can support EV expansion through incentives and regulations, and future developments include wireless charging, autonomous plug-ins, and battery swapping.

North Carolina was in the top 20 states for EVs per capita in 2022, and between 2018 and 2018, the growth rate for EV registration was 24%. As more affordable models launch and EV infrastructure expands, it is projected that EV adoption will continue to rise.

According to NCDOT's registration data for January 2025, between Buncombe, Haywood, Henderson, and Madison counties, an additional 129 EVs, 69 plug-in hybrid vehicles (PHEVs), and 403 hybrid vehicles were registered in January.

Map 4.13: Electric Vehicle Charging Stations



The FBRMPO region is transected by multiple important interstate corridors, making EV charging station and infrastructure placement important. WNC, despite being an area rich in natural beauty, clean air, and tourism, finds itself considerably understocked with infrastructure to support EV drivers. While Asheville itself features 373 charging stations, according to PlugShare, the majority of those charging stations are Level 2, which charge vehicles slowly compared to direct current (DC) fast charging stations. Furthermore, only 61 of the charging stations are free. The Land of Sky Clean Vehicles Coalition shared in 2024 that WNC has the following options available to EV drivers:

- 11 DC Fast Stations with a combined total of 22 plugs open to all makes and models
- 5 Tesla Superchargers with a combination of 40 plugs
- 1 Rivian Charger with 1 plug
- < 100 public Level 2 stations with a combined total of 200 plugs, many belonging to hotels.

The City of Asheville operates free Level 2 stations at the Wall Street Parking Garage and the Rankin Avenue Parking Garage. The Town of Black Mountain operates six (6) free Level II charging stations throughout town. The City of Hendersonville operates three (3) free Level 2 charging stations downtown. Haywood County's Electric Membership Corporation (EMC) made strives to install new Level 2 charging stations in the County in 2022. Map 4.13 shows the distribution of electric vehicle (EV) charging stations in the FBRMPO.

Additionally, in support of EV infrastructure, renewal energy, and emission reductions, the City of Asheville aims to power all municipal operations with renewable energy by 2030. Based on the region's EV population and existing EV charging infrastructure, there currently exists one (1) fast charging station for every 24 EVs in Asheville, according to PlugShare. While that ratio is reasonable to serve the number of EVs in the region, it does not meet the need of the influx of EVs at any given time due to tourism, which highlights the need for EV infrastructure on corridors like I-40, I-26, the area around the Biltmore Estate, and along the Blue Ridge Parkway.

Considerations

As emerging technologies rapidly reshape the future of mobility, the FBRMPO should proactively integrate technological trends into its transportation planning to build a more adaptive, efficient, and sustainable regional system.

- Investments in ITS—including coordinated signal systems, real-time transit tracking, and dynamic message signage—can significantly improve traffic flow, safety, and system responsiveness.
- The completion of a Regional ITS Plan provides an opportunity to identify and prioritize such advancements.
- The rise of electric and hybrid vehicles requires coordinated planning to expand charging infrastructure, particularly in underserved communities. Programs like Charge Smart and partnerships through the Clean Vehicles Coalition can help support equitable EV adoption across the region.
- Develop a regional plan for EV charging infrastucture.
- While fully autonomous and connected vehicles may not achieve broad market penetration in the near term, long-range infrastructure investments should remain flexible to accommodate their eventual integration. This means evaluating roadway projects through a future-focused lens that considers potential shifts in demand and vehicle design.

By planning now for an evolving technological landscape, the FBRMPO can ensure that the region's transportation system remains resilient, inclusive, and forward-looking.

Tourism

Planning factors addressed

Background

Tourism is significantly important to MPOs because it contributes to economic development and enhances the quality of life in metropolitan areas. Federal regulations for tourism in the MTP focus on integrated tourism-related planning activities with broader transportation planning efforts to create a more holistic and effective approach to regional development. Congress increased USDOT's specific responsibilities related to travel and tourism initially through the Fixing America's Surface Transportation (FAST) Act of 2015, which required USDOT to "include projects, strategies and services that will enhance travel and tourism" [23 U.S.C 135(d)(1)(I) & (J)] and again through the Infrastructure Investment and Jobs Act (IIJA) of 2021, which expanded the award criteria for several USDOT discretionary grant programs to include considerations related to travel and tourism. Furthermore, IIJA required that the USDOT National Travel & Tourism Infrastructure Strategic Plan be updated to develop immediate and long-term strategy recommendations related to the tourism economy in the wake of COVID-19.

Historically, tourism has been a key revenue generator for communities throughout the FBRMPO region. While Asheville's cuisine, history, and brewing culture attract tourism, the topography of the mountains and outdoor recreation throughout the region draws visitors as well.

The Data

In 2023, 13.9 million visitors spent almost $3 billion in Asheville, which is 20% of Buncombe County's total annual economy.[39] The visitor economy in 2023 generated $146 million in state tax revenue, $83 million in county tax revenue, and $36 million in city tax revenue.[40] In the five years between 2019 and 2023, with the exception of 2020, total visitors grew from 11.9 million to 13.9 million, an 18% increase.[39] While only 5.1 of the 13.9 million tourists stayed overnight, many of them still visited destinations where they supported local businesses and jobs.

Visitors typically drive into the area, with many coming from nearby cities like Charlotte, Greenville, Atlanta, and Raleigh. This is likely due to the limited connections to transit and aviation terminals, along with the relatively short distance between major cities. Tourism peaks seasonally from March to October, putting significant strain on the transportation network. Once primarily supported by recreational attractions, the region now also draws visitors with its growing in-town nightlife. During the summer months, the region's popular areas experience the highest demand, which presents challenges for transportation planning and management during peak tourism season.

To better understand how key tourism destinations impact traffic volumes and shifting demand, NCDOT integrates data on locations and visitor numbers for major attractions into its travel demand model to forecast future volumes. Additionally, there are other establishments not mentioned above that also attract significant numbers of tourists. Asheville, for instance, has more breweries per capita than any U.S. city, attracting visitors for brewery tours, festivals, and its unique atmosphere. Several craft beverage businesses in the region have begun to export their products regionally, nationally, and internationally, with new businesses continuing to open. Tourism is a major industry statewide, employing over 225,000 people in North Carolina.

39 Economic impact of visitors in Asheville & Buncombe County 2023. *Explore Asheville Convention & Visitors Bureau.* (August 2024). https://www.ashevillecvb.com/wp-content/uploads/Asheville-Buncombe-County-Tourism-Economic-Impact-2023.pdf

40 Explore Asheville Convention & Visitors Bureau. (n.d.). Research reports. Retrieved Jan. 7, 2025, from https://www.ashevillecvb.com/research-reports/

Buncombe	Haywood	Henderson	Madison
Downtown Asheville	Blue Ridge Parkway (access points and hiking destinations)	Carl Sandburg Home	Appalachian Trail (various access points including Max Patch)
Biltmore Estate	Cataloochee Ski Area	Flat Rock Playhouse	French Broad Rafting and Ziplines
Downtown Black Mountain	Maggie Valley	Dupont State Forest	Hot Springs Resort and Spa
Grove Park Inn	Pisgah Inn	Downtown Hendersonville	Downtown Marshall
North Carolina Arboretum	Downtown Waynesville	Jump Off Rock	Hatley Pointe Ski Resort
Downtown Weaverville	Great Smoky Mountains National Park	Apple Valley Model Railroad Museum	
WNC Nature Center		Sierra Nevada Brewing Co.	

Table 4.10: **Key Tourist Destinations by County**

The various Tourism Development Authorities (TDAs) in the region put a portion of the tax revenue they receive back into the community. As a part of their grant funding programs, TDAs have funded transportation projects such as wayfinding signage, greenway development and other projects that sustain local tourism.

The **Buncombe County TDA** with its Tourism Product Development Fund (TPDF), has reportedly awarded $86 million of the occupancy tax revenue to 64 investments in 41 community projects, including the Town of Woodfin $2.25 million for the greenway/blueway system. In 2022, North Carolina Senators Chuck Edwards, Warren Daniel, and Julie Mayfield sponsored HB1057 to change the occupancy tax split from 75% to be invested in travel promotion and 25% for community capital projects to a split of two-thirds to one-third, increasing the percentage for community capital projects. The legislation allocated the one-third capital project portion of the tax revenue be divided into two equal funds: (1) Tourism Product Development Fund (TPDF), and (2) Legacy Investment from Tourism (LIFT) Fund. The first grant cycle of LIFT was awarded in 2024, allocating nearly $10 million to tourism-related community projects, including Aston Park Tennis Center, Coxe Avenue Complete Street, and Ferry Road Community: Affordable Housing, Conservation, and Public Recreation. Buncombe County TDA estimated that visitor spending supports 1 in 7 jobs and generates $368 million in tax revenue annually.

The **Henderson County TDA (HCTDA)** is the official destination marketing organization for Henderson County, funded by the 5% occupancy tax collected in Henderson County from overnight stays at local lodging properties, the HCTDA does not receive funding from the Henderson County Government general tax fund. According to Visit Hendersonville, Henderson County ranks 14th out of 100 counties statewide for visitor spending, resulting in an annual economic impact of nearly $325 million that sustains more than 2,000 jobs. HCTDA offers an annual grant program to benefit tourism-related businesses and nonprofit organizations for Marketing Grants, Event Grants, and Destination Enhancement Grants. The Destination Enhancement Grants can play a direct role in infrastructure improvements for tourism-related infrastructure. Due to Hurricane Helene, HCTDA suspended the 2024-2025 cycle of grant applications until further notice. In their 2023 Tourism Impact Report, Henderson County found that tourism directly employs 2,600 people in the county.

The **Haywood County TDA** is the legislatively mandated entity responsible for collecting occupancy taxes for all paid accommodations in the county and determines the allocation of those dollars to drive overnight visitation. Haywood County TDA collects a 4% occupancy tax and invests those funds in a variety of tourism marketing efforts. Currently, 3% of those funds are used for county-wide efforts and 1% is split by zip code and used for destination marketing reinvested into each zip code via grant programs. In Haywood County, tourism-related capital expenditures are paused and grant programs target marketing efforts alone.

Tourism plays a major role in the region's economy, but it also presents challenges due to its vulnerability to statewide, national, and global factors. While seasonal patterns allow for some predictability in visitor volumes, unexpected events—such as the COVID-19 pandemic—can have severe impacts on both the tourism sector and the broader regional economy. The Buncombe County Tourism Development Authority (TDA) has identified congestion as a significant challenge, particularly in popular tourist areas where growth management has become a concern. A lack of connectivity between destinations in Henderson and Buncombe counties further complicates travel for visitors, especially those seeking to explore multiple attractions within the region. This disconnect contributes to congestion on both primary and secondary roads, accelerating roadway wear and increasing maintenance needs. In 2023, the region welcomed over 13.5 million tourists, and a portion of those visitors ultimately chose to relocate to the area, adding pressure on the transportation system beyond peak tourism seasons.

Regional TDAs have also highlighted transportation-related challenges associated with workforce mobility, particularly getting employees from home to job sites. With limited roadway connections between Henderson County and Asheville in Buncombe County, addressing regional connectivity remains a top concern. Moreover, the area is beginning to experience higher visitation even during what were previously considered off-peak seasons.

Finally, it is important to note that Hurricane Helene severely impacted the tourism industry in the FBRMPO region. The long-term effects are still unfolding, but the region remains hopeful for recovery in the coming years.

Considerations

As tourism continues to be a major economic driver in the region—contributing nearly $3 billion in Asheville alone in 2023 and supporting thousands of jobs across Buncombe, Henderson, and Haywood counties—the FBRMPO should consider developing a strategic approach to tourism-related transportation planning. The consistent year-over-year growth in visitation, coupled with increasing off-season travel, underscores the need for resilient, multimodal infrastructure that can handle both seasonal surges and year-round demand. Improved regional connectivity—especially between key destinations in Buncombe and Henderson counties—should be a top priority to alleviate congestion, support workforce mobility, and enhance the visitor experience.

Given the strain on primary and secondary roadways, the FBRMPO should explore collaborative opportunities with local Tourism Development Authorities (TDAs), which are already investing occupancy tax revenues into infrastructure projects like greenways, wayfinding, and complete streets. Integrating tourism data into the region's travel demand model will also help forecast pressures on the system and guide future investments. Additionally, the region should prepare for the growing number of visitors who ultimately become permanent residents, placing long-term pressure on housing, transportation, and services. A coordinated tourism-transportation strategy—grounded in data, equity, and resiliency—can help the region balance economic growth with livability and sustainability in the years ahead.

Public Engagement at East Asheville Library

05. Public Involvement

The federal government requires all metropolitan transportation planning activities to be based on a continuing, cooperative, and comprehensive (3-C) process. Stakeholder and public engagement are important to the success of the Elevate 2050 process to inform, educate, and obtain input. The FBRMPO outlined strategies and efforts to engage the public throughout the Elevate 2050 process, guided by federal and state requirements and best practices. The FBRMPO developed a Public Involvement Plan (PIP) for the Elevate 2050 effort. For a comprehensive summary of public involvement for Elevate 2050, please see Appendix B. Public Involvement.

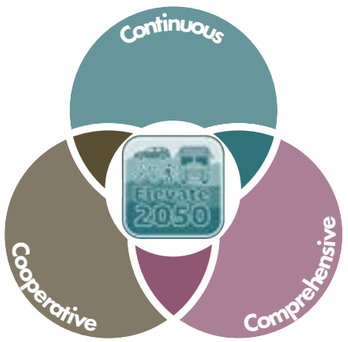


Figure 5.1: 3-C process for Elevate 2050

Steering Committee

The FBRMPO Prioritization Subcommittee served as the Elevate 2050 Steering Committee. This committee has been responsible for reviewing draft elements of the plan, providing feedback, and working with FBRMPO staff to incorporate changes to the final draft of the plan. Key responsibilities of the Steering Committee include:

- Review the PIP that actively seeks input and participation from municipalities, agencies, businesses, and residents within the FBRMPO region.
- Communicate with organizations they represent and assist with public involvement efforts.
- Review and approve the vision statement, goals, and objectives developed with input from the first phase of public engagement.
- Balance and prioritize competing public objectives.
- Establish and recommend project priorities based on the draft project list and applied fiscal constraints.

Stakeholders

In order to engage as many constituents as possible, the FBRMPO shared materials for Elevate 2050 with existing community stakeholders.

- Advocacy groups
- Homeowners Associations
- Community Associations
- Historically Under-represented Groups
- Bike/Ped Advocacy Groups
- Faith Based Organizations
- County and City Tourism Organizations
- Municipal Chambers of Commerce
- Business Associations
- Workforce Development Boards
- Elected Officials
- NCDOT Public Agency Contacts
  - Audubon NC
  - NC Center for Geographic Information and Analysis
  - NC Department of Agriculture and Consumer Services
  - NC Department of Cultural Resources – Historic Preservation Office
  - NCDEQ
  - Regional Land Use Advisory Committee
  - USFWS
  - USDA – Forest Service
  - USEPA Region 4
- Transportation and Community Service Providers

Public Involvement Timeline

The team grouped public involvement for Elevate 2050 into four phases:

- Phase 1: Define Our Vision
  - Intent: Identify goals and objectives for the 2050 horizon year
  - Strategies: Drop-in style public workshops and public survey
- Phase 2: Evaluate Today's Network
  - Intent: Determine weaknesses, opportunities, needs, and budgetary priorities
  - Strategies: Focus group meetings, pop-up events and a public meeting, and a public survey
- Phase 3: Analyze Tomorrow's Network
  - Intent: Focus on reviewing the draft project list and scoring
  - Strategies: Public meetings and public survey
- Phase 4: Build Our Roadmap
  - Intent: Review implementation strategy, fiscally constrained project list, and draft plan
  - Strategies: Public meetings and public comment period

Events and Involvement Effort

The Elevate 2050 team utilized multiple outreach methods to gather feedback from citizens, engaging 130 residents across public meetings and workshops and 36 residents in virtual focus gropus.

Techniques	Opportunities				
	Goals + Objectives	Candidate Projects	Fiscally-Constrained Project List	Ongoing Education	Draft 2050 MTP
Website	•	•	•	•	•
Social Media	•	•	•	•	•
E-Blasts	•	•	•	•	•
Media Release	•	•	•		•
Public Meetings	•	•	•	•	
Pop-up Events	•		•	•	•
Small Group Meetings		•	•		
Surveys	•		•		
Online Interactive Mapping		•	•		

Table 5.1: Public Involvement Methods

The engagement approach implemented during the Elevate 2050 effort was diverse and flexible to adapt to specific needs and circumstances. This proved invaluable after Hurricane Helene. Some of the strategies employed to address traditional barriers to public involvement included:

- Non-traditional Scheduling: To accommodate the diverse work schedules found throughout the region and to promote active and meaningful participation, the Elevate 2050 team worked with partners to schedule meetings that maximized participation, including mornings, evenings and weekends, and provided remote participation options for those unable to attend in-person events.
- Technology Access: In communities where technology access is a challenge, the Elevate 2050 team provided information in community-frequented locations like grocery stores, libraries, and community centers.
- Overcoming Barriers: The engagement strategies focused on addressing traditional participation barriers, including providing ADA-compliant venues and offering language and translation services where needed.
- Partnership and Coordination with Existing Stakeholders: The FBRMPO worked with stakeholders to conduct targeted outreach and cooperated with other planning efforts like Safe Streets for WNC to prevent meeting fatigue and coordinate planning efforts.

Tools and Techniques

The team used various tools and techniques throughout the Elevate 2050 development process to request input, provide updates, and engage stakeholders and the public. The project team used the following tools to receive input and educate stakeholders, and the public about Elevate 2050.

Website

The project team created a website dedicated solely to Elevate 2050 (www.elevate2050.com). The website offered educational materials and up-to-date information specific to key elements of the plan as it developed. It also served as the central location to post links for engagement opportunities and receive feedback.

Throughout the course of the project, a total of 9,230 people visited the project site, 2,085 people engaged with the site, and 938 people responded to surveys.

Figure 5.2: Public Involvement Summary

Social Media

The FBRMPO made a deliberate effort to use social media, a far-reaching and cost effective tool to circulate information, throughout public engagement for Elevate 2050. The FBRMPO made strategic posts on Facebook, NextDoor, Reddit, and Instagram to distribute information and provide updates and opportunities for public comments.

Surveys

The team created three surveys to request feedback at different points in the engagement process. A total of 938 people responded to surveys throughout the Elevate 2050 engagement process.

- Phase 1: identified transportation priorities across the region and the current patterns of movement around the region. This survey directly guided the development of Elevate 2050's draft goals and objectives. A total of 523 people responded to this survey.
- Phase 2: sought feedback on draft Elevate 2050 goals and asked the public to identify projects that they wanted to see in the region. The draft project list included the projects that this survey proposed and that were not already in an existing plan. A total of 370 people responded to this survey.
- Phase 3: provided an overview of the scored draft project list, allowing users to scroll interactively to different projects for information.
- Phase 4: sought feedback on both the draft and final Elevate 2050 plan in July 2025, publishing a flipbook of the draft plan and requesting members of the public leave comments in a questionnaire. A total of 14 people provided comments on the draft plan and 492 people visited the page.

The Elevate 2050 team posted each survey on the website during the respective comment period. Detailed survey results are in Appendix B. Public Involvement: Detailed Survey Results.

Communities of Concern (CoC) Outreach

Communities of Concern (CoC) (see Chapter 03. Regional Trends + Area Snapshot) refers to populations traditionally underrepresented in the planning process, including low-income and minority groups. The FBRMPO was intentional about outreach to COCs during the development of Elevate 2050. The team developed a list of CoC representatives and provided them with consistent communication and updates about the project and opportunities for engagement.

The team implemented several strategies to encourage successful outreach to CoC's including:

- Website provided in English, Spanish, and Russian. Upon request, the website could be translated into other languages.
- Surveys were available in English and Spanish.
- The FBRMPO's distribution list included organizations that represented CoC groups.

Figure 5.3: Public Involvement Events by Phase

Downtown Waynesville (credit: Visit Haywood)

06. Modal and Policy/Program Recommendations

Elevate 2050 outlines recommendations and projects to design and construct over the next 25 years, and plans for longer range projects through the CTP (Chapter 11. The Post-2050 Vision: CTP Projects). This plan's success requires coordination with other regional planning efforts, initiatives, and programs. The FBRMPO will regularly maintain and monitor the MTP, which, as the primary long-range policy document for the region, will guide planning over the next four to five years.

During the plan development process, the team crafted goals and objectives to reflect regional priorities (see Chapter 02. Goals and Objectives) which are aligned with both the regional vision and FHWA's Planning Factors. Adoption of Elevate 2050 is not only a federal requirement but also a key milestone in regional transportation planning. the FBRMPO will track progress towards these goals and objectives as described in Chapter 09. Evaluating Performance.

Performance monitoring will involve ongoing data collection, process improvements, stakeholder coordination, and public engagement throughout the five-year period leading up to the next MTP update in 2030. The FBRMPO is committed to enhancing its planning process by applying lessons learned and identifying opportunities for improvement. This chapter outlines key post-adoption activities the FBRMPO will incorporate following Elevate 2050. Each travel mode includes recommendations aimed at helping the FBRMPO meet the region's goals and objectives. The project team developed the following recommendations based on challenges and opportunities in the region as described in Chapter 04. Existing Conditions.

Highway

Planning factors addressed

Accessibility · Integration and Connectivity · Resiliency and Reliability · Travel and Tourism

Efficient System · Preservation · Safety · Security

Roadways serve two primary purposes: mobility and access. The recommendations in this section provide guidance for how to improve the roadways in the FBRMPO region. However, the area has highway needs beyond the projects identified in Chapter 08. Project Selection and Evaluation, which summarizes the projects included in Elevate 2050's fiscally constrained horizon years. Given the region's fiscal constraints, the MTP cannot capture all needed projects in the 25-year planning horizon. The lower-scoring or lower-priority projects that do not fit within Elevate 2050's financial plan are included in Chapter 11. The Post-2050 Vision: CTP Projects.

The FBRMPO should develop future studies to support roadway safety, access, reliability, and resiliency, including:

- Complete the study of High-Occupancy Vehicle (HOV) / Managed Lanes for I-40
- Conduct a study that identifies future opportunities for connectivity along corridors of regional significance.
- Create a Regional Resilience Improvement Plan. Using lessons learned from Hurricane Helene, place an emphasis on identifying the most vulnerable and critical segments of the roadway network
- Study the improvement and management of surface water assets
- Feasibility study to develop and evaluate alternatives for wildfire evacuation routes
- Study adaptation alternatives for flood-prone corridors
- Conduct a feasibility study of bridge vulnerability

Additionally, the FBRMPO should take actions to improve the roadway network through design and funding processes:

- Prioritize project designs that improve the safety of all users of the transportation system
- Increase mitigation measures and preventative repairs along major corridors to ensure efficient and safe movement throughout the region
- Conduct a feasibility study on reconnecting US 74A between Oakley and Fairview without relying on Interstate Routes
- Conduct a study on providing more connectivity between major routes, including Sweeten Creek and Hendersonville Road
- Secure funding for projects in hotspots for recurring hazards like mudslides, debris flow, and flooding
- Continue supporting complete street initiatives

NCDOT is conducting a study for High-Occupancy Toll (HOT) lanes on I-40. The addition of express lanes, in addition to the existing general-purpose lanes on an existing roadway, provide drivers with the opportunity for a more reliable trip. Generally, single occupancy vehicles are required to pay a toll to use the express lanes, while buses, motorcycles, and carpools may have the ability to use the lanes free of charge. Current traffic volumes and congestion catalyzed the I-40 corridor study for potential HOT lanes from Smokey Mountain Expressway to Monte Vista Road, which may alleviate some congestion on the corridor. Various roadway users are likely to drive in HOT lanes:

- Carpools / Vanpools: Usually ride free if they meet occupancy requirements.
- Transit and Emergency Vehicles: Generally free access.
- Motorcycles: Often exempt from tolls.
- Solo Drivers: Can be allowed if they pay the posted toll.

