



CONNECT 2045



ROCKY MOUNT URBAN AREA

Metropolitan Transportation Plan



PREPARED FOR:



PREPARED BY:

Kimley»Horn

SEPTEMBER 2018

**RESOLUTION BY THE TRANSPORTATION ADVISORY COMMITTEE
APPROVING THE ROCKY MOUNT URBAN AREA
METROPOLITAN TRANSPORTATION PLAN CONNECT 2045**

The following resolution was offered by Chris Miller and seconded by David Pride for approval, and upon being put to a vote, was duly approved on the 17th day of September 2018.

WHEREAS, the Rocky Mount Urban Area Metropolitan Planning Organization, the North Carolina Department of Transportation, Transportation Planning Division and the North Carolina Board of Transportation are actively involved in continuing, cooperative and comprehensive transportation planning in the Rocky Mount Urban Area; and

WHEREAS, the Transportation Advisory Committee is the duly recognized transportation decision making body for the 3-C transportation planning process in the Rocky Mount Urban Area as required by 23 CFR Part 134; and

WHEREAS, the Technical Coordinating Committee and the Transportation Advisory Committee for the Rocky Mount Urban Area have prepared a Metropolitan Transportation Plan, which covers all modes of travel and has a horizon year of at least 20 years and is fiscally constrained; and

WHEREAS, the public has had the opportunity to comment upon the Rocky Mount Urban Area Metropolitan Transportation Plan as required by the Rocky Mount Urban Area public participation policy; and


WHEREAS, the Rocky Mount Urban Area Transportation Advisory Committee recognizes that the Metropolitan Transportation Plan CONNECT 2045 must be in conformance with the North Carolina State Implementation Plan (SIP) and the National Ambient Air Quality Standards as mandated by the Clean Air Act Amendments of 1990.

NOW, THEREFORE BE IT RESOLVED that the Rocky Mount Urban Area Transportation Advisory Committee does hereby approve the Rocky Mount Urban Area Metropolitan Transportation Plan CONNECT 2045, subject to a finding of conformity with the State Implementation Plan (SIP) or base year emission, in areas where no SIP has been approved or found adequate by the Environmental Protection Agency.

Resolved this the 17th day of September 2018.


W. B. Bullock TAC Chairman

I do hereby certify that the above is a true and correct copy of excerpts from the minutes of the TAC meeting on September 17, 2018 of the Rocky Mount Urban Area MPO.


Brad Kerr, TAC Secretary

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ACKNOWLEDGMENTS

On behalf of the project team, the Rocky Mount Urban Area MPO thanks the diverse group of participants whose input was instrumental to creating the blueprint for a safe, multimodal, and interconnected transportation system for the region. **CONNECT 2045** reflects the collaborative efforts of the public, stakeholders, local staff and officials, the North Carolina Department of Transportation (NCDOT), the Federal Highway Administration (FHWA), and the steering committee. The efforts of everyone are greatly appreciated.

TRANSPORTATION ADVISORY COMMITTEE

W.B. Bullock	Evelyn Powell
Robbie Davis	David Pride
Louise Hinton	Gus Tulloss
Chris Miller	Lamont Wiggins

TECHNICAL COORDINATING COMMITTEE

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CHAPTER 1 | VISION + FRAMEWORK

CHAPTER 2 | PUBLIC ENGAGEMENT

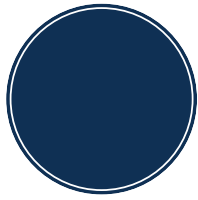
CHAPTER 3 | REGIONAL SNAPSHOT

CHAPTER 4 | MULTIMODAL FRAMEWORK

CHAPTER 5 | PERFORMANCE MEASUREMENT

CHAPTER 6 | INVESTING IN TRANSPORTATION

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CHAPTER 1

VISION + FRAMEWORK



Introduction

Planning Process

Vision



Introduction

WHAT IS CONNECT 2045?

CONNECT 2045, the Rocky Mount Urban Area's Metropolitan Transportation Plan (MTP), defines the strategy for creating a regional transportation system that accommodates the current mobility needs of its citizens and looks to the future to anticipate where needs may arise. The plan is an acknowledgment that transportation is a critical component of daily life and of the region's social fabric and man-made infrastructure. Residents rely on transportation to access education, health care, and jobs, while cities and industries rely on a functioning system to keep the region moving.

HOW IS THE PLAN USED?

The Rocky Mount Urban Area Metropolitan Planning Organization (MPO) is tasked with creating the MTP and ensuring that the plan is broadly inclusive and considers the human and natural environment in the region. The MTP identifies the long-range vision for transportation and the projects that are anticipated to move the region through the year 2045. It is a blueprint for guiding transportation investments, directing federal, state, and local dollars towards projects that the community needs and values.

The Rocky Mount Urban Area is approximately 198 square miles and incorporates parts of both Nash and Edgecombe Counties in North Carolina and fully encompasses the City of Rocky Mount, Town of Nashville, and Town of Sharpsburg. Map 1-1 on the next page shows the study area boundary and member jurisdictions.

On a broader level, the MTP is governed by the Fixing America's Surface Transportation Act (FAST Act), transportation legislation that ensures that the plan meets federal requirements: strengthening America's highways, establishing a performance-based program, creating jobs and supporting economic growth, supporting the United States Department of Transportation's (USDOT) aggressive safety agenda, streamlining Federal Highway Administration (FHWA) transportation programs, accelerating project delivery, and promoting innovation. The FAST Act legislation extends through 2020.

WHAT'S IN THE PLAN?

The MTP blends the area's vision for transportation, a review of existing conditions, and future needs with a realistic set of priorities, recommendations, and supporting policies. The following describes the chapters included in this plan and the content included in each:

Chapter 1 - Vision and Framework

- Chapter 1 outlines the framework of the plan and introduces the planning process.

Chapter 2 - Public Engagement

- Chapter 2 provides an overview of the public engagement process and what we heard.

Chapter 3 - Regional Snapshot

- Chapter 3 presents a review of existing conditions including a review of regional centers of gravity, demographics and associated trends, and existing transportation assets.

Chapter 4 - Multimodal Framework

- Chapter 4 outlines the development of the full universe of projects identified through the MTP and introduces the methodology used to identify priority projects.

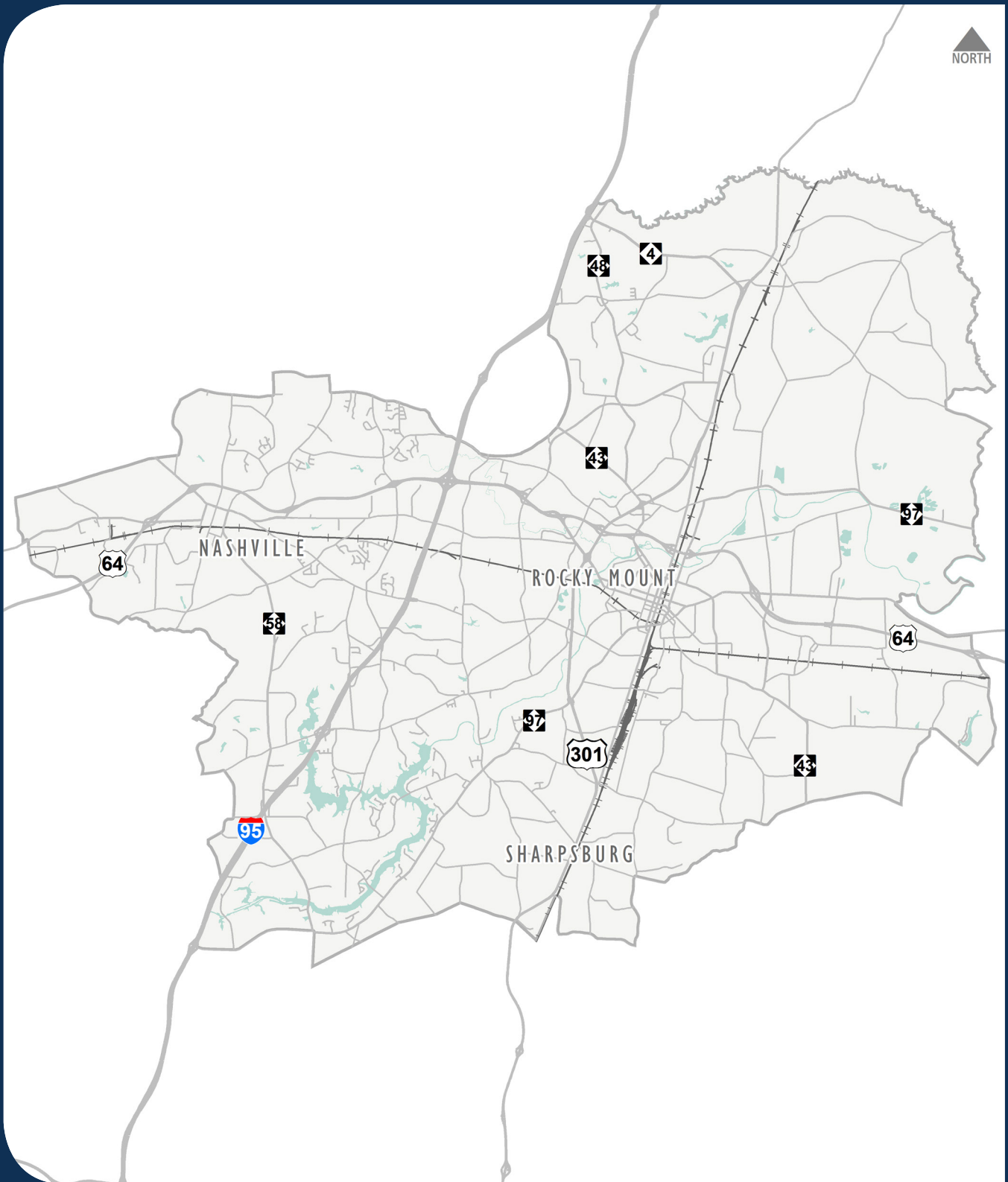
Chapter 5 - Performance Measurement

- Chapter 5 discusses the role of performance-based planning and new requirements for monitoring and evaluation.

Chapter 6 - Investing in Transportation

- Chapter 6 explores available funding mechanisms at the federal, state, and local levels and offers a strategy for implementing projects.

Map 1-1: Study Area



Planning Process

The planning process for the MTP placed a heavy emphasis on community level feedback to help guide the development of the plan and validate its findings. It was rooted in a broad-based engagement strategy that encouraged participation throughout the process, not only informing the community of the plan's motives, but also gathering information from the community's perspective. This allowed the planning process to be a truly community-based effort that reflects and respects the needs and values of those who live in, do business in, and travel in the region.

The critical components of the planning process are as follows to the right. Public Involvement and Guiding Statements are elements of the planning process that were frequently revisited throughout the plan's development and served as feedback loops to the Existing Conditions, Recommendations, and Prioritization & Financial Analysis elements to ensure that the planning process and results are inclusive and reflective of the community's wants and wishes.

Vision

The guiding principles identified for the MTP reflect the regional vision for a future transportation system, as well as factors from the FAST Act. These statements play a significant role in making sure that project recommendations represent the region's intentions. **CONNECT 2045** includes eight guiding principles, which can be seen throughout the Plan as they influence many of the individual recommendations. The eight guiding principles are presented in alphabetical order on the following page. In the pages that follow each guiding principle is expanded upon with a goal statement and supporting objectives.

Public Involvement

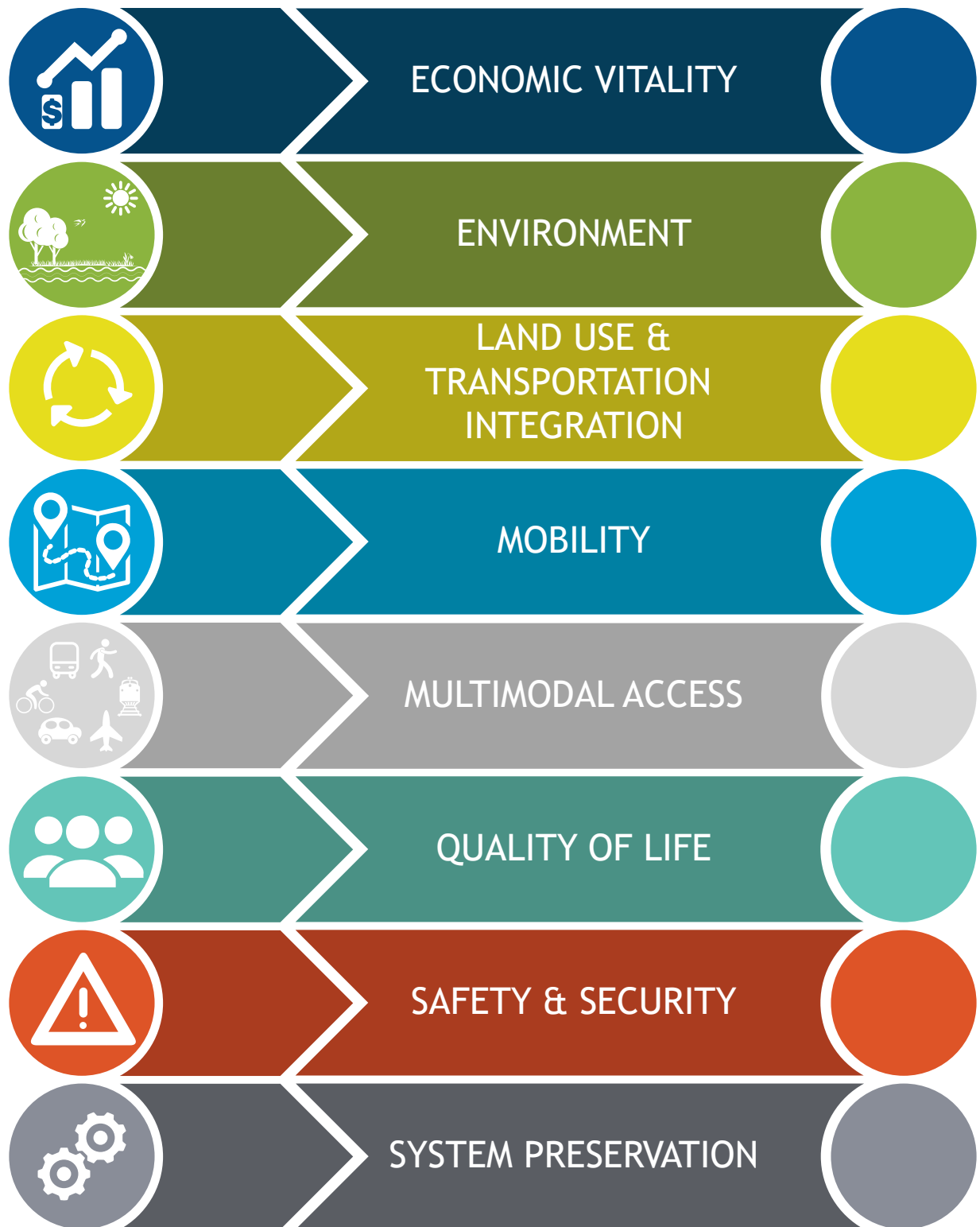
Guiding Statements

Existing Conditions

Recommendations

Prioritization &
Financial Analysis

Figure 1-1: Guiding Principles





ECONOMIC VITALITY

Supporting a positive economic climate with a transportation system that makes it easier to move people and freight within and through the Rocky Mount Urban Area.

OBJECTIVES

- Work with local governments to promote regional planning consistency, communication, and cooperation.
- Increase the accessibility and mobility of people and freight within the region.
- Identify and fill the transportation needs of employers and employees.
- Identify the transportation investment needs required to ensure the economic attractiveness and competitiveness of the region.



ENVIRONMENT

Preserving and enhancing the Rocky Mount Urban Area's valued places, health, and environment.

OBJECTIVES

- Implement transportation projects and services consistent with the area's air quality improvement program.
- Protect and enhance the natural environment by using context sensitive transportation strategies.
- Emphasize preservation of historic places.



LAND USE & TRANSPORTATION INTEGRATION

OBJECTIVES

- Coordinate transportation planning and land use to ensure adequate infrastructure to support priority investments and growth areas.
- Support efficient infill and redevelopment opportunities by maximizing use of the existing transportation system.
- Leverage gateways and aesthetics of both development and transportation infrastructure to create an atmosphere that fosters economic investment and sense of place.

Coordinating transportation investments with land use/development decisions.



MOBILITY

OBJECTIVES

- Link local and regional destinations through improved connections and enhanced integration among travel modes.
- Improve traffic flow by controlling driveways, installing medians, and coordinating traffic signals.
- Improve road and rail connections to industrial assets.
- Provide efficient regional and local freight routes.

Making it easier to move within and through the Rocky Mount Urban Area for drivers, freight movers, pedestrians, bicyclists, and transit users.



MULTIMODAL ACCESS

Providing a balanced transportation system that makes it easier to use all modes of travel regardless of socioeconomic status or physical ability.

OBJECTIVES

- Plan for an integrated multi-modal system including streets, rail, bus, bicycle, pedestrian, and air facilities to serve the transportation needs of all citizens.
- Provide desirable and user-friendly transportation options for all user groups regardless of socioeconomic status or physical ability.
- Support a fully integrated multimodal network that advances the concept of complete streets.



QUALITY OF LIFE

Enhancing and promoting the Rocky Mount Urban Area's quality of life and preserving local character.

OBJECTIVES

- Preserve and enhance established residential areas.
- Promote strong transportation connections between development nodes and neighborhoods.
- Create barrier free connectivity to community assets such as schools, parks, and recreation areas.



SAFETY & SECURITY

OBJECTIVES

- Identify dangerous road segments and intersections and provide safety countermeasures.
- Reduce crashes, injuries, and fatalities for all modes of travel.
- Be prepared for transportation emergencies caused by both natural disasters and security threats.
- Clear the transportation system of debris, high water, snow/ice, and disabled vehicles in a timely and orderly fashion.

Promoting a safe and secure transportation system by reducing crashes, making travel predictable, and improving emergency response.



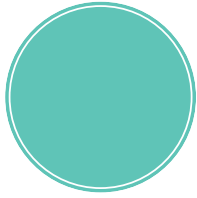
SYSTEM PRESERVATION

OBJECTIVES

- Identify and prioritize the maintenance and rehabilitation needs of the transportation system.
- Increase the use of innovative transportation technology to enhance the efficiency of travel times and minimize delays by notifying citizens of travel conditions and alternative route options.
- Use preventive maintenance programs to reduce the life-cycle costs of the transportation system facilities.
- Maximize the use of Powell Bill Funds to improve the transportation system.

Extending the life of the transportation system by emphasizing maintenance, long term viability, and operational efficiency.

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CHAPTER 2

PUBLIC ENGAGEMENT



Introduction

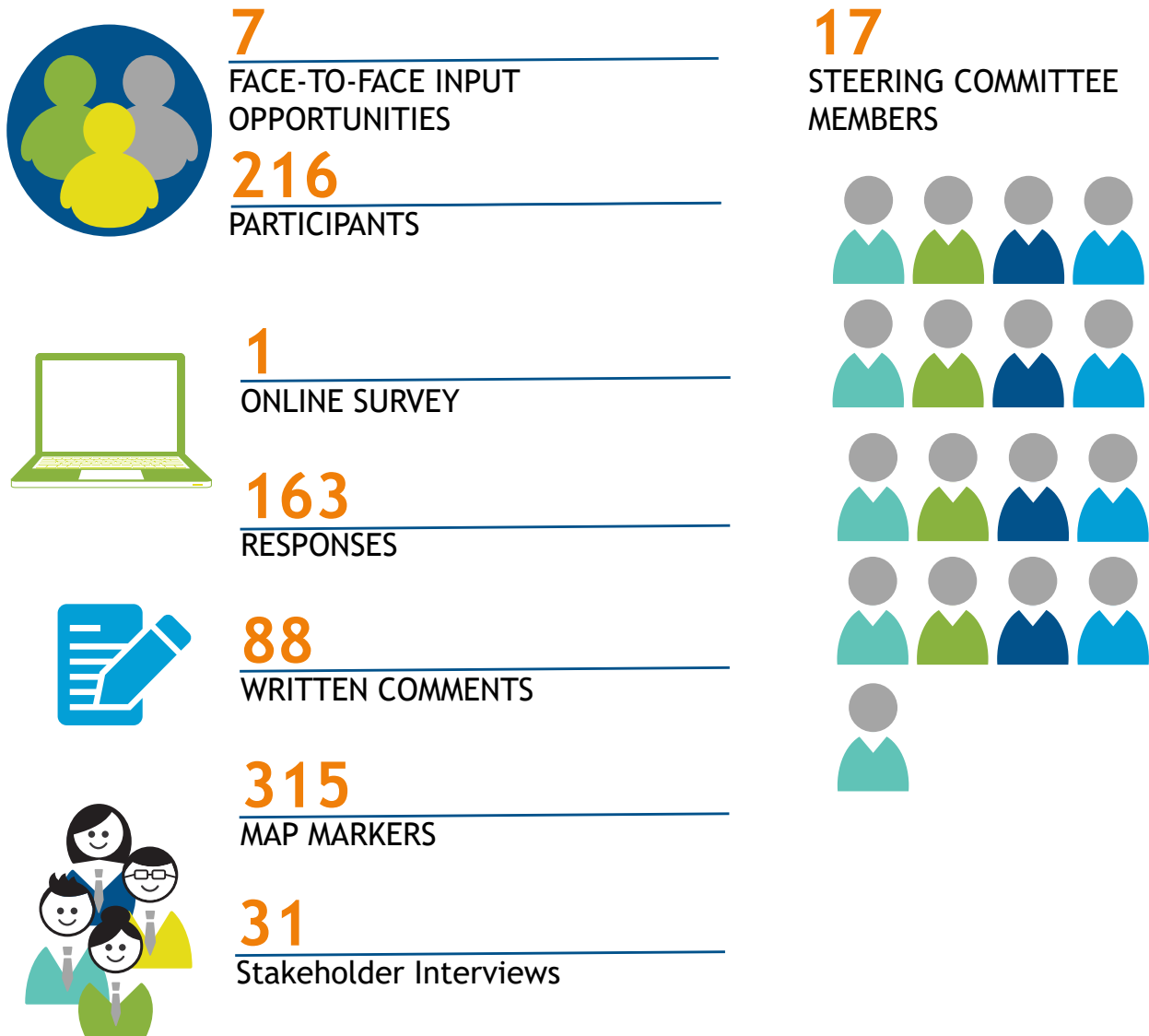
Public Engagement Opportunities



Introduction

Public involvement – whether through direct or indirect contact with citizens, stakeholders, elected officials, and other community representatives – is an important part of successful transportation planning. Fully understanding the region’s transportation vision and the dynamics involved in achieving it requires a collaborative approach. As a result, local staff and the project team reached out to citizens, stakeholders, elected officials, and other community representatives throughout the planning process in a variety of ways. The figure to the right provides a snapshot of engagement throughout the planning process.

