2020 Cabarrus County Long Range Public Transportation Master Plan

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Prepared for:

Rider Transit
Cabarrus County Transportation Services

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1. Introduction

The Cities of Concord and Kannapolis, located in Cabarrus County in the Concord Urbanized Area (UZA), are adjacent to and just north of neighboring Charlotte, North Carolina, in one of the fastest growing urbanized regions in the United States. This growth, begun decades ago, is expected to continue at a significant pace over the next 30 years. With this growth comes many opportunities— and many challenges.

Among these challenges are transportation infrastructure and mobility, both a key concern for county leadership and residents. Cabarrus County is served by several regional transportation connections. I-85 runs north south through the county between the two cities and connects them to Mecklenburg County and the Charlotte metropolitan area to the south and the City of Salisbury and Rowan County to the north. Rte. 29 and Rte. 49 also roughly parallel I-85 to the east. I-485 runs just south of the Cabarrus/Mecklenburg county line, and I-77 runs north and south as well, a few miles west of the county, connected to the heart of Cabarrus County via Rte. 73, which provides east west connectivity between Cabarrus County and the communities of Huntersville and Davidson. Amtrak service is provided in the area with a station in downtown Kannapolis. A new station is to be built soon in the Town of Harrisburg. Several neighboring transit services also connect to the county, including service to Concord Mills from CATS and weekdays to Rowan County via Rowan Express routes. Concord-Padgett Regional Airport also provides commercial air service to several destinations in Florida and New Orleans, with more planned in the future.

Regional proximity and activity, coupled with constant population gains, make the communities in Cabarrus County significant players in regional growth and transit connectivity. Transit systems and networks are becoming increasingly important to the sustained growth of a region. The Baby Boomer generation is reaching retirement age, and are increasingly selecting locations where mobility choices, such as transit, are present. These options can allow them to age in place and remain independent as long as possible. National trends for younger generations, particularly Millennials, show transportation options are key for them for choosing locations to work and live; data shows that they tend to place a heavier emphasis on the availability of alternative transportation modes to access job centers and amenities than previous generations before them and are electing less than previous generations to drive and own personal vehicles.

The Concord UZA, and Cabarrus County in particular, is adding population and jobs rapidly, with significant growth expected to continue over the next 25 to 30 years. Cabarrus County is projected to increase in population by 160,000 people (up 89.88% from 2010 Census numbers) by 2035. Commuting patterns for Cabarrus and Mecklenburg County indicate a significant amount of regional demand to access jobs. In addition to Charlotte being the most common out-of-county work destination for Cabarrus residents, Charlotte residents continue to make up a considerable portion of those who commute into Cabarrus County for work. Important key regional destinations, including the Veterans Affairs Hospital in Salisbury, North Carolina Research Campus, Charlotte Motor Speedway, Concord Mills, The Grounds at Concord, Concord-Padgett Regional Airport, Uptown Charlotte, and University of North Carolina Charlotte, require frequent transit into and throughout Cabarrus County. These key locations and regional travel patterns represent an opportunity for improved mobility via investment in public transit for those who live in Cabarrus County and work regionally. Additionally, an opportunity exists to greatly broaden the talent pool for companies in Concord, Kannapolis and Cabarrus County.

Two public transit agencies currently help provide mobility options in the county— Cabarrus County Transportation Service (CCTS) and Concord Kannapolis Area Transportation (Rider). CCTS primarily serves four programs: Medicaid, Work First Family Assistance Program, Adult and Aging Services Program, and Rural General Purpose (RGP) Program, providing curb-to-curb service. CCTS operates six days a week, covering 623,915 miles and providing 82,116 trips in 2018 with 21 vehicles. Rider has provided local fixed route service in Concord and Kannapolis since 2004. In 2019, Rider covered 712,160 miles and provided 425,347 trips, operating seven days per week. There are ten vehicles that serve seven local routes and one express route to JW Clay light rail station in Charlotte. Rider also provides federally mandated complementary ADA Paratransit services providing 12,801 trips in 2019 with three Ford Transit vans and two cutaway buses. Two additional cutaway buses are available as needed to support fixed route or ADA Paratransit. Increasing demand creates several challenges for the systems, including wait lists for some services and inefficient routes with tight schedules that can lead to a lack of reliability of the fixed route bus service. A delay on one route often results in a delay on the remaining routes as they wait for the connecting bus

to arrive, compounding issues that arise frequently due to traffic delays. In short, existing transit services are already insufficient and current demand already far exceeds the resources available today.

CCTS and Rider initiated a Long Range Public Transportation Master Plan with the intent of creating a strong vision for improved public transportation throughout Cabarrus County to address needs not only today, but far into the future. The core of this plan is a robust public involvement process. More than 1,200 members of the community participated in the multipronged outreach effort, providing a strong foundation through a variety of means for input from community members, including pop-up events, in person and online surveys to current riders and non-riders, public meetings and focus groups with key stakeholders, and city and county leadership. These activities guided the development of the study and helped the study team define the priorities for the plan. This information, along with demographic and market analysis were considered when crafting the recommendations. This approach, coupled with strong ridership, regular calls for service to new areas within and outside the county and increasing travel times throughout the region, the need for expanding transit options is clear. This ambitious plan provides recommendations for the next 20 years and defines operational, capital, and personnel improvements in six phases as shown below in Figure 1-1.

Cabarrus County's unique characteristics— geographic location, cost of living, employment opportunities, population demographics, development patterns and policies, political environment and rapid growth create a myriad of challenges and opportunities for the area as whole and public transit in particular. Food, shelter, clothing, health, work are all basic, foundational human needs. The reality today is that without access to transportation, it is challenging or even impossible for many people to meet those basic needs. Mobility is no longer a choice – it's a necessity. Even for those who do own a vehicle, having other mobility options can help reduce the need for additional vehicles in a household (and on local roadways), as well as save time, money and the hassle of dealing with traffic and parking. Effective mobility is critical to everyone living in, working in, or visiting Cabarrus County. It is crucial that Concord, Kannapolis, and Cabarrus County take steps now to improve and add mobility options for all to effectively address growing congestion and increasing travel times, equitable access to education, medical and social services, cultural and sporting activities and events, as well as provide better access to jobs and the attraction of new and diverse employment opportunities. Transit services will be essential as part of a comprehensive strategy for effectively accommodating growth and managing ever more complex transportation demands. Providing a variety of mobility options makes for more vibrant, engaged, sustainable, resilient and healthy communities, as well as ones that are more competitive economically— locally, regionally and globally. Better mobility makes a more livable community and planned appropriately, can help ensure Concord, Kannapolis and Cabarrus County remain one of the best places in the country to live, work and play for decades to come.

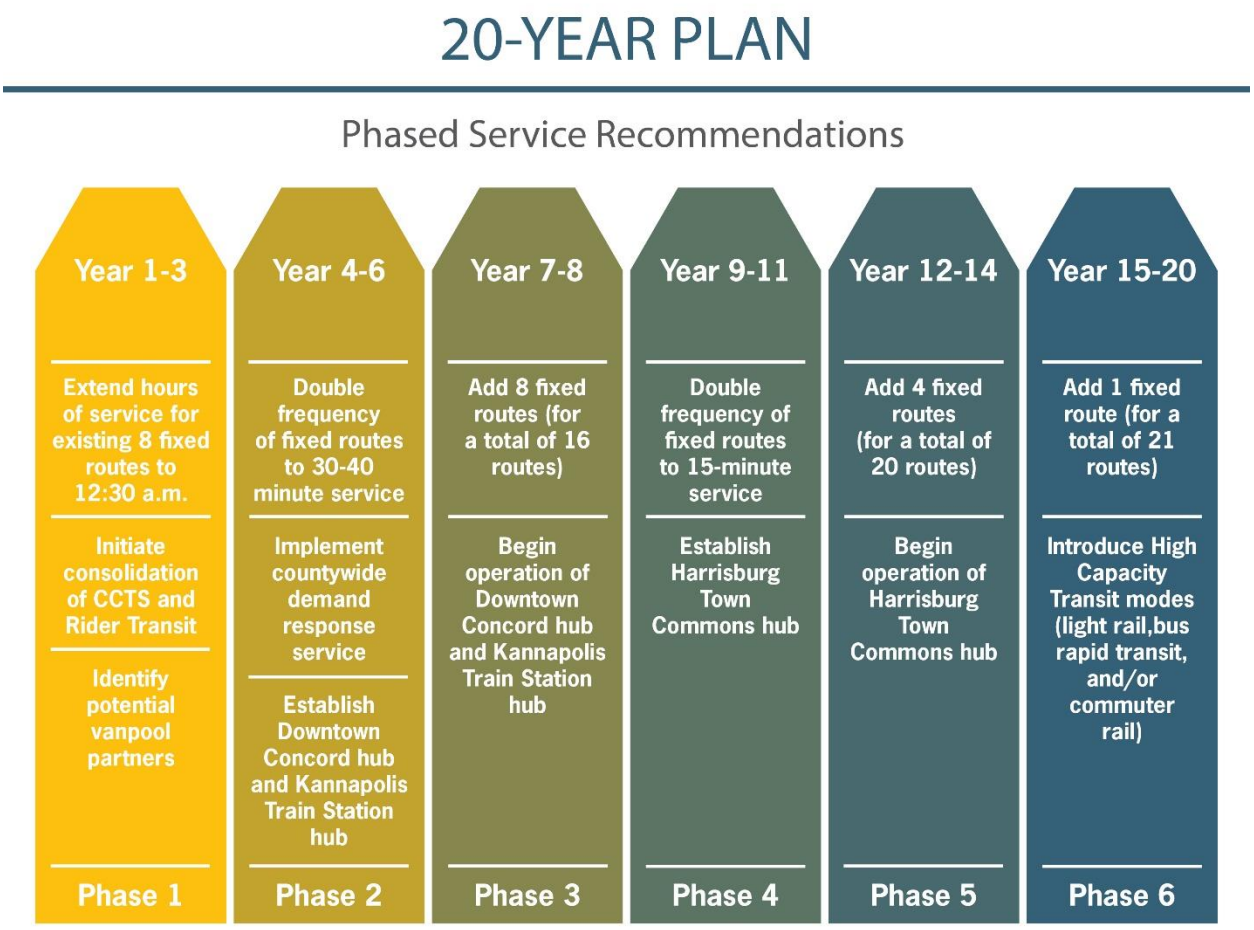


Figure1-1:20 year plan

The capital recommendations include the following:

- New and Replacement Fixed Route Vehicles
- New and Replacement Demand Response Vehicles
- Bus Stop Amenities
- Technology, Software and Data
- 3 New Transit Hubs
- New Administration and Maintenance Facility
- Additional Studies (High Capacity Transit, Park and Ride, Site Feasibility, etc.)
- Park and Ride Lot Construction

In addition, the plan identifies the steps needed to implement a high capacity transit system in Phase 6 (year 15-20).

The plan includes 19 new administrative personnel positions for both demand response and fixed route services to allow for improved service delivery, contractor oversight, expansion to new service types, planning, etc.

2. Study Goals and Objectives

The overall goal of this study is to identify current and future unmet needs and opportunities to expand public transit opportunities across Cabarrus County, while improving regional connectivity. To achieve that vision outlined above, it was critical to conduct an analysis of the current and future needs of public transit services in and around Cabarrus County. This study looks to find ways to enhance and build upon existing services, improve coordination, analyzes the advantages and disadvantages of consolidation of services. It provides a roadmap to meet the area's constant growth by expanding and improving the provision of public transportation services and enhancing mobility within Cabarrus County and the surrounding area over the next 20 years. This plan allows for informed decision-making in the county so that scarce resources may be allocated in the most efficient and effective manner to deliver transit services today, while seeking means to develop additional resources to properly plan for and manage future demand and growth of public transit both within Cabarrus County, as well as regionally. The analysis encompasses service delivery, fiscal, staff, capital needs including facilities, vehicles and technology, customer service, and future service expansion, including potential new modes such as Light and/or Commuter Rail, Bus Rapid Transit, Express Bus Routes, Microtransit and Vanpooling. The specific goals of the study are as follows:

- Analyze current transit needs, gaps and areas of potential improvement and enhancement; analyze the projected future population growth and service needs; determine the transit options required to effectively serve that need both within Cabarrus County as well as how to best connect with the greater Charlotte region over a 20 year horizon;
- Develop a plan that helps educate, inform and support the development of a cohesive, coordinated long term vision for investment in public transit in Cabarrus County; identifies opportunities, advantages, disadvantages, and barriers to enhancing services and/or expanding services provided now through 2038;
- Improve coordination and operational efficiency of the two current public transit organizations, examine the potential benefits and shortcomings of consolidating the existing Demand Response and fixed route transit systems; determine viable options moving forward for governance, oversight and management; examine opportunities for enhanced regional coordination with neighboring public and private transit systems and providers;
- Provide an analysis of needs in terms of service delivery, financial, staffing, real property and other capital, including rolling stock, infrastructure, technology, customer service, governance, and future expansion (including additional modes);
- Analyze current funding mechanisms, current and long term funding needs, provide a shortfall analysis, and determine potential new sources of funding necessary to meet projected needs;
- Prepare a plan for short (0-5 years), medium (5-10 years), and long term (10-20 years) steps to guide implementation and service delivery enhancements;
- Discuss full and limited funding alternatives

3. Current and Future Transit Markets and Development Patterns

Sections below represent current demographic and socioeconomic characteristics of Cabarrus County's population, employment, and travel patterns. Sources of data for the analysis include the United States Census Bureau American Community Survey (ACS) 1-year estimates for 2017 and 5-year estimates for 2012-2016, and the United States Census Bureau Longitudinal-Employer Household Dynamics (LEHD) dataset for 2015-2017. The LEHD dataset, produced through the Local Employment Dynamics Partnership, provides more detailed information on workers and work locations based on employer administrative records. Information from the United States Bureau of Labor Statistics for 2016 was used to determine unemployment statistics, and information from the North Carolina Department of Commerce was used to identify major employers in the study area. This section also highlights the growth and development patterns in Cabarrus County.

Demographics and Socioeconomics

Rider and CCTS service area includes all of Cabarrus County with Rider focusing on the transit needs in the municipalities of Concord and Kannapolis. Data was collected and refined accordingly to reflect county-level statistics. Current demographic and socioeconomic characteristics of the population are discussed in this section.

Population

Table 3-1 shows the current population and population growth for the service areas between 2010 and 2017. It is significant that the populations of Concord, Kannapolis and Cabarrus County grew at roughly twice the rate of North Carolina on both an overall percent change and an annualized rate. Figure 3-1, shows the population density of Cabarrus County, which is most dense along US 29 in Concord and Kannapolis.

Table 3-1: Population growth from 2010-2017 in the service areas

Geography	Census 2010 Population	2017 Population Estimate	Difference	Percent Change	Annualized Growth Rate
Kannapolis	42,625	48,806	6,181	14.5%	2.0%
Concord	79,066	92,067	13,001	16.4%	2.2%
Cabarrus County	178,011	206,872	28,861	16.2%	2.2%
North Carolina	9,535,483	10,273,419	737,936	7.7%	1.1%

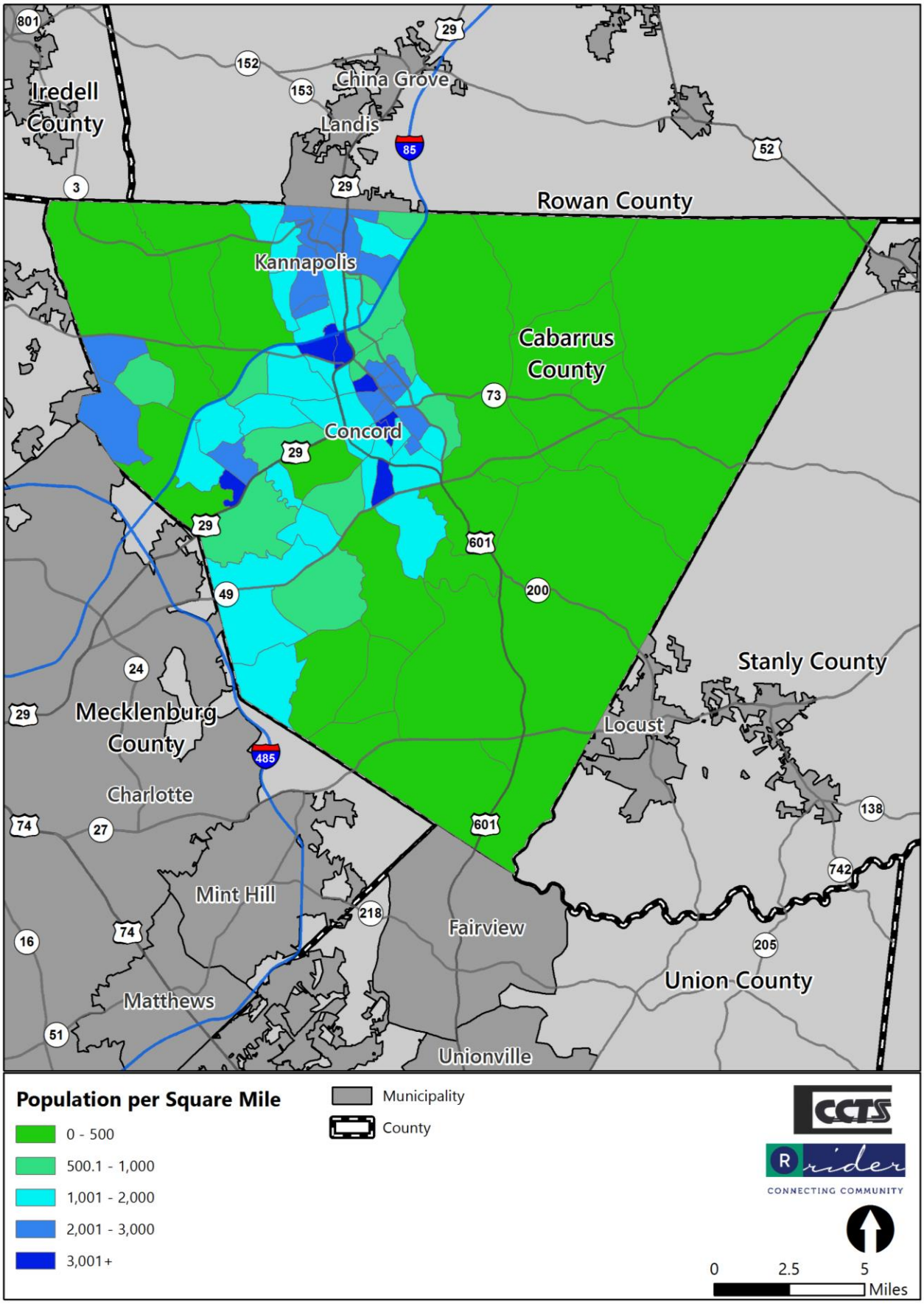
Projected Population Growth

Cabarrus County is expected to experience significant growth in population over the next 20 years. Table 3-2 shows the anticipated population growth of the County as projected by the North Carolina Office of State Budget Management (OSBM) through 2037, the furthest year that projections are available. According to the projections, the population is expected to grow by over 60 percent between 2010 and 2037, the majority of which will occur through migration.

Table 3-2: Projected population growth in the service areas

Year Range	Population Growth	Percent Population Growth	Natural Increase	Net Migration	Population at End of Period
2010-2020	39,297	22.1	9,601	29,696	217,409
2020-2030	40,918	18.8	10,460	30,458	258,327
2030-2037	28,713	11.1	6,136	22,577	287,040

Figure 3-1: Population density per square mile



Transit Dependent Populations

Demographic and socioeconomic statistics are important in transit planning to understand the potential transit markets that exist in an area. Transit dependency is frequently related to factors such as disability status, age, level of income, and vehicle availability.

Disabled Population

Summary information on disabled population is included in Table 3-3. Data on the disabled population is only available at the County and State level. Cabarrus County has a smaller disabled population as a percentage of the overall population than North Carolina.

Table 3-3: Disabled Population

Geography	Population	Disabled Population (Under 65)
Cabarrus County	206,872	13,860 (6.7%)
North Carolina	10,273,419	939,495 (9.7%)

Age

The age of Concord, Kannapolis, and Cabarrus County residents is younger than the overall state with 3-4% more of the population under 18 years old, 1% less of the population between 18-65 years old, and 2-4% less of the population over 65 years old. The median ages for Concord and Kannapolis (35.8 and 35.3 years, respectively) are roughly two years younger than the median county age (37.7 years) and the state's median age (38.3 years).

Income

Income level plays a large role in the modes of transportation available to an individual or a household. For 2016, the United States Census Bureau annual income that defined the poverty threshold for a family of four was $24,563. Within Cabarrus County poverty rates, including very poor rates, are lower than the North Carolina average. Concord also has a lower poverty rate and very poor rate than the state, but it is slightly higher than the county rate. Kannapolis has a higher rate of poverty and very poor rate than both the county and state. Poverty rates are shown in Table 3-4. Figure 3-2 is a map of the percentage of the population living below the poverty level by Census block group. The areas with the lowest median household incomes can be found in and around Concord and Kannapolis along US 29.

Table 3-4: Poverty rate by community

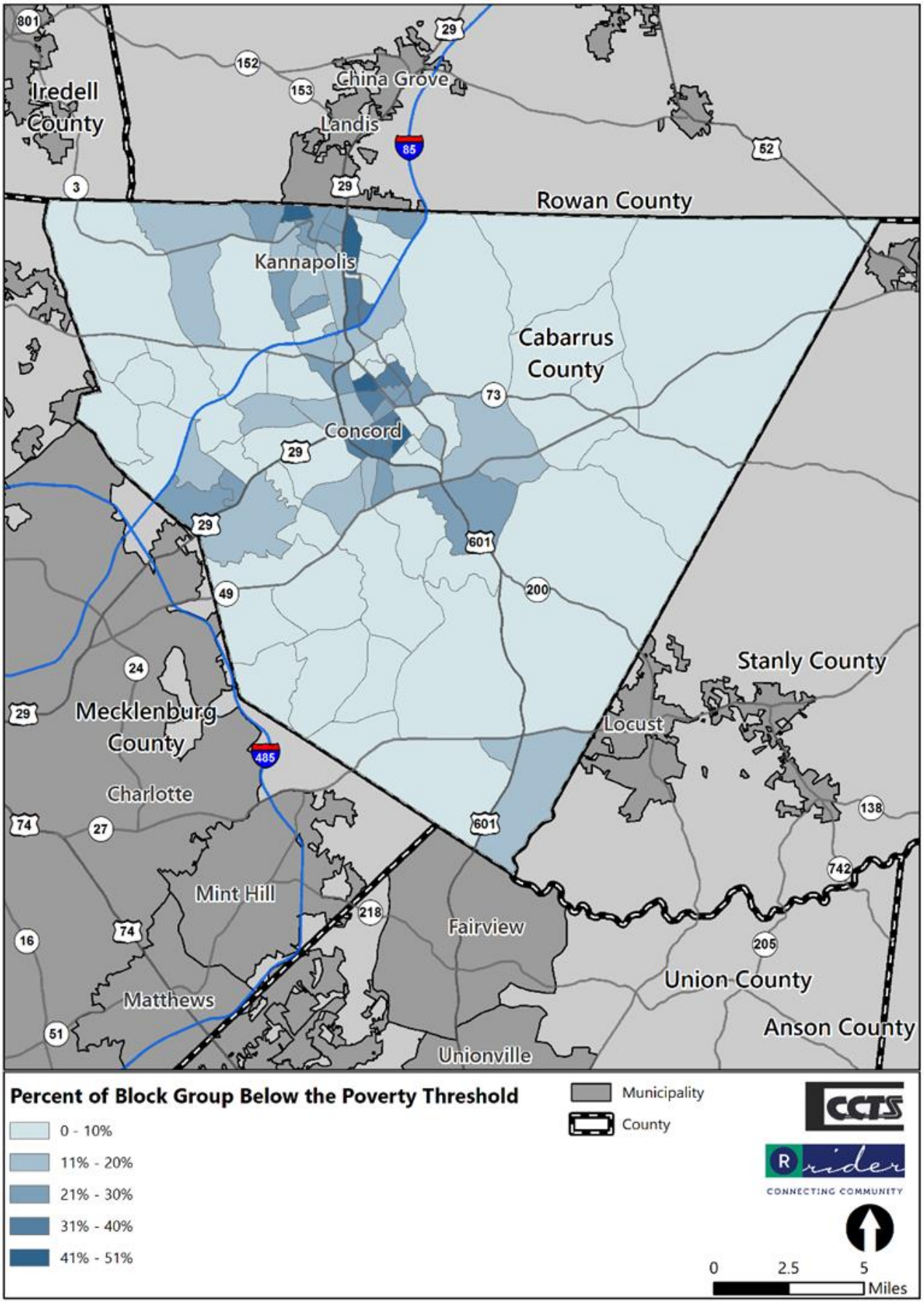
Geography	Total Population for whom Poverty Status is Determined	Below Poverty Level		Very Poor: Under 50% of Poverty Level	
		#	%	#	%
Kannapolis	45,178	7,990	17.7%	3,453	7.6%
Concord	84,742	10,862	12.8%	3,993	4.7%
Cabarrus County	190,605	22,324	11.7%	8,770	4.6%
North Carolina	9,685,511	1,631,704	16.8%	709,029	7.3%

The ACS calculates median income for households based on the income of the householder and all other individuals 15 years old and over in the household. Median incomes in Cabarrus County (22.2%) and Concord (17%) are above the state average. Median income in Kannapolis is less than the state (5%) and less than Cabarrus County (22.2%).

Table 3-5. Median income by community

	Kannapolis	Concord	Cabarrus County	North Carolina
Median Household Income	$45,863	$56,459	$58,970	$48,256

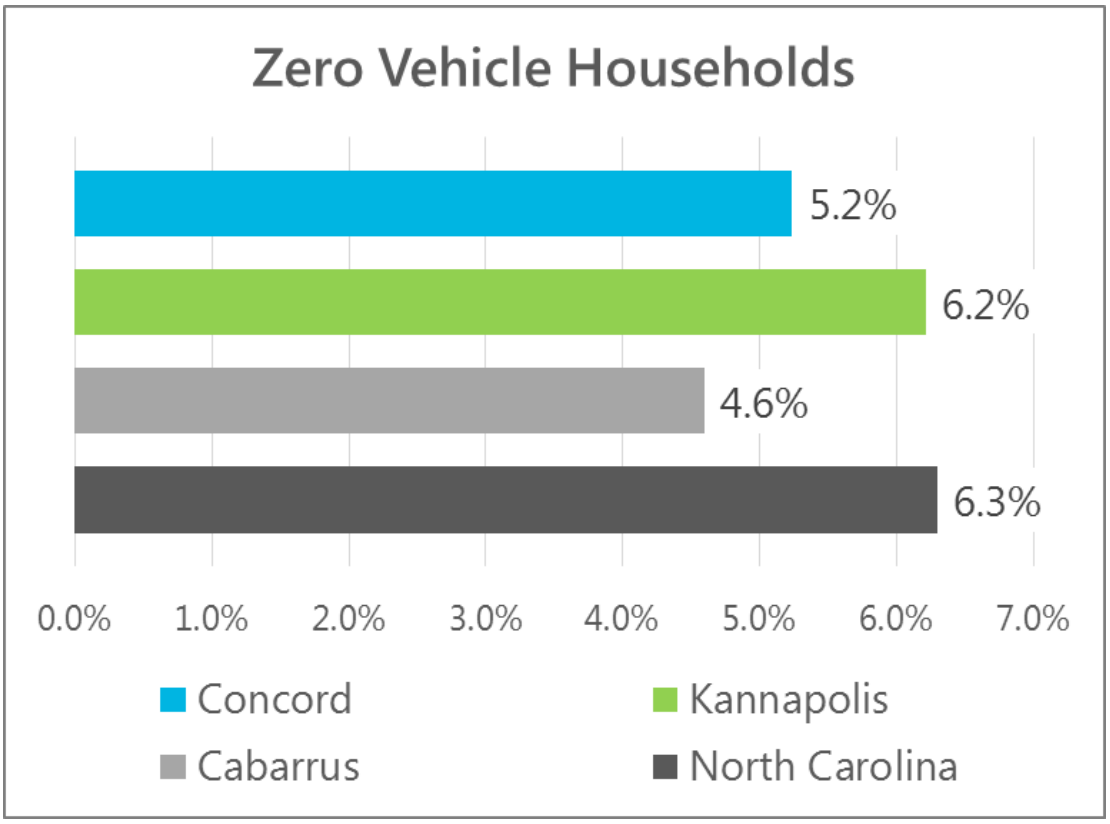
Figure 3-2: Poverty rates by block group



Vehicle Availability

Vehicle availability can influence transit usage. Households with no vehicles available are more likely to rely on transit. Figure 3-3 shows the percentage of zero-vehicle households in Concord, Kannapolis, Cabarrus County and North Carolina. Concord and Kannapolis have lower rates of zero-vehicle households than the state but have higher rates than Cabarrus County. At 4.6 percent, Cabarrus County ranks 17th of North Carolina's 100 counties in terms of lowest rates of zero-vehicle households.

Figure 3-3: Vehicle availability



Employment

In general, the trip to work is often the most frequent trip taken by fixed route riders. Large employment centers are commonly destinations for significant numbers of work-related trips, which make these locations important to accessing transit service. This section addresses both the work force within Cabarrus County, as well as where workers reside and are employed in the study area.

Labor force statistics are from the 2016 ACS and the unemployment rates are from the North Carolina Department of Commerce's 2017 Local Area Unemployment Statistics. These figures are shown in Table 3-6. The labor force participation rate in the service areas is higher than the comparative state rate, while the unemployment rate is lower than the state.

Table 3-6: Unemployment rate

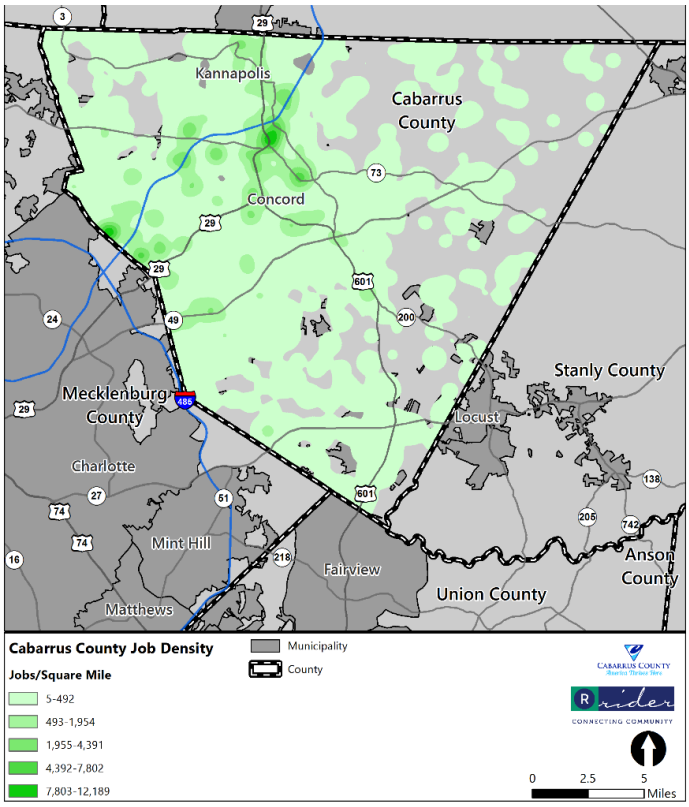
Geography	Labor Force Participation Rate	Unemployment - 2017
Concord	69.3%	4.0
Kannapolis	67.0%	4.2
Cabarrus County	67.8%	3.9
North Carolina	61.5%	4.3

United States Census QuickFacts and NC Department of Commerce Local Area Unemployment Statistics

Jobs

In addition to ACS data, the Census Bureau's LEHD dataset, produced through the Local Employment Dynamics Partnership, provides further detailed information on workers and work locations based on employer administrative records. Job density in the region is shown in Figure 3-4, Jobs in Cabarrus County are concentrated in the vicinity of Concord and Kannapolis and along the Mecklenburg County border.

Figure 3-4: Job Density in Cabarrus County



Largest Employers

The top employers in the Cabarrus County, with 500 or more employees, are listed in Table 3-7 as provided by Cabarrus Economic Development. The largest employer in the county is Atrium (formerly Carolinas Healthcare System) with 4,259 employees. Many of these employees work at Atrium Cabarrus, a regional 457-bed hospital in Concord. Other large employers include Amazon, which has a large sort center on Derita Road near the Concord-Padgett Regional Airport and distribution center on Hwy 73 in Kannapolis.

Table 3-7: Employers with 500 or more employees in Cabarrus County

ID	Employer	Number of Employees
1	Atrium Health	4,259
2	Concord Mills Mall	4,000
3	Cabarrus County Schools	3775
4	Amazon (Concord + Kannapolis)	2,350
5	S&D Coffee and Tea	1,239
6	Walmart	1,200
7	Cabarrus County	1169
8	City of Concord	1016
9	Speedway Motorsports, Inc	1,000
10	Shoe Show	1,000
11	Kannapolis City Schools	801
12	Corning	650
13	ACN	600
14	Hendrick Motorsports	600
15	Sysco Foods	500
16	Great Wolf Lodge	500

Commuting Patterns

Commuting characteristics can help in understanding regional travel patterns and travel choices. Commuting data for the service area is shown in Table 3-8. Generally, more workers in the service area have longer commutes than the state. Workers also commute alone by auto at a greater rate than statewide and use alternative transportation choices for commuting at a lesser rate than the state. This indicates that the level of transit service currently provided is not on par with other urbanized areas in the state, making transit less attractive to commuters in Cabarrus County as an alternative transportation choice than it otherwise could be.