Depending upon the success and support of this ongoing study, not only is implementation an option for I-40, but there may be additional opportunities for the FBRMPO to also conduct potential follow up HOT lane studies or analyses for similar roadways and corridors. Implementation of HOT lanes in the region stand to provide the following benefits on roadway corridors.

- Encouragement to carpool and use transit.
- Optimize lane capacity by allowing HOT lanes to carry more vehicles.
- Generates revenue for transportation improvements.
- Improves travel time reliability.

Public Transit

Planning factors addressed

Accessibility

Integration and Connectivity

Travel and Tourism

There are several transit system challenges for providers and riders, including ridership, funding, and coordination between urban and rural systems. These challenges, present across the US and in the FBRMPO planning area limit how people can travel using transit. As such, Elevate 2050 contains multiple recommendations to expand and streamline transit services in the region.

Continue to Build Momentum to Develop a Regional Transit Authority to Serve Cross-County Transit Riders.

The *FBRMPO Regional Transit Feasibility Study* explored the idea of a Regional Transit Authority (RTA). A RTA centralizes and coordinates transit efforts and can provide multiple benefits to the region. These include:

- Improve regional mobility and quality of life
- Centralized planning and coordination
- Improved service delivery
- Access to funding
- Regional mobility and economic growth
- Environmental benefits
- Innovation and adaptation

The *Regional Transit Feasibility Study* notes that a new regional entity established to operate a regional service is a way to reap the benefits noted above and leverage an economy of scale unavailable in the region today.

Explore Demand-Responsive Microtransit Services

In areas lacking land use density and limited conventional transit ridership, app- and phone-based on-demand microtransit services can offer a flexible and timelier alternative to fixed-route transit lines, providing users with access to a broader range of destinations. While no microtransit services currently operate within the FBRMPO region, neighboring McDowell County is launching a program through the Mobility for Everyone, Everywhere in NC (MEE-NC) initiative. Meanwhile, North Carolina has emerged as a leader in on-demand microtransit, with existing services such as RIDE in Wilson and RideMICRO serving Brunswick, New Hanover, and Pender counties. Many transit agencies across the state are actively exploring or planning similar services. Figure 6.2, developed by the NCDOT Integrated Mobility Division (IMD), highlights the growing variety of on-demand microtransit programs currently operating in North Carolina.

A feasibility study to examine microtransit service within the FBRMPO planning area could increase transit ridership and alleviate congestion within the region.

Intercity Bus Transportation

Additional wayfinding and placemaking at or near the intercity bus stop in Asheville would support local transfers to/from intercity bus. Intercity bus recommendations include the following:

- Consistent and clear signage and an information station at/near the ART transit station to benefit visitors to the region who are not already familiar with local connection options
- Additional bus stop amenities at the intercity bus stop and improved wayfinding to increase passenger comfort and orient passengers to the local transit system and region
- Coordination between key local bus route schedules and intercity bus arrival/departure times would assist in improving regional and statewide mobility for residents and visitors to the greater Asheville region.

Additional Recommendations

- Conduct an implementation study for the *Regional Transit Feasibility Study*
- Transit agencies
  - Maintain regular coordination between transit agencies
  - Actively engage operators on methods of continuing to provide and improve quality service across the entire FBRMPO region.
- Maintain and improve existing public transit services.
  - Add new park-and-ride lots in areas currently underserved.
  - Implement the Park-and-Ride Lot Study (2023) recommendations
  - Establish or expand transportation demand management programs to encourage and incentivize transit ridership.
  - Implement spot improvement projects to improve safe walking and bicycling near transit stops that help support “first and last mile” trips.
  - Consider eliminating fares on transit services where feasible.
  - Increase frequency for fixed-route service on corridors with high transit propensity to every 15 minutes.
  - Increase ridership through strategic marketing and outreach campaigns to share the ease and utility of using transit.
  - Improve transit connectivity to Asheville Regional Airport as facility investments continue to drive passenger growth.
- Integrate transit and land use planning.
  - Continue to coordinate with communities throughout the region to plan for transit-supportive land development for areas targeted for transit service.
  - Develop an Affordable Housing in Traffic Analysis Zones (TAZs) study
- Consider a revival of streetcar service in Asheville that builds on the legacy of transit-supportive neighborhoods and infrastructure established by the streetcar lines that operated in the early 20th century.
  - Reviving a streetcar service connecting downtown to growing residential and commercial districts could have benefits such as reducing the number of cars within the city, attracting tourism to the region, and encouraging public transit use among residents.
- Encourage the implementation of mobility hubs

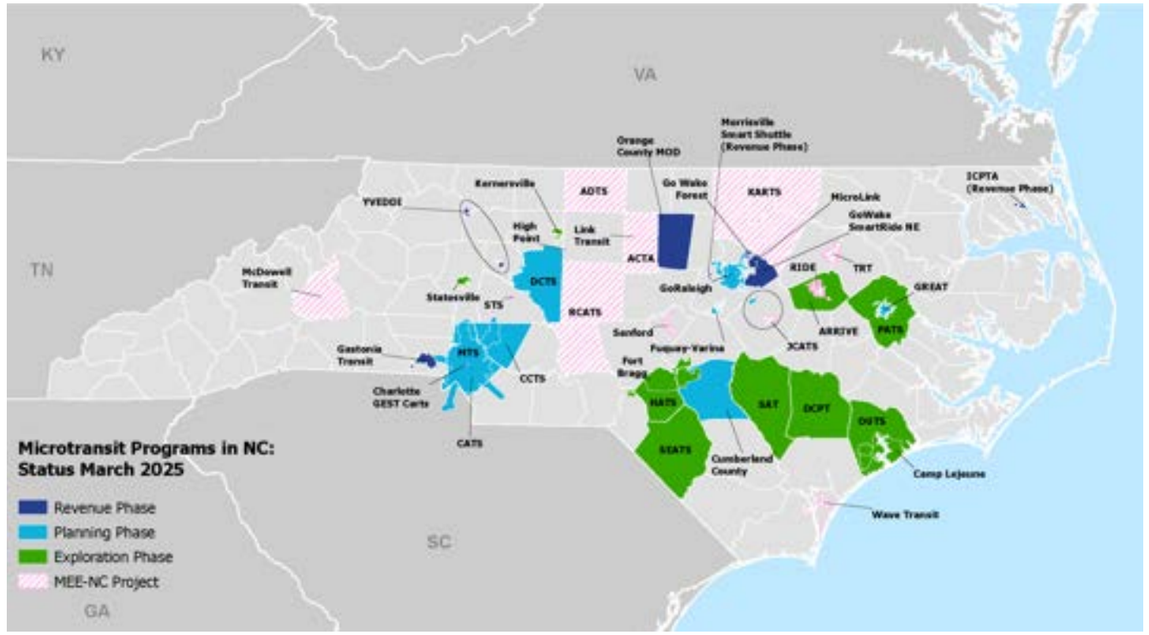


Figure 6.1: Microtransit Programs in NC, Status March 2025 *(credit: NCDOT)*

Bicycle + Pedestrian

Planning factors addressed

Accessibility | Safety | Integration and Connectivity | Travel and Tourism

The interest in bicycle and pedestrian facilities, or active transportation infrastructure, within the FBRMPO was obvious during the public involvement phases of Elevate 2050. Public input during development of this plan demonstrates the region's desire for active transportation infrastructure that serves both recreational and transportation needs. Given the need for bicycle and pedestrian facilities to serve the residents in the FBRMPO planning area, Elevate 2050 recommends the following:

- Conduct additional feasibility studies to facilitate the development of future greenway miles
- Conduct a Regional Sidewalk Gap Analysis and Infilling Feasibility Study
- Continue to encourage member governments to pursue ordinances that require new developments or major redevelopments to provide bicycle and pedestrian infrastructure where appropriate and promote the benefits of roadway connectivity ordinances
- Pursue modernization projects to improve safety for bicyclists and pedestrians on existing infrastructure
- Prioritize connecting existing infrastructure wherever possible through a comprehensive network of trails, greenways, and on-street protected bicycle infrastructure
  - Encourage municipalities to specifically consider continuity between municipal and county-level bicycle/pedestrian facilities in future plans/studies
  - Promote coordination between municipalities and counties to enhance seamless connectivity of active transportation facilities regardless of whether the facility falls within municipal boundaries or unincorporated areas
- Encourage local governments to participate in federal and NCDOT grant programs
- Conduct an evaluation of lane and shoulder width on High Injury Network (HIN) roads in the region and, depending on the results of the evaluation, coordinate with NCDOT to evaluate roadway design standards' impact on safety.

Figure 6.2: **Pedestrians walking along Hill St in Asheville**

Rail

Planning factors addressed

Accessibility | Integration and Connectivity | Economic Vitality | Travel and Tourism

As recently evaluated in the *Western North Carolina Passenger Rail Feasibility Study*, residents in the FBRMPO have shown interest in re-establishing regional passenger rail. Western North Carolina, lacking passenger rail since 1975, attracts millions of visitors annually, many from cities with existing rail services, suggesting feasible connections. Elevate 2050 recommends:

- Continue to build momentum to implement regional rail service connecting major points within the region, including Asheville, Hendersonville, Waynesville, and Black Mountain using existing railway infrastructure.
  - Support and contribute to the expansion of passenger rail service to Asheville.
- Create regional rail services to support cross-county commuting, connecting smaller communities via public transit and providing alternatives to driving on increasingly congested highways.
- Increase the use of existing freight rail services to maintain existing rail lines in the region.
- Complete work funded through the Federal Railroad Administration's (FRA) Corridor ID program for the Asheville-Salisbury corridor.

Figure 6.3: **An Amtrak train at Salisbury Depot** *(credit: Mike Schafer)*

Freight

Planning factors addressed

Accessibility
Safety
Integration and Connectivity
Travel and Tourism
Efficient System
Economic Vitality
Security

The *North Carolina Statewide Multimodal Freight Plan* identifies freight movement through the FBRMPO region as a high priority due to multiple major highways passing through the region. Additionally, a set of recommendations is proposed to address the struggles that people face during natural disasters in the FBRMPO region.

- Increase safety signage for freight on secondary roads.
- Expand the available space for truck parking on state and local roads.
  - Coordinate with the NCDOT and LOSRPO to create mitigation strategies to ease opposition to truck parking facilities. Increasing mitigation measures and preventative work across major corridors.
  - Increase mitigation measures and preventative work across major corridors.
- Enhance enforcement and visibility of highway patrol to improve safety for both motorists and freight travel.
- Host a second Regional Freight Workshop where stakeholders can identify additional freight needs in the region.
  - Review the freight rail and through truck movement prohibitions and improvements on main thoroughfares with freight stakeholders.

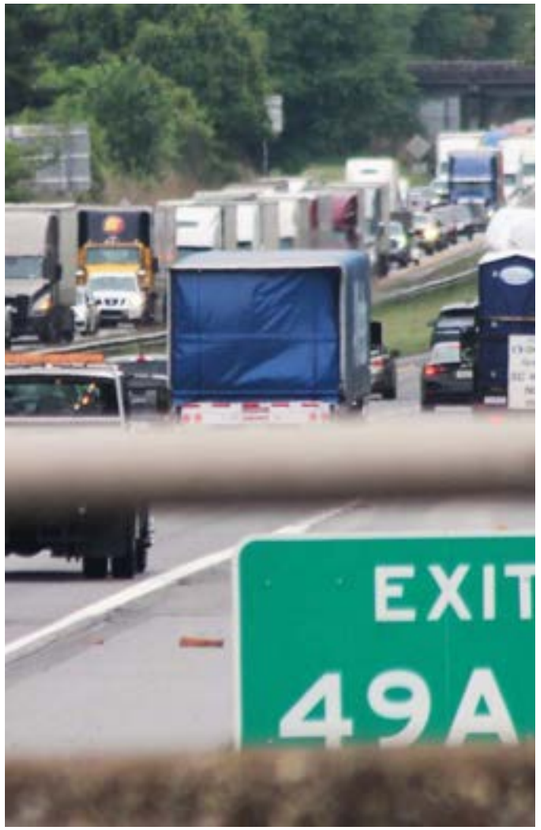


Figure 6.4: **Freight Traffic Backs Up on I-26 in Hendersonville**
(credit: M.E. Sprengelmeyer / 828 News Now)

Aviation

Planning factors addressed

Economic Vitality
Integration and Connectivity
Travel and Tourism

The Asheville Regional Airport continues to see significant growth and air traffic largely tied to tourism traffic. The airport is currently updating its *Airport Master Plan* to account for growth and future needs.

Elevate 2050 recommends:

- Supporting the continued growth of Asheville Regional Airport by fostering its development.
- Collaborate on securing funding opportunities to enhance its services.
- Strengthen partnerships to expand its capacity, reach, and collaboration.

Figure 6.5: **Construction of the New Asheville Regional Airport Terminal**
(credit: The Mountaineer. https://www.themountaineer.com/news/asheville-airport-expansion-takes-off-amid-enormous-growth/article_ea7ddee8-d519-11ee-9f02-77ecea825cbc.html)

Emerging Trends in Technology

Planning factors addressed

Security | Resiliency and Reliability | Efficient System

The FBRMPO aims to implement advanced technology to improve the efficiency and reliability of the transportation system. Elevate 2050 recommends the following actions to address emerging technologies:

- Complete and implement a *Regional Intelligent Transportation Systems (ITS) Plan*
- Study travel patterns connected to rideshares and the implications for land use planning
- Encourage partnerships between transit agencies and rideshare providers to aid with first/last mile connections to existing transit.

Figure 6.6: **Tourism at Biltmore House**
(credit: Angeli Wright / Asheville Citizen Times)

Tourism

Planning factors addressed

Economic Vitality | Accessibility | Travel and Tourism

With tourism being such a large contributor to the economy and transportation network, the FBRMPO can assist with tourism related improvements through implementing the following recommendations:

- Collect visitor data and figures from the regional TDAs to understand the region's trend and challenges.
- Connect employers and employees throughout the region with commuting options through TDM programs.
  - Identify options along key corridors that improve commutes for those employed in the travel and tourism sector.
  - Also identify options that improve access between destinations, such as downtown Waynesville and the Great Smoky Mountains National Park.
- Work with NCDOT, TDM, and local municipalities to identify new Park and Ride lots in locations beneficial to commuters.
- Continue to promote projects that connect major regional destinations and support travel choice.

Municipalities can work with NCDOT's Signing and Delineation Unit, which oversees the Department's Tourist-Oriented Directional Signing Program, to develop and implement directional signage related to tourist attractions. Many downtowns in the FBRMPO region already have a well-developed signage system to help direct visitors to key destinations.

Monitor Goals, Objectives, and Transportation Performance

Planning factors addressed

Security | Safety | Accessibility | Resiliency and Reliability | Environment

Elevate 2050 aims to prioritize, implement, and fund projects that advance the region toward achieving its performance goals. To achieve this, this plan includes goals and objectives that provide a framework for improving the regional transportation system through the projects recommended in this plan. The team carefully reviewed and refined these goals and objectives prior to adoption to ensure they are measurable and align with outcomes the FBRMPO can influence. Chapter 09. Evaluating Performance outlines how these goals correspond to federal performance-based planning requirements for metropolitan transportation planning efforts.

Defined performance metrics allow the FBRMPO to monitor and report on how transportation investments support progress toward established targets. Elevate 2050 recommends:

- Regularly track progress towards goals, objectives, and performance targets by identifying, collecting, and analyzing relevant data within the planning area.
- Develop tools to communicate progress to stakeholders.
- Continue to work closely with the NCDOT and regional partners to collect multimodal data, update targets, monitor outcomes, and report results.

Alternative and Discretionary Funding

Planning factors addressed

Economic Vitality | Accessibility | Environment | Resiliency and Reliability | Integration and Connectivity | Travel and Tourism

In the current fiscal environment, it is important to understand and explore alternative funding sources. To assess potential revenue streams and their benefits to the FBRMPO region more effectively, Elevate 2050 recommends:

- Analyzing discretionary and alternative funding options. Continue to be an active participant in statewide conversations aimed at improving the stability of NCDOT's current funding model and diversifying the revenue streams available to fund projects.
- Ongoing coordination with the NCDOT and FBRMPO member jurisdictions to define future funding strategies, which is essential for securing resources to support the region's transportation goals.
- Collaborate with local member jurisdictions to actively pursue grants and other discretionary funds, as outlined in Chapter 07. Financial Plan. These supplemental funding options help advance more projects while potentially freeing up STI funds for other needs.

Environmental Mitigation Activities

Planning factors addressed

Security | Resiliency and Reliability | Environment

Environmental protection and enhancement are integral to transportation planning. Transportation systems influence the environment through infrastructure development, vehicle emissions, and stormwater runoff from road surfaces. Conversely, environmental factors—such as climate change, extreme weather events, and natural disasters—can significantly affect the performance and reliability of transportation networks.

Effective planning must address these interactions by promoting sustainable design, reducing pollution, managing stormwater, and enhancing system resilience to ensure long-term efficiency and reliability.

Environmental mitigation is essential for minimizing the negative impacts of transportation projects on both natural and built environments. These efforts help protect ecosystems and communities while strengthening the overall resilience of the transportation system.

Large-scale projects, such as new roadway connections or capacity expansions, typically involve extensive construction and face complex environmental challenges. In contrast, smaller projects—like intersection upgrades or resurfacing within existing rights-of-way—tend to have more limited environmental impacts. Mitigation efforts are scaled to match the severity and scope of potential impacts.

To proactively avoid environmental impacts, the French Broad River Metropolitan Planning Organization (FBRMPO) employs a range of strategies early in the planning process, including:

- Wildlife Crossings: Utilizing the *Regional Wildlife Crossing Plan* to identify wildlife crossing needs early in project development. This helps reduce future scope changes and costs while reconnecting habitats and improving roadway safety for both wildlife and drivers.
- Environmental Assessments: Evaluating candidate Metropolitan Transportation Plan (MTP) projects for potential impacts on natural environments, cultural and historic resources, and Communities of Concern.
- CTP Corridor Analysis: Reviewing Comprehensive Transportation Plan (CTP) corridors to assess the feasibility of proposed alignments, including environmental considerations.
- Feasibility and Environmental Review: Supporting NCDOT in reviewing feasibility studies and environmental documents by providing insights into potential environmental concerns.
- Resiliency Criteria: Incorporating a resiliency impact criterion in the roadway ranking methodology to ensure projects respect unique places and environments. This includes evaluating impacts on floodplains, landslide-prone areas, and wildlife corridors.

To further assist in mitigation efforts and for projects where environmental impacts may seem unavoidable, the FBRMPO is encouraged to participate in mitigation measures either directly or through project partners to minimize impacts as best as possible. Some of those include:

- Air Quality Strategies:
  - Continue promoting Complete Streets
  - Continue prioritizing funding for non-highway transportation modes
  - Reduce vehicle miles traveled (VMT) through:
    - Expanded Transportation Demand Management Program
    - Expansion of local transit services
    - Inclusion of express lanes
    - Integrated land use and transportation planning
- Community Cohesion: Supporting infrastructure that maintains community character and connectivity, such as bridges, sidewalks, and bike lanes.
- Hazard Mitigation Planning: Collaborating with local emergency management and reviewing hazard mitigation plans to reduce risks from floods, storms, wildfires, and other disasters.
- NCDOT Resilience Strategy Report: Monitoring the annual report to inform strategies that maintain and improve transportation network resilience.
- Noise Mitigation: Evaluating candidate projects for noise impacts and identifying early mitigation opportunities, such as noise barriers and landscaping.
- Wildlife Crossing Plan Maintenance: Continuously updating the *Regional Wildlife Crossing Plan* to enhance highway safety, refine project cost estimates, and preserve wildlife habitats.

Transportation Demand Management (TDM)

Planning factors addressed

Economic Vitality | Accessibility | Environment | Efficient System | Resiliency and Reliability | Integration and Connectivity | Travel and Tourism

TDM includes a range of strategies designed to influence how, when, and where people travel. Its primary aim is to reduce reliance on single-occupancy vehicles (SOVs), particularly during peak hours, by encouraging alternative travel modes, shifting trips to off-peak times, or minimizing the overall need for travel. These strategies either expand mobility options or promote behavioral changes in travel patterns.

The FBRMPO has actively supported TDM through initiatives such as taking part in the Go Mountain Commuting program, launching the Strive Not to Drive campaign, and establishing a full-time TDM Coordinator position—demonstrating a strong commitment to managing transportation demand in the region. As the region experiences continued growth and increasing tourism, the importance of effective TDM strategies will only grow. Building on these efforts, as well as recent and upcoming transit studies, Elevate 2050 recommends:

- An update of the 2013 regional TDM plan is recommended. This would be a timely and strategic step that would enhance current TDM initiatives, inform the next MTP, and strengthen ongoing transit planning efforts.

Prepare for and Improve upon the MTP Process

Planning factors addressed

Environment | Integration and Connectivity | Efficient System

Updating the MTP every five years is a significant undertaking that ensures continued access to federal funding for priority projects. While the adoption of the MTP is a critical milestone, the FBRMPO views it as one step in an ongoing process to enhance regional planning, strengthen collaboration, and better serve its member jurisdictions. Continuous improvement is important to this effort and, following adoption, Elevate 2050 recommends:

- Evaluate opportunities to enhance communication, transparency, and stakeholder engagement to prepare for the next MTP and improve the planning process.

As the region continues to grow and evolve, the FBRMPO must remain proactive in addressing emerging challenges and refining its planning practices. Several strategies can support this goal:

- Formalize data collection and monitoring protocols to:
  - Monitor and update goals, objectives, and performance metrics.
  - Analyze existing conditions to address needs and deficiencies.
  - Review and update the CMP.
  - Create and maintain a project inventory database, including updated cost estimates and project details.
- Increase community engagement between MTP updates to foster better communication and public involvement.
- Engage decision-makers on specific MTP-related topics, such as alternative funding sources, to continue dialogue and better understand feasibility.
- Coordinate with regional partners—including neighboring Planning Organizations and NCDOT—to share best practices and explore collaborative opportunities across the region.

These efforts will help the FBRMPO continue to refine its approach, improve planning outcomes, and ensure the region's transportation system evolves to meet future needs.

Gazebo in Downtown Mars Hill

07. Financial Plan

The saying goes, "Good financial planning turns public vision into public value." Federal law mandates Elevate 2050 to include a financial plan, which includes fiscal constraints, covering the cost of a transportation facility through expected federal, state, local, private, and other revenues. The financial plan provides an analysis of expected revenues and anticipated 2025 project costs from 2025 through 2050—the 25-year period of this plan. This chapter describes the assumptions used for estimating project costs and summarizes the revenue sources used to forecast the amount of transportation funding projected to be available from 2025 to 2050.

