

Connecting North Carolinians to Opportunities



December 2018



PUBLIC TRANSPORTATION
STRATEGIC PLAN



FROM THE DIRECTOR:

North Carolina’s prosperity depends on a strong transportation system that connects North Carolinians to opportunities. Rural, urban and suburban communities alike rely on transit to get workers to jobs, revitalize town centers, support independent living, improve the efficiency of social service delivery, manage traffic congestion, and bridge the gap between rural and urban centers. Throughout this report you will find stories of how transit touches lives in communities across our state.

For more than 40 years, federal, state and local investments have improved transit services in all of North Carolina’s 100 counties through partnerships between local governments, private non-profits, state agencies, and the private sector. NCDOT and the state’s transit agencies are planning for continued transit investment and preparing for a thriving future with the North Carolina Public Transportation Strategic Plan.

Developed with the assistance of community leaders, transit professionals, and stakeholders, the plan establishes a collective transit vision of connecting North Carolinians to opportunities, and three strategies: Building Thriving Healthy Communities, Improving Access to Jobs and Economic Development, and Connecting Communities to Opportunities.

The Plan’s recommended actions include:

- **Building Connections** – North Carolina has changed from discrete cities and towns to economic regions where our travel to jobs, higher education, healthcare and shopping requires trips across county and regional borders. Our state’s transit services must expand to meet the increased demands for easy, convenient regional travel.
- **Fostering Regional Partnerships** – Today the Public Transportation Division has 98 grantees for oversight and funding, including many single-county rural transit agencies. As our regions evolve and grants and compliance requirements grow, we encourage agencies to work together to create regional partnerships and consolidated services.
- **Breaking Down Silos** – We need to break out of our silos and work across disciplines to make transit work better for our customers. Transit needs to improve collaboration with bicycle and pedestrian, roadway design, statewide and regional planning, traffic safety, land-use planning, economic development, higher education and affordable housing.
- **Leveraging Regional Multi-MPO Planning** – NCDOT’s Public Transportation Division will be working across the state to create multi-county plans based on economic regions. This broader planning will recognize the importance of regional travel and seek to create services across traditional jurisdictional boundaries.
- **Prioritizing Transit Effectively** – The Strategic Plan is an important element to inform decision making about transit priorities.

We encourage you to use this report as we work together to prepare for change and focus transit investments for a thriving future. Please join your fellow North Carolinians in turning this North Carolina Public Transportation Strategic Plan into action.

TABLE OF CONTENTS



PART 1: A CHANGING NORTH CAROLINA—MEETING TODAY’S NEEDS AND PREPARING FOR THE FUTURE

PART 2: TRANSIT IN NORTH CAROLINA TODAY

PART 3: CREATING A VISION AND PLAN FOR THE FUTURE

PART 4: NORTH CAROLINA TRANSIT STRATEGIC PLAN



APPENDICES

APPENDIX A—COMMUTER ANALYSIS

APPENDIX B—REGIONAL SERVICE AND GAP ANALYSIS

APPENDIX C—STAKEHOLDER ENGAGEMENT

APPENDIX D—TRANSIT PROVIDERS ACROSS THE STATE



MEETING TODAY'S NEEDS AND PREPARING FOR THE FUTURE



Public transportation in North Carolina has been growing in ridership and serving the needs of diverse North Carolinians for decades. In all 100 counties, transit service gets commuters in and out of our cities and towns, transports those who cannot drive to important appointments, and helps visitors discover our state's culture, natural beauty, industries and history.

The role of transit is changing as North Carolina grows. The state's population is projected to increase by 44 percent between 2010 and 2040. Metropolitan areas are absorbing most of this growth. By 2040, 70 percent of the state's residents will live in urbanized areas. Our aging population will also have a significant impact on the need for enhanced transit services. North Carolina will have one million more people 65 years and older in 2040 than we had in 2010, as that age cohort grows more than four times as fast as any other group.

As we address the needs of a changing population, we also recognize the changes coming to

the transportation industry overall. By 2040, transportation is likely to look and function much differently than today. We don't know how soon connected, shared and autonomous technologies will become a dominant reality, but we know these technologies are well into development and even in use now in some communities. North Carolina's transit sector must orient our policies, systems and operations to capture the greatest benefits while limiting potential negative impacts of these evolving technologies.

This strategic plan provides a roadmap for guiding our communities toward becoming even better places to live, work, go to school, retire and thrive. Transit will continue to serve an important role in achieving a high quality of life and access to opportunities for all North Carolinians. The purpose of this statewide plan is to establish a shared vision and a coordinated, updated approach for providing transit and mobility services to North Carolinians.

With input from stakeholders and members of the

public from communities across the state, a shared vision and mission has emerged.

VISION

Connecting North Carolinians to Opportunities

People across the state rely on transit to get around for daily needs. With heavier traffic congestion and longer commute times, employers increasingly rely on quality transit for access to talented workers. Transit can reduce travel time, offer people greater choice and flexibility, increase the number of destinations that one can reach, and contribute to every community's attractiveness and quality of life. Some people rely more than others on transit, such as those with financial constraints, impaired health or other limitations that may prevent them from operating a personal vehicle. For many of our residents, transit services mean the difference between being stuck in one place and getting to education, training, jobs, medical appointments and other needs. Today, and even more so in coming years, North Carolina's transit network provides vital connections to opportunities.

MISSION

Improve Quality of Life for North Carolinians by:

- Building healthy communities
- Supporting job creation and economic development
- Providing equal opportunities so all people can thrive

Transit plays an integral role in strengthening communities, providing access to employment and enabling people to thrive in urban and rural places across the state.

STRATEGIES

Building Thriving, Healthy Communities – Partner for a Successful Future

Healthy and thriving communities provide access to opportunities for all North Carolinians. Robust transit networks supporting cross regional travel

and enhanced access for seniors, veterans and persons with disabilities are essential for building healthy communities. Partnerships and coordination are vital for thriving communities and successful transit agencies as they foster innovation and make best use of limited resources. Local governments, community colleges, state agencies and customers should work together to focus transit services so residents thrive and communities across the state are attractive, livable places.

Improving Access to Jobs and Economic Development – Support Local Transit Systems

From 2010 to 2040, North Carolina is projected to add almost 3 million new jobs – a 58 percent increase. While many jobs will be located in metropolitan regions, major employers supporting economic prosperity will also be located in suburban and rural areas. Commuting patterns will become increasingly regional, requiring transit agencies to develop new services that connect employees across county lines. New local routes, regional commuter services and rural employment routes will support regional and statewide economies.

Connecting Communities to Opportunities – Build a Connected Statewide Network

While all 100 North Carolina counties have transit service, few local system routes are connected together to allow seamless and easy travel for customers across jurisdictional lines. Geographic and political boundaries and funding sources often prevent transit from being a fully integrated system. The Connected Statewide Network will build upon existing services and embrace evolving technologies to connect North Carolina's communities to tomorrow.

North Carolina's transit system includes rail, bus, vanpool, demand response and human service agency services. Transit improves the lives of every North Carolinian, even those who are not regular users. In the broadest sense, transit supports a healthy state economy by ensuring that workers can get to their jobs and students can travel to school or training to build skills and become contributing members of the community. Communities and regions across the state can also be attractive places for workers and employers.

For many, transit directly impacts getting around, ranging from infrequent trips to daily travel. Transit is the regular means of transportation to work for approximately 1.1 percent of the state's workers and another 9.8 percent commute by carpool.¹ In many urban communities, transit offers the ability to live a car-free lifestyle, enables seniors to age in place, supports compact development, and contributes significantly to economic development and congestion management. In rural parts of the state, transit can be critical for access to medical appointments, education, jobs and community services. And for those in our state who live on very limited incomes, may not be able to drive or have

1 American Community Survey 5-year data, 2016. U.S. Census Bureau.

other constraints, transit is a vital lifeline. Transit helps make it possible for North Carolinians to live where they choose – in big cities or in remote, rural locations.

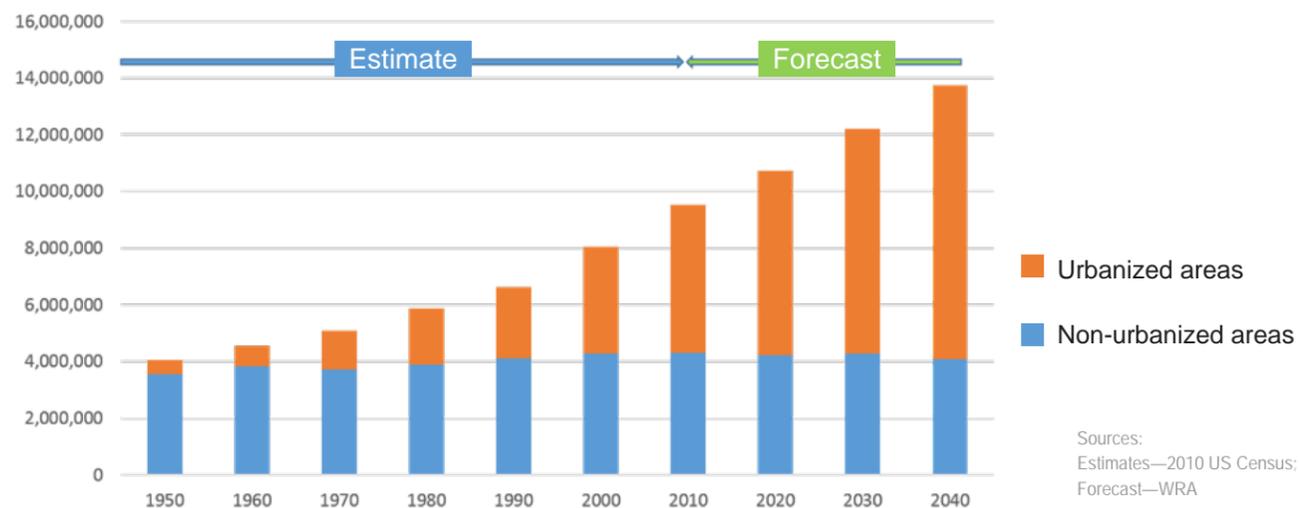
North Carolina's Population and Demographic Change

North Carolina's population has more than doubled since 1950 to 10.3 million people.² Almost all of that growth was in urbanized areas (cities with more than 50,000 residents), as shown in Figure 1-1. Urbanized areas, now home to more than half of all North Carolinians, are expected to absorb most of our overall growth in future years. Smaller cities, towns and rural areas are expected to grow more slowly or stay the same, and some rural counties will continue to lose population. Figure 1-2 illustrates recent trends in population change by county.

People aged 65 and older will represent a growing portion of our population over time. Older people are more likely to need medical attention and less likely to be able to drive themselves. Consequently, the need for mobility services and medical travel will increase. Research shows that older adults increasingly want to remain in their homes and their communities as they age, and significant numbers

2 U.S. Census Bureau 2017 estimates.

FIGURE 1-1: POPULATION GROWTH STATEWIDE (1950-2040)



REGIONAL TRAFFIC CONGESTION

North Carolina's urban centers have experienced increasing traffic congestion. The Texas Transportation Institute's 2015 Urban Mobility Scorecard estimated that Raleigh motorists' hours of delay – a measure of time spent in traffic – increased by 279 percent from 1990 to 2014, while Charlotte area travelers experienced a 333 percent increase in delay. Although we continue to invest in transportation infrastructure, our expanded roadways have not kept pace with increased travel demand. Future projections mirror our past experience, and we are unlikely to build our way out of traffic congestion.



In the Triangle region, Wake County has more than one million residents and is growing at a rate of 63 people per day. With continued population and job growth over the next 30 years, traffic volume will grow accordingly. In 2013, there were 50.6 million daily vehicle miles traveled (VMT) in the Triangle. Based on forecasts from the Capital Area Metropolitan Planning Organization (MPO) and Durham-Chapel Hill-Carrboro MPO, there will be 91.4 million daily VMT by 2045 an 80 percent increase resulting in severe traffic congestion on major roads. Triangle motorists' hours of delay are expected to grow by 375 percent by 2045. Charlotte regional forecasts are similar, with daily VMT growing by 47 percent and hours of delay

increasing by 142 percent.

To maintain North Carolina's quality of life, we must establish policies and plans that make best use of all available technologies and travel choices. Our strategies for overcoming future mobility challenges will include transit, shared vehicle programs and transportation network companies. Fostering collaboration among multiple transit providers, integrating systems and adapting local policies to support regional travel will help our communities leverage transit's many benefits and pave the way toward a more sustainable future.

Where people who work in Raleigh reside:

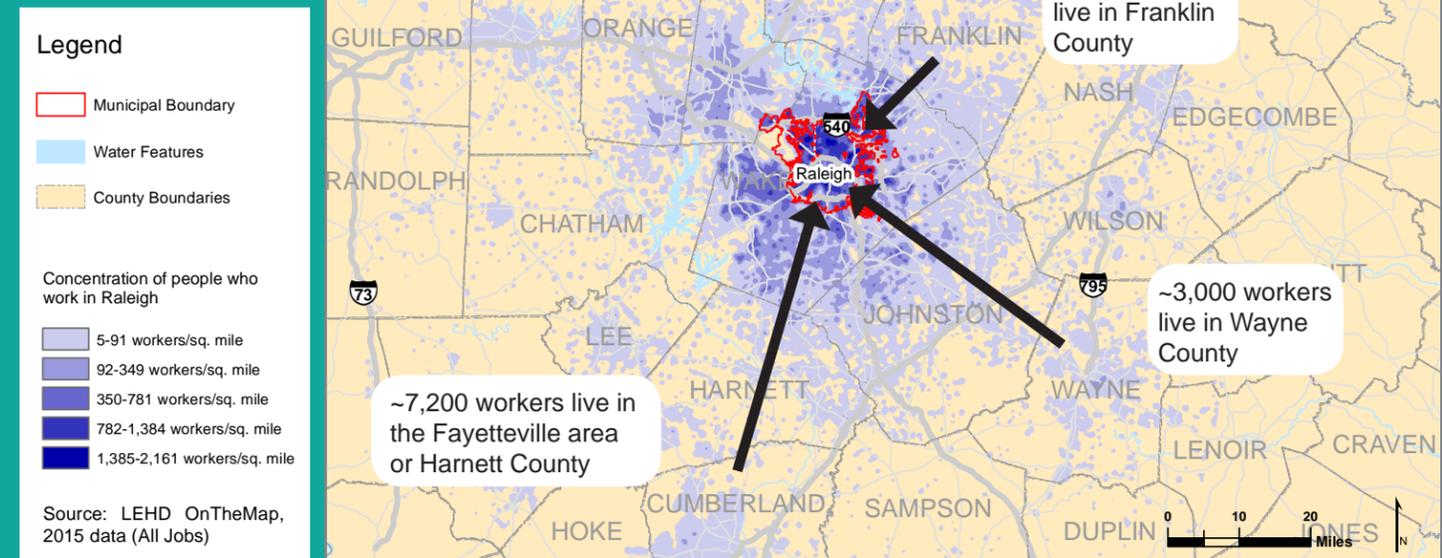
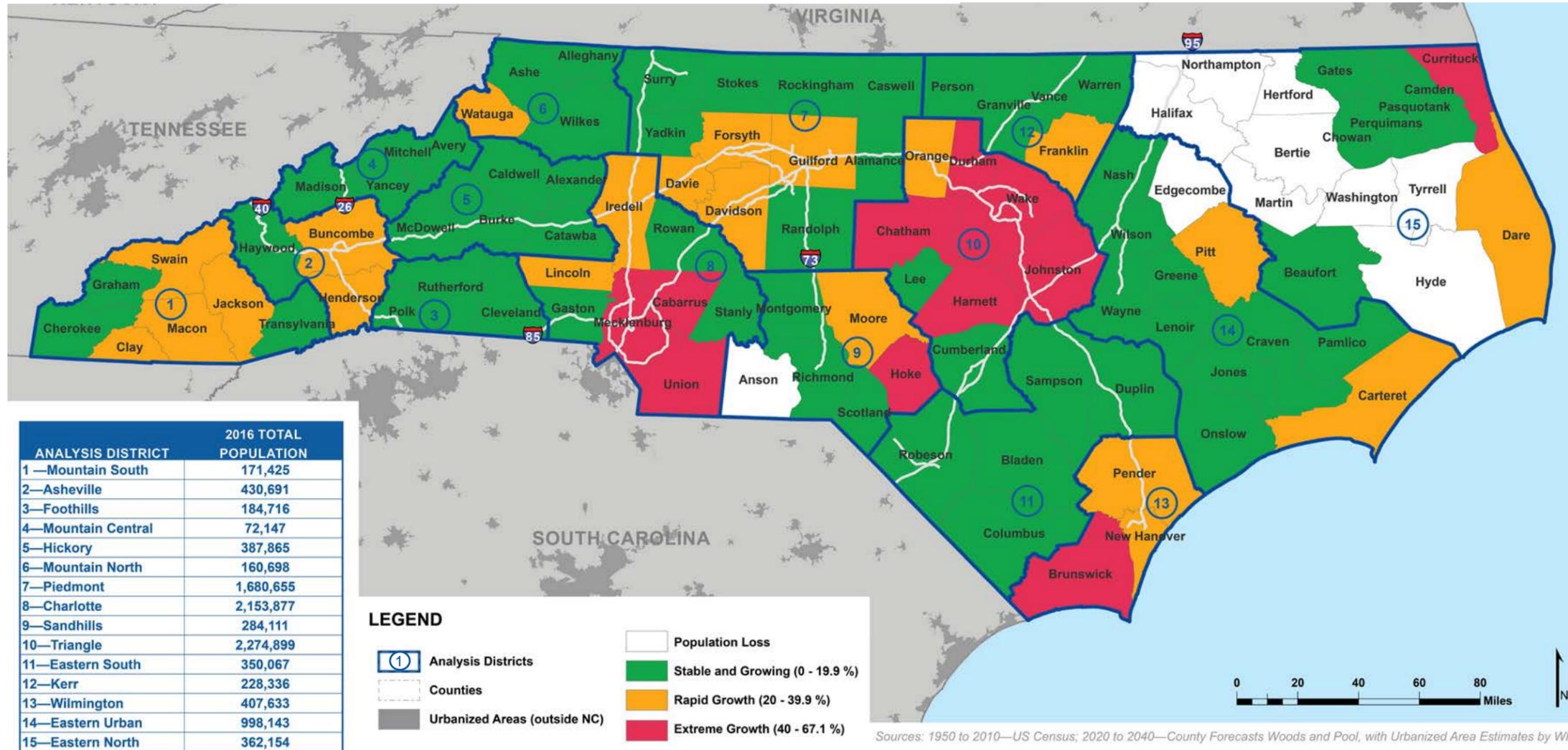


FIGURE 1-2: POPULATION CHANGE BY COUNTY (2010-2040)



An estimated 1 in 9 North Carolinians lives with a disability.



Source: American Community Survey, 2016 (5 year estimates)

work, with 28 percent traveling more than 50 miles.