Table 3-8: Commute statistics by community

Commute Statistic	Kannapolis	Concord	Cabarrus County	North Carolina
Mean commute time	26.1	26.9	27.5	24.1
Commute alone by auto	85.3%	86.9%	87.1%	85.3%
Commute by carpool	11.9%	11.2%	10.9%	10.3%
Commute by public transportation	0.2%	0.8%	0.5%	1.1%
Commute by bike/ped	1.0%	0.5%	0.7%	2.2%
Commute by other mode	1.5%	0.5%	0.8%	1.1%
Travel time to work less than 15 minutes	25.8%	23.7%	21.2%	27.8%

According to the 2017 LEHD data estimates, 41,390 employees reside in Cabarrus County and work in Mecklenburg County. 16,804 employees live in Mecklenburg County, work in Cabarrus County. An additional 6,678 employees live in Rowan County and work in Cabarrus County. **Between Mecklenburg and Cabarrus County alone, there are 58,194 commuters totaling 116,338 trips daily to and from work.** Improvements to Interstates 85 and 485 in recent years, as well as the recent completion of the CATS Blue Line Extension Light Rail Line, have made commuting to and from employment centers in Mecklenburg County and Cabarrus County all the more appealing to existing residents, as well as new residents moving into the area from other parts of the state and country.

Figure 3-5 shows the location of where workers in Cabarrus County reside based on LEHD data. Workers who reside in Cabarrus County are concentrated in Concord and Kannapolis, with a lesser concentration around Mount Pleasant. There is also a concentration of workers who reside in the northeastern part of Mecklenburg County near the University area.

Figure 3-6 shows the location of where the residents of Cabarrus County work based on LEHD data. There are concentrations of residents who work in downtown Concord and at various locations around Interstate 85. In addition, there are a number of residents of Cabarrus County who have work related trips traveling to Uptown Charlotte, the University of North Carolina at Charlotte area, and throughout Mecklenburg County.

Figure 3-5: Place of residence for Cabarrus County workers

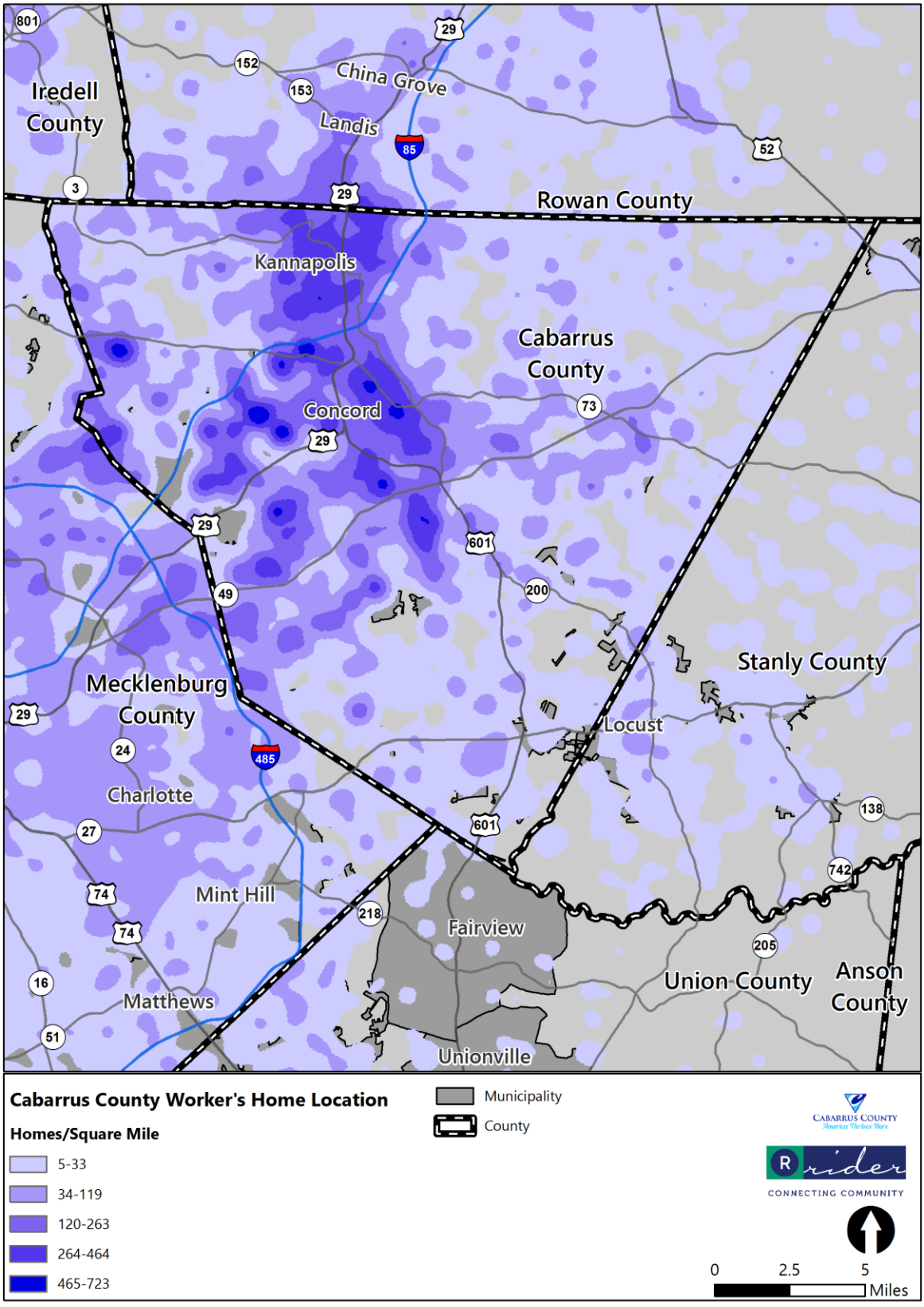
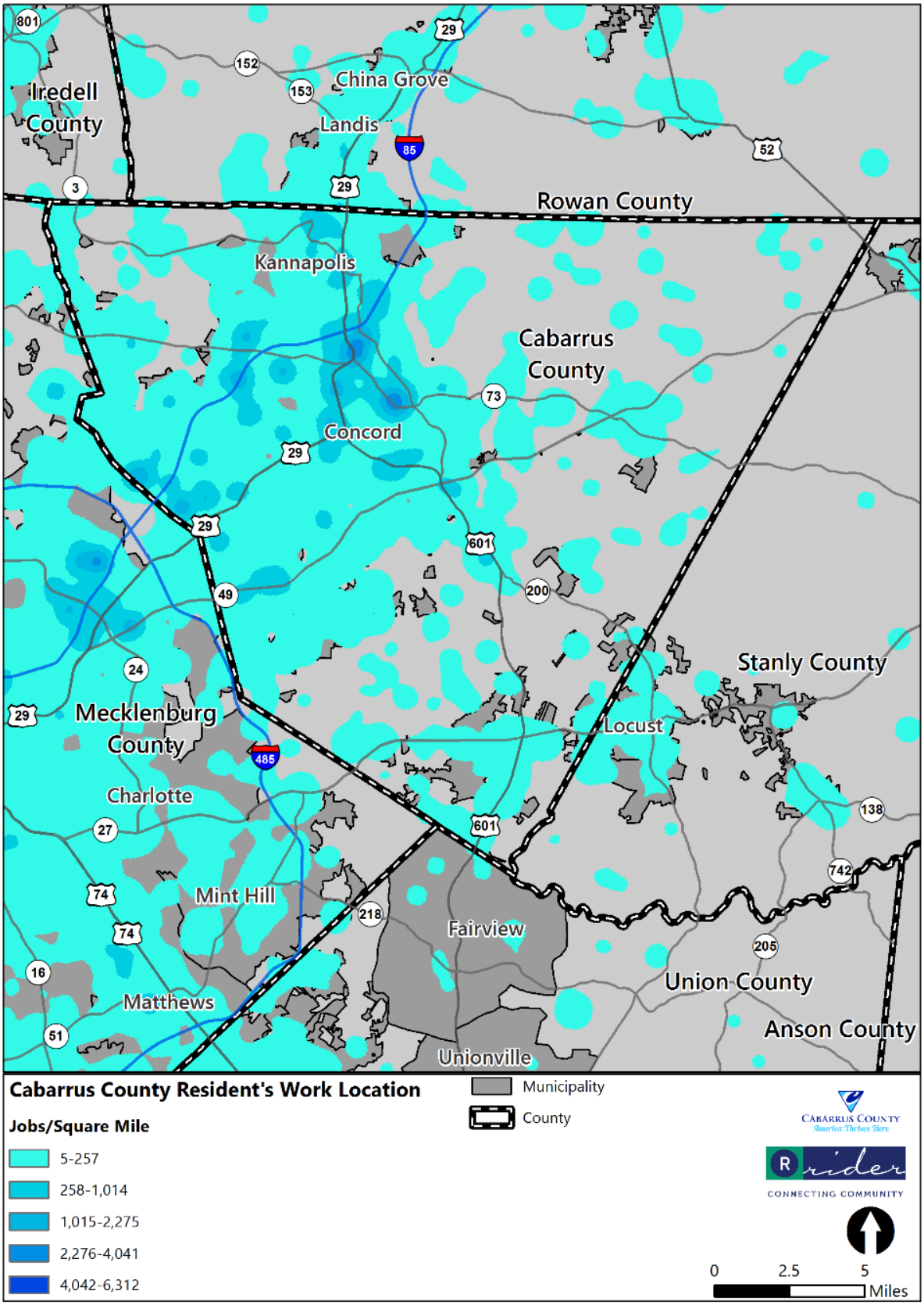


Figure 3-6: Place of work for Cabarrus County residents



Proposed and Planned Development

There are numerous proposed and planned developments within Concord and Kannapolis (proposed development activity was unavailable for the remainder of the county). Proposed and planned development is important to consider in transit planning as it can be an indicator of future population and employment density that may require future transit and mobility options. The proposed development activity in the county broken out by type of development. There are currently 30 commercial developments, 9 industrial developments and 30 residential developments being considered just within Concord and Kannapolis. Much of the commercial and industrial development is concentrated along the I-85 corridor and in downtown Kannapolis, with other notable sites including the 1,600+ acre property, The Grounds at Concord, on Concord Parkway (Hwy 29), and a new development, Kannapolis Crossing, with a new interchange off of I-85 with over 700,000 square feet of commercial property and about 700 homes. Residential development is more dispersed, with some concentrations along Kannapolis Hwy (NC 73) and near downtown Concord.

4. Existing Transit Conditions

Cabarrus County has six incorporated jurisdictions: Concord, Kannapolis, Harrisburg, Locust, Midland, and Mt. Pleasant. According to the 2010 Census, 214,881 people resided in the Concord UZA, 178,011 in Cabarrus County. The 2016 population estimate of Cabarrus County projected growth to 201,624. With a current forecasted growth rate of nearly 90% percent in the next two decades, Cabarrus County's population is expected to increase to 338,000 people by 2035. The Metrolina area, including the Charlotte UZA and Concord UZA, is one of the fastest growing in the country and is expected to continue to be through 2050. These population growth factors, coupled with the increasingly congested travel already being experienced today, present both a challenge and opportunity to examine options to improve public transportation services to the residents and visitors of Cabarrus County as the area continues its meteoric growth.

The City of Concord (FTA ID #6288) is the Designated Recipient for FTA funds in the Concord UZA and is responsible for the overall coordination of the regional transportation planning process and project programming and development activities through a partnership with the Cabarrus Rowan MPO. Each transit agency in the Concord UZA is responsible for transit operational and strategic planning, including program administration, marketing, operational, and planning studies, transit asset management and capital investments, and financial planning related to management and operations of the transit systems.

Cabarrus County has both fixed route and demand response public transit services. The transit providers, Rider Transit and CCTS, provide public transportation in the cities of Concord and Kannapolis, the rural areas of the county, and special program specific, limited services across the county. Each transit provider is highlighted in the following sections.

Rider Transit

CONNECTING COMMUNITY

Concord Kannapolis Area Transit

With their eye-catching green, purple and white paint scheme, Rider Transit vehicles serve the urbanized communities of Concord and Kannapolis in Cabarrus County, North Carolina. Rider provides fixed route bus service on seven local fixed routes as well as the Concord Charlotte Express (CCX), a regional express route which connects passengers traveling from Cabarrus County to the Charlotte metropolitan area. Americans with Disabilities Act (ADA) Complementary Paratransit service is provided within ¾ of a mile of the seven local fixed routes. Fixed route and ADA Paratransit services operate seven days a week, 5:30 a.m. to 8:30 p.m. - Monday through Friday and 8:30 a.m. to 8:30 p.m. on Saturdays and Sundays.

Rider offers multiple options for the payment of fares. Currently, fareboxes accept both coins and cash. Drivers cannot make change; instead a "Spare Fare Card" is issued that can be used to pay for future rides. Passes are available in 10 rides, 1 day, 7 day, and 31-day increments and can be purchased at the Rider Transit Center. ADA Paratransit 10 ticket booklets can be purchased at the Rider Transit Center or from the Paratransit drivers for cash only.

Reduced fares are available for fixed route service for qualified individuals: persons with disabilities, riders 65 and older, Medicare card holders (with photo ID), and current students with a valid school ID and proof of enrollment. An application must be submitted to receive a Reduced-Fare ID Card.

Rider's fare structure is summarized in Table 4-1.

Table 4-1: Rider fare structure

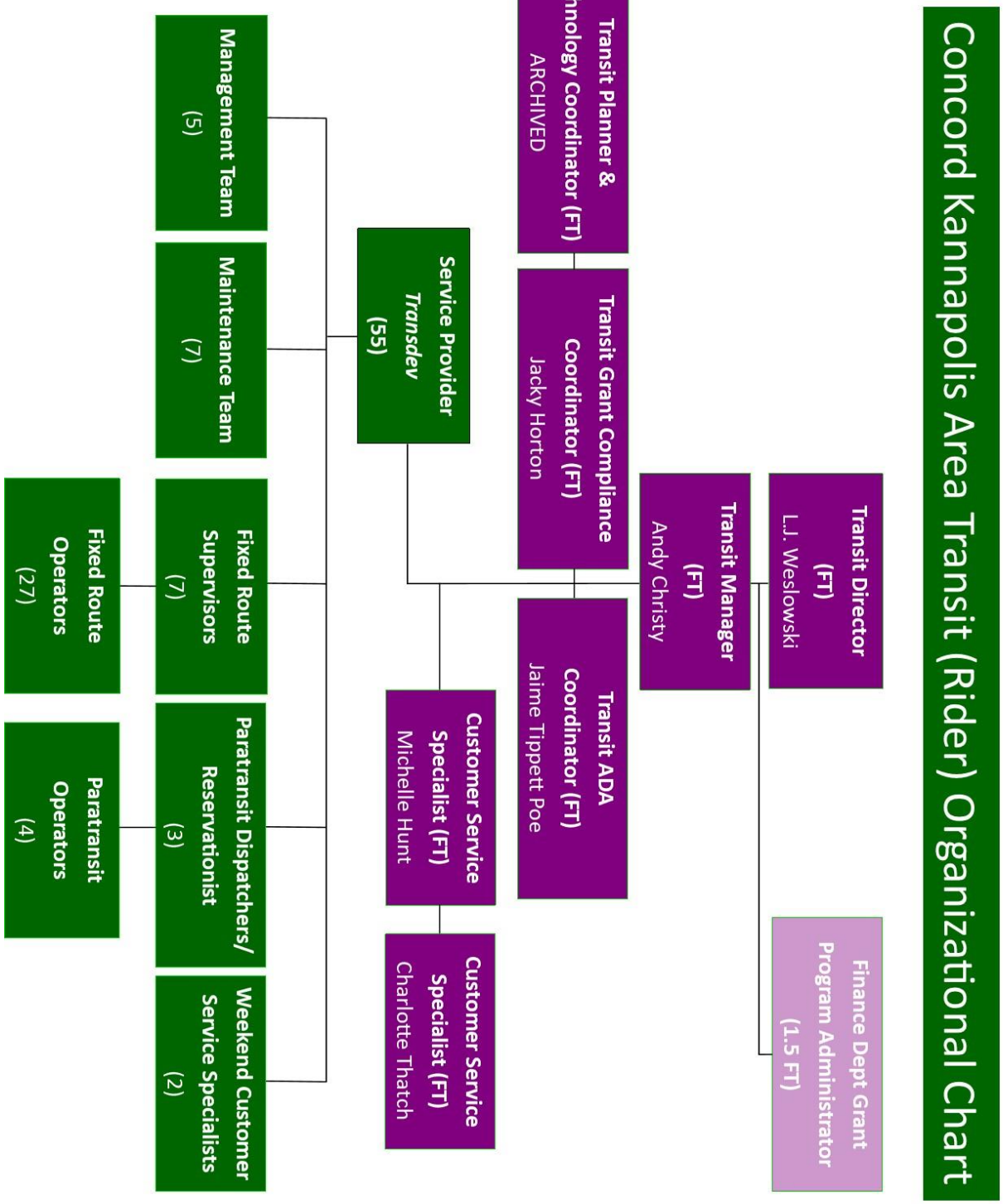
Fare Type	Regular Fare	Reduced Fare
Regular routes	$1.25 per ride	$0.60 per ride
Children under age 5	Free	
Transfer to local routes	Free	
ADA paratransit trip	$2.00	
ADA paratransit 10 ticket booklet		$20.00
1-Day pass	$4.00	$2.00
10-Ride pass	$10.00	$5.00
7-Day pass	$12.00	$6.00
31-Day pass	$40.00	$20.00

In mid-2020 Rider will complete implementation of a digital fare payment system, TouchPass, onboard all 17 vehicles. The digital fare payment system allows additional, more flexible options to purchase transit passes and hold stored value for fares. This includes both mobile (phone) and smart card technology platforms for payment. It also allows Rider to implement fare capping, insuring no passenger pays more than $40 at most in a given 31 day period, if they pay for each trip individually.

Governance and Management

Rider, a joint project of the cities of Concord and Kannapolis, is a department within the City of Concord. As the lead agency for the receipt of Federal funds, it is ultimately governed by the Concord City Council, with oversight by the 5 member Concord Kannapolis Transit Commission, made up of 2 members of Concord City Council and 2 members from Kannapolis City Council and the mayoral representation alternates between the 2 municipalities annually. There are seven full-time department positions, and include the Transit Director, Transit Manager, Transit Grant Compliance Coordinator, Transit ADA Coordinator, two Senior Customer Service Representatives, and a Transit Planner and Technology Coordinator-which is currently an archived position. These positions are color coded as purple in Figure 4-1. The Grant Program Administrator is a 1.5 full-time position between Rider and the Concord Finance Department. This position is noted in light purple in the organizational chart. Rider contracts with a private sector transit service provider to operate the fixed route and ADA Paratransit service. The current provider is Transdev with 55 positions that are color coded as dark green in the organizational chart. The 55 positions are comprised of a management team (5 positions), maintenance team (7), fixed route supervisors (7), paratransit dispatchers (3), weekend customer service specialists (2), fixed route operators (27), and paratransit operators (4).

Figure 4-1: Rider organizational chart



Rider Transit Center

All Rider services are based out of the Rider Transit Center, located at 45 Transit Court Northwest, in Concord. The transit center was opened the end of November 2010 and was designed to meet the Leadership in Energy and Environmental Design (LEED) Certified Silver standards. Sustainable features of the facility include recycled materials, locally sourced materials, low emitting VOC paints and adhesives, water efficient landscaping, and the extensive use of natural light. The center has ten covered sawtooth-style bus bays, indoor and outdoor customer waiting areas, customer service office, employee breakroom, police substation office, four administrative staff offices, a conference room that seats up to 20 people, electronic signboards with real-time bus information, and multiple restrooms. Rider Transit operations, maintenance, fixed Route and Paratransit dispatch, and Paratransit scheduling are based outside of the Rider Transit Center at the Transdev facility.

Rider Transit Operations and Maintenance Facility

Rider's Operations and Maintenance facility is located at 2030 Wilshire Court SW in Concord, 5.6 miles from the Rider Transit Center. The vehicles are stored outside in a secured, fenced area. The building has video surveillance covering the vehicle parking areas, entrances, exits, and the cash handling areas. The facility on Wilshire Court houses contract staff including:

- Offices for General Manager, Assistant General Manager, Safety and Training Manager, Human Resources/Generalist, and Maintenance Manager
- Paratransit Reservation and Dispatch and Fixed Route Dispatch
- Maintenance facility to perform preventative maintenance and medium duty repairs on all vehicles
- Wash bay where vehicle exteriors are washed at least every three days unless circumstances warrant more frequent service and daily interior cleaning and bi-weekly interior deep cleaning
- Prior to beginning service and upon completion of service, driver complete a pre and post-trip inspection with ZONAR electronic vehicle inspecting tool

All heavy repairs that cannot be completed at the Operations and Maintenance Facility are outsourced to local vendors.

Amenities

Rider provides several types of passenger amenities at its bus stops and on its transit vehicles to promote safety and enhance passenger experience. Shelters with seating and trash cans have been installed at stops that have an average ridership of 10 or more riders per day to provide comfort and shelter from the elements to riders. Shelters are outfitted with solar lighting to improve the safety and security of riders. Maps and schedules are posted at all stops to assist with navigating the transit system. At stops that average six or more riders per day, Simme-Seats (a type of seating specifically designed to be comfortable and durable at bus stops) are planned to be installed. Trash receptacles are located at many additional bus stops to promote a clean environment.

Rider buses feature complimentary Wi-Fi, which further enhances passenger experience. The two newest buses in the fleet have USB charging outlets at each seat, allowing riders to charge their phones and other devices while on the bus. Complimentary Wi-Fi and charging outlets are important amenities for attracting ridership, particularly in commuter markets.

Vehicle Fleet

The Rider vehicle fleet consists of ten hybrid electric buses for fixed route service as well as four LTVs and three vans for its ADA Paratransit service. Each fixed route bus is equipped with a bicycle rack that can accommodate up to two bikes. The vehicle fleet has an average age of 4.6 years as of October 2019. Eight out of the ten hybrid buses were acquired in 2014 and the remaining two in 2017. The Paratransit vans are from 2016 and the LTVs from 2017. Rider's young vehicle fleet allows it to provide quality transit service with minimal vehicle breakdowns and lower maintenance costs. Rider's service provider, Transdev, maintains the vehicle fleet at its Operations and Maintenance Facility in Concord. The existing vehicle fleet is summarized in Table 4-2.

The Federal Transit Administration (FTA) has a minimum useful life policy in place for transit vehicles procured with federal money. The "useful life" refers to the recommended age and mileage that should be reached before having to replace a vehicle. This standard is determined based on the type of vehicle. Based on the most recent FTA guidance, the minimum useful life for the Rider buses is 12 years of service, or 500,000 miles, whichever comes first. The useful life for the LTVs is 7 years or 200,000 miles; and for the light duty vehicles vans it is 4 years or 100,000 miles. Based on these FTA criteria, none of the current Rider Transit vehicles have met their useful life,

Table 4-2: Rider vehicle fleet as of November 2019

Vehicle Type	Make – Model (Year)	Ambulatory Seats	Non-Ambulatory Seats	Mileage	Age (Years)
Bus	New Flyer - 35' Hybrid HD LF BRT (2017)	32	2	142,760	2
Bus	New Flyer - 35' Hybrid HD LF BRT (2017)	32	2	164,952	2
Bus	Gillig - 35' Hybrid HD LF BRT (2014)	32	2	376,313	5
Bus	Gillig - 35' Hybrid HD LF BRT (2014)	32	2	369,843	5
Bus	Gillig - 35' Hybrid HD LF BRT (2014)	32	2	358,145	5
Bus	Gillig - 35' Hybrid HD LF BRT (2014)	32	2	378,320	5
Bus	Gillig - 35' Hybrid HD LF BRT (2014)	32	2	374,203	5
Bus	Gillig - 35' Hybrid HD LF BRT (2014)	32	2	377,896	5
Bus	Gillig - 35' Hybrid HD LF BRT (2014)	32	2	366,539	5
Bus	Gillig - 35' Hybrid HD LF BRT (2014)	32	2	393,909	5
Light Transit Vehicle	Ford - E450 (2017)	15	2	50,528	2
Light Transit Vehicle	Ford - E450 (2017)	15	2	54,654	2
Light Transit Vehicle	Ford - E450 (2017)	11	2	34,642	2
Light Transit Vehicle	Ford - E450 (2017)	11	2	19,087	2
Van	Ford - Transit 350 (2016)	8	2	98,600	3
Van	Ford - Transit 350 (2016)	8	2	97,211	3
Van	Ford - Transit 350 (2016)	8	2	92,563	3

Rider Performance Data

The transit service performance of the Rider system was assessed at both the individual route and system-wide levels. Appendix B includes a fact book to compare the operational, performance, and demographic indicators of each route. A description of each route follows Table 4-3

System Performance

An analysis of Rider's fixed routes was performed to provide a system-wide analytical perspective. The analysis was based on the five performance indicators reported for each route:

- Operating expenses per revenue mile
- Operating expenses per revenue hour
- Operating expenses per unlinked passenger trip
- Passengers per revenue hour, and
- Passengers per revenue mile

Table 4-3: Summary of Operational and Performance Indicators

	Blue	Green	Orange	Purple	Yellow	Red	Brown	CCX
Annual Unlinked Passenger Trips	67,002	56,023	85,366	53,758	44,200	43,793	39,701	31,487
Annual Vehicle Revenue Miles	81,274	72,244	67,800	69,454	86,664	128,082	71,960	136,686
Annual Vehicle Revenue Hour	5,073	5,073	5,073	5,073	5,073	5,073	5,073	5,073
Contractor Cost	$63.36	$63.36	$63.36	$63.36	$63.36	$63.36	$63.36	$63.36
Average MPG	5.16	5.16	5.16	5.16	5.16	5.16	5.16	5.16
Fuel Cost	$1.96/gallon	$1.96/gallon	$1.96/gallon	$1.96/gallon	$1.96/gallon	$1.96/gallon	$1.96/gallon	$1.96/gallon
Annual Total Fuel Cost	$30,780.23	$27,360.20	$25,677.05	$26,303.75	$32,821.50	$48,507.06	$27,252.77	$51,765.93
Annual Operating Cost	$352,205.51	$348,785.48	$347,102.33	$347,729.03	$354,246.78	$369,932.34	$348,678.05	$373,191.21
Operating Expense Per Revenue Mile	$4.33	$4.83	$5.12	$5.01	$4.09	$2.89	$4.85	$2.73
Operating Expense per Unlinked Passenger Trip	$5.26	$6.23	$4.07	$6.47	$8.01	$8.45	$8.78	$11.85
Passengers per Revenue Hour	13.21	11.04	16.83	10.60	8.71	8.63	7.83	6.21
Passengers per Revenue Mile	0.82	0.78	1.26	0.77	0.51	0.34	0.55	0.23

Route 1 (Blue) is a high performing route, having the second highest number of annual unlinked annual passenger trips in the Rider system (67,002).

Route 1 serves key destinations including the Cabarrus County Department of Human Services, A.L Brown High School Kannapolis Train Station, YMCA and Senior Center, the Kannapolis Library, and Downtown Kannapolis. Stop activity is less along portions of Route 1 north of the Kannapolis Train Station. The lower density residential areas north of downtown Kannapolis are challenging to serve with fixed route transit service. The route currently makes a couple loops, which provides more coverage at the expense of efficiency and travel time. There may be opportunities to serve these neighborhoods with other transit service types such as general public demand response or microtransit. Smaller transit vehicles would be used to operate public demand response or microtransit, which would address the current challenge of Route 1 navigating smaller streets with tighter turning radii.

There are several projects slated for downtown Kannapolis including a new ballpark, 280+ multifamily apartment development, office, and retail. Route 1 will play an important role in providing mobility to these new residents and workers. Ridership would be expected to increase as these developments come online.

Route 2 (Green) performs slightly above average compared to the other fixed routes. According to boarding and alighting data from June 26, 2018, stop activity, greater stop activity occurs at the Rider Transit Center, Home Depot, and Walmart (Northlite). Other locations of interest include: Penny lane and Copperfield Boulevard in Concord, Coldwater Ridge Apartments, Dale Earnhardt Boulevard in Kannapolis, Centergrove Road in Kannapolis, and Atrium Health Copperfield Imaging Center. The design of Route 2 is circuitous in sections which allows for greater coverage but comes at the expense of travel time and efficiency. Portions of route are lower density residential or undeveloped such as a segment along South Little Texas Road. This region of the service area may be served with public demand response or microtransit instead of fixed route service. Deploying a different transit service type could be more responsive and more efficiently use system resources.

Route 3 (Orange) is Rider's highest performing route with 85,366 annual unlinked passenger trips compared to a system average of 52,666. Percentages of low-income, minority, zero vehicle households, persons with disabilities, populations 17 years or under, and populations 65 years or older are all greater within a half mile of Route 3 than they are within a half mile of the fixed route system. The population density within a half mile of Route 3 exceeds the system average.

The success of Route 3 is likely due to the major trip generators that it serves: Carolina Mall, Downtown Concord, Logan Community and Logan Center, and Atrium Cabarrus (formerly Carolinas Medical Center Northeast). Stop activity is higher at these trip generators as well as at the following stops: Church Street and Means Avenue, Church Street and Locke Mill Plaza, Corban Avenue and Georgia Street, and Lincoln Street and Logan Medical Center. Stop activity is lower along Lincoln Street, Old Charlotte Road, Rutherford Street, and Wilshire Avenue. There may be opportunities to streamline Route 3 by combining portions of it with Route 4 (Purple). Furthermore, a new transit hub is recommended for Concord to facilitate more effective travel within Concord. Fixed routes and/or microtransit could be based out of this hub that would serve some portions of Route 3 to allow Route 3 to target the Concord-Rider Transit Center connection with improved efficiency.

Route 4 (Purple) Over the past fiscal year, the total boardings on Route 4 trended with the system average. The population density within a half mile of Route 4 exceeds the system average. Stop activity is uniform throughout the route with the exception of the following stops where activity is greater: Concord Commons Walmart, Kerr Street, and Meisenheimer Drive. Other stops of interest include: Cabarrus Business/Technology Center-Rowan-Cabarrus Community College (RCCC), the Social Security Office and the Gibson Village residential area. Apartments and single-family homes are located near Kerr Street and Meisenheimer Drive stop location.

Challenges for Route 4 include congestion on Concord Parkway, circulation at Walmart, and the location of and resulting stop order of the Social Security office. Route 4 currently enters the Walmart parking lot, which although convenient, can present conflicts between buses and parking lot traffic. There may be routing alternatives to avoid

entering the parking lot, but it would be at the expense of passengers having farther to navigate to and from Walmart to any alternative stop locations. The Social Security stop is one of the last stops on the inbound portion of Route 4, which means that riders whose destination is the Social Security office and who board at the transit center have a longer travel time. At the same time, the return trip from the Social Security office to the transit center is shorter. Ideally, the office would be served on both outbound and inbound trips. However, the closest intersection, Concord Parkway and Florence Street and internal roadway circulation, presents a barrier for both pedestrian and vehicle movement as the parkway is six lanes without pedestrian crossing accommodations, and the internal road network does not allow for outbound service to the Social Security office. A new transit hub is recommended for Concord to facilitate more efficient travel within Concord, which would provide an opportunity for potential route modifications to Route 4.

Route 5 (Yellow) Route 5 serves smaller percentages of identified demographic groups than the Fixed Route system overall, except for the population 17 years and under. The greatest boardings are at Rowan Cabarrus Community College, followed distantly by the Country Club Drive and Starbucks stop at Carolina Mall. Other important stops are Amazon and Target in Afton Ridge, and multiple apartment complexes found along the route.

The performance of this route is likely related to the sparse development pattern that the route serves, which is reflected in the population density measure. Trip generators along Route 5 are located further apart and segments of the route are undeveloped such as parts of Davidson Highway. Businesses within the International Business Park at Concord are spread out with a lack of effective internal roadway circulation, which is not as conducive to Fixed Route transit. However, alternative transportation options may be implemented to best serve these office park locations.

Opportunities for Route 5 include partnering with businesses to implement a rideshare or vanpool program. Rideshare or vanpool programs enable employees to share their commute to and from their place of work. This type of transit service may be better suited to the existing development pattern than Fixed Route transit.

Route 6 (Red) is the second longest route in the Rider system at 27.09 miles. Significant portions of the route are along I-85 with no stops as it is essentially an express route along the Interstate segments in order to reach the Exit 49 corridor. Stop activity is greatest at the Entrance 7/AMC Theatres stop at Concord Mills. Route 6 connects with CATS Route 54 at this location. This Route also serves RCCC South Campus, Walmart on Thunder Road and the hotels east of Concord Mills including the Embassy Suites and Concord Convention Center.

A unique challenge for Route 6 is providing effective circulation within the Concord Mills corridor. Currently the route serves Concord Mills and then hotels and restaurants to the east before returning to the transit center via I-85. This routing pattern provides effective service between the Rider Transit Center and the Concord Mills area but makes trips within the corridor inefficient, and practically speaking impossible for passengers to move effectively through the corridor. For example, a trip from the Concord Mills Mall entrance to Embassy Suites would take six minutes while the return trip (Embassy Suites to the mall) would take 54 minutes.

In addition to inefficiencies, not all destinations are served within the corridor due to time contraints. The Charlotte Motor Speedway is located 1.3 miles east of the Embassy Suites stop but is not served by transit. During events, activity between the hotels and speedway is significant. Concord-Padgett Regional Airport is 1.2 miles north of Walmart and is also not served by transit. The airport has regularly scheduled commercial flights and should be included in future service planning. A Concord Mills circulator service would address these shortcomings, with Route 6 serving as a connection between the circulator and the Rider system. Congestion on I-85 is another challenge for Route 6, which can often affect its on-time performance.