MTPs demonstrate fiscal constraint by including sufficient financial information to confirm that commited or available revenue sources can implement projects, ensuring reasonable assurance that the federally supported transportation system is adequately operated and maintained.[41]

Funding Considerations

Federal and state dollars are the primary funding sources for transportation projects in the FBRMPO planning area. In North Carolina, the Strategic Transportation Investments (STI) law mandates how officials allocate a significant portion of STI funds to priority projects.

Since STI significantly influences transportation fund distribution, the FBRMPO uses designated STI categories as the foundation for Elevate 2050's funding projections. The STI defines three project categories—Statewide Mobility, Regional Impact, and Division Needs—each of which fund specific facility types within various geographical tiers.

STI law catalyzed the creation of NCDOT's seven funding regions, which encompass all 14 NCDOT divisions. The FBRMPO planning area encompasses one NCDOT region, Region G, and two NCDOT divisions—Buncombe and Madison counties are in Division 13, while Haywood and Henderson counties are in Division 14.

41 USDOT - FTA (2022)

Statewide Mobility

Focus: Address significant congestion and bottlenecks

40% of funds

Eligible Projects: Significant statewide facilities (Interstates, National Highway System, Strategic Highway Network, Toll Routes). Statewide Mobility can also fund rail projects and aviation projects.

Regional Impact

Focus: Improve connectivity within regions

30% of funds

Eligible Projects: Projects not selected in Statewide Mobility category, other US and NC routes, bridge replacement, highway safety projects, public transportation, and aviation projects are eligible as Regional Impact.

** Funding based on population of Region*

Division Needs

Focus: Address local needs

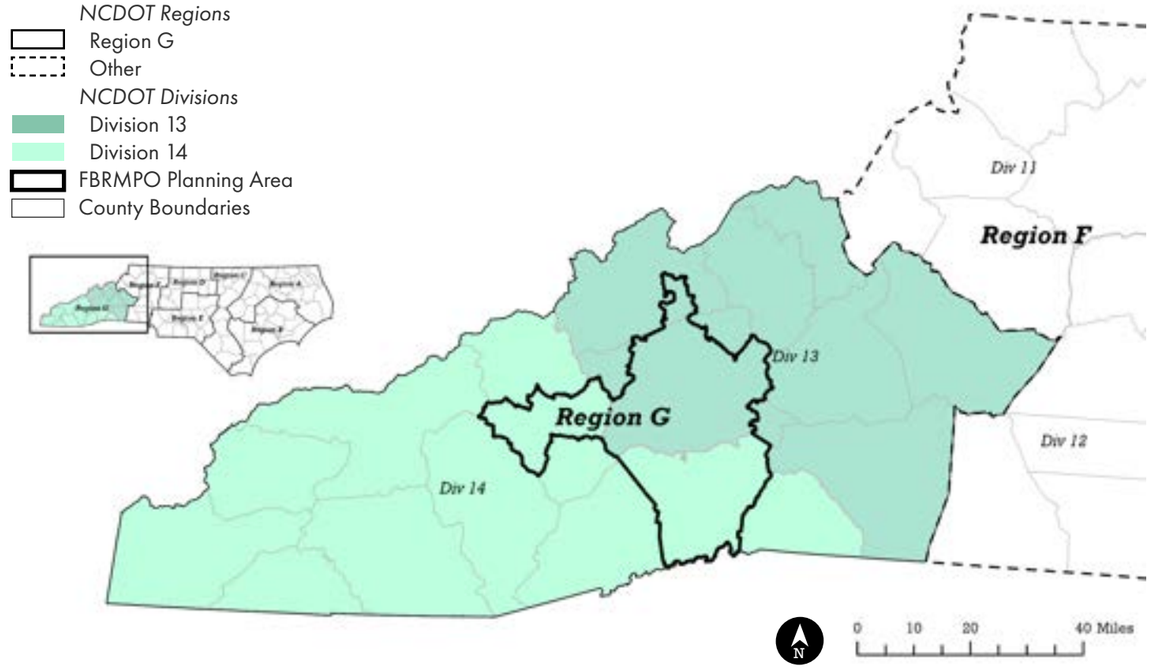
30% of funds

Eligible Projects: Projects not selected in Statewide or Regional categories, including all secondary routes and federal-aid eligible roads. Public transportation facility and bicycle/pedestrian projects are only eligible in Division Needs.

** Funding distributed equally across 14 NCDOT Divisions*

Figure 7.1: STI Categories

Map 7.1: STI Geographic Boundaries



The team organized the financial plan based on which types of projects are eligible for each respective revenue source. For example, Statewide Mobility funds pair with Interstate projects, and Division Needs address local transportation needs, like greenways or secondary road improvements. While the fiscally constrained Elevate 2050 plan identifies all the projects that are eligible for federal and state funding, policies dictate how the funds are spent. For example, STI regulations make a distinction between roadway and non-roadway projects, and there are different eligibility requirements for each STI category.

Summary

This section presents all financial data in 2025 dollars, meaning the values indicate what it would cost to build all projects planned for the FBRMPO planning area today. In reality, projects will develop over time, and inflation will affect cost estimates. To account for inflation, an inflation factor of 5% was subtracted from the Near-Term (2026-2035) revenue projections, allowing project costs to be programmed in current year dollars. While revenue forecasts with inflation are included in this chapter as a point of reference, those forecasts were not used in developing fiscal constraints.

Appendix H. Financial Plan Details includes details Elevate 2050's revenue and cost assumptions, as well as how 2025 dollar values are converted to year-of-expenditure values to account for inflation. While overall cost and revenue categories are rounded, individual project costs are listed precisely to support accurate review and future updates.

It is not financially possible to program and build all Elevate 2050 projects at one time. Therefore, the financial analysis assigns projects to one of three time periods – Near-Term (2026-2035), Mid-Term (2036-2045), and Long-Term (2046-2050). Spreading projects in this way allows the FBRMPO match projects with funding availability over time. In creating a financial plan, analyses and forecasting identified a potential funding gap for some of the Elevate 2050 candidate projects.

- Near-Term (2026-2035)
  - 0 Statewide Mobility*
  - 0 Regional Impact*
  - 2 Division Needs
- Mid-Term (2036-2045)
  - 3 Statewide Mobility
  - 5 Regional Impact
  - 38 Division Needs
- Long-Term (2046-2050)
  - 3 Statewide Mobility
  - 3 Regional Impact
  - 18 Division Needs

**Near-Term projects in Statewide Mobility and Regional Impact tiers were not programmed through Elevate 2050 as they are reflected in the 2026-2035 STIP. The only Division Needs projects programmed in the Near-Term horizon period are those funded through discretionary sources between 2029-2035.*

It is important to note that for the purposes of Elevate 2050, Near-Term projects in Statewide Mobility and Regional Impact tiers align with the 2026-2035 NCDOT Developmental STIP. In other words, no projects identified in the list of potential Elevate 2050 projects were programmed in the Near-Term horizon period.

Since the plan must be financially constrained, we cannot include all candidate projects. Appendix F. Unfunded Project List contains a list of projects that did not fall within Elevate 2050's financial constraints. These projects will become the updated Comprehensive Transportation Plan (CTP) for the FBRMPO planning area.

Comprehensive Transportation Plan (CTP)

A CTP is a long-range transportation plan; however, while the MTP must be financially constrained, the CTP does not have to be financially constrained. In other words, the CTP found in Appendix F. Unfunded Projects (CTP), represents all of FBRMPO's project needs. While the projects in the CTP have cost estimates assigned, the list itself does not consider funding forecasts and is much lengthier than the final Elevate 2050 project list, which does need to fall within projected revenue forecasts.

Assumptions

In developing the financial plan, the team based its assumptions about future funding on FHWA guidelines and requirements for MTP financial plans. This section outlines those assumptions.

The financial plan assumes:

- No major changes in legislation
- No new funding sources beyond those that currently exist
- No increases in funding programs unless they can be reasonably assumed based on current legislative bills and local planning.
- Strategic Transportation Investments (STI) Law of North Carolina will continue, which will impact the distribution of state and federal funds for highway and bike/ped modes.

NCDOT's NC FIRST Commission's developed a report which evaluated North Carolina's current and future transportation investment needs and identified new or better ways to ensure that critical financial resources are available in the future. The Commission's report provides context for Elevate 2050's financial analysis. Two relevant findings impacting the financial analysis include:

- The fuel tax base is eroding, which contributes to unpredictable federal revenues in the future
- Construction costs are increasing

While new funding sources, such as the IIJA, have reduced funding gaps, identified transportation needs in North Carolina still outpace funding and demand. Since available project funding will lag project costs and needs, the FBRMPO should consider a study to identify funding opportunities beyond those addressed in Elevate 2050.

The financial plan has been formatted to match the setup used by the NCDOT STIP Division during STIP creation. An inflation factor of 5% was used because it is the inflation factor applied by NCDOT's STIP Division in 2025. To simplify the process of programming projects, the inflation factor is subtracted from the revenue versus added to the revenue, allowing for project costs to be programmed in current year dollars (see Chapter 07. Financial Plan: Demonstrating Fiscal Constraint). Revenues with inflation are included in Elevate 2050 for future planning purposes and as a point of reference but were not used for fiscal constraint.

Years	Annual Inflation*
Near-Term (2026-2035)	5%
Mid-Term (2036-2045)	5%
Long-Term (2046-2055)	5%

**For the Near-Term and Mid-Term, the 5% inflation rate was compounded for the first five years of the respective horizon year period and then assumed to remain constant for the second five years. In the Long-Term, inflation was not compounded.*

Table 7.1: Projected Annual Inflation

Funding Source	Assumption
Highway – Federal, State, and Local Funding	Maintain funding at current levels, with inflation depreciating the value of funds over 25 years.
Bike/Ped – Federal Funding	
Bike/Ped – State Funding	State funding for bike and pedestrian projects is limited and primarily available through highly competitive discretionary grants.
Bike/Ped – Local Funding	Local funding for bicycle and pedestrian projects is assumed to be primarily used as matching funds for large federal discretionary grants (e.g., BUILD, INFRA) and is generally limited to the communities with the capacity to provide matching dollars, such as Asheville, Hendersonville, Waynesville, and Black Mountain. Local funded is expected to be used as match for federal funds.
Transit – Federal, State, and Local Funding	Maintain funding at current levels, with inflation depreciating the value of funds over 25 years.
Aviation – Federal, State and Local Funding	
Maintenance – Federal, State, and Local Funding	

Table 7.2: Funding Assumptions

Project Cost Estimates

An estimate of the cost of proposed projects is one factor used to determine how many projects may receive funding from 2025 to 2050. For projects already included in the STIP or identified in special studies, detailed cost estimates are available and have been incorporated into the analysis.

Elevate 2050 categorizes projects by Specific Improvement Types (SITs). When the project-specific costs were not readily available, the team applied a cost estimating procedure based on the prevailing unit cost estimates compiled by project team roadway engineers, who estimated unit costs for projects based on recently let NCDOT projects.

Highway Projects

Type of Project	Included Facility Types	Example	Cost per Mile
1* - Widen Existing Roadway (segment)	Adding new through travel lanes to the roadway	Adding lanes to I-26	$ 11,415,171
5 - Construct Roadway on New Location (segment)	Constructing a new roadway on a new alignment.		$ 17,017,368
6 - Widen Existing Roadway and Construct Part on New Location (segment)	Adding new travel lanes to the roadway and constructing a new roadway on a new alignment.	I-26 Connector expands I-26 and builds a new portion of the interstate to connect I-26 with US 19/23/70	$ 9,847,438
8 - Improve Interchange (point)	Improving traffic flow at an existing interchange by changing the ramp configuration or type of interchange.	I-40 / Blue Ridge Road interchange in Black Mountain.	$ 192,700,000
10 - Improve Intersection (point)	Improving traffic flow at an existing intersection by changing intersection type (i.e., roundabout) and/or adding turn lanes	Adding left turn lane from Merrimon Ave to W.T. Weaver Blvd	$ 2,100,000
11 - Access Management (segment)	Enhancing the capacity and safety of the roadway by installing a median, consolidating driveways, etc.	NC 280 improvements include reducing access points and optimizing intersections	$ 23,700,000
16 - Modernize Roadway (segment)	Improving a roadway to current design standards primarily by increasing the lane and/or shoulder width. Could also include improving the horizontal or vertical geometry. Could also include adding turn lanes at intersections to help improve mobility on the through route.	Hendersonville Road improvements, which include sidepaths, safety measures, and streetscaping.	$ 2,700,000
24 - Implement Road Diet to Improve Safety (segment)	Enhancing the safety of a roadway by reducing the lanes within the cross-section.	Merrimon Avenue road diet removed a lane and added bike lanes.	$ 911,000
25 - Improve Multiple Intersections along Corridor (Segment)	Enhancement of multiple intersections along a single corridor.		$ 6,200,000
26 - Upgrade Roadway (segment)	Collection of roadway improvements using mobility default criteria and weights.	Russ Avenue upgrades.	$ 17,127,313

Table 7.3: **Highway Project Types**

Bicycle + Pedestrian Projects

Type of Project	Included Facility Types	Cost per Mile
1* - Grade-Separated Bicycle Facility (Bicycle)	New bike/ped tunnel or bridge.	$ 24,490,400
2 - Off-Road/Separated Linear Bicycle Facility	Buffered bike lane, contra flow bike lanes, rail trail, separated bike lanes, shared use path, multiuse path, sidepath.	$ 3,880,130
3 - On-Road Designated Bicycle Facility	Bicycle lane.	$ 1,075,000
4 - On-Road Bicycle Facility	Paved shoulder, shared lane marking, signage.	$ 61,840
5 - Multi-Site Bicycle Facility	Bike corral, bike detection, bike parking, bike share, bike signal, intersection markings/signage, hybrid beacon, lighting, midblock crossing, wayfinding.	$ 965,000
6 - Grade-Separated Pedestrian Facility	New pedestrian bridge, new pedestrian tunnel.	$ 24,614,100
7 - Protected Linear Pedestrian Facility	Rail trail, shared use path, multiuse path, sidepath, sidewalk.	$ 2,677,500
8 - Multi-Site Pedestrian Facility	Accessible ped signals, crossing island, curb extensions, lighting, midblock crossing, ped signal, RRFB, wayfinding, marked cross walk, curb ramp.	$ 1,571,000
9 - Improved Pedestrian Facility	Sidewalk widening, streetscape/corridor improvements, trail improvement.	$ 2,385,138

**The numbers associated with project type correspond to NCDOT's categorization of various Specific Improvement Types (SITs). Some SITs are not represented because no projects in the fiscally constrained or unfunded project list for Elevate 2050 fell within those SIT definitions.*

Table 7.4: **Bicycle + Pedestrian Project Types**

Transit Projects

Type of Project	Included Facility Types	Cost per Mile
1* - Mobility New Service	New route, mode, or corridor-related infrastructure.	$ 20,000
4 - Demand Response	Vehicle for expansion of services (no facility).	$ 75,000
5 - Facility - Passenger Station	Includes mobility hubs.	$ 1,500,000
6 - Facility - Stop/Shelter	Shelters may be submitted if upgrading existing shelters or bundled along a specific route.	$ 250,000
7 - Facility - Park and Ride	Parking area, usually located on the outskirts of a city or town, where people park their vehicles and then transition to public transportation, like a bus or train, to reach their final destination.	$ 500,000
9 - Facility - Maintenance	A location where a transit agency performs routine and/or heavy maintenance on its vehicles (buses, trains, etc.) and facilities.	$ 1,000,000

Table 7.5: **Transit Project Types**

Rail Projects

Type of Project	Included Facility Types	Cost per Mile
3 - Highway - Rail Crossing Improvement (point)	Changes made to railway-highway intersections to enhance safety and reduce the risk of collisions between trains and vehicles.	$ 6,000,000
4 - Passenger Rail Station Improvement or Construction	Upgrades to or construction of a passenger rail station.	$ 6,760,000
5 - Passenger Rail Service (line)	Upgrades to or construction of a passenger rail service line.	$ 8,000,000
6 - Other Passenger Rail Improvements (point)	Can include station area improvements or other improvements that do not involve crossings, a station, or the rail line itself.	Varies
7 - Corridor Modernization (line)	Improvements to existing corridor for rail.	$ 560,000
9 - Facility - Maintenance	A location where a transit agency performs routine and/or heavy maintenance on its vehicles (buses, trains, etc.) and facilities.	$ 1,000,000

**The numbers associated with project type correspond to NCDOT's categorization of various Specific Improvement Types (SITs). Some SITs are not represented because no projects in the fiscally constrained or unfunded project list for Elevate 2050 fell within those SIT definitions.*

Table 7.6: **Rail Project Types**

Revenue Sources and Financial Projections

The FBRMPO's financial plan is organized according to the major revenue sources available through STI and the types of projects eligible for each:

- Strategic Transportation Investments
  - Statewide Mobility
  - Regional Impact (Region G)
  - Division Needs (Division 13 and Division 14)
- Discretionary
- Transit
- Maintenance

The team developed financial projections for each revenue source based on the reasonable assumptions detailed in the previous section.

Roadway

The projected STI roadway funding was estimated based on funds allocated to FBRMPO planning area roadway projects included in NCDOT's 2026-2035 Developmental STIP. Elevate 2050's financial model applies a 5% annual escalation rate to estimated revenues the region anticipates beyond the 2026-2035 STIP through 2050. NCDOT and the planning team coordinated to identify the annual escalation rate. Please see Appendix H. Financial Plan Details for more details on the revenue estimates used for applying fiscal constraints.

To estimate the portion of funds anticipated to be distributed within its planning area the FBRMPO used percent of population relative to STI funding geography.

Although over $5.8 billion is projected for roadway projects, a portion of these funds (over $1.8 billion) is already allocated to projects in NCDOT's 2026-2035 Developmental STIP. Elevate 2050 includes those funds, but the financial plan subtracts them from anticipated future year revenues because the projects have committed them. As a result, roughly $3.9 billion remains to program additional roadway projects in Elevate 2050 after inflation is applied. The FBRMPO staff revisits the Elevate 2050 projections during every five-year plan update to account for external factors that may affect revenues.

STI Category	2026-2035 Funding ($M)	2036-2045 Funding ($M)	2046-2050 Funding ($M)	Total ($M)
Statewide	$951.2	$1,179.5	$663.5	$2,794.2
Region G	$351.3	$422.9	$236.8	$1,011.1
Division 13*	$211.3	$366.8	$183.4	$761.5
Division 14*	$106.3	$239.2	$119.6	$465.1
Discretionary	$27.8	$28.5	$14.6	$70.9
Maintenance	$304.4	$311.7	$159.6	$775.7
Transit	$209	$282.8	$113.1	$605
Total	$2,151.3	$2,831.4	$1,490.6	$6,483.3

**Roadway projects projects typically receive approximately 90% of overall Division Needs funds for each Division, and the projections assumed that 90% of Division funding would be programmed for roadway projects in each horizon year period.*

Table 7.7: **STI Roadway Funding Projections**

Bicycle and Pedestrian

In addition to STI roadway funds, approximately $321.1 million of non-roadway funds is either programmed or available to be programmed in Elevate 2050. NCDOT's STIP also bases these revenues on programmed funds.

Discretionary programs also provide non-roadway funding, a flexible source of revenue distributed by the FBRMPO. The most common sources include:

- Surface Transportation Block Group – Direct Attributable (STBG-DA)
- Transportation Alternatives – Direct Attributable (TA-DA)
- Carbon Reduction Program – Direct Attributable (CRP-DA)
- Competitive Discretionary Grants (i.e. BUILD, NSFLTP, etc)

Each type of discretionary revenue source has specific allocation guidelines. The FBRMPO receives some discretionary funding on an annual basis. Of the DA funds, the FBRMPO has historically allocated 97% to non-roadway projects. Recent years have shown that the FBRMPO is successful in being awarded federal discretionary grants through a competitive application process roughly every 10 years.

Figure 7.2: Bicycle and Pedestrian Infrastructure in Woodfin

Funding Type	2026-2035 Funding ($M)	2036-2045 Funding ($M)	2046-2050 Funding ($M)	Total ($M)
Division 13*	$21.1	$36.7	$18.3	$76.1
Division 14*	$10.6	$23.9	$12.0	$46.5
STBG-DA	$47.0	$48.2	$24.7	$119.9
TA-DA	$5.2	$5.4	$2.8	$13.4
CRP-DA	$3.1	$3.2	$1.7	$8.0
Discretionary	$22.4	$23.0	$11.8	$57.2
Total	$77.9	$79.7	$40.9	$198.5

**Bicycle and pedestrian projects may receive up to 10% of overall Division Needs funds for each Division, and the projections assumed a full 10% would be diverted to bicycle and pedestrian projects in each horizon year period.*

Table 7.8: Bicycle and Pedestrian Funding Projections

Transit

The following public transportation providers serve the FBRMPO planning area:

- Asheville Rides Transit
- Mountain Mobility
- Haywood Public Transportation
- Apple Country Public Transportation
- WNC Source
- Madison County Transportation Authority

These providers use funding from a variety of sources to fund capital and operating activities. The team based the projections for transit funding on past trends. The FBRMPO anticipates transit funding to keep pace with but not exceed the rate of inflation. For Elevate 2050, no additional projects for transit fit within the funding constraints.

Funding Type	2026-2035 Funding ($ thousands)	2036-2045 Funding ($ thousands)	2046-2050 Funding ($ thousands)	Total ($ thousands)
Section 5310	$4,900	$6,500	$2,600	$14,000
Section 5307	$42,500	$57,600	$23,000	$123,100
Section 5339	$3,500	$4,800	$1,900	$10,200
Section 5311 Henderson	$1,200	$1,500	$610,000	$3,300
Section 5311 Buncombe	$7,700	$10,400	$4,200	$22,300
Local	$36,400	$49,400	$19,700	$105,600
State	$112,700	$152,600	$61,000	$326,300
Total	$477,900	$646,500	$258,600	$605,000

Table 7.9: Transit Funding Projections

Maintenance

Planning for the expansion of the existing transportation network is both a pressing need and a significant challenge for the region. Equally important—and increasingly difficult—is the ability to maintain the current system in a way that meets rising demand and ensures long-term resilience. Maintaining the existing infrastructure, expanding the network, and offering more travel mode options are all critical components of future planning.

To develop maintenance revenue projections, NCDOT's STIP Unit provided historical maintenance budgets for Divisions 13 and 14, covering fiscal years 1991 through 2023 to examine trends. For Elevate 2050, future maintenance funding was projected by applying a 5% annual inflation rate to the most recent maintenance budget, with projections extending through 2050. This approach provided total estimated maintenance budgets for both NCDOT Divisions within the planning area. Population data was used to allocate the FBRMPO region's share of maintenance funds, assuming that 50.7% of Division 13's and 44.2% of Division 14's budgets would be directed to the FBRMPO—proportions consistent with the region's population share. These projections assume that maintenance funding will be continued at previously proportioned levels while accounting for rising inflation.