Telecommuting and transit will play important roles in managing regional commuting. As high-speed internet becomes available in more areas, telecommuting is becoming an option for more long-distance commuters. Carpooling, vanpooling, commuter bus and commuter rail can be effective for the long-distance commutes prevalent across the state. (See Appendix A, page 53, for more information on the Commuter Transit Market Analysis).

Need for Transit

North Carolinians rely on transit to get around for daily needs, break through barriers and reach new goals. Transit connects North Carolinians to opportunities and will be increasingly important as the proportion of the population who rely most on its services grows.

The future is also likely to see continued change in the economic structure of the state. According to estimates by the Labor and Economic Analysis Division of the North Carolina Department of Commerce, between 2014 and 2024 approximately 550,000 jobs will be added across the state. Three out of four of those jobs are expected to be in industries where the average income is less than \$1,000 per week. Recent employment trends show that jobs in service-providing industries are increasing in number, while goods-producing industries make up a smaller share of added jobs (see Figure 1.3). Occupations with low educational requirements (no post-secondary or college experience needed) are projected to produce the

of baby boomers seek to retire in dense, mixed-use communities. These trends will likely have an impact in urbanized communities as well as more rural parts of the state. We will need strategies to support the mobility needs of older adults in communities of all sizes.

Regional Commuting

As the state grows, regional long-distance commuting is increasing. Many North Carolinians travel long distances from small towns and suburban neighborhoods to access quality jobs. The U.S. Census American Community Survey estimated in 2016 that 26 percent of North Carolina workers cross county lines to reach their jobs. Fifty-seven percent

travel more than 10 miles to work, and 18 percent travel more than 50 miles.

Long distance commuting affects both urban, suburban and rural counties. Harnett County, located south of Raleigh, is transitioning from a rural to suburban area. Since 1986, the county's population has doubled with a 2018 population of 132,754. By 2040, the county is projected to be home to 57,094 new residents for a total 2040 population of 192,081 persons. In 2016, estimates from the US Census Bureau Longitudinal Employer-Household Dynamics data indicated that 74 percent of Harnett County workers commute to jobs outside the county, with many traveling to Fayetteville/Fort Bragg or the Research Triangle region.

Durham County, which is predominantly urban, has experienced a 117 percent increase in population since 1986. Since 2005, Durham County has experienced a 16 percent increase in out-of-county commuting, with average commuting times increasing by 8 percent overall. Population growth, along with longer commutes, is placing a burden on our roads and highways (see "Regional Traffic Congestion" on page 4).

Longer-distance commuting is especially common in some rural counties. In Jones County, south of Kinston and New Bern, 88 percent of the county's 3,402 workers cross county boundaries to reach their jobs. In Bertie County, north of Greenville, 60 percent of the county's 5,160 workers leave the county to

COMMUNITY COLLEGES AND TRANSIT

A partnership creating opportunity

North Carolina community colleges provide accessible educational opportunities and minimize barriers to secondary education. Transit is a vital partner to the success of community colleges.

Wake Tech is the state's largest community college, with more than 70,000 students enrolled and 2,000 employees. A Wake Tech ID enables free rides on GoRaleigh and GoTriangle buses. There are no parking hassles and no need for gas money when students ride the bus.

Promoting transit and greener transportation options helps community college students and employees save time, money and frustration. Students who may not have access to a car find transit a reliable means to seek secondary education opportunities. In eastern North Carolina, students at Beaufort Community College in Washington have the option to commute to class via Beaufort Area Transit System.

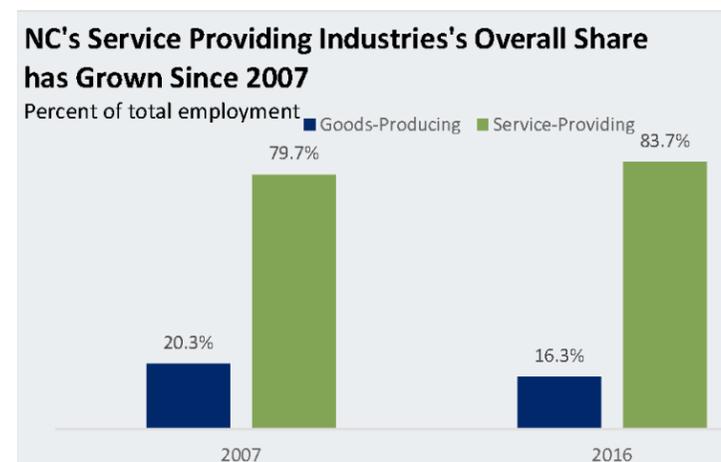
Another example of transit and community college success comes from Southwestern Community College in Jackson County, nestled in North Carolina's western mountains. Nicholi Nazare, who lives in neighboring Swain County and dreams of becoming an actor in New York City, is a second-year business student at Southwestern (pictured above). He relies on Swain Public Transit to get him to and from school. Nicholi is grateful for the transportation and hopes for expanded service hours so he can take evening classes and get his degrees sooner. Once he earns those degrees, there is no limit on where he can go.



most job openings. Occupations requiring a master's degree or higher are projected to have the greatest percentage increase in employment.³

Transit has a role in navigating these changes in the economy for workers at both ends of the spectrum. With most employment growth in low-wage jobs, affordable transportation and housing options are likely to see increased demand. And as knowledge-based companies seek to establish themselves or expand, they will look for places that offer top quality of life for their workers and prospective workers – including robust transit systems. The recent search for Amazon's second headquarters included transit as a criteria. Other companies that have recently located or expanded in North Carolina, such as Citrix, have also indicated the importance of transit. These are examples of the importance of robust regional transit networks in well-rounded communities.

FIGURE 1-3: INDUSTRY EMPLOYMENT SHARE CHANGE, 2007-2016



³ North Carolina Annual Economic Report 2016, North Carolina Department of Commerce. Accessed July 2018 at: <https://www.nccommerce.com/Portals/47/Publications/NC%202016%20Economic%20Report.pdf>

ACCESS TO HEALTH CARE

Transportation is a basic, necessary component for regular health care and health management, particularly for those with chronic disease. More than 3.5 million Americans miss at least one medical appointment each year because of a lack of transportation.¹ Low-income populations are disproportionately burdened by chronic disease, which is further compounded by transportation barriers and other challenges to health care access. According to the 2016 American Community Survey, approximately 240,000 households (6 percent) in North Carolina have no vehicle available. When access to convenient, low-cost transportation is not available, care is delayed. And when care is delayed, medical conditions sometimes become more severe, and addressing them becomes costlier.

With timely care, health outcomes improve and associated costs can be reduced. Access to timely health care is an important aspect in addressing a number of North Carolina's public health concerns:

- Mental health and opioid crisis – North Carolina has experienced a 73 percent spike in opioid-related deaths since 2005.²
- Pre/post-natal care and infant mortality – North Carolina's strategy for addressing its infant mortality rate, which is more than 20 percent worse than the U.S. average, has focused on social determinants of health, including access to medical care. "We need to do more to address the true determinants of health if we want to see improvements," Dr. Elizabeth Tilson, state health director and chief medical officer, said in an October 2017 news release.
- Obesity and chronic disease – 29.7 percent of adults have obesity and an additional 35.9 percent are overweight. Being overweight or obese is a risk factor for chronic

¹ Wallace, R., Hughes-Cromwick, P., & Mull, H. (2005). Access to Health Care and Nonemergency Medical Transportation: Two Missing Links. Transportation Research Record: Journal of the Transportation Research Board, 1924. Retrieved from: <https://outreach-partners.org/about-hop/transportation-initiative/>

² Governor's Report on Opioid Crisis. <https://governor.nc.gov/news/county-county-figures-opioid-crisis-north-carolina>



diseases including diabetes, heart disease and cancer.³ These are leading causes of death and disability and are also leading drivers of health care costs, according to the Centers for Disease Control and Prevention.

- End-stage kidney disease (ESKD) / chronic kidney disease (CKD) – Roughly 11 percent of North Carolina adults have been told in the last year that they have diabetes.⁴ Diabetes, along with hypertension and cardiovascular disease, is a primary risk factor that increases a person's likelihood of developing CKD. Access to medical care is critical for both prevention and treatment, which requires frequent care. The health consequences and economic costs of CKD can be reduced by preventing kidney disease, raising awareness about CKD, and delaying the progression of it into ESKD.⁵

"I have one patient attending an out of town high-risk maternity clinic who used public transportation to each appointment. Public transportation was able to take her to the out of town hospital for a c section and four days later pick her and her newborn up and return them home. That was amazing!"

—Stakeholder response to 2016 Office of Rural Health convenience survey

³ 2016 Profile of North Carolina, US Centers for Disease Control and Prevention.
⁴ North Carolina BRFSS, 2016.
⁵ 2012 Update to 2008 Report, Task Force on Chronic Kidney Disease, NC Institute of Medicine

An estimated 1 in 6 North Carolinians lives below poverty level.



Source: American Community Survey, 2016 (5 year estimates)

3 out of 4 jobs added between 2014 and 2024 are expected to be in low-wage industries.

(Labor and Economic Analysis Division of the NC Department of Commerce)

TRANSIT FOR GETTING TO WORK

Susan refused to allow an abusive relationship and a mark on her criminal record to be the highlight of her story. Leaving her past behind required leaving her home and possessions to build a new life. With the assistance of the NEW Reentry program, she found a fresh start as she obtained a job as a Nurse Aide at a local hospital where she was recently promoted to a full-time employee. Susan relies on transit to work her 12-hour shifts. She is thankful for the reliable and affordable transit system which helps her get to work so she can help others. She plans to eventually buy a car, but in the meantime will be a faithful rider on the Tar River Transit.



An immense body of research exists on socio-economic status and income inequality. It is well accepted that those of a higher socio-economic status live, on average, longer and healthier lives than lower income populations. The specific causes and solutions to income inequality and its consequences may be arguable, but few would dispute that all individuals should have access to opportunities and the hope for rising out of poverty.

Statewide, some 1.7 million people are affected by poverty. Though poverty touches all corners of the state, geographic areas are affected differently. Urban and suburban areas are, on average, less poor, but contain some deep pockets of poverty. Rural and eastern parts of the state show persistent, generational poverty.

Access to a job is key to jumpstarting a person's emergence from poverty. For people of fewer means who live in more developed areas, getting to work is typically less difficult due to the proximity of opportunities and availability of transportation options. In contrast, those in rural areas typically have fewer nearby opportunities, are more likely to have to travel longer distances to get to work, and transit may be sparse or non-existent, leaving one's only realistic option to be a personal vehicle, which can be an overwhelming expense. An efficient, affordable means of travel to work is a critical component of surviving and rising out of poverty.

Getting people to work in rural communities is not just a challenge for the individual. Employers and local communities face a similar question of how to get their workforce into their jobs every day while maintaining and building local economies.

A TRANSIT FUTURE

One Vision of Statewide Mobility

Katherine and her husband are enjoying their retired years near the ocean in eastern North Carolina. The two sold one of their cars recently, as it sat idle most of the time. Katherine loves to visit her grandchildren who live in Charlotte. With recent improvements in transit statewide, Katherine can make the trip to visit her grandchildren whenever she chooses.

She sets up her rideshare from her home that will take her 15 minutes away to the regional transit center. She boards an express bus which will get her efficiently and comfortably to Raleigh thanks to the state-of-the-art vehicles and priority travel lanes. In Raleigh, she decides at the last minute to stop and meet a friend for lunch and then catch the high frequency passenger train that will get her to Charlotte where her grandchildren are just a short ride away along the light rail. Katherine does all of this with one ticket and the peace of mind that she can spontaneously change her plans.

NORTH CAROLINA TRANSIT MOVES MILLIONS

In 2017, North Carolina's transit systems provided 70 million trips connecting riders to jobs, health care, education and shopping. North Carolinians enjoy public transportation service in all 100 counties – in major urban centers, small towns and rural areas from Murphy to Manteo. With combined state, local and federal investment and strong community partnerships, North Carolina's transit ridership has more than doubled since 1995. Our success can be traced to the Transit 2001 Study Commission's call for statewide transit investments. With support from the North Carolina General Assembly, the

state's annual transit investment reached \$93 million for 2018. A breakdown of statewide local transit operating revenue sources is shown in figure 2-1 (for FY 2017).

North Carolina's Transit Systems

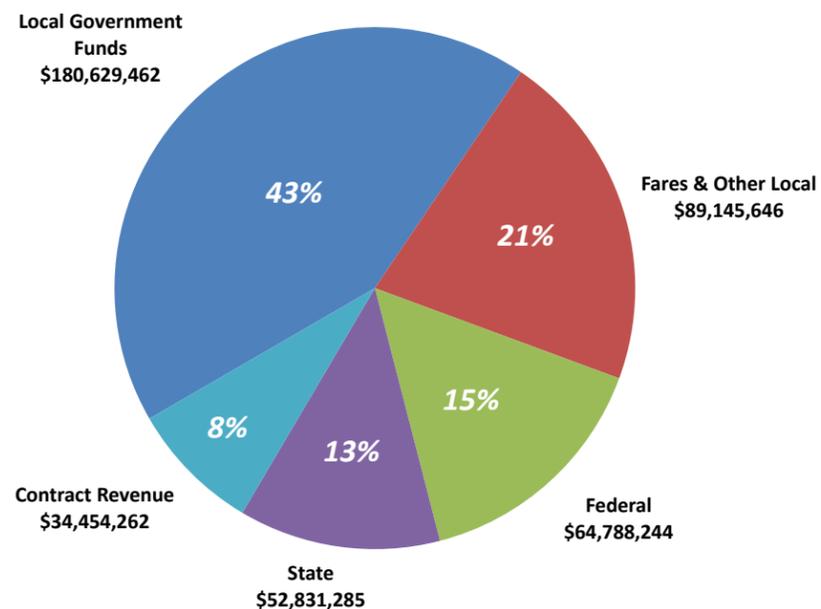
Transit service is provided in North Carolina by a diverse mix of public and private transit operators offering fixed route and deviated fixed route bus services, light rail, demand response and community transportation services. The services are operated in different ways including public operations with city and county employees, regional transit authorities, private non-profits and private contractors. Of the state's 98 transit systems, 31 serve large urban areas greater than 200,000 population, 14 systems serve small urban areas with 50,000 to 199,999 residents, and 53 systems serve rural areas. (A list of the state's transit systems is provided in Appendix D, page 57).

Transit success stories can be found across the state from urban communities, rural areas and universities. Common to all is the local commitment to improve access to opportunities and community quality of life.

CHARLOTTE LIGHT RAIL

Charlotte's Lynx Blue Line, North Carolina's first light rail service,

FIGURE 2-1: FY2017 NORTH CAROLINA TRANSIT OPERATING REVENUE BY SOURCE



Source: NCSU Institute for Transportation Research and Education

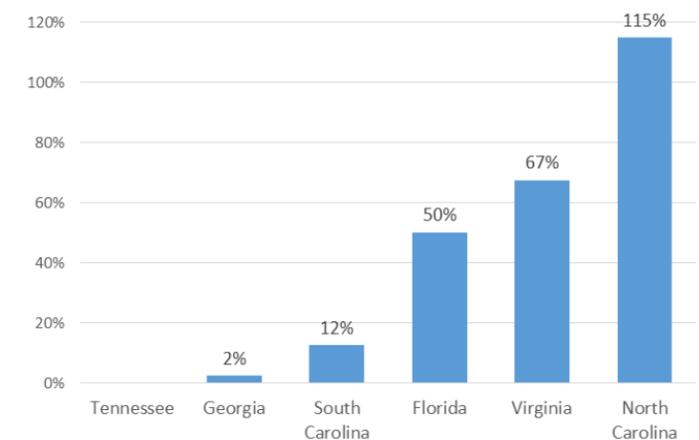
TRANSIT 2001 STUDY COMMISSION REPORT

Lasting Impact on Transit in North Carolina

The Transit 2001 Commission was appointed by Governor Hunt in 1995 to provide recommendations to improve public transportation for the 21st Century. The commission report documented North Carolina's growing population and transit needs and provided an action agenda for future transit service design and delivery, community development and planning, and funding. At the time of the study, the state was investing only \$20 million annually in public transportation, about one percent of the state's transportation budget. Approximately 39 million passengers were transported annually by the state's transit systems totaling about 1,900 vehicles. As a result of the commission's recommendations, funding for the State Transit Program increased substantially, reaching over \$93 million for 2018. The increased state and local investment in transit has resulted in the state's 100 transit systems providing more than 70 million trips in 2017.

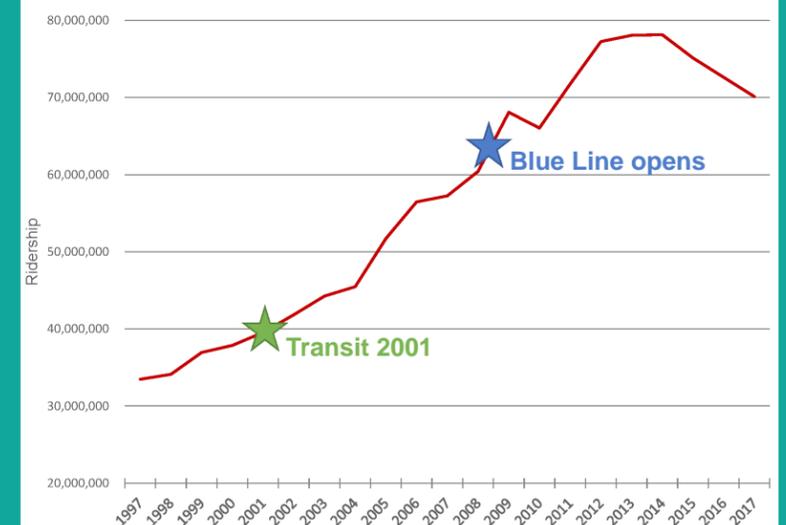
The Transit 2001 Commission Report played a significant role in the expansion and increased productivity of transit in North Carolina. Subsequent to the commission's work, the legislature established funding for both urban and rural transit programs that continue to benefit the public today. Funding was increased for the Elderly and Disabled Transportation Assistance Program (EDTAP), which enables many elderly residents to remain in their homes rather than being institutionalized, resulting in a savings of over \$33,000 per year per person (adjusted for inflation). The legislature also approved Urban New Start funds that supported Charlotte's LYNX Blue Line light rail service. The Transit 2001 agenda was comprehensive in prescribing activities to expand the scope of transit and increase the travel options available to all North Carolinians, while enhancing the quality, comfort, convenience and cost-effectiveness of transit services. The work of the Transit 2001 Commission provided state leadership toward the establishment of a transit network supported by federal, state and local governments and the private sector.

TRANSIT RIDERSHIP CHANGE SINCE 1995



Source: National Transit Database 2016 Time Series

NC TRANSIT RIDERSHIP



began operation with 9.6 miles of service in 2007 and was extended another 9.3 miles in March 2018. Today, Lynx operates from I-485 at South Boulevard through Uptown to UNC-Charlotte's main campus in University City. There are 26 stations including 11 park-and-ride locations. Lynx Blue Line offers a congestion-free commute with consistent travel times, and ridership has continued to be strong. The American Public Transportation Association reported, in the second quarter of 2018, weekday ridership at 25,500 and total ridership for the first six months of 2018 at 3,440,600.