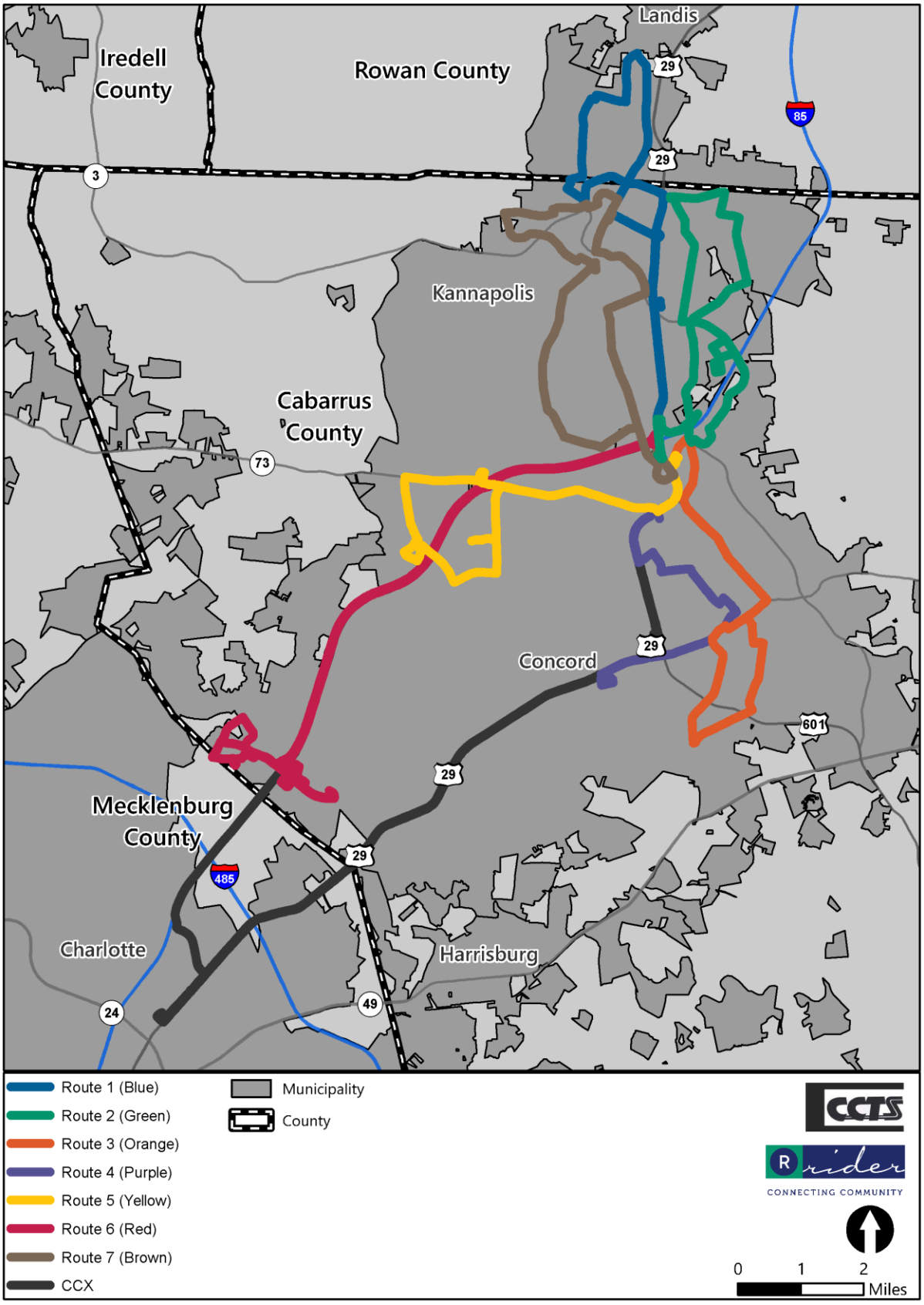
Route 7 (Brown). During the past fiscal year, total boardings on Route 7 were consistently below the system average. The route serves a greater percentage of households without vehicles, persons with disabilities, population 17 years and under, and population 65 years and over compared to the system. Stops with the greatest boarding and alighting activity are the Kannapolis Train Station, Downtown Kannapolis, the North Carolina Research Campus, Cabarrus Health Alliance, Leonard Avenue and Bell Street, Richard Avenue and Cabarrus Arms Apartments, Rainbow Drive and Westgreen Drive, and Bethpage Road and Aileen Avenue.

The design of Route 7 is circuitous in sections which, like Route 2, allows for greater coverage but comes at the expense of travel time and efficiency. Another primary challenge for Route 7 is the lower density development pattern that is not as conducive to Fixed Route transit. Combine, these two points likely explain the lower annual unlinked passenger trips. Stop-level boarding data suggests that most activity is occurring at the south end of the route at the Rider Transit Center and north end of the route in downtown Kannapolis. Above average stop activity occurs at apartments along Bethpage Road and Rainbow Drive. Given this data, there may be opportunities to implement other types of transit services such as public demand response or microtransit to serve lower density areas and allow the Fixed Route to concentrate on the higher ridership trips between the Rider Transit Center and downtown Kannapolis.

Route 8 (CCX) is the longest route in the Rider system at 28.91 miles. It is currently Rider's only regional route, connecting Cabarrus County with the CATS Lynx Blue Line light-rail system at the JW Clay Station. The route began operating in March 2018. According to stop boarding and alighting data, the most popular stop on the CCX is the JW Clay Light Rail Station as would be expected, followed by The Village/Big Lots stop, where a passenger park & ride is located.

The key strength of this route is providing a new transit connection between Cabarrus County and Charlotte seven days a week. In the short timeframe that the route has operated, it has proved to be very popular. The most common complaint about the CCX is that it does not run late enough. For passengers making additional route connections coming back from Charlotte, passengers must be on the 6:56pm departure from the JW Clay stop. Targeted marketing campaigns may assist in increasing awareness of this new service and its benefits, particularly for Cabarrus County commuters during the morning and afternoon peak periods. The CCX should continue to be monitored based on these operational and performance metrics to identify any service issues requiring attention. As development patterns continue to change in Cabarrus County, the locations of future park and ride areas should be considered to help promote the work trips accommodated by this route.

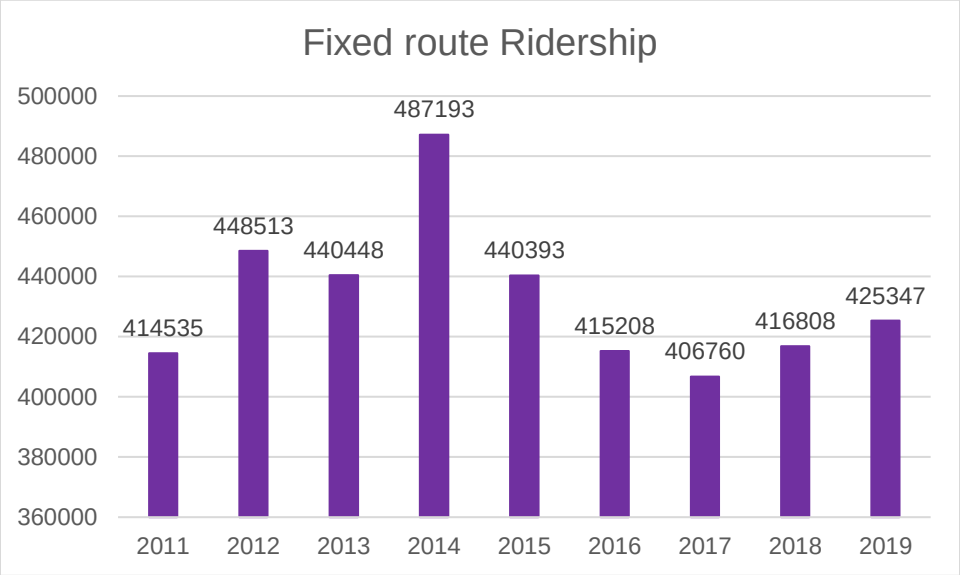
Figure 4-2: Current Rider Fixed Route Transit system



Ridership Trends

Trends in ridership between 2011 and 2019 were analyzed based on historical data provided by Rider by Calendar Year. As shown in Figure 4-3 Fixed Route ridership has increased overall between FY 2011 and FY 2018 from 414,535 to 425,347 annual trips, peaking at 487,193 in 2014, which may be attributed in part to the introduction of Sunday service starting in October 2013 and the operational revisions to Routes 2 and 7 in December 2014. These routes were revised based on community feedback gathered through the transit development plan process in 2014.

Figure 4-3: Ridership trends



The ridership changes mirror the national trend of increasing ridership between 2009 and 2014 followed by decreasing ridership in recent years. An April 2018 report by the American Public Transportation Association (APTA) titled *Understanding Recent Ridership Changes*, presents three primary explanations for the recent ridership trends seen across the nation:

Erosion of Time Competitiveness

The sharp decrease in fuel costs and increased availability of auto loans has made personal vehicle ownership more accessible since 2014, and therefore more competitive with transit, particularly bus. The APTA report cites bus ridership down nearly 13 percent between 2000 and 2015 while rail ridership is up 46 percent.

Reduced Customer Affinity and Loyalty

Telecommuting, alternative work schedules, and online shopping are credited for declining ridership as well as rising prices for monthly transit passes. Furthermore, public transit now competes with transportation network companies (TNC) such as Uber and Lyft. The increased popularity of revitalized and gentrified urban areas has displaced many poorer transit dependent riders to less population dense suburban areas, such as Concord and Kannapolis, which generally have limited service coverage and are less frequently served by transit.

External Factors

Other factors related to decreasing ridership were cited in the APTA report: increased parking availability, non-residential trip generators also locating away from urban areas served by transit, and perceptions of safety.

Operating Costs and Sources of Revenue

Rider's operating costs were $2,069,900 for Fixed Route service and $530,962 for paratransit service in FY 2017.[1] During the same year Rider's farebox revenue was $267,349 for Fixed Route service, which translates to an operations farebox recovery rate of 12.92%. Paratransit revenue was $16,722.

Other sources of revenue for Fixed Route service come from federal, state, and local assistance as shown in Figure 4-4. The largest share is federal (40 percent), followed by local government (37 percent), and state (23 percent). The paratransit service is funded by federal and local government sources as shown in Figure 4-5. In FY 2017, Rider Transit did not receive any state funding for paratransit. Federal sources constitute 55 percent of the paratransit budget with local government funding the remaining portion at 45 percent.

Figure 4-4 Rider Fixed Route sources of revenue

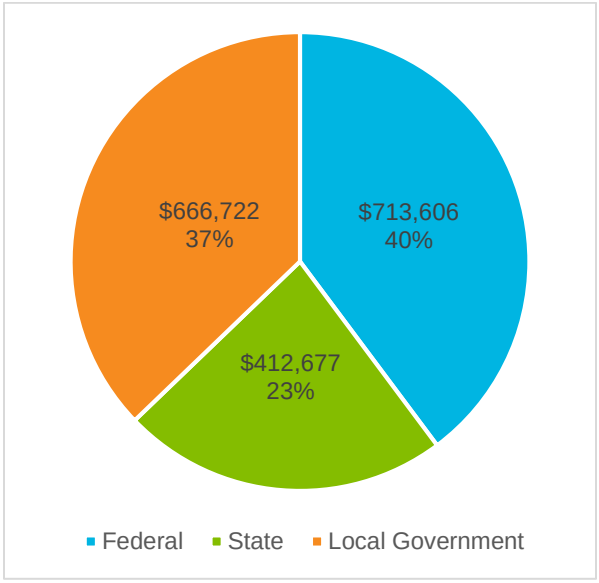
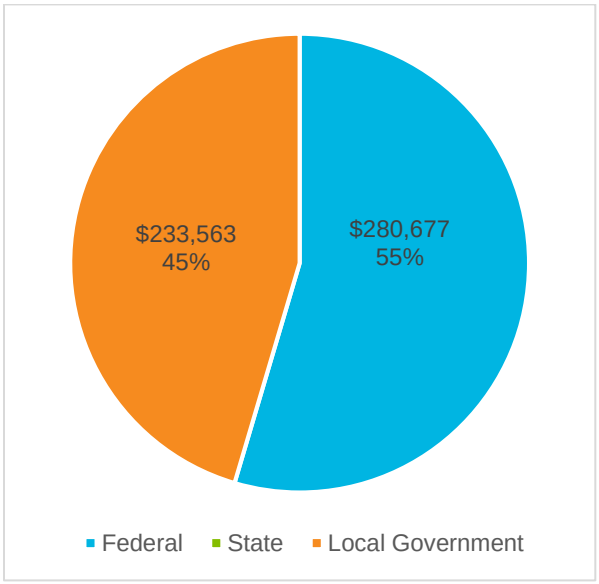


Figure 4-5: Rider paratransit sources of revenue



[1] FY 2017 OpStats Report

Marketing and Branding

Rider currently attends community relations events to market the Fixed Route and ADA Paratransit service within Concord and Kannapolis. Staff educates the community about current route information and popular destinations along routes. Give-away branded items are also distributed to increase community awareness of Rider. Some events attended included:

- Rowan Cabarrus Community College
- Cabarrus County Senior Health Wellness Expo
- Network of Care Health Fair
- Cabarrus Resource Fair
- National Night Out
- Fire Prevention Festival
- Fire Bowl
- E-Bus Career Fair 2018
- Decision Path Job Fair
- Homelessness Awareness Resource Fair
- Transportation Fair
- Gibson Village Fall Festival
- Career Cruisin Day
- MLK Stuff the Bus
- Samaritan Feet Back Packing Event
- Samaritan Feet Shoe Distribution
- Touch A Truck

Complementary ADA Paratransit

Rider provides origin to destination, Demand Response, complementary ADA paratransit service to eligible persons within ¾ mile of Rider's local fixed routes without restriction on trip purpose; this service is not provided along the express route (CCX). The Paratransit service is reflective of the same days and hours of operation as Fixed Route service - and costs $2.00 per one-way trip. Personal care attendants (PCA) may accompany the Paratransit passenger free of charge. Rider allows each Paratransit rider to travel with one companion in addition to the PCA for the same fare as the rider. Additional companions are permitted on a space-available basis.

Eligibility is determined through an application and functional assessment review process. The first step is for the passenger seeking service to submit an application. Once the application has been completed, Rider sends a request to the passenger seeking service's medical professional for them complete a Professional Verification Form. The third step is performing an ADA Paratransit Service Eligibility Determination Assessment. If eligibility is approved, the determination may fall into one of three categories:

- Unconditional
- Conditional (Some trips are eligible on Rider's ADA Paratransit and others must be used on Rider's Fixed Route buses)
- Temporary (Can only use the service a certain period of time during expected duration of the illness or condition)

In cases where eligibility is not approved, riders may request an appeal of the decision through the established appeals process and committee. Rider has a no-show and no-strand policy in place to maintain an efficient and timely Paratransit service. The no-show policy is intended to minimize schedule disruptions, which can adversely affect other Paratransit riders. The no-strand policy is to avoid riders being left at their destination without a return trip back to their origin. If a rider is a no-show for the return trip, Rider will make another attempt to pick up the rider as soon as possible.

Rider currently uses RouteMatch software to organize and schedule its paratransit trips, which allows for greater efficiency. A primary benefit of the scheduling software is the ability to batch trips based on similar origins, destinations, and requested pick-up times. Riders receive a pre-recorded reminder call (robo-call) at 6 p.m. the evening before their scheduled trip. Riders cannot cancel a trip from the robo-call, they must call into the reservation line to cancel the trip.

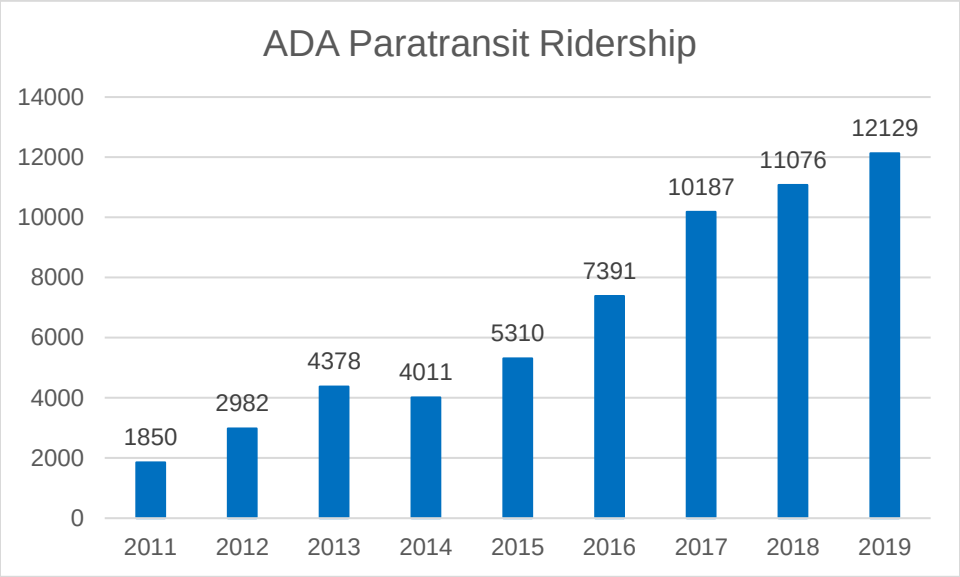
Service Patterns

Rider Transit ADA Paratransit Service provided 251 trips with 104 unique origin addresses and 114 unique destination addresses for a sample week (May 5-11, 2019). Unlike CCTS, Rider does not simply provide bidirectional trips. Riders can make have multiple origins and destinations during 1 trip and do not have to return to the same location. All origins and destinations must, however, be within ¾ mile of Rider's 7 local fixed routes.

Ridership Trends

ADA Paratransit Ridership has seen significantly steady growth with 1,850 trips in 2011 to 12,129 in 2019, an increase of 555.6%.

Figure 4-6: Ridership trends



Rider Paratransit Performance Data

Rider Paratransit performance measure standards include:

1. 92% On-Time Performance
2. 95% of calls answered within 3 minutes and 99% of calls answered within 5 minutes
3. Calls placed on hold should be less than 2 minutes
4. Messages left for reservations must be returned within 1 hour during normal business hours or within one hour the next business day
5. Travel time less than 45 minutes during 60 minute headway (on fixed route) and less than 55 minutes during 75 minute headway (on fixed route)

Rider Paratransit Operations

Table 4-4 indicates 2019 Operating Statistics. Figure 4-7 indicates trips by day of the week for 2019. Figure 4-8 indicates trips by time of day for 2019, and figure 4-9 indicates the cancellation and no-show trends over 2017, 2018, and 2019.

Table 4-4: 2019 Paratransit Operating Statistics.

Total Trips Scheduled	13790
Late Trips	1001
Early Pick Ups	194
Missed Trips	1
Mechanical Failure	1
Cancelled Trips	1588
No Shows	305
On Time Performance	90.04%
Total Trips Performed	12129
Revenue Service Hours	8373
Revenue Miles	104819

Figure 4-7: Trips by day of the week

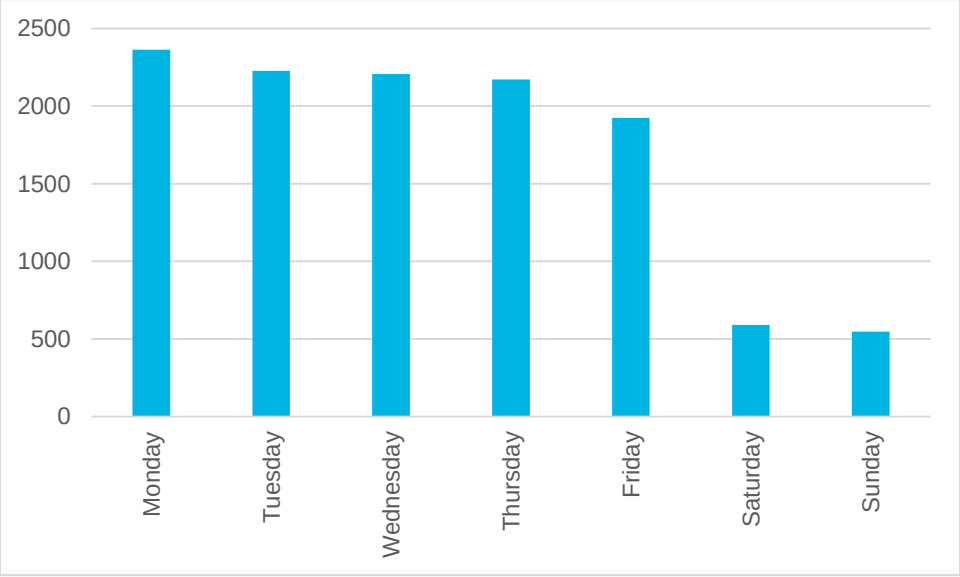


Figure 4-8: Trips by time of day

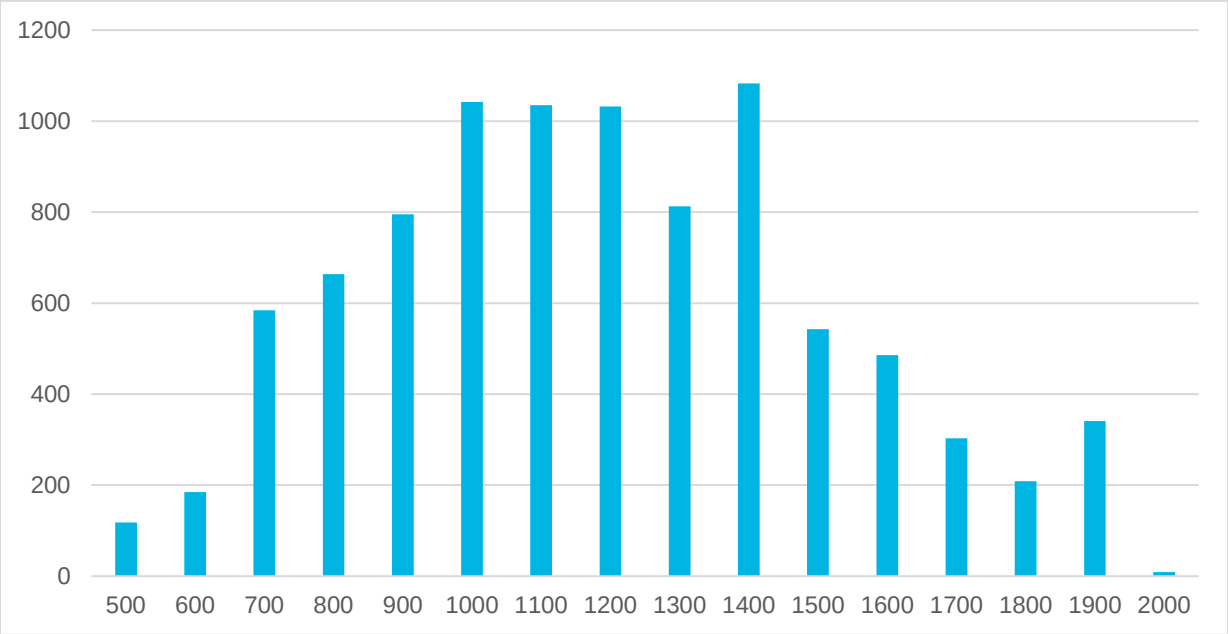
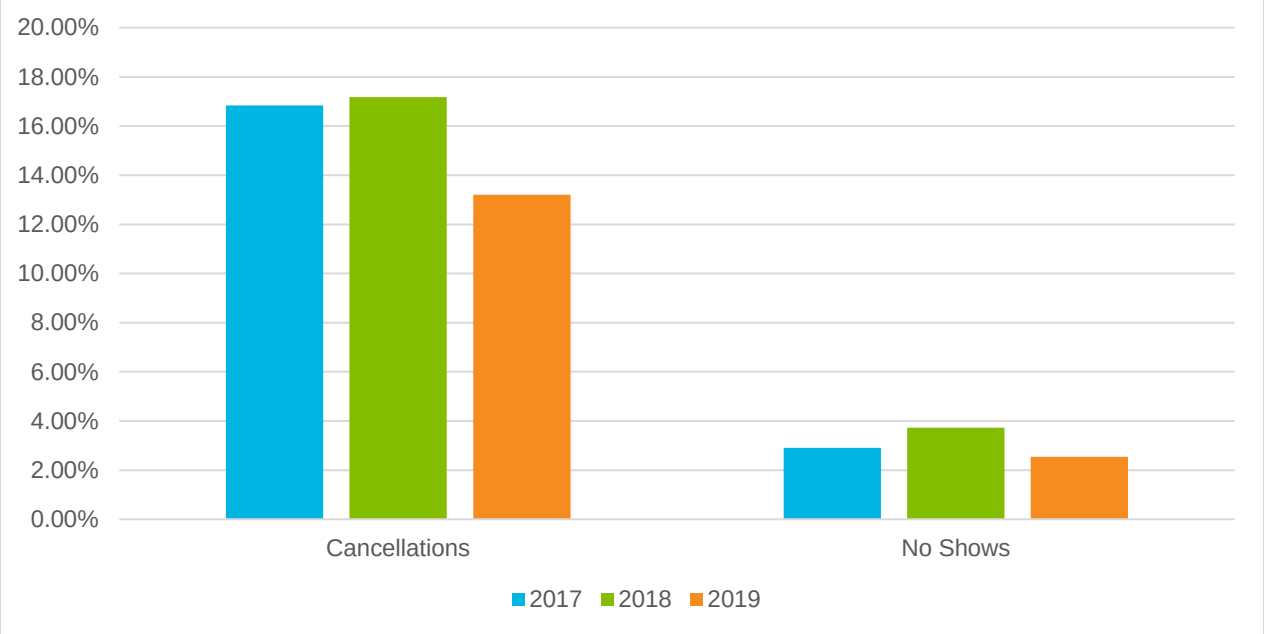


Figure 4-9: Percent of cancellations and no-shows



CCTS

Cabarrus County Transportation Services provides demand response transportation to eligible riders throughout Cabarrus County. It is a department of the Adult and Aging Program under the department of Human Services of Cabarrus County. Eligibility and covered trip purposes vary by specific programs. The funding programs administered by CCTS include the following:

- **Medicaid**: transportation to doctors' appointments and pharmacy prescription pickup for Medicaid approved individuals
- **Work First Family Assistance Program**: transportation for job searching activities for a limited period of time
- **Adult and Aging Services Program**: transportation for non-Medicaid eligible seniors aged 60 and over for doctors' appointments and pharmacy prescription pickups only
- **Rural General Purpose (RGP) Program**: transportation for individuals who do not qualify for one of the above programs and who live in the rural areas of Cabarrus County

Transportation is only provided to individuals qualifying for one of the approved funding programs. There is also a Lunch Club Program for eligible individuals, which includes transporting senior citizens to meal sites.

The Rural General Purpose transportation program, provided to the widest range of people, is available to all individuals living in the rural areas of Cabarrus County. Service is not provided from origins within the urbanized areas of Concord and Kannapolis unless it is a return trip from the rural area. A summary of trips by funding source for FY 2018 is included in Figure 4-10

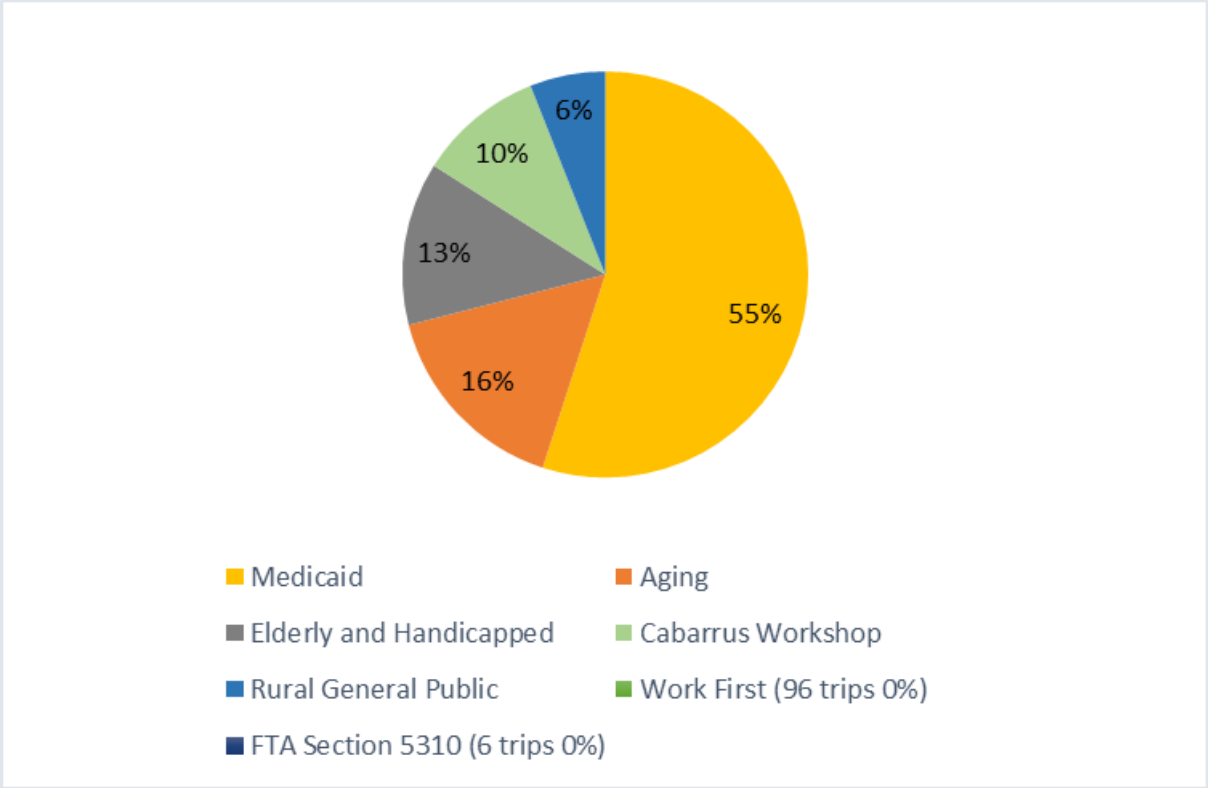
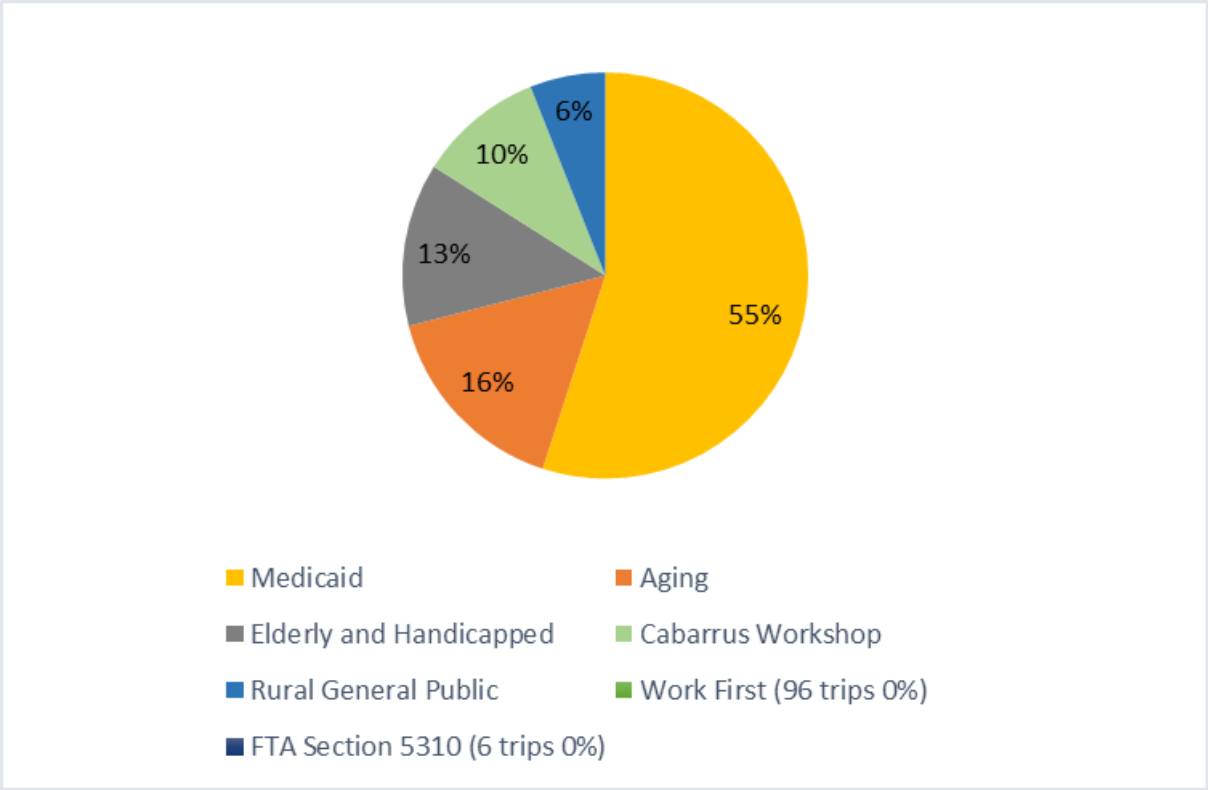


Figure 4-10: Trips by funding source



Hours of Service and Policies

The CCTS operates curb-to-curb demand response service from approximately 4 a.m. to 6 p.m. on weekdays (depending on times and locations of appointments) and provides services for life sustaining activities (e.g. dialysis and addictive disease clinic) on weekends. Medical appointments are recommended to be scheduled for early in the day, from 8 a.m. to 1 p.m. Return trips can be scheduled for no later than 4 p.m. CCTS provides out-of-county trips on Tuesdays, Wednesdays, and Thursdays with early appointment times (8 a.m. to 1 p.m.) and return trips no later than 3 p.m. In FY 2018, out-of-county trips accounted for 4 percent of all trips provided by CCTS, with the highest number of trips to Rowan County, primarily to medical facilities in Salisbury including the W.G.(Bill) Hefner VA Medical Center.