Prior to Hurricane Helene, maintenance funding was expected to remain at the same programmed levels with traditional growth. The need to rebuild infrastructure following the destruction of Hurricane Helene has put strain on the maintenance funding availability, which may have an impact on the short-term funding. NCDOT has diverted Region G's maintenance funding to recovery efforts. It is uncertain when funding will again be available for routine maintenance, and projections are difficult to make. NCDOT is looking at mechanisms to offset those losses, and much of the funding currently being used on hurricane recovery will be reimbursed by the federal government. This situation underscores the urgent need for resilient transportation infrastructure and adaptive planning in the face of future natural disasters.

Demonstrating Fiscal Constraint

Each project in Elevate 2050 has an identified revenue source, which must demonstrate that the projected funds are adequate to cover the cost of programmed projects. This chapter summarized the process involved in determining project costs in 2025 dollars and provided an overview of revenue projections with inflation included.

To make programming easier and account for future inflation, the methodology used by NCDOT to estimate future revenues in the STIP was applied. The team adjusted future year revenue projections by reducing them for inflation using a 5% annual inflation rate. In the Mid-Term, this rate was compounded for the first five years then held constant for the last five. In the Long-Term, the inflation rate was held constant. Essentially, the impact of inflation was subtracted from future revenues to match project cost estimates, which are in 2025 dollars, with forecasted revenue. This allowed the team to program projects without the impact of inflation affecting the process.

The STI law establishes a required 90% minimum budget commitment for roadway projects, which leads to a substantial amount of funding in Elevate 2050 being allocated for roadway improvements. It is important to note, again, that projects already included in the STIP account for all funding in the Near-Term (2026-2035) horizon period. A variety of methods accomplish programming funding for different types of projects. Chapter 08. Project Selection & Evaluation describes project evaluation and describes which specific projects are programmed for funding through Elevate 2050.

Table 7.10 provides a summary of the available funding in 2025 dollars (i.e. with inflation backed out of revenue projections), the amount of funding programmed through the Elevate 2050 project list, and the total number of projects across modes programmed for each horizon period.

Category	Horizon Years	Available Funds ($M)	Number of Projects Fiscally Constrained in MTP
Statewide	Near-Term*	-	-
	Mid-Term**	$699.2	6
	Long-Term***	$332.1	2
Region G	Near-Term	-	-
	Mid-Term	$310.5	5
	Long-Term	$147.5	-
Division 13	Near-Term	-	-
	Mid-Term	$278.8	13
	Long-Term	$132.4	2
Division 14	Near-Term	-	-
	Mid-Term	$244.7	13
	Long-Term	$116.2	6
Discretionary	Near-Term	$31.1	2
	Mid-Term	$45.7	12
	Long-Term	$18.5	3
Maintenance	Near-Term	$297.3	-
	Mid-Term	$218.5	-
	Long-Term	$103.8	-
Transit	Near-Term	$209.0	-
	Mid-Term	$153.6	-
	Long-Term	$103.8	-

**Near-Term: 2026-2035*
***Mid-Term: 2036-2045*
****Long-Term: 2046-2050*

Table 7.10: **Fiscal Constraint Projections**

The Funding Gap

There is a gap in funding identified through the development of this financial plan, and proposed measures are being considered to increase the flow of revenue. As needs in the region outpace the availability of funding, many projects are left beyond the 25-year window of the MTP and become CTP projects (see Chapter 10. Post-2050 Vision: CTP Projects and Appendix F. Unfunded Projects (CTP)) . With additional needs existing, the exploration of other funding options may be a viable option.

- Sales Tax: An increase in the sales tax, the most common source of dedicated transit funding in the country, could dedicate tax proceeds to transit projects. Certain counties in the Region could scale this so that areas without extensive transit service would not pay for areas with heavily utilized transit.
- Transportation Bonds: Floating bonds as a transportation option allows the public to provide their direct input on the transportation investments in local communities. Cities in North Carolina have had success using bonds to fund traffic improvements, resurfacing projects, intersection improvements, widenings, streetscape improvements, traffic signals, and bike and pedestrian improvements, including sidewalks.
- High Occupancy Toll (HOT) Lanes: High-occupancy toll (HOT) lanes are high occupancy vehicle lanes that allow vehicles that don't meet occupancy requirements to pay a toll to use the lane. Variable pricing is used to manage the lane so that reliable performance is maintained at all times. The widening of I-40 west of I-26 is being studied as a potential HOT lane project in the region.
- Property Tax: Dedicated property taxes can be used for local roads, maintenance, and other street infrastructure needs

Other options the region can pursue include:

- Local option sales tax
- Additional vehicle registration fees
- Public-private partnerships
- Local infrastructure bank
- Mileage-based user fees
- License tax
- Increase MPO membership fees
- Modify state sales and highway use taxes

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ART Bus in Asheville

08. Project Selection and Evaluation

Identifying and evaluating projects to determine the priorities that can be feasibly funded is a significant component of Elevate 2050. The FBRMPO must prioritize projects to maximize available funding. This chapter describes project identification and evaluation processes and programmed projects.

Highway projects were collected from various sources, including the region's CTP, the 2045 MTP, the Elevate 2050 Survey, and P7.0 Submittals.

The project team collected Bicycle and Pedestrian projects from adopted bicycle, pedestrian, and greenway plans. For a full list, see Chapter 01. Introduction: Previous Planning Efforts.

Projects from Previous Plans
- CTP
- MTP
- Locally-Adopted Plans and Feasibility Studies
- P7.0 Submittals

\+

Other Project Sources
- Elevate 2050 Survey
- Input from Stakeholders and FBRMPO

→ ***MTP Project List***

Figure 8.1: Sources of MTP Projects

Inventory

The first step in the process of creating a draft list of projects was to collect an inventory through review of various sources, including decommitted STIP projects, P7.0 Submittals, the adopted 2045 Metropolitan Transportation Plan, locally and regionally adopted bicycle, pedestrian, and transit plans, the Elevate 2050 public survey, and the draft Comprehensive Transportation Plan.

The team separated the draft list of projects into three categories based on scoring methodology: Roadway, Bicycle & Pedestrian, and Public Transportation & Rail. Each project was listed with its attributes:

- Project ID
- Improvement Type
- Recommendation Name
- Limits
- Length in Miles
- STI Tier
- Project Description
- Mode
- Estimated Cost
- County

Additional attributes were listed if provided. Detailed information for each project supported the scoring process used for project prioritization. There were over 500 projects on the draft project list, which was the foundation for determining a fiscally constrained project list.

Scoring Methodology

As part of the Elevate 2050 planning process, the project team scored all transportation projects in the draft project list to identify the highest priority projects per the Elevate 2050 scoring methodology built around public input, the Vision, Goals, and Objectives, federal transportation planning factors, and federal planning emphasis areas. The approach to scoring projects incorporates Strategic Transportation Investments (STI) prioritization scores where available and incorporates four separate approaches based on likely funding streams:

Statewide Mobility Projects
Projects that address significant congestion and bottlenecks (i.e. interstate projects).

Regional Impact and Division Needs Projects (including bicycle/pedestrian)

- Regional Impact: Improve connectivity within regions (i.e. NC and US routes)
- Division Needs: Address local needs. Bike/ped projects are only eligible as Division Needs projects

Public Transportation Projects
Scored based on STI methodology; not scored against other modes.

Rail Projects
Scored based on STI methodology; not scored against other modes.

Each approach includes a range of criteria covering factors like safety, traffic volumes/congestion, demographics, environmental impacts, cost, and accessibility. The criteria are organized into two tiers; Tier I evaluates the need for the project and Tier 2 evaluates sustainability and context sensitivity. Combined Tier 1 and Tier II scores helped inform the discussion around priority projects within each county in the FBRMPO planning area in the Elevate 2050 horizon years. After public comment closed on the draft projects, the FBRMPO's Prioritization Subcommittee recommended the final, fiscally constrained Elevate 2050 project list for approval by the FBRMPO Board in June 2025.

For more information about scoring methodology, please see Appendix D. Project Scoring.

Tier I Scoring Criteria

Criterion	Data Used	Description	Available Points (Statewide)	Available Points (Regional/Division)
Safety	HIN (Top 3% of FBRMPO roadways)	*Projects received:* ▮ 25 points if on HIN ▮ Up to 25 points based on safety scores through STI Prioritization	50	N/A

Safety	HIN (Top 3% of FBRMPO roadways)
	Crash Severity
	Exposure (AADT)
	Expected Growth in All Injury Crashes by 2045
	Crash Risk (using *Safe Streets for WNC* Data)
		Projects received:
		▮ 15 points if on a HIN or a roadway project with Complete Street elements
		▮ 5 points if crash severity is 85th percentile on roadways with 40+ mph
		▮ 5 points if the AADT of a roadway is over 10,000
		▮ 10 points if within top 10% OR 5 points if within top 20% of all injury crash TAZs in 2045
		▮ Either:
		  ▮ 10 points for projects overlapping with corridors ranked as low/medium risk of bike/ped crashes in WNC Safe Streets data
		  ▮ 15 points for projects on corridors ranked as high/very high risk of bike/ped crashes in WNC Safe Streets data
			N/A	50

Congestion	2020 V/C	Scores assigned based on V/C. Projects closer to the upper limit of V/C, or 1.1, received the full 40 points whereas projects closer to the lower limit, or 0.3, received 10 points	40	40 (Roadway Only)
Connectivity to Existing Bike/Ped	Existing and Planned Projects	*Projects over 1.5 miles and over $10 million were excluded.* Projects received points based on how many existing or funded bike/ped facilities fell within 500 ft. of the project: ▮ 40 points for 10+ connections ▮ 30 points for 7-9 connections ▮ 20 points for 4-6 connections ▮ 10 points for 1-3 connections	N/A	40 (Bike/Ped Only)
Volume	Base Year AADT	*For Statewide Mobility Projects:* Up to 30 points within the range 11,500 to 76,000, with higher AADT receiving higher scores *For Regional/Division Projects:* Up to 30 points within the range 5,000 to 30,000 AADT, with higher AADT receiving higher scores	30	30
Access to Employment	Proximity to top employment TAZs	*Projects received:* ▮ 20 points if within top 10 employment TAZs (2,367+ jobs) ▮ 10 points if within top 20 employment TAZs (1,679+ jobs) ▮ 5 points if within or crossing a TAZ with at least 500 employment opportunities or within 0.25 mile of a downtown area	30	30
Freight	Average Annual Daily Truck Traffic (AADTT)	*Projects received:* ▮ Up to 15 points based on the total AADTT ▮ Up to 15 points based on the percent of total daily volume from NCDOT truck count data	30	N/A
Resilience	Land of Sky Resilience Assessment Phase 4	*Projects received:* ▮ 15 points if within or crossing a census block group with high risk of flood isolation, 10 points for medium risk, and 5 points for low risk ▮ 15 points if within or crossing a census block group with high risk of landslide isolation, 10 points for medium risk, and 5 points for low risk	N/A	30
Total Tier I			**180**	**220**

Table 8.1: Tier I Scoring Criteria

Tier II Scoring Criteria

Criterion	Data Used	Description	Available Points (Statewide)	Available Points (Regional/Division)
Communities of Concern Analysis	▮ Key destination proximity ▮ Crash severity ▮ Air Quality ▮ Noise ▮ Destinations within 0.25 mile	Projects received up to 25 points based on criteria for Accessibility, Safety, Environmental Health, and Social Equity *Details of this scoring provided in Table 8.3*	25	25
Per Mile Cost	STI Prioritization cost results	Projects received up to 25 points based on total costs. For projects without STI Prioritization cost estimates, a per mile cost was estimated and applied. Lower cost estimates received higher scores	25	N/A
Per Mile Cost *(by Project Type)*	Cost estimates for project type	Projects with lower per mile cost by project type received higher scores	N/A	25
Multimodal Access & Connectivity	Project type	*Projects received:* ▮ 10 points if includes a HOT or Express Lane ▮ 5 points for providing a new interchange with Complete Street elements (assumption that projects within city limits include Complete Street elements) ▮ 5 points if includes additional truck rest areas	20	N/A
Multimodal Access & Connectivity	Access in Appalachia opportunity scores	*Projects received:* ▮ 20 points for high very high opportunity score ▮ 10 points for moderate or low opportunity score ▮ 0 points for a very low opportunity score	N/A	20
Natural Resource Impacts	▮ Protected land designations ▮ Major stream data	*Projects received:* ▮ 15 points if no overlap with protected lands OR if within a planned wildlife crossing corridor ▮ 10 points if no overlap with protected lands but a major stream crossing ▮ 5 points if crossing a major stream and overlapping with one of the protected land categories ▮ 0 points if at least one major stream crossing and/or overlap with at least two protected land categories	15	15
Community & Historic Resource Impacts	▮ Historic resource points ▮ Community destinations	*Projects received:* ▮ 5 points if not within 250 feet of historic resource *Projects also received either:* ▮ 10 points if not within 250 feet of community destination ▮ 5 points if within 250 feet of one community destination ▮ 0 points if within 250 feet of two or more community destinations *Bike/ped projects were not penalized for proximity to historic resources or community destinations*	15	15
Total Tier II			100	

Table 8.2: Tier II Scoring Criteria

Tier II Scoring Criteria: Communities of Concern Analysis

Criterion	Measure
Accessibility (+2/-2)	-1: Project removes existing roadway connections
	-1: Project removes existing bike ped links
	-0.5: Project adds one or more reduced conflict intersection(s)
	+1: New roadway link (other than interstate highway), new interstate interchange
	+1: Bike ped link as part of roadway project or stand-alone bike ped projects within 0.25 mi of key community destinations or existing transit stops
Safety (+2/-1)	-1: Roadway capacity or new location w/o complete streets that overlaps with Bike/Ped HIN
	0: Interstate widening/freeway new location
	+1: Roadway project that overlaps with the vehicular HIN
	+1: Bike/Ped project that overlaps with the Bike/Ped HIN, or roadway modernization or access management that overlaps with the Bike/Ped HIN
Environmental Health *Air Quality* (+2/-2)	-2: Roadway widening and overlap top 20% of Block Groups for diesel PM2.5
	-1: Roadway widening
	0: Widening for turning lanes or access management/operations improvements
	+1: Bicycle/pedestrian or transit project
	+2: Bicycle/pedestrian or transit project and overlap top 20% Census Tracts for diesel particulate matter
Environmental Health *Noise* (+2/-2)	-2: Roadway widening and overlap top 20% of Block Groups in EJ Screen's Traffic Proximity Indicator
	-1: Roadway widening
	0: Widening for turning lanes or access management/operations improvements
	+1: Bicycle/pedestrian or transit project
	+2: Bicycle/pedestrian or transit project and overlap top 20% Block Groups in traffic proximity
Social Equity (+1/-1)	-1: Projects that are likely to require right-of-way acquisition (Roadway widening or conversion to freeway, access management)
	+1: Modernization, road diet, transit expansion, bike/ped project

Table 8.3: Tier II Scoring Criteria: Communities of Concern Analysis

After projects received initial scores, they were scaled as follows:

Inital Score	+6 to +9	+3 to +5	+1 to +2	0	-1 to -2	-3 and lower
Scaled Score	25	20	15	10	5	0

Table 8.4: Scaling Approach to Communities of Concern Scores

Multimodal Access & Connectivity: Regional/Division Needs

This criteria used the Access in Appalachia methodology, which measures disparities in transportation access - the ability of people to reach activities, services, and goods given available transportation options.

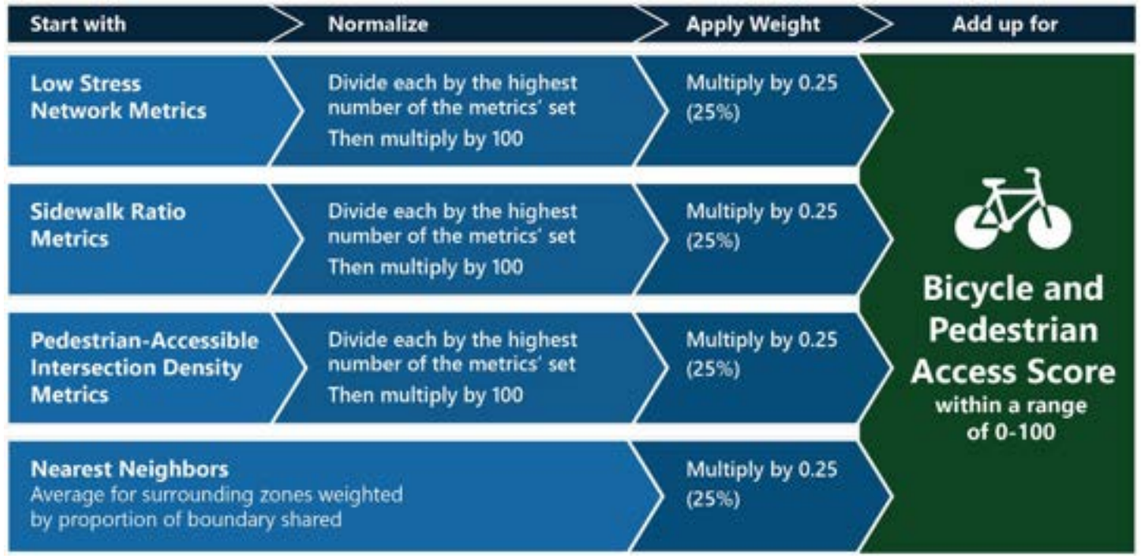


Figure 8.2: Access in Appalachia Bicycle and Pedestrian Access Scoring Methodology

Elevate 2050 Projects

The FBRMPO's Elevate 2050 consists of roadway, bicycle and pedestrian, rail, and public transit projects. In addition, because the FBRMPO focuses its planning efforts on surface transportation, Elevate 2050 does not program funding for aviation projects beyond 2035, though the project team coordinated with AVL for updates on its projects. The FBRMPO recognizes that the Elevate 2050 projects do not represent all of the improvements needed to address the transportation challenges in its planning area and continues to respond to increasing demands by pursuing other strategies and exploring new technologies. Elevate 2050 is a plan that will be periodically amended as new strategies and technologies are assessed and endorsed.

MTP STIP Projects

Projects programmed in the fiscal year 2026 to 2035 time period coincide with the FBRMPO Transportation Improvement Program (TIP). Given these projects have undergone the NCDOT prioritization process, been programmed in the State Transportation Improvement Program, and need to be in the MTP to be in the TIP, they did not go through the Elevate 2050 MTP project selection and evaluation process. The prioritization process that results in the projects that make up the TIP is a relatively complex process that involves choosing transportation projects from long-range plans, data-driven assessments and scoring by the NCDOT Prioritization Office, and the application of local-input points by MPOs, RPOs, and NCDOT Divisions. More information on the prioritization process can be found at http://www.ncdot.gov/sti.

Additionally, there is an online State Transportation Improvement Program (STIP) Map available for public viewing that is frequently updated as projects change. The projects included reflect the major 2026-2035 STIP projects for all modes, including the FBRMPO projects. Please note that not all projects, including bridge or resurfacing items, may be shown.

Connected Projects per the STIP

As is often the case with large-scale highway projects, several projects in the FBRMPO region consist of multiple segments, sections, or interconnected pieces. The FBRMPO recognizes the importance of maintaining continuity along these corridors and ensuring consistency in the planning of these corridors. However, due to the high costs associated with many of these projects and the limited funding available, completing all segments within the same time frame—or even within the 25-year horizon of Elevate 2050—may not be feasible. Recognizing their significance and the substantial funding they require, the FBRMPO will collaborate with state and federal partners to explore alternative funding opportunities and will continue working to advance these projects, even if they are not currently included in the fiscally constrained portion of Elevate 2050.

STIP Number	Route	Relevant Elevate 2050 Project Numbers
A-0010	I-26 (US-19/US-23)	R-CTP06
I-2513	I-26, I-40	R-MTP56
I-4400	I-26	R-SPT35
U-4712	US 23B (South Main St)	R-CTP63
U-2801	US-25A (Sweeten Creek Rd)	R-CTP35
U-5832	NC 81 (Swannanoa River Rd)	R-CTP25

Table 8.5: Highway Projects with Multiple Segments

STIP Highway Program Projects

STIP Project ID	Route/City	Limits	Description	Responsible Agency	County	Construction Projected Schedule	Funding Program	STI Category Funded	Total Cost Needed
U-6251	New Route	Hakkon Industries in Enka Commerce Park.	Construct access road.	NCDOT	Buncombe	2022	Appalachian Development Highway System	Exempt	$140,000
U-6251A	New Route	US 19 / US 23 (Smokey Park Highway) to Walkoff Way.	Construct access road.	NCDOT	Buncombe	2022	Appalachian Development Highway System	Exempt	$2,850,000
U-6251B	US 19 / US 23 (Smokey Park Highway)	SR 3688 (Enka Heritage Parkway) intersection.	Construct intersection improvements.	NCDOT	Buncombe	2023	Appalachian Development Highway System	Exempt	$1,295,000
HE-0001A	I-26	Mile marker 35.	Construct new interchange.	NCDOT	Buncombe	2024	Economic Development	Exempt	$30,742,000
HE-0001	I-26	SR 3865 (Frederick Law Olmstead Way East) interchange	Construct new interchange near an access road near mile marker 35.	NCDOT	Buncombe		Economic Development	Exempt	$4,859,000
HE-0001BA	New Route	Frederick Law Olmstead Way East to I-26	Construct two lane road with sidewalk. Clearing for utilities.	NCDOT	Buncombe	2025	Economic Development	Exempt	$1,400,000
HE-0001B	New Route	Frederick Law Olmstead Way East to I-26.	Construct two lane road with sidewalk.	NCDOT	Buncombe	2025	Economic Development	Exempt	$10,582,000
I-2513AA	I-40	East of SR 1224 (Monte Vista Road) to pavement joint west of SR 3412 (Sand Hill Road).	Reconstruct pavement.	NCDOT	Buncombe	2024	Interstate Maintenance	Statewide Mobility	$84,616,000
A-0010AE	I-26 (US 19 / US 23)	SR 1882 (New Stock Road) interchange in Asheville	Construct interchange improvements and widen I-26 to north of SR 1720 (Aiken Road).	NCDOT	Buncombe	2031	STI (Prioritization)	Region G	$120,300,000
I-2513AC	I-26 / I-240	North of I-40 to SR 3548 (Haywood Road).	Widen to six lane freeway.	NCDOT	Buncombe	2027	STI (Prioritization)	Region G	$290,119,000
I-2513AB	I-26 / I-40	I-40 / US 19 / US 23 (Smokey Park Highway) interchanges.	Widen I-40 eastbound to I-26 eastbound ramp. Widen I-26 westbound between I-40 ramps. Construct new I-40 westbound to US 19 / US 23 (Smokey Park Highway) northbound ramp.	NCDOT	Buncombe	2024	STI (Prioritization)	Region G	$54,707,000
I-2513B	I-26 / I-40	SR 3548 (Haywood Road) to US 19 / US 23 at SR 1781 (Broadway Street).	Widen to six lane freeway.	NCDOT	Buncombe	2024	STI (Prioritization)	Statewide Mobility	$1,401,988,000
I-4409A	I-40	Bridge 100488 over SR 2500 (Blue Ridge Road)	Replace bridge.	NCDOT	Buncombe	2026	STI (Prioritization)	Division 13	$8,900,000
I-4759	I-40	SR 1228 (Liberty Road).	Upgrade grade separation to an interchange and construct two lane roadway north of I-40 to SR 1224 (Monte Vista Road) and four lane roadway south of I-40 to US 19 / US 23 / NC 151 with parts on new location.	NCDOT	Buncombe	2030	STI (Prioritization)	Statewide Mobility	$105,182,000