Figure 2-1: Outreach at a Glance



Public Engagement Opportunities

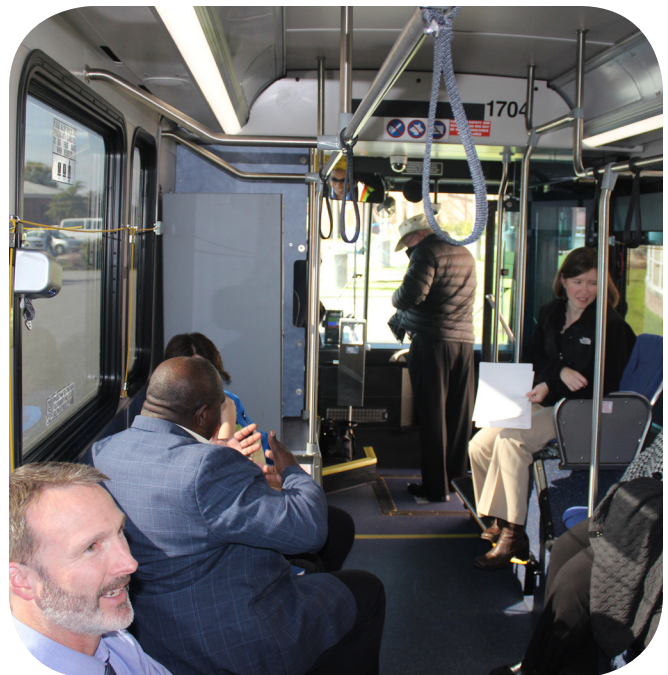
STEERING COMMITTEE

The project steering committee, consisting of 16 representatives from member jurisdictions, interested citizens, and agency partners, met with the project team four times over the course of the planning process. Committee members had the opportunity to:

- Provide direction for the development of the plan
- Share local knowledge of transportation deficiencies and needs
- Share public engagement opportunities with family, friends, and coworkers
- Vet multimodal recommendations
- Review the plan's final content

Steering committee meetings were held at various key locations around the City of Rocky Mount, including on a mobile Tar River Transit bus. The varying locations allowed the Steering Committee to learn more about the City and the region, including a first-hand view of the transit system and economic development underway. A full list of meeting dates and locations is in the table below. For the meeting agendas and presentations see Appendix A: Public Outreach Compendium.

Meeting Date	Location
September 28, 2017	Rocky Mount City Hall
November 15, 2018	Tar River Transit Bus
January 15, 2018	Helen P. Gay Train Station
March 22, 2018	Station Square Mall



STAKEHOLDER INTERVIEWS

Information was gathered through several stakeholder interviews. Stakeholder interviews were conducted in small groups organized around shared interests:

- Modal and Recreation Representatives
- Development Representatives
- Industry and Business Representatives
- Health Care and Social Services Representatives
- Citizen Advocates
- School Representatives

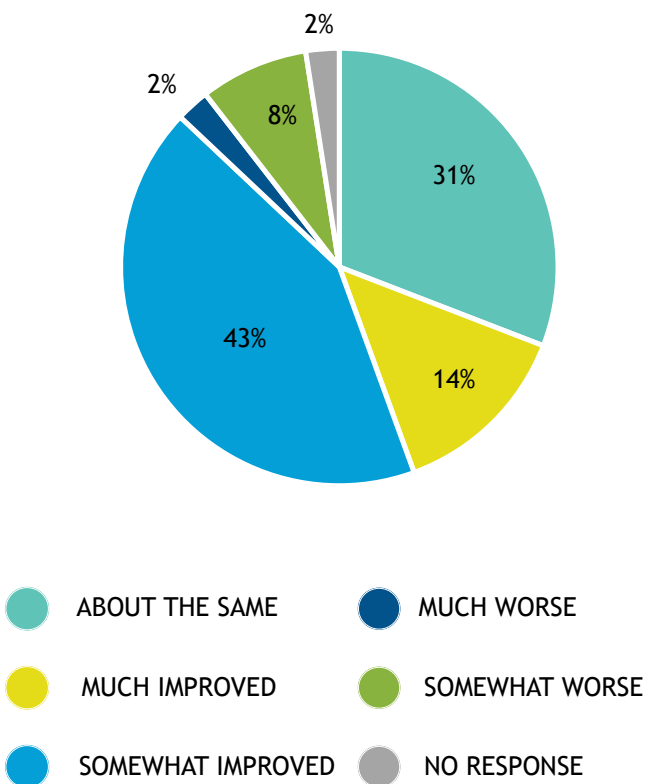
The meetings shed light on issues and needs of the transportation system relative to each organization's interests. More importantly, the stakeholder meetings conveyed a resounding sense of pride and excitement for the Rocky Mount Urban Area and the improvements currently or soon to be in progress. Key information obtained through the stakeholder interview process is located in Appendix A: Public Outreach Compendium.



ONLINE SURVEY

An interactive online survey was available from mid-November 2017 through the end of March 2018. Over the next four months, more than 150 participants offered input on community preferences, opinions, and issues for the various transportation modes. When asked about the state of the transportation system over the last five years, 57% stated that it was either much improved or somewhat improved. Another 31% claimed that the system has remained the same over the past five years, while only 10% believe that it has gotten much or somewhat worse. Participants also identified issues and potential solutions by placing lines and icons on an interactive map. Participants provided many suggestions for improvements through this mapping exercise, particularly related to bicycle and pedestrian accommodations. A full summary of the survey results can be found in Appendix A: Public Outreach Compendium.

Figure 2-2: Survey Response



Transportation today...



Our vision for the future...



PUBLIC WORKSHOP

The first public meeting for **CONNECT 2045** was held on the evening of November 15, 2017 at the Imperial Centre in Downtown Rocky Mount. It was an interactive open house where more than 50 attendees received information about the planning process and participated at interactive stations. These stations focused on vision and needs assessment and included:

- Information wall
- One Word
- Priority Dotmocracy
- Thought Wall
- Mapping Exercise

Additionally, this workshop was held jointly with the project team leading the development of the City of Rocky Mount's Bike Plan. Participants could learn about the different bicycle facilities and provide their preferences, as well as provide feedback on a map.



OPEN HOUSE

The second public meeting for **CONNECT 2045** was held on April 24, 2018 at Rocky Mount City Hall. This open house-style meeting included an overview of the prioritized recommendations and the financially constrained plan. Project team members were available to answer questions and provide information about the process.

COMMITTEE AND AGENCY REPRESENTATIVES

Once the project team had developed a draft list of prioritized recommendations, they met with the NCDOT Division 4 engineers, the NCDOT Transportation Planning Division representative, City of Rocky Mount staff, and FHWA to help vet the prioritized list of recommendations and ensure their feasibility.

The project team also presented the draft list of prioritized recommendations to the City of Rocky Mount's City Council, as well as both the Rocky Mount MPO's Transportation Advisory Committee (TAC) and Technical Coordinating Meeting (TCC).

To see the full agendas and presentations of all outreach efforts, see Appendix A: Public Outreach Compendium.

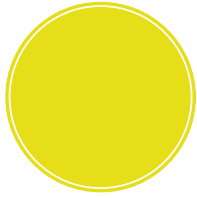
COMMUNITY AND SPECIAL INTEREST GROUPS

A key element of the engagement strategy included targeted update presentations around the region. MPO staff presented to five groups to share the Plan's vision and receive feedback on the direction for prioritizing projects. These presentations allowed 130 additional people to hear about **CONNECT 2045** and how they could get involved. The table below details the community update presentations.

Group	Date	Attendees
Villa Place Neighborhood Meeting	February 10, 2018	31
Englewood United Methodist Church (EUMC) Men's Meeting	February 13, 2018	33
Council of Community Services	February 20, 2018	12
Festival of Cultures at Nash Community College	March 3, 2018	40
Tar River Transit Advisory Board	March 8, 2018	15



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CHAPTER 3

REGIONAL SNAPSHOT



Introduction

Land Use Profile

Demographic Profile

Mobility Profile

Previous Planning



Introduction

Transportation is not only a critical component of our daily life, but it also represents a crucial part of a region's social fabric and man-made infrastructure. Residents rely on transportation to access education, health care, and jobs, while cities and industries rely on a functioning system to keep the region moving. **CONNECT 2045**, the Rocky Mount Urban Area's Metropolitan Transportation Plan (MTP), defines the strategy for creating a regional transportation system that accommodates the current mobility needs of residents and looks to the future to anticipate where needs may arise.

STATE OF THE REGION

The **CONNECT 2045** State of the Region highlights and assesses demographics, economics, and transportation elements in the study area. The report also includes a review of previous plans that are related to the future growth and transportation of communities in the region. The existing conditions highlighted in this chapter helped inform the creation of regional transportation strategies throughout the planning process.

Land Use Profile

Transportation and land use are both focused on creating neighborhoods and communities that function well, serve their people, respect their heritage, and offer new and enlarged opportunity. The investment in specific transportation corridors and travel modes has a direct effect on where developers and consumers decide to locate. This section highlights the underlying connection between the transportation system and the study area's regional context, activity centers, and development constraints.

REGIONAL CONTEXT

The Study Area is in northeastern North Carolina along the border of both Nash and Edgecombe Counties. As well as the county line, the Rocky Mount Urban Area straddles the geographic line that demarcates the piedmont and coastal plain regions of North Carolina. Geographically, the study area is approximately 50 miles east of Raleigh, the state capital, 125 miles south of Richmond Virginia, and 150 miles west of the coast of North Carolina.

ACTIVITY CENTERS

The Rocky Mount Urban Area is home to several major activity centers for employment, education, and entertainment, as well as a new mixed-use community.

Downtown Rocky Mount

Downtown Rocky Mount is thriving with new development and several key activity centers. Downtown is home to the Douglas Block, Booker T. Theatre, the Imperial Centre for the Arts and Sciences, and the Braswell Memorial Library. Adding to this list of great existing activity generators will be the new Rocky Mount Event Center (RMEC). The RMEC is a planned indoor sports facility that will include 8 basketball courts, 16 volleyball courts, family entertainment areas, as well as meeting and conference rooms.

Creating a vibrant live, work, play community just outside of Downtown Rocky Mount is the Rocky Mount Mills development. This unique development is transforming the historic mill district into a destination for residential and retail developments, including both a microbrewery and small business incubator.

Colleges

The study area is home to three colleges: Nash Community College, Edgecombe Community College, and North Carolina Wesleyan College. Together these three colleges serve over 30,000 students and nearly 1000 full and part-time faculty positions.

Downtown Nashville

As the Nash County seat, Nashville hosts the county administrative building, courthouse, health department, social services, emergency services, senior center, Nash Arts, and the Nash-Rocky Mount school system's administrative offices.

Parks and Recreation

The study area is home to more than 30 parks ranging in size from a small city block to 38-acres. In addition to traditional parks, the study area is home to several community centers and unique recreational opportunities such as access to the 55-mile long Tar River Paddle Trail, the Rocky Mount Sports Complex, and the 3.1-mile long Tar River Trail.



DEVELOPMENT CONSTRAINTS

There are several man-made and natural features that impact planning and development within the MPO boundary. The railroad and the Tar River are both part of rich tradition and appeal in the Rocky Mount Urban Area; however, they often limit and complicate local development.

Hydrology

While the Tar River and its surrounding floodplains provide some of the richest farmlands in the region, the ability to develop this land is limited due to floodway storage regulations. Additionally, the width of the river and the floodplain create barriers for the transportation system. Crossing the river requires more costly infrastructure improvements or additions such as bridges.







Rail

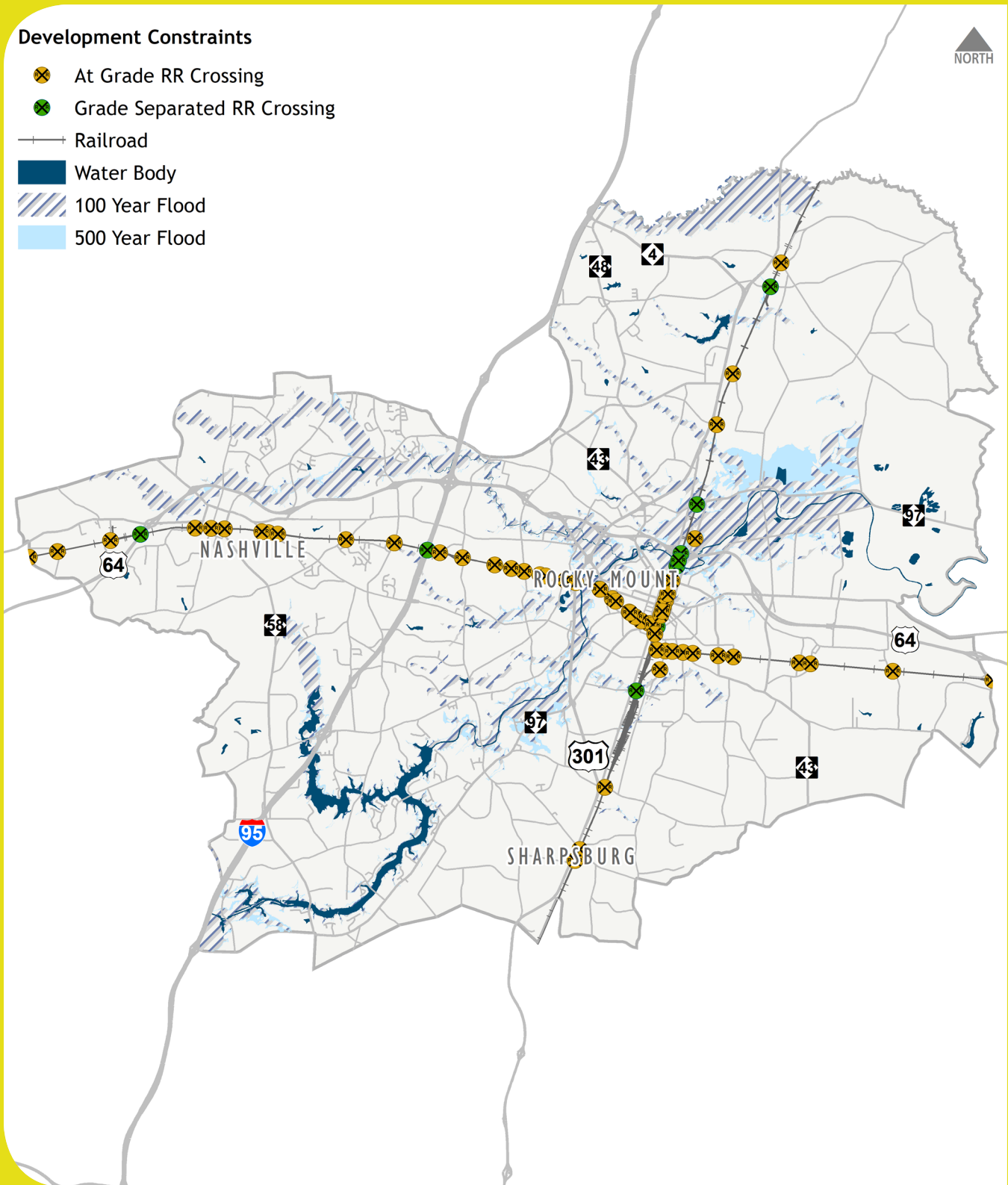
Both east-west and north-south railroad corridors cross the study area. The CSX "A" Line runs north-south and forms the county line between Nash and Edgecombe Counties, and accommodates both passenger and freight trains. Two east-west rail lines extend from Downtown Rocky Mount. One, the Carolina Coastal Railway, extends toward the west to Spring Hope, NC. The other, the CSX "AB" Line, extends east toward Plymouth, NC. Safely moving vehicles, pedestrians, and bicyclists across the region's 56 at-grade crossings is a primary concern for the MPO.



Map 3-1: Development Constraints

Development Constraints

-  At Grade RR Crossing
-  Grade Separated RR Crossing
-  Railroad
-  Water Body
-  100 Year Flood
-  500 Year Flood



Demographic Profile

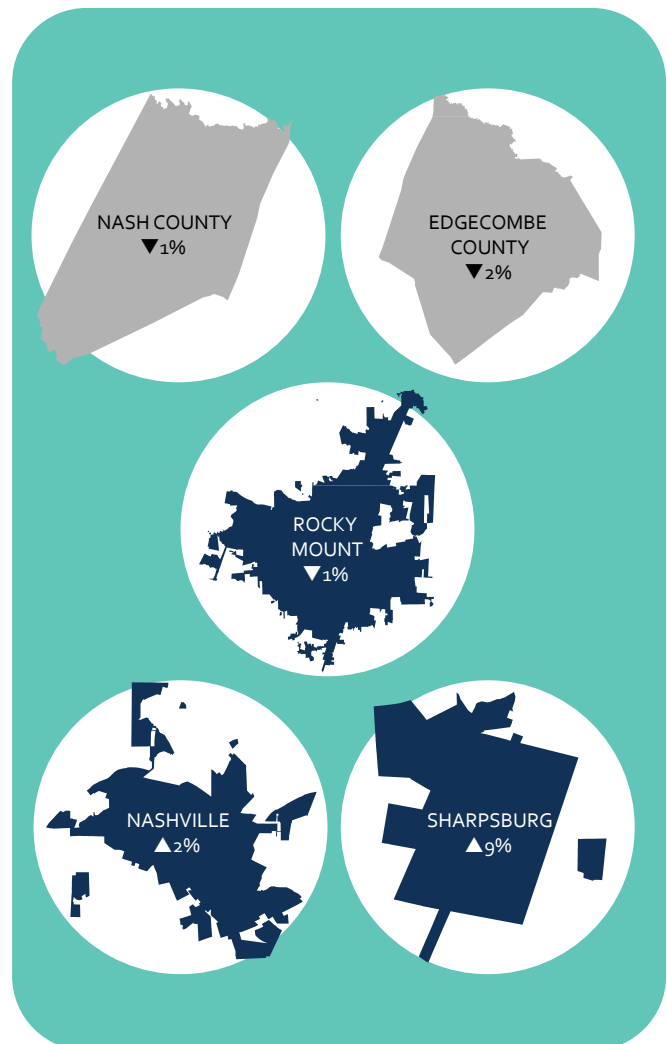
Mobility offers community members access to education, jobs, cultural resources, recreational activities, and more. Transportation plays an important role in this relationship since people use the system to connect to places. Making sure population trends are reflected in the transportation network allows for infrastructure investments to adjust to, anticipate, and accommodate future demand and different lifestyles.

POPULATION & HOUSEHOLD CHARACTERISTICS

Population







The Rocky Mount Urban Area is most densely populated in the City of Rocky Mount near the US 301 and US 64 corridors. Total population across the Rocky Mount Urban Area has been slowly decreasing since the 2010 census. The graphic below displays the percent change in population of the MPO's member jurisdictions between 2010 and 2015 according to the North Carolina Office of State Budget and Management's (NC OSBM) county and municipal population estimates. According to NC OSBM, this population decrease is anticipated to continue in Edgecombe County, while Nash County's population remains stable. Population data can be found in the appendix.