Trips can be scheduled for travel during regular office business hours of 8 a.m. to 5 p.m. on weekdays. Trips should be scheduled by 1 p.m. for next day reservations. CCTS makes every attempt to honor same-day service requests but cannot guarantee that they will be able to accommodate every request. Advance reservations are allowed up to two months in advance. Passengers are asked to be ready 60 minutes before their pickup time for in-county trips and 2 hours before their pickup time for out-of-county trips. Like Rider Paratransit, riders receive a pre-recorded reminder call (robo-call) at 6 p.m. the evening before their scheduled trip. However, cancelled trips as a result of the robo-call are not automatically canceled in the RouteMatch scheduling system or removed from the drivers' schedule manifest and must be done manually.

CCTS also contracts with TJ's Taxi to provide some demand response services. Previously, TJ's Taxi operated weekend service, but now CCTS has auxiliary drivers operate the necessary services on the weekends. In FY 2018, taxi service accounted for 11 percent of the total trips operated by CCTS.

CCTS has a 3-bag policy for shopping trips.

CCTS, like Rider, is part of the Emergency Management System (EMS) for Cabarrus County, which includes assistance with evacuations in the case of severe weather. If needed, CCTS staff can utilize chains on tires and will double up on drivers in inclement weather, since they provide passenger transportation to life-sustaining facilities.

Governance and Management

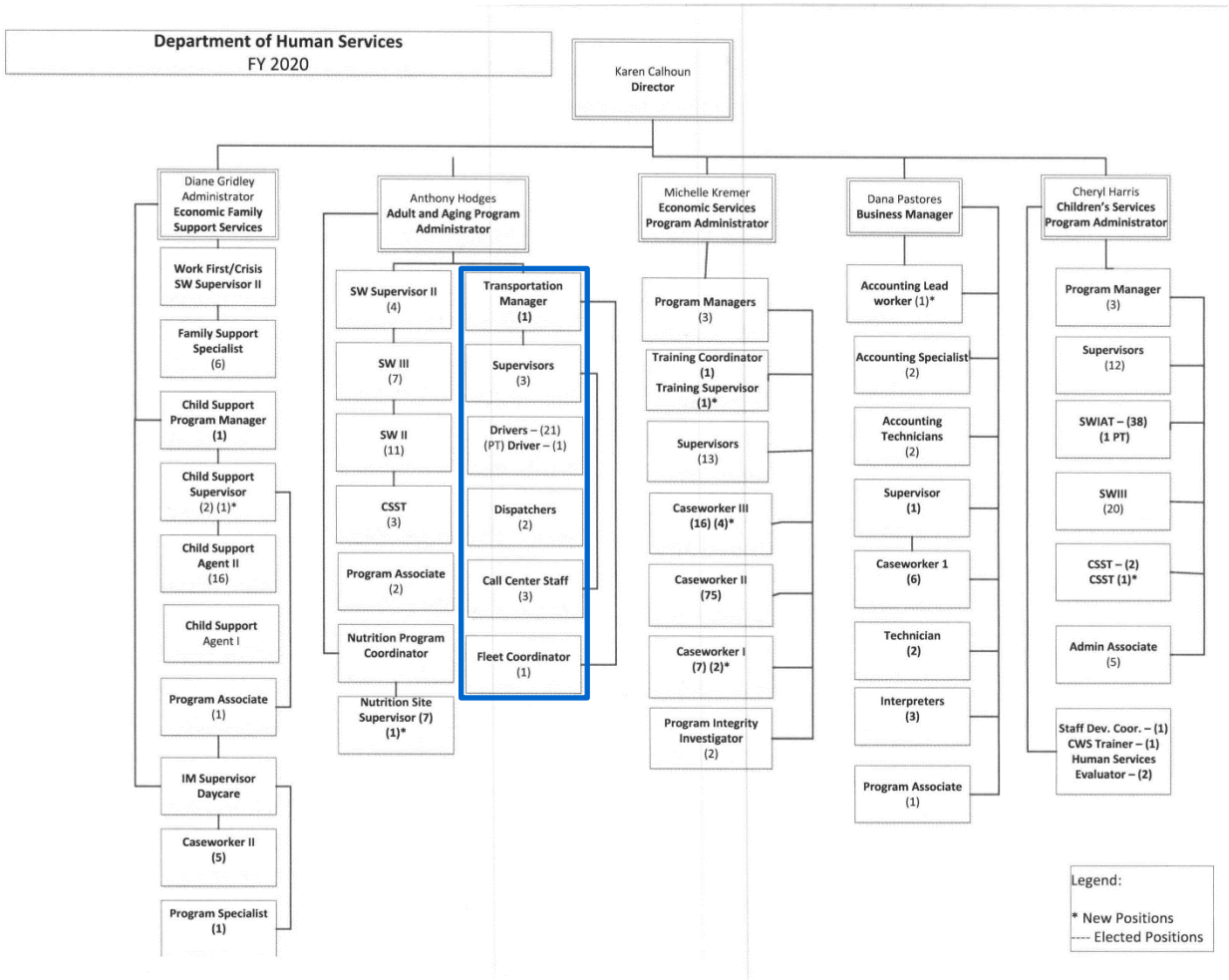
CCTS is a department of the Adult and Aging Program under the department of Human Services of Cabarrus County. An organization chart for the Department of Human Services is included as Figure 4-11. CCTS is governed by the County Commissioners with oversight from a Transit Advisory Board (TAB) consisting of citizens, interested 3rd parties, social service providers, and an elected official.

CCTS employs a Transportation Manager, 3 Supervisors, 2 dispatchers, 3 call center staff, 22 full-time drivers (40 hours), and one fleet coordinator.

Driver training is completed for all drivers on one Saturday per year from 7 am to 4 pm – the third Saturday in August. It includes Passenger Service & Safety training and other annual training requirements. Drivers are paid overtime for this annual training. As needed, additional coaching and training is provided for new drivers or those involved in an accident. Three Cabarrus County staff members are certified trainers. All CCTS staff are also required to complete all required Cabarrus County training. CCTS cycles drivers in and out to complete Cabarrus County training. CCTS also tracks lost time for staff needs such as employee illness and for mandatory county training. For FY 2018, CCTS averaged 565 lost hours per month, as compared to the average worked hours per month at 2,909 hours; approximately 17 percent of time lost every month.

CCTS generally tries to limit overtime in their driver schedules. However, with training and support activities such as the County Fair, there are a few times of year when it is necessary. For the County Fair, CCTS operates 4 vans to cover 2 parking lots during the first Saturday/Sunday and second Friday/Saturday of the event.

Figure 4-11: Cabarrus County Department of Human Services organization chart



CCTS Operation Facility

CCTS operations are located at the Cabarrus County facility, 1303 S. Cannon Boulevard in Kannapolis. The vehicles are stored in a secured, fenced area on one send of the building and dispatch and administrational staff are located on the other end of the building. Drivers use gate openers or a key pad to access the fenced storage area for access to the vehicles. There are also security cameras located on the lot. Vehicles are stored outside. Drivers complete a 10-minute pre-trip checklist when taking vehicles out of the lot for the initial service each day.

CCTS contracts with GMAX Automotive and Accessories on NC-49 in Mount Pleasant for vehicle maintenance. CCTS sends their contractor a weekly schedule for regular maintenance and washing. All vehicles are washed once weekly – a GMAX employee brings 3-4 vehicles one at a time between the CCTS lot and GMAX for washing every evening between 3 p.m. and whenever the washing is completed.

CCTS also schedules repairs, for buses under warranty or needing special attention, with Creative Bus on Orr Road in Charlotte. CCTS staff work in tandem to drive vehicles for scheduled drop-offs and pick-ups at the Creative Bus location.

Vehicle Fleet

CCTS has 20 revenue vehicles on the fleet roster. Each vehicle is lift-equipped with two wheelchair stations. Six of the vehicles have an 8-passenger capacity and the remaining 15 vehicles have a 10-passenger capacity[2]. CCTS also has two other nonrevenue vehicles on the fleet roster. The State of North Carolina owns all the CCTS vehicles with two exceptions. One exception is the vehicles that were used to operate the Cabarrus Links service, which operated Fixed Routeservice on three routes. The Cabarrus Links service was discontinued due to lack of available grant funding. The other exception is the three vehicles that are on loan from Cabarrus County. They will be replaced in the next round of vehicle procurement. The fleet roster is provided in Table 4-5.

Table 4-5: CCTS fleet roster

Year	Make	Seated Capacity	# Wheelchair Tie-Downs	Lift-Equipped Y/N	Date in Service	Odometer Reading July 25, 2018
2005	Dodge			N	3/20/2004	223,673
2008	Ford	10	2	Y	4/7/2008	245,695
2013	Ford	8	2	Y	3/7/2013	141,692
2013	Ford	8	2	Y	3/7/2013	181,153
2013	Ford	8	2	Y	3/7/2013	112,017
2013	Ford	8	2	Y	3/7/2013	150,557
2013	Ford	8	2	Y	3/7/2013	164,407
2013	Ford	8	2	Y	3/7/2013	152,114
2014	Ford	10	2	Y	4/25/2014	121,072
2014	Ford	10	2	Y	4/25/2014	128,513
2014	Ford	10	2	Y	4/25/2014	92,230
2015	Ford	10	2	Y	4/6/2015	76,941
2015	Ford	10	2	Y	4/6/2015	103,181
2015	Ford	10	2	Y	4/6/2015	84,375
2015	Ford	10	2	Y	4/6/2015	91,631
2016	Ford	10	2	Y	3/21/2016	58,795
2016	Ford	10	2	Y	3/21/2016	73,526
2016	Ford	10	2	Y	3/21/2016	63,743
2016	Ford	10	2	Y	3/21/2016	66,680
2016	Ford	10	2	Y	3/21/2016	65,627
2017	Ford	10	2	Y	4/18/2017	31,035

By Spring 2020, all 20 lift-equipped vehicles will have tablets with RouteMatch software and manifests and will be equipped with voice navigation via GPS. Drivers communicate with each other and the dispatcher via two-way radios. Every vehicle has an internal camera that offers four viewing angles.

CCTS uses RouteMatch scheduling software. However, it has not been since September 2015 so there may be some opportunity to improve efficiencies in scheduling with updated/enhanced software. In addition, the software is not connected to the robo-call telephone system to automatically remove trips cancelled through the robo-call. Currently, CCTS averages 220 trip request calls per day.

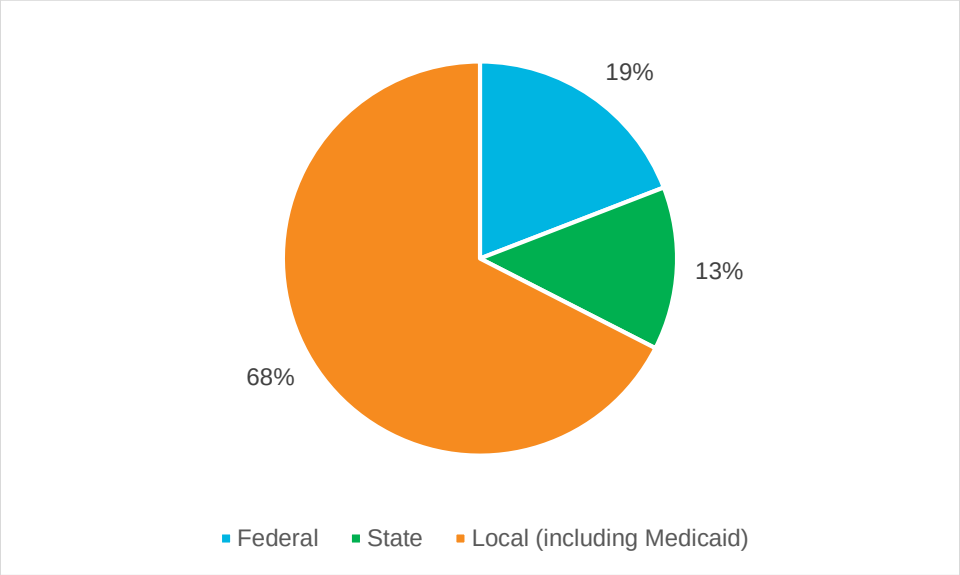
[2] Cabarrus County Vehicle Utilization Data Workbook, April 2018.

Operating Costs and Sources of Revenue

CCTS 2018 budget was $2,043,779. CCTS only charges a fare for the Rural General Public trip type at $3.00 for each leg of the trip. This results in them relying on contract revenue to offset expenses.

Operating and Capital revenue for CCTS includes federal ($213,310), state ($304,840), and local (including Medicaid reimbursement) ($1,074,984) assistance.

Figure 4-12: CCTS sources of revenue



Revenues used to support the provision of service include the following:

- Federal Transit Administration Section 5307, 5310 and 5311
- North Carolina Public Transit Division Program Funds
- North Carolina Department of Health and Human Services - Medicaid
- Cabarrus County

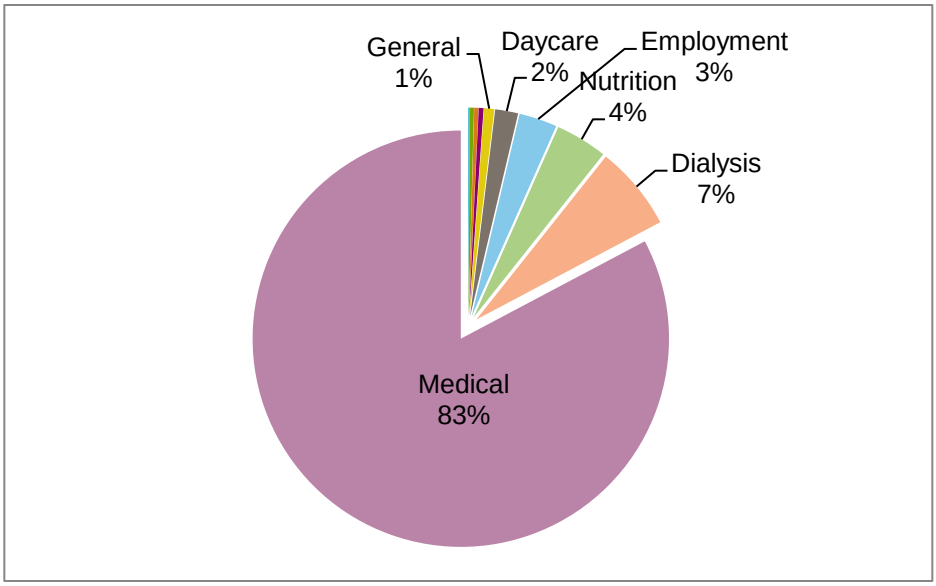
Marketing and Branding

CCTS does very little marketing as they are generally at capacity with the number of trips they can provide given the funding level for current programs. Several CCTS vehicles still have the American flag design, but are being converted to the Cabarrus County Seal, which should be completed by the end of 2020.

Ridership

In FY 2018, CCTS served 89,916 total riders. Most CCTS riders use the service for medical appointments – 90 percent when including all medical appointments, including dialysis as shown in Figure 4-13. Nutrition, employment, and daycare make up other 9 percent of riders and general purpose rides comprise the final 1 percent. School, pharmacy, and other/miscellaneous trip purposes are also provided, but are too few to compute in this summary.

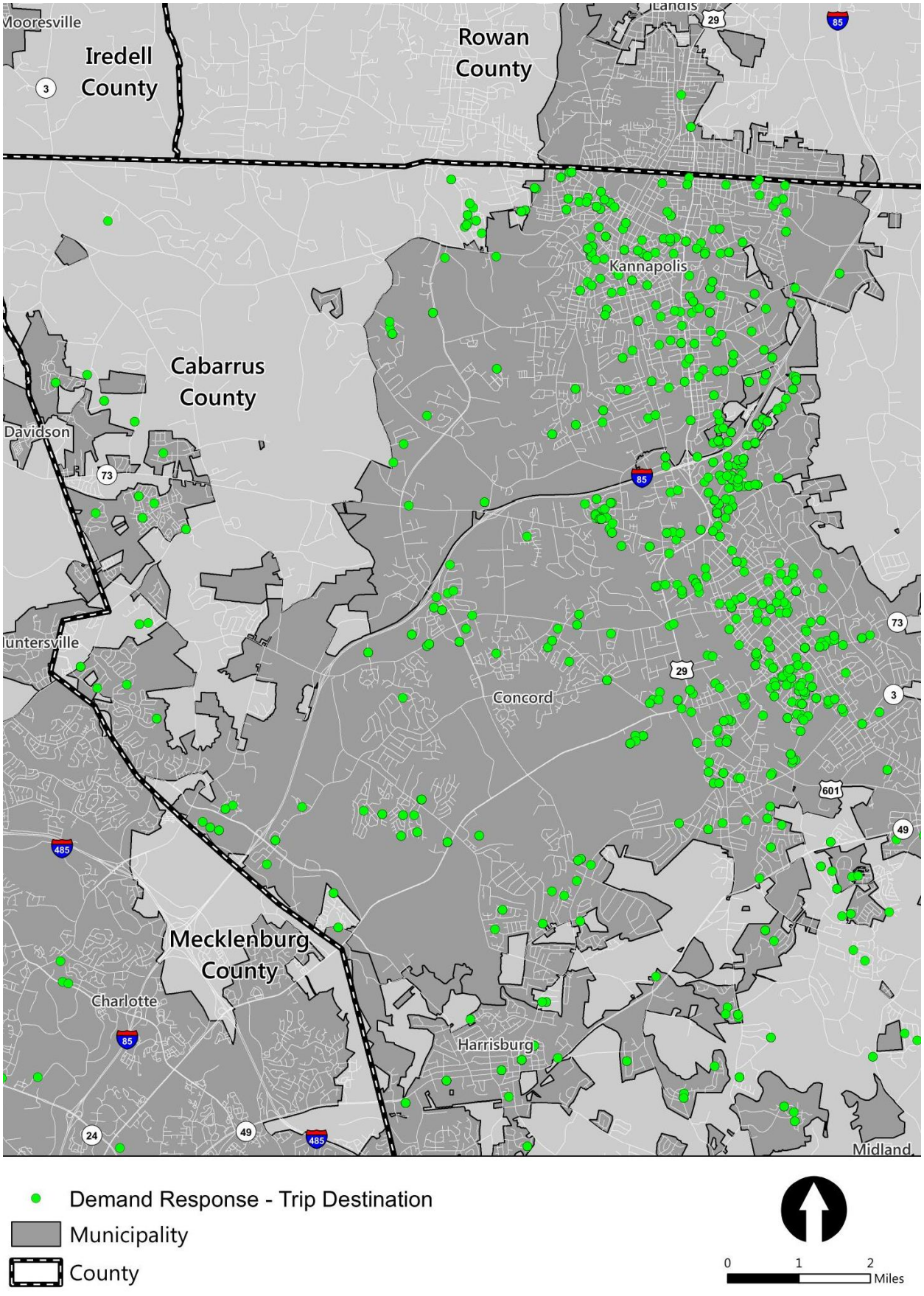
Figure 4-13: CCTS trip purpose



Service Patterns

Because CCTS provides demand response service that must be reserved in advance, every origin is also a destination and every destination is also an origin. For example, for a trip to a medical appointment from someone's home, a person is picked up at home (origin) and driven to a doctor's office (destination) in the morning, but in the afternoon, the person is picked up at the doctor's office (origin) and dropped off at home (destination). For that reason, only trip destinations are shown in Figure 4-14. The destinations shown are from a one-week trip sample from CCTS. During that week, there were 2,133 trips provided. The most popular destination was Medical Park Drive in Concord. Destinations were generally concentrated in a north-south zone along US Route 29 in Kannapolis and Church and Union Streets in Concord. Origins were spread throughout the county. CCTS also provides some transportation beyond the county border for eligible trips. CCTS provides service to Charlotte, Mecklenburg County destinations, Winston-Salem, Raleigh-Durham and Charleston, SC.

Figure 4-14: Local one-week sample of CCTS origins and destinations



CCTS Performance Data

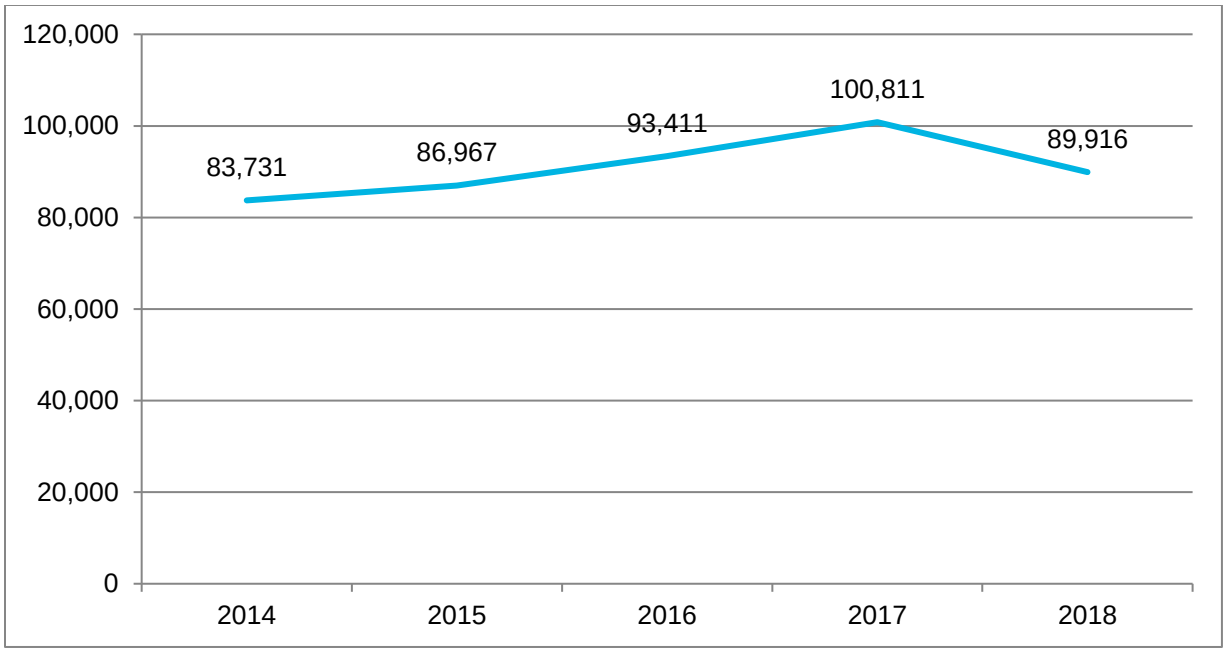
CCTS is funded by different programs, but trips from all different programs are scheduled the same. All service is provided the same way; therefore, CCTS performance is discussed on a system-wide basis. CCTS has the two following primary service goals:

1. 2+ trips per hour per vehicle
2. 98 percent or better on-time performance

Ridership

In the past five years, total passenger trips increased through 2017, then has decreased in the last year. The trend is shown in Figure4-15. The average of annual passenger trips over the past five years is 90,967.

Figure 4-15: CCTS ridership FY 2014 - FY 2018



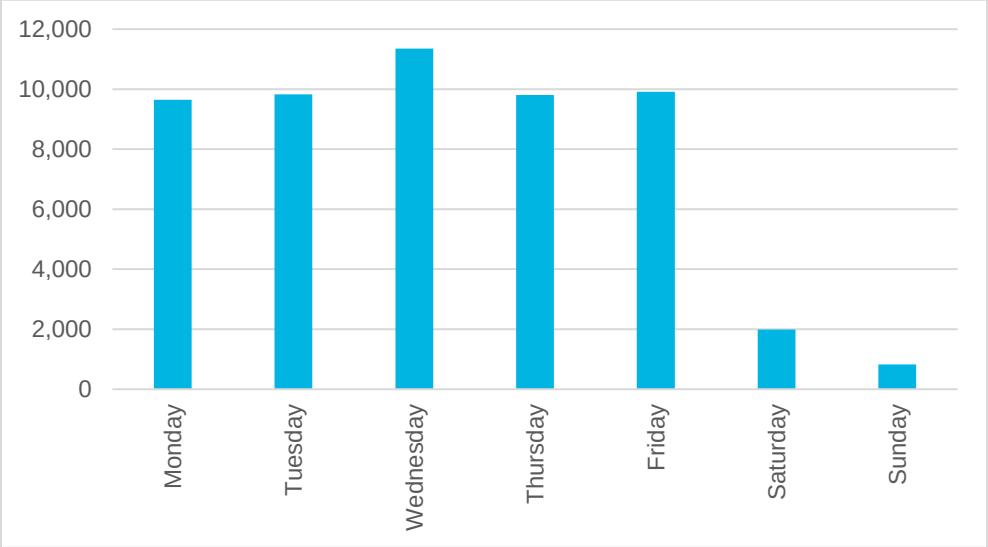
On-Time Performance

CCTS currently has a 99.9 percent on-time performance due to their large pick up windows. This can also be attributed to experienced schedulers and attentive drivers. Drivers let their colleagues know across the radio when they encounter traffic congestion or accidents so that others can avoid delays.

Operations

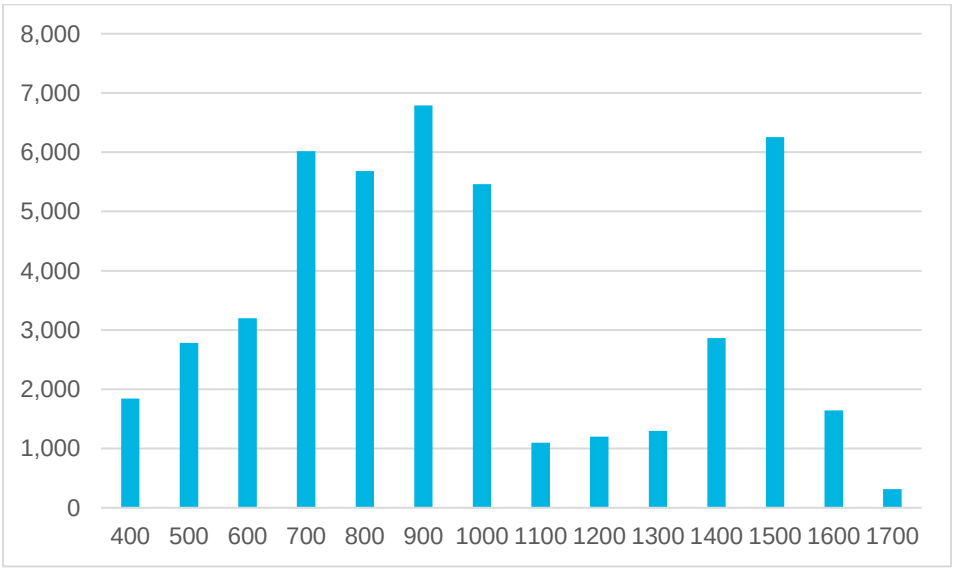
In 2017 CCTS provided approximately 460 trips per day, but the estimated daily trip totals decreased in 2018 to 400 trips per day. The busiest day of the week is Wednesday due to out of county trips. Trips by day of the week are summarized in Figure 4-16.

Figure 4-16: FY 2018 trips by day of week



Service is generally operated from 4 am to 6 pm, but a few trips per year extend beyond the 6 pm hour when extenuating circumstances occur. In FY 2018, 9 am to 3 pm were peak service hours with fewer trips scheduled between 11 am and 2 pm This is due to the recommendation of scheduling appointments between 8 am to 11 am and return trips must be scheduled prior to 4 pm. Trips by time of day for FY 2018 are summarized in Figure 4-17

Figure 4-17: FY 2018 trips by time of day



System Performance

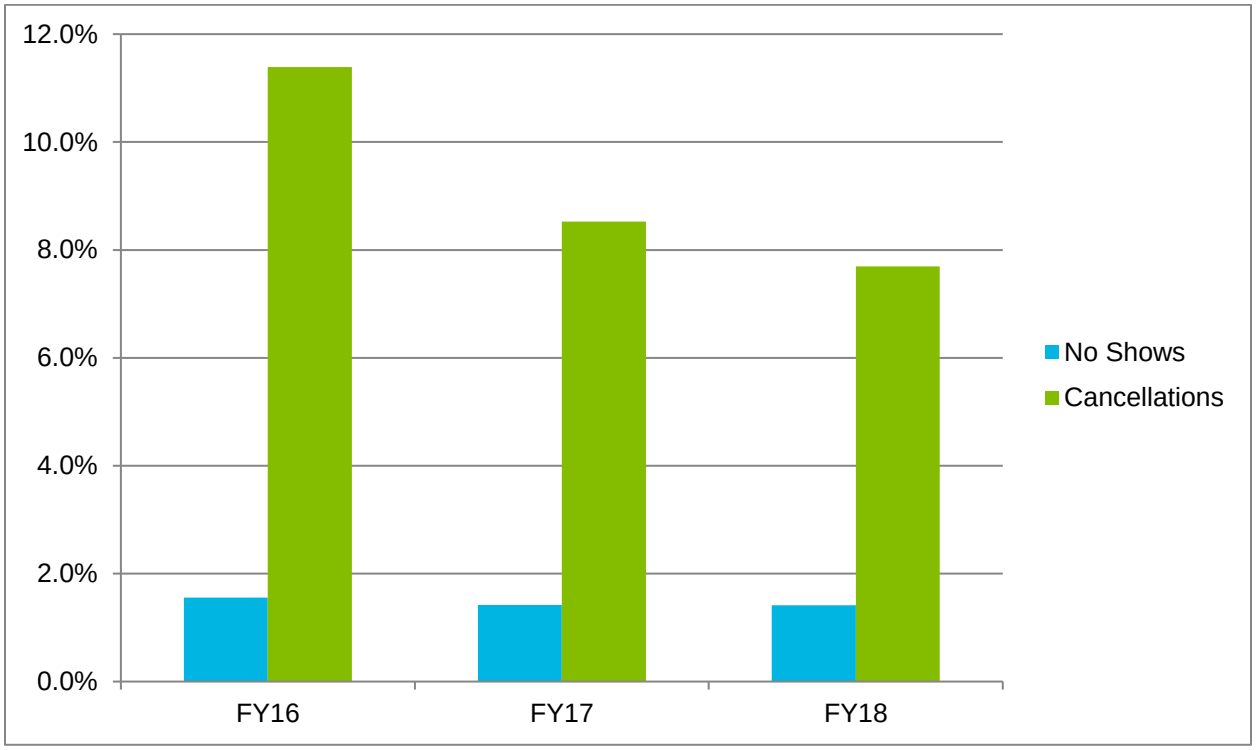
The CCTS service had the following performance statistics for FY18:

- Cost per trip: $22.73
- Trips per hour: 2.6
- Trips per mile: 0.17

CCTS is currently performing better than the statewide average (1.93 Trips per hour) and less than the statewide average in cost per trip ($20.30). System-wide, CCTS is exceeding the two performance goals set forth by Cabarrus County for on-time performance and trips per hour.

Recent improvement in performance is in part due to the decrease in both cancellations and no-shows. From FY16 to FY18, the percentage of no-shows and cancellations in conjunction with the total passengers served is shown in Figure 4-48. No-shows have decreased from 1.6 percent to 1.4 percent and cancellations have decreased from over 11 percent to under 8 percent. The reductions totals 4,672 fewer cancellations over the two-year period. The reduction of no-shows and cancellations can significantly improve efficiency in service scheduling and impact both on-time performance and customer satisfaction.

Figure 4-48: CCTS percentage of no shows and cancellations FY16-FY 2018



System Data Combined

For a 2 month comparison, 32 individuals rode with both CCTS and Rider, and additional 37 individuals who took a trip with CCTS are certified for ADA Paratransit transportation. Of the 696 addresses Rider served, CCTS also served 380 (54.6%), and of the 12,574 CCTS trips, Rider served the same origin or destination 3,225 times (25.6%).

Table 4-6: Comparison of total Trips

	2016	2017	2018
Fixed route	415,208	406,760	416,808
CCTS	93,411	100,811	89,916
ADA Paratransit	7,391	10,187	11,076

Other Transportation Providers

- The Charlotte Area Transit System (CATS) operates bus, rail, and paratransit services in Charlotte and the greater metroplex region. Connections between Rider and CATS enable regional mobility by transit. Rider's Red route connects with CATS bus route 54C at Concord Mills and the Rider CCX route connects with the CATS LYNX Blue Line light-rail system at the JW Clay Station. Trips originating in one system transfer free into the other.

- Salisbury Transit serves the residents of Salisbury, Spencer, and East Spencer with three weekday and two weekend fixed routes. These routes provide connectivity to Livingstone College, RCCC Salisbury campus, Salisbury Train Station, and Veterans Affairs Hospital.

- The RTS operates countywide demand response human service transportation in Rowan County. In addition to demand response services, RTS operates the Rowan Express service, which connects Salisbury, China Grove, Landis, and Kannapolis. The express route operates Monday through Friday, from 5:19 a.m. to 10: 45 am and from 1:10 am to 6:45 p.m. and costs $1.00 per one-way trip. It departs from the Salisbury Bus Station and stops at the Employment Security Commission, China Grove Town Hall, Food Lion, South Rowan YMCA, Landis Town Hall, and Kannapolis Train Station. The route connects with Rider routes Blue and Brown at the train station. Transfers between the transit systems are free. Rowan Transit System's express service makes the connection between the Salisbury Transit and the Rider system.

- Amtrak connects the Cabarrus County region with multiple destinations in North Carolina and along the East Coast. There are four northbound and four southbound trains that stop at the Kannapolis Train Station daily. The train routes serving the station include the Piedmont service between Charlotte and Raleigh as well as the Carolinian, which operates between Charlotte and New York. Rider, CCTS, and RTS all provide bus service from the station. The station is located one block from the North Carolina Research Campus and is open from 6:30 a.m. to 1:00 p.m. and from 3:00 p.m. to 8:30 p.m.
  Rider Transit partners with the North Carolina Department of Transportation (NCDOT) Rail Division to offer a transit pass to provide last mile connectivity from the Kannapolis Train Station. The pass allows train passengers to connect to the Rider bus service free of charge from the train station. It is valid for one trip and one transfer on the day of train travel.

- There are several private taxi companies in Cabarrus County, including Ace Taxi, Concord Taxi, Knox Taxi Service, On Time Taxi, Yellow Cab, and TJ's Taxi. Furthermore, rideshare companies Lyft and Uber operate throughout Cabarrus County and the surrounding region.