Along with air quality and traffic congestion improvements, perhaps the biggest benefit to Charlotte from the Lynx light rail system has been the spark of development around the line. The Lynx Blue Line has spurred an estimated \$2.5 billion in private development projects since its opening in 2007, according to October 2018 estimates from the Charlotte Area Transit System.

REGIONAL SYSTEMS

Regional transit authorities serving multiple counties are established in urban and rural communities across the state. As compared to single-jurisdiction transit systems, regional transit authorities form multi-jurisdiction partnerships that reduce administrative and facility costs while offering residents more opportunities to travel across county lines. GoTriangle and PART serve the Triangle and Piedmont Triad metropolitan regions. And four rural regional transit authorities have been leaders in establishing reliable and progressive transit services:



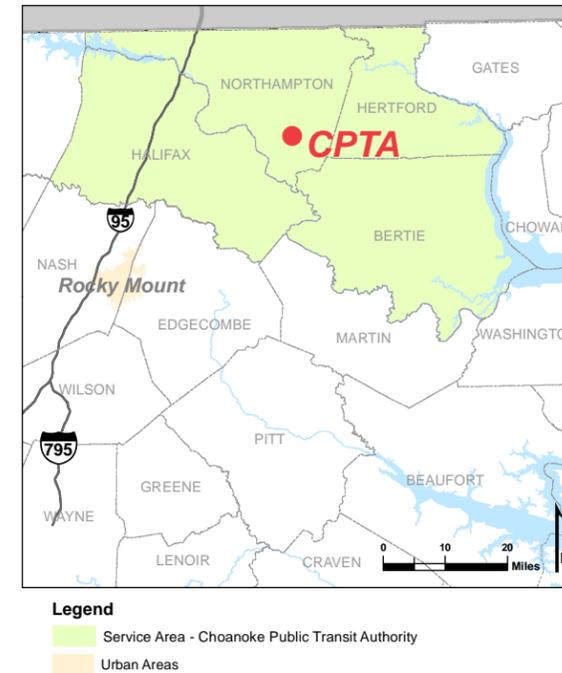
Passengers of Charlotte's light rail system

- The Inter-County Public Transportation Authority serves five counties in the Albemarle region including Elizabeth City.
- The Choanoke Public Transportation Authority serves four counties and the communities of Roanoke Rapids, Murfreesboro and Ahsoskie.
- The Kerr Area Transportation Authority serves five counties near Kerr Lake, including the cities of Henderson, Oxford, Louisburg and Warrenton.
- The Yadkin Valley Economic Development District, Inc. serves a five-county Piedmont area, including Mocksville, Elkin, Mount Airy and King.

Because of the benefits resulting from enhanced regional travel and reduced administrative expenses, the North Carolina General Assembly and NCDOT offer incentives for transit system consolidation. (See Appendix B, page 54, for more information on the Regional Service and Gap Analysis).

CHOANOKE PUBLIC TRANSPORTATION AUTHORITY

Since 1977, the Choanoke Public Transportation Authority (CPTA) has provided transportation services to citizens and blazed a successful trail for other rural transit systems. Building on the medical transportation already provided by the Choanoke Area Development Association (CADA), leaders from Bertie, Halifax, Hertford and Northampton counties developed legislation that established North Carolina's first rural public transportation authority. CADA, on behalf of the Authority, applied in 1978 for \$250,000 in Federal Highway Administration rural demonstration funding to buy vehicles and provide operating assistance. Nine 20-passenger buses were purchased along with a communication system. Four vehicles were donated by CADA and the new four-county agency began operating with 12 employees. Services initially were provided for the Hertford County Office of Aging, the Roanoke Chowan Mental Health Center, and the Halifax County Mental Health Center and Vocational Rehab. CPTA has continued to expand and currently provides more than 270,000 annual passenger trips with 50 employees and 30 vehicles. Throughout its 40-year history, the Choanoke Public Transportation Authority has won state and national recognition as a leader in public transportation.



DOWNEAST EXPRESS

Responding to NCDOT's request for regional service coordination proposals, six eastern North Carolina counties are providing the Down East Express from coastal Morehead City to the state capital. The Carteret County Area Transportation System is leading the effort by operating weekday service along the U.S. 70 corridor. Transfer centers are located in four counties en route to the Triangle. To promote the route, a newly designed wrap was installed on the vehicles, incorporating the logo as well as contact information for all participating counties. Since its January 2018 inception, the Down East Express has seen substantial growth. In FY19 there will be an advertising effort spanning the region to boost ridership further.



UNIVERSITY SYSTEMS

Transit services are essential to the livability and sustainability of many North Carolina universities. Chapel Hill Transit provides more than 6 million annual passenger trips to Chapel Hill, Carrboro and the University of North Carolina. The Wolfline delivers more than 3 million passenger trips a year at N.C. State University, and ECU Transit serves East Carolina University with more than 2.5 million annual transit trips.

AppalCART combines services to Appalachian State University (ASU), the Town of Boone and rural Watauga County. AppalCART's services include 13 fixed routes centered on the university and 10 rural routes operating throughout the week. After ASU, Watauga County and Boone decided to make the service fare-free, ridership tripled from 650,000 in 2005 to an estimated 2 million riders in 2018. AppalCART reduces ASU's need for campus parking decks, lessens the pressure to provide on-campus housing, contributes to the university's sustainability goals by taking cars off the road, makes the campus safer for pedestrians, and manages congestion on the local road network by removing 10,000 trips per day.

Challenges and Opportunities

Transit has evolved in North Carolina to serve the mobility needs of the public amidst changes in public policy and funding. Providers at all levels face challenges that involve funding, leveraging technologies, and integrating transit systems across jurisdictional boundaries. Across the state, transit challenges and opportunities hinge on the degree of urbanization, development patterns, economic development prospects and population demographics. (For a comprehensive overview of challenges and opportunities brought forth by stakeholders and the public in development of the strategic plan, see Section 4 of this report.)

The Public Transportation Strategic Plan offers the opportunity once again to thoughtfully respond to change and keep transit positioned to contribute to the quality of life for North Carolinians. The Strategic Plan will help public transit systems keep pace with growth through improved partnerships and recommendations for strategic investments that build on the success of the state's transit systems.

DRIVER PROFILE

Rob Baskerville, AppalCART

Rob Baskerville has been a bus driver since 1982 for AppalCART in Watauga County. And he has another job that often involves a lot of driving, too: playing guitar and touring with his blues band, the King Bees. “Both jobs offer the opportunity to meet people and to learn,” Baskerville says.

One of the proudest moments in his AppalCART career came in 1989 when he helped rescue the residents of nursing homes who were threatened by Hurricane Hugo flood waters.

“Being a bus driver is more than just picking people up,” Baskerville says. “You make a difference in people’s lives on a daily basis – in big ways and small ways.”



FAYETTEVILLE TRANSIT CENTER

Located at the edge of downtown Fayetteville is the city’s long awaited, futuristic-looking multimodal transit center which opened Nov. 20, 2017. The \$12.6 million center includes 34,000-square feet of space with 16 covered bus bays. Customers are provided with a comfortable and safe place to wait for the bus, with security officers walking the building and interacting with customers at all hours, and extensive lighting both inside and outside. Large restrooms, comfortable seating, and a television screen showing bus route information and local news occupy the first floor. Office space and a community room are on the second floor, with food and other services planned for the near future.

Fayetteville’s Transit Center is more than a pretty site. It’s also an economic driver in the community. Fayetteville Area System of Transit (FAST) has streamlined and added more services, including on-site space for Greyhound and Megabus. FAST offers a variety of trip types to the 208,000 residents of Fayetteville and its visitors. Along with FAST’s new and expanded routes and shorter trip times between popular stops, the center has enhanced job opportunities and labor market accessibility, and it has opened new markets for businesses. The facility hopes to be a catalyst for transit-oriented development that will welcome more activity and encourage new transit users. With construction underway for the city’s Houston Astros-affiliated minor league baseball team, and plans in place for the city to host the Big South Conference Baseball Championship in 2019, there is plenty of success yet to come for Fayetteville, Cumberland County and area transit services.



PARTNER FOR SUCCESS

James Sprunt Community College and Duplin County Public Transportation

After many months of planning, on Aug. 14, 2017, Duplin County Public Transportation (DCPT) began a deviated fixed route service¹, allowing easy access to transit for many general public riders. A new partnership with James Sprunt Community College (JSCC) started at the same time, designed to ease the transportation burden that many JSCC students face in this rural county.

There are eight convenient pick-up locations throughout Duplin County. All current JSCC students ride for free with a student identification, while other riders pay between \$3-\$5.

To date, this has been a successful endeavor for both the transit agency and the college, with Duplin County Public Transportation providing more than 1,400 trips to JSCC students during the last four months of 2017. DCPT hopes to continue expanding services in this rural community.



¹ Transit service that operates along a fixed route at generally fixed times, but may deviate from the route to collect or drop off passengers who have requested the deviation.

3 CREATING A PLAN FOR THE FUTURE

A STATEWIDE, COLLABORATIVE PLAN

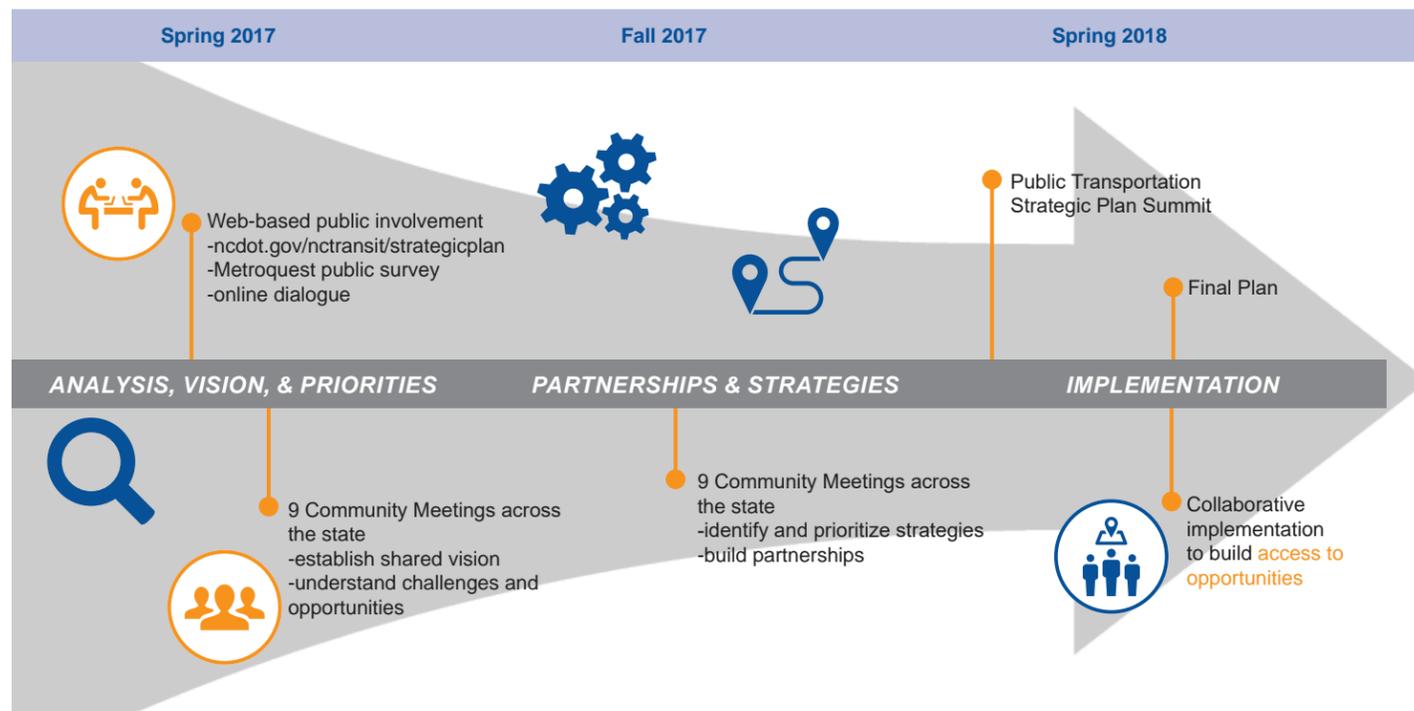
Change is inevitable and not unexpected. It is crucial that North Carolina's transit systems keep up with changes in population, community development, funding programs and policies. This Strategic Plan is intended to focus efforts around a shared vision for mobility improvements and to make near-term and long-range recommendations that will improve North Carolinians' access to opportunities.

The N.C. Department of Transportation's partnerships with local governments, regional authorities and other state and local agencies have been a major source of our transit success. To improve North Carolinians' connections to opportunities, we must strengthen existing

partnerships and establish new ones with key constituent groups, including the health care, higher education, technology and development communities. The Public Transportation Strategic Plan builds upon this success by creating a foundation for reinvigorated state and local transit partnerships.

This Strategic Plan was developed cooperatively with stakeholders across the state, including transit users, providers and state and local organizations during Winter 2017 and Spring 2018. Figure 3-1 summarizes the plan development process and stakeholder engagement methods. (See Appendix C, page 55, for more information on Stakeholder Engagement)

FIGURE 3-1: PLAN DEVELOPMENT TIMELINE



Stakeholder organizations involved in advisory committees supporting plan development are listed below, with the complete list of participants provided in Appendix C, page 57.

Technical / Steering Committee Representation

- Carteret County Area Transportation System
- Durham Veterans Administration
- Fayetteville Area System of Transit
- GoTriangle
- HiTran (High Point)
- North Carolina Department of Health and Human Services, Division of Social Services
- North Carolina Department of Health and Human Services, Division of Vocational Rehabilitation Services
- NCDOT Division of Bicycle and Pedestrian Transportation
- NCDOT Division of Planning and Programming
- NCDOT Rail Division
- NCDOT Transportation Planning Branch
- North Carolina Public Transportation Association
- Rutherford County Transit
- Western Piedmont Regional Transit Authority

Executive Committee Representation

- Buncombe County Planning and Development
- Charlotte Area Transit System
- Economic Development Partnership of North Carolina
- GATES County Transportation
- Kerr Area Transportation Authority
- North Carolina Association of Metropolitan Planning Organizations
- North Carolina Association of Rural Planning Organizations
- North Carolina Community College System
- North Carolina Department of Health and Human Services
- NCDOT
- North Carolina League of Municipalities
- North Carolina Public Transportation Association
- Raleigh Mayor's Council on Disabilities
- Salisbury Veterans Administration
- UNC Hospitals
- Wake County Board of Commissioners
- Wilkes County



HIGHLIGHTS OF STAKEHOLDER ENGAGEMENT:

VISION FOR TRANSIT IN NORTH CAROLINA



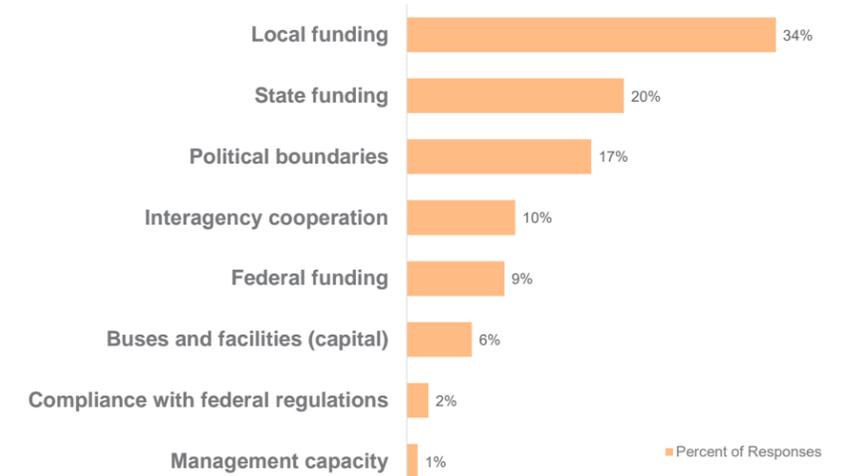
Source: May 2017 Community Workshops

Public and stakeholder feedback reflects the following priorities:

- Broaden the reach and extent of transit systems
- Support service that is frequent, multi-modal and fast
- Provide for an easy, convenient and comfortable customer experience
- Be inclusive and provide accessibility/mobility for all

GREATEST CHALLENGE FACING TRANSIT IN NORTH CAROLINA:

Participants in nine community workshops held statewide in May 2017 were asked what they believed would be the greatest challenge facing transit in North Carolina. Funding was overwhelmingly the greatest concern, with local and state funding identified by more than 50 percent of participants and federal funding identified by another nine percent.

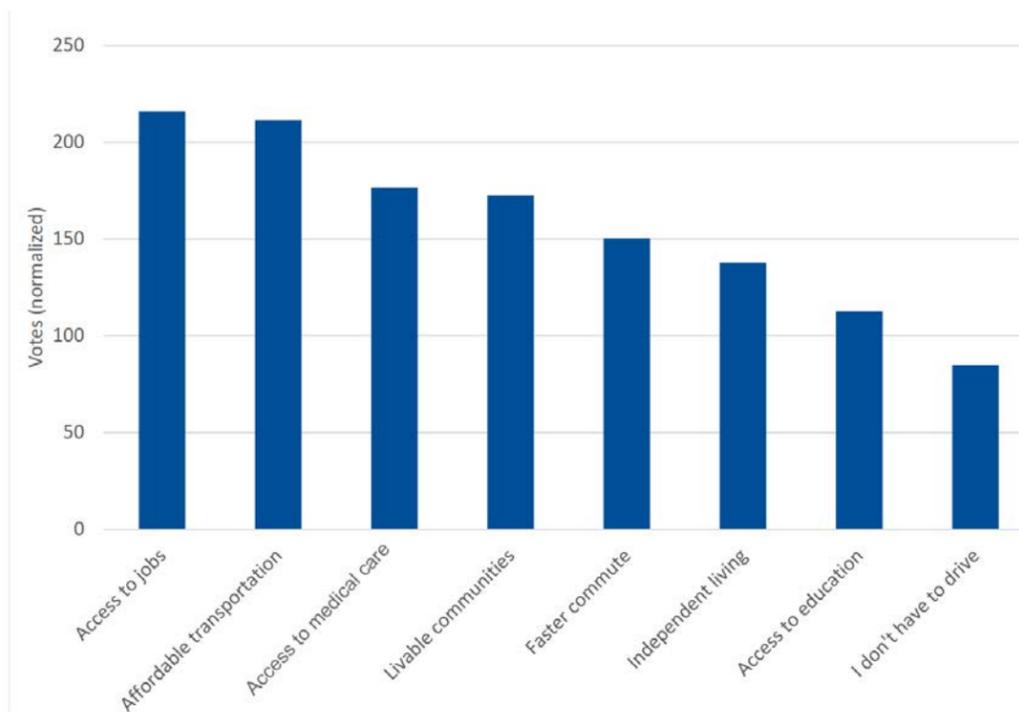


PRIORITY ACTIONS IDENTIFIED AT TRANSIT SUMMIT 2018

The statewide public transit summit was held March 21, 2018 at the Raleigh Convention Center. The event attracted more than 300 participants from all over North Carolina including legislators, business people, education leaders, public health and social services officials, a wide range of representatives from the transit community, and interested citizens. The summit served as an opportunity for individuals to network and build partnerships while learning about the Public Transportation Strategic Plan. The final element of the day-long event was a collaborative, small-group session to share ideas and identify specific actions and resources that will be needed to carry out the plan's strategies. The following chart illustrates some of the themes shared by the 11 small groups.