STIP Project ID	Route/City	Limits	Description	Responsible Agency	County	Construction Projected Schedule	Funding Program	STI Category Funded	Total Cost Needed
U-5019A	Nasty Branch Greenway	Depot Street at Livingston Street Park to south of the intersection of Asheland Avenue and Phifer Street	Construct greenway.	NCDOT	Buncombe	2025	STI (Prioritization)	Division 13	$4,267,000
I-2513D	SR 1477 (Riverside Drive)	SR 1517 (Hill Street) to SR 1781 (Broadway Street).	Widen roadway to include bicycle lanes and construct multi-use path.	NCDOT	Buncombe	2024	STI (Prioritization)	Division 13	$51,022,000
I-4409B	SR 2500 (Blue Ridge Road)	I-40 grade separation; US 70 to south of I-40; south of I-40 to SR 2713 (South Blue Ridge Road)	Upgrade I-40 / SR 250 (Blue Ridge Road) grade separation to interchange; Widen to three lanes; Upgrade roadway.	NCDOT	Buncombe	2028	STI (Prioritization)	Division 13	$32,400,000
U-6163	SR 3116 (Mills Gap Road)	SR 3136 (Cane Creek Road).	Construct roundabout.	NCDOT	Buncombe	2027	STI (Prioritization)	Division 13	$2,800,000
U-5834	SR 3116 (Mills Gap Road)	US 25 (Hendersonville Road) to SR 3157 (Weston Road) in Asheville.	Upgrade roadway.	NCDOT	Buncombe	2026	STI (Prioritization)	Division 13	$49,933,000
U-5019E	SR 3408 (Craven Street)	Bridge 110743 over French Broad River	Construct bridge improvements.	NCDOT	Buncombe	2028	STI (Prioritization)	Division 13	$11,500,000
U-4739	SR 3556 (Amboy Road / Meadow Road)	I-240 to NC 81 / SR 3214 (Biltmore Avenue).	Upgrade roadway with new bridge over the French Broad River.	NCDOT	Buncombe	2030	STI (Prioritization)	Division 13	$91,705,000
U-5971AA	US 19 (Patton Avenue)	NC 63 (New Leicester Highway) intersection in Asheville.	Construct drainage improvements.	NCDOT	Buncombe	2022	STI (Prioritization)	Region G	$650,000
I-4700	I-26	NC 280 (Exit 40) to I-40 at Asheville.	Construct additional lanes.	NCDOT	Buncombe, Henderson	2019	STI (Prioritization)	Statewide Mobility	$62,468,000
U-5888	US 23 Business (North Main Street)	Walnut Street intersection in Waynesville.	Construct intersection improvements.	NCDOT	Haywood	2022	STI (Prioritization)	Division 14	$8,751,000
R-5921	US 276 (Jonathan Creek)	US 19 to I-40.	Modernize roadway.	NCDOT	Haywood	2025	STI (Prioritization)	Division 14	$56,350,000
U-5839	US 276 (Russ Avenue)	US 23 / US 74 to US 23 Business (Main Street) in Waynesville.	Upgrade roadway.	NCDOT	Haywood	2024	STI (Prioritization)	Division 14	$66,037,000
U-6048	US 19 / US 23	SR 1836 (Chestnut Mountain Road) to SR 1200 (Wiggins Road).	Upgrade roadway.	NCDOT	Haywood, Buncombe	2033	STI (Prioritization)	Division 13, 14	$43,300,000
I-4400BA	I-26	US 64 Interchange.	Construct interchange improvements.	NCDOT	Henderson	FUNDED FOR PRELIMINARY ENGINEERING ONLY	STI (Prioritization)	Division 14	$106,950,000
I-4400BB	I-26	US 64 to US 25 Business.	Widen to add additional lanes.	NCDOT	Henderson	2019	STI (Prioritization)	Statewide Mobility	$52,752,000
R-2588B	NC 191	SR 1381 (Mountain Road) to NC 280 south of Mills River.	Widen to multi-lanes.	NCDOT	Henderson	2029	STI (Prioritization)	Division 14	$173,300,000
R-2588BA	NC 191	SR 1381 (Mountain Road) to NC 280.	Clear for utilities.	NCDOT	Henderson	2025	STI (Prioritization)	Division 14	$160,000
U-6049	NC 225 (South Main Street)	South Main Street at South King Street to US 176.	Widen bridge 440143 to five lanes.	NCDOT	Henderson	2029	STI (Prioritization)	Region G	$12,600,000

STIP Project ID	Route/City	Limits	Description	Responsible Agency	County	Construction Projected Schedule	Funding Program	STI Category Funded	Total Cost Needed
U-5886	SR 1170 (White Street)	SR 1171 (Willow Road) to US 176 (Spartanburg Highway) in Hendersonville.	Realign and extend roadway.	NCDOT	Henderson	2029	STI (Prioritization)	Division 14	$39,500,000
U-5887	SR 1783 (Highland Lake Road)	NC 225 to US 176 in Flat Rock.	Upgrade roadway.	NCDOT	Henderson	2021	STI (Prioritization)	Division 14	$9,971,000
U-5783	US 64	SR 1180 (Blythe Street) to SR 1173 (White Pine Drive) / SR 1186 (Daniel Drive) in Laurel Park.	Modernize roadway with bike lanes and paved shoulders.	NCDOT	Henderson	2025	STI (Prioritization)	Region G	$56,540,000
I-4400C	I-26	US 25 Business to NC 280.	Widen to add additional lanes.	NCDOT	Henderson, Buncombe	2019	STI (Prioritization)	Region G	$61,776,000

Table 8.6: STIP Highway Program Projects

Non-Highway Program: Aviation Projects

STIP Project ID	Route/City	Limits	Description	Responsible Agency	County	Construction Projected Schedule	Funding Program	STI Category Funded	Total Cost Needed
AO-0001	AVL	Asheville Regional Airport	Modernize building.	ASHEVILLE REGIONAL AIRPORT (AVL)	Buncombe	2022	Other	Exempt	$153,808,000

Table 8.7: STIP Non-Highway Program Aviation Projects

Non-Highway Program: Bicycle and Pedestrian Projects

STIP Project ID	Route/City	Limits	Description	Responsible Agency	County	Construction Projected Schedule	Funding Program	STI Category Funded	Total Cost Needed
EB-5774B	Beaverdam Creek Greenway	The Mills at Riverside to US 25 in Asheville	Construct multi-use path.	ASHEVILLE	Buncombe	2026	Locally Selected	Division 13	$4,058,000
EB-5823	Bent Creek Greenway	Hominy Creek River Park to Western NC Farmers Market in Asheville	Construct multi-use path.	BUNCOMBE COUNTY	Buncombe		Locally Selected	Division 13	$400,000
EB-5547A	Black Mountain Riverwalk Greenway	Black Mountain Avenue to Flat Creek Greenway in Black Mountain	Construct multi-use path.	BLACK MOUTAIN	Buncombe	2026	Locally Selected	Division 13	$1,889,000
EB-5547B	Black Mountain Riverwalk Greenway	Black Mountain Avenue to the Oaks Trail in Black Mountain	Construct multi-use path.	BLACK MOUTAIN	Buncombe	2026	Locally Selected	Division 13	$1,755,000
EB-5831	Coxe Avenue	Patton Avenue to Short Coxe Avenue in Asheville	Improve bicycle and pedestrian infrastructure.	ASHEVILLE	Buncombe	2027	Locally Selected	Division 13	$12,203,000
EB-5824	Hominy Creek Greenway / SR 3412 (Sand Hill Road)	Warren Haynes Drive to east of US 19 / US 23 in Candler	Construct multi-use path.	NCDOT	Buncombe	2027	Locally Selected	Division 13	$5,154,000
EB-5774A	NC 251 (Riverside Drive)	US 19 / US 23 / US 70 (Exit 25) to the Mills at Riverside in Asheville	Construct multi-use path.	ASHEVILLE	Buncombe	2027	Locally Selected	Division 13	$10,269,000
EB-5774	NC 251 (Riverside Drive)	US 19 / US 23 / US 70 (Exit 25) to US 25 in Asheville	Construct multi-use path along Beaverdam Creek.	BUNCOMBE COUNTY	Buncombe		Locally Selected	Division 13	$2,000,000
EB-5821	Reems Creek Greenway	Western edge of Weaverville to Karpen Soccer Fields in Weaverville	Construct multi-use path.	BUNCOMBE COUNTY	Buncombe		Locally Selected	Division 13	$600,000
BL-0076	Riceville Road	US 70 to north of the Veterans Affairs Hospital driveway in Asheville	Construct sidewalks and crossing improvements.	NCDOT	Buncombe	2027	Locally Selected	Division 13	$3,113,000

STIP Project ID	Route/City	Limits	Description	Responsible Agency	County	Construction Projected Schedule	Funding Program	STI Category Funded	Total Cost Needed
EB-5944	SR 1319 (Johnston Boulevard)	SR 3548 (Patton Avenue) to Iona Circle in Asheville	Construct sidewalks.	ASHEVILLE	Buncombe	2025	Locally Selected	Division 13	$2,350,000
EB-5947	SR 2032 (New Haw Creek Road)	Beverly Road to SR 2034 (Bell Road) in Asheville	Construct sidewalks.	ASHEVILLE	Buncombe	2024	Locally Selected	Division 13	$2,375,000
EB-5948	SR 3075 (Onteora Boulevard)	Lincoln Avenue to Raleigh Road in Asheville	Construct sidewalks.	ASHEVILLE	Buncombe	2023	Locally Selected	Division 13	$1,140,000
EB-5790	Various	Locations along East of the Riverway in Asheville	Install on-street crossings and connections for bicyclists and pedestrians.	ASHEVILLE	Buncombe	2024	Locally Selected	Division 13	$1,639,000
BL-0006	Various	Locations in Asheville	Construct pedestrian improvements.	NCDOT	Buncombe	2027	Locally Selected	Division 13	$825,000
EB-5965	Deaverview Road	US 19 / US 23 / US 74A (Patton Avenue) to Westmore Drive in Asheville	Construct sidewalk.	ASHEVILLE	Buncombe	2031	STI (Prioritization)	Division 13	$14,910,000
EB-5822	North Rad Greenway	SR 1477 (Riverside Drive) and SR 1231 (Hill Street) to Pearson Bridge Road in Asheville	Construct multi-use path along the French Broad River.	NCDOT	Buncombe	2027	STI (Prioritization)	Division 13	$4,809,000
U-5190	New Leicester Highway	City limits to SR 3548 (Patton Avenue) in Asheville	Construct sidewalk.	ASHEVILLE	Buncombe	2022	Transition	Pre-STI (Transition)	$3,563,000
EB-5926	US 19 (Soco Road)	US 276 to Fie Top Road in Maggie Valley	Construct bicycle and pedestrian improvements.	NCDOT	Haywood		Locally Selected	Division 14	$1,900,000
BL-0008	Clear Creek Greenway	Berkeley Mills Park to SR 1518 (Lakewood Road) in Hendersonville	Construct multi-use path.	HENDERSONVILLE	Henderson	2025	Locally Selected	Division 14	$4,717,000
BL-0007	Ecusta Rail Trail	SR 1127 (Kanuga Road) to US 64 (Battle Creek) in Horse Shoe, Yale, and Laurel Park in Henderson.	Construct multi-use path.	NCDOT	Henderson	2023	Locally Selected	Division 14	$12,684,000
BL-0078	Ecusta Trail	US 64 to Transylvania County line near Etowah	Construct greenway.	HENDERSON COUNTY	Henderson	2025	Locally Selected	Division 14	$20,542,000
EB-5946	NC 280	French Broad River to NC 191 (Haywood Road) in Mills River	Construct multi-use path.	MILLS RIVER	Henderson		Locally Selected	Division 14	$375,000
EB-5963	SR 1764 (South Grove Street)	SR 1764 (E Barnwell Street) to US 176 (Spartanburg Highway) in Hendersonville	Construct sidewalk.	NCDOT	Henderson	2031	STI (Prioritization)	Division 14	$4,217,000
EB-5860	SR 2162 (Blythe Street)	US 64 (Brevard Road) to NC 191 (Haywood Road) in Laurel Park	Construct sidewalks.	NCDOT	Henderson	2030	STI (Prioritization)	Division 14	$3,057,000
EB-6037B	Ecusta Trail	Brevard Bike Path in Brevard to Kangua Road in Hendersonville	Construct multi-use path.	NCDOT	Henderson, Transylvania	2025	Other	Division 14	$8,000,000

Table 8.8: STIP Non-Highway Program Bicycle and Pedestrian Projects

Non-Highway Program: Public Transportation Projects

STIP Project ID	Route/City	Limits	Description	Responsible Agency	County	Construction Projected Schedule	Funding Program	STI Category Funded	Total Cost Needed
TA-6703	City of Asheville Transit	Systemwide	Purchase lo-no transit vehicle.	CITY OF ASHEVILLE	Buncombe	2025	Capital (Non-STI)	Public Transit	$4,936,000
TO-6154	Buncombe County - Mountain Mobility	Systemwide	Funding for operating assistance.	MOUNTAIN MOBILITY - BUNCOMBE	Buncombe	2020	Miscellaneous/ Other	Public Transit	$2,251,000
TO-4075	City of Asheville Transit	Systemwide	Funding for transit operations.	CITY OF ASHEVILLE	Buncombe	2020	Miscellaneous/ Other	Public Transit	$1,965,000
TG-6183B	City of Asheville Transit	Systemwide	Funding for preventative maintenance.	CITY OF ASHEVILLE	Buncombe	2024	Routine Capital and Preventive Maintenance	Public Transit	$9,852,000
TA-5229	Apple Country Transit	Systemwide	Purchase replacement transit vehicle.	APPLE COUNTRY TRANSIT	Henderson	2024	Capital (Non-STI)	Public Transit	$1,347,000
TO-6106	Apple Country Transit	Systemwide	Funding for operating assistance.	APPLE COUNTRY TRANSIT	Henderson	2024	Miscellaneous/ Other	Public Transit	$1,410,000

Table 8.9: STIP Non-Highway Program Public Transportation Projects

Fiscally Constrained Roadway Projects

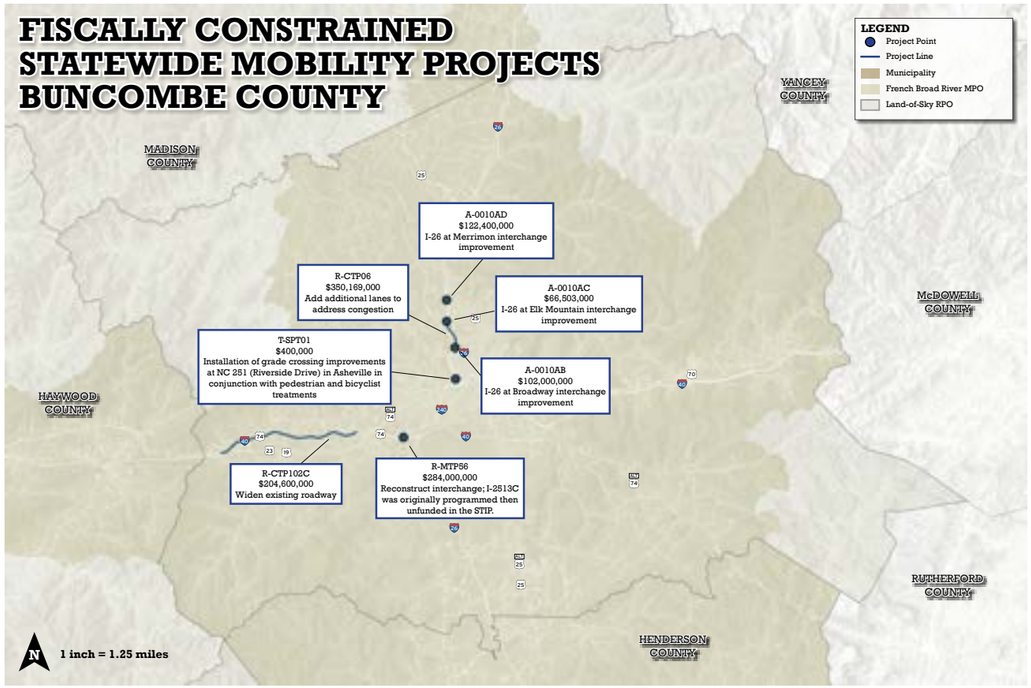
In Elevate 2050, 4 committed and 20 candidate roadway projects (24 total projects) are programmed throughout the planning area, representing a variety of improvement types. The The FBRMPO Board approved the draft fiscally constrained roadway project list on June 19, 2025 and approved the final list through the adoption of Elevate 2050 on September 18, 2025.

Project ID	Improvement Type	Recommendation Name	Limits	Description	County	Horizon Year(s)	Funding Source	Total Project Score	Cost
A-0010AB	8 - Improve Interchange)	I-26 (US-19/23)	Broadway Avenue interchange	Construct interchange improvements.	Buncombe	2036-2045	Statewide	160	$102,000,000
A-0010AC	8 - Improve Interchange	I-26 (US-19/23)	Elk Mountain Rd interchange	Construct interchange improvements	Buncombe	2036-2045	Statewide	155	$66,503,000
A-0010AD	8 - Improve Interchange	I-26 (US-19/23)	Merrimon Ave Interchange	Construct interchange improvements	Buncombe	2036-2045	Statewide	160	$122,400,000
R-CTP06	1 - Widen Existing Roadway (segment)	I-26 (US-19/23)	From Broadway Ave to Elk Mountain Rd	Widen from 4 lanes to 6 lanes	Buncombe	2036-2045	Statewide	90	$41,832,369
R-CTP102C	1 - Widen Existing Roadway (segment)	I-40	From Wiggins Rd to Monte Vista Rd	Widen from 4 lanes to 6 lanes.	Haywood/ Buncombe	2036-2045 2046-2050	Statewide	75	$204,600,000
R-MTP56	8 - Improve Interchange	I-26/I-40/I-240		Reconstruct interchange. I-2513C was originally programmed then unfunded in the STIP.	Buncombe	2036-2045	Statewide	133	$284,000,000
R-SPT35	8 - Improve Interchange	I-26	US-64	Interchange improvements. The project STIP ID is I-4400AB and its P7.0 submittal number is H090019-B.	Henderson	2046-2050	Statewide	189	$143,600,000
R-CTP35	1 - Widen Existing Roadway (segment)	US 25 ALT (Sweeten Creek Road)	From Rock Hill Road to Mills Gap Road	It is recommended this corridor should be widened to four lanes with a median. Include Complete Streets improvements. Focus on intersection improvements. STIP ID is U-2801AB.	Buncombe	2036-2045	Region G	120	$215,199,000
R-CTP86	16 - Modernize Roadway	NC 215	From US 23 to US 276	Upgrade facility to current design standards to include wider lane widths and paved shoulders with Complete Streets improvements.	Haywood	2036-2045 2046-2050	Region G	130	$21,357,000
R-MTP15	11 - Access Management	US 19/23	From I-40 to NC 151	Construct access management and Complete Streets improvements. Submitted to P7.0 as H191989.	Buncombe	2036-2045 2046-2050	Region G	65	$85,700,000
R-MTP53	11 - Access Management	US-176	From NC 225 to Shepherd St (SR 1779)	Construct access management and Complete Street improvements.	Henderson	2036-2045 2046-2050	Region G	65	$121,700,000
R-SPT21	10 - Improve Intersection	US 25B (Asheville Highway)	N Main Street	Replace existing at-grade intersection with roundabout. Submitted to P7.0 as H231267.	Henderson	2036-2045	Region G	95	$11,900,000

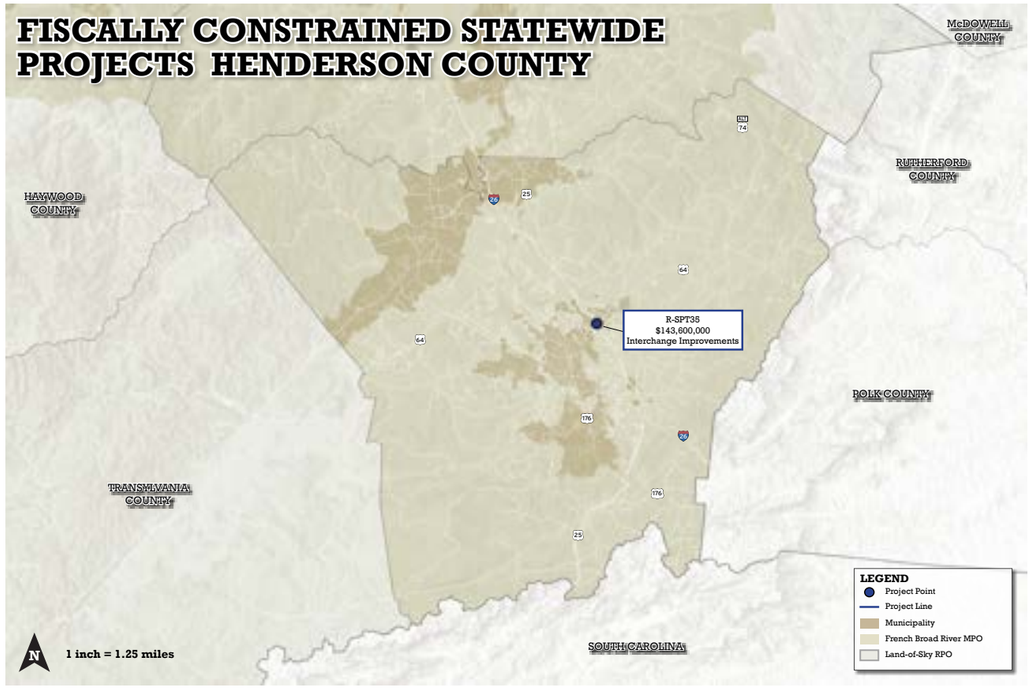
Project ID	Improvement Type	Recommendation Name	Limits	Description	County	Horizon Year(s)	Funding Source	Total Project Score	Cost
R-CTP30	16 - Modernize Roadway	Hoopers Creek Rd (SR 1553)	From Mills Gap Rd (SR 1551) to Terrys Gap Rd (SR 1565)	Upgrade facility to include wider lane widths and paved shoulders and incorporate Complete Street elements.	Henderson	2046-2050	Div 14	115	$10,000,000
R-CTP42	26 - Upgrade Roadway	US 64	From I-26 to Blythe St (SR 2162)	Improve existing intersections and convert existing 2/1 roadway lane sections to 4 lane sections.	Henderson	2036-2045	Div 14	55	$100,000,000
R-CTP63	1 - Widen Existing Roadway (segment)	US 23B (South Main Street)	From US 276 (Pigeon Street) To US 23B (Hyatt Creek Road)	Add capacity & safety improvements, up to 6 lanes on the southwest end of the project, including Complete Street components throughout. STIP ID is U-4712.	Haywood	2036-2045	Div 14	80	$57,400,000
R-MTP08	16 - Modernize Roadway	Kanuga Rd (SR-1127)	From US 25 BUS to Price Rd	Upgrade facility to current design standards to include wider lane widths and paved shoulders with Complete Streets improvements. Submitted to P7.0 as H111106.	Henderson	2036-2045	Div 14	70	$35,121,000
R-MTP30	16 - Modernize Roadway	US-19	From NC 215 to Chestnut Mountain Rd (SR 1836)	Upgrade facility to include wider lane widths and paved shoulders and incorporate Complete Street elements. Improve intersection operations.	Haywood	2046-2050	Div 14	90	$40,200,000
R-MTP33	16 - Modernize Roadway	Berkeley Rd (SR-1508)	From US 64 to US 25 BUS	Upgrade facility to include wider lane widths and paved shoulders and incorporate Complete Street elements. Improve intersection operations. Submitted to P7.0 as H192727.	Henderson	2036-2045 2046-2050	Div 14	110	$33,300,000
R-MTP35	16 - Modernize Roadway	Butler Bridge Rd (SR-1345)	From NC 280 to US 25	Upgrade facility to include wider lane widths and paved shoulders and incorporate Complete Street elements. Improve intersection operations. Add on-road bicycle facilities recommended in Mills River Bike and Pedestrian Plan.	Henderson	2036-2045	Div 14	155	$15,000,000
R-SPT19	16 - Modernize Roadway	Fanning Bridge Road	NC 280 (Airport Road) to US 25	Construct roundabouts at 3 intersections along roadway (Rutledge Rd intersection, St John Road intersection, and US 25 intersection). Add turn lane to NC 280 intersection. Modernize roadway. Incorporate Complete Streets improvements and bicycle/ pedestrian facilities. Submitted to P7.0 as H172228.	Buncombe, Henderson	2046-2050	Div 14	90	$32,000,000
R-CTP25	16 - Modernize Roadway	NC 81 (Swannanoa River Road)	From Biltmore Ave (SR 3214) to US 74 (Tunnel Rd)	Upgrade facility to current design standards to include wider lane widths and paved shoulders with Complete Streets improvements. Focus on resiliency and moving road out of floodway. STIP ID is U-5832.	Buncombe	2036-2045	Div 13	100	$145,000,000