5. Public Engagement

Public Engagement was a critical component of the Cabarrus County Long Range Public Transportation Master Plan. The input received from the community and stakeholders provided direction for the development of recommendations for the plan. The public engagement process was conceived as a multi-prong approach where several different methods were used to reach out to the public and gather input. Input from riders and non-riders, business partners, health care providers, social services agencies, and elected officials was collected in innovative ways, and directly influenced the development of the plan recommendations. The methods used to gather input were as follows:

- In person and online community surveys that included transit riders and the community at large
- Pop-up events
- Public meetings
- Steering Committee meetings
- Elected Officials meetings

More than 1,200 members of the community participated in the public engagement process. Below is a summary of the activities and results:

- Community Surveys: four different types of surveys were applied, targeting riders from both systems and the community at large. Sample survey pages can be found in Appendix E.

  1) Fixed Route On Board Survey (302 riders participated). This survey provided information about the rider's demographics, preferences, and origin and destinations.
  2) CCTS Demand Response and Rider ADA survey (38 riders participated). Similar to the Fixed Route surveys, these surveys were administered to riders on board.
  3) Community Surveys (437 community members participated). This survey was administered through Survey Monkey and distributed through agencies websites, and the project Facebook page.

- Pop-up events and public meetings (approximately 450 community members participated in these events): four pop-up events were held as part of the public engagement process. The study team attended the Kannapolis Fire Safety Festival, the Latino Festival, Cabarrus Brewing Company and 26 Acres Brewing Company.

- Two public meetings were held to present the recommendations to the public. The first public meeting drew 30 people. The event was held at the Rowan-Cabarrus Community College, South Campus location along the red/yellow routes. The second public meeting was held at the Rider Transit Center; 16 people attended this event. The general comments were positive and in support of expansion of the fixed route. Examples include:

  - Route Kannapolis to Costco in Mooresville
  - Increase sales tax by 1cent
  - Increase taxes on fuel
  - Increase alcohol taxes
  - Funding from universities and companies
  - Make route convenient for students

- Good job in putting together the plan
- Need a stop at GW Lyles at Laurel Park and Legacy apartments on proposed route 302
- Quicker connection to Salisbury and Rowan County
- Express service between RCCC North South Campuses
- Partner between 4 systems to accomplish the above
- LRT should run a stop close to Barber Scotia College
- Build social media advocacy for light rail
- Raise taxes on fuel for public transportation
- What about streetcars, would that be cheaper/better than light rail?
- How about a route to Huntersville, what's the environmental impact?
- I believe it is a great plan simply because the metro areas are growing (Charlotte – Concord)
- I suggest that more buses end at major shopping destinations or work destinations such as Northlite Walmart, International Drive." "These Routes should be express. Meandering through town to get to work or shop is enough already." "Add more Bus Shelters!" "Speak to drivers about being cordial to passengers! Some don't even speak to you."
- Connect Bus Route to Christenbury-Cox Mill and Highland Creek."" "Joint gateway trailhead and bus stop parking" (this is in reference to Parks and Rec). "Poplar Tent to Moss Creek Route"
- "Love the idea about improved frequency and connecting to Charlotte"
- Cameras should be installed on the buses
- Improve customer service and increase number of phone lines
- Why not use smaller buses to conserve fuel?
- Can we have a way to track the buses?
- Why is the bus Wi-Fi always out?
- Summarize/Post Process of Shelter Installation
- During shift change, the sense of urgency to shift change is missing" "Drivers need to address rules being broken, Thank you"

- Focus groups attracted approximately 100 participants. Four focus groups were held with different stakeholders representing the community to capture their ideas and wants for the plan. The four different focus groups included riders, social service agencies, business partners, and government agencies.
- Steering Committee meetings: Three meetings were held with the Steering Committee at different stages in the process. The Steering Committee was composed by of members of the community that have interest in transit and social service agencies. They helped the study team define the study goals and objectives and provide input as the study advanced. The following individuals and agencies were part of the Steering Committee:

- L.J. Weslowski, Rider Transit
- Andy Christy, Rider Transit
- Jill Morgan, Rider Transit
- Jaime Tippett Poe, Rider Transit
- Bob Bushey, CCTS
- Anthony Hodges, CCTS
- Jonathan Marshall, Cabarrus County
- LeDerick Blackburn, City of Concord
- Eddie Smith, City of Kannapolis
- Angela Graham, City of Concord
- Pete Wallace, Transdev
- Phil Conrad, Cabarrus Rowan MPO
- Ed Hosack, Cooperative Christian Ministry
- Marcella Beam, Cabarrus Health Alliance
- Donna Carpenter/John Mills, Cabarrus County Visitors Bureau
- Barbi Jones, Cabarrus Regional Chamber of Commerce
- Robert Carney/LeeAnn Nixon, Cabarrus Economic Development
- Theeresa Isibor, International Center for Community Development
- Janet Spriggs, Rowan Cabarrus Community College
- Timbs Fulghum, Atrium Health
- Natasha Lipscomb, Rowan Cabarrus Community College
- Katie Kutcher, Centralina Council of Governments

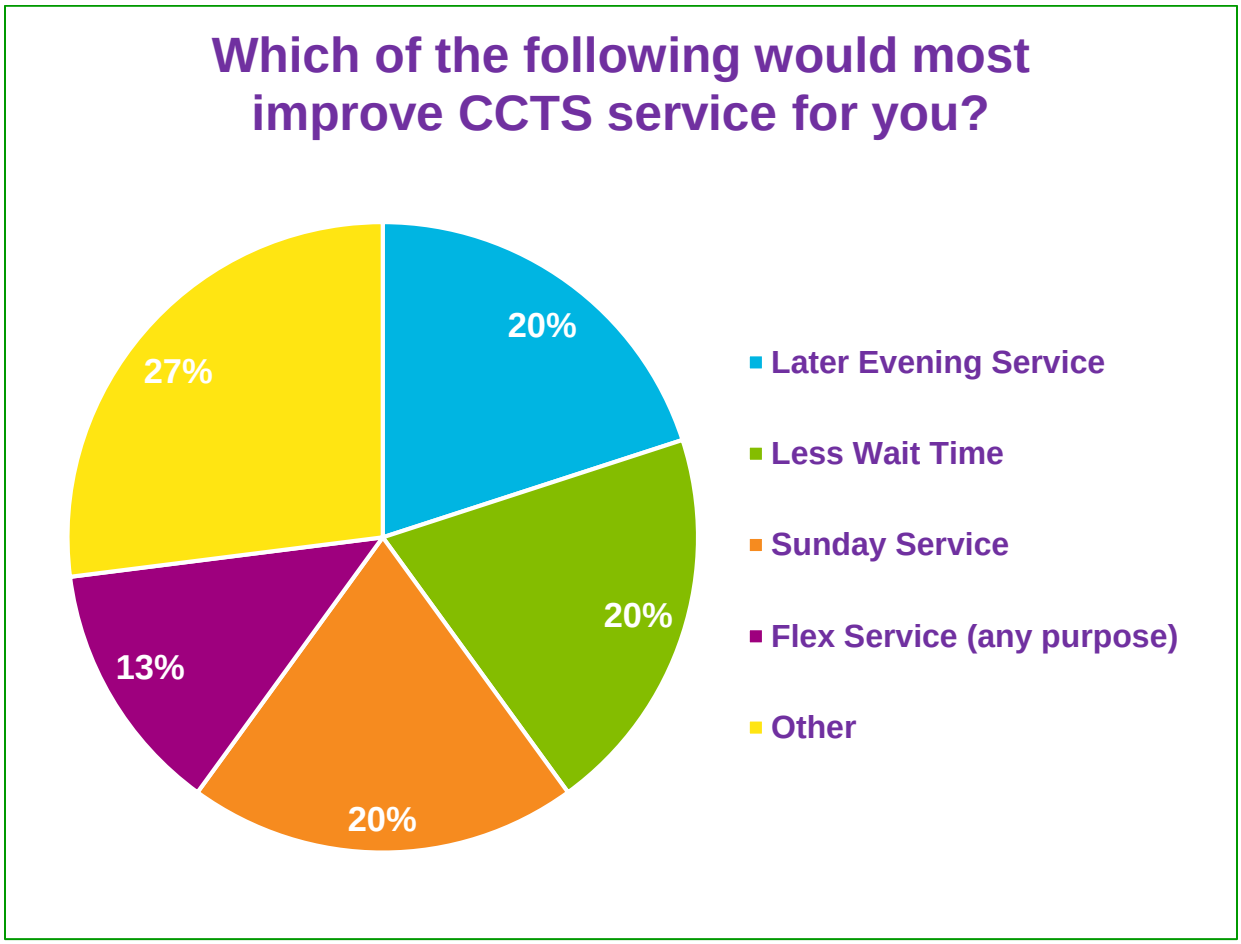
- Meetings with Elected Officials: Four meetings were held with senior management from the Cities of Kannapolis and Concord and Cabarrus County. Two additional meetings were held with the Transit Commission and one meeting with the Towns' and Cities' elected officials and senior management representatives in the region at a quarterly Cabarrus Summit meeting.

CCTS Survey results

The survey asked CCTS riders what type of service improvements would improve service the most. The three most desired improvements were listed as the following (Figure 5-1):

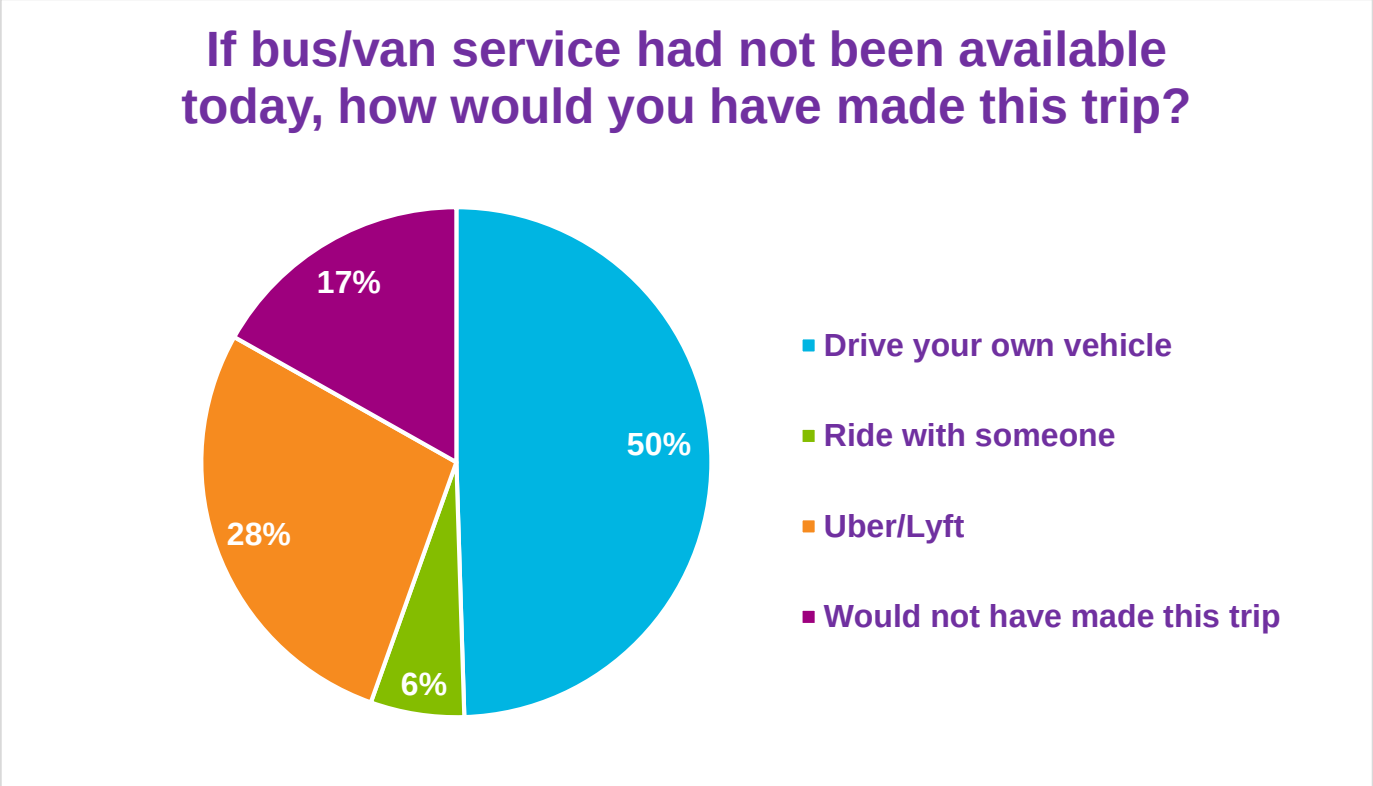
- 40 percent of riders would like later evening service and Sunday service
- 35 percent ride one to five times a week
- 35 percent have been riding more than 2 years
- 30 percent ride for convenience and 25 percent don't drive

Figure 5-1: CCTS riders' most desired improvements



They were also asked: If bus/van service had not been available today, how would you have made this trip? Results are listed in Figure 5-2.

Figure 5-2: CCTS riders' other transportation options



CCTS Riders were also asked where they would like the bus/van to go that it does not go today. Some answers are listed below:

- Harrisburg
- Target
- Poplar Tent
- UNCC

Rider On-board Survey Results

Rider's passenger surveys included questions such as:

- Which three of the following service improvements would make Rider service better for you to use?
- If bus service had not been available today, how would you have made this trip?
- Would you recommend Rider to your family and friends?

Figure 5-3: Rider riders' most desired improvements

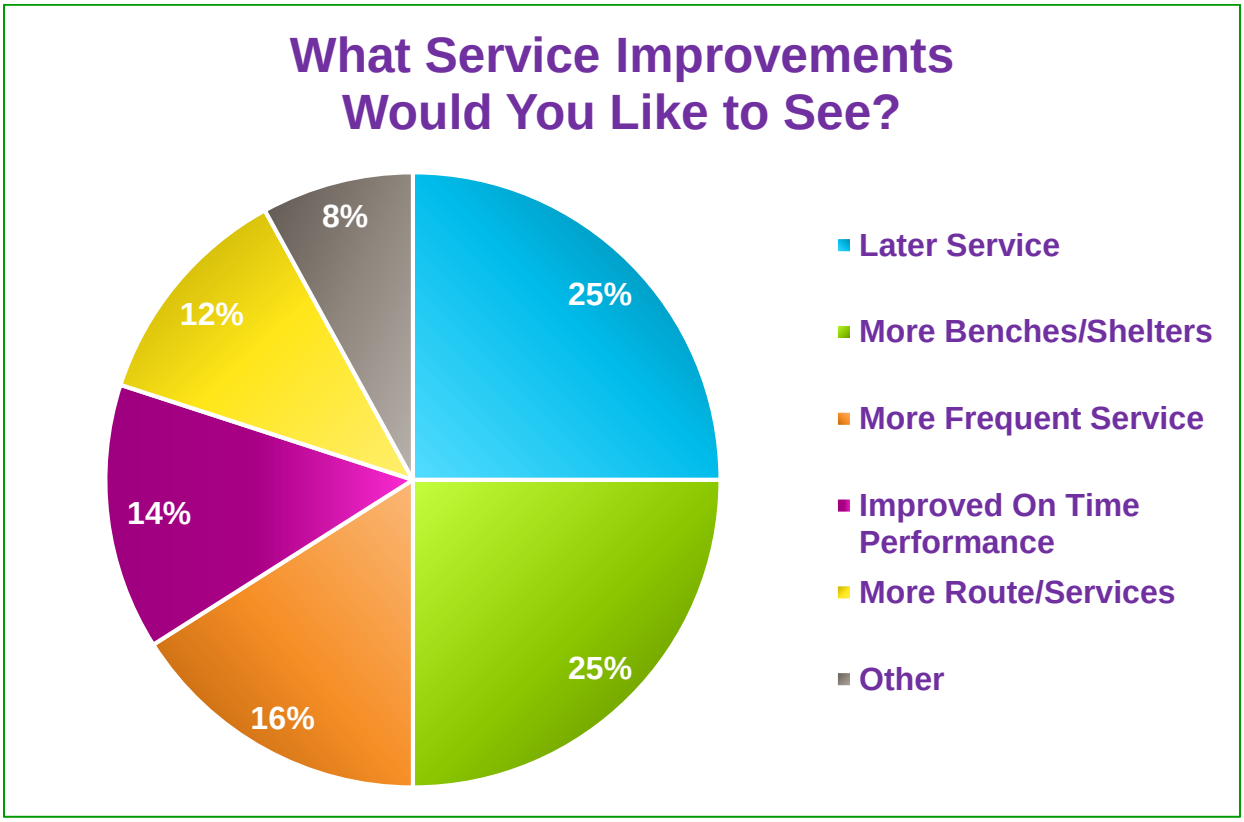


Figure 5-4: Rider riders' other transportation options

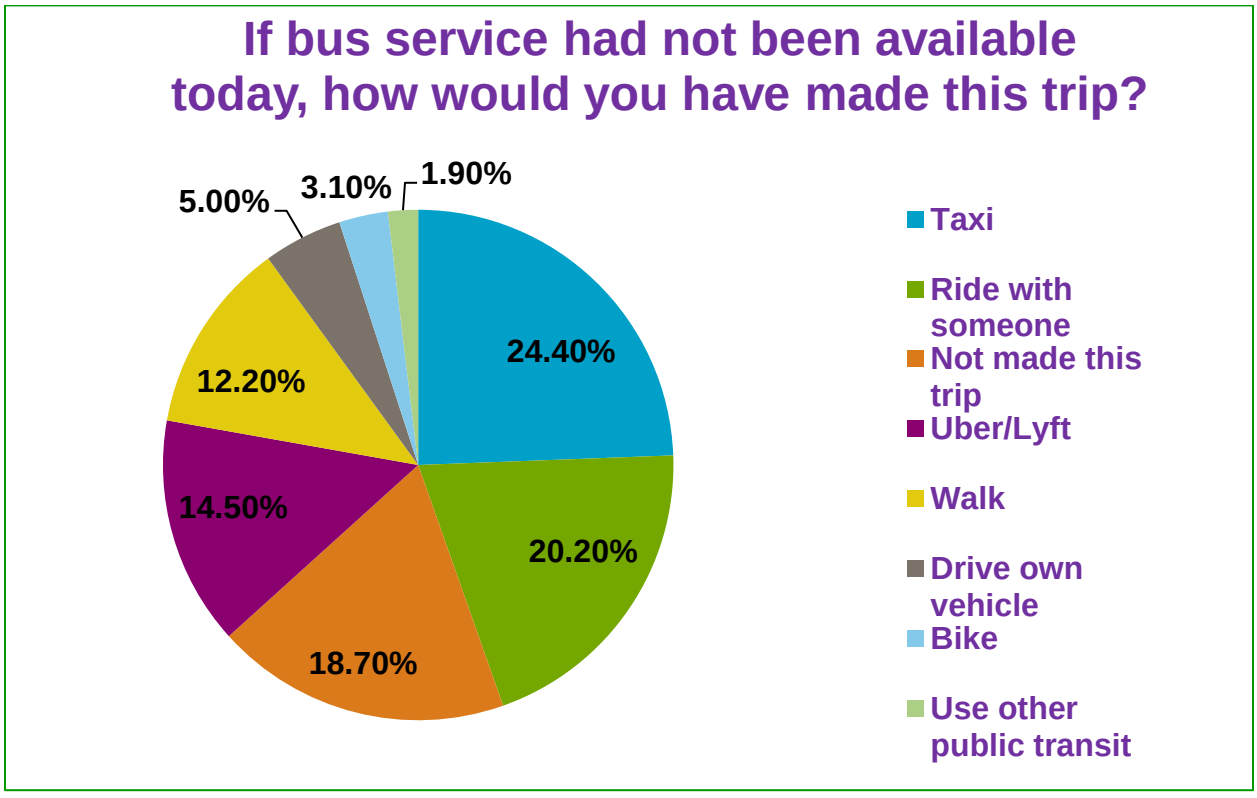


Table 5-1: Would you recommend Rider to your family and friends

Would you recommend Rider to your family and friends?	Frequency	Percentage
Yes	275	93.9 %
No	18	6.1 %

Community Results

Figure 5-5: Community's reasons for using transit services

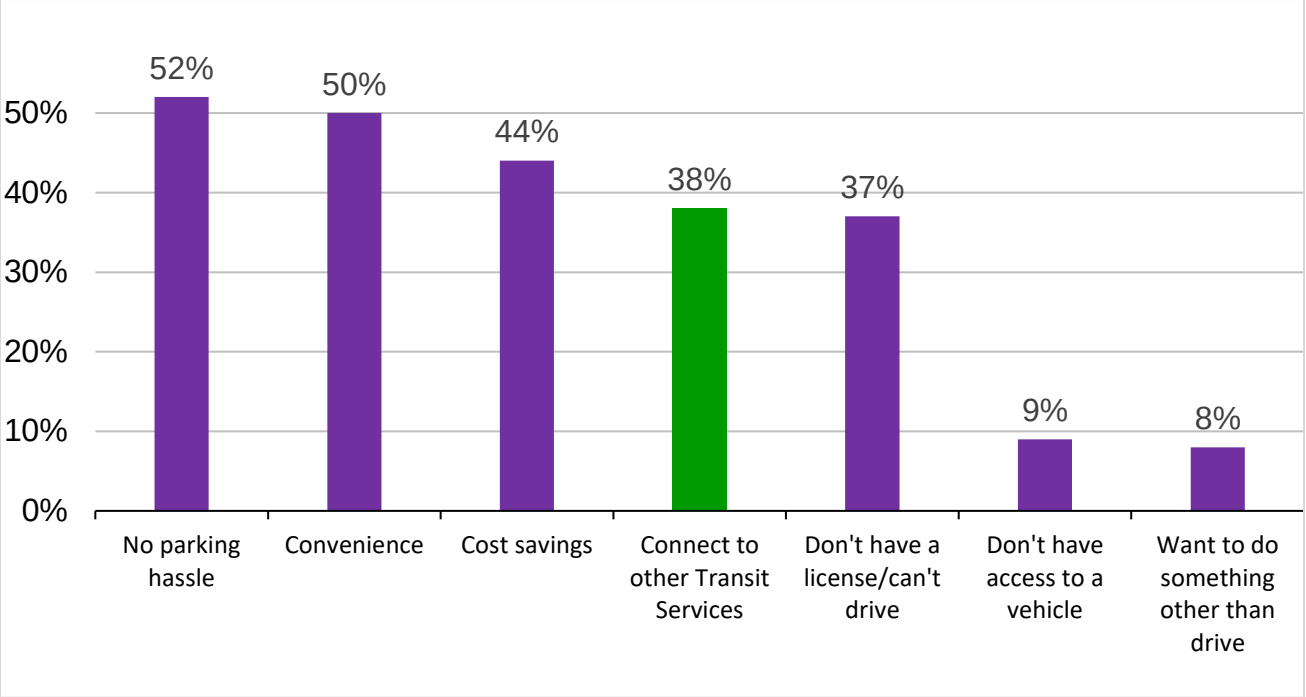
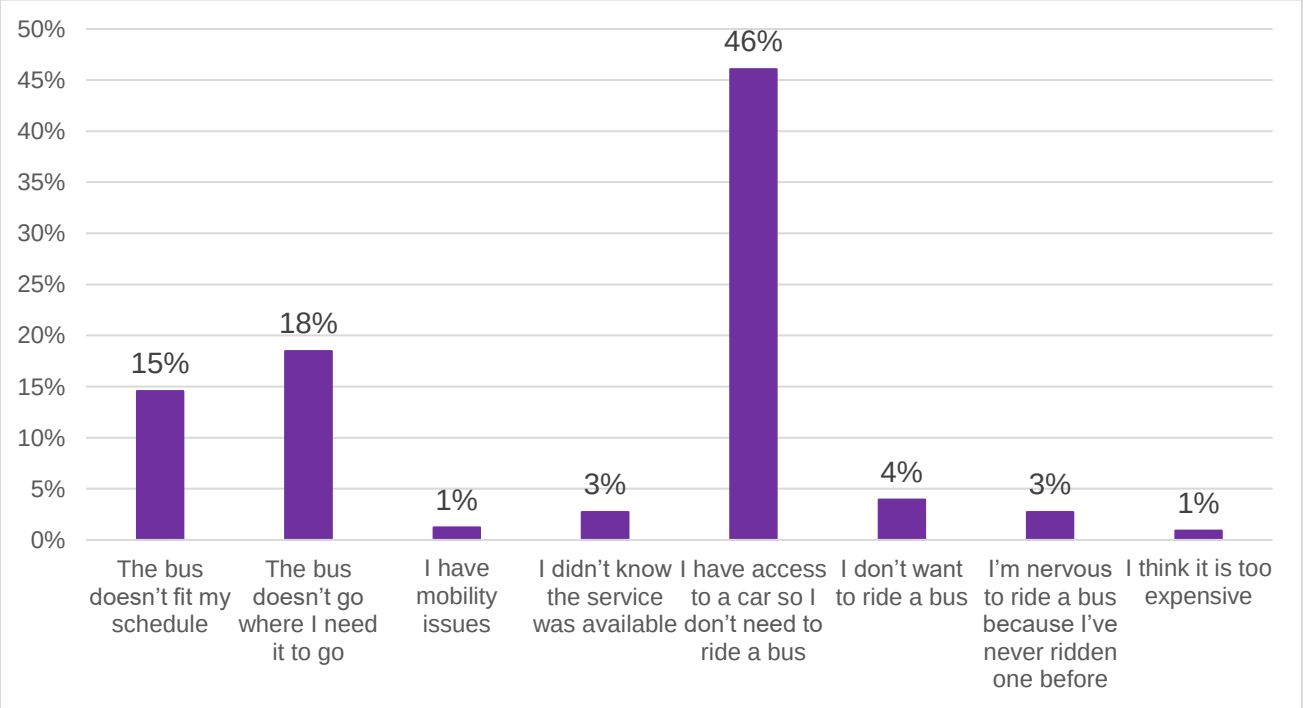


Figure 5-6: Community's reasons for not using transit



The Community was also asked where they would like the bus/van to go that it does not go today. Some answers are listed below:

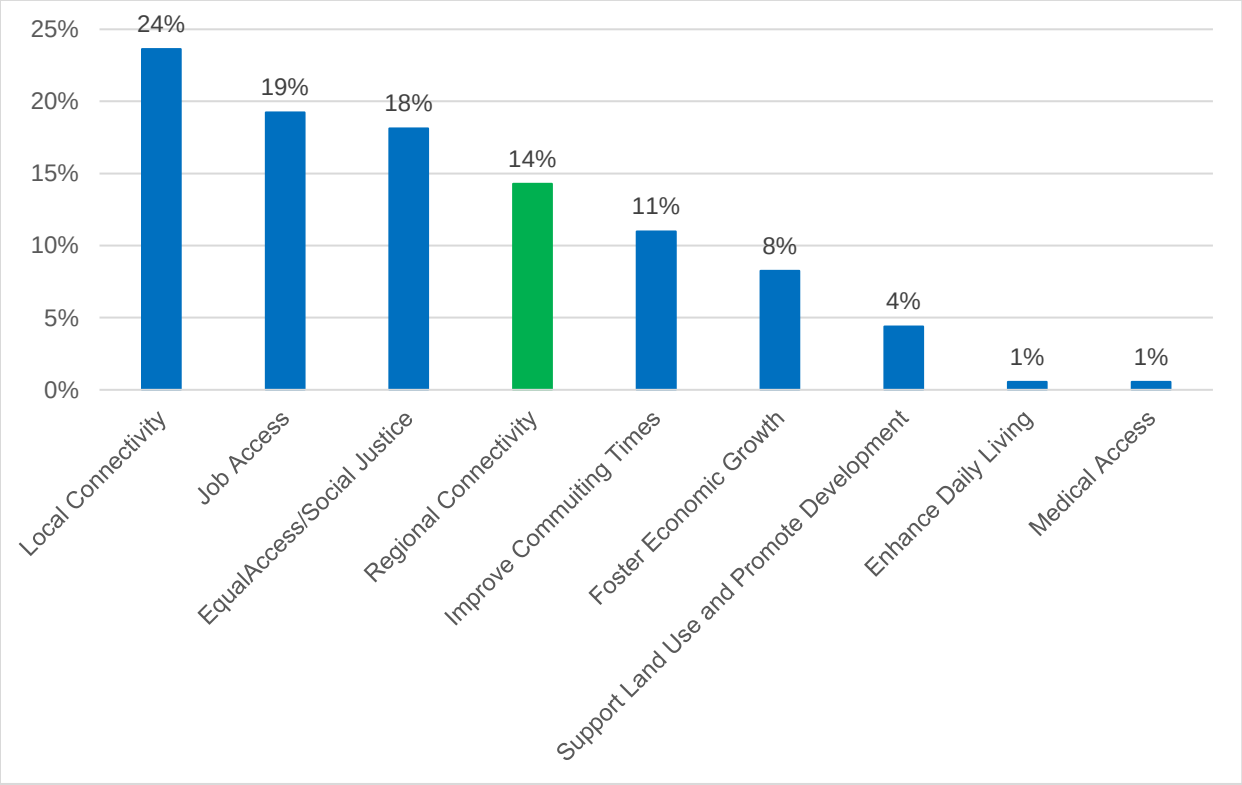
- Gastonia
- Harrisburg
- Frank Liske Park
- Salisbury
- Mooresville
- Airport
- South Union Street
- Huntersville
- Midland
- South Park Mall
- Weddington Road
- Mount Pleasant
- From Harrisburg to Light Rail
- From Kannapolis to Light Rail
- Amazon
- University Area
- VA in Salisbury
- Downtown Concord
- Uptown Charlotte
- Cornelius
- Lake Norman

Focus Groups and Steering Committee

The first questions asked to stakeholders and focus groups was what they considered to be the role of public transportation in the community.

There were several answers that stood out. Local connectivity received most votes (24 percent), followed by job access (19 percent) and equal access/social justice (18 percent). Again, regional connectivity is represented in green (14) percent See Figure 5-7.

Figure 5-7: Role of public transportation in the community



The stakeholders and focus groups were asked about the highest priorities for public transportation. They were given the option to vote for multiple priorities or use all their votes on one priority. Their results were combined and showed that overwhelmingly the highest priority is to provide expanded hours of service, this includes later evenings and earlier morning service (125 votes). This result coincides with the rider's most requested improvements.

The second priority is to expand local connectivity with more routes and access to more locations (77 votes) followed by regional connectivity, again shown in green (58 votes). See Figure 5-88.

Figure 5-8: Priorities for public transportation in the next 20 years

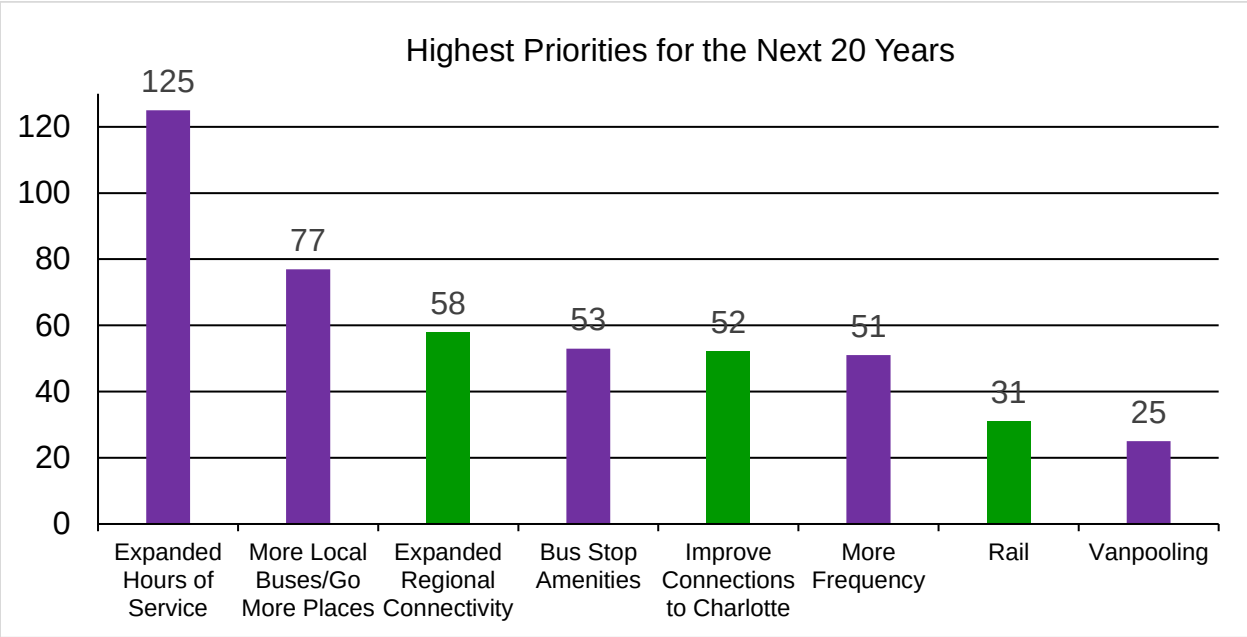
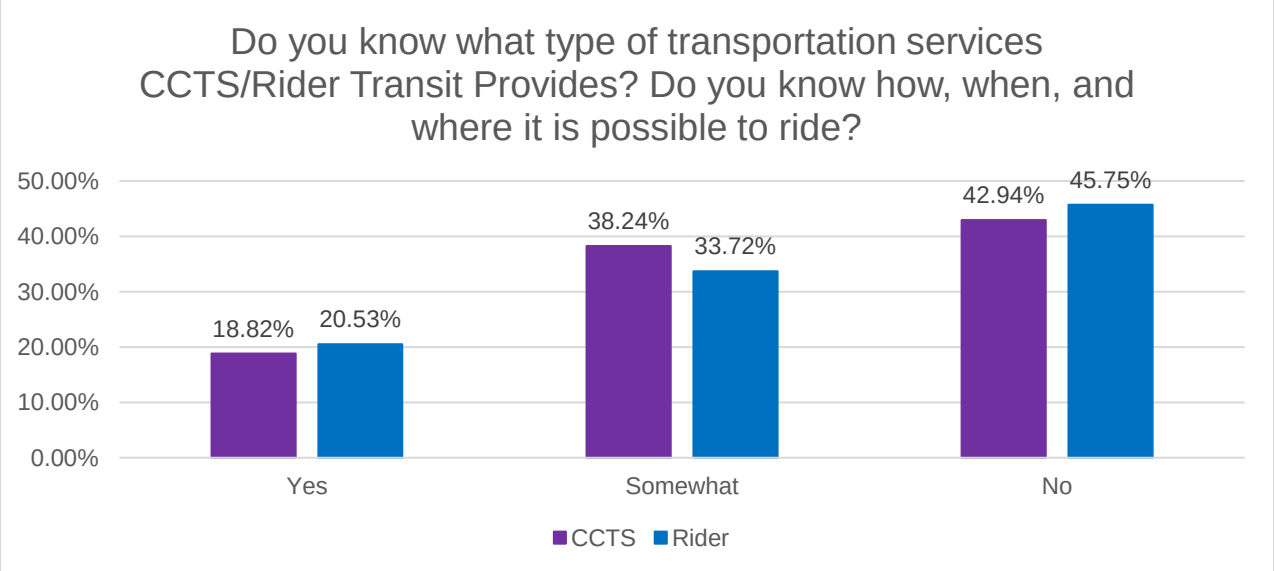


Figure 5-9: Awareness of CCTS/Rider Transportation Services



Potential Regional Connections

The Steering Committee was asked to identify potential regional connections for transit service during their meeting on September 27, 2018. The committee identified several adjacent and nearby communities and destinations that transit users may benefit from having access to. Those communities are as follows:

- Huntersville
- Cornelius
- Davidson
- Salisbury

The committee was also asked to identify potential vanpool opportunities with businesses or regions in or near the County. Some of the opportunities that the Committee identified were the following:

- Manufacturers on Concord Parkway
- The Carver and/or Logan Communities – these are low income communities
- The Corning plant in Midland
- The Amazon facility on Derita Road
- Poplar Tent/Derita area
- Metrolina Greenhouses

6. Systems Consolidation Considerations

The purpose of this section of the Long Range Public Transportation Master Plan study is to determine if consolidating Rider Transit and Cabarrus County Transportation Services is feasible and advisable. In addition, the project team has developed alternatives to consolidation to present a full menu of options to the transit services within Cabarrus County and the cities of Concord and Kannapolis.