MOST IMPORTANT ASPECT OF TRANSIT IN THE FUTURE

The NCDOT Public Transportation Division ran a web-based survey that asked participants to consider which aspects of transit will be most important in the years ahead. Access to jobs and affordable transportation were identified as top transit qualities for the future. The overall rankings (weighted and normalized for the 1262 participants) are presented in the chart at right.



STRATEGY	ACTION	RESOURCES
Building Thriving, Healthy Communities	<ul style="list-style-type: none"> • Shuttle services to access healthy foods and increase individual mobility options • Integrate land use and transit planning • Improve transitions between urban and regional transit systems • NC Council on Developmental Disabilities funding partnerships to improve transportation and better access to housing 	<ul style="list-style-type: none"> • Support building partnerships • New policy and incentives that support TOD and affordable housing • Support for transit/bike/ped facilities • Disseminating information about transit availability and benefits
Improving Access to Jobs and Economic Development	<ul style="list-style-type: none"> • Improve first/last mile connections • Connect rural NC to job centers • Better integrate transit in local development processes • Engage wider range of stakeholders in transit decision making • Help health and social services providers better understand transit resources 	<ul style="list-style-type: none"> • Improved data on trip origins and destinations • Trip planners • Uncover passenger and employer needs • Communicating transit needs and available services • Foster partnerships
Connecting Communities to Opportunities	<ul style="list-style-type: none"> • Work with partners to promote bike/ped connections • Reach target audiences with information about available services and resources • Use League of Municipalities to educate public officials regarding transit availability and benefits 	<ul style="list-style-type: none"> • Help health advocates better understand transit resources • Joint funding opportunities and supporting public-private partnerships • Educating consumers and decision makers

4 NC TRANSIT STRATEGIC PLAN

VISION—Connecting North Carolinians to Opportunities

MISSION

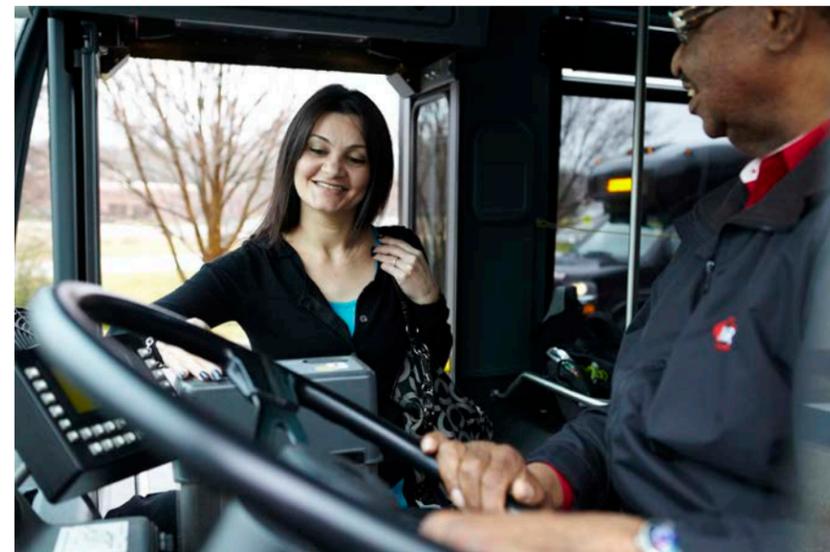
Improve Quality of Life for North Carolinians by:

- Building healthy communities
- Supporting job creation and economic development
- Providing equal opportunities so all people can thrive

STRATEGIES

Building Thriving, Healthy Communities – Partner for a Successful Future

Healthy and thriving communities provide access to opportunities for all North Carolinians. Robust transit networks supporting cross-regional travel and enhanced access for seniors, veterans and persons with disabilities are essential for building healthy communities. Partnerships and coordination are vital for thriving communities and successful



transit agencies as they foster innovation and make best use of limited resources. Local governments, community colleges, state agencies and customers should work together to focus transit services so residents thrive and communities across the state are attractive, livable places.

Improving Access to Jobs and Economic Development – Support Local Transit Systems

From 2010 to 2040 North Carolina is projected to add almost 3 million new jobs – a 58 percent increase. While many jobs will be located in metropolitan regions, major employers supporting economic prosperity will also be located in suburban and rural areas. Commuting patterns will become increasingly regional, requiring transit agencies to develop new services that connect employees across county lines. New local routes, regional commuter services and rural employment routes will support regional and statewide economies.

Connecting Communities to Opportunities – Build a Connected Statewide Network

While transit operates in all of North Carolina's 100 counties, most local systems are not connected together to provide seamless and easy travel. Geographic and political boundaries and funding sources often hold transit back from being a fully integrated system. The Connected Statewide Network will build upon existing services and embrace evolving technologies to connect North Carolina's communities to tomorrow.



TACTICS

1. Partner with local organizations, community colleges, state agencies, and customers to focus transit services so people thrive
2. Provide enhanced access for seniors, veterans and persons with disabilities
3. Build quality transit stops and safe pedestrian crossings
4. Support transit-friendly land use
5. Provide enhanced local services in response to changing demographics
6. Establish regional multi-county commuter services
7. Enable new local services
8. Engage the business community in strengthening job creation and economic development
9. Push planning beyond local boundaries
10. Utilize employer-based carpooling, vanpooling and telework programs to provide regional transportation choices
11. Build the Connected Statewide Network
12. Use technology to foster transit system integration, innovation, and operating efficiency
13. Extend the public transportation network's reach
14. Consolidate transit agencies and coordinate transit service
15. Improve transit travel times by implementing operating innovations
16. Promote greater flexibility in funding transit investments
17. Embrace smart, connected and autonomous technology

The following pages describe each tactic in more detail and illustrate how different stakeholders can get involved in Connecting North Carolinians to Opportunities...

TACTIC 1: Partner with local organizations, community colleges, state agencies, and customers to focus transit services so people thrive

Partnerships are the chief source of North Carolina's transit success. State, city and county governments working together with universities, community colleges, health care institutions, major employers, human service agencies and community leaders help transit agencies connect North Carolinians to opportunities. Transit partnerships come in many forms:

- Among state agencies with common missions;
- Between city and county governments that share constituents;
- In collaboration with private employers, chambers of commerce and developers to promote economic development;
- With universities and community colleges to make our higher education more sustainable and successful, and
- Through human service agencies and housing authorities to promote more livable communities.

Partnerships are a powerful bond that strengthen North Carolina's transit agencies, enabling them to

move millions. Tomorrow's transit achievements will be based on the long-lasting partnerships we build today.

Recommended Actions:

- Create state-level partnership agreements with DHHS, Veterans Affairs, Community Colleges, UNC System, Department of Commerce, Department of Corrections, N.C. Housing Finance Agency
- Lead an Affordable Housing Task Force in cooperation with N.C. Housing Finance Agency
- Assist N.C. DHHS in implementing the Medicaid Transformation
- Develop re-entry program transportation initiative with the N.C. Division of Adult Correction and Juvenile Justice
- Improve local human service provider networking
- Encourage partnership opportunities

WAYNE COMMUNITY COLLEGE SYSTEM

Many Wayne Community College students rely on transit service from the Goldsboro Wayne Transportation Authority. Without GWTA, they would not have access to higher education.

A college official serves on the GWTA Advisory Board to help keep the transit agency responsive to students' needs. One proposal under discussion would allow the sale of discounted GWTA tickets in the college bookstore, where students could use their financial aid to pay for them.

And when students said the bus schedule was causing some problems, it was changed. GWTA Green Route buses typically arrive at the first stop on campus 10 minutes before the hour, and the second stop is completed about five minutes before the hour. Until recently, the bus made its final stop and left campus at the top of the hour. That part of the schedule was changed and now the bus waits an additional 5-7 minutes before leaving that final campus stop.

This change means that students still arrive on time for a class that starts at the top of the hour, while students who finish class at 10 minutes before the hour now have extra time to make it to the bus stop for a ride home. That means they won't have to wait an hour for the next bus. The GWTA schedule now accommodates more riders.

EMERGENCY SERVICES

As a rapidly growing state with 300 miles of coastline, North Carolina has been experiencing almost annual weather events disrupting people's lives and placing many residents in harm's way. While a hurricane's impacts are usually first experienced in coastal areas, high winds and flooding have caused major disasters from the coast to the Piedmont and mountains.

North Carolina's transit investment is an integral part of the state's emergency response by offering the fleet, facilities and transit professionals needed to evacuate critical populations, transporting first responders such as the National Guard and helping our communities recover from natural disasters. Local transit systems partner with the North Carolina Division of Emergency Management and the NCDOT in preparing and executing responses to weather events and other emergencies. Transit professionals across the state participate in routine drills, support county and state emergency response centers and provide critical transportation services during emergencies.

Hurricane Florence was the most recent event requiring evacuation of coastal areas and a long-term response to help impacted residents restore their communities. Beginning on Sept. 11, 2018, many eastern North Carolina communities were impacted by high winds and flood waters, requiring evacuations. Onslow and New Hanover counties evacuated people to the Triangle area as the storm approached and evacuations were required in Fayetteville on Sept. 16 as flood waters crested. Transit agencies across the state provided buses, drivers and maintenance support. Understanding the necessity of a quick disaster response, FEMA and FTA are providing \$1.7 million in federal aid through NCDOT for Hurricane Florence transit services.

Wilmington's Wave Transit normally operates 14 fixed routes and para-transit services throughout the city and adjoining areas. But nothing was normal during Hurricane Florence as 138 evacuees and their pets and belongings were transported to and from the Triangle area on 11 Wave buses. During the days following the hurricane, hundreds more were transported to area shelters and essential services such as kidney dialysis.

North Carolina transit's response to Hurricane Florence reminds us of the importance of partnerships and that a strong and well-funded public transportation system is invaluable during times of emergency.

TRANSIT FOR RE-ENTRY FROM PRISON

Approximately 95 percent of North Carolina's 37,000 state prison inmates will be released to return to their communities. Re-entry to society is difficult as these individuals face obstacles in virtually every aspect of life. Barriers to employment hinder progress toward economic self-sufficiency and the ability to pay financial responsibilities such as probation and court fees, child support and restitution. These challenges may contribute to North Carolina's two-year recidivism rate of 48 percent.

Public transportation plays a central role in re-entry solutions that have been shown to reduce recidivism and make communities safer. Returning citizens who are gainfully employed and have community support are more likely to live productive and crime-free lives. Communities are safer, victimization is reduced, and the local economy is strengthened as these individuals join the workforce.

Unfortunately, many returning citizens find themselves in a no-win situation when opportunities exist but are missed because of transportation challenges. Transit helps with virtually every aspect of the re-entry process. People gain access to basic needs, supportive services, school, job interviews and employment. Investment in transit promotes safer, productive communities and helps returning citizens rebuild their lives.



TACTIC 2: Provide enhanced access for seniors, veterans, and persons with disabilities

Access to opportunities for many North Carolina seniors, veterans, and persons with disabilities is made possible by public transportation service funded with federal, state and local grants. Unfortunately, many transit agencies have limited routes, service hours and days of service. More funding targeted to special populations is needed to meet today's needs, and even more service will be needed as our elderly population and the number of persons with disabilities grows.

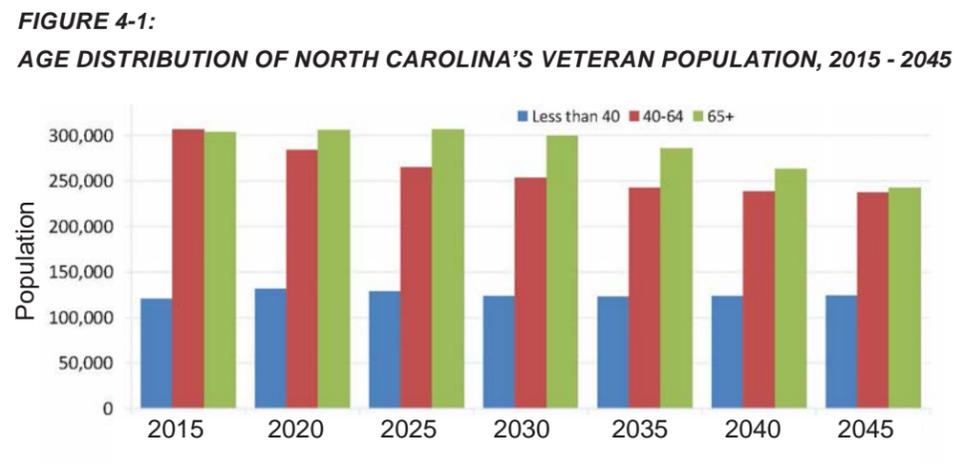
Recommended Actions:

- Maximize value of existing state funding programs
- Grow transit delivery in relationship to types of population and distances from services
- Increase services with aging population growth

OUR VETERANS—THE NUMBERS

According to 2016 American Community Survey estimates, 683,221 veterans live in North Carolina, which is approximately nine percent of the state's adult population. For comparison, nationally, veterans make up 6.6 percent of the adult population. Nearly 42 percent of North Carolina's veterans are over 65 years old. The veteran population is expected to decline slightly in the coming decades to around 600,000 in 2045. (See Figure 4-1)

In some counties, veterans make up over 20 percent of the adult population. According to 2015 reporting by the University of North Carolina Population Center, the following North Carolina counties have the highest proportions of veteran residents: Onslow, Cumberland, Hoke, Craven and Currituck. Significant military facilities are in or near all these communities, including medical resources, bases, and commissaries. Because of the important role transit plays for veterans, efforts should be made to ensure that these areas are accessible by transit.



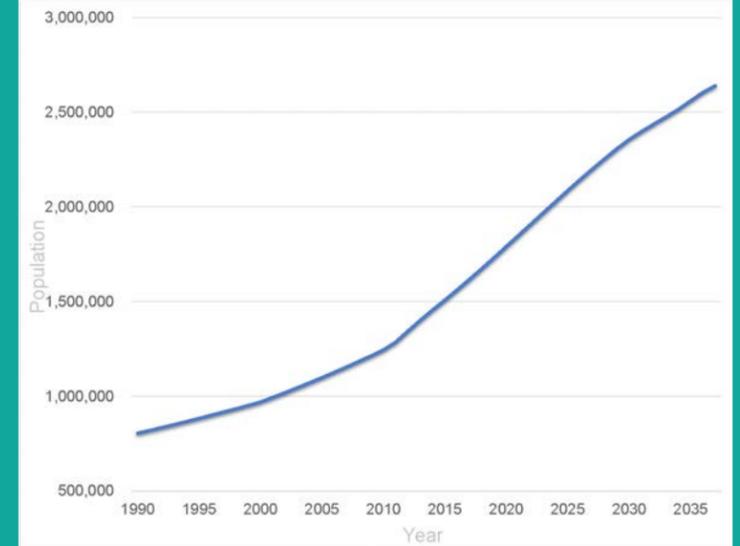
Source: Adapted from Veterans Analysis and Statistics Report, North Carolina State Summary—2017

AGING IN PLACE

By 2036 there will be more than one million North Carolinians 65 years or older – a 65 percent increase over 2016. This significant population of older adults – a generation that has lived with the dominance of the private automobile, interstate highway system, and spread-out development – will need alternatives to driving.

Relying on friends or relatives, moving to a place designed for older adults, and walking are all options that can support independence and mobility of aging adults. Low-cost public or shared transportation services can further ensure that older adults can conveniently travel when and where they need to go. Without these options, seniors are more likely to face isolation, reduced quality of life and possible economic hardship.

STATEWIDE POPULATION 65 YEARS AND OVER



Source: North Carolina OSBM (2017) and US Census.

VETERAN AND ROWAN TRANSIT RIDER

Like many veterans, Vance Eller relies on transit for many of his day-to-day outings, including medical appointments at the VA Hospital in Salisbury. Eller understands how crucial public transportation is for his community. The Rowan Transit System provides transportation to veterans and provides an opportunity for independence to those unable to drive.



Eller participates in a group of visually impaired veterans who ride a Rowan Transit van to various locations once a month. Without transit, many of these veterans would be unable to leave their homes. The hardship on family and friends to provide transportation would preclude many from participating in this invaluable social experience.

Another group that Eller participates in is the Rowan Ramblers. Nearly every Wednesday, a group of riders with disabilities participate in therapeutic recreation activities organized through Rowan Parks and Recreation. Rowan Transit takes the riders on tours, to restaurants and on other adventures. The Rowan Ramblers help veterans socialize and enjoy events in the area.

While some Rowan County veterans rely on friends or family for transportation, there are many who have nobody in their lives to take them where they need to go. Eller appreciates the positive impact of Rowan Transit in his life and across his community.

TACTIC 3: Build quality transit stops and safe pedestrian crossings

The public transportation trip involves more than just a bus or train ride. It includes getting to the transit stop, waiting to board, taking the trip itself, and finally walking or riding to the destination.

Public transportation's primary purpose is to serve riders, so all aspects of the transit trip should be designed around the rider. The rider's experience and perceptions from door to door are important.

When transit providers help make sure that the path to and from the transit stop is comfortable and inviting, and the stop itself is accommodating and aesthetically appealing, they are supporting the rider and contributing to transit's overall community appeal.

Funding, policy, and partnerships should support quality transit stops and a safe pedestrian experience (see more under "Support transit-friendly land use policies").

When local road projects are planned, improvements enhancing the transit user experience can be low-cost and high-impact elements increasing transit access and use. Engaging transit agencies, planning organizations, local governments and other stakeholders in early project development can be a way to ensure that transportation projects accommodate the full range of roadway users.