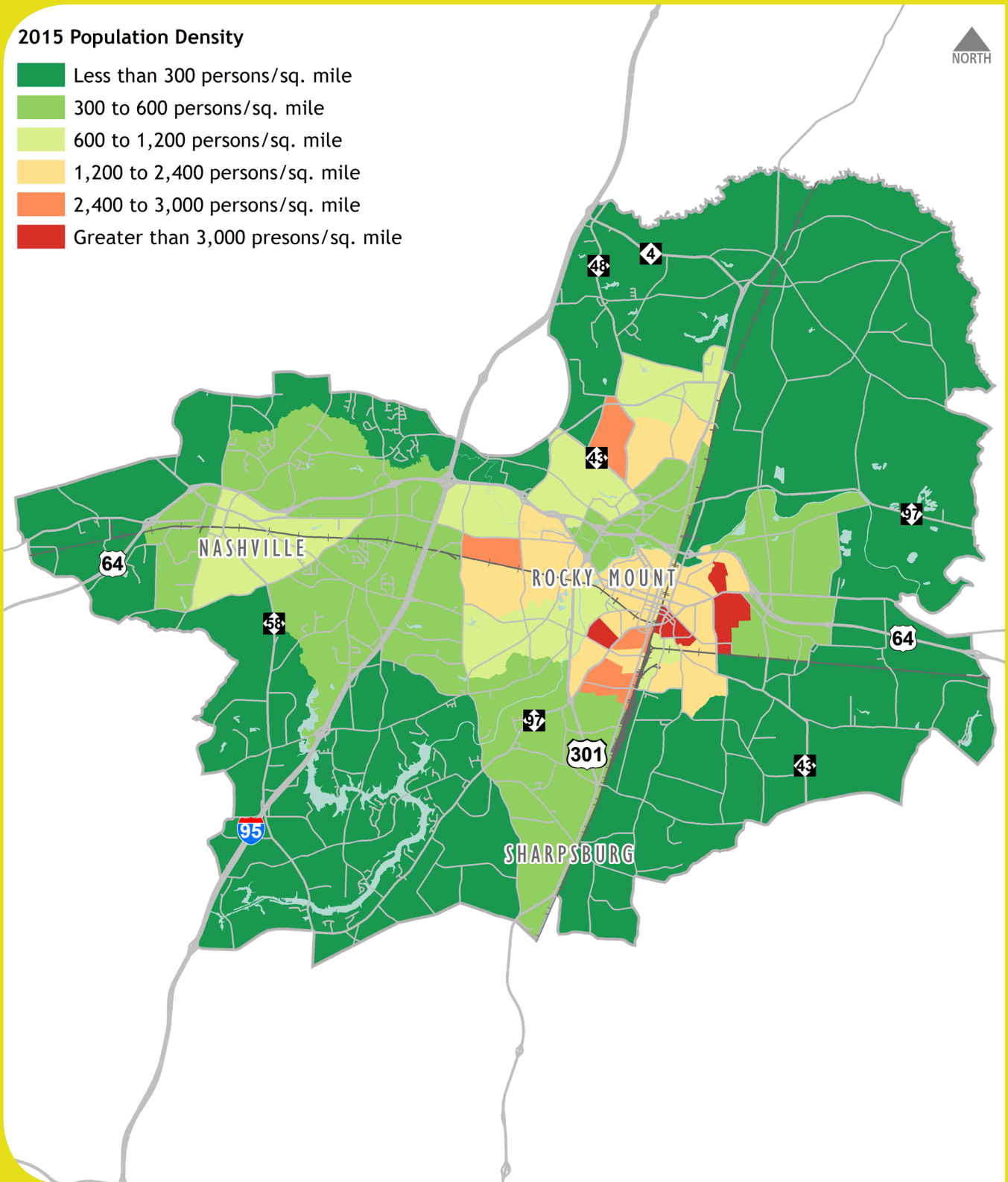
Figure 3-1: 2010 to 2015 Population Growth Rates



Map 3-2: Population Density

2015 Population Density

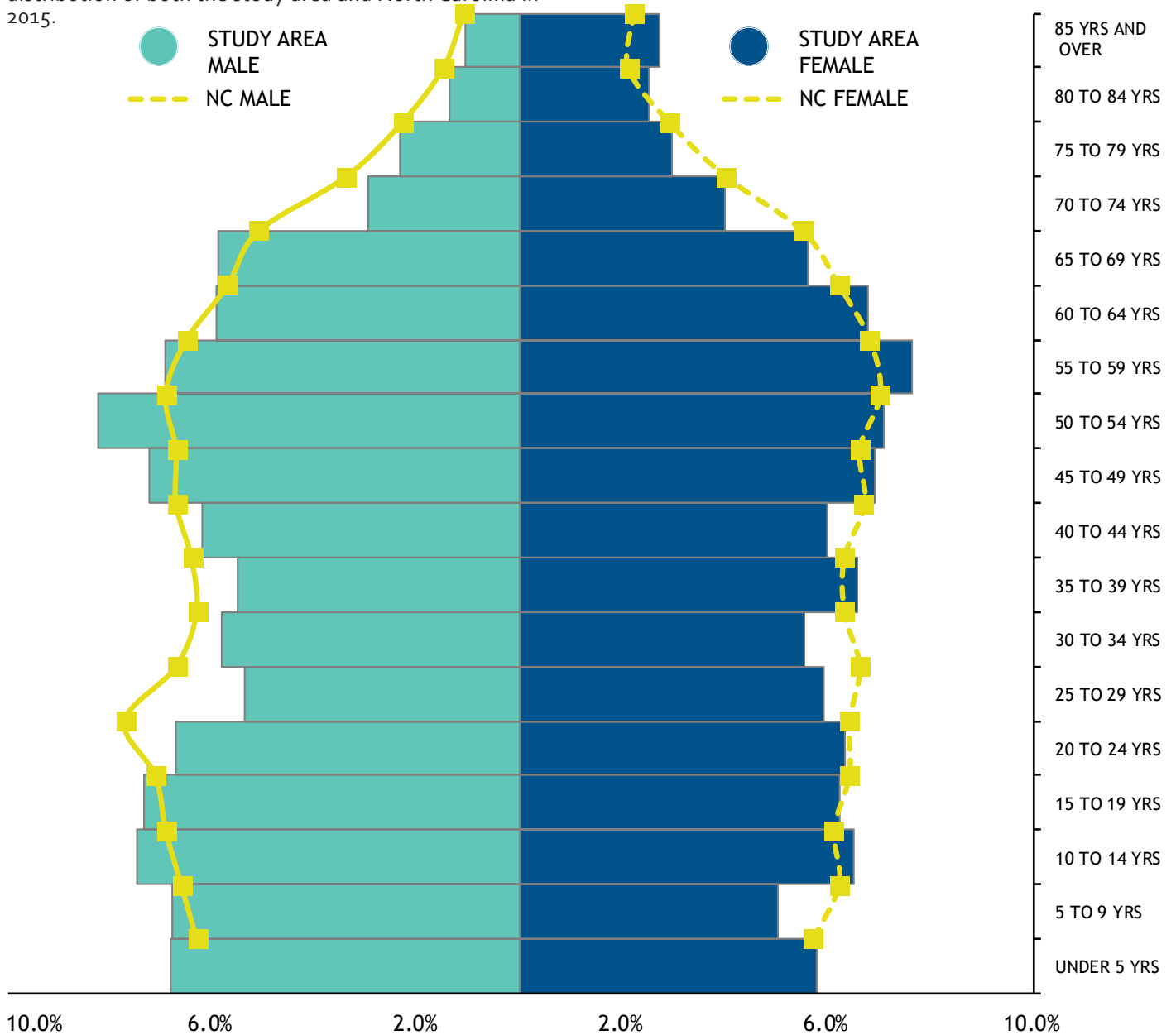
-  Less than 300 persons/sq. mile
-  300 to 600 persons/sq. mile
-  600 to 1,200 persons/sq. mile
-  1,200 to 2,400 persons/sq. mile
-  2,400 to 3,000 persons/sq. mile
-  Greater than 3,000 persons/sq. mile



Age

The median age in the study area is approximately 40 years of age, higher than the statewide median age of 38. Additionally, like national trends, the percentage of the population over 65 years of age is steadily increasing. Approximately 16% of the local population is age 65 or older, up 2% since 2010. The age distribution in the study area reflects a slightly smaller millennial population (ages 18-34 in 2015) and a slightly higher baby boomer population (ages 51-69 in 2015) than that of the state. The figure below displays the age and gender distribution of both the study area and North Carolina in 2015.

Figure 3-2: Age and Gender Distribution



Race & Ethnicity

Federal transportation policy requires the consideration of needs of those traditionally under-served by existing transportation systems, such as low income and minority households. Understanding where concentrations of racial populations are located will help ensure equitable transportation services across diversity lines.

The Rocky Mount Urban Area is home to a racially diverse population. Approximately 48% of the population identifies as African American, 47% white, while the remaining 5% identify as some other race.

As a point of comparison, 69.6% of the population in North Carolina are white, 21% are African American, and 9% identify as some other race. Not noted in the graphic below are residents of Hispanic or Latino origin, which can identify with any race. Approximately 3.7% of residents are of Hispanic or Latino origin, significantly less than 9.6% for the state of North Carolina.

Geographically, the largest percentage of minority populations live along the US 301 corridor and county line. The map on the adjacent page shows the percent minority population by block group.

Figure 3-4: Ethnic Diversity, Rocky Mount Urban Area, 2015

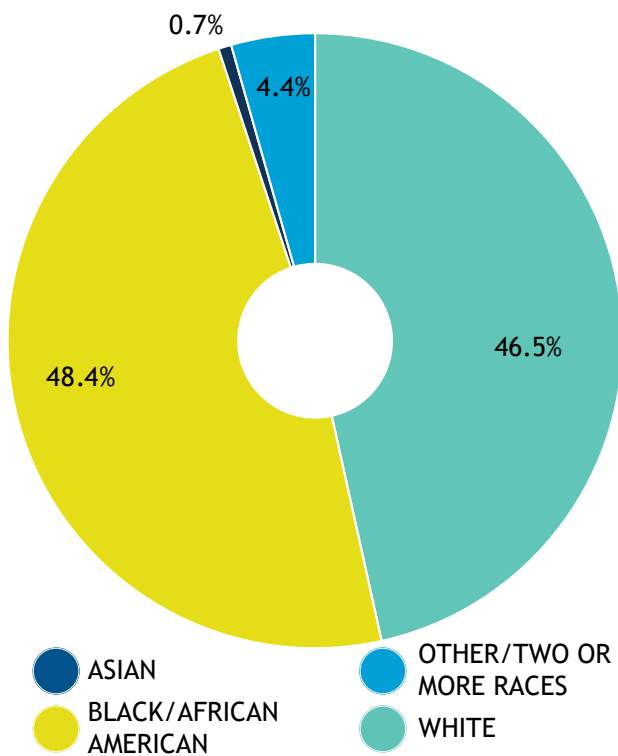
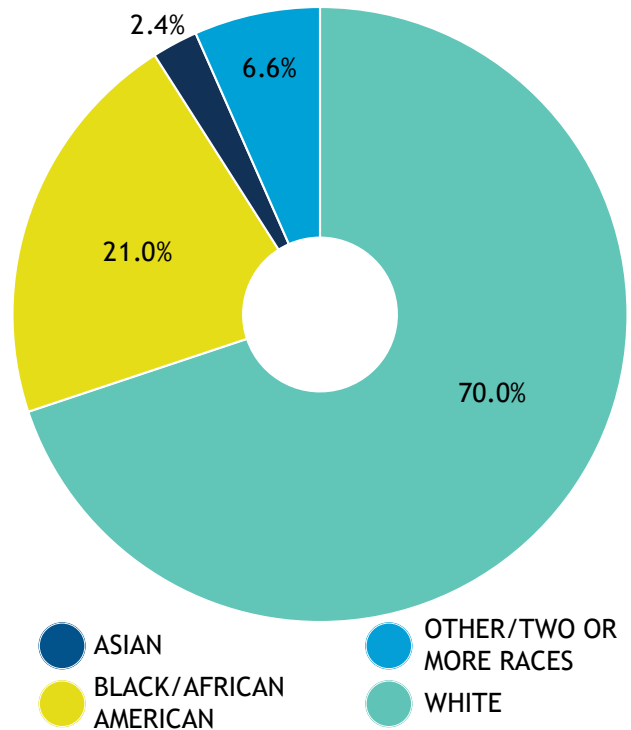
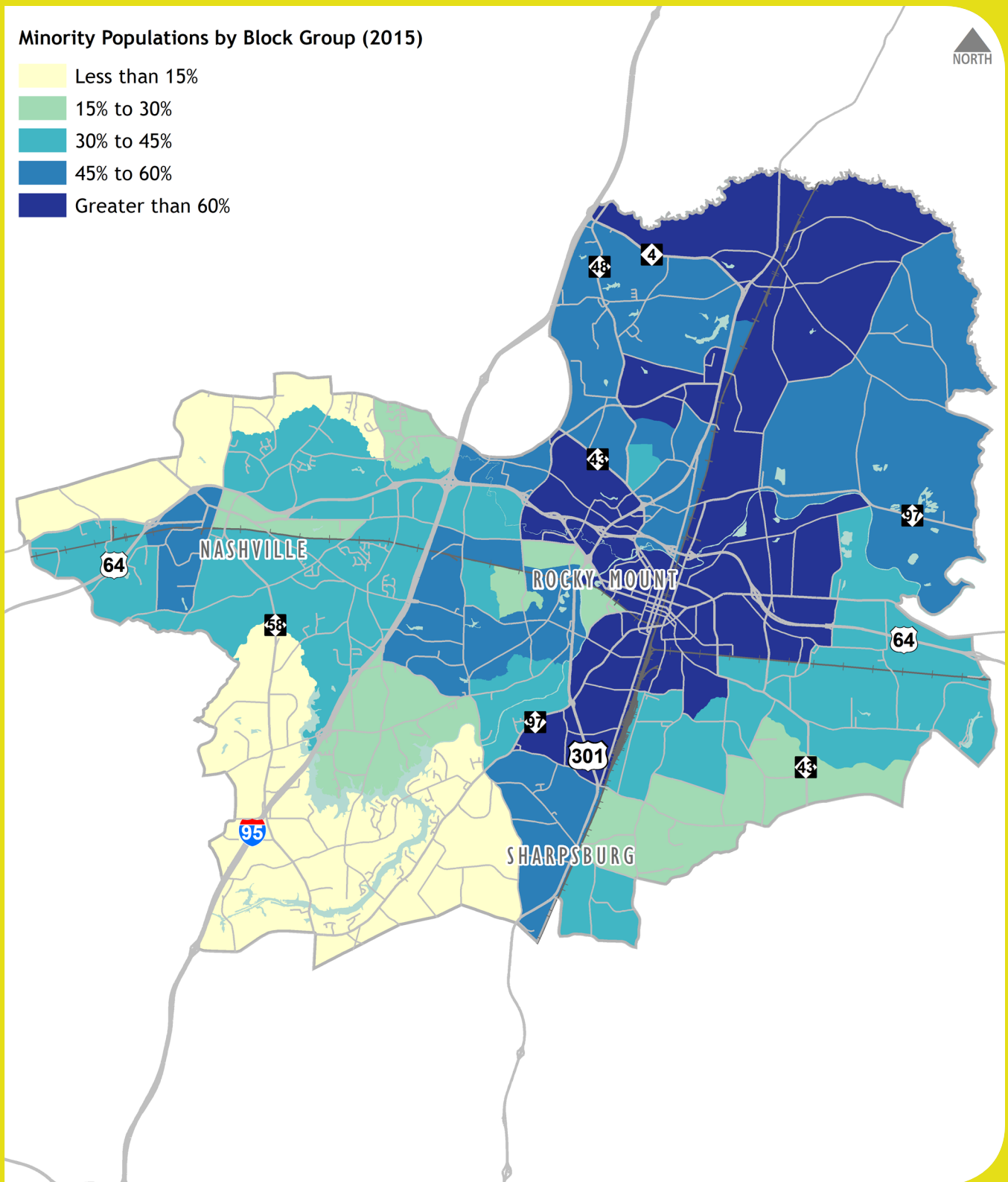


Figure 3-5: Ethnic Diversity, NC, 2015



Map3-3: Minority Population by Block Group (2015)



INCOME

In 2016, 20.8% of the study area's population lived below the poverty line, and the median household income was approximately \$41,000. The percent of population below the poverty line, as well as median household income is shown below for the MPO's member jurisdictions.

Table 3-1: Median Household Income and Percent of Population Living Below Poverty Line (2016)

Jurisdiction	Median Household Income (2016)	Percent Living Below Poverty Line (2016)
Edgecombe County	\$32,298	25.7%
Nash County	\$43,804	17.4%
Nashville	\$45,656	16.1%
Rocky Mount	\$35,918	25.0%
Sharpsburg	\$28,021	31.7%

EMPLOYMENT CHARACTERISTICS

Employment by Industry

According to U.S. Census Bureau data, the area's top industry sectors are health care and social assistance, retail, and manufacturing. Together these three industries account for more than 40% of the employment in the study area.

Table 3-2: Top 5 Industry Sectors

Top 5 Industry Sectors	Share
Health Care & Social Services	14.5%
Retail Trade	14.4%
Manufacturing	13.0%
Accommodations & Food Services	11.5%
Educational Services	8.9%

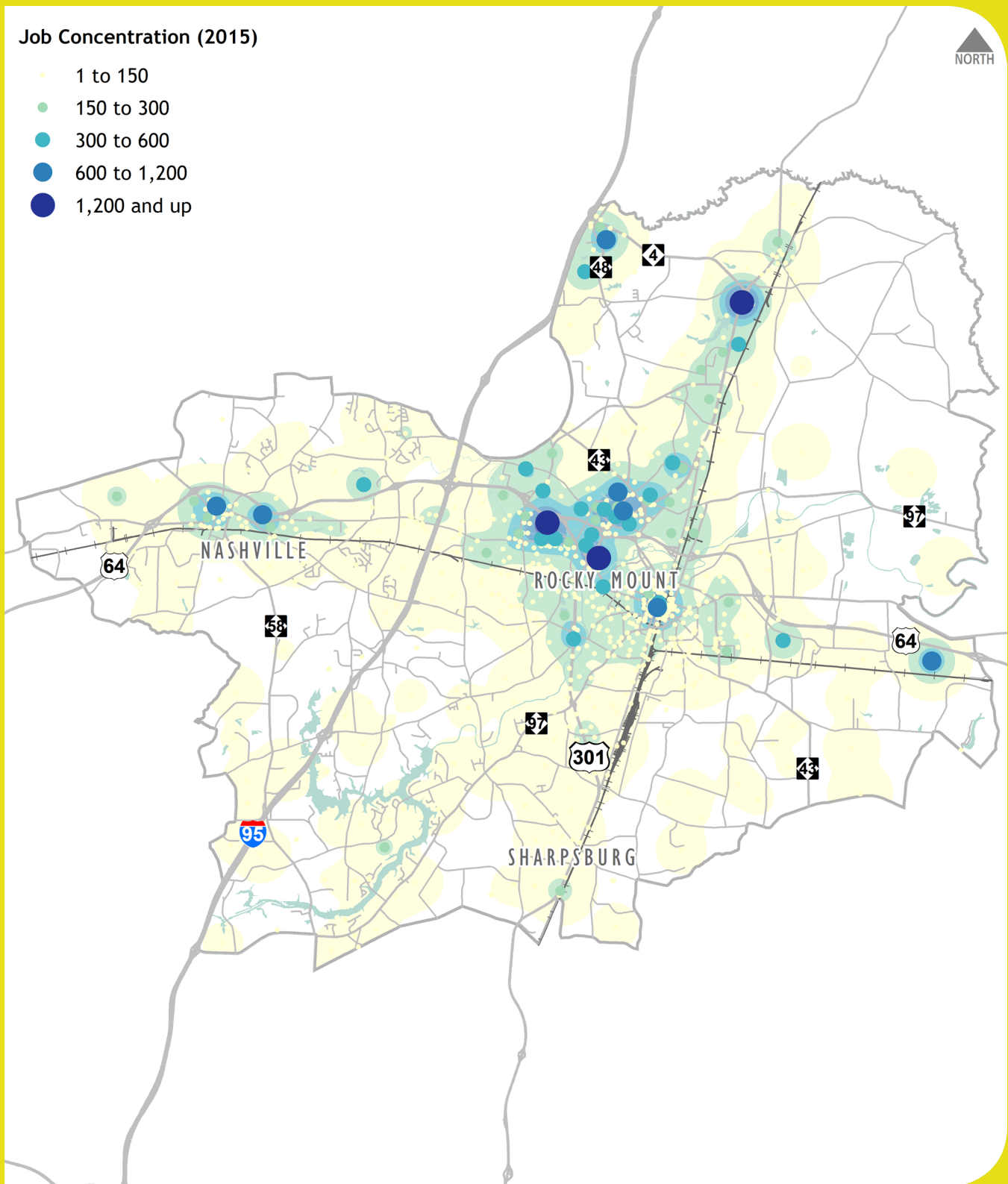
Employment by Concentration

While jobs are located throughout the study area, the heaviest employment concentration is located along the US 301 and US 64 corridors, with additional pockets in the downtown cores of Rocky Mount and Nashville.

Table 3-3: Top 10 Major Employers (2016)

Top 10 Major Employers	Employees	County
Pfizer (Pharmaceuticals)	2,400	Nash
Nash Rocky Mount Schools (Education)	2,275	Nash
Cummins Rocky Mount Engine Plant (Diesel Engine Manufacturing)	1,800	Nash
Nash UNC Health Care (Health Care Services)	1,600	Nash
Edgecombe County Schools (Education)	1,100	Edgecombe
QVC Inc (Distribution)	1,100	Edgecombe
Century Link (Telecommunications)	1,000	Edgecombe/ Nash
Tyson Foods (Bakery Products)	950	Edgecombe
Alorica (Customer Service Contract Center)	885	Nash
City of Rocky Mount (Local Government)	850	Nash

Map 3-4: Employment Concentration (2015)



COMMUTING PATTERNS

Of the 41,485 jobs available in the study area in 2015, 60.5% of them were filled by people living outside of the study area. Only 39.5% of the workforce both lives and works in the study area. Additionally, 52.5% of the working age residents commute outside of the study area for work. These numbers suggest that the Rocky Mount Urban Area is a regional employment center, drawing many workers from nearby areas with job opportunities. Future transportation improvements should consider the commuters who travel along the region's main commuting corridors.