This document contains a description of the approach, findings and results of the consolidation study for Cabarrus County Transportation System and Rider Transit in the cities of Concord and Kannapolis.

Stakeholder Involvement

The steering committee and other important project stakeholders have been engaged in this project with several recurring meetings and discussions. The project team and staff from Rider Transit and CCTS met on a weekly basis to discuss the project details related to various aspects of the Long Range Public Transportation Master Plan and the consolidation portion of the study.

The project team held a project stakeholder meeting with the City Managers of Kannapolis and Concord, the Cabarrus County Administrator, Rider's Transit Director and the Transit Manager of CCTS on October 12th, 2018 to discuss consolidation of the two transit systems and to gather initial input from the group. The discussion centered on several important consolidation factors including governance, personnel, funding, and labor agreement implications. Cabarrus County, Concord, and Kannapolis have a strong history of collaborative efforts, but no other consolidation efforts exist in the county for any other type of community service.

Governance and leadership of a potential transportation authority were among the issues discussed since Concord and Kannapolis are both contained within Cabarrus County. In addition, representation for a newly created authority was discussed. The composition of the board would have to be composed equitably with each member jurisdiction represented and bylaws created determining potential term limits on board members and rules related to election and replacement of board members.

The funding of a potential consolidated system, whether it be an authority or be led by one of the two partner transit systems was discussed at the meeting. Implications of potential funding sources along with the federal lead agency designation are to be considered. Currently federal and state funds both are allocated to both transit agencies.

Other potential issues related to consolidation discussed at the meeting were the potential perception for the loss of control of the transit system. In addition, consolidation of the two systems will necessitate in the construction of a larger facility to house the capital assets of the systems and to allow staff from both systems to eventually come together as one. More detail concerning this new potential facility was discussed and a study would be undertaken for the facility location, size, and projected cost of the facility. The capital costs for the consolidation were discussed to be distributed equitably amongst the municipalities.

Finally, the project stakeholder discussion deliberated about "deal-breakers" for consolidation. Each of the municipalities in the meeting expressed that if substantially more funding were required by each of them, this would not be optimal for consolidation of transit services. The need for providing efficient and more cost effective trips would also need to result from the consolidation. Furthermore, Cabarrus County Transportation Services does not currently have a unionized agreement, whereas Rider Transit does have a union agreement with Sheet Metal, Air, Rail, and Transportation Transportation Division (SMART TD). This labor distinction was discussed between the non-unionized County service and the unionized Rider Transit service as work rules and labor costs will need to be assessed for each one of the groups. This includes concerns about CCTS Drivers who currently have benefits through The State of North Carolina.

Although they both use RouteMatch, Rider Paratransit is on the cloud and CCTS is on a local server, which makes consolidation of the databases challenging. Rider Paratransit schedules return trips, whereas return trips for CCTS are will-call only. 52% of Rider Paratransit riders also took a trip with CCTS between 9/1/2018-10/30/2018. There would be need for significant education for schedulers to schedule riders under correct trip type.

The project team has utilized these meeting discussion topics along with other research and key inputs from stakeholder interviews and meetings to assess positives and negatives along a continuum of potential government agency partnerships and service integration types, which were established prior to Stakeholder interviews and meetings.

Consolidation Options Assessment

The purpose of this section is to evaluate potential transit consolidation options for consideration in Cabarrus County, and to identify those that may be most suitable for possible implementation. In describing the consolidation options, the term “service integration” will be used in place of “consolidation.”

Description of Service Integration Options

Interagency coordinative arrangements and activities among government agencies are quite common and occur in a wide range of forms. Agencies involved in efforts to strengthen organizational working relationships alter the interests of their institutional and governance structure to take into account the interests of the other agencies involved and the public they serve. To do so, agencies need a way to guide the consolidation continuum so that it continues to reflect the common interests of the participants. The governance structure chosen for an organization depends on the location along the continuum the participating agencies are in their relationship-building efforts.

Following is a list of possible service integration types ranging from the lowest level of commitment to the highest:

- **Connection** is a relationship based on common interests but with no significant resource sharing other than information. For example, staff members of transit agencies operating in the same geographic area speak with each other informally regarding shared areas of expertise.

  *Transitioning to **Cooperation** is contingent upon the following:*
  - Implementing informal to less-formal agreements
  - Information and limited resource sharing
  - Limited integration of services and goals

- **Cooperation** involves low-level linkages, informal to less formal agreements, some resource sharing, and limited integration of organizational services and goals. For example, transit agencies which operate shared park-and-ride facilities agree to facilitate passenger transfers between systems, provide unified passenger information/amenities, and meet periodically to discuss relevant operational issues.

  *Transitioning to **Coordination** is contingent upon the following:*
  - Implementing more formal agreements
  - Resource sharing
  - More formal integration of services and goals

- **Coordination** consists of more robust linkages that involve participants sharing resources beyond information to pursue shared goals. For example, transit agencies that operate paratransit and rural transit services meet regularly to coordinate trip planning, passenger transportation, and related activities.

  *Transitioning to **Collaboration** is contingent upon the following:*
  - Implementing formal agreements
  - Integrated resources including staff, facilities, and vehicles
  - Research legal implications

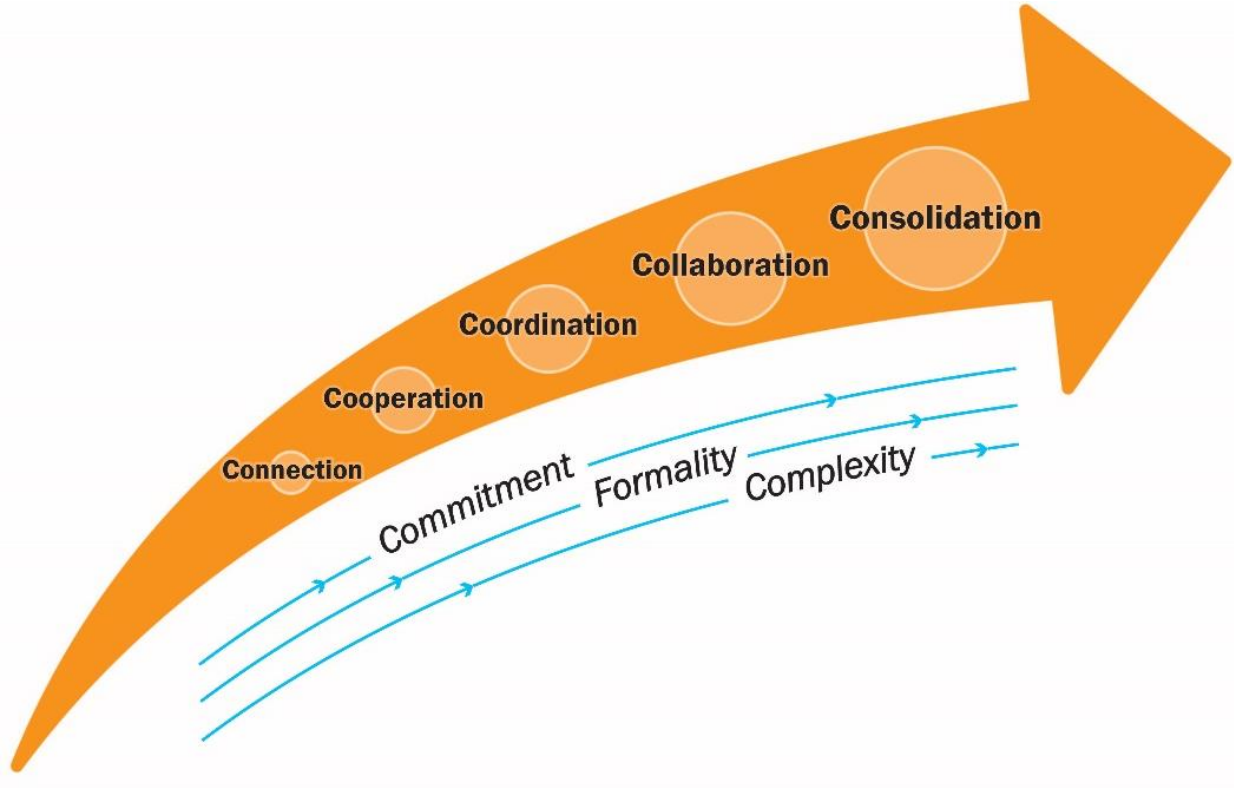
- **Collaboration** is marked by strong linkages, formal agreements, and complex goals usually pursued over a long period of time. It has a stable membership with strict processes and structure. Resource commitment is significant. For example, transit agencies would operate as one entity, but retain individual identities.

  *Transitioning to **Consolidation** is contingent upon the following:*
  - Merging all elements of the existing transit services into one entity
  - Determining tax and funding implications and sources

- **Consolidation** involves one agency subsuming the service of another agency, which then stops providing it. For example, formation of a regional transit authority which would combine existing agencies and operate their services under the new authority's name.

These various forms of service integration differ based on complexity of purpose, intensity of linkages, and formality of agreements, as shown in Figure 6-1.

Figure 6-1: Service integration continuum



Criteria to Determine Partnership Types

Evaluation methods and the data produced are grouped into the two categories of quantitative and qualitative. In general, quantitative methods compare numeric data while qualitative methods capture more descriptive data. The method(s) chosen are determined by the purpose(s) of the evaluation and the resources available to design and conduct it. In practice, most researchers and evaluators agree that combining quantitative and qualitative techniques produces a more rich and comprehensive understanding of a project's characteristics and benefits.

The options described in the above section will be evaluated for possible application in the potential transit service integration. A set of guidelines has been defined to perform this evaluation. The guidelines contain both quantitative and qualitative evaluation criteria and are presented below.

Quantitative Evaluation Criteria

Quantitative observations are made using definitive data, in this case from existing datasets and analysis. Quantitative criteria are useful in that findings are precise and reliable with a consistent underlying data set. However, quantitative criteria may not be robust enough to explain complex issues that are interdependent on other criteria.

Potential for Operating Cost Changes

Reducing the overall operating cost may occur if the operating costs of the combined entities were to be less than the sum of operating costs for the current individual agencies. Operating cost savings would potentially come from the following areas:

- Administrative and management costs
- Vehicle Operations
- Vehicle maintenance and repair
- Improved efficiency in trip types origins and destinations
- Technology systems (scheduling, software)

Potential Capital Cost Changes

Capital costs such as vehicles, facilities, and passenger amenities (onboard Wifi, online demand response reservation requests) can potentially be reduced through service integration by increasing purchasing power and economies of scale.

Impact on Level of Service

Service integration may lead to cost savings to pay for increased levels of service provision. It is assumed that the integrated service levels would remain at least at pre-integrated levels.

Potential for "Seamless" Service

Seamless service involves the integration of two or more transit systems that function as one system with a single user interface online and call center. The perception of the public is that they are utilizing one transit system, regardless of which system is providing the service. This makes transit service easier to understand and access for the public. Seamless service may also include a unified fare structure including electronic fare payment and vehicle location system wide. An integrated countywide transit system has the potential to be more convenient and understandable to riders and conducive to more effective public information efforts. In addition, improvements in quality of services may be realized. These may include fleet reliability and appearance, improved demand-response scheduling, public information systems, and integration of independent services and modes.

Qualitative Evaluation Criteria

Qualitative data is usually gathered by observations, interviews and group discussions, all of which have been conducted during this study. Qualitative information can be quite valuable because it can provide more detailed information to explain complex issues, provide multiple methods for gathering data on sensitive subjects, and involve human interaction and interpretation. Qualitative data is limited in that it is more difficult to analyze and data collection is usually time consuming and costly.

Ease of Implementation

Integrating government services and functions can be beneficial, but legal, legislative, and public involvement barriers can offset the advantages of pursuing the partnership. This criterion was developed to acknowledge that more intricate and binding partnerships will face more complex and difficult implementation hurdles.

Community/Political Will Required to Enact

Efforts to integrate transit systems benefit from a local champion, either an individual or an agency that advocates for the new organization and helps establish its implementation. Typical barriers to change are unexpected changes in the external conditions, a lack of commitment in implementation, resistance of people involved, and/or a lack of resources. Overcoming these barriers requires strong, consistent leadership to communicate the need for change, manage the change process, and promote the new organization/system.

Service Integration Options Evaluation

The service integration options screening process is qualitative in nature but is primarily designed to identify the options most likely to produce the most feasible and productive outcome. The quantitative and qualitative criteria were evaluated separately and then summarized to produce an overall ranking of the consolidation options.

Quantitative Criteria Evaluation

Table 6-1 depicts the five consolidation options described in Section 7, and how they compare across the quantitative criteria defined above.

Table 6-1: Quantitative evaluation matrix

	Level of Service Integration				
Quantitative Evaluation Criteria	**Connection**	**Cooperation**	**Coordination**	**Collaboration**	**Consolidation**
Potential Operating Cost Savings	2	2	2	3	5
Potential Capital Cost Savings	2	2	3	3	3
Impact on Level of Service	2	2	3	4	5
Potential for "Seamless" Service	3	3	4	4	5

The following list provides a description and evaluation of key characteristics compared in the previous table. Each type of service integration in the table was assigned 5 points for having a significant impact on an evaluation criterion, 4 points for high, 3 points for moderate, 2 points for low and 1 point for minimal impact. Following each of the criteria below is a discussion concerning each and their expected benefits and potential challenges.

- **Potential Operating Cost Changes** – Three components (administrative and management costs, vehicle operations, and vehicle maintenance and repair) were evaluated for the impact these variables could potentially have on reducing operating cost. These three criteria were evaluated by analyzing cost data from both Rider and CCTS.

  Administrative and Management Costs
  Rider and Cabarrus County Transportation Services are structured to serve different transit markets with similar but different agency missions. Rider Transit operates an urban, Fixed Routebus service supported by complementary ADA Paratransit services. In addition, one express route to Charlotte is offered through Rider Transit – CCX. Furthermore, Rider Transit utilizes a service contract with Transdev for system operations and also provides six positions at Rider Transit. Transdev also provides additional weekend staff support for customer service coverage.

  Rider and Cabarrus County Transportation Services provide demand response service with lift equipped vehicles but are segregated into service types. For each of the four levels of service integration presented earlier, opportunity exists for combining the administrative and management staffs of the two organizations. Consolidation can create management functions that are more responsive to transit and shared-ride needs from the community perspective and results in an overall higher level of professional management.

  Vehicle Operations

The analysis revealed substantial overlap in the service areas of the two systems. Rider Transit operates in the two cities of Kannapolis and Concord and the adjacent sections of Cabarrus County within the ¾ mile area around the fixed routes. Cabarrus County Transportation Services operates demand response service throughout Cabarrus County, but is limited with Rural General Public trips due to the requirement of either origin or destination must be in the rural area of the county.

Vehicle Maintenance and Repair
Consolidating maintenance management systems, parts inventories, and certain maintenance activities can potentially preserve funding and improve the quality of vehicle maintenance. Rider Transit has a vehicle maintenance and repair facility in Concord; CCTS contracts out maintenance and repair functions.

The potential for cost savings from combining maintenance can be significant once an adequate facility has been constructed to house both fleets. Currently, Transdev leases a facility to perform their administrative and maintenance functions. This facility is at capacity and not large enough to accommodate both fleets and offer maintenance to both fleets. A separate facility will need to be constructed or leased for this purpose.

The analysis of the potential operating cost changes reveals moderate economies of scale from integrating Rider Transit and Cabarrus County Transportation Services. However, the more structured partnerships will have a significant advantage over the less structured options due to potential benefits of more formal integration of service planning and scheduling, trip planning, and dispatch.

- **Potential Capital Cost Changes** – The opportunity to consolidate existing facilities and combine capital purchasing was found to be moderate. Cabarrus County Transportation Services purchases vehicles of less value than Rider Transit, and the potential cost differences from increased capital purchasing power are nominal. The more highly integrated partnership types were considered to have a slightly higher likelihood of achieving capital cost savings.

- **Impact on Level of Service** – The level of service available to the public should improve or remain the same (at minimum) because of service integration. Because the likelihood of potential cost changes was considered to be higher with the more strongly integrated partnership types Collaboration and Consolidation, these types scored higher than the less integrated partnership types.

- **Potential for "Seamless" Service** – As with the prior criterion, the potential for a seamless or more integrated service was considered more likely with the more highly integrated partnership types.

Qualitative Criteria Evaluation

Table 6-2 depicts the five consolidation options and how they compare across the quantitative criteria defined above.

Table 6-2: Qualitative evaluation matrix

	Level of Service Integration				
Qualitative Evaluation Criteria	**Connection**	**Cooperation**	**Coordination**	**Collaboration**	**Consolidation**
Ease of Implementation	1	2	4	5	5
Public Perception	2	3	3	5	5

As shown in the quantitative evaluation, the following list provides a description and evaluation of key characteristics compared in the qualitative evaluation table. Each type of service integration in the table was assigned 5 points for having a significant impact on an evaluation criterion, 4 points for high, 3 points for moderate, 2 points for low and 1 point for minimal impact.

- **Ease of Implementation** - Consolidations of government agencies can be very complicated and take longer periods of time to implement. The goal of consolidating into a countywide transit system could potentially produce significant benefits in terms of addressing regional travel needs, improved regional planning, maximizing funding, and creating administrative and operating efficiencies. This could be achieved integrating primary transit system functions in a phased implementation approach.

- **Public perception** – Based on information from stakeholder meetings, surveys and meetings with the City Managers and County Administrator, the public perception for consolidating services is very positive. Stakeholder interviews included staff from both systems, city managers from Kannapolis and Concord, the County Administrator, and other systems staff. In addition, the public involvement process undertaken during the project showed public perception as high for consolidated services or a greater amount of collaboration leading to consolidation.

Summary of Findings

The option to consolidate both transit systems for local Fixed Route and Paratransit along with Demand Response service would create a single, larger transit operator that would represent Cabarrus County, Concord and Kannapolis at the regional and state funding table. In addition, a consolidated agency could have greater resources and staff to begin to respond to new types of services and technologies in a comprehensive manner. After a thorough review of the positive impacts on service delivery and capital costs, as well as the challenges, consolidation of Rider Transit and Cabarrus County Transportation Services is recommended.

Service Delivery

The most fundamental benefit when systems coordinate service delivery, is the potential for increased mobility for better access. For transit-dependent populations, including lower-income workers, the elderly, and persons with disabilities, removal of the current disconnect between many rural transit networks and their nearest counterparts means increased access to jobs, medical care, social and human services, and educational institutions. In a consolidated model, both Rider Transit and Cabarrus County offers the opportunity to review and evaluate existing routes and make modifications that better match current travel patterns. For transit agencies, coordination of transportation services can help eliminate duplicated services. Furthermore, consolidation can also mean the expansion of service into previously unserved areas and the creation of connections that enable additional intercity travel, namely to Charlotte, Salisbury-including to the VA Hospital, and Huntersville.

Rider Transit currently has a service contract in place, while Cabarrus County Transportation Services does not utilize an operations contractor. Although, a single contract could be developed for an entire consolidated system, it may be possible to have separate contracts for different types of services. In addition, a consolidated transit system allows more opportunities for creativity in service delivery. A better balance between efficiency as measured by operating cost per revenue hour and effectiveness as measured by passengers per revenue hour is possible.

Procurement

Joint bus procurements could give a consolidated system or new public transportation authority greater leverage over the manufacturer in purchasing negotiations while also reducing cost via volume discounts.

Maintenance and Storage

An additional joint facility for the consolidation of transit services could be sited and developed in Cabarrus County to accommodate both systems. The specific maintenance and storage facilities to accommodate fixed route, paratransit, and demand response vehicles will be closely examined during a separate, specific, siting study. A larger facility with joint maintenance allows more flexibility in vehicle management. Currently, Transdev facility is only of sufficient size to handle only its own demands, and CCTS does not have a facility.

Management

The final management structure will need to be determined by the municipalities by mutual agreement. Whatever structure is determined, discipline/areas of specialty will be necessary in the following areas: Demand and Fixed Route Operations, Transit Planning, Administration, Finance, Public relations, Human Resources, Technology, Safety/security, and Maintenance. Each of the 19 new personnel positions are listed in each Phase of the plan as

their job roles become a necessity. In addition, a consolidated system would allow time for managers to develop expertise in specialty areas.

Administrative Offices

The location of the administrative offices could be co-located with the maintenance and storage for the most strategic placement or in a separate facility. Transportation facilities for this purpose are eligible expenses for federal funds.

Paratransit Programs

No potential challenges were identified concerning paratransit operations. A consolidated system could work with a single combined program and common service area.

Evaluation Summary

A newly consolidated agency or a potential public transportation authority would have the potential to serve as the primary project sponsor for the purchase of new equipment and for transit capital projects, although one of the individual municipalities may prefer to remain the project sponsor for projects currently in development.

Potential Advantages for Further Analysis. A consolidated system or newly-created transportation authority has the following possible advantages:

- **Improved Allocation of Resources Through a Larger Pool of Vehicles and Operators.** There could be a significantly larger pool of vehicles available for different kinds of services, where today there are some limitations.
- **Optimized Route Structure.** To accommodate trips between the two cities and within additional portions of the county, the routes can be restructured to connect multiple destinations to improve transit accessibility.
- **Single Application and More Leverage for Regional Transit Funds.** A consolidated agency or authority could be better able to participate in funding applications and awards, as there would be a single point for coordination. A single point dissolves any competition created by having two separate agencies competing for similar or same funding. A single, consolidated agency would not necessarily receive additional funding above and beyond the funding currently received separately by the two agencies.
- **Direct Experience with Grants and Funds.** The new agency structure could allow for a specialist position for grants and funds to be available for all services, where today administrative positions are few. This could provide better ways to take advantage of available funds, and to fully track how these resources are spent.
- **Improved Demand Response Coordination.** A combined paratransit and demand response system could benefit both communities by having a larger pool of vehicles and resources and one call center to offer users. A common set of policies, eligibility designations, reservations systems, financial management, and other functions could be designed and implemented, reducing potential confusion for drivers and reducing exposure to potential misuse.
- **Dedicated Transit Funding.** In this option, it is envisioned there would be dedicated state and local transit funding being allocated directly to the transit operator. This dedicated local funding source can take many forms that will be discussed in the financial chapter. Across the United States, many jurisdictions have a dedicated sales tax that is used to support transit services for capital spending and operating expenses.
- **Common Transit Operations Goals.** The combined operation could provide a common direction and identity for all the county and the two cities in terms of setting goals for transit services, and common implementation and monitoring of the system performance.

Potential Disadvantages for Further Analysis. A consolidated system or newly created transportation authority such as this one has these possible disadvantages:

- **Significant Dependence on Current Revenue Streams.** Since no dedicated revenue stream exists now, the creation of a separate entity includes a basic assumption that no dedicated revenue could be diverted to a new entity, consolidated or authority. Therefore, any agency shortfalls could not be easily backfilled.
- **Credit for Transfer of Capital Facilities.** Each municipal entity has invested in equipment and facilities and some equitable arrangement would be required to transfer those to a new operating entity. Capital facilities

are usually funded mostly or completely through federal funds or other grants and would require a transfer of assets.

- **Potential Change in Fare Structures and Policies.** Both operators currently have a different fare system, and ways of administering discounted fares and passes. A standardized fare structure would be needed.
- **Short-Term Operator Incompatibilities.** At least for the initial operating years, it will require administering and potentially combining service contracts, and accommodating existing fleets and fuels. Through new contracts and procurements of new equipment, this disadvantage could be eliminated over time.
- **Significant Shift in Contact and Control from the Municipalities to New Agency.** Even though communication channels would be in place in a new organization, the familiarity and trust gained through the current locally-based system of resources, dispatching and coordination could require additional changes for improved efficiency and ease of use for passengers.

Pathway to Consolidation

Principles of Consolidation Summary

- ✓ Guiding principles: equal governance among partners, same or lower operating costs, same or better level of service.
- ✓ Consolidated Agency or Authority to be staffed by existing Rider and CCTS employees.

Governance Structure

While this chapter is primarily about various efforts and levels of service integration options, it should be noted that the formation of a public transportation authority is also a consideration in this process and a viable action that can be taken. This would entail the formation of a new public transportation authority to oversee all transit operations in Cabarrus County. Following the formation of an authority, neither the Rider Transit nor the Cabarrus County Transportation System would exist but would be subsumed by the authority.

The North Carolina General Assembly amended Chapter 160A of the General Statutes by adding Article 25 enabling the creation of public transportation authorities. This article states that a municipality may, by resolution or ordinance, create a transportation authority and shall consist of 11 members as determined by the governing body of the municipality. The members of the authority shall elect a chairman and vice-chairman from the membership of the authority. Article 25 states the purpose of the authority "shall be to provide for a safe, adequate and convenient transportation system for the municipality creating the authority and for its immediate environs, through the granting of franchises, ownership and leasing of terminals, buses and other transportation facilities and equipment, and otherwise through the exercise of the powers and duties conferred upon it." *(NC GEN ST § 160A-578. Purpose of the authority).*

The general powers of the authority "shall include any or all of the following:

1. To sue and be sued.
2. To have a seal.
3. To make rules and regulations, not inconsistent with this Chapter, for its organization and internal management.
4. To employ persons deemed necessary to carry out the management functions and duties assigned to them by the authority and to fix their compensation, within the limit of available funds.
5. With the approval of the municipality's chief administrative official, to use officers, employees, agents and facilities of the municipality for such purposes and upon such terms as may be mutually agreeable.
6. To retain and employ counsel, auditors, engineers and private consultants on an annual salary, contract basis, or otherwise for rendering professional or technical services and advice.;
7. To acquire, maintain and operate such lands, buildings, structures, facilities, and equipment as may be necessary or convenient for the operations of the authority and for the operation of a public transportation system.

8. To make or enter into contracts, agreements, deeds, leases, conveyances or other instruments, including contracts and agreements with the United States and the State of North Carolina.
9. To surrender to the municipality any property no longer required by the authority.
10. To make plans, surveys and studies of public transportation facilities within the territorial jurisdiction of the authority and to prepare and make recommendations in regard thereto.
11. To enter into and perform contracts with public transportation companies with respect to the operation of public passenger transportation.
12. To issue certificates of public convenience and necessity; and to grant franchises and enter into franchise agreements and in all respects to regulate the operation of buses, taxicabs and other methods of public passenger transportation which originate and terminate within the territorial jurisdiction of the authority as fully as the municipality is now or hereafter empowered to do within the territorial jurisdiction of the municipality.
13. To operate public transportation systems and to enter into and perform contracts to operate public transportation services and facilities and to own or lease property, facilities and equipment necessary or convenient therefor, and to rent, lease or otherwise sell the right to do so to any person, public or private; further, to the extent authorized by resolution or ordinance of the municipality to obtain grants, loans and assistance from the United States, the State, any public body, or any private source whatsoever.
14. To enter into and perform contracts and agreements with other public transportation authorities pursuant to the provisions of G.S. 160A-460 through 160A-464 of Part 1 of Article 20 of Chapter 160A of the General Statutes; in addition, to enter into and perform contracts with other units of local government when specifically authorized by the governing body, pursuant to the provisions of G.S. 160A-460 through 160A-464 of Part 1 of Article 20 of Chapter 160A of the General Statutes.
15. To do all things necessary or convenient to carry out its purpose and to exercise the powers granted to the authority." *(NC GEN ST § 160A-579. General Powers of the authority).*

It is recommended that the governance of the transit system, whether by a consolidated agency or a public transportation authority, be equitable among the partner agencies and municipality staff (i.e., the two cities and county). Equitability can be initially governed and established by a Memorandum of Understanding. Vote weighting or number of board members could be developed through negotiations with the various jurisdictions. In addition to a board, the operation could have oversight provided through a Technical Oversight Committee. This new organization may have the potential to serve as the primary project sponsor for purchase of new equipment and for transit capital projects.

Understanding the benefits and challenges of transit reorganization is critical in optimizing a successful regional entity's organization and governance structure. The following benefits and challenges relate to a single consolidated regional authority scenario.

Benefits of a Single Consolidated Authority

Many of these benefits noted here are similar to the benefits discussed earlier in the consolidation section of this chapter.

1. **Transit Revenue Gains** are usually seen from the ability to offer volume advertising and may be also seen from route and fare structure integration.

2. **Use of Best-in-Class Technology** across the region would occur as transition plans to develop a single authority would assess the current use of technology at all area providers and migrate the full regional to the best-in-class.

3. **Use of Broader In-House Resources** for all need functions such as service planning, marketing and training. A larger regional authority's staff would be available to service the full region. It is envisioned this staff would be larger with greater expertise than simply a consolidated county system. Many small to mid-size transit agencies have insufficient resources to fully or even partially address of the demands of running transit service with the abundant federal compliance requirements. A larger authority provides the ability to properly focus on all aspects of operational and compliance functions.

4. **Positions the Region to Better Package Capital Funding Requests** by demonstrating a unified approach to capital investment requirements and priorities to federal and state stakeholders. In addition, as Cabarrus County and its cities continue to grow, the need to have a larger authority, or consolidated agency at minimum, to communicate with the Charlotte-Mecklenburg area will become vital. As more people travel between Charlotte and Cabarrus County, more transit investment will be required to maintain a high level of transit service. The need for adequate capital funding will become even more evident during those times.

Challenges of a Single Consolidated Authority

Regionalization through a consolidation of agencies into a single transit authority does also pose challenges, including the following key items:

1. **Concern that Customer Needs Would Not be Properly Addressed in a Regional Structure** is one that is typically raised when regionalization is evaluated. Concerns could be addressed by (a) developing organizational and governance structures that focus on customer service and (b) implementing a transition plan that includes steps to minimize the customer service learning curve once the authority has been formed.

2. **Requirement for Local Decisions and Legislative Changes** related to organization and governance structures would be required by local elected officials. Although there are steps that must be taken to establish the regional authority, they are all achievable provided there is a political will to do so and stakeholders are reasonable in reaching the necessary agreements.

3. **Governance Change from County/City Control to County/City Representation** would occur if regionalization via a single authority is implemented. County and city elected officials, who today control the governance of their local transit agencies, would relinquish that role and instead would have partial representation on the regional authority's board. These county and city officials would need to weigh the loss of governance control against the financial benefit of seeing a reduction in their required transit funding obligation and the continuation and potential improvement of service to their constituents.

4. **Varying Labor Costs and Work Rules within the Single Regional Entity** would need to be maintained in order to achieve the full financial and operating benefits of regionalization. The key to optimizing regionalization benefits is to develop an organization structure and an accounting structure that permits and accounts for represented and non-represented operations. Many transit agencies and authorities around the nation manage a mixed operation, a portion of which has union representation and a portion of which has no union representation.

Many of these benefits and challenges can respectively be ensured and diminished by the choices made regarding the regional authority's organizational and governance structures.

Labor Union Considerations. Referenced earlier in this chapter is the current union arrangement with Rider Transit and the non-union organization of the Cabarrus County Transportation System. In an effort to allow both union and non-union employees to serve the Cabarrus County area, it is proposed to divide the area geographically so that union drivers and non-union drivers do not cover the same geographic areas. In addition, any services that would cross the geographic boundary would be considered a non-union service. This option would require union agreement and approval from the FTA.