These actions are recommended to achieve quality stops and safe pedestrian crossings:

- Engage transit agencies, planning organizations, local governments and other stakeholders early in project development to create plans that accommodate the full range of roadway users
- Foster collaborations between public and private sectors to design streetscapes that are safe and comfortable for pedestrians and transit users
- Ensure available funding for safe and high-quality transit and pedestrian facilities
- Develop multi-modal corridor plans with rights-

of-way reserved for transit and pedestrian investments

Recommended Actions:

- Develop typical designs for bus stops and pedestrian facilities
- Identify and plan for all potential transit corridors as Complete Streets
- Create initiative to improve bus stop location decisions
- Assign NCDOT ownership for Complete Streets
- Develop typical designs and cross sections



TACTIC 4: Support transit-friendly land use

Transit-friendly land use policies support thriving communities in North Carolina. When development is designed and oriented toward transit, it can make the car-free or "car-lite" lifestyle convenient and attractive. Walkable, transit-accessible communities have fewer vehicle miles traveled and more transit riders. They support active living and positive health outcomes, create more efficient land development patterns and sometimes reduce the expense of local services such as police, fire, sanitation and street maintenance. Increasingly, employers, developers and residents are seeking opportunities to locate in areas that are walkable and connected to transit because it improves access to opportunities.¹ Transit-supportive development and streetscapes are key to the creation of thriving communities.

Land-use decision-making occurs at the local level and requires effective coordination to keep development patterns and state transportation investments aligned with each other. For transit, this means creating an integrated land use and transportation planning process with local development regulations that support pedestrian, bike and transit access to bus stops and station areas. Planners should consider all components of the transit trip (see Figure 4-2). With a collaborative planning process, agencies and jurisdictions can expand their capacity to plan for, fund and implement transit-supportive development. Local governments can use model policies and design guidelines for transit-supportive development to incorporate key considerations such as density, diversity and design in support of transit. Many communities in North Carolina have processes to coordinate transit service with development, but most lack the policies needed to ensure that there are demonstrable results.

¹ U.S. Department of Housing and Urban Development, Office of Policy Development and Research. Creating Connected Communities: A Guidebook for Improving Transportation Connections for Low- and Moderate-Income Households in Small and Mid-Sized Cities. Prepared by Center for Transit-Oriented Development. Washington, DC (April 2014).

Transit investment by itself is not sufficient to make a location accessible to households without cars. Infrastructure and other improvements also may be needed to connect residents to transit and other destinations. Access plans should include safe pedestrian crossings, quality transit passenger amenities, and strategies to foster enjoyable, human-scaled spaces with a unique sense of place.

The above can only be accomplished when departments of transportation, transit agencies, local governments and developers work together to support transit friendly policies. Leadership is needed at all levels.

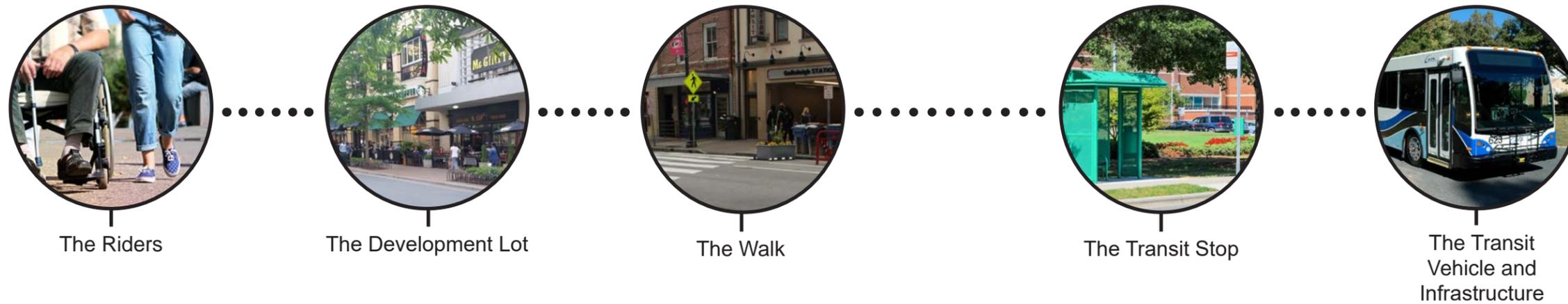
NCDOT SHOULD:

- Prepare multi-modal access plans for developments of statewide significance and include safe pedestrian crossings and quality passenger facilities
- Direct multi-modal transportation investment to areas already served by transit, such as through land use performance measures for state involvement in major transit investments (performance based financial partnerships)
- Provide or work with MPOs, to make federal and state transportation funding available for transit-supportive development planning and implementation

LOCAL GOVERNMENTS SHOULD:

- Establish multi-modal transportation plans designating existing or planned transit corridors
- Include comprehensive plan language, transit-supportive master planning or design guidelines
- Establish transit-supportive zoning districts or overlays
- Create incentives for transit-supportive development using financial incentives such as

FIGURE 4-2: COMPONENTS OF THE TRANSIT TRIP



TIF (tax increment financing), tax abatements, public improvement districts and land acquisition assistance

TRANSIT AGENCIES SHOULD:

- Convene multi-jurisdictional working groups, including developers
- Adopt principles and detailed policy guidelines used by local governments to encourage and promote transit-supportive development at transit stations
- Serve as an expert resource and help local governments to plan for and encourage transit-supportive development
- Work with advocacy organizations to promote transit-supportive development, education and best practices

Recommended Actions:

- Improve siting location decisions by coordinating with schools, medical facilities, government services and commercial centers
- Lead conversations and implementation of accessible and equitable housing placement
- Engage local planners in land use issues to create an accessible transit/mobility network
- Prepare access plans for large developments to mitigate traffic congestion and plan for transit services, safe pedestrian crossings, and quality passenger amenities
- Promote Affordable Housing and its connection with transit. Transportation investments should be planned to preserve affordable housing, partner with new Affordable Housing developments and improve pedestrian and transit access to Affordable Housing.

AFFORDABLE HOUSING

Housing and transportation are two of the biggest expenses in a typical household budget. These two factors have a push-pull relationship, affected by both location efficiency and the built environment. Where housing costs are low, transportation costs are usually high. And where transportation costs are low, housing costs tend to increase. When transportation costs are factored into measures of household affordability, fewer than 27 percent of American's neighborhoods can be considered "affordable" (where housing plus transportation expenditures are no more than 30 percent of household income). These statistics indicate that housing affordability – including affordable transportation – is an issue for more than two-thirds of Americans. North Carolina's lowest-income residents are hit especially hard by this affordability crisis. Eighteen percent of households earning less than \$35,000 a year do not have access to vehicles. Access to alternative modes of affordable transportation, particularly transit, is critical to connect all North Carolinians to opportunities. The efficiencies gained from combining affordable transport with a mix of market-rate, workforce and low-income housing reach beyond individual households. Such a housing and transit combination also enhances the attractiveness, resilience and competitiveness of cities and towns for residents, visitors and employers. Compact neighborhood design integrating a range of housing types and price points, combined with reasonable transit options, supports the health of residents, strengthens local economies and improves the efficiency of public spending. Locating a strong mix of housing closer to transit can strengthen ridership, increase transit revenues and enable transit agencies to provide better service.

A key policy goal for North Carolina is to focus on directing mixed-income housing development to compact, mixed-use neighborhoods with multiple transportation options for connecting to jobs, services, transit and amenities.



Cape's Landing offers affordable housing in Fayetteville.

CAPTURING THE VALUE OF TRANSIT THROUGH TRANSIT-ORIENTED DEVELOPMENT

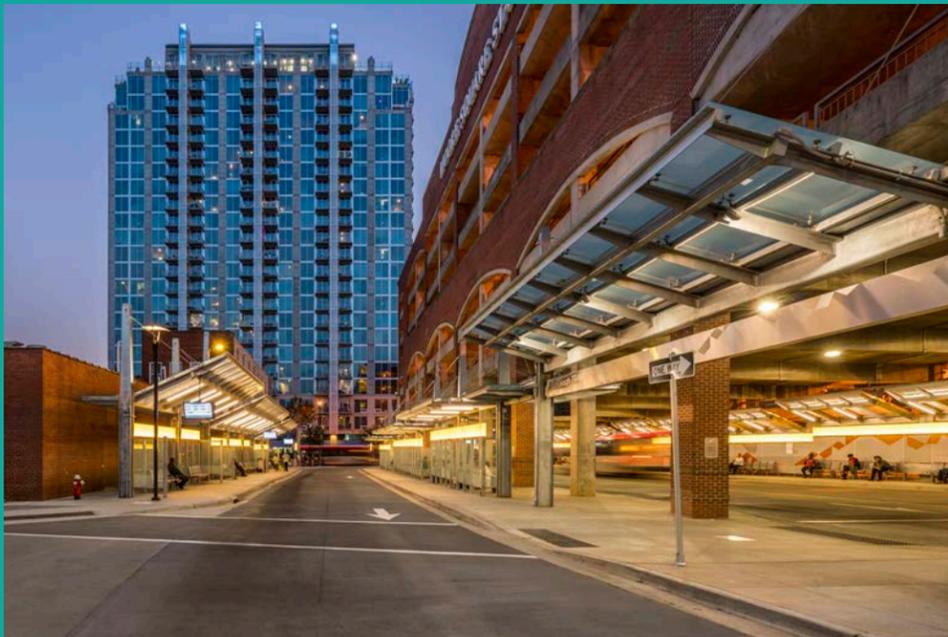
When deciding where to site new projects, developers make trade-offs between locations; frequently, this comes down to the value of land. Less expensive locations tend to be less connected, with fewer amenities and higher transportation costs. More expensive land tends to be connected to more opportunities with lower transportation costs. However, Americans of all ages place a higher premium on living near a mix of services, retail, housing and other offerings. Transit-oriented development (TOD) supports livable communities for residents of all ages, increases property values, and typically produces a significant return on investment for both the developer and the transit service provider. Housing developers increasingly see the value of developing in connected communities.

Successful communities take active roles to capture the full value of locating transit and development together. State and local government support for TOD is a key indicator of potential success. Seventeen of the top 25 transit ridership systems in the United States benefit from TOD support at all levels of government (state, regional and local). These jurisdictions implement public policies that support transit rather than make it more challenging and costly to build. A full spectrum of incentives is available to stimulate development. Local governments can support TOD through policies, planning efforts, zoning and fiscal incentives. Transit agencies are using their real estate assets to catalyze development near station locations, and MPOs are designing their own model TOD zoning-district templates and design guidelines for localities to adopt.

The strength of the land market in TOD areas is another element of success. Communities reaping the benefits use a proactive approach to enhance market potential. Identifying pre-existing transit-supportive assets and resources, and directing development to those locations is one tactic commonly used. This includes established neighborhoods with strong pedestrian, bicycle and transit connections and existing, moderately priced and workforce housing near transit lines. Other communities have directed resources such as Low Income Housing Tax Credits to transit-served locations to promote TOD that includes

affordable housing. Lastly, communities and planners are beginning to recognize that the value of transit can be captured at a range of development scales – from a light-rail station in a high-density urban environment to a bus-transfer station in a small town.

With the right support, the combination of development and transit connects more people to more opportunities in more places.



TACTIC 5: Provide enhanced local services in response to changing demographics

North Carolina is projected to add 4.2 million residents between 2010 and 2040. This 44 percent population growth will occur in different ways across the state. Some regions will experience rapid growth and others will have stable populations with moderate growth. Ten rural counties are expected to lose population. Statewide, the population 65 years old and older will grow by more than one million persons, or 65 percent.

Much of the population growth will occur in areas with greater than 50,000 population, and urbanized areas will add 4.4 million residents between 2010 and 2040. The percentage of the state's population living in urbanized areas will grow from 55 percent in 2010 to 70 percent in 2040.

The increasingly aging and urban population will require enhanced local transit services that are responsive to changing demographics. State programs will need to be dynamic and flexible to support partnerships aimed at improving transit routes, schedules and service levels.



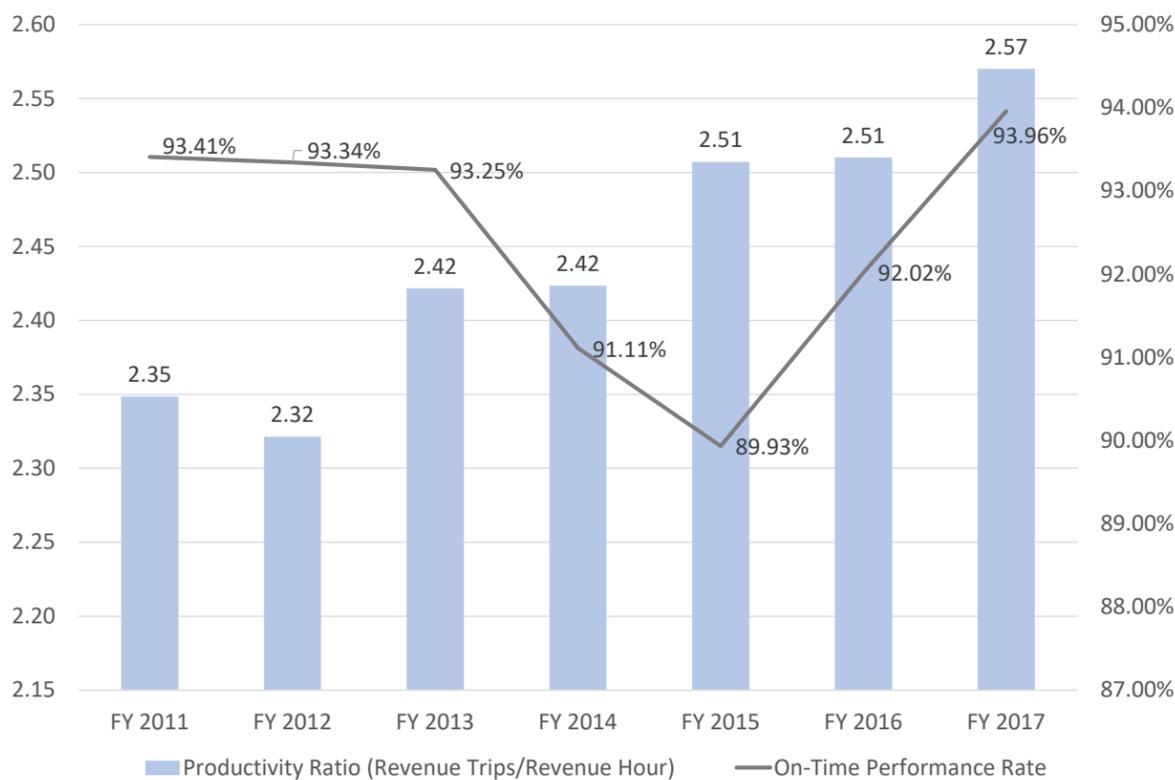
Recommended Actions:

- Educate and demonstrate more real-time service delivery models
- Encourage non-traditional transit design
- Increase rural service connections to opportunities

RURAL TRANSIT MANAGEMENT INNOVATIONS

By relying on transit operator input and buy-in, Mountain Mobility improved on-time performance and won the 2017 Innovations in Transit Service Award presented by the NCDOT Public Transportation Division. Mountain Mobility, the community transportation provider serving Buncombe County, had been experiencing declines in on-time performance. To reverse these trends, Mountain Mobility developed the Going the Distance Award Program. The program defines success and provides performance measures for operators, recognizes those who are successful, and identifies those who need help to improve their performance. As a result, on-time performance targets are now being met and transit system productivity is increasing. The most important result of this innovative solution is the investment of the individual employees in the system's performance. Mountain Mobility promises to explore how the Going the Distance Award Program can be extended into other aspects of its business.

MOUNTAIN MOBILITY'S ANNUAL PRODUCTIVITY RATIOS AND ON-TIME PERFORMANCE



TACTIC 6: Establish regional, multi-county commuter services

Long-distance commuting has grown along with North Carolina's metropolitan areas and is contributing to peak-period traffic congestion. The Strategic Plan's analysis found high numbers of workers and students commuting to urban centers. For example:

- Thirty-six percent of Charlotte's 282,000 jobs are filled by commuters who live outside of Mecklenburg County.
- Thirty-three percent of central Raleigh's 192,000 jobs are filled by commuters from outside Wake County.
- Twenty-five percent of central Buncombe County's 55,000 jobs are filled by commuters from outside Buncombe County.
- Forty percent of Winston-Salem's 121,000 jobs are filled by commuters from outside Forsyth County.

Long-distance commuting allows urban workers to live in less expensive areas and let multi-worker families expand their labor opportunities. But these long-distance commuters add high volumes of single-occupant automobiles during peak hours, contributing to stop-and-roll traffic in many corridors.

Many rural counties face a different challenge, with large numbers of their workers having to leave the county to find opportunities. For example:

- Sixty-two percent of Warren County's 4,000 workers commute to jobs outside Warren County.
- Seventy-four percent of Harnett County's 63,500 workers commute to jobs outside Harnett County.
- Eighty-eight percent of Jones County's 3,400 workers commute to jobs outside Jones County.

The challenge for rural workers is high commuting costs, both in time and dollars, making it difficult to improve their families' prosperity.

Transit can provide alternatives for long-distance commuters. Commuter services and sponsored vanpools can provide meaningful access to opportunities for rural residents and alternatives to highly congested travel for urban commuters.

This Strategic Plan recommends that NCDOT incrementally add state-funded commuter services across the state. In some markets the services should take the form of sponsored vanpools; in others, commuter coaches operated by public or private contractors will work well. These services should be planned and operated to fit regional commuting patterns across multiple jurisdictional boundaries. In addition to easing congestion and offering alternatives to driving through rush-hour traffic, NCDOT-sponsored commuter services will offer operational efficiencies, coordinated planning, pooling of resources, regional branding and operational integration.

Recommended Actions:

- Engage the business community in addressing access to employment and economic development in all areas of the state
- Team with rural employers to develop solutions for employee mobility
- Create Commuter Services Plan including market research, service and financial plans
- Establish commuter services

TACTIC 7: Enable new local services

Broadly available regular transit service makes it possible for North Carolinians to live where they choose without giving up access to the opportunities and services they need for prosperous lives.

Today, after decades of collective effort, all of North Carolina's 100 counties have transit systems offering a variety of services. Many provide community transit services focused on the needs of human-service agency clients, while others operate fixed route and deviated fixed route services. Some communities enjoy robust transit services that give residents access to a full range of opportunities, while other counties offer only next-day trips during limited hours for approved trip purposes.

As North Carolina changes with an increasing and aging population and persistent numbers of families living around and below poverty level, new local transit services will be needed to reach new opportunities and travel markets. New and expanded transit services require local governments and transit systems to experiment, innovate and take financial risks. Often the new services require an investment in vehicles and start-up financial support.

Two programs are available to support new transit services. Federal Congestion Mitigation and Air Quality (CMAQ) funds can be used for up to 80 percent of the capital and operating costs of new services in 24 mostly urban counties which are designated as air quality non-attainment or maintenance. North Carolina's Strategic Transportation Investment (STI) program also allows transit capital projects.

While CMAQ and STI are good tools for new transit services, small and incremental investments also will be needed to foster local innovation. The needed transit investments could be a new route to a community college or major distribution center or expanded evening and weekend service. Each innovation will require flexible investment in vehicles, facilities and employees. Local governments, transit providers, social service agencies and community



organizations recognize the needs and opportunities for service improvement. The state should work closely to develop policy and funding mechanisms to enable new, local services.