Residents of the region typically choose to commute by driving alone, doing so at a higher rate than state or national averages. Currently, very few commuters take advantage of alternative commute options, such as walking, biking, or public transit. However, 80% of residents travel less than 30 minutes to work, indicating a reasonable balance between home and work locations in the region.

Figure 3-6: Daily Commute Flows (2015)

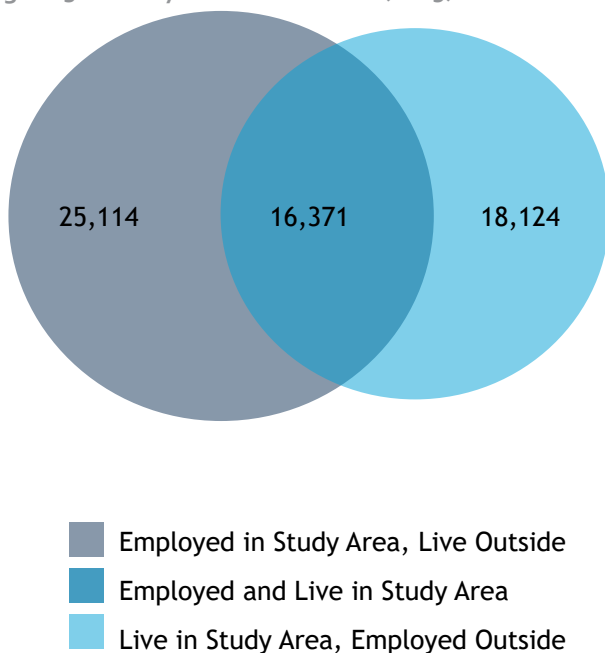


Figure 3-7: Average Travel Time to Work (2016)

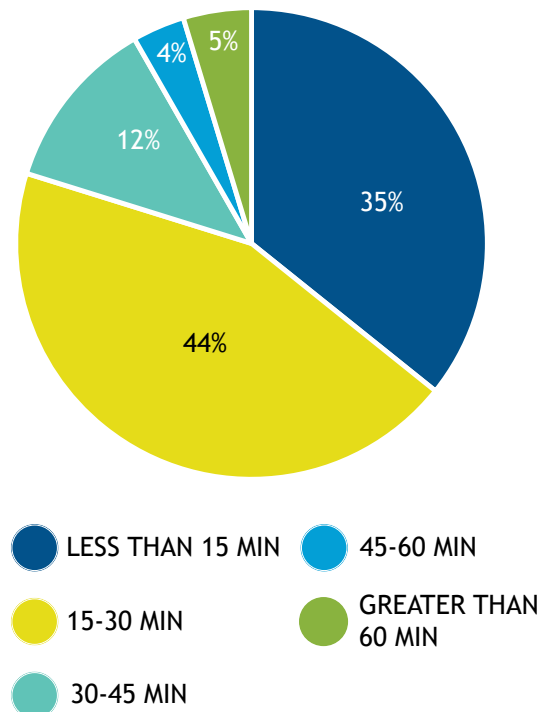
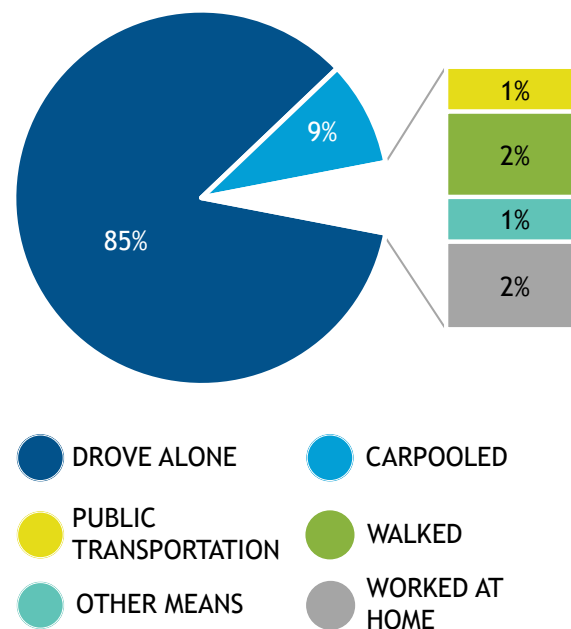


Figure 3-8: Means of Transportation to Work (2016)



Mobility Profile

The Rocky Mount Urban Area's transportation system must strike a balance between serving the needs of existing residents, a workforce that arrives and leaves each day, and the people who visit. The study area needs to offer viable accessibility and connections to regional infrastructure. Taking a closer look at existing infrastructure allows for better planning and the ability to be better stewards of resources.

FUNCTIONAL CLASSIFICATION

Functional classification categorizes streets along a general hierarchy that accounts for the relationship between access and mobility. They are defined by the Federal Highway Administration (FHWA) and used by policy makers, planners, engineers, and citizens to designate the purposes of the roadways in a system. Map 3-5 displays the functional classification of study area roads.

ANNUAL AVERAGE DAILY TRAFFIC (AADT)

Traffic volumes typically correlate with the purpose and function of each roadway's design and location. Annual average daily traffic (AADT) indicates the traffic average for the year at specific locations, provided by the North Carolina Department of Transportation (NCDOT). Map 3-6 shows the AADT along state-maintained roadways in the study area.

MODELED TRAFFIC CONGESTION

The Rocky Mount Urban Area's travel demand model was used to determine the baseline conditions of roadway operations throughout the region. One of the outputs of the model is the volume-to-capacity (V/C) ratio. The resulting V/C ratios measure anticipated or observed volumes compared to theoretical vehicular capacities based on speed limit, number of lanes, and access conditions (i.e. number of driveways and/or traffic signals). A V/C ration of 1.0 indicates the roadway segment operates at a capacity with high congestion and heavy delay. V/C ratios can exceed 1.0. Map 3-7 demonstrates the modeled traffic congestion for roadways in the study area.

CRASH HISTORY

Traffic safety is a key component to any successful transportation plan and a critical consideration for community-wide mobility. A traditional approach to determining locations for safety countermeasures involves studying the number and type of crashes in a

location.

NCDOT ranks each of North Carolina's 100 counties based on crash frequency, severity, population, registered vehicles, and annual miles traveled to determine its relative traffic safety compared to the rest of the state. The county that ranks 1st is said to have the worst traffic safety conditions. In 2016, Nash County ranked 19th and Edgecombe County ranked 16th. Additionally, the City of Rocky Mount ranked 8th for traffic safety of all North Carolina municipalities with a population greater than 10,000.

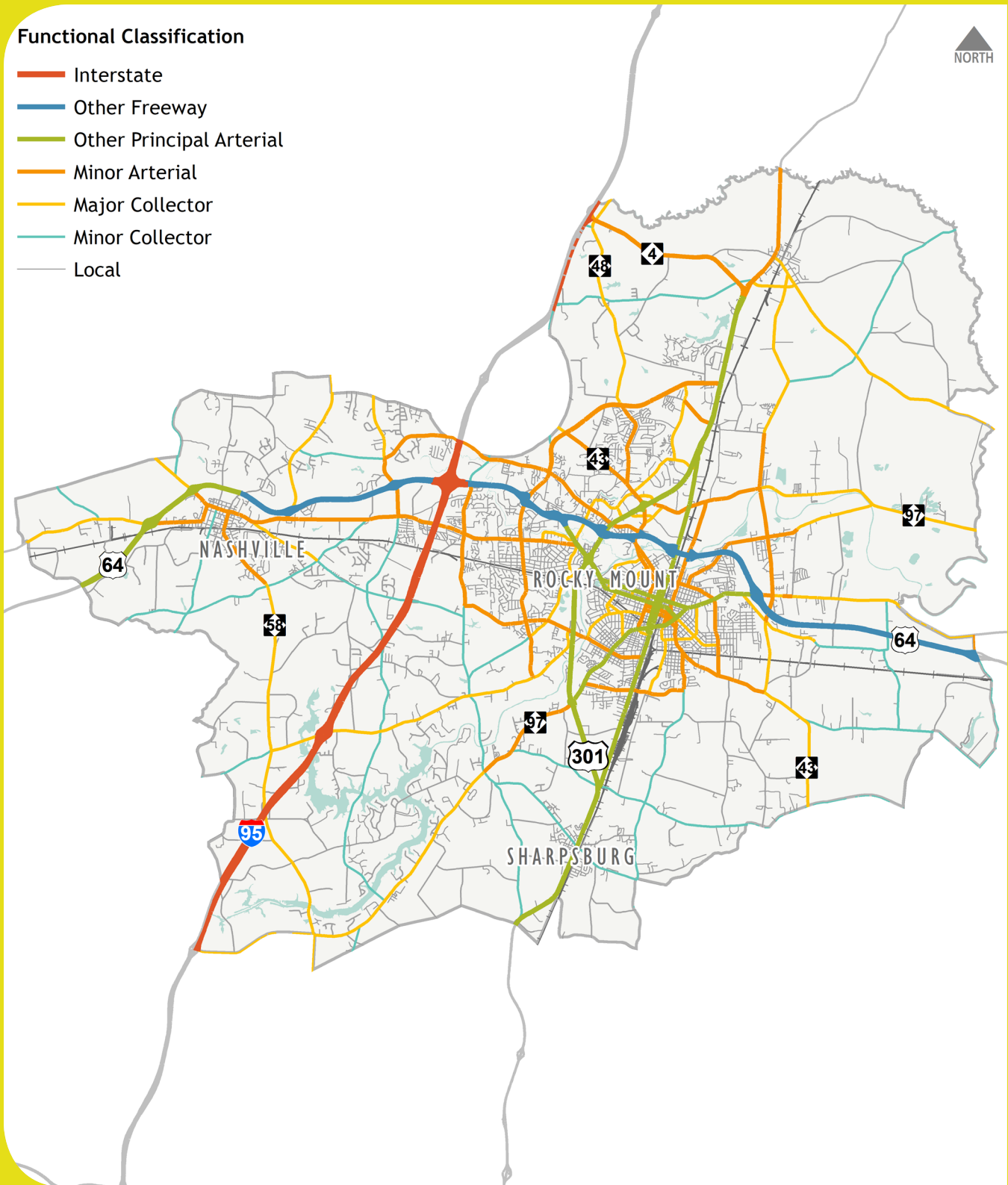
Table 3-4: 2012-2016 Crash Statistics within the MPO

Year	Total Crashes	Fatalities	Serious Injuries	Non-motorized Fatalities & Serious Injuries
2012	2,579	15	20	5
2013	2,574	14	32	7
2014	2,416	19	12	2
2015	2,591	11	16	2
2016	2,599	17	22	6
5-year Average		15.2	20.4	4.2

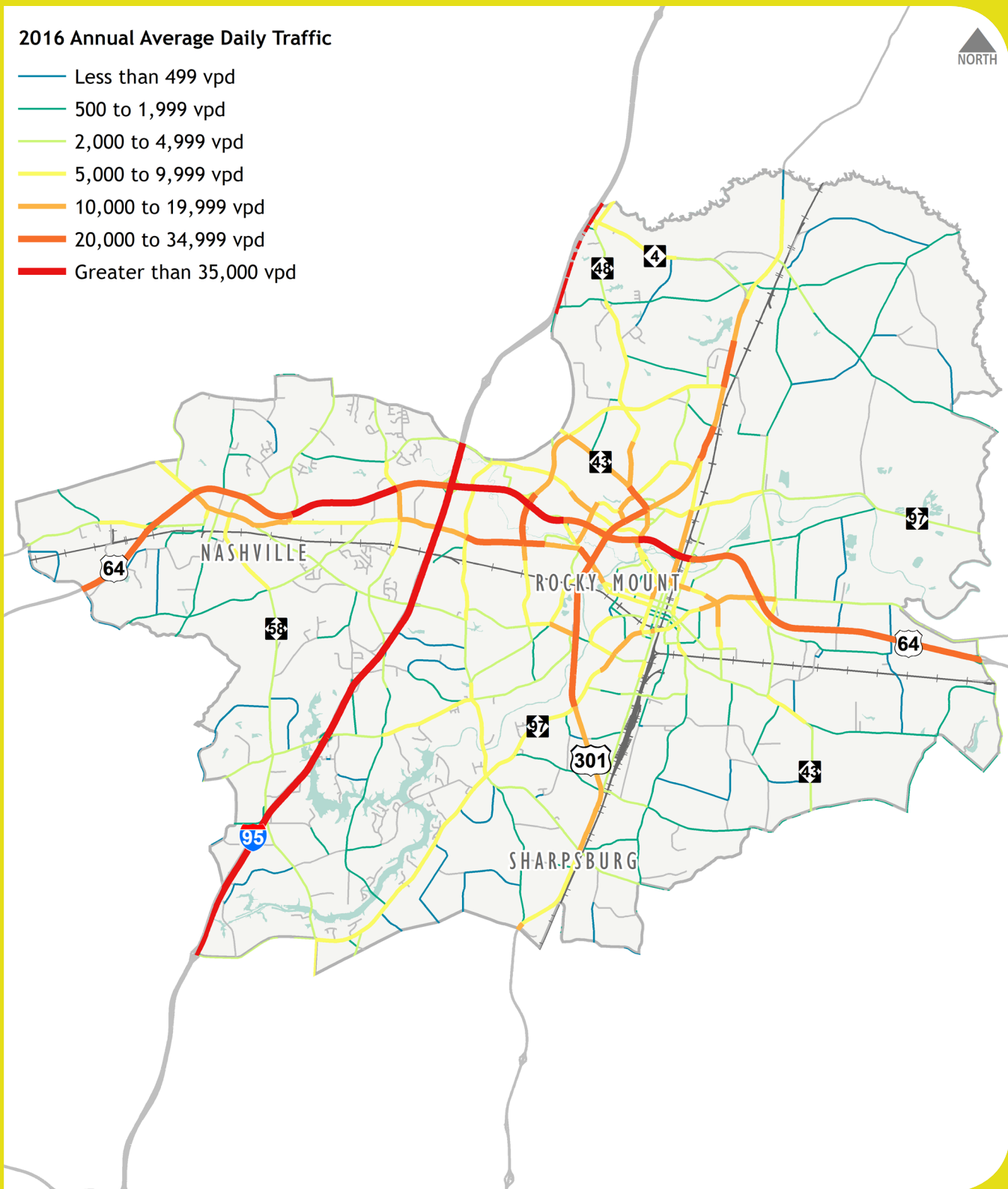
Map 3-5: Functional Classification

Functional Classification

- Interstate
- Other Freeway
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local



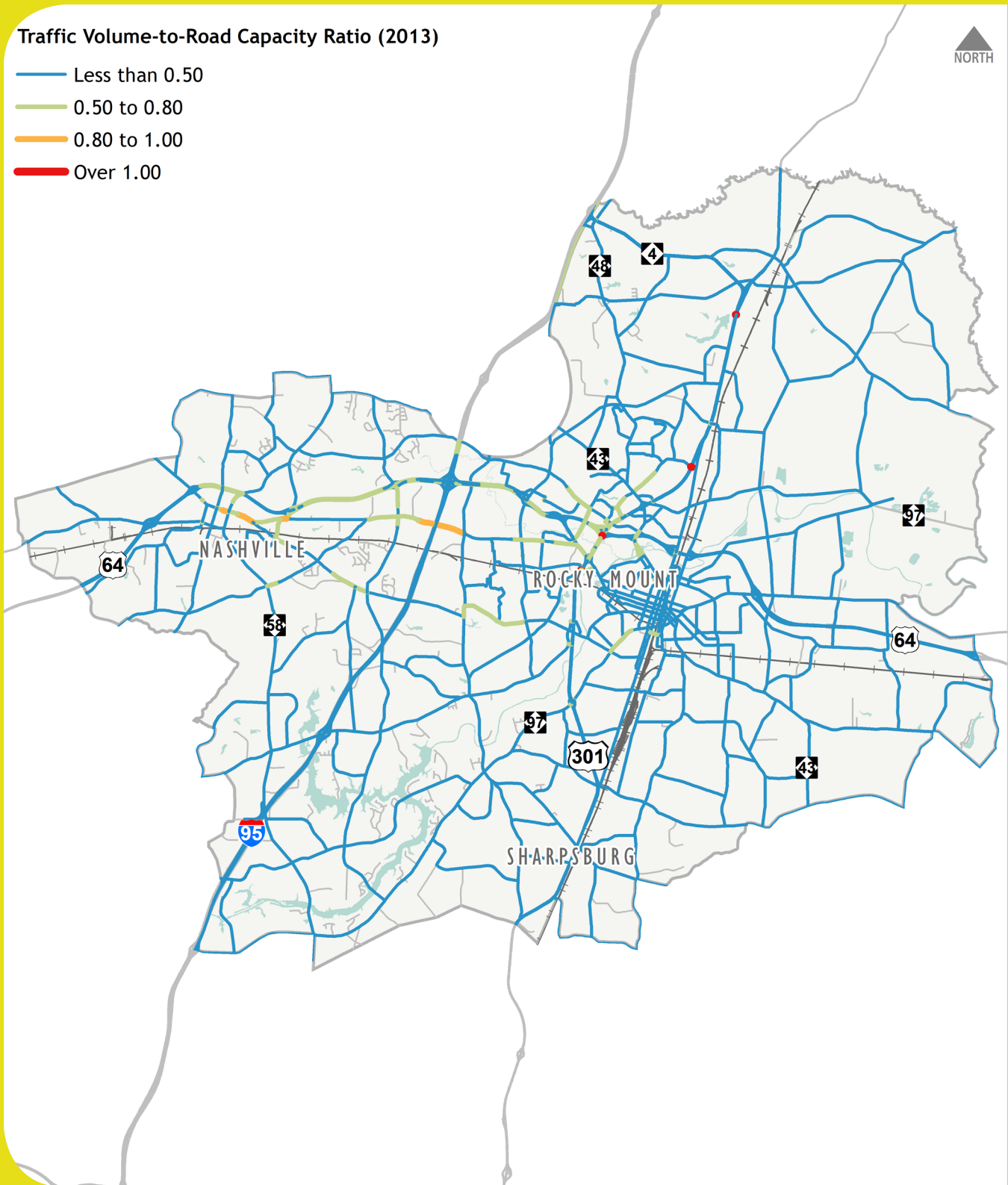
Map 3-6: Annual Average Daily Traffic Volumes



Map 3-7: Modeled Traffic Congestion

Traffic Volume-to-Road Capacity Ratio (2013)

- Less than 0.50
- 0.50 to 0.80
- 0.80 to 1.00
- Over 1.00



FREIGHT

The efficient movement of goods along highways and rail corridors is one of the keys to effective competition in a global economy. Regions that provide efficient systems for moving goods will have a competitive advantage at the local, regional, and state level. As the number of trucks on roadways increases, it becomes more important to guide freight transportation to the appropriate routes. It is also important to consider the efficiency offered when transporting freight is balanced with potential safety and mobility obstacles.