Potential concerns are that current county employees may lose staff seniority and time in service by transitioning to union employment. Note that the transitional period noted in some of the options below may take years to accomplish. Additional options to address this issue are detailed below:

- The county may allow a transitional period to shift employment to the existing union. As part of the transitional period, the County may also allow hiring preference for other positions in the County if employees want to shift to another position.
- CCTS may allow current employees to retire and hire new staff in union employment.
- All county employees may transition to become employees of the lead municipal agency.
- County employees may opt to become employees of the resulting integrated system rather than remaining county employees. This option would assume an authority is created rather than consolidation of services.
- The service contractor may offer to coordinate hiring of any new employees. In addition, the service contractor may also be required to keep benefits and compensation consistent for employees who do shift to become unionized employees.
- The union and the municipal employees may remain as separate entities with employees retaining separate status with their respective agencies.

Organizational Structure

One of the primary benefits of consolidation is centralizing administrative staff to attain operational and administrative efficiencies. The administrative structures of both Rider Transit and Cabarrus County Transportation Services have small staff with each having multiple staff who need skills in all areas to run the transit operation.

All transit systems need to have expertise in house or contracted for with specific skill sets in the following:

- Operations
- Maintenance
- Planning
- Public relations
- Administration
- Finance
- Human resources
- Technology
- Safety/security

Other Consolidation Resources

NCDOT has also begun considering consolidation as a statewide approach. A former research study has been conducted by NCDOT to investigate rural consolidation. As the subject was discussed with rural transit providers across the state, the perspective was not favorable in most cases. Within North Carolina, some cases exist where consolidation efforts were collaborative and highly motivated, yet other transit service providers were more concerned with the survival of individual systems. NCDOT has encouraged consolidation in the past at the state level. North Carolina now has more than 14 consolidated rural transit systems and in 2017 the legislature provided a monetary incentive for systems that agree to consolidate. NCDOT Public Transportation Division office is available to provide technical assistance in the consolidation approach, if requested by the local transit agencies.

Getting Started with Consolidation

A chart of 13 activities on the next page lays out steps to begin the formal process of consolidation. The chart below also lists the representatives from various agencies to be involved at check points through the consolidation process. In this process, city and local leadership representation is suggested throughout along with city and county attorneys to assist in guiding the process. It is suggested that labor union leadership along with NCDOT leadership also be included in consolidation discussions. During the concluding steps, it is recommended that the FTA, Region 4 leadership along with United States Department of Labor leadership from Washington, DC be involved in the process.

13 Activities to Begin the Formal Process of Consolidation

Item	Description	Who should be involved?
1	Two Public Transit Systems mutually agree to initiate discussions regarding the coordination, cooperation and/or the consolidation of one or more services provided by a lead transit agency and/or the transit system consolidation of administration and operating services.	• Transit system representatives
2	“Champion” is identified to lead the process with collaboration from other staff, as needed.	• Transit system representatives
3	“One pager” is developed that describes the objectives of the project and outlines potential benefits.	• Transit system representatives
4	Partner agencies within the local municipalities are identified and contacted (e.g., public works department, human services department). These are other agencies within one of the cities or the county that affect the transit services.	• Transit system representatives • Any other municipal leadership from other departments • City and county leadership • City and county attorneys • NCDOT representatives
5	Affected public transit systems finalize the scope of transit service and organizational changes to be made during consolidation.	• Transit system representatives
6	Staff recommendations to support the transit service and organizational changes are made.	• Transit system representatives
7	Convene meeting of local officials to discuss proposed changes and full scope of consolidation.	• Transit system representatives • Any other municipal leadership from other departments • City and county leadership • City and county attorneys
8	Present consolidation plan to union representatives for initial discussion.	• Transit system representatives • Any other municipal leadership from other departments • City and county leadership • City and county attorneys • Union representatives • Management company
9	Affected transit systems to present consolidated system to NCDOT with all proposed changes along with funding and capital asset implications.	• Transit system representatives • NCDOT representatives
10	Finalize consolidation plan incorporating all comments from NCDOT and jurisdiction leadership.	• Transit system representatives
11	Discuss results with city and county leadership and finalize any negotiated items that require additional union discussion.	• Transit system representatives • Any other municipal leadership from other departments • City and county leadership • City and county attorneys
12	Present any negotiated items to union representatives and draft any MOU/MOA required to solidify the boundaries of union involvement and results of conversation.	• Transit system representatives • City and county attorneys • Management company • FTA leadership • Department of Labor (D) leadership
13	Sign all required MOU/MOA documentation required	• Transit system representatives • City and county attorneys • Management company • FTA leadership • DOL leadership

7. Service Recommendations

This section focuses on the service recommendations for CCTS and Rider Transit. The recommendations have been prepared based on information collected during the development of the study, extensive public input, a transit market analysis and evaluation of systems' needs to be able to respond to the area's growth. The service recommendations are presented in six phases, and include operational, capital, and personnel recommendations.

Transit Market Analysis

A transit market analysis was conducted to better understand and project transit demand and needs within Cabarrus County. The results of the analysis served to determine transit modes and frequencies that would be most appropriate for the type of transit markets: emerging, moderate, and strong. The analysis was conducted by examining the following demographic and land use indicators supportive of transit:

- Population density
- Employment
- Households without access to vehicles
- Historical ridership
- Future development

These indicators were reviewed at the block-group level using several datasets. The population density data and households without access to vehicles data came from the United States Census Bureau's ACS 2012-2016 five-year estimates. Employment was available at the block level from version 7 of the LEHD Origin-Destination Employment Statistics (LODES). Historical ridership was based on Rider boarding and alighting counts recorded on June 26, 2018. (It should be noted that RCCC was not in session during this sample ride day, but adjustments to the ridership on the yellow route were accounted for by using ridership at the RCCC stop from February 26, 2018). The employment, ridership, and development data were aggregated to block groups to use a standard geographical unit of comparison.

Each block group was scored based on the five demographic and land use indicators. Points were assigned to each indicator using a five-class natural breaks classification method. Values that fell into the first (highest) class received five points, second class four points, third class three points, and so forth. For example, a block group with a population density in the first class (3,706 to 5,503 persons per square mile) received five points. The points among all the demographic and land use indicators were added to a result which provided a cumulative score.

There were three potential transit markets that each block group could be categorized into, based on its cumulative score as seen below in the Transit market analysis overview.

Transit Market Strength Analysis Overview

Population Density + Employment + Percentage of Zero-Vehicle Households + Historical Ridership + Future Development

Points assigned according to the five natural break categories (Jenks method)

Transit Market Strength	Modes	Increased Frequency
Strong	High Capacity Transit, Fixed Route Bus, Flex Service	Short-Term
Moderate	Fixed Route Bus, Flex Service	Mid-Term
Emerging	Flex Service	Long-Term

The ranges for the markets were based on a three-class natural breaks classification method. Regions with the strongest transit markets in Cabarrus County were generally located in Concord, Kannapolis and at the Concord Mills/Exit 49 corridor. The transit markets were also assessed at a further defined geographic level by considering the major transportation corridors in the county. Some of the corridors with the strongest transit markets include Cannon Boulevard, Church Street, Dale Earnhardt Boulevard, Derita Road, Kannapolis Parkway, and Main Street, as well as Rte. 29 and in the future, Rte. 49 and Rte. 73. This analysis served to inform the type, frequency, and phasing of transit service recommendations that will be described in this chapter. In general, demand response service is recommended for the emerging markets, Fixed Route service in the moderate and strong markets, and high capacity transit in select strong markets. The existing Rider system does not provide Fixed Route service in all the moderate and strong markets.

Figure 7-1: Transit market analysis Current Service

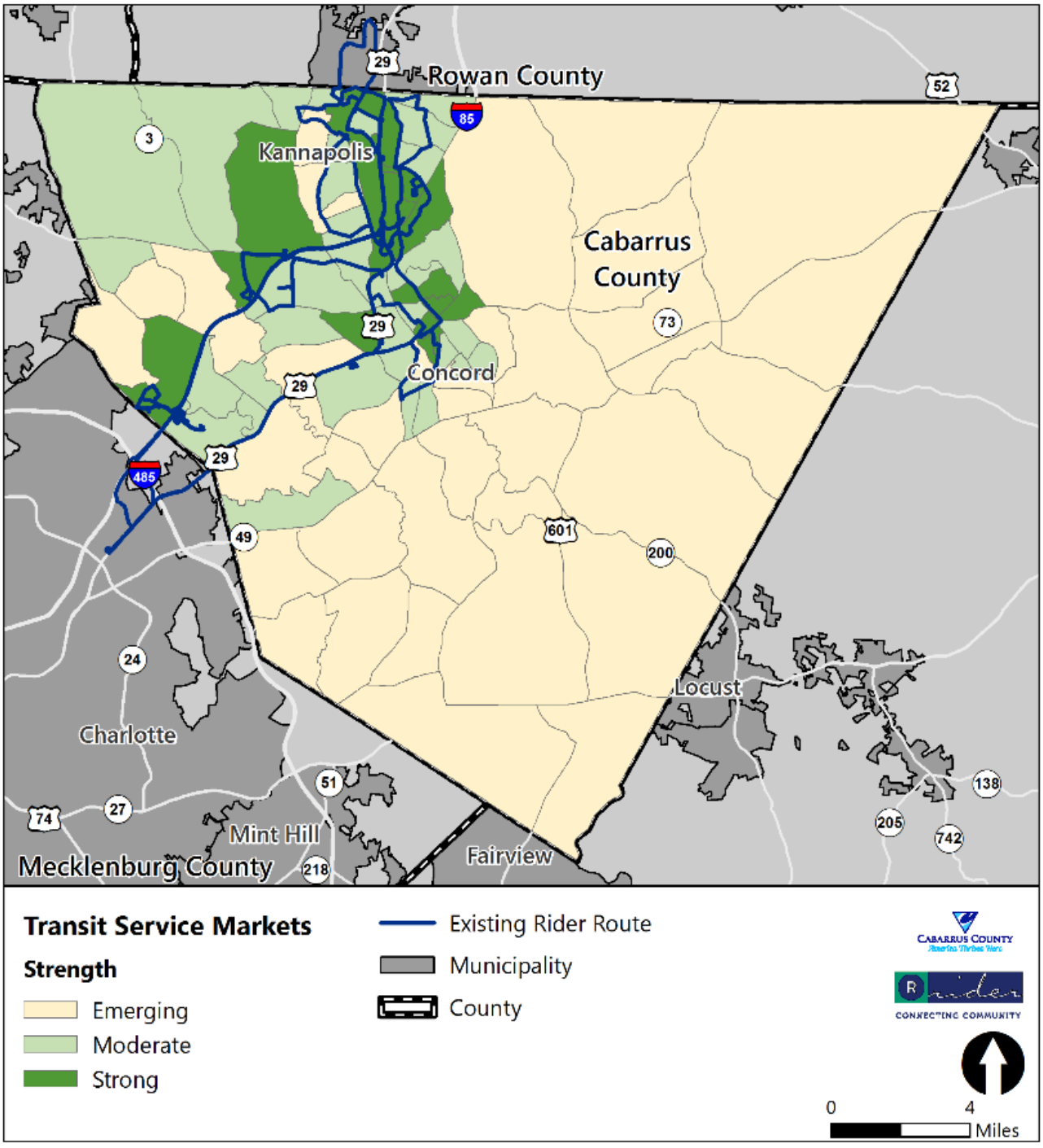
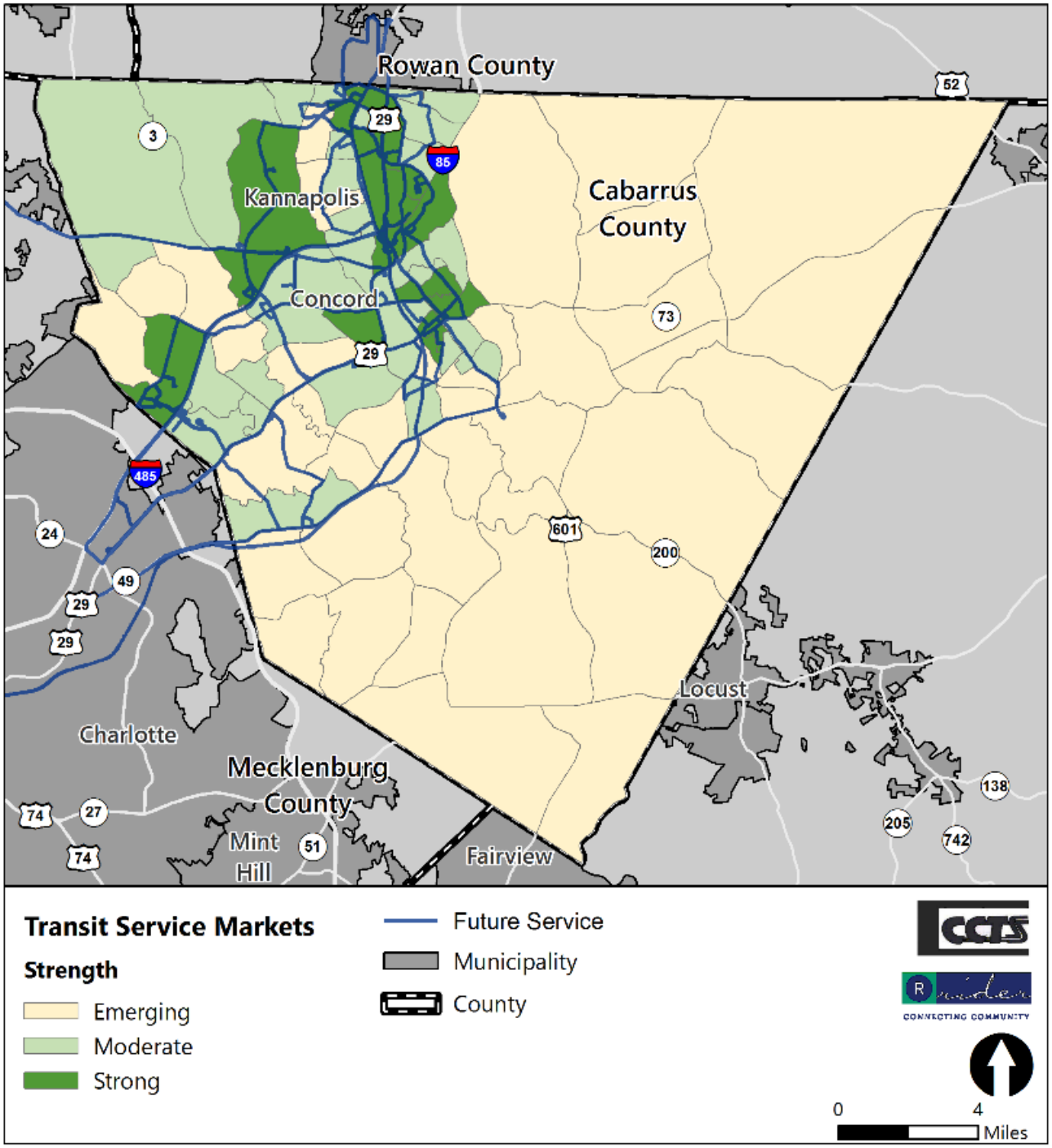


Figure 7-2: Transit market analysis proposed service



Transit Modes

To best serve the transit markets identified as part of this study, there are a few types of transit service that could be adopted. The various types of transit service are described in the overview below:

Fixed Route

Fixed Route

Operation of transit service along a set route with scheduled stops at various common collection points. Operation of Fixed Route service requires the operation of complementary ADA Paratransit service for individuals unable to ride the Fixed Route vehicle.

Commuter Service

Commuter Service

Fixed Route service operated only during peak commuting times in the morning and evening connecting major residential areas with major employment areas. Commuter service is generally an 'express' service in that it makes limited stops along its route to keep the trip time as close as possible to automobile trip times. Commuter service does not require the operation of complementary ADA Paratransit service.

Deviated Fixed Route

Deviated Fixed Route

Operation of transit service along a set route with scheduled stops but with scheduling flexibility built in to the scheduling process that allows the driver to deviate within a certain distance of the route with an advance reservation. Route deviation services meet the requirement for complementary ADA Paratransit service.

Demand Response

Demand Response

Service operated on an on-demand basis. Also known as paratransit or dial-a-ride service. Demand Response service requires that patrons call ahead to schedule trips. Service can be door-to-door or curb-to-curb. Demand responsive service does not operate along a set route; service on any given day depends on the trips scheduled. However, standing reservations, or subscription services are often allowed that give patrons who make the same trip on a recurring basis to schedule multiple trips within a specific time period. Also, where possible, the dispatcher tries to group, or batch trips to serve multiple passengers during a single trip between common origins and destinations.

Demand Response Feeder Zones

Service is also operated on an on-demand basis. This service, also called microtransit, is defined as a shared transportation system that can offer fixed routes and schedules, as well as flexible routes but all on an on-demand scheduling.

Vanpooling

Vanpools

Can be operated by a paid driver or can be driven by vanpool participants. Vanpools are for larger groups of people going to a common destination or a small number of somewhat adjacent destinations. The pick-up location also needs to be convenient to vanpool participants and convenient to the highway. A park-and-ride lot is a common starting point for vanpools. The cost of the vanpool is split between riders and generally a successful vanpool participant would usually have a 15+ mile work commute.

Park and Ride

Park and Ride

A parking area where people meet to share rides or to utilize transit service. The parking location is generally well lit and has a place to wait for ridesharing partners. Retail locations are often used to accommodate park and ride participants. A sheltered location is advantageous for participants to consider. Generally, there is no cost to park in the park-and-ride area and this helps to encourage ridesharing and transit usage.

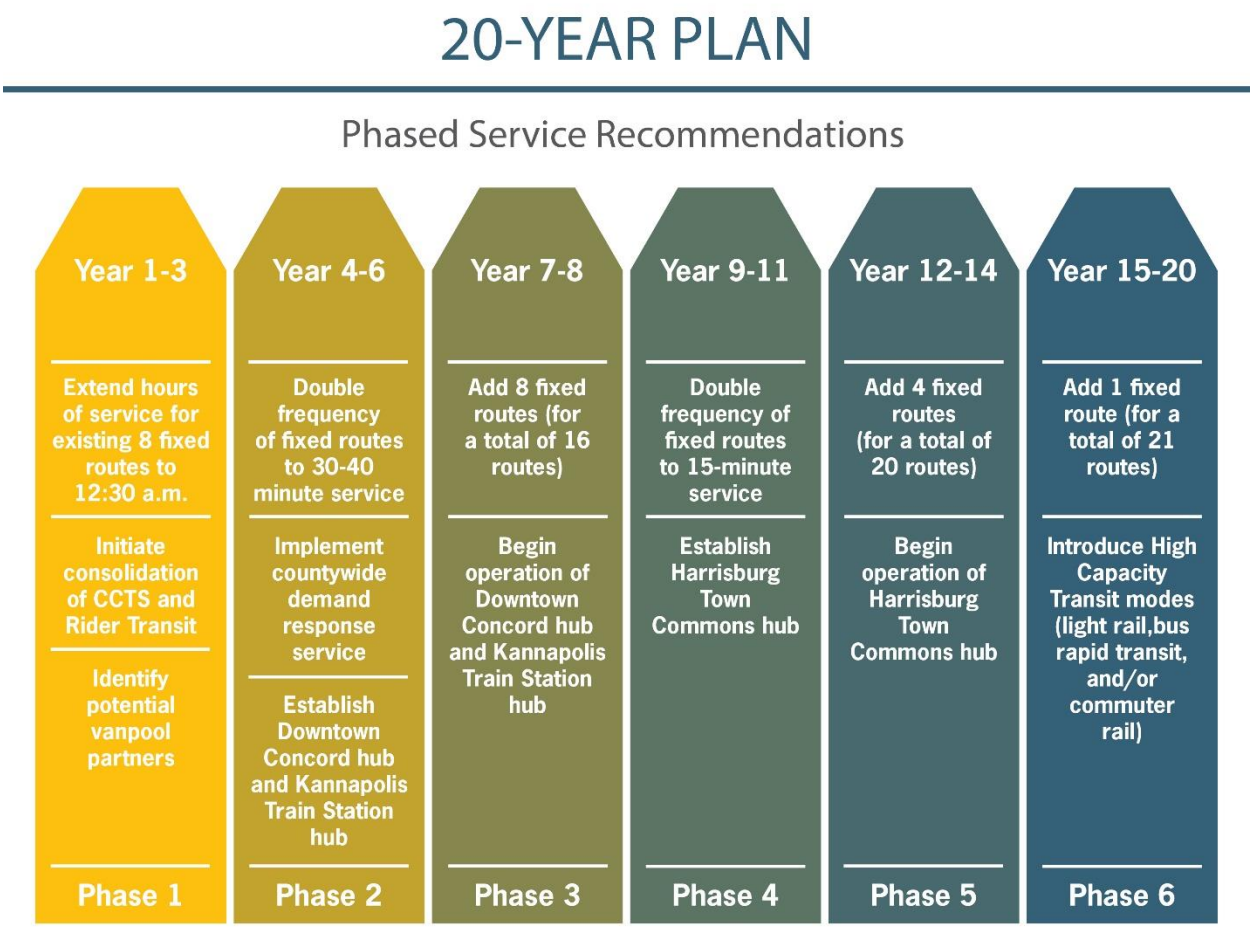


Figure 7-3: 20 year plan

As part of the LRTP, transit service recommendations spanning multiple modes were explored to address current and future transit needs identified through the public engagement process. This process provided a comprehensive review of existing transit service performance and transit market analysis. The recommendations from the public engagement are intended to expand mobility options for all Cabarrus County residents, making transit affordable, effective and efficient.

The recommendations are summarized by phase in the subsequent report sections. Each phase reviews the major service improvements for CCTS and Rider and summarizes service areas for CCTS and fixed routes by the corridors served, span of service, frequency (headway), and vehicle requirements. The time required for a transit vehicle to complete a round trip, referred to as the cycle time, was estimated for each Fixed Route based on the current operation of Rider routes. The number of required vehicles for each Fixed Route was calculated by dividing the cycle time by the frequency, which is how often a transit vehicle serves a given bus stop (e.g., a route with a 60 minute cycle time, where 15 minute frequency is desired, would require 4 buses).

A key recommendation of the LRTP is to establish three new community transit hubs that would serve as major connection points between Fixed Routes and Demand Response Zones. Currently, Rider operates all fixed routes out of the Rider Transit Center where buses depart every 60 to 75 minutes, depending on the time of day. There are several challenges associated with continuing to operate a pulse system out of a single transit center in the future. Increasing growth and congestion within the service area have increased travel times, making it more difficult to operate all routes on the same cycle time. Additionally, the Rider Transit Center is not in and of itself a desired passenger destination. Rather it is an area to transfer to gain access to desired destinations.

Rider has addressed this challenge in the short-term by extending the 60-minute cycle to 75 minutes on all routes between 12:30 p.m. and 5:30 p.m. However, this will continue to be a challenge in the future given the growth in

Cabarrus County. Operating out of a single transit center makes it increasingly difficult to expand fixed routes to other parts of the county. To reach regions that are further away from the current Rider Transit Center, fixed routes would have to be operated on longer cycle times which would not be as efficient in terms of time and operational costs for the coordination of these passenger trips, based on their specific origins and destinations. Lastly, the Rider Transit Center is nearly at capacity for available bus bays, which would prohibit the ability for any significant future expansion considerations if all routes were to begin and end there.

In response to these challenges, the LRTP recommends establishing community transit hubs at the Kannapolis Train Station and in downtown Concord, starting in phase 2, and Harrisburg Town Center starting in the phase 4. Fixed routes would pulse at these transit hubs similarly to how the current Fixed Route system pulses out of the Rider Transit Center. With the addition of new transit hubs, not all routes would serve the Rider Transit Center. Although this change may require additional connections for some riders, it will improve connectivity for others, and it could benefit the system overall by decreasing route cycle times, allowing for cross-town expansion into other areas of the county, and reducing congestion at the Rider Transit Center. Furthermore, passengers would now be able to make connections at transit hubs located closer to their origins and destinations instead of having to travel to the Rider Transit Center, allowing for more direct cross town connections in many cases. The structure and amenities of these transit hubs are discussed further in the Transit Capital Infrastructure section.

Phase 1 Service Recommendations (Year 1-3)

Fixed Route Service Recommendations

The primary recommendation for Phase 1 is to extend operating hours on all fixed routes from 8:30 pm to 12:30 am and extend weekend service to begin at 5:30 am. This would provide uniform service hours of 5:30am to 12:30am, seven days a week. The structure and routing of the current fixed routes would remain the same in Phase 1 as shown on Figure 7-4. Through the public engagement process, it was determined that later service was the number one requested operating improvement. According to surveys of existing riders, extended service (earlier and later service) was prioritized over increased frequency, improved on-time performance, and additional routes. By providing later Fixed Route service, Rider Transit will increase access to employment with later ending and beginning job shifts, expand non-worked related opportunities for riders, and increase the service available for eligible ADA Paratransit riders. Currently, transit is not a viable option for employees with early weekend and later job shifts because the Rider Transit service ends at 8:30 pm during the week and on weekends service begins later with hours of 8:30 am to 8:30 pm. In addition, the current operating schedule does not allow for earlier and later connections between Charlotte and Cabarrus County. With extended operating hours, it would be possible for riders to return later in the evening via the LYNX light-rail and connect with the CCX route at the JW Clay LYNX Station. This would then expand opportunities for riders to attend concerts, collegiate and professional sporting events, and other major cultural and social activities in Charlotte. Beginning service at 5:30 am on the weekends would provide transportation for riders with a non-traditional work week such as those in the food, retail, and customer service industries. Extending operating hours will require additional drivers and personnel at the Rider Transit Center and additional resources for paratransit service. The financial implications for this service recommendation are discussed further in Chapter 9.

Route Nomenclature

In preparation for an expanded Fixed Route network with multiple transit hubs, changes are recommended to be implemented for the Fixed Route naming system. Currently Rider uses a route naming system based on colors and single-digit numbers. As the system evolves and becomes more complex, this system will be difficult if not impossible to maintain. A three-digit naming convention is recommended that would allow for future expansion. The first number of the three-digit route number would denote the transit hub from which the route departs:

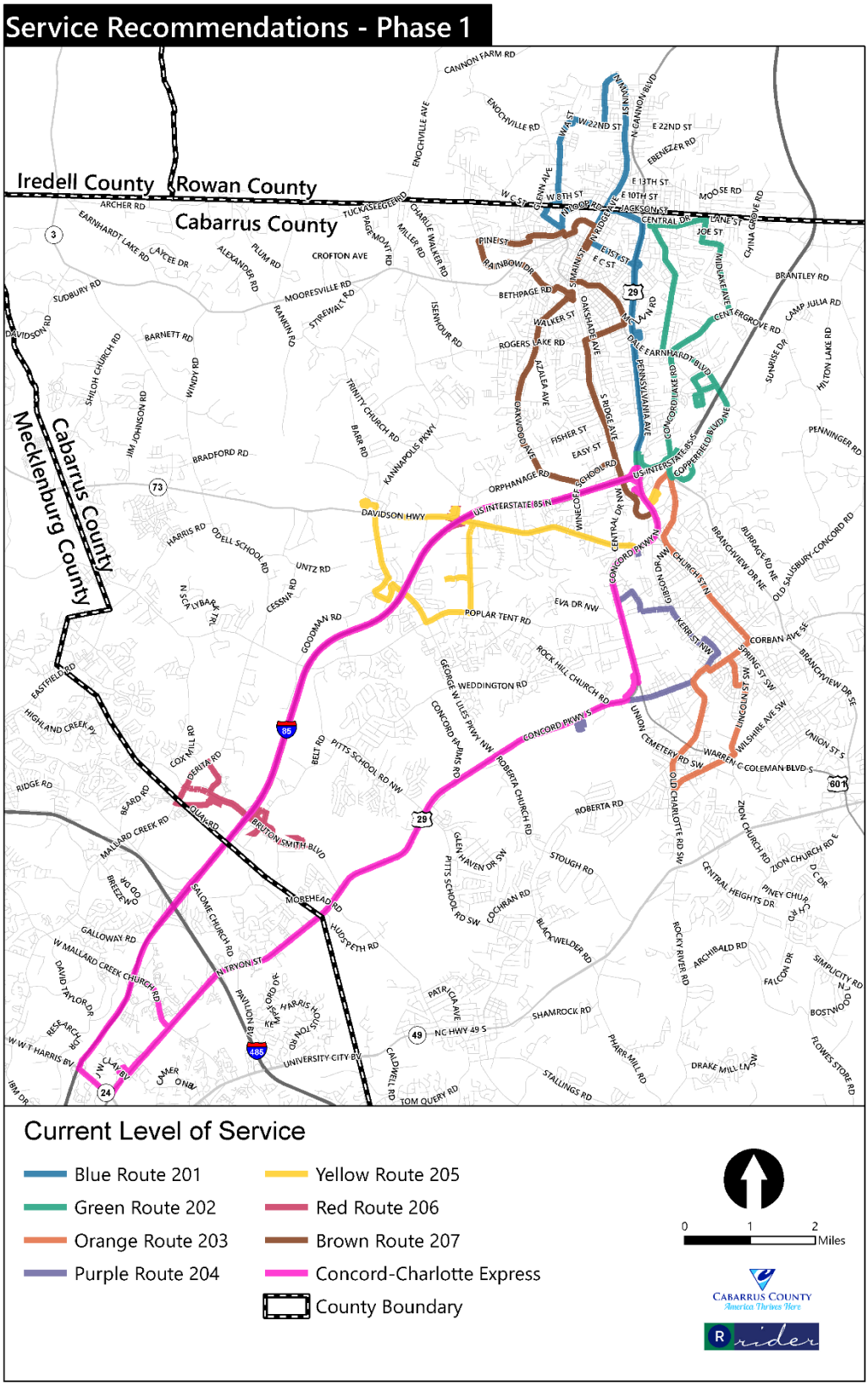
- 1 – Kannapolis Train Station
- 2 – Rider Transit Center
- 3 – Downtown Concord
- 4 – Harrisburg Town Center

The remaining two numbers would be used to sequentially number the routes affiliated with the transit hub. For example, in the new naming system the Route 1 (Blue) would become Route 201 since it departs from the Rider Transit Center. Table 7-1 summarizes the fixed routes that would operate in the Phase 1. As shown in the table, all routes would operate from 5:30 am to 12:30 am, Monday through Sunday. The frequencies would match the current operating schedules, which is 60 to 75 minutes depending on the time of day. Each route would require one vehicle.

Table 7-1: Fixed routes operating in the Phase 1 Weekday and Weekend

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 201	Rider Transit Center, Cannon Blvd., Main St., Kannapolis City Hall, Kannapolis Train Station	5:30 am to 12:30 am	60-75	1
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Little Texas Road, Concord Lake Rd	5:30 am to 12:30 am	60-75	1
Route 203	Rider Transit Center, Cabarrus Ave., Church St., Lincoln St., Wilshire Ave, Old Charlotte Rd.	5:30 am to 12:30 am	60-75	1
Route 204	Rider Transit Center, Hwy 29, McGill Ave, Kerr Street, Cabarrus Ave	5:30 am to 12:30 am	60-75	1
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	60-75	1
Route 206	Rider Transit Center, RCCC South Campus, Bruton Smith Blvd, Concord Mills Mall	5:30 am to 12:30 am	60-75	1
Route 207	Rider Transit Center, Main St., Kannapolis Train Station, Oakwood Ave.	5:30 am to 12:30 am	60-75	1
CCX	Rider Transit Center, US 29/I85, JW Clay Light Rail Station	5:30 am to 12:30 am	60-75	1

Figure 7-4: Phase 1 service recommendations



Demand Response Service Recommendations

Phase 1 recommendations for CCTS include transitioning the RouteMatch scheduling system to a web-based platform from the current server-based platform, improving the information available on the website, increasing the marketing/awareness of the service, and initiating steps towards consolidation with Rider. The establishment of two new, shared position, Mobility Managers would help navigate these changes.

The web-based scheduling system allows CCTS more flexibility and upgrade choices as RouteMatch is moving all systems to web (Cloud)-based infrastructure. It also allows CCTS and Rider to migrate to a shared scheduling system – for bulk-purchase cost savings, for coordinating demand response services, and ultimately consolidation. It also allows upgrades to link the phone system to the scheduling system so that the robo-call confirmation or cancellation choices are automatically included in the system rather than needing to be applied manually.

Providing more, easily accessible information on the website would reduce the number of calls with questions to the schedulers. Increasing the marketing of the service would also increase the awareness of the service and how to use/ride the service. Lack of awareness of the service was a concern identified through the community survey effort.

To initiate the consolidation with CCTS with Rider, proposed first steps include creating a regional one-call center, especially for scheduling demand response trips for both systems, but also as a one-stop place for all questions related to transit/mobility in Cabarrus County; evaluating the best location for a combined administration and facility location; and developing a single brand for all transit services in Cabarrus County. Additionally, a formal operation and maintenance facility design build study should be conducted including determination of optimal site location, size, and projected cost.

Vanpool Program

Recognizing that Fixed Route service is not always the most appropriate transit mode for the mobility need, a Vanpool rideshare program is recommended to serve employees and employers throughout Cabarrus County and the surrounding region. Rider can take the lead role in promoting and implementing a Vanpool program that would strive to achieve the initiatives of energy conservation, reducing congestion, improving air quality, reducing vehicle miles, and provide an enhanced regional connectivity. This rideshare program would be more flexible and would allow for more long-distance work commute travel that Fixed Route services cannot efficiently accommodate.

Vanpool Benefits

Rider can provide employers with an opportunity to accommodate a target market of employees who have long commutes to and from the workplace. The intent of this program would be to increase the use of alternative transportation in the region and connect individuals and employers with building a sustainable solution for work-related commuter trips. Employers would benefit through improved worker reliability, productivity, expanded labor market, increased worker retention, and reduced need to expand parking facilities. The regional labor markets are very diverse, and workers commute from many outlying areas to travel to employment centers. The targeted commuters would be those who, but not limited to, commute over 15 miles per one way to work.