Recommended Actions:

- Grow transit services to add frequency and expand service areas
- Pursue high-scoring projects in STI

TACTIC 8: Engage the business community in strengthening job creation and economic development

Economic opportunity is a top concern in every North Carolina community, even as the nature of industry is changing.

For existing employers and new or expanded enterprises, attracting and retaining well-qualified workers is a key ingredient of economic prosperity. How to get workers to jobs is an essential question asked by employers and economic developers across the state.

The answers are as diverse as the workers and companies themselves. For those in urban areas, the concerns are often how to attract and retain a skilled workforce in the face of longer commute distances and growing, unpredictable rush-hour traffic jams. Rural employers frequently must attract workers from dispersed areas where some residents lack reliable transportation.

Transit, in partnership with employers, community planners and economic development leaders, can be a leading force in strengthening job creation and economic development. It is not just new transit services but often the location and configuration of new employment locations that make the transit service viable.

Transit agencies, employers, chambers of commerce and economic development agencies need to work together to improve existing and future employment site accessibility and to develop new inter-regional services supporting access to jobs/employees.

Recommended Actions:

- Foster multi-county collaboration between transit service providers and employers
- Partner with the North Carolina Department of Commerce to add transit services as an element of the business recruitment process
- Plan and implement rural, multi-county services with an employment and education focus

TRANSIT FOR NORTH CAROLINA'S RURAL ECONOMY

We may live in a digital age and a service economy, but rural North Carolina remains a place where products get made. Whether it is furniture, car parts, high-tech composite fiber jet fuselages or sweet potatoes, rural North Carolinians create, build and grow. Getting workers to their jobs will help keep these diverse industries healthy. Sustaining an educated workforce with the skills needed to fill jobs now and in the future will help ensure that our rural industries and communities thrive. To maintain our state's robust economy, we need to keep people in motion and economies on the move.

The meat-processing industry offers an example of how collaboration between transit services and rural employers can benefit local economies. Bladen, Hoke and Robeson counties are home to several meat-processing plants. These plants tend to be located far from town centers and employ large numbers of workers. Raeford, St. Pauls, Tar Heel, Dublin and Elizabethtown are some of the towns where workers reside, with some also coming from more remote communities. People are central to operations of these labor-intensive, lower-wage jobs. Many employed in the industry lack access to a convenient and reliable ride to work, making transit a valuable tool for workers, employers and their communities.

PROVIDING MOBILITY FOR NORTH CAROLINA FURNITURE MARKET

The City of High Point receives NCDOT grant funding to support transportation services for attendees of North Carolina's largest economic-impact special event, the High Point Furniture Market. Through this grant, the city partners with the High Point Market Authority to provide planning and oversight for the transportation services offered for the bi-annual event. Each event attracts more than 75,000 attendees from 100-plus countries. The market has a significant fiscal impact for North Carolina, generating more than \$5 billion annually in total economic output. It supports more than 37,000 jobs and contributes an estimated \$539 million in tax revenue across all levels of government.



Market attendees travel to the event by air, highway and rail. A local multifaceted market transportation system is in place to address attendees' mobility needs. Key elements include extensive ground transportation between High Point and the Piedmont Triad, Raleigh-Durham and Charlotte-Douglas international airports. More than 90 hotels in the region are served with multiple trips daily. The 180 showroom buildings used during the event are served with designated fixed routes and a demand-response service. There are also park-and-ride lots for auto commuters and Amtrak serves the High Point Depot.

Continued investment in the High Point Furniture Market's seamless, efficient and effective transportation services will pay huge dividends for our state and region.

TACTIC 9: Push planning beyond local boundaries

Commuting patterns and economic opportunities create travel needs that frequently cross North Carolina's political, jurisdictional and organizational boundaries.

However, many transit services fail to meet these needs because county lines and other boundaries shape our transit planning and funding. Even when boundaries are pushed out with multi-county regional transit authorities, taxing and legislative boundaries still put limits on transit services.

Projects and programs often are planned and implemented by project sponsors within specific political or geographic service boundaries. These boundaries influence planning, coordination, funding, and implementation of services. Often the result is disconnected services impacting the mobility of individuals and limiting transit service efficiencies.

Boundaries can include:

- Political jurisdictions – county, city and town boundaries
- Organizational – highway divisions
- Urbanized areas – delineated by the U.S. Census Bureau and based on population density, these boundaries play a role in transportation funding allocated by the federal government
- Metropolitan and Rural Planning Organizations (MPOs/RPOs) – assist in the coordination of transportation planning as required by federal and state law

These borders serve important purposes, but transportation agencies and other stakeholders should recognize the potential pitfalls and push beyond these boundaries to provide service that best meets community needs. Doing so will ensure transit is provided efficiently and benefits are maximized.

Recommended Actions:

- Develop multi-county and multi-MPO transportation plans
- Create transportation corridor plans which support transit and pedestrian investments
- Establish regional transit service districts

TACTIC 10: Utilize employer-based carpooling, vanpooling, telework programs to provide regional transportation choices

As North Carolina's population continues to grow, long distance commuting and recurring traffic congestion present challenges for connecting all North Carolinians to opportunities. NCDOT and local organizations across the state have responded by creating and maintaining Transportation Demand Management (TDM) programs focused on travel demand instead of supply. Programs in Asheville, Charlotte, Piedmont Triad, Triangle and Wilmington work with employers to promote alternatives to the single person automobile while vanpool programs supporting the TDM efforts are operated by CATS, PART, GoTriangle and GoCoast.

TDM efforts include the Share the Ride NC website that promotes statewide ride matching, guaranteed ride home, commuter and employer promotions and transit fare programs. Regional partnerships with a combination of local, state and federal funding are often the foundation for the TDM programs. NCDOT has developed and maintains a Statewide TDM Strategic Plan with an emphasis on program performance. Continued success will require improved coordination of services and further emphasis on communicating the multiple benefits of alternatives to the single-occupancy vehicle commute.

Recommended Actions:

- Build performance driven transportation demand management programs as part of the TDM Strategic Plan implementation
- Provide innovative TDM initiatives
- Establish statewide private vanpool services contract

[HTTPS://WWW.SHARETHERIDENC.ORG/PUBLIC/HOME.ASPX](https://www.sharetheridenc.org/public/home.aspx)



TDM PROGRAMS IN NORTH CAROLINA



TACTIC 11: Build the Connected Statewide Network

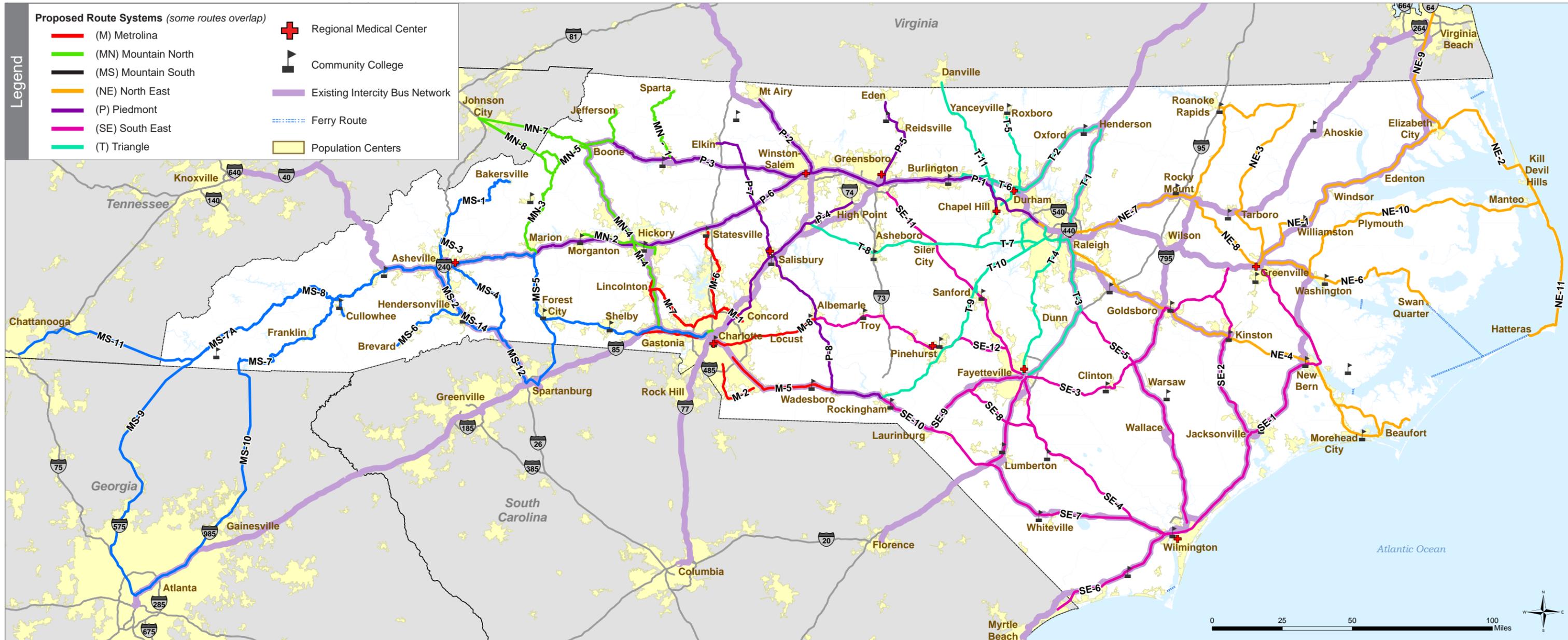
Many of North Carolina's 98 transit agencies provide out-of-county services to major medical centers and community colleges. Sometimes these services are limited to specific client groups, and often the public is not aware of their availability.

A Connected Statewide Network would build upon these existing services and create a network of transit routes focused on major medical centers, community colleges, major employers and transportation hubs. It would enable residents to reach more opportunities outside their home counties.

The Connected Statewide Network shown here is a conceptual network of routes which can be implemented incrementally over time through state and local partnerships. NCDOT is already at work creating the Connected Statewide Network. In 2017, the North Carolina General Assembly provided \$2 million in funding to encourage transit agencies to work together and to begin formalizing these regional routes. The first routes in the Connected Statewide Network are already operating from Morehead City to the Triangle and from Hayesville and Franklin to Asheville.

Recommended Actions:

- Expand regional and statewide routes connecting communities to jobs, education, healthcare and recreation
- Promote convenient connections between transit services
- Plan for and build regional transfer facilities for rural connections
- Develop a statewide transit brand



TACTIC 12: Use technology to foster transit system integration, innovation, and operating efficiency

Technology is rapidly changing the ways we work, learn, travel and socialize, and it is on a trajectory to revolutionize transportation systems. Over the past decade, transit systems across the state have embraced vehicle location and management systems to improve the transit customer's experience and system service efficiency. Information innovations, integrated fare payment systems and service integration with microtransit and transportation network services are expected during the coming years to make transit even more user-friendly.

Recommended Actions:

- Create seamless fare and information systems
- Embrace new transportation innovations such as on-demand transit, autonomous vehicles, electric buses and alternative fueled vehicles
- Manage data to build and support an integrated transportation network

MICROTRANSIT

Optimizing flexible, on-demand service

Transit agencies have been offering on-demand service for years. The idea of microtransit is taking flexible on-demand service and adding a convenient and efficient computer-based user interface that responds to immediate customer demand, provides convenient payment methods and optimizes routing for efficient navigation. As transit systems, communities and decision makers plan for the future it will be critical to consider the full range of costs and benefits. Microtransit needs to be carefully thought of as a complement to fixed route transit, not a replacement, and as an opportunity to improve efficiencies in existing flex-route service. Service area, pricing and other variables will be important in adopting technology for flexible microtransit services.

GoTriangle is testing an on-demand service in Research Triangle Park. GoTriangle averages 120 boardings per weekday on the four RTP shuttles, which run only at peak commuting hours. GoTriangle hopes to increase ridership to 200 daily with the on-demand service. Although demand-based service may be less efficient, the number of vehicle miles traveled is expected to decline because shuttles will not be running when there is little demand.

BUS TECHNOLOGY

Modern, cleaner technology part of plan for efficient, effective transit

Noise and exhaust levels are declining as traditional diesel-powered buses are being replaced by cleaner buses. Conversion to new technologies requires commitment and effort and enables transit systems to provide even more efficient service.

In the Wilmington area, thanks to good timing, conversion from diesel to compressed natural gas (CNG) was accomplished by Wave Transit. Construction of a modern maintenance facility and the replacement of 90 percent of the bus fleet created a generational opportunity. Even with perfect timing, the authority did not take the complexity of fuel conversion lightly. Board members were concerned about the lack of experience with CNG, potential for infrastructure failure disrupting scheduled service, conversion costs and other issues. Overcoming the fear of a new technology was the greatest hurdle. After careful and intense study, Wave Transit made the leap. Two years into the project, results have exceeded expectations. CNG fuel costs have averaged 51 cents less per gallon than diesel. Noise and air pollution from CNG buses have been significantly reduced. Replacement vehicle grant opportunities have increased. And community support for the initiative has been outstanding.

The City of Greensboro's aging bus fleet has begun a transformation. Four new electric buses representing a nearly \$4 million investment are making their way to operation in 2018. The four new buses will replace diesel buses that are noisier and more costly to maintain, and emit pollutants including greenhouse gases and particulates harmful to human health. With annual ridership of 6.1 million, the Greensboro Transit Authority (GTA) provides mass transit services to citizens and visitors including nine dedicated routes serving higher-learning institutions and select destinations in Greensboro. The City of Greensboro and GTA purchased the buses with federal and private grant money combined with transportation bond funds approved by voters in November 2016. This effort is part of a goal to transition to an all-electric fleet of buses over the next several years, and more generally modernize the transit system to better serve community needs and prepare for the future. The shift is part of the Mobility Greensboro 2040 Plan, a long-range planning process to make the system more efficient and increase the number of riders in the context of regional growth, change and opportunities.



An electric bus was demonstrated in Greensboro during the recent procurement. Over the expected 12-year life cycle, each bus should save about \$350,000 in maintenance versus current diesel technology, according to City officials.

TACTIC 13: Extend the public transportation network's reach

Transit is only successful to the extent that travelers can access the service. The safety, comfort, and convenience a traveler experiences between the trip origin (or destination) and the transit stop are significant factors in the choice to use transit. When the streets that connect homes and businesses with bus stops are “Complete Streets,” residents and workers have more freedom to choose how they travel – by walking, bicycling, riding transit, driving, or a combination of these travel modes.

The North Carolina Board of Transportation adopted a Complete Streets policy in 2009. Three years later this policy was supplemented by the state's Complete Streets Planning and Design Guidelines. The policy and guidelines incorporate planning and designing for all users of the transportation system, and all transportation modes, into NCDOT's project development process.

In particular, walking and bicycling expand the reach of transit well beyond the bus stop, increasing travel opportunities for North Carolina residents and workers. There are many ways these travel modes can be combined to support transit ridership, each requiring different policies and design treatments.

TRANSIT STOPS

Riders must have a comfortable place to wait for the bus. Some communities choose to provide large shelters with a high degree of architectural design, but effective and comfortable waiting areas need not be expensive or difficult to build. Some locations need little more than a concrete slab and a bench, while areas with higher ridership benefit from a prefabricated shelter like the one shown here.

Most bus stops require crosswalks to serve riders on both sides of the road. Bus stops often are located at traffic signals, where a signalized crosswalk can be provided. If a stop is not located at a signal, an appropriate means of allowing people to cross the street to or from the stop must be provided.



WALKING

People access transit most commonly by walking. Ensuring that sidewalks within a reasonable travel distance of each transit stop are complete, well maintained, and connected by safe and comfortable street crossings is essential to maximizing potential transit ridership. National research shows that most walk-to-transit trips are one-half mile or less. Unless the streets along which people walk to transit have very low traffic volumes and speeds, sidewalks should be provided. These sidewalks must comply with the Americans with Disabilities Act (ADA), and so should generally be five feet wide. (In areas with space constraints, ADA allows four-foot sidewalks if five-foot-wide passing areas are provided no more than 200 feet apart.) ADA-compliant curb ramps must be provided at intersections. Sidewalks should be made of concrete or some other stable, slip-resistant material. Sidewalks provide good access to transit only if they are properly maintained.

BICYCLING

It is difficult to provide transit service within one half mile of all destinations accessible by walking. Combining transit trips with bicycling can expand the transit system's reach. If the route is safe, comfortable and convenient, a



Pittsburgh's Healthy Ride bike share system is free to transit system users.

traveler may bike one to three miles at either end of a transit trip.

Linking bicycling with transit requires access to a bicycle at one or both ends of the trip. There are three scenarios associated with a typical commute trip:

- Bicycling from home to transit, then walking from transit to work. In this case bike racks must be provided at the transit stop to offer secure bike storage.
- Bicycling both from home to transit and from transit to work. Because the traveler needs their bike at both ends of the trip, sufficient bike racks must be provided on the transit vehicle to meet anticipated demand.
- Walking from home to transit, then bicycling from transit to work. Someone who frequently travels a particular route (i.e. a daily commuter) could keep a bike at that transit stop if the bike is sufficiently secure. Bike lockers or staffed bike stations work best in this regard. Some frequent bicycle commuters leave a bike parked at the destination bus stop for this purpose. Travelers who bicycle less frequently would benefit from bike-share systems at their destinations to allow them to complete their trips.

Each of these scenarios requires an appropriate bike route between the traveler's origin (or destination) and the nearest transit stop. Lower-stress facilities such as trails or separated bike lanes are more comfortable for a wide range of users and likely to

draw more riders.

As bike share becomes more widely implemented in the United States, this mobility option has the potential to strongly integrate with transit. For docked bike-share systems such as Pittsburgh's, docks are often placed near transit stops. Pittsburgh's Healthy Ride bike-share system is free for transit users.

Dockless systems, where bikes or scooters are accessed using a smartphone app, removes the expense of fixed-dock infrastructure. This approach gives communities an opportunity to experiment with without a large up-front expense.

Recommended Actions:

- Enable and promote first- and last-mile connections
- Build partnerships to extend the transportation network through Public Private Partnerships (P3), employers, service providers and education institutions
- Expand Complete Streets implementation to improve transit stops, pedestrian facilities and bicycle networks



TACTIC 14: Consolidate and coordinate transit agencies

As of 2018, North Carolina has 98 transit agencies, with eight systems serving multiple counties and 90 systems serving single cities or counties. This multiplicity of transit agencies creates barriers preventing residents from gaining access to opportunities outside their home jurisdictions. Although federal and state governments provide a large share of funding, the local share dictates where services are provided. This puts limits on regional travel since the services are planned and implemented where local taxes are collected.

Related problems with the large number of transit agencies are the administrative overhead and continual need to train and support a regular turnover of agency managers. Transit system administration requires proficiency in basic management, personnel, accounting, procurement, service planning, customer service, vehicle maintenance, risk management and information technology. Federal compliance requirements compound the transit manager's work, necessitating specialization in civil rights, safety, drug and alcohol testing, and grants management. Even though NCDOT provides regular training and technical assistance, the need for experienced, well-trained transit managers exceeds available personnel resources.