Project ID	Improvement Type	Recommendation Name	Limits	Description	County	Horizon Year(s)	Funding Source	Total Project Score	Cost
R-MTP04	16 - Modernize Roadway	North Louisiana Ave (SR 1332)	From US 19/23 (Patton Ave) to Emma Rd (SR 1338)	Upgrade facility to current design standards to include wider lane widths and paved shoulders with Complete Streets improvements.	Buncombe	2036-2045	Div 13	131	$30,600,000
R-MTP23	16 - Modernize Roadway	Blue Ridge Road (SR 2500)	From NC 9 to US 70	Upgrade facility to include wider lane widths and paved shoulders and incorporate Complete Street elements. Improve intersection operations. Submitted to P7.0 as H171779.	Buncombe	2036-2045	Div 13	75	$15,900,000
R-MTP25	24 - Implement Road Diet to Improve Safety (segment)	US-70	From Blue Ridge Rd (SR 2500) to NC 9	Implement a road diet converting the existing 5 lane roadway to a 2 or 3 lane cross section with center left turns at intersections. Include Complete Street components including bike lanes.	Buncombe	2036-2045	Div 13	110	$38,400,000
R-MTP46	16 - Modernize Roadway	Elkwood Ave (SR-1674)	From US 25 to NC 251	Upgrade facility to include wider lane widths and paved shoulders and incorporate Complete Street elements. Improve intersection operations.	Buncombe	2036-2045 2046-2050	Div 13	70	$9,216,070
R-SPT12	16 - Modernize Roadway	Reems Creek Road	US 19 (Merrimon Avenue) to Ox Creek Road	Modernize SR 1003 to include paved shoulders, wider lanes and improved horizontal/vertical geometry where possible. Submitted to P7.0 as H231291.	Buncombe	2036-2045 2046-2050	Div 13	70	$124,500,000
R-SPT14	10 - Improve Intersection	Sand Hill Road	Sand Hill School Road	Improve the existing signalized intersection at Sand Hill, Sand Hill School Road, and Grandview Road. Submitted to P7.0 as H231494.	Buncombe	2036-2045	Div 13	60	$6,100,000

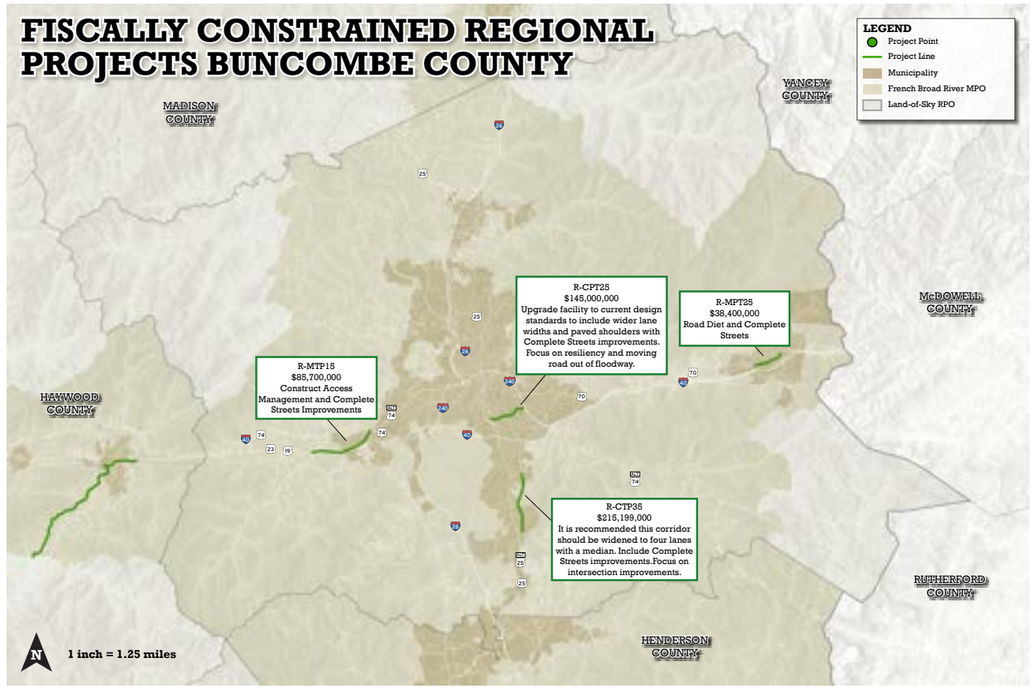
Table 8.10: Fiscally Constrained Roadway Projects



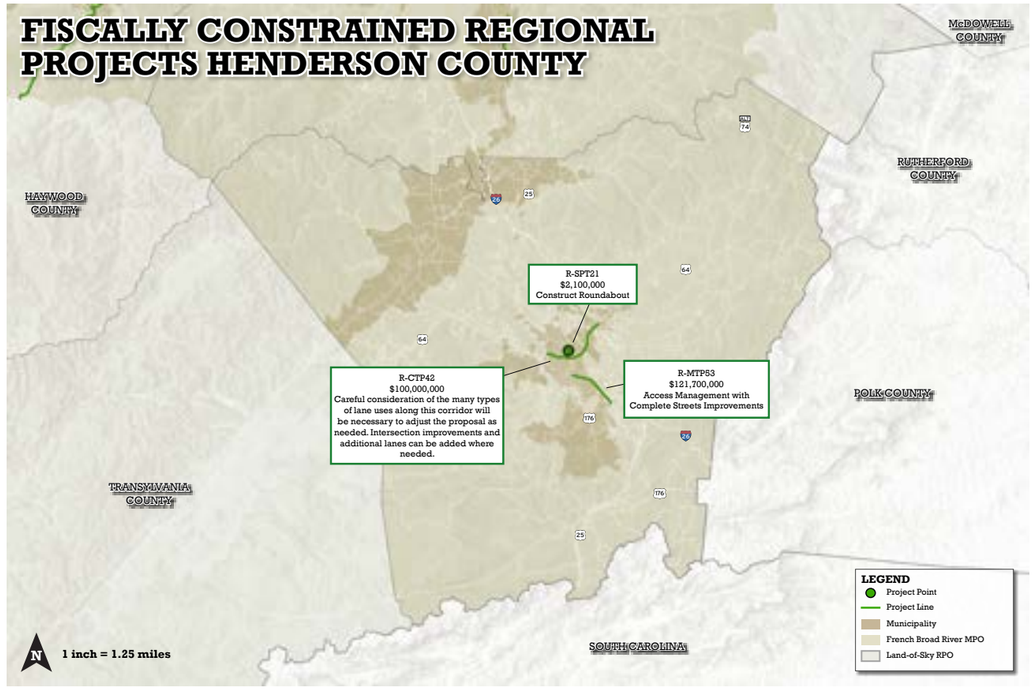
Map 8.1: Buncombe County Fiscally Constrained Statewide Projects



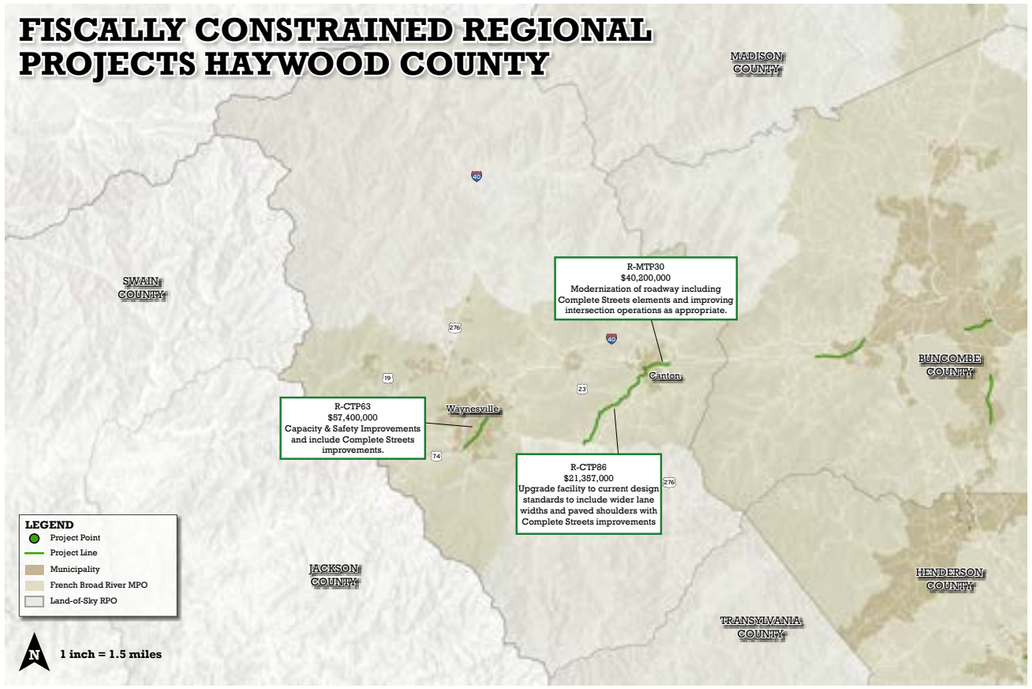
Map 8.2: Henderson County Fiscally Constrained Statewide Projects



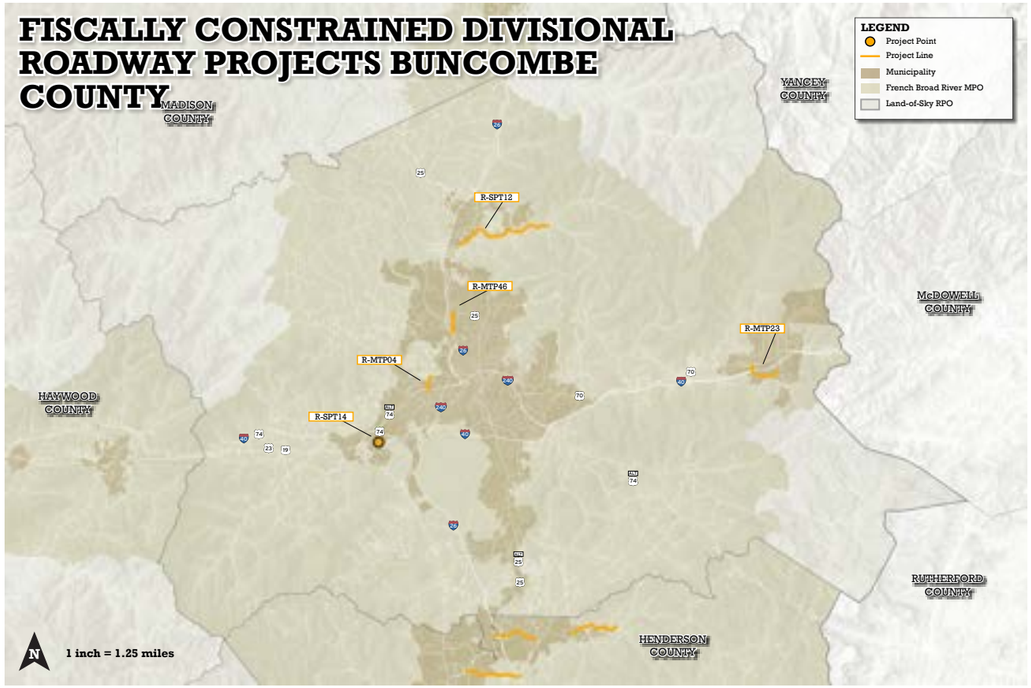
Map 8.3: Buncombe County Fiscally Constrained Regional Projects



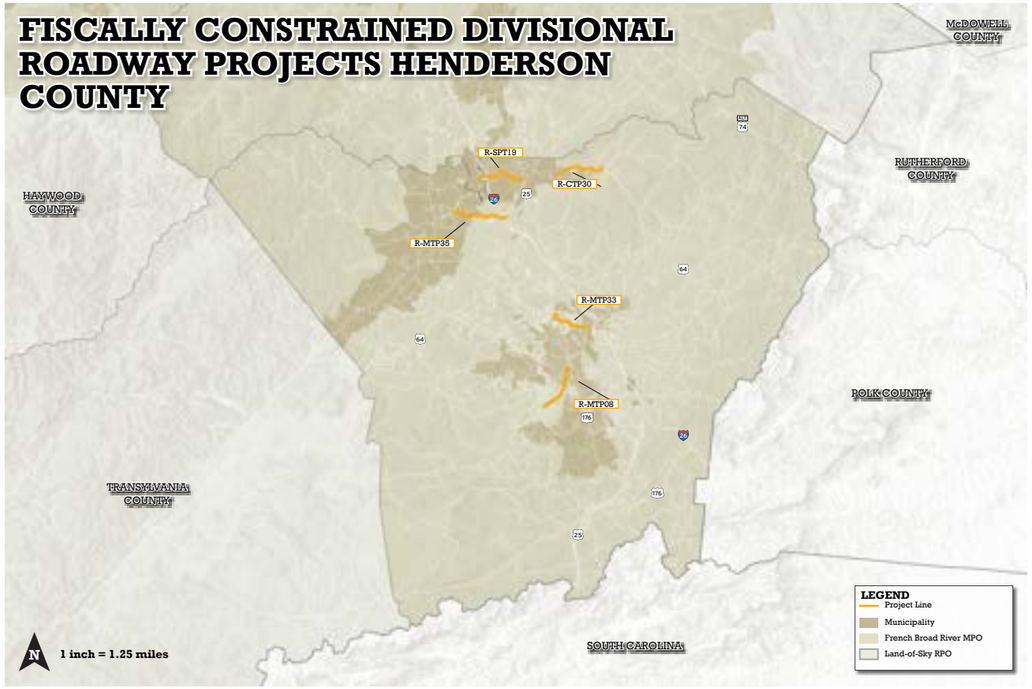
Map 8.4: Henderson County Fiscally Constrained Regional Projects



Map 8.5: Haywood County Fiscally Constrained Regional Projects



Map 8.6: Buncombe County Fiscally Constrained Divisional Roadway Projects



Map 8.7: Henderson County Fiscally Constrained Divisional Roadway Projects

Fiscally Constrained Bicycle and Pedestrian Projects

Bicycle and pedestrian projects provide mobility options and contribute to improved quality of life by offering a healthy transportation alternative. A total of 36 standalone bicycle and pedestrian projects are included in Elevate 2050, which consists of sidewalk improvements, on-road bicycle facilities, shared-use paths, and greenways. There is roughly $31M of discretionary funds available for programming between 2029-2035 for bicycle and pedestrian projects, which is unique to bicycle and pedestrian projects as all other funding through 2035 is programmed in the current STIP. The bicycle and pedestrian project list includes projects in the Near, Mid, and Long Term horizon years.

It is important to note that bicycle and pedestrian priorities often change and evolve, so the long-term projects may change.

Project ID	Improvement Type	Recommendation Name	Limits	Description	County	Horizon Year(s)	Funding Source	Total Project Score	Cost
B-ATM01	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Above the Mud Trail	S. Main St. to 4th Avenue E., connect Ecusta to Oklawaha	10 ft wide asphalt greenway. Submitted to P7.0 as B231398.	Henderson	2029-2035	Discretionary	105	$6,000,000
B-CBP04	7 - Protected Linear Pedestrian Facility (Pedestrian)	Old Clyde Rd Sidewalk	Blackwell Dr to Greenberry St	Construct a 5' minimum sidewalk, with curb and gutter, on the southern (eastbound) side of Old Clyde Road (SR 7133) from Blackwell Dr to Greenberry St with a marked crosswalk at Nyal Dr.	Haywood	2036-2045	Discretionary	65	$3,600,000
B-CTG10	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	West Asheville Rail Trail - 2	Emma Road and French Broad River West	Much of section would be a rail-with-trail.	Buncombe	2029-2035, 2036-2045, 2046-2050	Discretionary	120	$21,000,000
B-CTG49	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Lake Julian	Future Bent Creek Greenway and French Broad River	Greenway connection following 280 to the west from the East side of Lake Julian.	Buncombe	2029-2035, 2036-2045	Discretionary	155	$18,500,000
B-FBR07	4 - On-Road Bicycle Facility (Bicycle)	Asheland Avenue Road Diet	Southside Ave to Hilliard St.	Road diet on Asheland Avenue to address safety concerns.	Buncombe	2036-2045	Discretionary	135	$5,000,000
B-MRP01	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Park Dr Sidepath	Cascade St. to Mars Hills Recreation Park	Create a 10 foot sidepath, Sections constrained by topography or other design factors may be reduced width.	Madison	2036-2045	Discretionary	80	$1,681,000
B-OWE07	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Oklawaha Northern Greenway - Section 4-A	Mud Creek bridge to Balfour Rd	Mud Creek Bridge to Balfour Rd	Henderson	2036-2045	Discretionary	55	$2,500,000

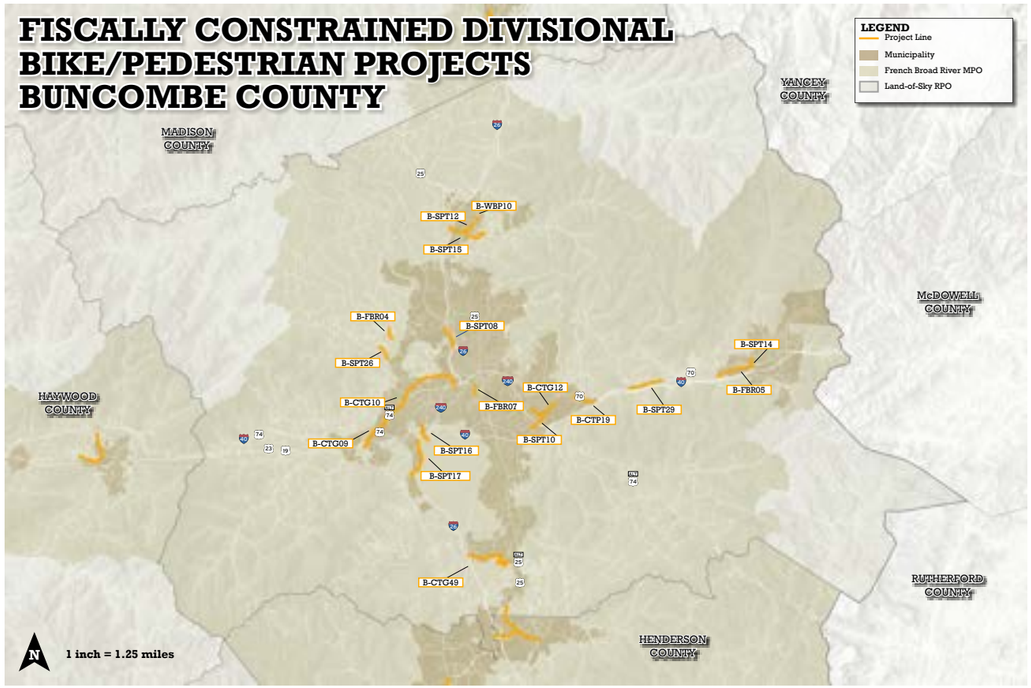
Project ID	Improvement Type	Recommendation Name	Limits	Description	County	Horizon Year(s)	Funding Source	Total Project Score	Cost
B-SPT10	7 - Protected Linear Pedestrian Facility (Pedestrian)	US 74A (Fairview Road)	School Road to NC 81 (Swannanoa River Road)	Fill gaps in sidewalks along Fairview Road from Swannanoa River Road to Liberty St and investigate intersections needs at Old Charlotte Highway crossing. Submitted to P7.0 as B231510.	Buncombe	2036-2045	Discretionary	180	$2,000,000
B-SPT12	7 - Protected Linear Pedestrian Facility (Pedestrian)	US 19 (Merrimon Avenue)	Lake Louise Park to Brown Street	Construct sidewalks along Merrimon Ave from Lake Louise Drive to Brown Street. Submitted to P7.0 as B231387.	Buncombe	2036-2045	Discretionary	130	$1,000,000
B-SPT14	7 - Protected Linear Pedestrian Facility (Pedestrian)	North Blue Ridge Road	US 70 to US 19/23 (Smokey Park Highway) to Fortune Street	Construct sidewalks along North Blue Ridge Road from US 70 to end of existing sidewalk on Fortune Street.Submitted to P7.0 as B140966.	Buncombe	2036-2045	Discretionary	125	$1,500,000
B-SPT15	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Reems Creek Greenway	Quarry Ln to Karpen Soccer Fields	Construct Reems Creek Greenway from Quarry Road to Karpen Soccer Field. Submitted to P7.0 as B150686.	Buncombe	2029-2035	Discretionary	150	$10,000,000
B-SPT16	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Bent Creek Greenway	French Broad River Greenway to Hominy Creek Greenway	Construct a new multi-use path from Hominy Creek Greenway to Hominy Creek River Park. Submitted to P7.0 as B172207.	Buncombe	2046-2050	Discretionary	100	$6,000,000
B-SPT17	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Bent Creek Greenway	WNC Farmer's Market to Asheville Outlets	Partially funded greenway project. Construct a new multi-use path from the WNC Farmer's Market to Asheville Outlets along NC 191. Submitted to P7.0 as B172236.	Buncombe	2046-2050	Discretionary	120	$5,000,000
B-SPT25	7 - Protected Linear Pedestrian Facility (Pedestrian)	N Main/Clear Creek Road	Baldwin Avenue to North of Nix Road	Construct sidewalks from Nix Road to Baldwin Ave along Clear Creek Rd/N Main Street in Hendersonville. Submitted to P7.0 as B231460.	Henderson	2036-2045	Discretionary	140	$3,000,000
B-SPT29	7 - Protected Linear Pedestrian Facility (Pedestrian)	US 70 (Tunnel Road)	Warren Wilson Road to Franklin Road	Construct sidewalks from Franklin Road to Warren Wilson Road. Submitted to P7.0 as B231533.	Buncombe	2036-2045	Discretionary	75	$2,500,000
B-WBP10	9 - Improved Pedestrian Facility (Pedestrian)	Main Street Streetscape	Pine St to Hamburg Mountain Road	Enhancement to the existing street, sidewalk and crossings	Buncombe	2036-2045, 2046-2050	Discretionary	100	$1,060,000