Figure 3-9: Nash County Freight Flow in Thousand Tons

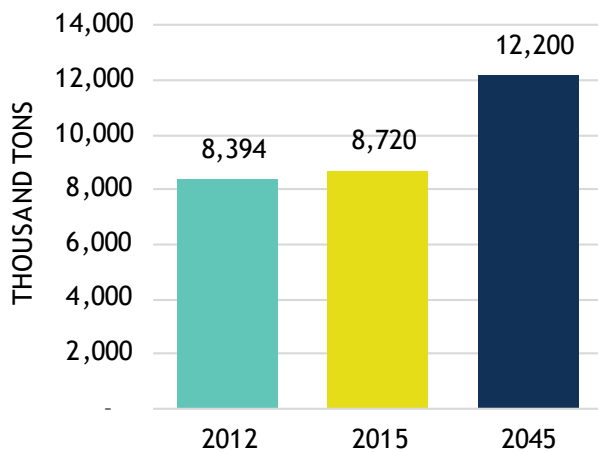


Figure 3-10: Nash County 2015 Freight Flow Direction

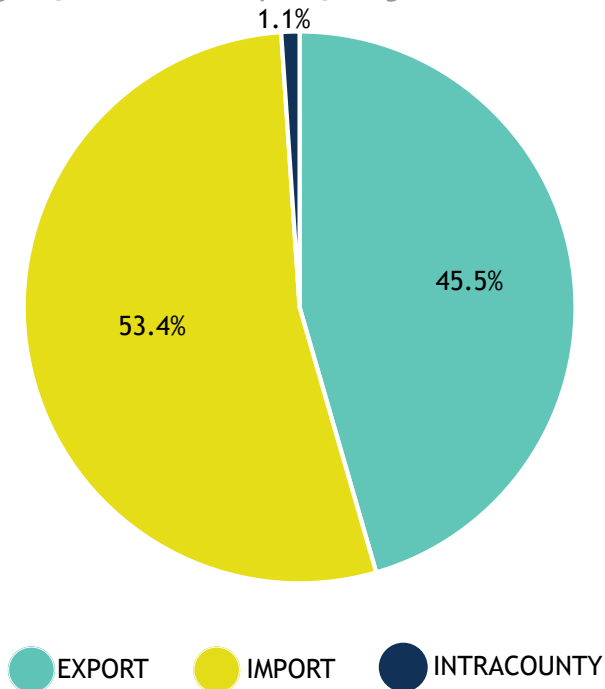


Figure 3-11: Nash County Freight Mode Split (2015)

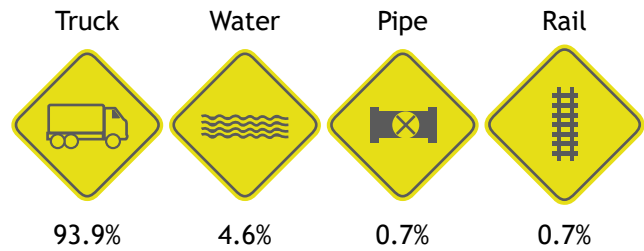


Figure 3-12: Edgecombe County Freight Flow in Thousand Tons

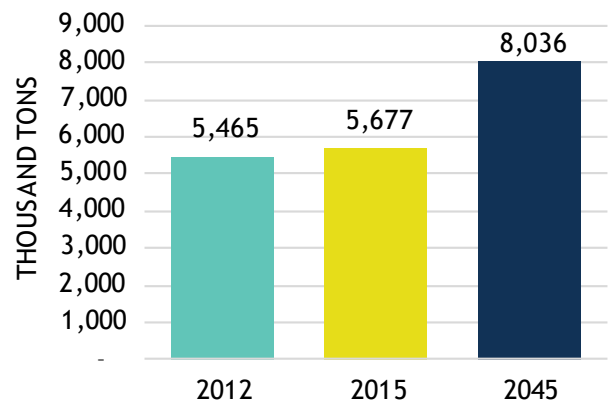


Figure 3-13: Edgecombe County Freight Flow Direction

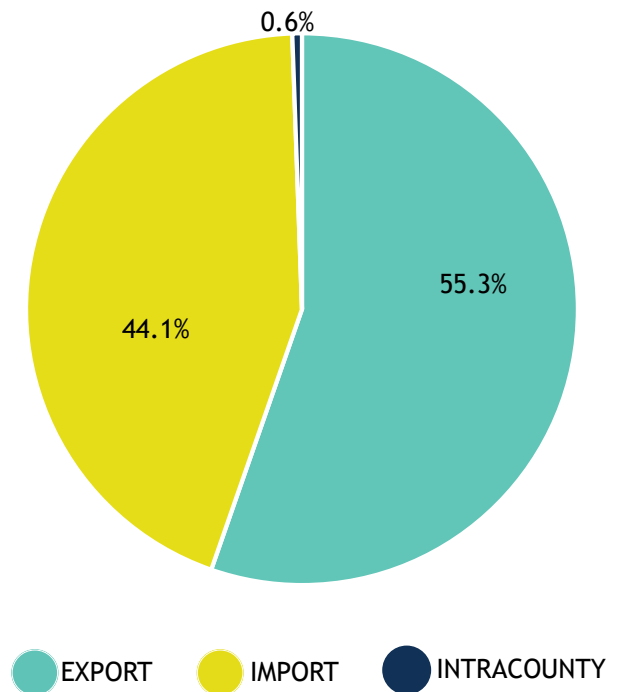
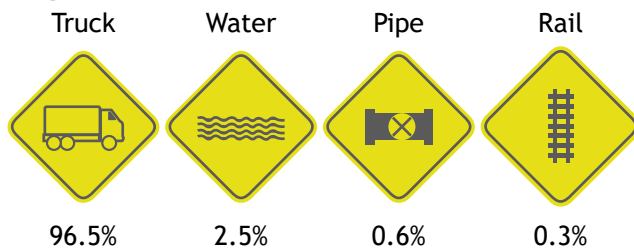


Figure 3-14: Edgecombe County Freight Mode Split (2015)



LEARN MORE: [HTTPS://CONNECT.NCDOT.GOV/PROJECTS/PLANNING/STATEWIDE-FREIGHT-PAN/PAGES/DEFAULT.ASPX](https://connect.ncdot.gov/projects/planning/statewide-freight-plan/pages/default.aspx)

TRANSIT OVERVIEW

As a critical component of a complete transportation system, transit is closely tied to land use and economic development decisions. At its best, transit provides an efficient and inexpensive transportation mode for persons making the traditional suburban-to-urban commute and those travelling between key activity centers. It is important that public transit service remain a viable, efficient mobility option for those who need it most – senior citizens, the physically or economically disadvantaged, and other patrons who choose to ride.

Transit Service

Transit service is provided in the City of Rocky Mount via Tar River Transit. Currently, Tar River Transit (TRT) runs 10 fixed routes and paratransit (demand-response) over 40 square miles. In 2014, TRT provided 398,824 unlinked trips and supplied 1,462,140 vehicle revenue miles. All fixed route Tar River Transit buses include bicycle racks on the front, encouraging multimodal travel. In addition to transit service, TRT provides several programs including the TRavel SmarT program. TRavel SmarT provides persons with disabilities and senior citizens with one-on-one instruction to teach how to utilize the bus system safely and independently.



LEARN MORE: www.tarrivertransit.org

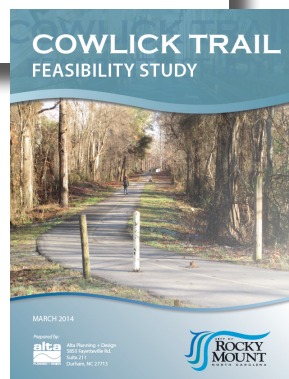
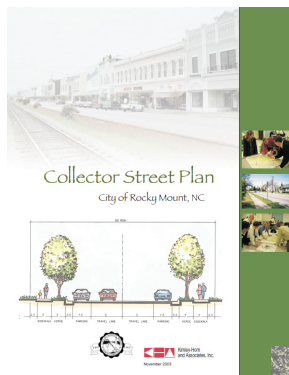


PREVIOUS PLANS

An early stage of the planning process involved understanding the work that had come before. The Rocky Mount MPO has made so much progress in recent years based on the hard work of many in the community locally and regionally. It was important that this plan build on that base. Some of the planning work that preceded this effort:



Prepared for: The City of Rocky Mount, North Carolina
Prepared by: AltaDesigns



1963
First Rocky Mount Thoroughfare Plan
Updated and revised several times between
1963 and 2003

2001
Transportation Plan 2025

2004
Collector Street Plan
Long Range Transportation Plan 2030

2007
Comprehensive Bicycle Plan
Sports Complex/Tar River Trail Connector
Feasibility Study

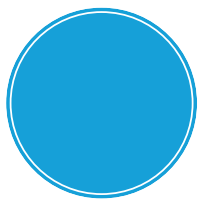
2009
Long Range Transportation Plan 2035

2012
Gateway Corridor Plan
Rocky Mount Pedestrian Plan
2013
Metropolitan Transportation Plan 2040

2014
Cowlick Trail Feasibility Study

2016
Benvenue Road Corridor Study
Rocky Mount, NC Complete Streets Feasibility Study
Monk to Mill Trail Feasibility Study
Grace Street + Grand Avenue Corridor Plan

2018
CONNECT 2045
Bike Rocky Mount



CHAPTER 4

MULTIMODAL FRAMEWORK



Introduction

Coordinated System-Level
Recommendations

Project Prioritization

Areas for Future Study



Introduction

A balanced and functional transportation system is a key element of any vibrant community. A well-planned system links residents to jobs, shops, and recreation activities while managing congestion and promoting healthy lifestyles. The transportation strategy featured in this chapter was designed to respond to and help promote the Guiding Principles in Chapter 1: Vision + Framework. The **CONNECT 2045** transportation strategy elevates broader regional initiatives expressed through the plan's guiding principles by focusing on economic vitality, mobility, multimodal accommodations, and safety.

ELEMENTS OF THE TRANSPORTATION STRATEGY

The transportation strategy outlines a multimodal approach based on months of existing conditions analysis, public engagement, and needs assessment. It is expressed in three main components:

- Coordinated System – Level Recommendations: This series of maps shows an inter-related set of mode specific transportation recommendations.
- Prioritization – This section outlines the process and criteria used to evaluate the performance of each roadway project.
- Areas for Future Study - The areas for future study identified in this section were items often brought up during the planning process, but warranted a deeper dive prior to identifying a solution or strategy.

REGIONAL VISION

The **CONNECT 2045** planning process included a multi-layered public outreach strategy to identify challenges facing the region and the positive characteristics that should define its future. It's no surprise that many of the thoughts expressed touched transportation. Each of the overarching themes described in Chapter 1 relate to the region's ability to enhance the traveling experience.

- The role of transportation in fostering economic opportunity extends beyond the right-of-way by creating high quality and interesting places to invest.
- At its core, transportation seeks to connect people to the places they need or want to access. It's not a surprise that people wanted easy access to daily needs and the opportunity to travel using a variety of modes.
- Whether walking, biking, or driving an automobile,

safety typically came up in conversations. The public and stakeholders were more likely to identify roadway needs associated with safety particularly at intersections and for vulnerable roadway users.

TRANSPORTATION PLANNING PROCESS

A transportation plan can fall short of its potential due to ineffective communication of vision, process, outcome, and recommendations. The **CONNECT 2045 Metropolitan Transportation Plan** weaves the guiding principles and existing conditions throughout the description of recommendations. In general, the transportation planning process occurred in five steps:

- Document existing conditions for all travel modes.
- Listen to residents and stakeholders through various outreach events.
- Catalogue the universe of projects from previous planning efforts.
- Perform a needs assessment to identify additional recommendations.
- Identify and prioritize multimodal transportation solutions.

The outcome of this process is described in the pages that follow.

Coordinated System-Level Recommendations

CONNECT 2045 acknowledges that regional decisions can enhance mobility and safety for motorists, cyclists, and pedestrians alike. Developing the system-level recommendations began with a review of previous plans (outlined in Chapter 2), followed by discussions with stakeholders, steering committee members, members of the public, and local agencies and officials. These sources indicate that, even as the need persists to move traffic more efficiently, there is a great demand for enhanced bicycle, pedestrian, and transit facilities. Underlying concepts to modal integration, livability, and connectivity are consistent themes in the coordinated transportation strategies that follow. The plan for roadways coordinates closely with other elements, notably through an emphasis on incidental projects for cyclists and pedestrians and the general notion that improvements to the roadway network benefit future transit opportunities and expansion.

The health, vibrancy, and economy of a region largely depends on its transportation network. The Rocky Mount Urban Area already enjoys good connections to other nearby metropolitan areas in the state via I-95, US 64 (Future I-87), and US 301, the north-south CSX rail line, Amtrak Station, and the Rocky Mount Wilson Airport. These facilities support and drive the regional economic engines of agriculture, manufacturing, education, tourism, and healthcare. Each **CONNECT 2045** engagement activity showed the region recognized the importance of a balanced transportation system. Outreach participants generally believed a transportation system should:

- Protect the economic interests of the region, including those associated with air, rail, and truck freight.
- Provide safe and convenient opportunities to bike and walk.
- Expand the existing transit service.
- Improve congestion on key roadways.

This input was blended together with recommendations from previous plans and the **CONNECT 2045** guiding principles to form a comprehensive set of transportation recommendations and best practices, as well as aided in the identification of areas for future study. The modal recommendations and areas for future study are illustrated on the maps that follow.

MAP INVENTORY - MULTIMODAL RECOMMENDATIONS

The coordinated system-level recommendations are presented in a series of maps for the various modes. While presented as separate maps, special consideration was made to ensure recommendations for one mode aligned with other modes.

Roadway Recommendations

Illustrates the universe of corridor and intersection recommendations intended to enhance mobility and safety for all users.

Bicycle Recommendations

Illustrates a variety of on-street facilities and off-street facilities drawn from previous planning efforts and vetted through the **CONNECT 2045** process.

Sidewalk Recommendations

Illustrates the recommended network identified as part of the Rocky Mount Urban Area's recently completed Comprehensive Transportation Plan.

Transit Priority Zones

Identifies opportunities for enhanced transit service and operation in key areas based on feedback from the engagement process.

Roadway Recommendations

One of the unique demands in sustaining a successful and balanced transportation network is blending access and connectivity while preserving mobility. This blending begins with the roadway recommendations. These recommendations also provide a starting point for advancing the concept of complete streets by incorporating bicycle, pedestrian, and transit improvements incidentally.

The map on the following page identifies the universe of projects in the Rocky Mount Urban Area that were identified through previous planning efforts or the **CONNECT 2045** outreach efforts and needs assessment.

Each of these projects were evaluated with the project prioritization process which is described later in this chapter, which helped form the list of projects that can reasonably be funded by the year 2045. This list of projects, or the financially constrained project list, is outlined in Chapter 4. It is no surprise that there is a gap between projected funding and the cost to plan, design, and construct all of the projects that were identified as needs during the **CONNECT 2045** planning process. Only a portion of the needs identified in this plan can be addressed, while the remainder of projects will need to be considered and reevaluated in future plans.



Map 4-1: Roadway Recommendations

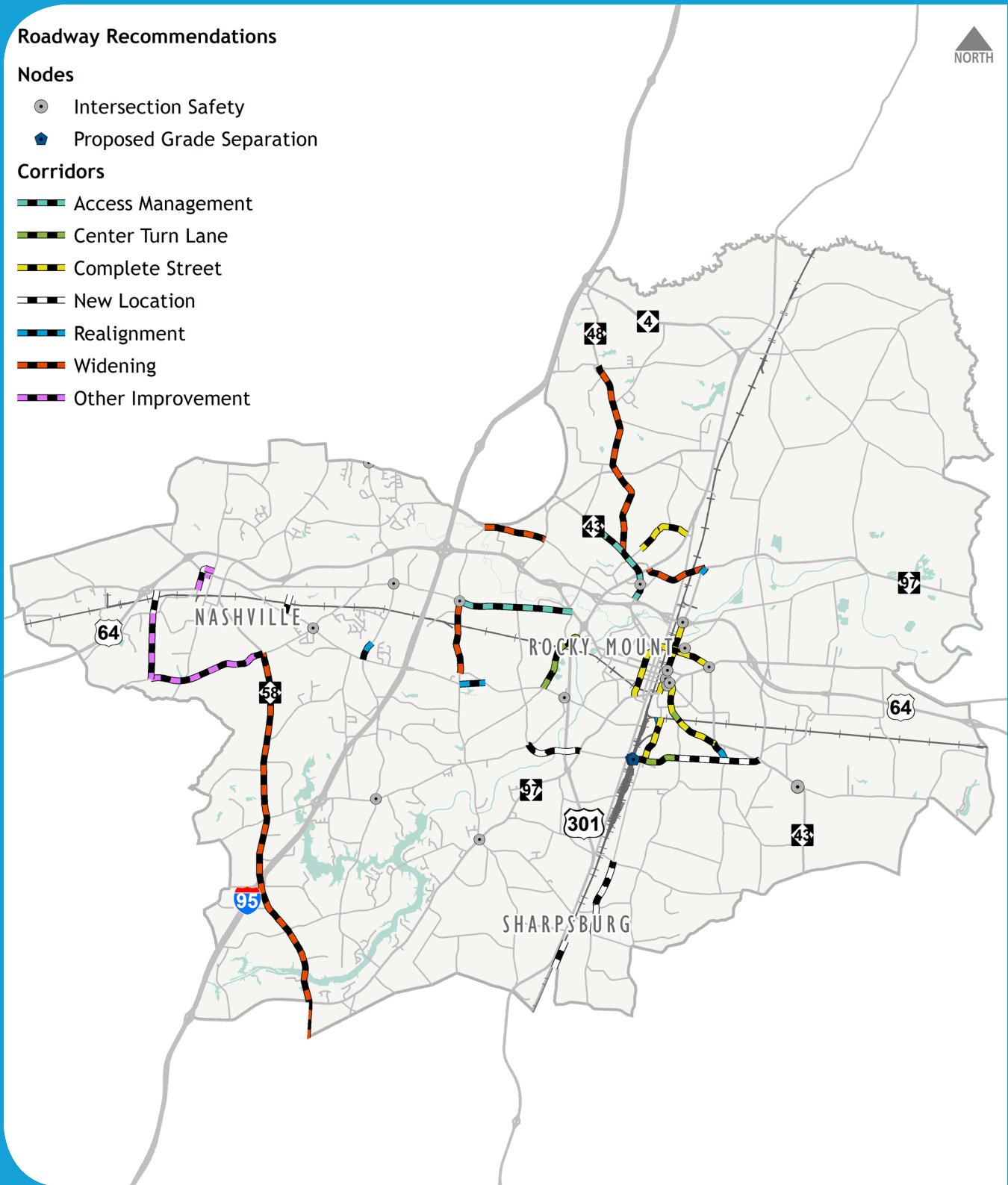
Roadway Recommendations

Nodes

- Intersection Safety
- ◆ Proposed Grade Separation

Corridors

- Access Management
- Center Turn Lane
- Complete Street
- New Location
- Realignment
- Widening
- Other Improvement



Prioritization Methodology

The metrics used for analysis were defined using the NCDOT Prioritization 5.0 methodology as the baseline and modified based on the [CONNECT 2045](#) guiding principles, outreach efforts, and the availability of local data. Similar to the statewide methodology, projects in [CONNECT 2045](#) were analyzed with respect to their state funding category: Statewide (Mobility), Regional (Impact), and Division (Needs). The following pages outline the prioritization methodology.

PRIORITIZATION METHODOLOGY

Statewide Mobility Prioritization Criteria

Projects in the statewide mobility category will be considered based on both quantitative and qualitative data for the Connect 2045 prioritization process. This is a deviation from the statewide methodology, as typically statewide projects are scored using only quantitative data. The following table outlines the metrics used to prioritize statewide projects. Eligible roadways include Interstate 95 and US 64.

Table 4-1: Statewide Mobility Prioritization Criteria

Metric	Weight	Guiding Principles Served
Congestion	30 %	<ul style="list-style-type: none"> ● Mobility
Benefit-Cost	25 %	<ul style="list-style-type: none"> ● Mobility ● Integration of Land Use & Transportation
Freight	20 %	<ul style="list-style-type: none"> ● Economic Vitality
Safety	10 %	<ul style="list-style-type: none"> ● Safety & Security
Economic Competitiveness	10 %	<ul style="list-style-type: none"> ● Economic Vitality ● Integration of Land Use & Transportation

Metric	Weight	Guiding Principles Served
Public Support	5 %	<ul style="list-style-type: none"> ● Economic Vitality ● Environment ● Integration of Land Use & Transportation ● Mobility ● Multimodal Accessibility ● Quality of Life ● Safety & Security ● System Preservation & Efficiency

Regional Impact Prioritization Criteria

Projects in the regional impact category will be considered based on both quantitative and qualitative data for the Connect 2045 prioritization process. Unlike the Prioritization 5.0 prioritization process, **CONNECT 2045** considers economic competitiveness at the regional level. Through the outreach process, economic vitality was identified as the most important guiding principle. Additionally, the prioritization process attributes 30% to local input. For Connect 2045, half of this (15%) will be counted towards public support and the remaining half will be distributed to the additional metrics not given a formal weight in the prioritization process (economic competitiveness, multimodal benefit, lane and shoulder width, and pavement condition.) Roadways that are categorized as regional include US 301, NC 4, NC 43, NC 48, NC 58, and NC 97.

Table 4-2: Regional Impact Prioritization Criteria

Metric	Weight	Guiding Principles Served
Congestion	20 %	<ul style="list-style-type: none"> ● Mobility
Benefit-Cost	20 %	<ul style="list-style-type: none"> ● Mobility ● Integration of Land Use & Transportation
Safety	10 %	<ul style="list-style-type: none"> ● Safety & Security
Accessibility/Connectivity	10 %	<ul style="list-style-type: none"> ● Multimodal Accessibility ● Quality of Life ● Integration of Land Use & Transportation
Freight	10 %	<ul style="list-style-type: none"> ● Economic Vitality
Economic Competitiveness	5 %	<ul style="list-style-type: none"> ● Economic Vitality ● Integration of Land Use & Transportation
Multimodal Benefit	5 %	<ul style="list-style-type: none"> ● Multimodal Accessibility ● Environment ● Quality of Life
Lane and Shoulder Width	2.5 %	<ul style="list-style-type: none"> ● Safety & Security ● System Preservation & Efficiency

Metric	Weight	Guiding Principles Served
Pavement Condition	2.5 %	<ul style="list-style-type: none"> ● System Preservation & Efficiency
Public Support	15 %	<ul style="list-style-type: none"> ● Economic Vitality ● Environment ● Integration of Land Use & Transportation ● Mobility ● Multimodal Accessibility ● Quality of Life ● Safety & Security ● System Preservation & Efficiency

Division Needs Prioritization Criteria

Projects in the division needs category will be considered based on both quantitative and qualitative data for the **CONNECT 2045** prioritization process. Like regional impact projects, economic competitiveness was added to the prioritization metrics. Additionally, the prioritization process attributes 50% to local input. For Connect 2045, half of this (25%) will be counted towards public support and the remaining half will be distributed to the additional metrics not given a formal weight in the prioritization process (economic competitiveness, multimodal benefit, lane and shoulder width, and pavement condition.)