NCDOT and the North Carolina General Assembly have long recognized the need to consolidate transit agencies. Multiple regional and legislative studies have been conducted with limited results. Going forward, NCDOT will establish regional transit service districts focused on travel markets and promote the development of multi-county transportation plans (see Tactic 9).

Recommended Actions:

- Establish regional transit service districts focused on travel markets
- Develop multi-county transportation plans
- Provide incentives to assist agencies consolidate with adjoining jurisdictions
- Create regional branding and marketing strategies.

REGIONAL TRANSIT BRAND

GoTriangle

Margaret McNab of Durham is the quintessential regional transit rider. The freelance marketing specialist often walks, bikes or takes a GoDurham bus to her downtown Durham office. She also takes advantage of GoTriangle routes to meet her clients in Raleigh and Chapel Hill, and to take her child to events around the Triangle.

"I sold my car on Craigslist for 300 bucks, which I used to buy a bike and some candy," McNab says. "It's just so nice to have that time to sit and prepare for meetings, for whatever it is I'm going out to do. Sometimes I listen to a podcast. It's fun on the bus to try it on for size. The wifi enablement is awesome".

The Go family also includes GoRaleigh and GoCary in Wake County. The four agencies share a Regional Transit Information Center and trip-planning software to help McNab and other customers easily figure out how to get where they need to go across three counties.

For some GoTriangle customers, transit provides an alternative to driving in traffic and the expense of maintaining a car. For others, transit is their only access to work, school or a doctor's office. A strong and well-branded regional transit system means better access and opportunities for everyone.

"As this area becomes more metropolitan, the eco-friendliness of the choices we make around commuting will become more important," McNab says. "And transit does keep people off the roads. Whether on a bus, on a bike, or ridesharing, they are all small ways people can make a big difference".



TACTIC 15: Improve transit travel times through implementing operating innovations

Riders appreciate time savings and other transit service improvements that frequently are the result of innovative traffic engineering and transit operating techniques. Operating innovations come in different forms and encompass a range of moderate-cost capital and operational investments such as bus-only lanes, bus on shoulder, traffic-signal priority, queue-jumper lanes and bus-stop bulb-outs. They can include changes to the design and operation of streets and signals, and enhancements to transit vehicles, station equipment and operating systems. The operating innovations are intended to be flexible and context-sensitive during design and implementation with an overriding goal of improving the transit customer's experience.

Recommended Actions:

- Develop NC Transit Supportive Roadway Strategies for local bus and Bus Rapid Transit (BRT)
- Reallocate the right-of-way to maximize person trips
- Implement targeted congestion solutions - ramp metering, queue jump lanes, park and ride lots, High Occupancy Vehicle (HOV) and Business Access & Transit (BAT) Lanes, bus lanes, express bus, and minor intersection improvements
- Identify and implement Bus On Shoulder eligible corridors

OPERATING INNOVATIONS

Bus On Shoulder System

When it comes to getting back and forth between his home in Chapel Hill and his job at Red Hat in downtown Raleigh, Jason Baker knows who's boss on the increasingly congested Interstate 40.

It's the Bus on Shoulder System (BOSS), which enables GoTriangle's Chapel Hill-Raleigh Express and other routes to bypass I-40 traffic jams by riding on the highway's shoulders in Durham and Wake counties.

"Even with express routes, getting from one side of the Triangle to another isn't always easy," Baker says. "But BOSS means that taking the bus is often much faster than driving – and a whole lot more pleasant, too."

GoTriangle and the N.C. Department of Transportation introduced the first BOSS in North Carolina in 2012. GoTriangle operators use the option every day to scoot past traffic and keep their routes on schedule. When traveling on shoulders, buses are not allowed to exceed 35 mph or go more than 15 mph faster than traffic. BOSS brings fewer missed connections for bus riders, reduced driver overtime, and the potential for increased ridership and decreased operational costs. GoTriangle customers like Baker frequently express their appreciation.

"BOSS makes a huge difference in my commute," Baker says. "Especially during peak traffic hours when I-40 can turn into a parking lot."



TACTIC 16: Support and enable greater flexibility in funding transit investments

North Carolina's transit program relies on local government support. During FY2017, local governments contributed 43 percent of all transit operations funding across the state, more than the combined state and federal funding share of 28 percent. From 2007 through 2016, the state's transit revenue hours (as reported in the National Transit Database) increased by 84 percent, while:

- fares increased by 101 percent
- local operations funding increased by 64 percent
- federal operations funding increased by 166 percent as a result of formula funding related to the 2010 census
- state operations funding grew by 22 percent.

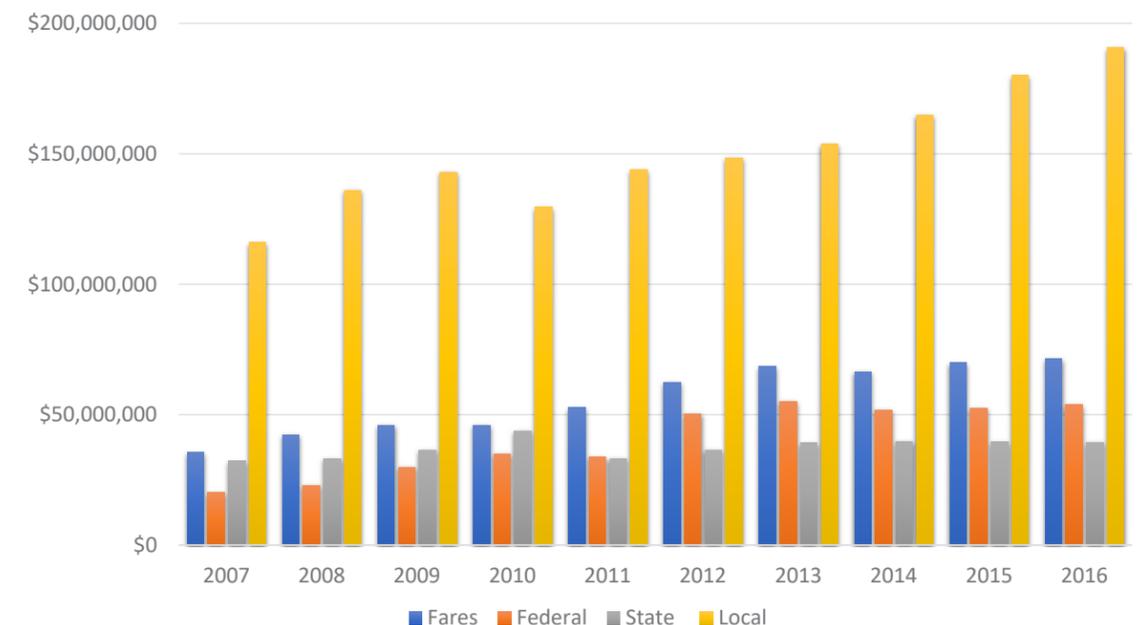
To keep pace with North Carolina's urban growth and to allow many residents to live where they choose

while aging in place, local transit funding must be stable and diverse. The General Assembly has authorized a mix of local funding options including property taxes, sales taxes, vehicle registration and rental-car taxes. Some local governments have approved these revenue options while others have not implemented them because they generate insufficient revenues.

Recommended Actions:

- Review current program utilization and identify potential changes
- Create recurring and stable programs for maximizing person trips

NORTH CAROLINA TRANSIT FUNDING, 2007 TO 2016



TACTIC 17: Embrace Smart, Connected, and Autonomous Technology

Connected and autonomous vehicles are part of evolving lifestyle and technology changes which will revolutionize the places we choose to live and work. Teleworking is already altering the need for peak-period commuting for many households and transportation network companies such as Uber and Lyft have introduced new choices in many markets.

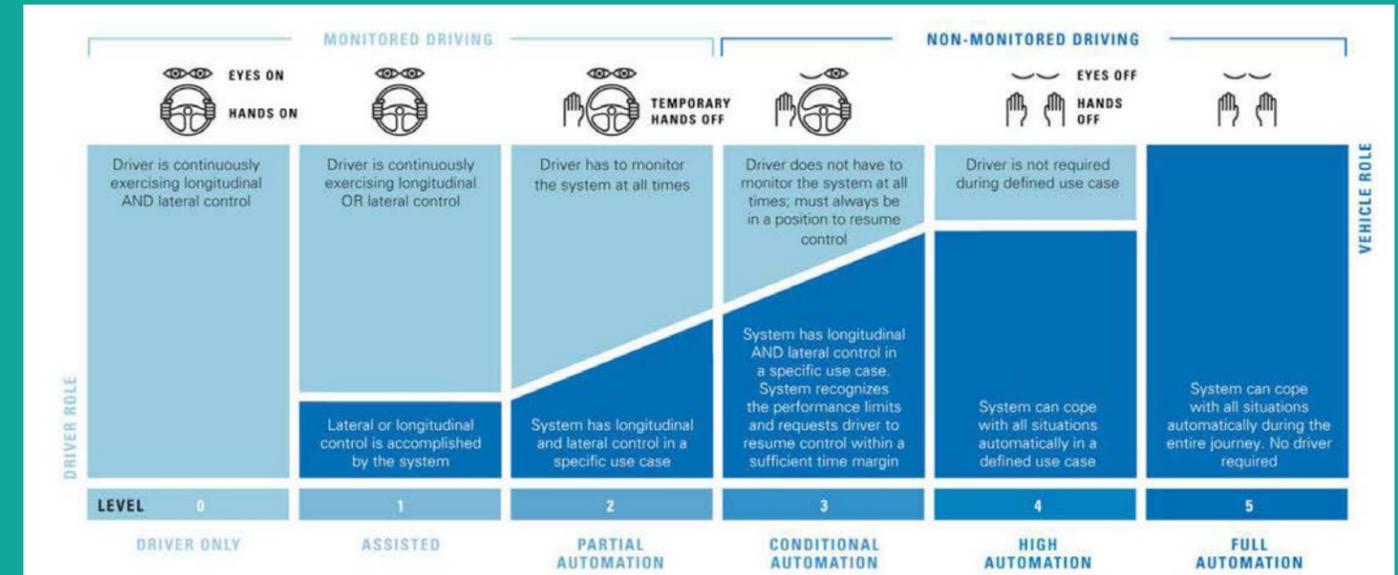
Autonomous buses and trains as well as self-driving automobiles are expected to improve mobility options while lowering operating costs. Some predictions show decreased urban traffic delays, improved safety and a reduced need for parking infrastructure, while other experts worry about a possible increase in traffic congestion. For low-density transit, autonomous vehicles could make regular transit service feasible where it has been otherwise unaffordable. And they could improve mobility options for hard-to-serve populations such as the rural elderly and persons with disabilities.

The timetable for autonomous-vehicle implementation is uncertain. It could be delayed by technology and safety issues and uneven public acceptance. Whatever hurdles it may face, smart, connected and autonomous technology will change travel choices dramatically. Just as North Carolina has played a leading role in previous technology revolutions (Research Triangle Park for example), NCDOT and our transit systems should be part of the vanguard ready to test alternative transit service models with autonomous vehicles.

Recommended Actions:

- Engage local governments, planning organizations, transportation agencies, and the private sector in community conversations about smart, connected, and autonomous technology policy and planning
- Support research and workgroup efforts on smart, connected and autonomous technology
- Seek opportunities to partner and pilot new technology

CONNECTED AND AUTONOMOUS VEHICLES



Smart, increasingly connected autonomous vehicles (CAVs), sometimes referred to as “driverless vehicles,” can have a significant role in increasing and improving transit. In November 2016, the State of North Carolina, led by NCDOT and NCDMV, generated a report providing a roadmap in response to the introduction of CAV technology in the marketplace. The study recognized that North Carolina cities will need to reconsider how space is utilized and how transit is provided. The figure above illustrates the range in technology levels as the driver’s role in vehicle control decreases and automation increases.

EcoPRT is an autonomous personal-rapid-transit (PRT) system being developed by researchers at N.C. State University. It is intended to serve travelers for distances too far to walk, but too short to drive. The types of sites which could use such a system include: college campuses, business parks, large shopping malls, airports, amusement parks, fairgrounds, sports complexes, military bases, dense urban centers, and downtown regions. PRT can also be a flexible solution to the first mile/last mile problem, helping transit riders easily reach their destinations even when they are distant from fixed transit routes.

The two-passenger EcoPRT vehicles run autonomously on existing paths or dedicated guideways. The pilot project at NCSU is being designed to transport passengers from building to building, between the university’s Centennial Campus and Main Campus, while running along both shared sidewalks and roadways. The EcoPRT will be low-cost and convenient, and will allow incremental growth.

NCSU’s Electrical & Computer Engineering Department, supported by dozens of undergraduate and graduate students, has begun testing prototype vehicles that use multiple sensor technologies and control algorithms. The NCSU Institute for Transportation Research and Education (ITRE) has been analyzing mobility and accessibility issues on the university’s campus to determine how EcoPRT can improve transportation efficiency for residents, commuters and visitors.



Graphic at top comes from RCR Wireless connected and autonomous vehicles article.

COMMUTER TRANSIT MARKET ANALYSIS

A transit market analysis was conducted to identify areas where there may be an opportunity to increase transit service for commuter travel. Overall findings from this analysis indicate in many areas of the state commuter travel patterns are regional. Longer distance commuting markets exist in many regions and there are emerging markets where new local bus services may be warranted.

Methodology

The analysis was conducted using ArcGIS and the US Census Bureau Longitudinal Employer-Household Dynamics (LEHD) data¹ to approximate current volumes and directionality of commuting travel for 15 different geographic regions. The 15 areas are each referenced as an “analysis district”. Each analysis district was divided into sub-districts to better understand regional and sub-regional travel patterns.

¹ The LEHD program combines federal, state, and Census Bureau data on employers and employees under the Local Employment Dynamics (LED) Partnership. Under the LED partnership, states share Unemployment Insurance earnings data and the Quarterly Census of Employment and Wages (QCEW) data with the Census Bureau. The LEHD program combines these administrative data, additional administrative data, and data from censuses and surveys to create partially synthetic data on workers residential patterns. When using LEHD data it is important to note that they do not include self-employed, sole proprietors, federal military, and railroad workers. Employers with multiple work sites, such as a school district, may not provide data on their multiple work locations. This LEHD analysis used 2014 data, which was the most recent data available, and includes all jobs (part time and full time).

EXAMPLE DATA RESULTS FOR ASHEVILLE REGION

Asheville District	Work Sub-District										
	Haywood North	Haywood Central	Haywood South	Buncombe North	Buncombe East	Buncombe South	Buncombe West	Buncombe Central	Henderson Central	Henderson East	Henderson West
Haywood North	230	944	259	30	13	87	102	286	48	23	12
Haywood Central	173	3569	1323	106	121	501	515	1418	262	110	81
Haywood South	123	2150	1371	75	77	386	358	1019	173	102	56
Buncombe North	17	192	48	1691	342	1178	875	5387	281	198	126
Buncombe East	3	117	18	200	1951	999	425	3515	268	242	68
Buncombe South	9	191	63	312	550	4175	896	6715	883	774	333
Buncombe West	29	511	184	585	459	2236	2620	7264	559	442	243
Buncombe Central	13	342	91	917	1194	3446	1583	18744	816	565	297
Henderson Central	5	248	61	244	229	1736	445	2088	8600	1547	1008
Henderson East	6	91	39	165	135	1249	314	1919	1758	1165	371
Henderson West	2	92	26	72	84	899	242	1092	1405	591	647

REGIONAL SERVICE AND GAP ANALYSIS

Completed in spring 2017, the regional service gaps analysis evaluated transit services in each analysis district. Service gaps were identified through GIS analysis, evaluation of existing services and stakeholder engagement.

Summary of Findings

The map of Asheville Analysis District’s transit service areas (shown below) represents existing conditions.

The analysis identified potential improvements, including:

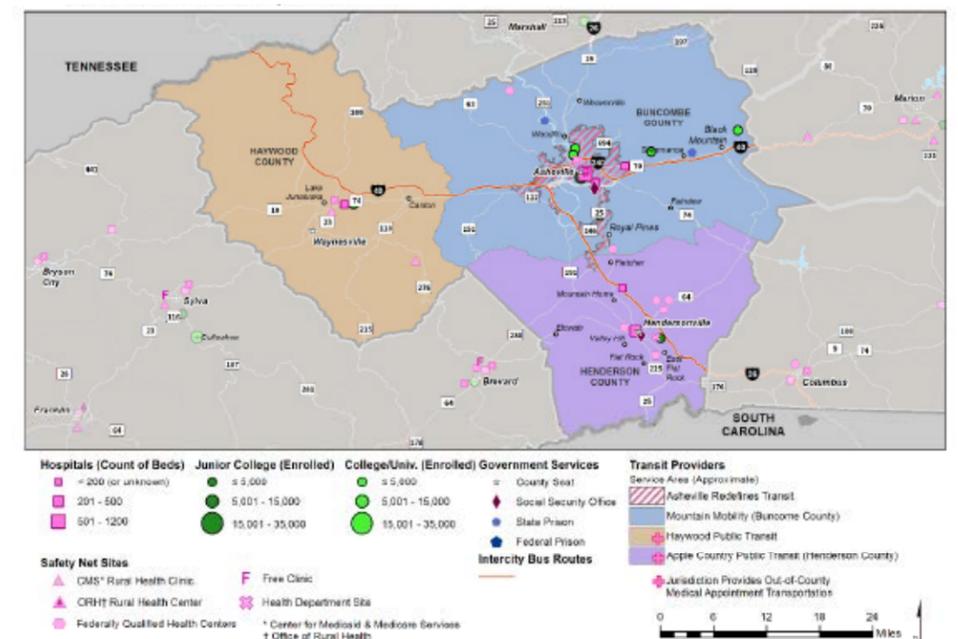
- New services to meet changing markets
- Increasing availability to social security offices and hospitals / medical facilities
- Coordinating services among providers in neighboring counties
- Providing better access to colleges and universities

The complete Regional Service and Gap Analysis can be found in the Technical Report for the Public Transportation Strategic Plan.

- Better educating residents on transit services
- Increasing information on providers’ websites

Through the analysis, similar gaps were found among the 15 districts. Full findings including more specific recommendations are included in the Technical Report.

ASHEVILLE ANALYSIS DISTRICT’S TRANSIT SERVICE AREAS AND MAJOR DESTINATIONS



STAKEHOLDER ENGAGEMENT

Stakeholder engagement activities for the Public Transportation Strategic Plan included:

- stakeholder interviews
- agency presentations
- a web-based survey using Metroquest
- photo booth
- two series of in-person workshops held in locations throughout the state
- and a public transportation video

These activities were implemented in parallel with project technical work and were instrumental to eliciting diverse perspectives, ideas and feedback, and producing a successful and well-rounded plan. The graphic below summarizes the stakeholder engagement process. Specific engagement

Complete Stakeholder Engagement details can be found in the Technical Report for the Public Transportation Strategic Plan.

methods, activities and materials are further detailed in the technical report for the Public Transportation Strategic Plan.