Project ID	Improvement Type	Recommendation Name	Limits	Description	County	Horizon Year(s)	Funding Source	Total Project Score	Cost
B-WHP05	7 - Protected Linear Pedestrian Facility (Pedestrian)	Duncan Hill Road (SR 1525)	Signal Hill to US 64	Fill sidewalk gaps on east side (includes drainage infrastructure), Crossing Treatments (with flashing Beacon) at Baldwin Ave., Intersection and driveway modifications for accessibility, 5 foot (minimum) sidewalk with 2 foot utility strip, where needed.	Henderson	2046-2050	Discretionary	105	$3,000,000
B-CTG09	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Patton Ave from Johnston Blvd to Old Haywood Rd	Patton Avenue near Asheville School	Sidewalk along Patton Avenue.	Buncombe	2046-2050	Div 13	140	$4,000,000
B-CTG12	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Swannanoa River East C	Azalea Park	Greenway connection running along the north side of the Swannanoa River and crossing to the south at Kensington Drive into Azalea Park.	Buncombe	2046-2050	Div 13	110	$10,000,000
B-CTP19	8 - Multi-Site Pedestrian Facility (Pedestrian)	US 70	From Blue Ridge Parkway to Porters Cove Rd	Add pedestrian facilities to US 70.	Buncombe	2036-2045	Div 13	150	$5,000,000
B-FBR04	7 - Protected Linear Pedestrian Facility (Pedestrian)	Lee's Creek Road	Tipperary Road to Erwin Hills Road	Add facilities to Lee's Creek Road.	Buncombe	2036-2045	Div 13	115	$1,000,000
B-FBR05	7 - Protected Linear Pedestrian Facility (Pedestrian)	US-70/Swannanoa Greenway	Blue Ridge Road to Lytle Cove Road	Add pedestrian facilities to US 70/ Swannanoa Greenway.	Buncombe	2036-2045	Div 13	80	$4,500,000
B-ODG02	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Corridor 2	Hickory Dr. to Tennis Courts	Densely forested hillside that is flanked on both sides of the ridge with creeks	Madison	2036-2045	Div 13	80	$13,500,000
B-SPT08	7 - Protected Linear Pedestrian Facility (Pedestrian)	NC 251 (Riverside Drive)	Future I-26 to Woodfin Avenue	Construct sidewalks along NC 251 (Riverside Drive) from future I-26 to Woodfin Ave. Funded for feasibility study. Include bike boxes at intersection of Broadway and Riverside. Submitted to P7.0 as B231501.	Buncombe	2036-2045	Div 13	160	$2,000,000
B-SPT26	7 - Protected Linear Pedestrian Facility (Pedestrian)	NC 63 (New Leicester Highway)	Mt Carmel Road to Old County Home Road	Construct sidewalks from Old County Home Road to Mt. Carmel Road. Submitted to P7.0 as B231545.	Buncombe	2036-2045	Div 13	130	$2,000,000

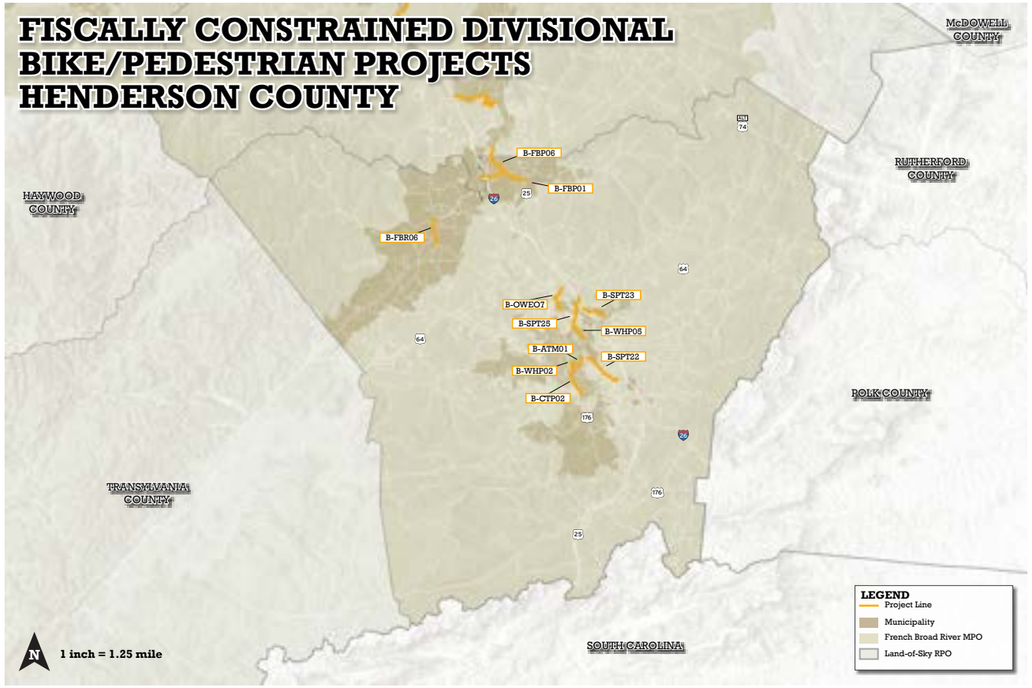
Project ID	Improvement Type	Recommendation Name	Limits	Description	County	Horizon Year(s)	Funding Source	Total Project Score	Cost
B-CBP09	7 - Protected Linear Pedestrian Facility (Pedestrian)	Blackwell Dr Sidewalks	Champion Dr to US 19/23	Construct 6' sidewalks on both sides of Blackwell Drive from Champion Drive to 19/23 (New Clyde Highway), connecting to the existing sidewalks on the northern bridge to connect to Champion Drive. Install pedestrian signals at Champion Drive and New Clyde Highway.	Haywood	2046-2050	Div 14	110	$2,000,000
B-CTP02	8 - Multi-Site Pedestrian Facility (Pedestrian)	NC 225 (Greenville Highway)	US 176 to Brooklyn Ave	Given the critical nature of this facility to the overall transportation system, the preservation of existing capacity through access management is a top priority. The conversion of some center turn lanes to medians may eventually be warranted.	Henderson	2036-2045, 2046-2050	Div 14	150	$1,571,000
B-FBP01	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Fanning Bridge Road Sidewalk	Hendersonville Road (US-25) to Airport Road (NC-280)	Add a sidewalk along Fanning Bridge Road	Henderson	2046-2050	Div 14	85	$5,000,000
B-FBP06	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Rutledge Road Multiuse Side Path	NC-280 to Fanning Bridge Road	Add a multi-use sidepath along Rutledge Road.	Henderson	2036-2045, 2046-2050	Div 14	115	$4,000,000
B-FBR06	8 - Multi-Site Pedestrian Facility (Pedestrian)	Mills River Valley Trail	NC 191 to NC 191	Construct the Mills River Valley Trail multi-use path from the French Broad River to NC 191. Submitted to P7.0 as B193057.	Henderson	2036-2045	Div 14	155	$3,000,000
B-HGP02	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Raccoon Creek Greenway	Howell Mill Rd to Ratcliff Cove Rd. in Waynesville	An NCDOT project (U-6048) that is slated to begin in 2028 or beyond. The section between Chestnut Mtn Rd and Park St is currently unfunded. Submitted to P7.0 as B231388.	Haywood	2036-2045	Div 14	75	$2,000,000
B-HGP05	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Richland Creek Greenway (Northern Section)	Industrial Park Dr. to Vance St. Park in Waynesville	Links several existing Greenways in Waynesville to create continuous path and will become part of the future Hellbender Trail System. Submitted to P7.0 as B172122	Haywood	2036-2045	Div 14	105	$3,000,000
B-SPT02	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Champion Dr	N Canton Rd to Thickety Dr	Construct approximately 3,600 feet of ADA compliant sidewalk on the eastern side of NC 215 (Champion Drive). - Partially funded & likely changing to Road Diet. Submitted to P7.0 as B192055.	Haywood	2036-2045	Div 14	155	$3,000,000

Project ID	Improvement Type	Recommendation Name	Limits	Description	County	Horizon Year(s)	Funding Source	Total Project Score	Cost
B-SPT22	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Oklawaha Greenway	Oklawaha Greenway Southern Termini to Blue Ridge Road Community College	Construct greenway along existing sewer easement from terminus of existing Oklawaha Greenway in Jackson Park to Blue Ridge Community College. Submitted to P7.0 as B142121.	Henderson	2036-2045	Div 14	110	$7,000,000
B-SPT23	2 - Off-Road/Separated Linear Bicycle Facility (Bicycle)	Allen Branch Greenway	Clear Creek Greenway to US 64	Construct a multi-use path along the Allen Branch Creek from US 64 to I-26. Submitted to P7.0 as B193054.	Henderson	2036-2045	Div 14	150	$3,500,000
B-WHP02	7 - Protected Linear Pedestrian Facility (Pedestrian)	North/South King Street	Fill gaps from Caswell St to 3rd Ave	Fill sidewalk gap from Caswell St to 3rd Ave (both sides), Additional crossings at signals, Driveway modification for accessibility, eliminate travel lane between 2nd and 3rd Ave to gain width for sidewalk construction, 5 foot (minimum) sidewalk with 2 foot utility strip.	Henderson	2029-2035, 2046-2050	Div 14	80	$3,000,000

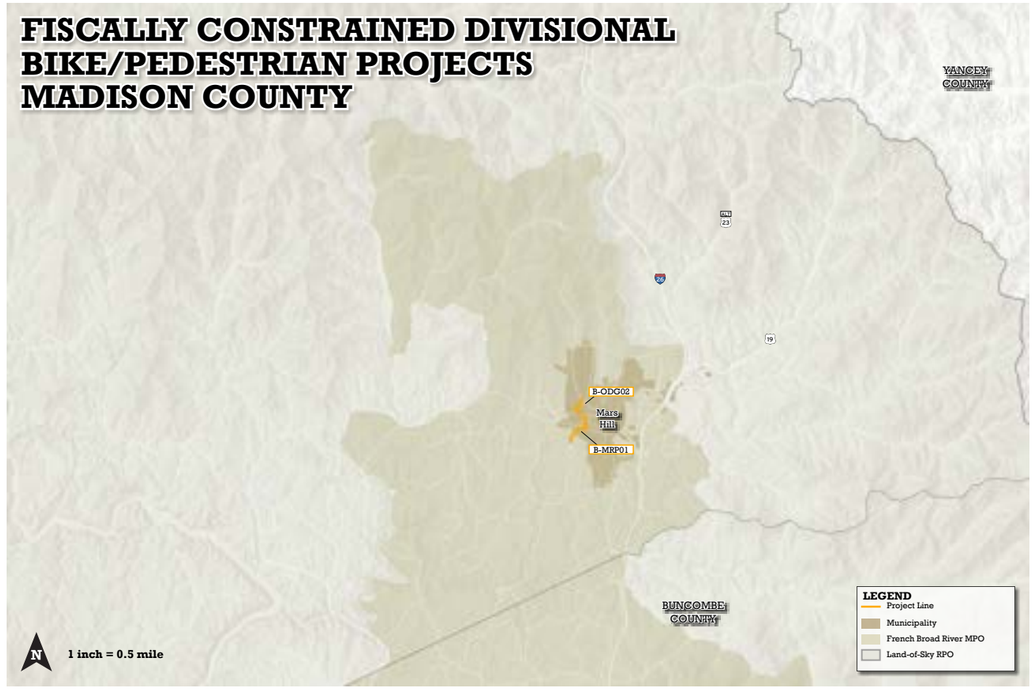
Table 8.11: **Fiscally Constrained Bicycle and Pedestrian Projects**



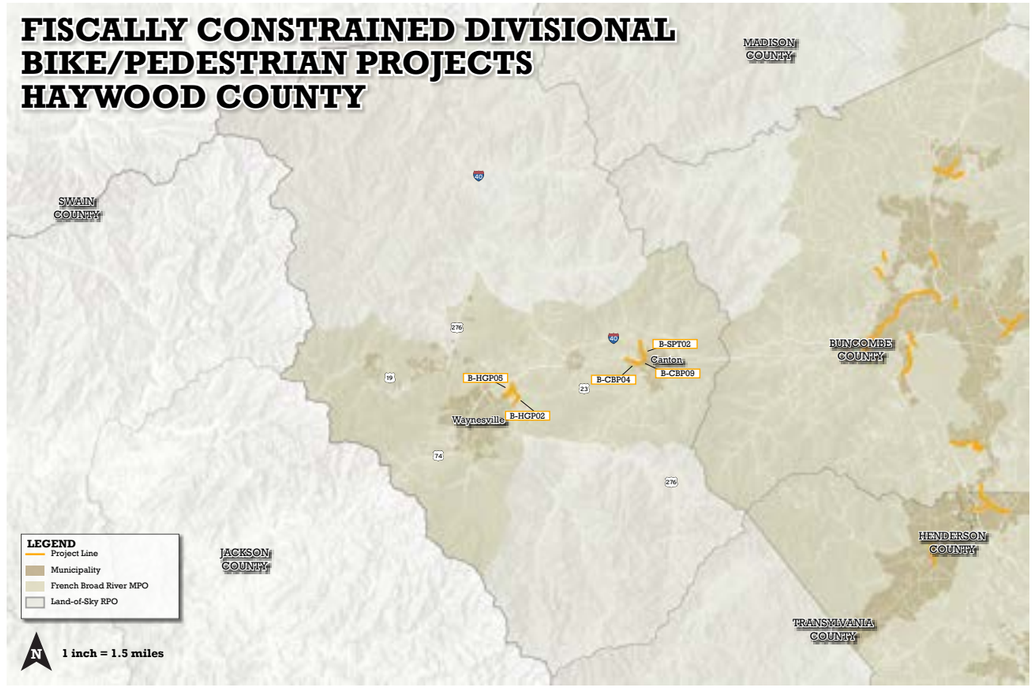
Map 8.8: Buncombe County Fiscally Constrained Divisional Bike/Pedestrian Projects



Map 8.9: Henderson County Fiscally Constrained Divisional Bike/Pedestrian Projects



Map 8.10: Madison County Fiscally Constrained Divisional Bike/Pedestrian Projects



Map 8.11: Haywood County Fiscally Constrained Divisional Bike/Pedestrian Projects

Fiscally Constrained Public Transportation and Rail Projects

Due to the reasonable assumptions made regarding public transportation and rail funding, only one project was included in the horizon years for this planning effort. Transit funding is projected to remain at similar funding levels through 2050 given current limitations and past trends while serious limitations exist on rail funding options. Additionally, many rail projects prove cost prohibitive and difficult to fund for their measures of effectiveness, making it important to note that Elevate 2050 recommends identifying and pursuing additional funding for these modes (see Chapter 06. Modal and Policy/Program Recommendations).

The 2023 Western North Carolina Passenger Rail Feasibility Study proposed a corridor that would provide new service on an existing alignment between Asheville and Salisbury following a line that last hosted passenger trains in 1975. The Asheville-to-Salisbury Conventional Rail Corridor was selected for further analysis after NCDOT received $500,000 for a service development plan for the route after NCDOT successfully submitted an application to the Federal Railroad Administration (FRA) for inclusion of the corridor in the Corridor Identification and Development (CID) program, part of IIJA. The Western North Carolina Passenger Rail Feasibility Study estimated a conceptual capital cost of $665 million. Having these studies completed and documented will provide the FBRMPO and region with an advantage when applying for additional funding to implement and develop the corridor, making it a viable option for future funding.

Once funding is secured for the Asheville-to-Salisbury corridor and/or other additional transit or rail projects, the FBRMPO can begin to implement the projects listed in Appendix F. Unfunded Projects (CTP) for Public Transportation and Rail.

Project ID	Improvement Type	Recommendation Name	Limits	Description	County	Horizon Year(s)	Funding Source	Total Project Score	Cost
T-SPT01	3 - Highway-rail crossing improvement (point)	Norfolk Southern AS Line	NC 251 (Riverside Drive), Buncombe County	Installation of grade crossing improvements at NC 251 (Riverside Drive) (Crossing # 720 409S) in Asheville in conjunction with pedestrian and bicyclist treatments to improve guidance and compliance. Project submitted to P7.0 as R32199.	Buncombe	2046-2050	Statewide	136	$400,000

Table 8.12: Fiscally Constrained Public Transportation and Rail Projects

Public Engagement in Hendersonville

09. Evaluating Performance

Performance-based planning and programming ensures collaboration between State DOTs, MPOs, transit agencies, and different requirements outlined for each respective entity. This chapter outlines the federally required process associated with highway and transit performance goals, rulemaking, measures, and targets. It also highlights other efforts by the FBRMPO to incorporate performance based planning into the Elevate 2050 process. These measures offer a strategic approach to make investment and policy decisions that reflect and achieve transportation system goals.

In accordance with 23 CFR 450.324 (f)(3)-(4)(i)(ii) of the Planning Rule, which implements transportation planning and transportation performance management provisions of MAP-21 and the FAST Act, and the North Carolina Performance Management Agreement between NCDOT, the FBRMPO, and public transportation providers, NCDOT and each NC MPO must include a description of the applicable performance measures and targets and a System Performance Report for the performance measures in their respective statewide and MTPs. The System Performance Report presents the condition and performance of the transportation system with respect to required performance measures and approved performance targets, and reports on progress achieved in meeting the targets in comparison with previous reports and the baseline. FHWA established performance measures included in one of three (3) regulations—PM1 Safety, PM2 Infrastructure Condition, and PM3 System Performance. FTA established four (4) performance measures included in the Transit Asset Management (TAM) regulation. The Planning Rule specifies the following timeframes for when a state or MPO must include a System Performance Report:

- PM1 Safety – after May 27, 2018
- PM2 Infrastructure Condition – after May 20, 2019
- PM3 System Performance – after May 20, 2019
- Transit Assets – after October 1, 2018

The FBRMPO recognizes the importance of linking goals, objectives, and investment priorities to stated performance objectives. That link is critical to the achievement of national goals and statewide and regional performance targets. As such, Elevate 2050's planning process directly reflects the goals, objectives, performance measures, and targets as they are available and described in other state and public transportation plans and processes, specifically the NC Strategic Highway Safety Plan, the HSIP, Transportation Asset Management Plan (TAMP), the NC Multimodal Statewide Freight Plan, the NCDOT Group Transit Asset Management Plan, and NC Moves 2050.

Performance Measure 1: Safety

The Safety regulation supports the HSIP and requires State DOTs and MPOs to set HSIP targets for five (5) performance measures, shown in Table 9.1 below. The FBRMPO may adopt NCDOT Safety targets or adopt its own targets. In March 2025, the FBRMPO Board adopted unique safety targets following the decision to reject NCDOT's adopted targets. The Board voted to adopt "Scenario C: Steady Reduction, Moving Toward Zero by 2055," which takes a less aggressive approach to safety targets (roughly a 0.5% reduction each year), understanding that after 10 years the rate of fatalities will theoretically decline faster.

Performance Measure	2018-2022 Baseline	2024 Target	2019-2023 Actual	Adopted 2025 Target
Reduce Total Fatalities	51.0	42.0	54.0	69.3
Reduce the Fatality Rate	1.030	0.841	1.088	1.357
Reduce Total Serious Injuries	138.0	103.0	138.4	156.4
Reduce Serious Injury Rate	2.786	2.041	2.793	3.064
Reduce the Total Nonmotorized Fatalities and Serious Injuries	19.8	19.0	21.6	28.7

Table 9.1: PM1 Safety Targets

Performance Measure 2: Infrastructure Condition

The Infrastructure Condition performance measure regulation includes six (6) pavement and bridge condition measures for interstate and non-interstate facilities.

Performance Measure	2-Year Target	4-Year Target
Interstate Pavement Condition (Good)	60.0%	62.0%
Interstate Pavement Condition (Poor)	1.8%	1.5%
Non-Interstate NHS Pavement Condition (Good)	30.0%	31.0%
Non-Interstate NHS Pavement Condition (Poor)	3.5%	3.0%
NHS Bridge Condition (Good)	38.0%	36.0 %
NHS Bridge Condition (Poor)	5.0%	5.0%

Table 9.2: PM2 Infrastructure Condition Targets

Performance Measure 3: System Performance

Along with the City of Asheville, the direct recipient of transit funds, the FBRMPO signed a Performance Measure Agreement with NCDOT in 2018 agreeing to adhere to protocols for meeting programming measures as they relate to performance measure planning.

Performance Measure	2-Year Target	4-Year Target
Interstate Level of Travel Time Reliability	80.0%	75.0%
Non-Interstate NHS Level of Travel Time Reliability		70.0%
Interstate Truck Travel Time Reliability	1.65%	1.70%

Table 9.3: PM3 System Performance Targets

Transit Asset Management

Effective in October 2016, Transit Asset Management (TAM) Final Rule became effective and established a strategic and systematic process of operating, maintaining and improving public capital assets for transit. NCDOT reports performance measures for transit to FTA. The performance measures apply to transit agencies and must be established and monitored by MPOs. The four performance measures include the following:

- Equipment: percent of equipment valued > $50,000 (support, non-revenue service vehicles) that have met their Useful Life Benchmark (ULB)
- Rolling Stock: percent of revenue vehicles surpassing their ULB by Asset Class
- Facilities: percent of facilities with condition rating below 3.0 on FTA Transit Economic Requirements Model (TERM) scale
- Infrastructure: percent of guideway directional route miles with performance restrictions by class

Since the City of Asheville is the direct recipient of transit funds for the region, they appear in the performance management agreement signed in October 2018 and set their own targets for each asset category. The NCDOT Public Transportation Division prepared a Group TAM plan for all community transportation systems and small urban systems opting to be included in the plan. This removed the local reporting burden for smaller systems. The transit agencies in the region opting in to the TAM group plan include: Buncombe County, Madison County Transportation Authority, Mountain Projects Inc. (Haywood County), and Apple Country Public Transportation and WNCSource (Henderson County). Table 9.4 summarizes the adopted measures for FY 2024 set by NCDOT regarding TAM. The Asheville Redefines Transit (ART) set a 20% target for 2020-2024 in parallel with the NCDOT Group TAM. These were adopted by resolution, in addition to the performance management agreement by the FBRMPO Board in 2018.