Table 4-3: Regional Impact Prioritization Criteria

Metric	Weight	Guiding Principles Served
Congestion	15 %	<ul style="list-style-type: none"> ● Mobility
Benefit-Cost	15 %	<ul style="list-style-type: none"> ● Mobility ● Integration of Land Use & Transportation
Safety	10 %	<ul style="list-style-type: none"> ● Safety & Security
Accessibility/Connectivity	5 %	<ul style="list-style-type: none"> ● Multimodal Accessibility ● Quality of Life ● Integration of Land Use & Transportation
Freight	5 %	<ul style="list-style-type: none"> ● Economic Vitality
Economic Competitiveness	5 %	<ul style="list-style-type: none"> ● Economic Vitality ● Integration of Land Use & Transportation
Multimodal Benefit	10 %	<ul style="list-style-type: none"> ● Multimodal Accessibility ● Environment ● Quality of Life
Lane and Shoulder Width	5 %	<ul style="list-style-type: none"> ● Safety & Security ● System Preservation & Efficiency
Pavement Condition	5 %	<ul style="list-style-type: none"> ● System Preservation & Efficiency

Metric	Weight	Guiding Principles Served
Public Support	25 %	<ul style="list-style-type: none"> ● Economic Vitality ● Environment ● Integration of Land Use & Transportation ● Mobility ● Multimodal Accessibility ● Quality of Life ● Safety & Security ● System Preservation & Efficiency

PRIORITIZATION RESULTS

Table 4-4: Prioritization Results

Project Name	From	To	Prioritization Tier
Near Term			
Atlantic Avenue Complete Street	US 64	E Raleigh Boulevard (NC 97)	Regional Impact
Benvenue Road (NC 43) Access Management	Hunter Hill Road	Peele Road	Regional Impact
Cokey Road Center Turn Lane	Redgate Avenue	Old Wilson Road	Division Needs
Cokey Road Complete Street	S Fairview Road	E Raleigh Boulevard	Division Needs
Grace Street and Grand Avenue Complete Streets	W Raleigh Boulevard (NC 97)	E Raleigh Boulevard (US 64 BUS)	Regional Impact
Hunter Hill Road Widening	Winstead Avenue	Halifax Road	Division Needs
Jeffreys Road Complete Street Phase 1	Northgreen Lane	Jeffreys Court	Division Needs
Jeffreys Road Complete Street Phase 2	US 301 Bypass	Northgreen Lane	Division Needs
Sunset Avenue Access Management	Halifax Road	Buck Leonard Boulevard (US 64 BUS)	Division Needs
Mid Term			
Airport Road Widening	US 301 Bypass	Tanner Road	Division Needs
Atlantic Avenue Realignment	N/A	N/A	Regional Impact
Barnes Street Streetscape	Washington Street	Cross Street	Division Needs
Bethlehem Road Realignment	N/A	N/A	Division Needs
Eastpointe Road Extension	Current Terminus	Oak Level Road	Division Needs
Erkin Smith Road Modernization	Old White Oak Road	Old Spring Hope Road	Division Needs
Halifax Road Widening	Sunset Avenue	Bethlehem Road	Division Needs
NC 48 Widening	Benvenue Road	Homestead Road	Regional Impact
Old Mill Road Center Turn Lane and Complete Street	Bethlehem Road	US 301 Bypass	Division Needs
Phase 1 - Highway 58 Connector	Western Avenue (US 64)	Old White Oak Road	Division Needs
Phase 2 - Highway 58 Connector	W Old Spring Hope Road	NC 58	Division Needs
Railroad Street Extension	Rock Quarry Road	Armstrong Drive	Division Needs
Southeast Connector (Sutton Road Ext)	Old Wilson Road	Cokey Road	Division Needs
Sutton Road Center Turn Lane	Old Wilson Road	US 301 Business	Division Needs

Table 4-4: Prioritization Results Continued

Project Name	From	To	Prioritization Tier
Long Term			
Arlington Street Extension	N/A	N/A	Division Needs
Barnes Street Extension	N/A	N/A	Division Needs
Beechwood Drive Extension	West Mount Drive	US 301 Bypass	Division Needs
Boddie Street Streetscape	Washington Street	Church Street	Division Needs
Elm Street Drainage	N/A	N/A	Division Needs
Green Pasture Road Realignment	N/A	N/A	Division Needs
Kingston Avenue Extension	US 301 Bypass	W Raleigh Boulevard (NC 97)	Division Needs
NC 48 Widening	NC 4	Red Oak Battleboro Road	Regional Impact
NC 48 Widening	Red Oak Battleboro Road	Homestead Road	Regional Impact
NC 58 Widening	E Old Spring Road	Wilson County Line	Regional Impact
S Old Carriage Road Realignment	Oak Level Road	S of RM City Limits	Division Needs
Vance Street Modernization and Complete Street	Monk Street	Sutton Road	Division Needs
Vance Street Realignment	N/A	N/A	Division Needs

Bicycle Recommendations

Throughout the **CONNECT 2045** engagement, members of the community identified a well-connected bicycle and pedestrian network as one of the region's top transportation needs. To integrate the bicycle network into the overarching vision for the transportation system, the types of users and facilities must be understood. Types of users can be described in terms of trip purpose and skill level. Different reasons for traveling by bicycle, combined with the varying levels of skill, require a flexible and responsive approach to bicycle planning. Additionally, the **CONNECT 2045** planning process was fortunate to be completed alongside the City of Rocky Mount's Bicycle Plan. The recommendations from this planning effort were rolled into the universe of recommendations included in the **CONNECT 2045**, and those coinciding with roadway recommendations included as part of the final cross-section and cost estimate.

THE E'S OF BICYCLE PLANNING

Successful bicycle planning requires consideration of the following interrelated components.

- **Engineering:** Refers to on- and off-road facilities that must be planned and designed
- **Education:** Refers to the resources available to teach all users to safely and confidently ride
- **Encouragement:** Refers to various ways to promote a culture that embraces bicycling
- **Enforcement:** Refers to intentional actions that protect the safety of all users
- **Evaluation:** Refers to the periodic review of existing and planned facilities
- **Equity:** Refers to fairness in decision-making to ensure the needs of all community members are met, particularly populations that are traditionally underserved
- **Economics:** Refers to the economic returns, including those associated with health, safety, the environment, tourism, and property values

TYPES OF USERS

Types of bicycle users can be described in terms of trip purpose and skill level. Both types of trip purposes and all three types of skill levels require a complete network of on- and off-street bicycle facilities supplemented with programs that educate and encourage current and future

users.

Trip Purpose

Utilitarian

- Non-discretionary travel where the user is traveling to a specific destination such as work, school, grocery store, or home.
- Those without access to or ability to drive motor vehicles
- Often includes the elderly, children, and persons with disabilities

Recreational

- Discretionary travel where the user is using alternative modes (i.e. biking, walking) to travel just for fun
- Those who prefer a healthy, active lifestyle regardless of access to personal vehicles
- Typically includes persons of all ages and abilities

Skill Level

Advanced Cyclists

- Typically, the most experienced on the road
- Can safely ride on typical arterials that have higher traffic volumes and speeds
- Most prefer shared roadways in lieu of striped bike lanes and paths
- Represent about 20% of adult cyclists but account for nearly 80% of annual bicycle miles traveled

Basic Adult Cyclists

- Less experience on the road
- Less secure in their ability to ride in traffic without special accommodations
- Casual or new adult and teenage riders
- Typically prefer multi-use paths or bike lanes that reduce their exposure to fast-moving and heavy traffic
- Represent approximately 80% of adult cyclists















Child Cyclists

- Little to no experience on the road
- Limited field of vision while riding
- Generally, keep to neighborhood streets and greenways
- Likely will ride on sidewalks along busier streets

BICYCLE FACILITY TYPES

Consistent with bicycle facility classifications throughout the nation, the facility types presented in the figures below identify classes of facilities by degree of separation from motor vehicle traffic. In general, the wider the roadway, the higher the traffic volume, and the greater the traffic speed, the more separation is necessary to provide safe and comfortable riding conditions for bicyclists. *CONNECT 2045* recommends the following facility types for implementation in the Rocky Mount urban area.

Figure 4-1: Bicycle Facility Types

	Type	Intended Cyclist Skill Level	Features
OFF-STREET	Multi-Use Paths	 	Wide paths located in greenways to be shared by pedestrians and cyclists
	Sidepaths	 	Wide paths located along roadways to be shared by pedestrians and cyclists
ON-STREET	Sharrows	 	Low-speed roadways with “Share the Road” pavement markings to accommodate both motorist and cyclist travel
	Wide Outside Lanes	 	Wider than typical travel lanes to accommodate both motorist and cyclist travel
	Paved Shoulders		Additional pavement width outside of the lane striping that can be used by cyclists
	Bike Lanes	 	Roadway space dedicated exclusively for bicycle travel
		 Child  Basic  Advanced	

Map 4-2: Bicycle Recommendations

Recommended Bicycle Improvements

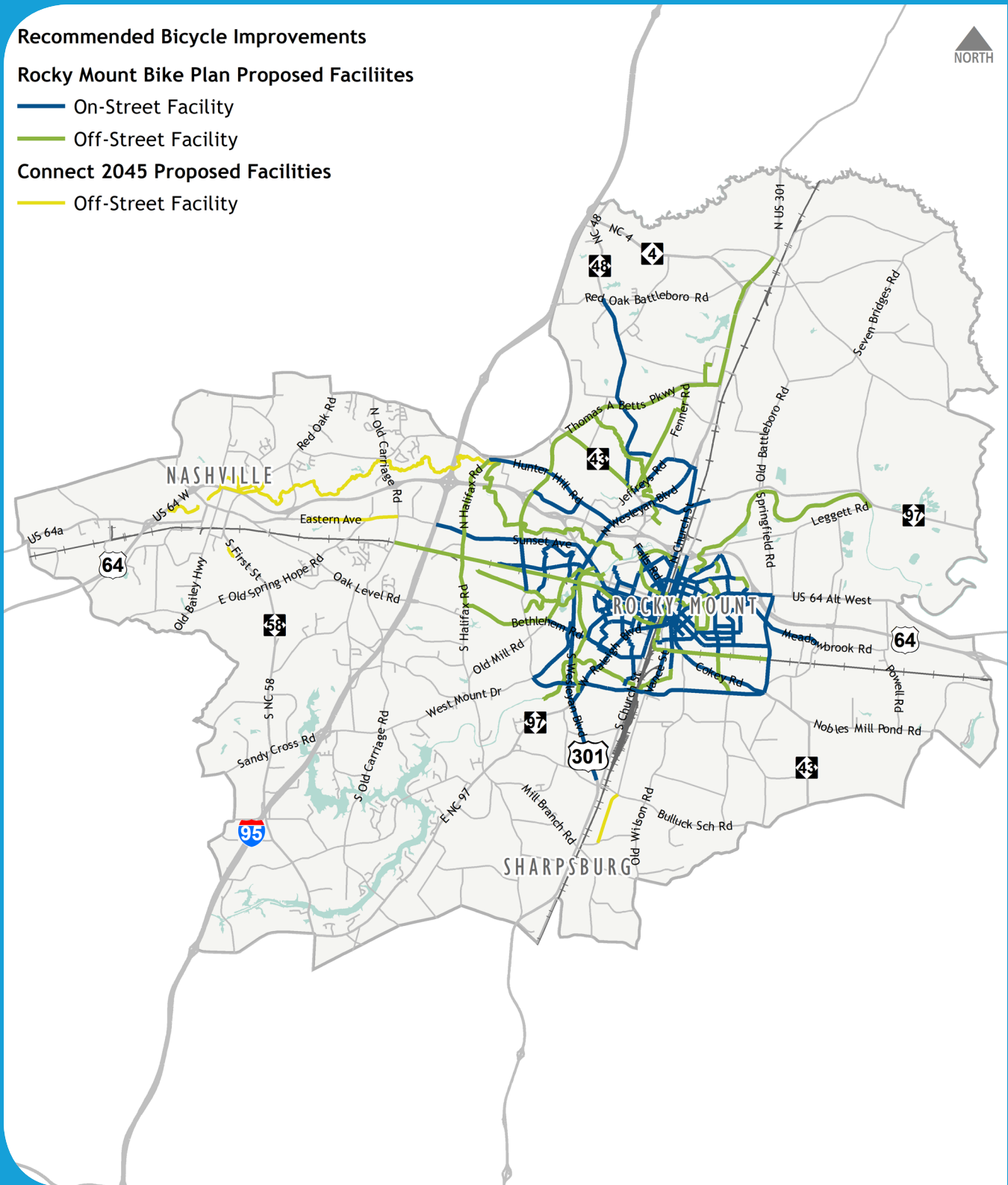
Rocky Mount Bike Plan Proposed Facilities

— On-Street Facility

— Off-Street Facility

Connect 2045 Proposed Facilities

— Off-Street Facility



Pedestrian Recommendations

Walking is a key element to a healthy community's transportation system. Every trip begins and ends as a walking trip, yet walking often remains a lower priority mode during the planning process. When a proper pedestrian environment exists, walking offers a practical transportation choice with benefits for both individuals and the community. Many community features contribute to making communities more walkable and should play an important part in the planning and design process, including a healthy mix of land uses, appropriately sized sidewalks, buffers between the edge of the pavement and the sidewalk, and trees to shade walking routes. Slowing traffic, narrowing streets to reduce pedestrian crossing distance, and incorporating pedestrian infrastructure (e.g., signage, crosswalks, and adequate pedestrian phasing at signals) into future roadway design plans also enhances walkability. Paying special attention to all of these features plays an important role in encouraging the use of active modes of transportation.

Nashville

- 24.5 miles of sidewalk

Rocky Mount

- 82 miles of sidewalk

Sharpsburg

- 7.1 miles of sidewalk

The recommendations shown on the next page were drawn from previous plans or identified through the **CONNECT 2045** process. The recommendations have been reviewed to ensure they address the guiding principles and have been coordinated with roadway recommendations to allow most sidewalk improvements to occur as part of improvements to the roadway.

To address overall pedestrian needs in the region, several prevailing overarching strategies emerged:

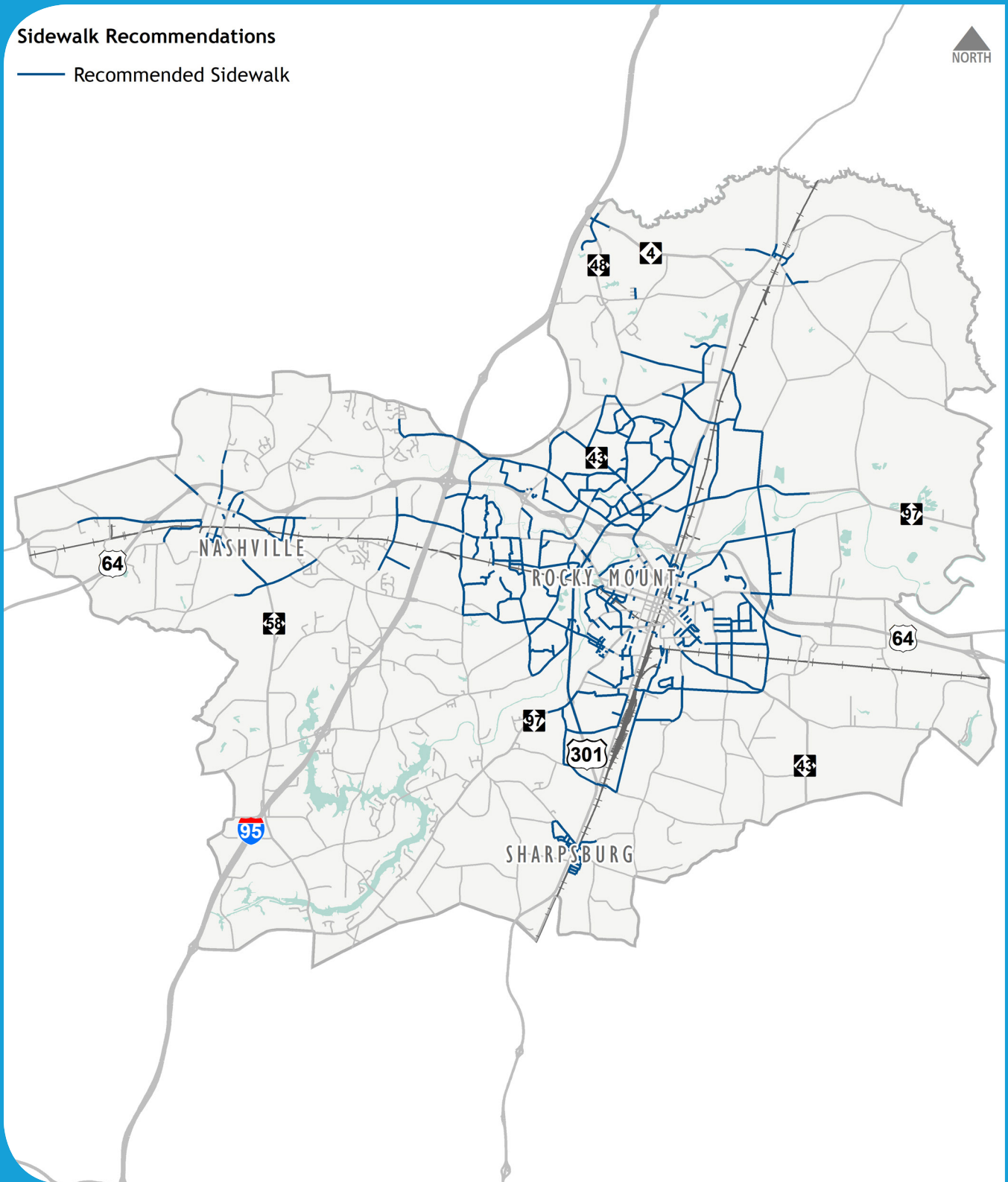
- Close gaps in the pedestrian network to promote greater use of the existing network.
- Enhance pedestrian access to activity centers from residences or other activity centers with an emphasis on schools and parks
- Advocate for pedestrian improvements, including sidewalks and crossings, to be implemented as part of larger roadway projects
- Perform regular maintenance of existing and future pedestrian facilities to maximize the effectiveness of the infrastructure.



Map 4-3: Sidewalk Recommendations

Sidewalk Recommendations

— Recommended Sidewalk



Transit Recommendations

The transit element of **CONNECT 2045** evaluates recent and ongoing transit planning efforts and recommends policy-based strategies and system-level service improvements to enhance access and mobility for area residents. The plan's recommended improvements for Tar River Transit's existing service and programs were influenced by the **CONNECT 2045** guiding principles and community input.

TRANSIT OVERVIEW

Public transit providers seek to provide a useful transportation service to the area they serve that balances maximizing ridership and geographic coverage. These two goals are often at odds, as an urban area's population is often densely concentrated in a small area, meaning the geographic area that maximizes the services ridership potential is much smaller than the total service area.

Generally, transit riders are considered to fall along a spectrum ranging from captive riders to choice riders.

- **Captive riders** do not have access to or are unable to use a personal vehicle. They are dependent on the transit system to travel. Captive riders include persons too young to drive, the elderly, persons with disabilities, and those without the financial means to own and operate a personal vehicle. Transit system should be especially sensitive to the needs of these populations, as they frequently rely on transit as their only means to get to work, access healthcare, groceries, and get around the region.
- **Choice riders** have the means to drive themselves but choose instead to use transit. Reasons choice riders use transit include saving money, convenience, comfort, or environmental principles. These riders may use transit infrequently, every day as a commuter solution, or they may be "all-purpose" riders who use it as their main means of transportation. Regardless, these riders typically will not ride transit unless they feel it provides some benefit.

This theory traditionally assumes that the best way to improve transit is to increase the amount of choice riders, thereby increasing revenues and providing improved services to captive riders. However, choice riders usually make up only a small portion of overall ridership and the resources used to attract choice riders can reduce services for captive riders who depend on transit.

Before people become willing choice riders, transit service must be reliable and convenient. There are certain things that even choice riders must do, such as get to work on time. Therefore, a transit system's goal should be to provide service that is useful—service that gets people where they need and want to go. By focusing on making transit both useful and convenient, it will better accommodate all users—captive, choice, and all others.

As an update to the traditional rider classifications, transit riders fall under the following categories:

- **Occasional riders** use transit infrequently and for diverse reasons; some use transit to go "downtown" or another transit-accessible place, while others use transit as a backup mode.
- **Commuters** take transit regularly but almost exclusively for work trips.
- **All-purpose riders** take transit regularly and for multiple reasons.

This theory recognizes that useful transit is simply a question of whether transit fits a rider's transportation needs.