The membership of the plan's Technical / Steering and Executive Committees are listed on page 56.

SUMMARY OF STAKEHOLDER ENGAGEMENT PROCESS



PROJECT COMMITTEE MEMBERS AND STAFF

Technical / Steering Committee

- Randy Cantor, Carteret County Area Transportation System
- Corrie Coble, Durham Veterans Administration
- Randy Hume, Fayetteville Area System of Transit
- John Tallmadge, GoTriangle
- Angela Wynes, HiTran (High Point, NC)
- Krystina Dillard, North Carolina Community Action Association
- Sharon Goodson, North Carolina Community Action Association
- Freeman Denton, North Carolina Department of Health and Human Services, Division of Social Services
- Tara Myers, North Carolina Department of Health and Human Services, Division of Vocational Rehabilitation Services
- Catherine Knudson, North Carolina Railroad Company
- Nick Scheuer, NCDOT Division of Bicycle and Pedestrian Transportation
- Patrick Norman, NCDOT Division of Planning and Programming
- Sandra Stepney, NCDOT Rail Division
- Jamal Alavi, NCDOT Transportation Planning Branch
- Steve Mancuso, North Carolina Public Transportation Association
- Kerry Giles, Rutherford County Transit
- Camile Sterling, Western Piedmont Regional Transit Authority

- Allison Owen, North Carolina Department of Health and Human Services
- Julie White, NCDOT
- David Howard, NCDOT
- Erin Wynia, North Carolina League of Municipalities
- Albert Eby, North Carolina Public Transportation Association
- Robert W. Owens, Jr, Raleigh Mayor's Council on Disabilities
- Joe Laurer, Salisbury Veterans Administration
- Mel Hurston, UNC Hospitals
- Sig Hutchinson, Wake County Board of Commissioners
- Gary Blevins, Wilkes County Commissioner

Staff and Consultant Team

- Debbie Collins, Director, NCDOT Public Transportation Division
- Blair Chambers, Planning and Contracts Officer, NCDOT Public Transportation Division
- Katie Trout, Communications Officer, NCDOT Public Transportation Division
- William B. Sicheloff, Communications Officer, NCDOT Public Transportation Division
- Whitman, Requardt & Associates, LLP
- Foursquare Integrated Transportation Planning
- Gresham Smith
- Renaissance Planning
- RLS & Associates, Inc.
- Simon Resources, Inc.

Executive Committee

- Denise Braine, Buncombe County Planning and Development
- John Lewis, Charlotte Area Transit System
- Christopher Chung, Economic Development Partnership of North Carolina
- Patrice Lassiter, GATES County Transportation
- Rob Brink, Kerr Area Transportation Authority
- Tyler Meyer, North Carolina Association of Metropolitan Planning Organizations
- Janet Robertson, North Carolina Association of Rural Planning Organizations
- Maureen Little, North Carolina Community College System

TRANSIT SERVICE ACROSS THE STATE

County	Agency	Web	Type
Alamance	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
	Alamance County Transportation Authority	acta-nc.com	Single-County Community Transportation
	Link Transit	http://linktransit.org/	Urban Fixed Route
Alexander	Western Piedmont Regional Transportation Authority	mygreenway.org	Multi-County Community Transportation, Urban Fixed Route
Alleghany	Alleghany County	http://www.alleghanycounty-nc.gov/public_transportation.php	Single-County Community Transportation
Anson	Anson County	http://www.co.anson.nc.us/Residential-Services/ACTS(AnsonCountyTransportationSystem).aspx	Single-County Community Transportation
Ashe	Ashe County Transportation Authority, Inc.	actatravels.com	Single-County Community Transportation
Avery	Avery County Transportation Authority	http://www.averycountync.gov/departments/transportation_department.php	Single-County Community Transportation
Beaufort	Beaufort County Developmental Center Inc.	http://bcdcsolutions.org/41-2/	Single-County Community Transportation
Bertie	Choanoke Public Transportation Authority	choanokepta.org	Multi-County Community Transportation
Bladen	Bladen Area Rural Transportation System (BARTS)	https://bladenncc.govoffice3.com/?SEC=8FF52E1F-52D7-4888-9734-3B865C8614D5	Single-County Community Transportation
Brunswick	Brunswick Transit System, Inc.	http://www.brunswicktransit.org/	Single-County Community Transportation
Buncombe	Buncombe County	www.buncombecounty.org/transportation	Single-County Community Transportation
	City of Asheville	http://www.ashevillenc.gov/departments/transit/default.htm	Urban Fixed Route
Burke	Western Piedmont Regional Transportation Authority	mygreenway.org	Multi-County Community Transportation, Urban Fixed Route
Cabarrus	Cabarrus County Transportation Service	www.cabarruscounty.us/departments/transportation	Single-County Community Transportation
	Concord Kannapolis Area Transit	http://www.ckrider.com/	Multi-County Community Transportation, Urban Fixed Route

County	Agency	Web	Type
Caldwell	Western Piedmont Regional Transportation Authority	mygreenway.org	Multi-County Community Transportation, Urban Fixed Route
Camden	Albemarle Regional Health Services - Inter-County Public Transportation Authority	www.icpta.net	Multi-County Community Transportation
Carteret	Carteret County	www.carteretcountync.gov/132/CCATS-Public-Transportation	Single-County Community Transportation
Caswell	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
	Caswell County Area Transportation System	https://www.caswellcountync.gov/pview.aspx?id=8782&catid=600	Single-County Community Transportation
Catawba	Western Piedmont Regional Transportation Authority	mygreenway.org	Multi-County Community Transportation, Urban Fixed Route
Chatham	Chatham Transit Network	www.chathamtransit.org	Single-County Community Transportation
Cherokee	Cherokee County Transit	http://cherokeecounty-nc.gov/233/Transit	Single-County Community Transportation
Chowan	Albemarle Regional Health Services - Inter-County Public Transportation Authority	www.icpta.net	Multi-County Community Transportation
Clay	Clay County Transportation	claycountytransportation.com	Single-County Community Transportation
Cleveland	Transportation Administration of Cleveland County Inc.	www.taccshelbync.com	Single-County Community Transportation
Columbus	Columbus County Transportation	http://www.columbusco.org/Departments/Public-Transportation	Single-County Community Transportation
Craven	Craven Area Rural Transit System (CARTS)	https://www.cravencountync.gov/165/Transportation-CARTS	Multi-County Community Transportation
Cumberland	Cumberland County	co.cumberland.nc.us/planning/ctp.aspx	Single-County Community Transportation
	Fayetteville Area System of Transit (FAST)	https://fayettevillenc.gov/government/city-departments/transit	Urban Fixed Route
Currituck	Albemarle Regional Health Services - Inter-County Public Transportation Authority	www.icpta.net	Multi-County Community Transportation
Dare	Dare County Transportation System	https://www.darenc.com/departments/transportation	Single-County Community Transportation
Davidson	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
	Davidson County	https://www.co.davidson.nc.us/258/Transportation	Single-County Community Transportation

County	Agency	Web	Type
Davie	Yadkin Valley Economic Development District Inc.	https://www.yveddi.com/yveddi-public-transportation/	Multi-County Community Transportation
	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
Duplin	Duplin County Transportation Department	https://www.duplincountync.com/governmentOffices/transportationServices.html	Single-County Community Transportation
Durham	Triangle Transit, GoTriangle	https://gotriangle.org/	Regional Fixed Route
	Durham County ACCESS	http://www.dconc.gov/government/departments-a-e/cooperative-extension-service/transportation/public-transportation	Single-County Community Transportation
	Chapel Hill Transit	https://www.townofchapelhill.org/town-hall/departments-services/transit	Multi-County Community Transportation
	City of Durham, GoDurham	https://godurhamtransit.org/	Urban Fixed Route
	City of Raleigh, GoRaleigh	https://goraleigh.org/	Multi-County Community Transportation, Urban Fixed Route
Edgecombe	City of Rocky Mount - Tar River Transit	www.tarrivertransit.org	Multi-County Community Transportation
Forsyth	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
	Winston-Salem Transit Authority	https://wstransit.com/	Urban Fixed Route
Franklin	Kerr Area Transportation Authority	kartsnc.com	Multi-County Community Transportation
Gaston	Gaston County ACCESS Central Transportation	http://cms3.revize.com/revize/gastoncounty/government/departments/health_and_human_services/social_services/access.php	Single-County Community Transportation
	City of Gastonia Bus Service	https://www.cityofgastonia.com/city-bus-service.html	Urban Fixed Route
Gates	Gates County Inter-Regional Transportation System	https://gatescounty.gov/office2.com/index.asp?SEC=6D2FFBA2-990B-416F-B062-157A443B5511&Type=B_BASIC	Single-County Community Transportation
Graham	Cherokee Transit	www.cherokeetransit.com	Multi-County Community Transportation
	Graham County Transit	http://grahamcountytransit.org/	Single-County Community Transportation
Granville	Kerr Area Transportation Authority	kartsnc.com	Multi-County Community Transportation
Greene	Greene County Transportation	http://www.greenecountync.gov/transportation	Single-County Community Transportation

County	Agency	Web	Type
Guilford	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
	Guilford County Transportation	https://www.guilfordcountync.gov/our-county/human-services/transportation	Single-County Community Transportation
	Link Transit	http://linktransit.org/	Urban Fixed Route
	Greensboro Transit Authority	https://www.greensboro-nc.gov/departments/transportation/gdot-divisions/greensboro-transit-authority-public-transportation-division	Urban Fixed Route
	High Point Transit System	https://www.highpointnc.gov/transit	Urban Fixed Route
Halifax	Choanoke Public Transportation Authority	choanokepta.org	Multi-County Community Transportation
Harnett	Harnett Area rural Transit System (HARTS)	www.harnett.org/harts/	Single-County Community Transportation
Haywood	Mountain Projects Inc.	www.haywoodtransit.com	Single-County Community Transportation
Henderson	Western Carolina Community Action Inc. / Apple County Transportation	http://www.wcca.net/wcca-services/apple-county-transit.html	Single-County Community Transportation
	City of Hendersonville / Town of Fletcher / Laurel Park / Apple County Transit	https://www.hendersoncountync.gov/planning/page/apple-country-transit	Urban Fixed Route
Hertford	Choanoke Public Transportation Authority	choanokepta.org	Multi-County Community Transportation
Hoke	Hoke Area Transit Service (H.A.T.S.)	http://www.hokecounty.net/index.aspx?nid=158	Single-County Community Transportation
Hyde	Hyde County Non-Profit Private Transportation Corp Inc.	hydecountync.gov/public_transportation.php	Multi-County Community Transportation
Iredell	Iredell County Area Transportation System (ICATS)	https://www.co.iredell.nc.us/413/ICATS-Transportation-Services	Single-County Community Transportation
Jackson	Cherokee Transit	www.cherokeetransit.com	Multi-County Community Transportation
	Jackson County Transit	https://www.jacksoncountytransit.com/	Single-County Community Transportation
Johnston	Johnston County Area Transit System (JCATS)	www.jcats.org	Single-County Community Transportation
Jones	Craven Area Rural Transit System (CARTS)	https://www.cravencountync.gov/165/Transportation-CARTS	Multi-County Community Transportation
Lee	The County of Lee Transit System (COLTS)	www.LeeCountyNC.gov/Departments/COLTS	Single-County Community Transportation
Lenoir	Lenoir County Transit	http://www.co.lenoir.nc.us/transit.html	Single-County Community Transportation
Lincoln	Transportation Lincoln County (TLC)	www.lincolncounty.org/tlc	Single-County Community Transportation
Macon	Macon County Transit	www.macontransit.org	Single-County Community Transportation

County	Agency	Web	Type
Madison	Madison County Transportation Authority (MCTA)	https://www.madisoncountync.gov/transportation-authority.html	Single-County Community Transportation
Martin	Martin County Transit (MCT)	https://www.martincountyncgov.com/transit	Single-County Community Transportation
McDowell	McDowell County Transportation Planning Bd Inc.	http://www.mcdowellcountyncdss.org/economic-services/transportation-assistance	Single-County Community Transportation
Mecklenburg	Mecklenburg Transportation System (MTS)	https://www.mecknc.gov/dss/admin/Pages/MecklenburgTransportationSystem.aspx	Single-County Community Transportation
	Charlotte Area Transit System (CATS)	http://charlottenc.gov/cats/Pages/default.aspx	Single-County Community Transportation
Mitchell	Mitchell County Transportation Authority (MCTA)	https://www.mitchellcounty.org/departments/transportation/	Single-County Community Transportation
Montgomery	Randolph County Senior Adults Assoc. Inc. / Regional Coordinated Area Transportation System (RCATS)	http://www.senioradults.org/Transportation.html	Multi-County Community Transportation
	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
Moore	Moore County Transportation Services	https://www.moorecountync.gov/planning-and-transportation/transportation	Single-County Community Transportation
Nash	City of Rocky Mount - Tar River Transit	www.tarrivertransit.org	Multi-County Community Transportation
New Hanover	Cape Fear Public Transportation Authority - WAVE Transit	https://www.wavetransit.com/	Single-County Community Transportation/ Urban Fixed Route
Northampton	Choanoke Public Transportation Authority	choanokepta.org	Multi-County Community Transportation
Onslow	Onslow United Transit System, Inc. (OUTS)	www.onslowunitedtransit.org	Single-County Community Transportation
	Jacksonville Transit	https://jacksonvillenc.gov/224/Jacksonville-Transit	Urban Fixed Route
Orange	Triangle Transit	https://gotriangle.org/	Regional Fixed Route
	Orange County Public Transportation	https://www.orangecountync.gov/778/Orange-County-Public-Transportation	Single-County Community Transportation
	Chapel Hill Transit	https://www.townofchapelhill.org/town-hall/departments-services/transit	Multi-County Community Transportation
Pamlico	Craven Area Rural Transit System (CARTS)	https://www.cravencountync.gov/165/Transportation-CARTS	Multi-County Community Transportation
Pasquotank	Albemarle Regional Health Services - Inter-County Public Transportation Authority	www.icpta.net	Multi-County Community Transportation
Pender	Pender Adult Services Inc. (PAS-TRAN)	www.penderpas.com/transportation.php	Single-County Community Transportation
Perquimans	Albemarle Regional Health Services - Inter-County Public Transportation Authority	www.icpta.net	Multi-County Community Transportation

County	Agency	Web	Type
Person	Person Area Transportation System (PATS)	http://www.personcounty.net/departments-services/departments-i-z/transportation-pats	Single-County Community Transportation
Pitt	Pitt County/Pitt Area Transit System (PATS)	https://www.pittcountync.gov/220/Pitt-Area-Transit-PATS	Single-County Community Transportation
	Greenville Area Transit (GREAT)	https://www.greenvillenc.gov/government/public-works/great-bus-system	Urban Fixed Route
Polk	Polk County Transportation Authority	http://www.polknc.org/transportation.php	Single-County Community Transportation
Randolph	Randolph County Senior Adults Assoc. Inc. / Regional Coordinated Area Transportation System (RCATS)	http://www.senioradults.org/Transportation.html	Multi-County Community Transportation
	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
Richmond	Richmond Interagency Transportation, Inc.	https://www.richmondnc.com/DocumentCenter/View/791/PriceFlyer-06162015-English	Single-County Community Transportation
Robeson	Robeson County - South East Area Transit System (SEATS)	https://www.co.roberson.nc.us/copy-of-sheriff-s-department	Single-County Community Transportation
Rockingham	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
	Rockingham County Council on Aging Inc.	http://www.rideskat.org/	Single-County Community Transportation
Rowan	Rowan Transit System	www.rowantransit.com	Single-County Community Transportation
	Concord Kannapolis Area Transit	http://www.ckrider.com/	Multi-County Community Transportation, Urban Fixed Route
	City of Salisbury Transit	http://salisburync.gov/Government/Transit	Urban Fixed Route
Rutherford	Rutherford County Transit	https://www.rutherfordcountync.gov/Departments/transit/	Single-County Community Transportation
Sampson	Sampson Area Transportation (SAT)	http://www.sampsonnc.com/departments/aging/sat_.php	Single-County Community Transportation
Scotland	Scotland County	http://www.scotlandcounty.org/154/Transportation	Single-County Community Transportation
Stanly	Stanly County Transportation	www.stanlycountync.gov/transportation/	Single-County Community Transportation
Stokes	Yadkin Valley Economic Development District Inc.	https://www.yveddi.com/yveddi-public-transportation/	Multi-County Community Transportation
	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
Surry	Yadkin Valley Economic Development District Inc.	https://www.yveddi.com/yveddi-public-transportation/	Multi-County Community Transportation
	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route

County	Agency	Web	Type
Swain	Cherokee Transit	www.cherokeetransit.com	Multi-County Community Transportation
	Swain Public Transit	http://www.swainpublictransit.com/	Single-County Community Transportation
Transylvania	Transylvania County	http://transylvaniacounty.org/departments/transportation	Single-County Community Transportation
Tyrrell	Tyrrell County	https://ncconnects.onconcur.com/show/tyrrell-county-senior-and-disabled-transportation-system-columbia-nc	Multi-County Community Transportation
Union	Union County	http://www.co.union.nc.us/departments/transportation	Single-County Community Transportation
Vance	Kerr Area Transportation Authority	kartsnc.com	Multi-County Community Transportation
Wake	Triangle Transit	https://gotriangle.org/	Regional Fixed Route
	Wake County Transit	http://goforwardnc.org/county/wake-county/about/	Single-County Community Transportation
	GoCary	https://www.townofcary.org/services-publications/transit/gocary	Urban Fixed Route
	GoRaleigh	https://goraleigh.org/	Multi-County Community Transportation, Urban Fixed Route
	North Carolina State University	http://www2.acs.ncsu.edu/trans/wolftrails/bus.html	Urban Fixed Route
Warren	Kerr Area Transportation Authority	kartsnc.com	Multi-County Community Transportation
Washington	Washington County - Riverlight Transit	http://www.washconc.org/center_for_human_services.aspx#Riverlight_	Single-County Community Transportation
Watagua	AppalCART	www.appalcart.com	Single-County Community Transportation/ Small Urban Fixed Route
Wayne	Goldsboro-Wayne Transportation Authority	www.ridegwta.com	Single-County Community Transportation/ Urban Fixed Route
Wilkes	Wilkes Transportation Authority	www.wta1.org	Single-County Community Transportation/ Urban Fixed Route
Wilson	Wilson County Transportation Services (WCTS)	http://www.wilson-co.com/departments/transportation	Single-County Community Transportation
	Wilson Transit System	https://www.wilsonnc.org/public-works/wilson-transit-system/	Single-County Community Transportation
Yadkin	Yadkin Valley Economic Development District Inc.	https://www.yveddi.com/yveddi-public-transportation/	Multi-County Community Transportation
	Piedmont Authority	http://www.partnc.org/	Regional Fixed Route
Yancey	Yancey County Transportation Authority (YCTA)	http://yanceycountync.gov/index.php/departments/transportation-authority	Single-County Community Transportation