Asset Category	Asset Class	2024 Target
	Revenue Vehicles	
Age - % of revenue vehicles within a particular asset class that have met or exceeded their ULB	AB – Articulated Bus	N/A
	AO – Automobile	20%
	BR – Over-the-road Bus	N/A
	BU – Bus	20%
	CU – Cutaway Bus	20%
	DB – Double Decked Bus	N/A
	FB – Ferryboat	20%
	MB – Mini-bus	20%
	MV – Mini-van	20%
	RT – Rubber-tire Vintage Trolley	N/A
	SB – School Bus	20%
	SV – Sports Utility Vehicle	20%
	TB – Trolleybus	N/A
	VN – Van	20%
	EV – Electric Vehicle	20%
	Equipment	
Age - % of vehicles that have met or exceeded their ULB	Non Revenue / Service Automobile	20%
	Computer Software	20%
	Office Equipment	20%
	Maintenance Equipment	20%
	Vehicle Technology	20%
	Facilities	
Condition - % of facilities with a condition rating below 3.0 on the FTA TERM Scale	Administration	20%
	Maintenance	20%
	Parking Structures	20%
	Passenger Facilities	20%
	Shelter	20%
	Storage	20%
	Admin/Maintenance	20%

Table 9.4: TAM Targets

Old Leicester Hwy Bridge across the French Broad River in Woodfin

10. Post-2050 Vision: CTP Projects

Elevate 2050 is required to be fiscally constrained, meaning only a limited number of transportation projects can be recommended for funding within the 25-year planning horizon. In order to address long-term transportation needs beyond the horizon year 2050, a Comprehensive Transportation Plan (CTP) is developed. The CTP acts as an official blueprint for guiding the development of a coordinated, efficient, and multimodal transportation system outside of the Elevate 2050 timeframe and acts as a long-range vision that outlines all proposed transportation improvements within the planning area. Developed collaboratively by the FBRMPO and NCDOT, the CTP identifies existing and future needs across highway, bicycle and pedestrian, transit, and rail corridors. Unlike the Metropolitan Transportation Plan (MTP), the CTP is not constrained by projected funding and includes all potential improvements throughout the FBRMPO region.

While the fiscally constrained list of Elevate 2050 projects can be found in **Chapter "08. Project Selection and Evaluation"** the CTP in "Appendix F Unfunded Projects (CTP)" captures additional regional transportation priorities that could not be included in the MTP due to financial limitations but remain essential for long-range planning.

The CTP provides documentation and support for the multimodal transportation network assessment. For NCDOT, this information guides project development and funding decisions at both the state level (via the MTP and Strategic Transportation Investments [STI]) and the local level (through discretionary funding).

Additionally, the CTP serves as NCDOT's primary reference for Complete Streets-eligible facilities, in accordance with NCDOT's Complete Streets policy adopted on August 8, 2019. Local multimodal recommendations included within the document help inform NCDOT's Integrated Mobility Division, Transportation Planning Division, and Division Engineers about locally adopted transportation goals and design intent.

CTP Development

The recommendations in the CTP were analyzed the same way as the Elevate 2050 projects and are based on a comprehensive analysis of the transportation system, environmental screening (see Appendix E. Communities of Concern Scoring), and public input (Chapter 05. Public Involvement). CTP recommendations are provided in Appendix F. Unfunded Projects (CTP), beginning with Table F.1.

The team reviewed previously approved projects analyzed in Elevate 2050 while preparing the CTP, using the same evaluation criteria and scoring system detailed in Chapter 08. Project Selection and Evaluation. This allowed for a consistent assessment of project impacts across both plans and allowed projects the same opportunity for inclusion in Elevate 2050 if deemed necessary. The volume-to-capacity (V/C) maps offer valuable insight into projected congestion levels for both MTP-constrained projects and CTP projects. These maps help identify critical network locations likely to require future improvements—such as added lanes, upgraded intersections, increased capacity on parallel routes, or new investments in multimodal transportation infrastructure.

The V/C ratio, derived from the Asheville Regional Model, which incorporates 2050 population and employment projections, measures projected traffic demand against available roadway capacity. A ratio of 1.0 or higher indicates locations where traffic volumes are expected to exceed roadway capacity if no improvements are made.

As conditions change and projects from Elevate 2050, STIP, and local initiatives are implemented, the CTP project list will need to be reassessed and updated to reflect evolving needs and priorities. The ultimate responsibility for implementing and amending CTP recommendations will fall to a collaboration of the FBRMPO, counties, cities, and NCDOT, based on available resources and regional priorities.

CTP Recommendations

Maps providing an overview of recommendations for each mode (Bicycle and Pedestrian, Highway, and Public Transportation and Rail) is included on the following pages. For additional detail, refer to Maps F.1-F.3 and Tables F.1-F.3 in Appendix F. Unfunded Projects (CTP).

Elevate 2050 Development Process

Develop Vision

Establish an overall MTP project plan and the partnerships needed to produce community consensus on future transportation improvements that are fully integrated with the community's vision and goals and objectives, identify roads to be studied and establish measures of effectiveness

Conduct Needs Assessment

Identify current and future deficiencies for the overall multimodal transportation system

Analyze Alternatives

Draft strategies that address deficiencies in a way that minimizes impacts to the natural and human environment and is consistent with the community's vision

Apply Fiscal Constraints

Select projects that help achieve the community's goals and objectives to be prioritized with funding projected to be available. Funded projects become the MTP, while unfunded projects remain in the CTP.

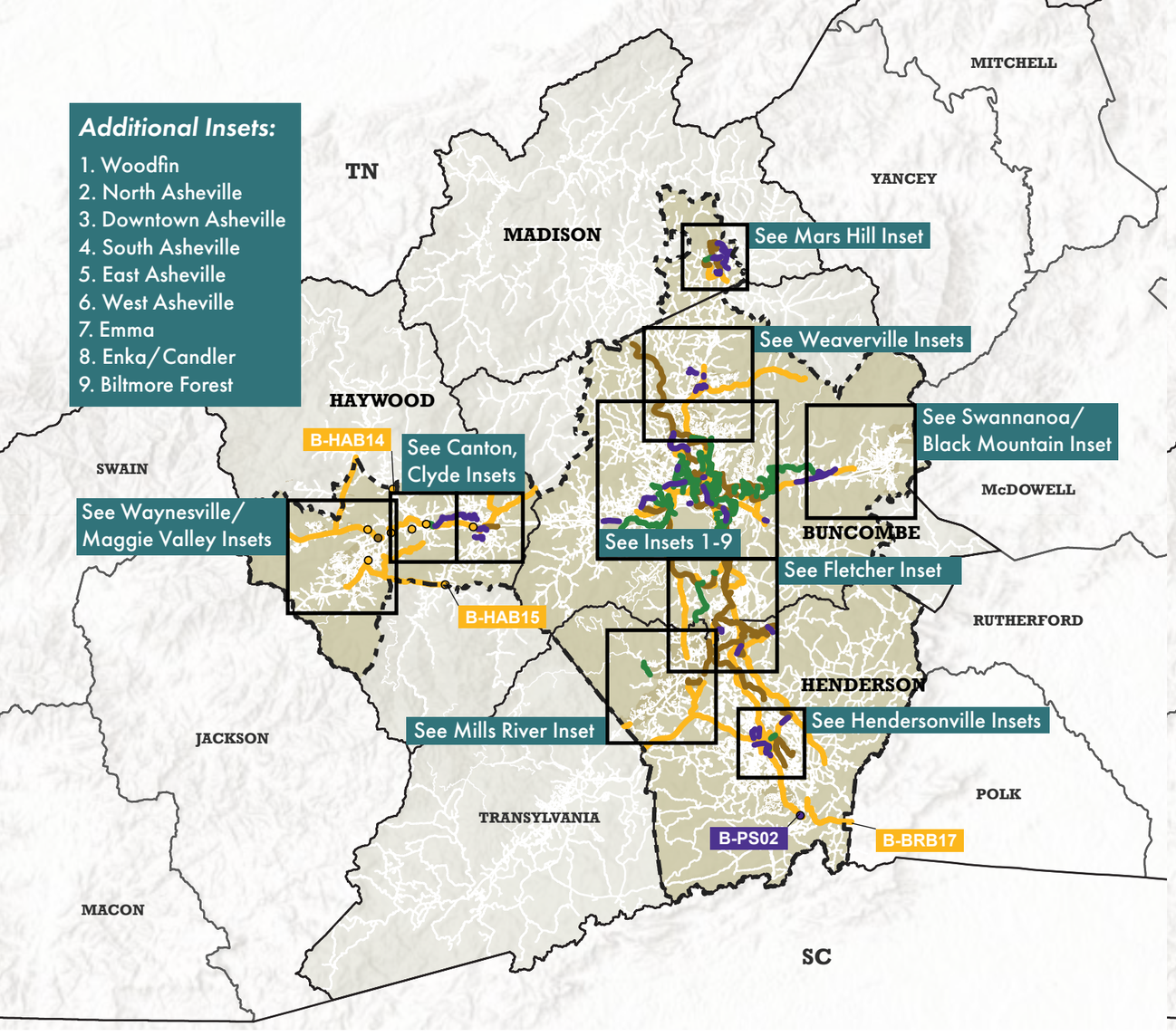
Develop Final Plan

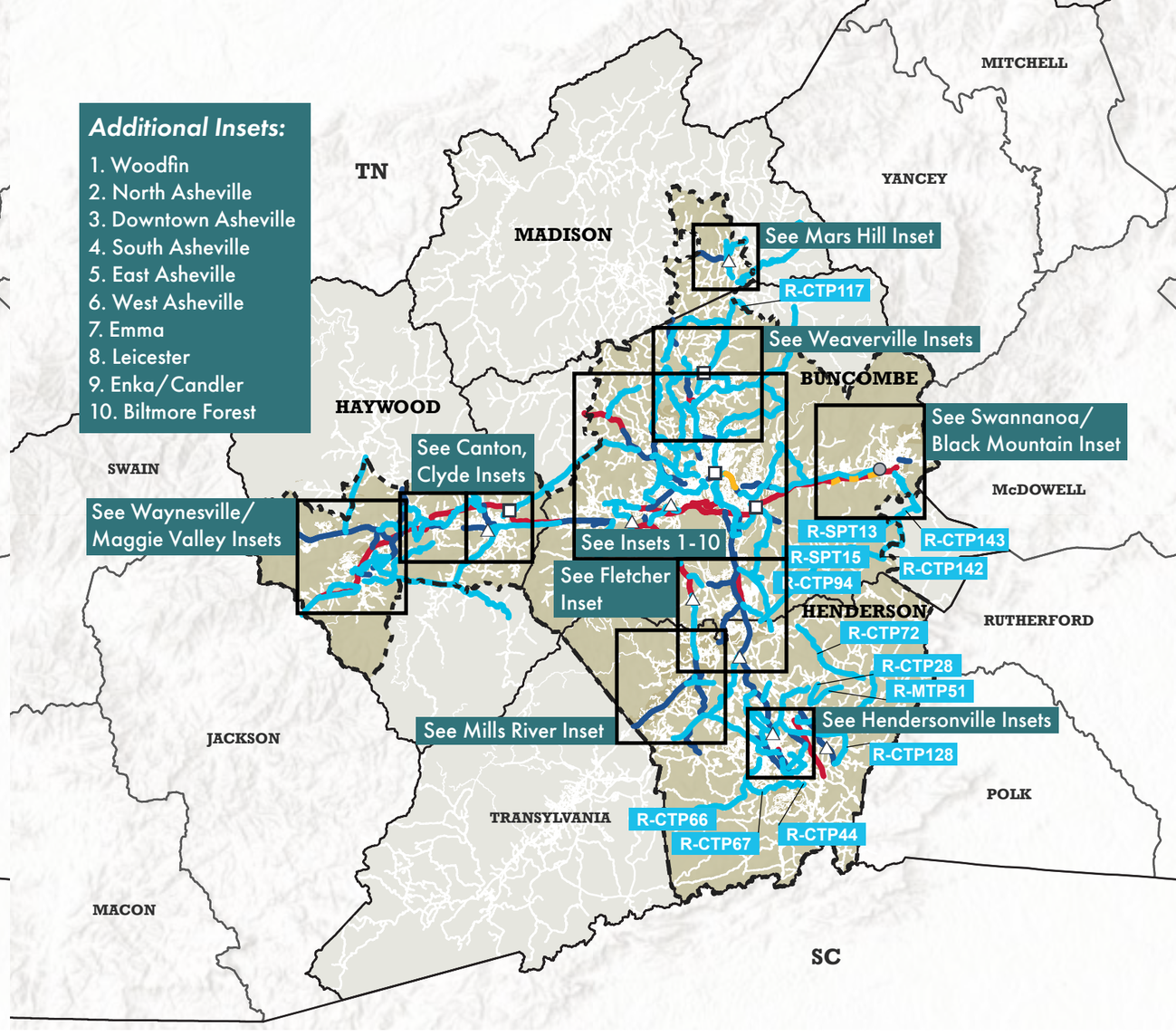
Prepare the MTP for adoption/endorsement by local decision-makers

Adopt Plan

Complete final adoption of MTP and CTP documentation

Figure 10.1: **Elevate 2050 Development Process**





BICYCLE/PEDESTRIAN RECOMMENDATIONS

Proposals that address identified needs through 2050

Map 10.1: CTP Bicycle/Pedestrian Recommendations

FRENCH BROAD RIVER METROPOLITAN PLANNING ORGANIZATION

Comprehensive Transportation Plan
RECOMMENDED
Date: September 18, 2025

	Proposal ID	Proposed
Bicycle	#	
Pedestrian	#	
Bicycle and Pedestrian	#	
Multi-Use Path	#	
Municipality		
FBRMPO		
County		

Basemap Date: April 30, 2025

Legal Disclaimer

These concepts will need additional analysis to meet state and federal environmental regulations, to determine final locations and designs, and to be funded for implementation. Local zoning or subdivision ordinances may require the dedication of right of way based on the concepts shown on the Comprehensive Transportation Plan and local collector street plans, based on N.C.G.S. § 136-66.2 and § 136-66.10.

N 0 2.5 5 7.5 10 Miles

HIGHWAY RECOMMENDATIONS

Proposals that address identified needs through 2050

Map 10.2: CTP Highway Recommendations

FRENCH BROAD RIVER METROPOLITAN PLANNING ORGANIZATION

Comprehensive Transportation Plan
RECOMMENDED
Date: September 18, 2025

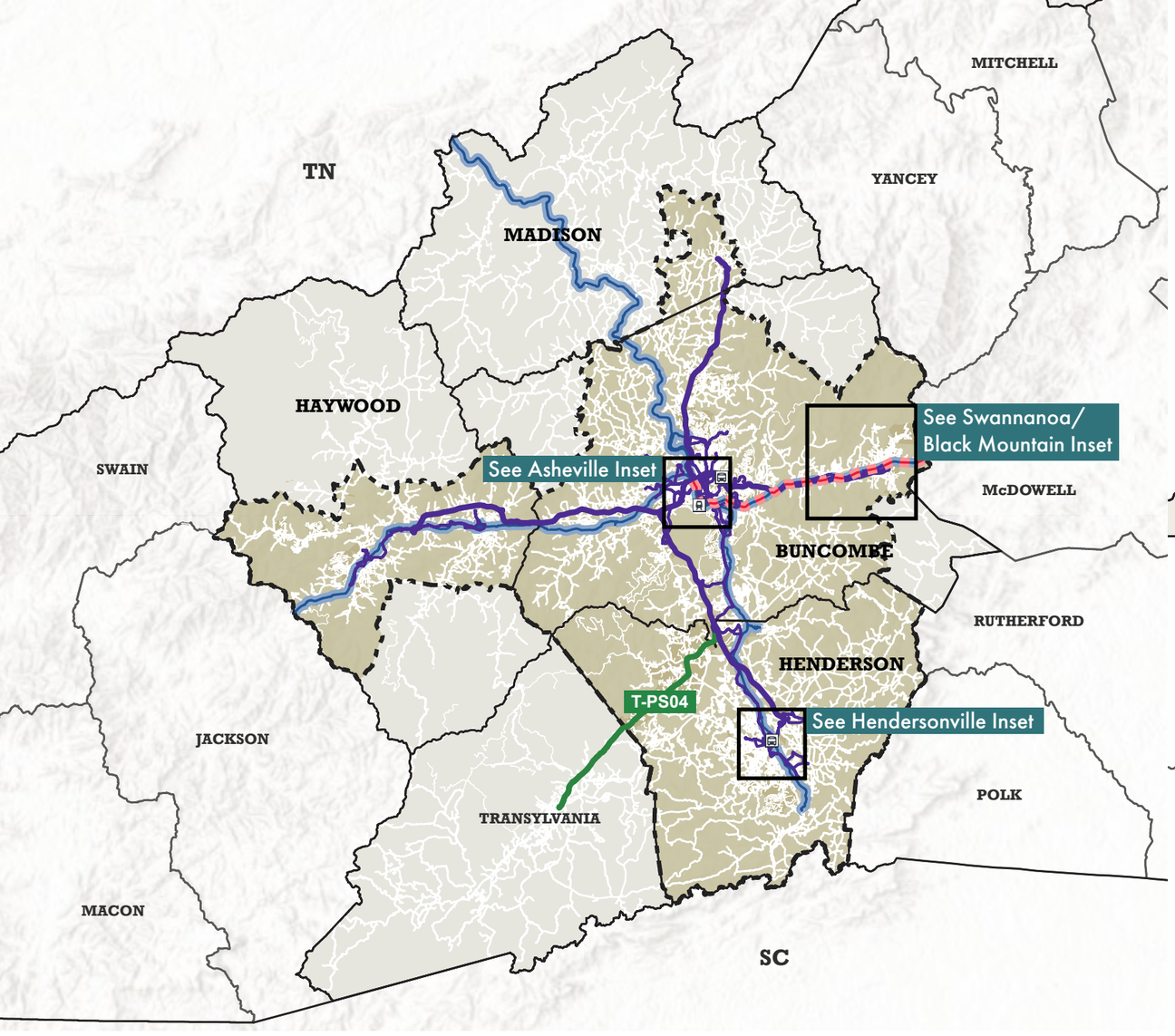
	ID	Improve Location	New Location
Congestion/Mobility *(e.g., add lanes)*	#		
Access Management / Operations *(e.g., add median)*	#		
Modernization *(e.g., widen lanes, add turn lanes)*	#		
Other *(e.g., safety, economic development*	#		
Interchange	#		
Bridge/Overpass	#		
Intersection	#		
Municipality			
FBRMPO			
County			

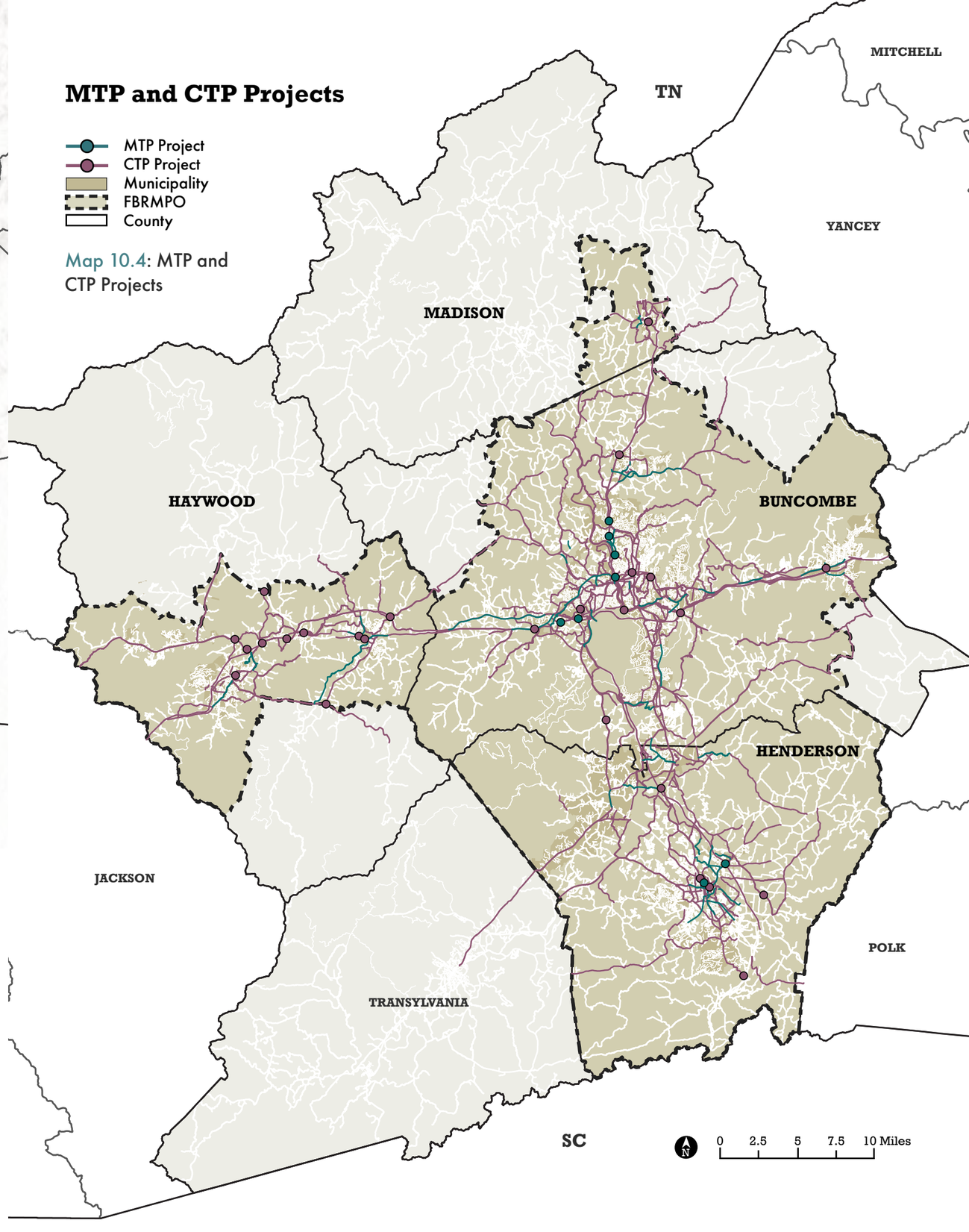
Basemap Date: April 30, 2025

Legal Disclaimer

These concepts will need additional analysis to meet state and federal environmental regulations, to determine final locations and designs, and to be funded for implementation. Local zoning or subdivision ordinances may require the dedication of right of way based on the concepts shown on the Comprehensive Transportation Plan and local collector street plans, based on N.C.G.S. § 136-66.2 and § 136-66.10.

N 0 2.5 5 7.5 10 Miles





Map 10.4: MTP and CTP Projects

PUBLIC TRANSPORTATION AND RAIL RECOMMENDATIONS

Proposals that address identified needs through 2050

Map 10.3: CTP Public Transportation and Rail Recommendations

FRENCH BROAD RIVER METROPOLITAN PLANNING ORGANIZATION

Comprehensive Transportation Plan
RECOMMENDED
Date: September 18, 2025

	Proposal ID	Existing	Proposed
Urban Fixed Bus Corridors	#		
Rural Fixed Bus Corridors	#		
Amtrak / Freight Route	#		
Current Railroad	#		
Transit Facility	#		
Amtrak Station	#		

Municipality
FBRMPO
County

Basemap Date: April 30, 2025

Legal Disclaimer

These concepts will need additional analysis to meet state and federal environmental regulations, to determine final locations and designs, and to be funded for implementation. Local zoning or subdivision ordinances may require the dedication of right of way based on the concepts shown on the Comprehensive Transportation Plan and local collector street plans, based on N.C.G.S. § 136-66.2 and § 136-66.10.

0 2.5 5 7.5 10 Miles