RECOMMENDATIONS AND CONSIDERATIONS

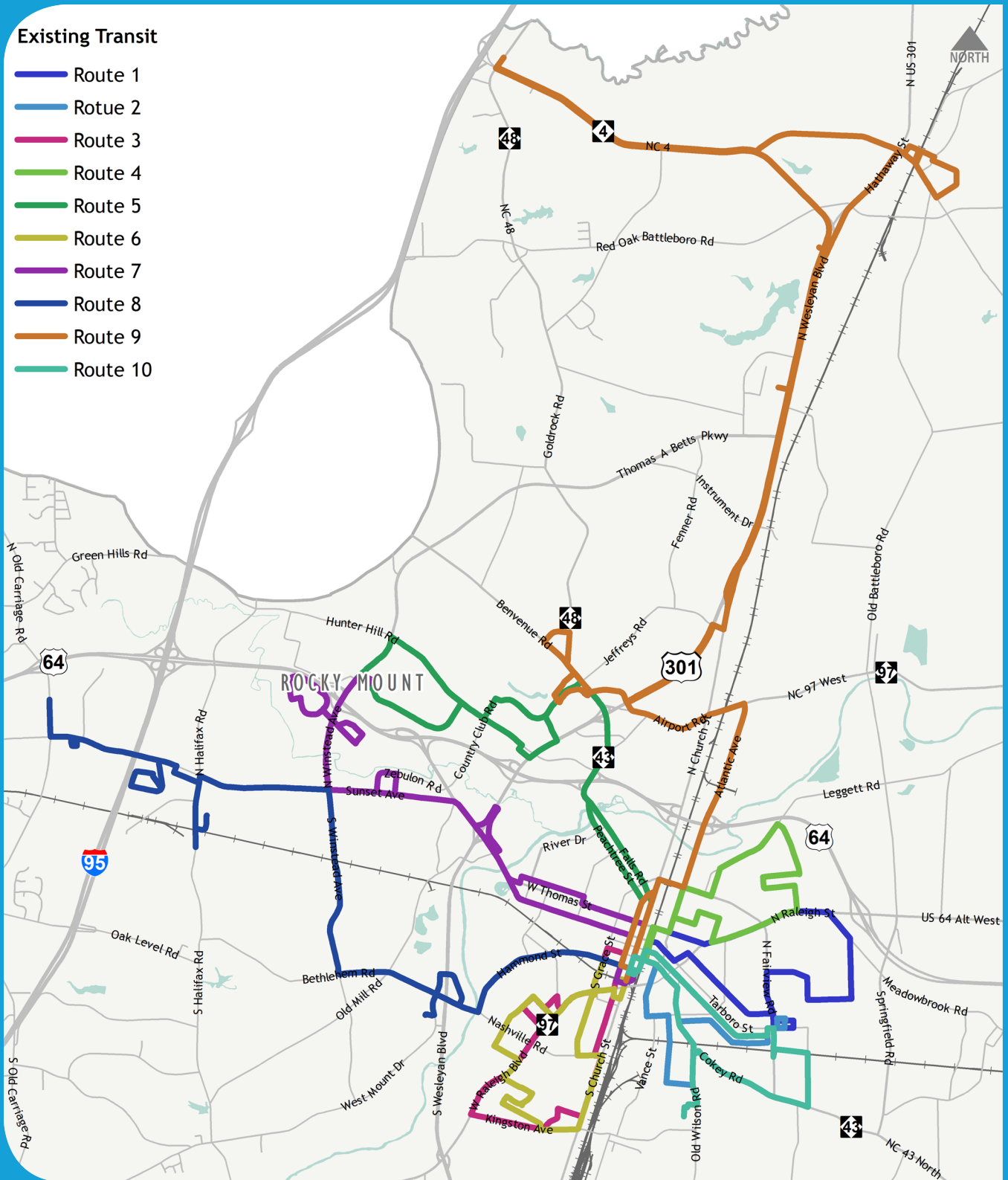
While Tar River Transit is the primary party responsible for planning, there were several recommendations and considerations that were shared by the public and stakeholders during the **CONNECT 2045** process. These items are listed below.

- Expand service to connect more communities within the urban area.
- Provide extended service hours that better serve the needs of employees, employers, and local colleges.
- Continue to improve stop locations with shelters, benches, and other amenities.
- Increase the frequency of routes along key corridors.
- Work with area health care providers to enhance demand response service options.

Map 4-4: Existing Transit Service

Existing Transit

- Route 1
- Route 2
- Route 3
- Route 4
- Route 5
- Route 6
- Route 7
- Route 8
- Route 9
- Route 10



Areas for Future Study

INTRODUCTION

The areas for future study identified in this section were items often brought up during the planning process, but warranted a deeper dive prior to identifying a solution or strategy. Each section below outlines the thought process behind each potential study.

Small Area Study Near the Mall

During the transportation planning process, the public expressed interest in future of the area surrounding the mall. With the change in shopping trends across the nation and several stores leaving, the mall and surrounding areas should be evaluated for redevelopment potential with an in depth look at how land use and the transportation network will work together.

Sunset Avenue Corridor Study (Buck Leonard Blvd to I-95)

The Sunset Avenue corridor serves as a major gateway into Rocky Mount, and is positioned to see a lot of change with the construction of a new interchange at I-95. As development continues to occur along the corridor, it will be important to understand future access and mobility needs.

Transit to Raleigh

A resounding theme from discussions about public transportation with the community and stakeholders was the desire to have a form of public transit to Raleigh. Currently, you can reach Raleigh via Amtrak service, but the schedule is limited. Directional commute flows between Raleigh and the Rocky Mount urban area are substantial and transit in some form could be a viable alternative.

Mobility Study of the Three Colleges to Downtown Rocky Mount for All Modes

There are three major colleges in the Rocky Mount area: North Carolina Wesleyan, Nash Community College, and Edgecombe Community College. NC Wesleyan and Nash Community College's main campuses are located within the study area, while Edgecombe Community College has a satellite location located within the study area and their main campus just outside. With the growth and development occurring in Downtown Rocky Mount, it

is becoming an attractive location for young people. To that end, getting to Downtown Rocky Mount can only be done reasonably by car.

One-way to Two-way Conversion Studies

Within Downtown Rocky Mount there are several one-way pairs that have sparked local interest for potential conversion to two-way. While there are benefits to both one-way and two-way streets, further study to fully understand the traffic and rights-of-way impacts will be needed. The streets identified for future study include:

- Tarboro Street
- Hill Street
- Washington Street
- Nash Street
- Western Avenue

Potential Roundabout Identification Study

With the Vision Zero movement, and the Rocky Mount Urban Area's extensive crash history, replacing traditional intersections with roundabouts could greatly improve safety. The MPO should conduct a study of high crash intersections and identify which may be suitable for a roundabout retrofit.

Southern Connector

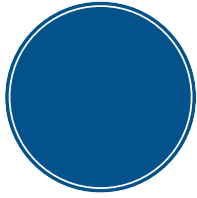
The Southern Connector concept to provide more direct access from the western side to the eastern side of the City of Rocky Mount has been around for a long time. However, the currently envisioned location may be cost prohibitive due to the wide distance needed to cross the railroad switching yard. Consideration should be given to studying alternative locations for the Southern Connector that still provide enhanced access for drivers and emergency services at lower cost.

Downtown Rocky Mount Parking Study

As development continues to occur in Downtown Rocky Mount, it will be very important to understand the existing parking inventory and where future needs will arise. Understanding this will allow the City to be better positioned for sustaining and continuing to attract new development.

Jeffreys Road Corridor Study

Jeffreys Road was brought to the project team's attention as a location with safety concerns and the need for complete street elements. The road changes character significantly between Wesleyan Boulevard and Benvenue Road and provides access to both regional shopping and residential neighborhoods. The corridor study should look at ways to accommodate growing traffic and safety concerns without sacrificing the neighborhood character.



CHAPTER 5

PERFORMANCE MEASUREMENT



Introduction

National Goal Areas & Measures

Federal Requirements

Performance Targets

Performance Targets Summary



Introduction

Federal transportation legislation was adopted in 2012, referred to as MAP-21 (Moving Ahead for Progress in the 21st Century). While also laying out a two-year transportation funding strategy, MAP-21 heralded a change in the way federal, state, and local governments determine the success of their planning efforts. Known as performance management, this concept was implemented in order to best serve the public and make effective funding decisions. Performance management uses system information to make investment and policy decisions to achieve goals for the multimodal transportation systems in an MPO study area. The Fixing America's Surface Transportation (FAST) Act, adopted in 2015, continued to embrace the performance management system introduced in MAP-21.

Performance-Based Planning and Programming (PBPP) refers to the methods transportation agencies use to apply performance management and standard practice in their planning and programming processes. The goal of PBPP is to ensure that transportation investment decisions – both long term planning and short-term programming – depend on the ability to meet established goals. As a federal requirement, states will invest resources in projects to achieve individual targets that make collective progress toward national goals.

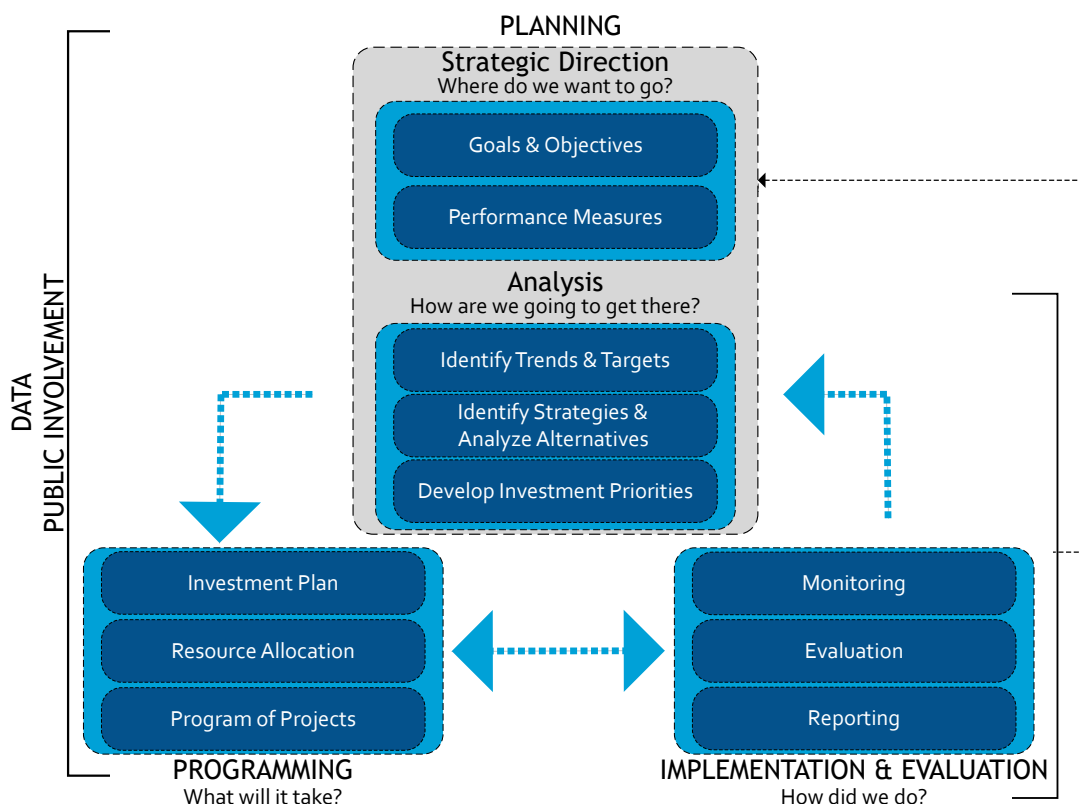
MPOs are also responsible for developing MTPs and TIPs through a performance-driven, outcome-based approach to planning.

The Rocky Mount MPO is now developing its PBPP process to meet federal requirements – including requirements to track specific measures and set targets – and to meet the unique planning needs of the region.

This chapter provides insight into the MPO's transition to a more strategic PBPP. Notably, the performance measurement targets and methodology detailed in this chapter are focused on overall system-wide performance. Project-level performance for roadway projects has been addressed through this plan's prioritization process, which is covered in Chapter 4.

This chapter contains the following sections:

- National goal areas and measures
- Federal requirements
- Performance targets
- Performance measures summary



National Goal Areas and Measures

HIGHWAY PERFORMANCE

Through the federal rulemaking process, the FHWA requires state DOTs and MPOs to monitor the transportation system using specific performance measures associated with the national goal areas prescribed in MAP-21 and the FAST act. The following section describes these national goal areas for highway performance as well as performance measures.

Safety

To achieve a significant reduction in traffic fatalities and serious injuries on all public roads

- Number of fatalities
- Fatality rate (per 100 million vehicle miles traveled)
- Number of serious injuries
- Serious injury rate (per 100 million vehicle miles traveled)
- Number of non-motorized fatalities and non-motorized serious injuries

Infrastructure Condition

To maintain the highway infrastructure asset system in a state of good repair

- Percentage of pavements on the Interstate System in Good condition
- Percentage of pavements on the Interstate System in Poor condition
- Percentage of pavements on the non-Interstate National Highway System (NHS) in Good condition
- Percentage of pavements on the non-Interstate NHS in Poor condition
- Percentage of NHS bridges classified as in Good condition
- Percentage of NHS bridges classified as in Poor condition

System Reliability

To improve the efficiency of the surface transportation system

- Percent of person miles traveled on the Interstate System that are reliable
- Percent of person miles traveled on the non-Interstate NHS that are reliable

Freight Movement and Economic Vitality

To improve the National Highway Freight Network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development

- Truck Travel Time Reliability Index

Congestion Reduction

To achieve a significant reduction in congestion on the National Highway System

- Annual hours of peak-hour excessive delay per capita
- Percent of non-single-occupant vehicle travel

Environmental Sustainability*

To enhance the performance of the transportation system while protecting and enhancing the natural environment

- Total emissions reduction*

*Only applies in non-attainment or maintenance areas over a prescribed population threshold.

TRANSIT PERFORMANCE

Recipients of public transit funds – which can include states, local authorities, and public transportation operators – are required to establish performance targets for safety and state of good repair; to develop transit asset management and transit safety plans; and to report on their progress toward achieving targets. Public transportation operators are directed to share information with MPOs and states so that all plans and performance reports are coordinated. The list below identifies performance measures goals outlined in the National Public Safety Transportation Plan, released by the Federal Transit Administration (FTA), and in the final rule for transit asset management. The Rocky Mount MPO will be required to coordinate with Tar River Transit to set targets for these measures.

Safety

- Total number of reportable fatalities and rate per total vehicle revenue miles by mode
- Total number of reportable injuries and rate per total vehicle revenue miles by mode
- Total number of reportable events and rate per total vehicle revenue miles by mode
- Mean distance between major mechanical failures by mode

Infrastructure Condition (State of Good Repair: Transit Asset Management)

- Equipment: Percentage of vehicles that have met or exceeded their Useful Life Benchmark (ULB)
- Rolling Stock: Percentage of revenue vehicles within a particular asset class that have met or exceeded their ULB
- Facilities: Percentage of facilities within an asset class rated below 3.0 on the FTA Transit Economic Requirements Model scale

TARGETS

- The Rocky Mount MPO is required to establish performance targets no later than 180 days after NCDOT or a public transportation operator sets performance targets.
- For each performance measure, the Transportation Advisory Committee (TAC) will either decide to support a statewide target or establish a quantifiable target specific to the planning area.
- NCDOT, MPOs, and public transit operators must coordinate performance measure targets to ensure consistency to the extent practicable.

REPORTING

- **CONNECT 2045** and subsequent updates to the MTP must describe the performance measures and targets, evaluate the performance of the transportation system, and report on progress made.
- The TIP must link investment priorities to the targets in the MTP and describe, to the extent practicable, the anticipated effect of the program on achieving established targets.
- The Rocky Mount MPO must also report to NCDOT the baseline roadway transportation system condition, performance data, and progress toward achieving targets.

ASSESSMENTS

- FHWA and FTA will not directly evaluate the MPO's progress toward meeting performance measure targets. Instead, the MPO's performance will be assessed as part of regular cyclical transportation planning process reviews.
- FHWA will determine if NCDOT has met or made significant progress toward selected targets for the highway system.

Federal Requirements

Federal performance measurement guidance has sought to identify and streamline a process for the introduction of performance-based planning into MPO-led documents such as the MTP and TIP. The target identification, reporting, and assessment phases of this process are described in this section.

Performance Targets

The establishment of performance targets for the Rocky Mount MPO is an ongoing process. As discussed in the previous section, following the establishment of a target at a statewide level, MPO staff and members of the Transportation Advisory Committee (TAC) will assess whether to adopt the statewide target or whether to establish their own targets. MPO staff will provide updated information as timelines for these federally-required performance measures are established. This element may also include choosing whether to establish other (i.e. non-federally required) performance measures for other goal areas and develop targets for these measures.

As performance targets get adopted by the TAC, they will be incorporated into this section. As such, this section is intended to be dynamic and will undergo several revisions following the initial adoption of this plan. Future major updates of the MTP will include a more fully integrated performance-based approach.

SAFETY TARGETS

NCDOT was required to evaluate and report on safety targets for the five required measures in August of 2017. This action started the clock for the MPO to act to evaluate and set regionally specific goals or to accept and support the state's goals. On February 19, 2018, the Rocky Mount MPO Transportation Advisory Committee (TAC) acted to support the NCDOT safety targets for each project measure. These goals do not include individualized numeric targets for MPO and RPO areas. The goals established by the state for 2018 are as follows:

- Reduce total fatalities by 5.10 percent each year from 1,340.6 (2012-2016 average) to 1,207.3 (2014-2018 average)
- Reduce the fatality rate by 4.75 percent each year from 1.228 (2012-2016 average) to 1.114 (2014-2018 average)
- Reduce total serious injuries by 5.10 percent each year from 2,399.8 (2012-2016 average) to 2,161.2 (2014-2018 average)
- Reduce the serious injury rate by 4.75 percent each year from 2.191 (2012-2016 average) to 1.988 (2014-2018 average)
- Reduce the total non-motorized fatalities and serious injuries by 5.30 percent each year from 438.8 (2012-2016 average) to 393.5 (2014-2018 average)

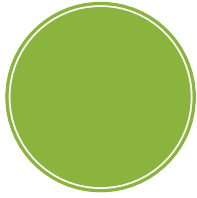
Performance Targets Summary

The table on the next page provides a summary of performance targets for the Rocky Mount MPO area. Where targets have been adopted by the TAC, they are listed next to the relevant description, along with relevant details such as time scale for reaching the targets and their adoption date. This table will continue to be updated as additional performance targets are adopted by the Rocky Mount MPO TAC.

Chapter 5 | Performance Measurement

Table 5-1: Performance Measurement Summary

National Goal Areas	Measure	FAST Act Target			Adopted on
Safety	Number of fatalities	reduce by	5.10%	each year	2/19/18
	Fatality rate (per 100 million vehicle miles traveled)	reduce by	4.75%	each year	2/19/18
	Number of serious injuries	reduce by	5.10%	each year	2/19/18
	Serious injury rate (per 100 million vehicle miles traveled)	reduce by	4.75%	each year	2/19/18
	Number of non-motorized fatalities and non-motorized serious injuries	reduce by	5.30%	each year	2/19/18
Infrastructure Condition	Percentage of pavements on the Interstate System in Good condition				
	Percentage of pavements on the Interstate System in Poor condition				
	Percentage of pavements on the non-Interstate National Highway System (NHS) in Good condition				
	Percentage of pavements on the non-Interstate NHS in Poor condition				
	Percentage of NHS bridges classified as in Good condition				
	Percentage of NHS bridges classified as in Poor condition				
System Reliability	Percent of person miles traveled on the Interstate System that are reliable				
	Percent of person miles traveled on the non-Interstate NHS that are reliable				
Freight Movement and Economic Vitality	Truck Travel Time Reliability Index				
Congestion Reduction	Annual hours of peak-hour excessive delay per capita				
	Percent of non-single-occupant vehicle travel				
Environmental Sustainability	Total emissions reduction				



CHAPTER 6

INVESTING IN TRANSPORTATION



Introduction

Roadway Project Prioritization

Financial Plan Development

Conclusion



Introduction

Transportation planning has historically balanced the technical aspects with engaging the public and elected leaders in the decision-making process. However, there is often a disconnect between public policy and this approach. This can make it difficult to evaluate how well the transportation system addresses the community's needs and how well future transportation projects will improve quality of life. [CONNECT 2045](#) serves as the region's long-range transportation strategy and combines technical data with engagement results.

In accordance with state and federal requirements, this plan is also financially constrained. This process demonstrates how the recommended and prioritized projects can realistically be funded during the life of the plan. Due to limited transportation funding, it is critical that measures be taken to ensure that appropriate projects and programs are prioritized and eventually implemented.

To do this, the MPO must demonstrate a reasonable expectation of future funding levels, estimate project costs, and project the future needs of all travel modes. The financially-constrained plan allows the MPO and supporting agencies to focus on near-term opportunities and identify strategies for implementation.

This chapter discusses the process used to determine financial constraint, including project prioritization and estimated funding levels. The overall condition of the region is also explored through the lens of performance measurement.

Roadway Project Prioritization

Chapter 4 of [CONNECT 2045](#) introduced the plan's proposed roadway recommendations, along with the prioritization methodology. Using a combination of qualitative and quantitative metrics, the planning team assessed the relative performance of each roadway corridor project. It should be noted that the prioritized projects shown in Chapter 4 are not financially constrained. Corridor projects are initially grouped into near-, mid-, and long-term improvements— regardless of available funding. The prioritization process allows for flexibility in the order projects are implemented, rather than proceeding in strict rank order so the MPO can most efficiently use their allotted funding.

Finally, although bicycle, pedestrian, and transit projects were not independently prioritized, the MPO will attempt to implement these improvements concurrently with roadway enhancements where these projects align.

This approach is most cost-effective and minimizes construction impacts to the surrounding network. Roadway intersection projects were also considered separately from this list. These projects are largely consistent with the list generated through the state's Highway Safety Improvement Program, which is funded through a separate source.

Financial Plan Development

OVERVIEW

The Fixing America's Surface Transportation Act (FAST Act), Public Law 114-94, was signed into law on December 4, 2015. The FAST Act funds transportation programs for fiscal years 2016 through 2020. It is the first long-term surface transportation authorization enacted in a decade that provides funding certainty for surface transportation. The FAST Act supports critical transportation projects to ease congestion and facilitate freight movement on major roads by establishing and funding new policies and programs. The FAST Act builds off the prior federal legislation— Public Law 112-141, the Moving Ahead for Progress in the 21st Century Act (MAP-21)—and continues that law's emphasis on performance evaluation and addresses national priorities, as identified below.

The financially-constrained plan, required by the FAST Act and MAP-21 for regional MTPs, shows proposed investments that are realistically based on future funding availability during the life of the plan and a series of funding periods. Meeting this test is referred to as "financial constraint." The funding periods identified for [CONNECT 2045](#) are:

- 2018-2027
- 2028-2035
- 2036-2045
- Vision

The first funding period (2018-2027) is reflective of the time period of the state and MPO's currently adopted Transportation Improvement Program. As such, projects reflected during this time period are considered to be already committed. The second and third funding periods (2028-2035 and 2036-2045 respectively) are consistent with the interim years guidance for metropolitan areas subject to air quality conformity requirements. As such, the funding bands reflected are also the time periods being modeled in the conformity process.

Revenue forecasts were developed after a review of previous state and local expenditures, current funding trends, and likely future funding levels. The revenue forecasts involved consultation with the MPO, NCDOT, and FHWA. All dollar figures discussed in this chapter initially were analyzed in current year dollars (i.e. 2018) and then inflated to reflect the midpoint of the projected opportunity band. Based on an assessment of recent trends and on guidance from MPO staff, an annual inflation rate of 1.5% was used to forecast revenues. Federal guidance suggested an annual inflation rate of 4% was used to forecast costs. These differing projections suggest that costs will increase at a greater rate than available revenues. This chapter provides an overview of revenue assumptions, probable cost estimates, and financial strategies along with the detailed research results used to derive these values. Since this is a planning level funding exercise, all funding programs, projects, and assumptions will have to be re-evaluated in subsequent plan updates.

Table 6-1: Historic Maintenance Funding

County	Historic 10-year Average	2016-2017 Amount
Edgecombe County	\$8,098,700	\$5,529,344
Nash County	\$12,256,500	\$11,549,440

ROADWAY MAINTENANCE FUNDING

Although **CONNECT 2045** is primarily focused on capital improvements to the multimodal system, maintenance funding also needs to be considered. Maintenance funding in the Rocky Mount urban area is applied to areas such as roadway maintenance, bridge replacements, or bicycle and pedestrian infrastructure. Maintenance of these types of uses is funded either by state and federal sources or by local sources, depending on the ownership of the facility being considered. NCDOT tracks historic maintenance data at a county level for state-maintained facilities, as shown in the table below. The average annual maintenance funding for Nash and Edgecombe Counties are shown in the table, as well as the most recent available fiscal year's (2016-2017) dollar value.

While this data is not specific to the MPO, it still provides a helpful understanding of the funding trends for maintenance. Future year maintenance funding was not projected. However, it is reasonable to assume that all maintenance funding that is made available within the MPO area will be fully utilized. Interestingly, the 2016-2017 fiscal year maintenance funding level is lower than that of the 10-year average. The MPO should continue to work with member jurisdictions and NCDOT to determine whether a maintenance shortfall could exist and how that could be addressed through future planning efforts. Data from the performance measures introduced in Chapter 6 will serve as a helpful guide for this conversation.

CAPITAL ROADWAY FUNDING

Projections of funding for capital roadway projects are based in large part on current funding levels shown in the draft FY 2018-2027 Statewide Transportation Improvement Program (STIP). The average annual funding level from the STIP is approximately \$16,000,000; however, MPO staff feels that the level of funded projects in the current STIP will be more than what can be reasonably expected in the future. As a result, a lower annual state and federal funding value of \$12,000,000 will be assumed beginning in 2028. Revenue forecasts were adjusted within this projection period to reflect a 1.5% inflation rate per guidance from FHWA. Local funds, composed of the Powell Bill capital roadway project allocation within Rocky Mount, Nashville, and Sharpsburg was also estimated and then projected out to 2045 without the addition of inflation.

Based on this forecasting methodology, the available capital highway funding for the Rocky Mount MPO totals approximately \$415 million over the life of the MTP. Table 6-2 below summarized the anticipated capital roadway funding broken out by Federal/State and local funding.

Table 6-2: Capital Roadway Funding by Horizon Year

Opportunity Band	Federal/State Funding	Local Funding	Total Roadway Capital
2018-2027	\$ 159,222,000	\$ 2,370,000	\$ 161,592,000
2028-2035	\$ 102,711,000	\$ 1,920,000	\$ 104,631,000
2036-2045	\$ 146,848,000	\$ 2,400,000	\$ 149,248,000
Total	\$ 408,781,000	\$ 6,690,000	\$ 415,471,000

The capital roadway projects in the 2018-2027 STIP are shown on the next page in Table 6-3.

Table 6-3: Rocky Mount MPO 2018-2027 STIP

STIP #	Project Name	ROW Year	Construction Year	Funded Amount
C-5546	Benvenue Road (NC 43/NC 48) at Jeffreys Road Intersection Improvements	Under Construction	Under Construction	\$146,000
C-5548	Benvenue Street, Tarboro Street, Falls Road, Franklin Street, Leggett Road, and Church Street Sidewalks	Under Construction	Under Construction	\$375,000
U-3331	Country Club Road Widening (US 64 BUS to Jeffreys Road)	Under Construction	Under Construction	\$17,988,000
EB-5731	Cowlick Trail (Leggett Road to Eastern Avenue Park)	2024	2025	\$1,575,000
R-5720	Eastern Avenue Widening (Red Oak Road to Old Carriage Road)	2018	2020	\$31,708,000
EB-5853	Grand Avenue/Grace Street Bike Lanes	2026	2027	\$3,250,000
U-3621	Hunter Hill Road Widening (North Winstead Avenue to NC 43/48 Benvenue Road)	Under Construction	Under Construction	\$34,616,000
U-5026	I-95 at Sunset Avenue Interchange	2019	2020	\$46,837,000
U-5947	NC 43 (Benvenue) at US 64 Bypass Roundabout	2021	2022	\$1,030,000
U-5911	NC 48 Widening (Red Oak/Battleboro Road to NC 4)	2023	2025	\$20,123,000
R-2823	Northern Connector (Hunter Hill Road to US 301)	Project Complete	Payback until 2019	\$68,894,000
U-5996	Old Carriage Road Center Turn Lane (Green Hills Road to Eastern Avenue)	2018	2020	\$29,549,000
EB-5763	Rails to trails (US 301 BUS SB to Monk Street)	2024	2025	\$3,175,000
EB-5852	Sixth Street/Aviation Avenue Sidewalk	N/A	2025	\$215,000
U-4762	Springfield Road Widening (US 64 Alt. to Leggett Road)	In Progress	2018	\$7,146,000
EB-5854	Tar River Trail Extension (Stith Park to Springfield Road)	2026	2027	\$800,000
EB-5761	US 301 Business (Church Street) Streetscape (US 64 to NC 97 Overpass)	2022	2023	\$2,250,000
U-3330	US 301 Bypass Widening (NC 43/48 Benvenue Road to May Drive)	Under Construction	Under Construction	\$38,100,000
FS-1504A	US 64 – Upgrade to interstate standards	Feasibility Study In Progress	Feasibility Study In Progress	-
EB-5711	US 64 Business at Sunset Avenue Pedestrian Signals	N/A	2020	\$150,000
EB-5905	US 64 Business at Thomas Street Pedestrian Signals	N/A	2027	\$500,000
C-5549	Winstead Road Sidewalks	Under Construction	Under Construction	\$1,940,000

Chapter 6 | Investing in Transportation

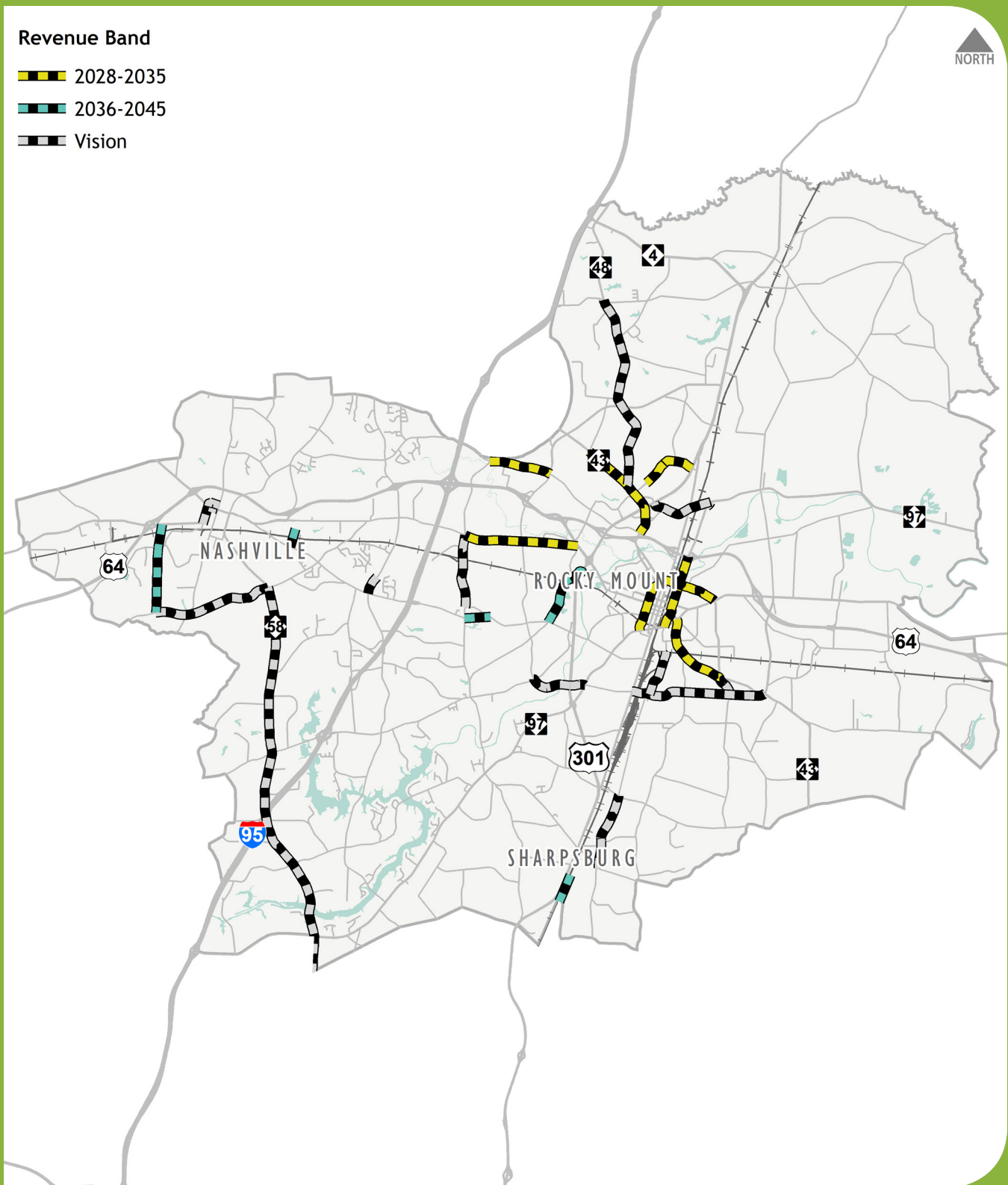
The following table presents the projects in 2028-2035, 2036-2045, and Vision (Unfunded) Opportunity Bands and their cost estimates inflated to the midpoint year of the opportunity band. Each of these lists of projects is constrained based on the amount of revenue projected to be available during the opportunity band time period. Unfunded Vision projects, while not projected to receive funding as a part of this plan, are still considered viable recommendations and as so remain in the plan. The supporting map following this table shows the roadway projects included all of the time periods of the MTP.

Table 6-4: Financially Constrained Project List by Horizon Year

Project Name	Extents	Project Cost
2028-2035		2032 Dollars
Atlantic Avenue Complete Street	US 64 to E Raleigh Boulevard (NC 97)	\$11,914,000
Benvenue Road (NC 43) Access Management	Hunter Hill Road to Peele Road	\$10,470,000
Cokey Road Center Turn Lane	Redgate Avenue to Old Wilson Road	\$10,390,000
Cokey Road Complete Street	S Fairview Road to E Raleigh Boulevard	\$9,926,000
Grace Street and Grand Avenue Complete Streets	W Raleigh Boulevard (NC 97) to E Raleigh Boulevard (US 64 BUS)	\$6,511,000
Hunter Hill Road Widening	Winstead Avenue to Halifax Road	\$30,304,000
Jeffreys Road Complete Street Phase 1	Northgreen Lane to Jeffreys Court	\$7,149,000
Jeffreys Road Complete Street Phase 2	US 301 Bypass to Northgreen Lane	\$8,587,000
Sunset Avenue Access Management	Halifax Road to Buck Leonard Boulevard (US 64 BUS)	\$7,707,000
	Total Cost of Projects (2032 Dollars)	\$ 102,958,000
2036-2045		2041 Dollars
Bethlehem Road Realignment	N/A	\$12,249,000
Eastpointe Road Extension	Current Terminus to Oak Level Road	\$25,633,000
Erkin Smith Road Modernization	Old White Oak Road to Old Spring Hope Road	\$19,253,000
Halifax Road Widening	Sunset Avenue to Bethlehem Road	\$45,885,000
Old Mill Road Center Turn Lane and Complete Street	Bethlehem Road to US 301 Bypass	\$26,299,000
Phase 1 - Highway 58 Connector	Western Avenue (US 64) to Old White Oak Road	\$6,655,000
Railroad Street Extension	Rock Quarry Road to Armstrong Drive	\$14,788,000
	Total Cost of Projects (2041 Dollars)	\$ 150,762,000

Project Name	Extents	Project Cost
Vision		2046 Dollars
Airport Road Widening	US 301 Bypass to Tanner Road	\$ 37,784,000
Arlington Street Extension	Tarboro Road to County Line Road	\$ 28,787,000
Atlantic Avenue Realignment	N/A	\$ 17,992,000
Beechwood Drive Extension (Southern Connector)	West Mount Drive to US 301 Bypass	\$ 103,755,000
Bishop Road Sidewalks		TBD
East Raleigh Boulevard Complete Street	Arlington Street to US 64 Bypass	TBD
Falls Road & Peachtree Street Bike Lanes	River Drive to Franklin Street	TBD
Green Pasture Road Realignment		\$ 3,218,000
Kingston Avenue Extension (Southern Connector)	US 301 to W. Raleigh Boulevard (NC 97)	\$ 58,475,000
NC 48 Widening	Red Oak Battleboro Road to Homestead Road	\$ 85,870,000
NC 48 Widening	Benvenue Road to Homestead Road	\$ 72,507,000
NC 58 Widening	E Old Spring Road to Wilson County Line	\$ 334,245,000
Parker Canal Greenway		TBD
Phase 2 - Highway 58 Connector		\$ 42,270,000
RWI Airport	Taxiway and hangar site work	TBD
RWI Airport	T hangar units	TBD
S Old Carriage Road Realignment	Oak Level Road to S of RM City Limits	\$ 3,177,000
Sutton Road Extension (Southern Connector)	Old Wilson Road to Cokey Road	\$ 93,260,000
Sutton Road Center Turn Lane (Southern Connector)	Old Wilson Road to US 301	\$ 25,853,000
Sutton Road Railroad Bridge		TBD
Tar River Trail Extension	Sunset Park to Nashville Road	TBD
Tar River Transit Transfer Center	Renovate breakroom and restrooms	TBD
Vance Street Modernization and Complete Street	Monk Street to Sutton Road	\$ 47,371,000
Vance Street Realignment	N/A	\$ 1,784,000
Western Avenue at Cross Street	N/A	TBD
West Raleigh Boulevard Complete Street	Wesleyan Boulevard to Franklin Street	TBD

Map 6-1: Projects by Revenue Band



ACTIVE TRANSPORTATION

Bicycle and Pedestrian Maintenance Funding

Currently funding for bicycle and pedestrian maintenance can be provided using Powell Bill funds, although none of the member jurisdictions have a dedicated amount of funding set aside for the up-keep of bicycle and pedestrian facilities. Pedestrian and bicycle facilities that are part of state-maintained facilities are typically maintained as part of those larger facilities.

Capital Bicycle and Pedestrian Funding

Currently, new bicycle and pedestrian facilities in the Rocky Mount Urban Area are primarily funded using federal programs, discretionary funds, and local dollars. The City of Rocky Mount's fiscal year 2018 budget includes 15,00 linear feet of new sidewalk, as well as bike lanes on Falls Road/Peachtree Street. Additionally, there are several bicycle and pedestrian projects included in the 2018-2027 STIP. In order to ascertain potential future funds available for these projects, the amount currently dedicated to bicycle and pedestrian projects in FY 2018-2027 STIP was combined with 25% of the annual Powell Bill funding allocation for Rocky Mount, Nashville, and Sharpsburg. In generating future revenues, Powell Bill allocations were not inflated, and state funding revenues are inflated by 1.5% annually starting in 2028. Using this methodology, the available bicycle and pedestrian funding for the duration of the 2045 MTP is estimated to total \$38,757,000.

Table 6-5: Anticipated Capital Funding for Active Transportation by Revenue Band

Revenue Band	Revenues
2018-2027	\$ 12,536,000
2028-2035	\$ 10,839,200
2036-2045	\$ 15,381,800
Total	\$ 38,757,000

annual average considers prior year funding levels still reflected in the STIP along with the funding allocated in 2018-2027, after which annual values were inflated at 1.5%. To better project operations and maintenance funding, annual projections from 2028-2045 are based on funding amounts shown in the first five years of the STIP. This portion of the STIP shows a more comprehensive view of the costs associated with operations and maintenance. An annual inflation value of 1.5% was applied to these operations and maintenance funding levels as well. The Rocky Mount MPO will continue to work closely with NCDOT and Tar River Transit to understand the financial needs of the transit system into the future. Tar River Transit will continue to provide more detailed insight into their costs and revenues through their own independent planning efforts.

Table 6-6: Anticipated Transit Funding by Revenue Band

Revenue Band	Transit Capital	Transit Operations & Maintenance
2018-2027	\$ 15,000	\$ 12,590,000
2028-2035	\$ 548,000	\$ 17,961,000
2036-2045	\$ 779,000	\$ 25,678,000
Total	\$ 1,342,000	\$ 56,229,000

PUBLIC TRANSPORTATION

The table below reflects the proposed costs and revenues for public transportation projects over the life of the metropolitan transportation plan. The costs and revenues are broken up between public transportation capital projects and operations and maintenance (from the 2018-2027 STIP). An estimated \$15,000 and \$12.6 million are currently included in the 2018-2027 STIP for public transportation capital projects and operations/maintenance, respectively. In order to better ascertain an average for future transit capital project funding, the

AVIATION

Aviation projects in the Rocky Mount Urban Area are funded using a blend of federal, state, and local funds. Locally Nash, Edgecombe, and Wilson Counties, as well as the cities of Rocky Mount and Wilson contribute to the Rocky Mount-Wilson Airport Authority as part of their annual budget. The table below shows revenue anticipated for capital projects as part of the STIP. Local capital, operations, and maintenance funds are not reflected here. The Rocky Mount-Wilson Airport Authority prepares its own master planning and financial assessments, which will continue to serve as an in-depth and comprehensive look at the funding levels for that entity.

Table 6-7: Anticipated Aviation Funding by Revenue Band

Revenue Band	Revenues
2018-2027	\$ 1,940,000
2028-2035	\$ 1,660,500
2036-2045	\$ 2,373,900
Total	\$ 5,974,400

Among other accomplishments, **CONNECT 2045**:

- Funds 16 roadway projects
- Invests a total of \$253,720,000 in roadway infrastructure
- Defines the community's expectations as leaders move forward with major transportation investments
- Sets the stage for smart investing by emphasizing access management, connectivity, and modally-balanced transportation strategies

As the region moves forward and projects advance toward funding and implementation, the Rocky Mount MPO will continue to work with NCDOT, FHWA, and FTA to determine how best to advance recommended projects and will continue to engage the public to adjust future planning efforts and project lists as necessary. Ultimately, continued collaboration between state, local agencies, and the general public will provide more opportunities to foster a safe and well-balanced multimodal transportation system that makes the Rocky Mount Urban Area an attractive place to live.

Conclusion

The **CONNECT 2045** MTP envisions a region that ensures equitable access to reliable transportation, provides a wide variety of travel options, and promotes a high quality of life throughout. This plan is a regional vision for mobility that supports economic development and social equity while complementing the natural and man-made qualities that make the Rocky Mount Urban Area unique.

Included in **CONNECT 2045** are transportation strategies that consider the existing and future needs of residents, visitors, and employers. The creation of this financially-constrained plan ensures that the identified projects can reasonably be funded and implemented during the life of the MTP and that the priorities expressed throughout the public involvement process will influence the region's transportation planning decisions.

But **CONNECT 2045** is more than just a plan and a funding mechanism. With this document, the leaders and citizens of the Rocky Mount Urban Area can set the stage for the region's future and how this region will accommodate its needs in the coming decades.



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