Vanpool routes are usually designed to begin at a meeting/pick up location and travel to the worksite. Pick up locations can range from shopping centers, churches, businesses, or designated park and ride lots. In Cabarrus County, pick up locations could include the Rider Transit Center, other future transit hubs, current and future park and ride lots, as well as shopping centers along major travel nodes convenient for vanpool participants. Currently, the only park-and-ride locations available are at the Rider Transit Center and The Village/Big Lots park-and-ride along the CCX route.

Each vehicle would have the seating capacity of 5 to 14 passengers, depending on the size configuration of the vehicle. Minivans are very popular and require fewer passengers, though some agencies deploy 14-passenger vans that can carry many more people. An important distinction between a vanpool program and other transit modes is that the vans are not directly operated by the transit agency, but rather by the passengers themselves using the service. Vanpool participants would be responsible for driving and fueling. Rider Transit would be responsible for all maintenance and periodic cleaning of the vehicles. A vanpool driver could even be allowed to park the vehicle at his

or her residence instead of having to get to a central location, which is particularly convenient for the driver when the vanpool route is far from a transit hub or park and ride.

Phase 1 Steps

During Phase 1, it is recommended that Rider identify potentially interested local employers and conduct internal employee surveys with these employers to assess employee interest and to note the trip patterns made to the workplaces. Interested local employers may be identified through several means: North Carolina Department of Commerce, Cabarrus Regional Chamber of Commerce, and municipal economic development departments. Rider may also receive direct requests from employers for transit services. In addition, the US Census Bureau's LEHD dataset provides quantitative information on commute patterns as well as concentrations of jobs and workers. Rider may use this dataset to identify likely vanpool partners by focusing on employers that have higher job concentrations paired with higher concentrations of worker origins. This type of analysis was conducted for the LRTP using the most recent LEHD data and is included in Chapter 3.

Once the identification of potential vanpool partners and surveys is completed, Rider should review and analyze similar work trips and schedules in order to recommend potential vanpool participants. The data collected from these surveys should be stored in a database to be routinely updated to reflect the listing of employees who could benefit from the vanpool service. It is recommended that the respective human resource departments of the participating agencies be involved in this process, as this gathering of data is effective at new employee orientation. Since the Vanpool program would be a new service, Rider would need to procure vans during the Phase 1 as well as providing necessary insurance coverage. Before initiating the program, Rider would also need to establish the fare structure. Typically vanpool fares are based on fixed, operational and depreciation expenses associated with the van's total monthly mileage. These expenses include fixed costs (insurance, contingency), operational costs (preventative maintenance, repair, fuel, oil, tires, and parts), and depreciation costs (monthly vehicle depreciation). It is recommended that Rider begin with an initial fleet of five vans and grow the fleet in the subsequent phases of the LRTP as the vanpool program expands.

Vanpool Oversight

It is recommended that a Transportation Demand Coordinator (TDM) position be created with responsibilities: managing contracts and agreements with drivers and passengers, collecting passenger and vehicle data, obtaining vehicle maintenance records, reviewing and ensuring accuracy of financials and insurance, and coordinating with Marketing/Community Outreach personnel to market to businesses for which vanpool would be ideal. These services can also be contracted out during the first years while the vanpool program stabilizes.

Rideshare Initiatives

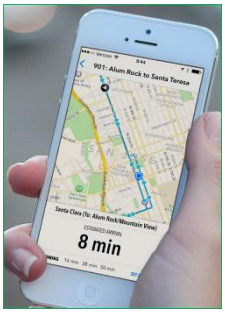
In addition to the vanpool program, Rider may also encourage transportation alternatives to address regional mobility, congestion, and air quality by encouraging carpooling, bicycling, and walking as forms of transportation. Rider may partner with the Share the Ride NC (STRNC), which is a statewide program in cooperation with NCDOT and several transit agencies including Charlotte Area Transit System (CATS). STRNC works by matching commuters with carpools, vanpools, public transit routes, walking partners, and biking partners. Commuters enter data to include their home and work addresses on the STRNC website and the tool finds other commuters with similar commutes. Commuters can then contact other commuters and arrange carpools, vanpools, walking, or biking to work. Incentives are offered by many regional transit agencies and employers through the STRNC website to further encourage ridesharing. If Rider were to partner with STRNC, then its Fixed Route and vanpool options would be made available to Cabarrus County commuters. A partnership with STRNC has the potential to build Fixed Route and vanpool ridership for Rider while addressing congestion and sustainable initiatives in Cabarrus County and throughout the surrounding region.

Other Recommendations

Technology

There are several technology improvements that can be made immediately that would enhance the transit rider experience. The stakeholders identified providing real time information to riders as a desirable technology improvement. Rider can address this immediately by updating existing technology to improve the real time information on their buses using a software platform that will allow users to know the exact location and arrival time of the bus, preferably on mobile devices; there are many great options currently in the market that require minimal infrastructure investment and operate on web-based platforms, such as Swiftly. Better understanding of arrival times

will reduce complaints from riders and may have a positive impact on ridership. This type of software also provides data on route segments and intersections causing avoidable performance issues and will allow Rider to analyze route and improve performance.



Automated passenger counters are recommended for all of the buses. Even when FTA requirement for reporting purposes is only 20 percent of the fleet, once the software is acquired the cost of the individual counters is nominal and can be incorporated in new bus acquisition. This would allow reliable collecting of passenger information boarding and alighting information, providing staff with the tools to perform segment analyses and overall understand the ridership trends.

Capital Improvement Recommendations

In Phase 1, a site-evaluation and design-build study should begin for an administration and maintenance facility for the consolidation of staff and fleet between Rider and CCTS. This design-build study will determine a preferred site for relocation or expansion of the existing undersized facility. This study would include, but not limited to: Needs Analysis, Site Analysis, Environmental Impact Study, Conceptual Layout for Facility, Constraints, and Financial Plan.

Capital Costs in Phase 1 will include Software and Data which is anticipated at $50,000 annually throughout Phase 1, and continued bus stop infrastructure improvements. In the public input sessions, the need for additional amenities was identified which included placing shelters and benches at bus stops as one of the highest priority capital improvements needed. Though a substantial effort is underway, the plan identifies reaching at least 25% of stops with amenities. These amenities include should include other amenities such as benches, shelters, lighting and trashcans. Currently, Rider is in the process of this implementation.

Feasibility Studies

Bus rapid transit, light rail, and/or commuter rail are recommended to be added to the transportation network in Phase 6 (Year 15-20) but planning for these modes of high capacity transit (HCT) need to begin in Phase 1. A joint RFP in coordination with Charlotte Area Transit System (CATS) and feasibility study would need to be completed in Phase 1 and 2 to consider the following factors among others: service mode(s), alignment, ridership forecasts, capital costs, and operating and maintenance costs, socioeconomic impacts, environmental impacts, and traffic impacts.

A feasibility study for the proposed Downtown Concord and Kannapolis Train Station transit hubs would include identifying first steps toward integrating implementable solutions to achieve access to transit, parking availability, enhanced pedestrian and bicycle access and safety, Americans with Disabilities Act (ADA) compliance, connectivity and mobility within Downtown Concord and Kannapolis. This would include, but not limited to: potential transit hub site(s) selection-if the Train Station was not recommended, way-finding (physical signage and transportation information), transit hub design and aesthetics, a financial plan, and a review needed in terms of updates/transformation of current infrastructure of the Kannapolis Train Station. Both transit hubs would be established in Phase 2 (Year 4-6) and operational in Phase 3 (Year 7-9).

Additional studies may be required.

Marketing

Enhanced marketing efforts should begin immediately. Both the Fixed Route and demand response websites should be improved to reduce the volume of calls through customer service. As the call center comes online, the two websites should be merged into a single platform for ease of use and to minimize confusion. In anticipation of system consolidation, Rider and CCTS should develop a joint marketing plan. Building awareness and understanding of transit services was identified by the stakeholders as being a high priority and the marketing plan should be geared towards both current services as well as new services (i.e. routes and expanded service times, modes, etc.) as they come on line.

Vehicles

This phase will continue operating with the existing fleet, since the main operational changes are focusing on longer hours of operation for Rider and same service area for CCTS.

While new vehicles are not required, 8 replacement vehicles are needed for Fixed Route. Demand Response will require 1 new vehicle and 15 replacement vehicles will be needed.

Table 7-2: Phase 1 Operational Need and Purchase Requirement of Vehicles

Fixed Route Vehicles	Year 1	Year 2	Year 3
Revenue Service Vehicle Requirements	8	8	8
Spare Vehicles	2	2	2
Total Fixed Route Vehicle Requirements	**10**	**10**	**10**
Expansion Service Vehicles Required	0	0	0
Replacement Vehicles Required	0	8	0
Total Fixed Route Vehicle Purchase Required	**0**	**8**	**0**
Demand Response Vehicles			
Revenue Service Vehicle Requirements	23	23	24
Spare Vehicles	5	5	5
Total Demand Response Vehicle Requirements	**28**	**28**	**29**
Expansion Service Vehicles Required	0	0	1
Replacement Vehicles Required	8	3	4
Total Demand Response Vehicle Purchase Required	**8**	**3**	**5**

Personnel

In order to achieve the recommendations of Phase 1, Rider and CCTS will need to hire a total of seven new full-time staff. Administrative staff positions are proposed as follows:

Table 7-3: New Personnel Positions

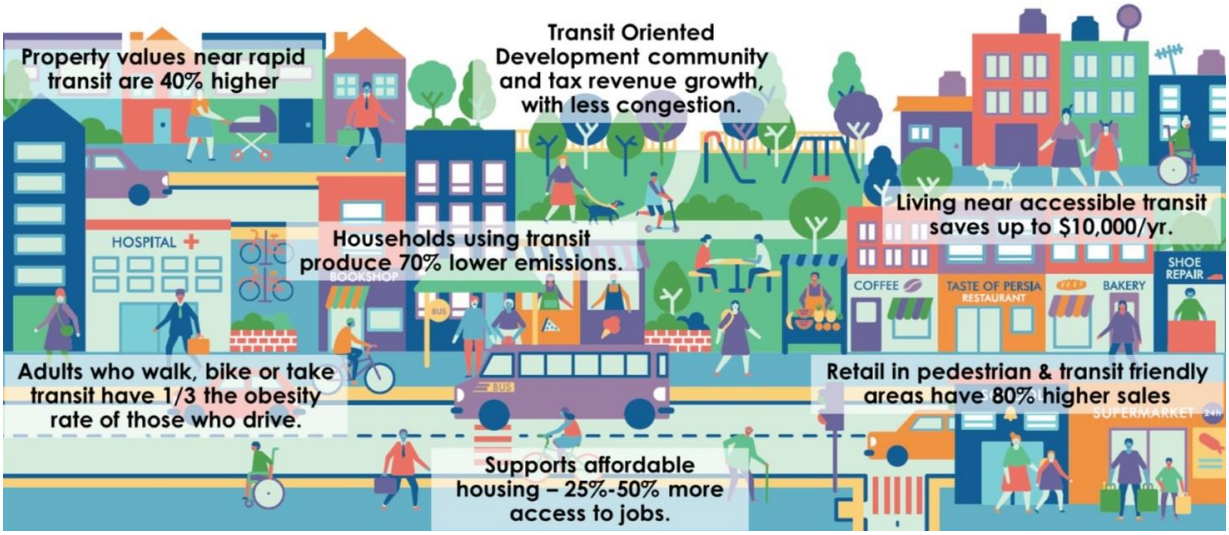
Personnel	
Quantity	Position
1	Marketing & Communications Coordinator
1	Development Reviewer /Data Analyst
1	TDM Coordinator
1	Senior Transit Planner
1	Customer Service - bilingual
1	Senior Mobility Manager
1	Mobility Coordinator
1	Deputy Director

Other

Amendments to the Unified Development Ordinance: Also recommended during this phase is for both systems to work with the municipalities and counties within the service area to add UDO amendments that would require new development that occurs within the service area to include bus stop infrastructure or the acquisition of easements to install shelters and benches. This infrastructure could include stop infrastructure as well as bicycle and pedestrian connections to the stops, where appropriate. The identification of new stops and facilities will be performed by a Development Reviewer/Data Analyst, who would be the liaison with the planning and development offices, developers and the transit system.

To be as competitive as possible in the Small Starts and New Starts programs, Cabarrus County and municipalities should consider increasing population density, employment, and affordability within HCT corridors through zoning and land use planning tools such as higher densities, inclusive zoning, and land use plans.

Figure 7-5: Transit Oriented Development



Phase 1 Total Ridership Forecast

555,000 passenger trips per year

Phase 2 Service Recommendations (Year 4-6)

Fixed Route Service Recommendations

In the Phase 2, the vehicle headway, or frequency would be increased on fixed routes from 60 minutes to 30-40 minutes, Monday through Friday, maintaining 60-75-minute frequency on Saturday and Sunday. Increased frequency was the second most requested operating improvement after later service. Increasing vehicle frequency is the most critical long-term factor to developing an efficient transit network. Increasing frequency is critical to make transit more convenient to riders and a more competitive mode with automobiles. Increased frequency may help to alleviate some of the current capacity issues on Route 3 (Orange) that is experienced on some trips throughout the day. The routes alignment will remain the same during this phase strengthening the core service and in preparation for future expansion.

Service recommendation changes from Phase 1:

- Weekday frequency improved to 30-40 minutes
- Weekday service requires vehicles 2 per route

Demand Response Service Recommendations

In Phase 2 service recommendations, the establishment of countywide general public demand response service would be considered.

Countywide public demand service would be operated in the areas of the county outside ¾ mile of the Rider Fixed Route network, and in demand response feeder zones to keep service in certain areas of Kannapolis that do not have the demand to currently continue operating Fixed Route service. The public demand response service would be requested in a similar manner to the current scheduling method for other CCTS program-based demand response service. Depending on the other technology, service options, and coordination/consolidation steps implemented in this phase, the exact operating arrangement and scheduling options would vary. Riders would request a ride for next day service, initially, with the final goal to be same day on demand county-wide service. This service would be open to the public. The service would connect to the Fixed Route network/transit hubs whenever reasonable to extend the reach of the Fixed Route network. If reasonable, vehicle would pick up riders and take them to the nearest transit hub or designated Fixed Route stop where they could then connect to the Fixed Route system; otherwise origin to destination service would be provided. Trips would be grouped using route scheduling software to maximize efficiency.

There are other options that the agency may consider in implementing the demand response zones: the zones could be directly operated by the system, a service contractor (i.e. taxi companies, private transportation companies, etc.), ridesharing companies (e.g. Uber, Lyft), or any combination thereof. Further, countywide demand response service could potentially be operated as an on-demand microtransit trial with app-based scheduling linked to the vehicles operating in the zones (e.g., Rider paratransit, CCTS demand response, Uber, Lyft, taxis, etc.) with an investment in technology and the development of partnerships. The building of these relationships and investment in technology could additionally be the first steps towards building Mobility as a Service (MaaS) in the region. MaaS refers to a shift away from separate transportation modes and services into a seamless platform of mobility options. MaaS refers to the ability of a user to see a single platform of mobility options in one place – to plan a trip – mode neutral (transit, walking, bicycling, ridesharing, car service, etc.) – and to pay a fare or fee on the same platform – regardless of how many providers, services, modes, fares, billing structures, etc. exist on the back end of the platform. Cabarrus County is uniquely situated to consider MaaS given its central, rapidly growing location within the Charlotte metropolitan area with a variety of mode choice and service operators.

Other Recommendations

The following recommendations are made with the assumption that system consolidation is underway.

Technology

In this phase, Rider and CCTS would need to combine the two Route Match platforms to the current web based software platforms that Rider currently has for ADA Paratransit. This would allow the integration of service and data, facilitating the process and therefore improving customer service.

Another important improvement recommended during Phase 2 is to implement a regional one-call center, especially for scheduling demand response trips for both systems, but also as a one-stop place for all questions related to transit/mobility in Cabarrus County.

Additionally, a significant investment financially and in personnel will be required to transition CCTS and Rider to the same technology platforms such as upgrading the all CCTS vehicles with ZONAR for Pre-Trip inspections, with Touch Pass for electronic fare payment, and with onboard WIFI. This will also require training to all CCTS employees prior to system consolidation.

Capital Improvements.

Capital Costs in Phase 2 will include continuation of Software and Data which is anticipated at $100,000 annually throughout Phase 2, and bus stop infrastructure. Rider Transit will continue with the installation of bus stop infrastructure, including the stops required to commence new service during phase 3. Once the system begins collecting daily data by stop with the use of Automated Passenger Counters (APC) on all Fixed Route vehicles, it will be possible to more accurately assess the types of amenities based on the total number of riders who board and alight at the stop.

In Phase 1 (Year 1-3), the site, design, and build study was completed for the combined administration and maintenance facility for the consolidated service. Now, in Phase 2, construction on the facility should be established and begin operations.

Transit hubs: The transit hubs at Downtown Concord and the Kannapolis Train Station should be established during this phase. This should include benches, shelters, lighting, bathrooms, and kiosks with real-time information installed at the new transit hubs.

In coordination with Charlotte Area Transit System (CATS), Rider can also continue preparing for high capacity transit by applying for either FTA's Small Starts or New Starts funding, depending on the results of the feasibility study. If the feasibility study recommends high capacity transit services that are less than $300M it would fall under the FTA Small Starts program, and the agency can complete Project Development under FTA's Capital Investment Grants Program for the selected high capacity transit corridor(s). If the services are more than $300M, the project would fall under the umbrella of the FTA's New Starts program and the agency should complete the Project and Development Engineering under FTA's Capital Investment Grants Program for the selected high capacity transit corridor(s). Regardless of the type of federal funding that the agency will use to pursue to develop the high capacity transit corridors, right-of-way acquisition can begin during this phase.

Finally, a park-and-ride facility study of existing and planned routes should be conducted identifying first step toward property acquisition, integrating implementable solutions to achieve access to transit, enhanced pedestrian and bicycle access and safety, and Americans with Disabilities Act (ADA) compliance. This would include, but not limited to: Final Park and Ride Site(s) Selection, Way-finding (physical signage and transportation information), Parking lot design and aesthetics (if not already established), and a Financial Plan.

Additional studies may be required.

Vehicles

This phase Fixed Route will require 10 new and 2 replacement vehicles to be able to provide more frequent trips and expand the service area. Expansion Service Vehicle Requirements of 32 new and 10 replacement Demand Response Vehicles will assist with the countywide demand response service, as well as the partnerships with Uber, Lyft, taxis.

Purchase of replacement vehicles will be required due to reaching their useful life by FTA standards of 500,000 miles or 12 years in service for Fixed Route or 150,000 or 5 years for the demand response vehicles.

Table 7-4: Phase 2 Operational Need and Purchase Requirement of Vehicles

Fixed Route Vehicles	Year 4	Year 5	Year 6
Revenue Service Vehicle Requirements	16	16	16
Spare Vehicles	4	4	4
Total Fixed Route Vehicle Requirements	**20**	**20**	**20**
Expansion Service Vehicles Required	10	0	0
Replacement Vehicles Required	2	0	0
Total Fixed Route Vehicle Purchase Required	**12**	**0**	**0**
Demand Response Vehicles			
Revenue Service Vehicle Requirements	49	50	51
Spare Vehicles	10	10	10
Total Demand Response Vehicle Requirements	**59**	**60**	**61**
Expansion Service Vehicles Required	30	1	1
Replacement Vehicles Required	5	5	0
Total Demand Response Vehicle Purchase Required	**35**	**6**	**1**

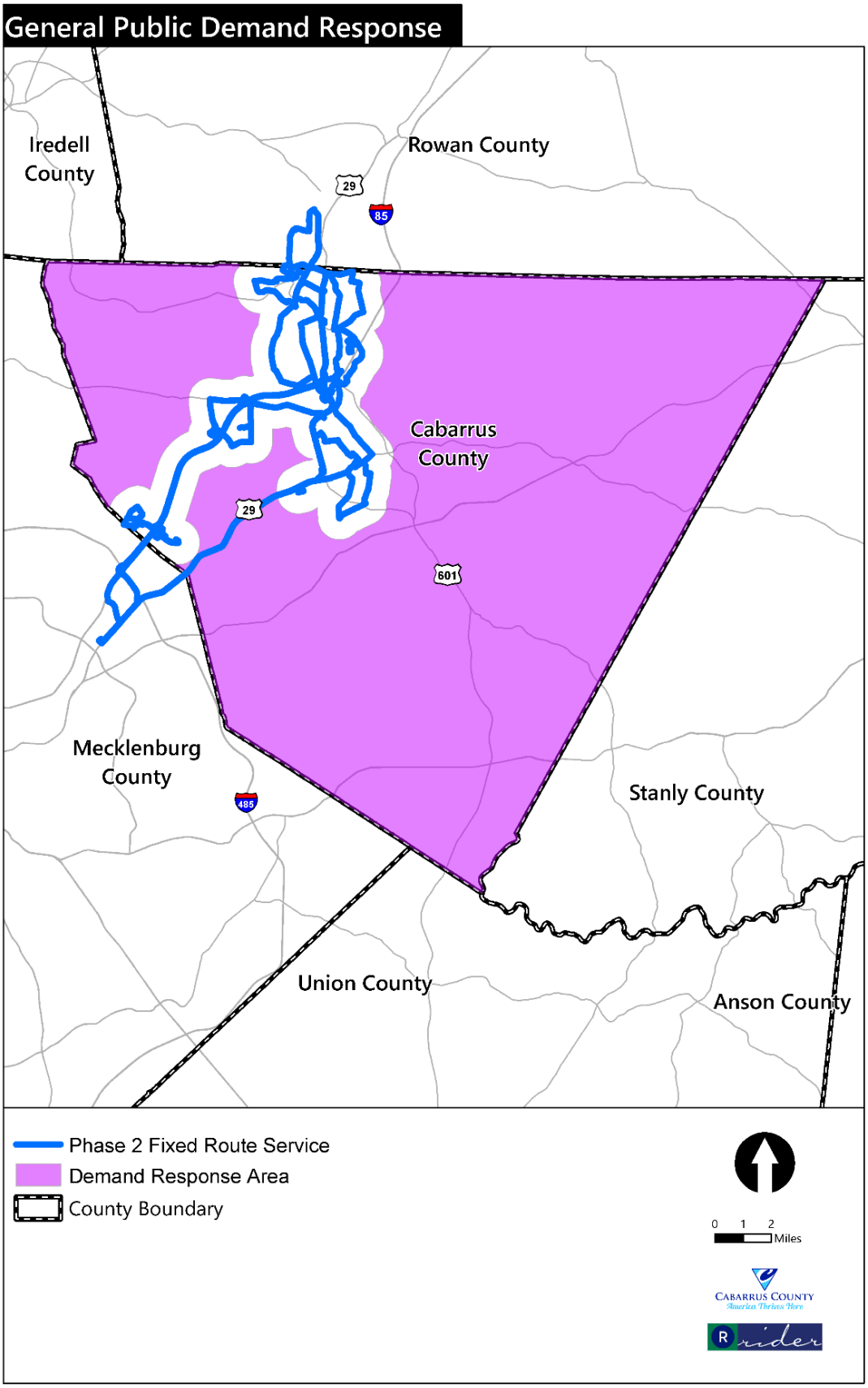
Marketing

In the short-term, the agency should continue the marketing efforts started in Phase 1 by implementing system branding and marks, and creating a website for the newly consolidated system, if not already completed.

Phase 2 Total Ridership Forecast

820,000 – 1,400,000 passenger trips per year

Figure 7-6: Countywide general public demand response service area



Personnel

To achieve the recommendations proposed during this phase, Rider and CCTS will need to hire a total of 10 new full-time staff. Administrative staff positions are proposed as follows:

Table 7-5: New Personnel Positions

Personnel	
Quantity	Position
1	Grants Program Manager
1	Administrative Assistant
1	Procurement Specialist
1	IT & Technology Coordinator
1	Transit Planner
2	Call Center Representative
1	Customer Service Manager
1	Facilities Manager

Other

Citizens Advisory Committee: it is recommended to appoint a committee composed by community stakeholders and community members as the systems advance through the implementation steps, to provide community input and oversight. This committee could report to the Transit Commission, whose members are appointed by the government bodies.

Phase 3 Service Recommendations (Year 7-8)

Fixed Route Service Recommendations

In the Phase 3, two new transit hubs, the Kannapolis Train Station hub and the Downtown Concord hub would be operational. These new hubs would support service for the recommended eight new routes. Route 100 would start at the Kannapolis Train Station and connect the three transit hubs. The route would operate on Cannon Boulevard and Church Street, providing more direct service to move people quickly and efficiently between downtown Kannapolis, the Rider Transit Center, and downtown Concord. For expedited service, it will not enter the Rider Transit Center, but will stop on Hwy 29 just outside of the Rider Transit Center for convenient access while avoiding the delay of entering and exiting the Transit Center property itself. The Route 100 schedule would be offset from Routes 201 and 203 so that peak frequency would be approximately 15 minutes in the corridor. This would be a major service improvement over the current 60-minute service provided in the corridor.

Downtown Kannapolis Circulator and Kannapolis Parkway

Route 101 would serve as a downtown circulator in Kannapolis, running every 30 minutes. It would connect the Kannapolis Train Station with the new baseball stadium, YMCA, public library, and North Carolina Research Campus, and future downtown residential units. This route would offer a convenient option for visitors arriving by train and support the downtown redevelopment projects currently in progress. Route 102 would add connectivity between downtown Kannapolis and new development along NC 3 and Kannapolis Parkway. Route 102 would turn around at the Target at Afton Ridge, enabling connections to other Rider fixed routes. Residents living along Kannapolis Parkway would be able to reach the Rider Transit Center and Concord by connecting at Target instead of having to go up to the Kannapolis Train Station to then head down into Concord.

Route Realignments

Several of the existing routes would be realigned in Phase 3 to increase efficiency and reduce travel times. However, access to transit service would not be cut because of these realignments but rather served by a different route or transit mode, including countywide demand response where needed. Route 201 would no longer serve the West A Street and Main Street loop, but rather proceed north on Main Street to Solution Works Drive to serve businesses and doctors' offices located on Main Street. Additionally, a new route, Route 103, would serve the West A Street and Main Street loop.

Routes 202 and 207 would be streamlined to remove the loops that currently do not generate as many boardings and alightings, which increases the overall travel time. Route 202 would no longer be a loop route, but rather a bi-directional route along Copperfield and Dale Earnhardt Boulevards and would serve the Kannapolis Train Station. Instead of serving the Northlite Walmart once, Route 202 would serve it on both outbound and inbound trips. This service change would allow riders to use Route 202 in both directions and avoid riders having to travel an entire loop to complete a trip. Because of this change, Route 202 would no longer operate on Brantley Road, Cloverleaf Parkway, Concord Lake Road, Lane Street, Little Texas Road, or Midlake Avenue. Both Brantley Road and Lane Street would now be served by Route 103 and Cloverleaf Parkway would be served by Route 301.

Route 301 would depart from the Downtown Concord hub and serve Branchview Drive. Rider has received many service requests for service on this corridor and throughout the LRTP public engagement process. In addition to serving the Branchview Drive corridor, Route 301 would also serve Carolina Mall, Cloverleaf Shopping Center, Daymark, and the Rider Transit Center.

Route 207 would no longer serve Oakwood Avenue but continue north on Main Street to Walker Street. From Richard Avenue, Route 207 would turn west on Rainbow Drive and then northeast on NC 3 to arrive at the Kannapolis Train Station.

George Liles Parkway

Significant development has occurred on George Liles Parkway and more development is expected to follow. In order to address the growing transit need along this corridor, Route 302 is recommended to serve George Liles Parkway, which currently has very limited Fixed Route service. Route 302 would depart from the Downtown Concord hub, following Cabarrus Avenue to Concord Parkway, serving The Grounds at Concord, and then to George Liles Parkway. Route 302 would connect with multiple routes and turn around at the Afton Ridge Target. Route 302 would be a bi-directional route and would serve the Walmart on Concord Parkway. As a result of implementing Route 302, Route 204 would be realigned to serve Old Charlotte Road in both the outbound and inbound directions instead of the

Walmart. Route 203, which serves the Old Charlotte Road, Wilshire Avenue, and Lincoln Street loop in the immediate phase, would be realigned to then serve Wilshire Avenue and Lincoln Street in both directions.

Concord Mills, Derita Road, Rowan-Cabarrus Community College

Circulation within the Concord Mills Corridor has been challenging due to the decentralized development pattern and ever increasing traffic congestion. As noted in the Existing Conditions section, trips are possible, but very inefficient. Currently the route serves Concord Mills and retail, entertainment and employment opportunities to the west of the I-85 corridor at Exit 49, and then hotels and restaurants to the east before returning to the transit center via I-85. This routing pattern provides effective service between the transit center and the Concord Mills area generally speaking, but makes trips within the corridor very challenging. For example, a trip from the Concord Mills Mall Entrance 7 to Embassy Suites would take six minutes while the return trip (Embassy Suites to the mall) would take 54 minutes. Furthermore, the Charlotte Motor Speedway and Concord-Padgett Regional Airport are not served.

To address these challenges, the Concord Mills Circulator route is proposed that would operate on a 15-minute frequency within the corridor. This new route would add service to the speedway and airport and make potential trips within the corridor possible. In order to provide 15-minute frequency, six vehicles would be required. Under the Concord Mills Circulator scenario, the return trip from Embassy Suites to Concord Mills Mall would take approximately 20 minutes instead of 54 minutes. This example trip illustrates the improved circulation by implementing the Concord Mills Circulator.

Route 206, which is analogous to the current Route 6, would no longer serve Concord Mills Mall or other destinations within the corridor. Instead, Route 206 would exit I-85 onto Poplar Tent Road and proceed south on Derita Road serving Amazon, Concord-Padgett Regional Airport, and future development slated for Derita Road. Route 206 would connect with the Concord Mills Circulator at Walmart on Thunder Road. In the interest of efficiency and travel time, the airport stop on Route 206 is recommended to be a deviated stop that is served by request and at specific times that coincide with regularly scheduled commercial flights (e.g. 2 hours before a scheduled flight and 1 hour after the flight lands). As commercial aviation activity increases at the airport, the airport stop should be transitioned to be regularly served.

Since Route 206 would no longer operate within the Concord Mills Circulator, there would be sufficient time to serve RCCC on both the outbound and inbound trips. This service change would allow for more efficient service between the community college and Concord Mills. Because of this improvement, Route 205 would be realigned in the short-term phase to serve the International Business Park at Concord in both outbound and inbound directions. RCCC would be served by Route 206 instead of Route 205. Amazon on Kannapolis Parkway would be served by Route 102 instead of Route 205.

CCX

The CCX operates in a loop fashion using US 29 and I-85 currently and in Phase 1. This routing allows the CCX to operate on an already tight 60-minute cycle, but as a result does not serve any of its stops except the Rider Transit Center and J.W. Clay Light Rail Station on both outbound and inbound trips. In the Phase 3, it is recommended that the CCX be realigned to function as a bi-directional route on US 29 and operate as a local route serving all stops on outbound and inbound trips as route 208. The recommended route would operate on a 90 minute cycle, thereby requiring three vehicles to achieve 30 minute frequency.

In addition, a redesigned CCX would operate on I-85 as a true express route connecting the Rider Transit Center with the JW Clay Light Rail station. This service improvement would be especially important to riders that utilize park and ride lots at the Rider Transit Center and JW Clay, as they would now have all-day access to the park and ride where they left their vehicle. While the CCX may function primarily as a commuter route currently, it is likely to serve many other trip purposes in the future when operating hours are extended. Therefore, having access to park-and-rides during all trips will be more important since the CCX will not just be serving commuters with typical 8 a.m. to 5 p.m. travel patterns. The recommended bi-directional CCX route would operate on a 60-minute cycle with a 30 minute headway.

Service Requirement changes:

- Addition of 8 routes:
    - Route 100
    - Route 101
    - Route 102
    - Route 103
    - Route 208 (CCX Local)
    - Route 301
    - Route 302
    - Concord Mills Circulator
- Weekday- Establish 30-minute frequency throughout all routes except Concord Mills Circulator
- Concord Mills Circulator frequency at 15 minutes

Other Recommendations

The following non-operational recommendations are made for the Phase 3 (Year 7-8).

Capital Improvements

Capital Costs in Phase 3 will include continuation of Software and Data which is anticipated at $140,000 annually throughout Phase 3, and bus stop infrastructure. In this phase and through the entire plan the agency will continue installing bus stop infrastructure, including shelters, benches, lighting and trashcans.

The agency can continue towards the completion of high capacity transit. If the high capacity transit falls under the FTA's Small Starts funding, Rider should receive a funding agreement, and can begin design and construction for the corridor. If it falls under the New Starts funding, Rider can finish the Project Development and Engineering under FTA's Capital Investment Grants Program for the selected high capacity transit corridor(s).

Vehicles

This phase will require the acquisition of 25 new vehicles for the Fixed Route system and 3 new and 11 replacement vehicles for the demand response system.

Purchase of replacement vehicles will be required due to reaching their useful life by FTA standards of 500,000 miles or 12 years in service for Fixed Route or 150,000 or 5 years for the demand response vehicles.

Table 7-6: Phase 3 Operational Need and Purchase Requirement of Vehicles

Fixed Route Vehicles	**Year 7**	**Year 8**
Revenue Service Vehicle Requirements	37	37
Spare Vehicles	8	8
Total Fixed Route Vehicle Requirements	**45**	**45**
Expansion Service Vehicles Required	25	0
Replacement Vehicles Required	0	0
Total Fixed Route Vehicle Purchase Required	**25**	**0**

Demand Response Vehicles		
Revenue Service Vehicle Requirements	52	54
Spare Vehicles	10	11
Total Demand Response Vehicle Requirements	**62**	**65**
Expansion Service Vehicles Required	1	2
Replacement Vehicles Required	8	3
Total Demand Response Vehicle Purchase Required	**9**	**5**

Personnel

To achieve the recommendations in Phase 3, Rider and CCTS will need to hire 1 new full-time staff. Administrative staff position proposed as follows:

Table 7-7: New Personnel Positions

Personnel	
Quantity	Position
1	Marketing & Communications Specialist

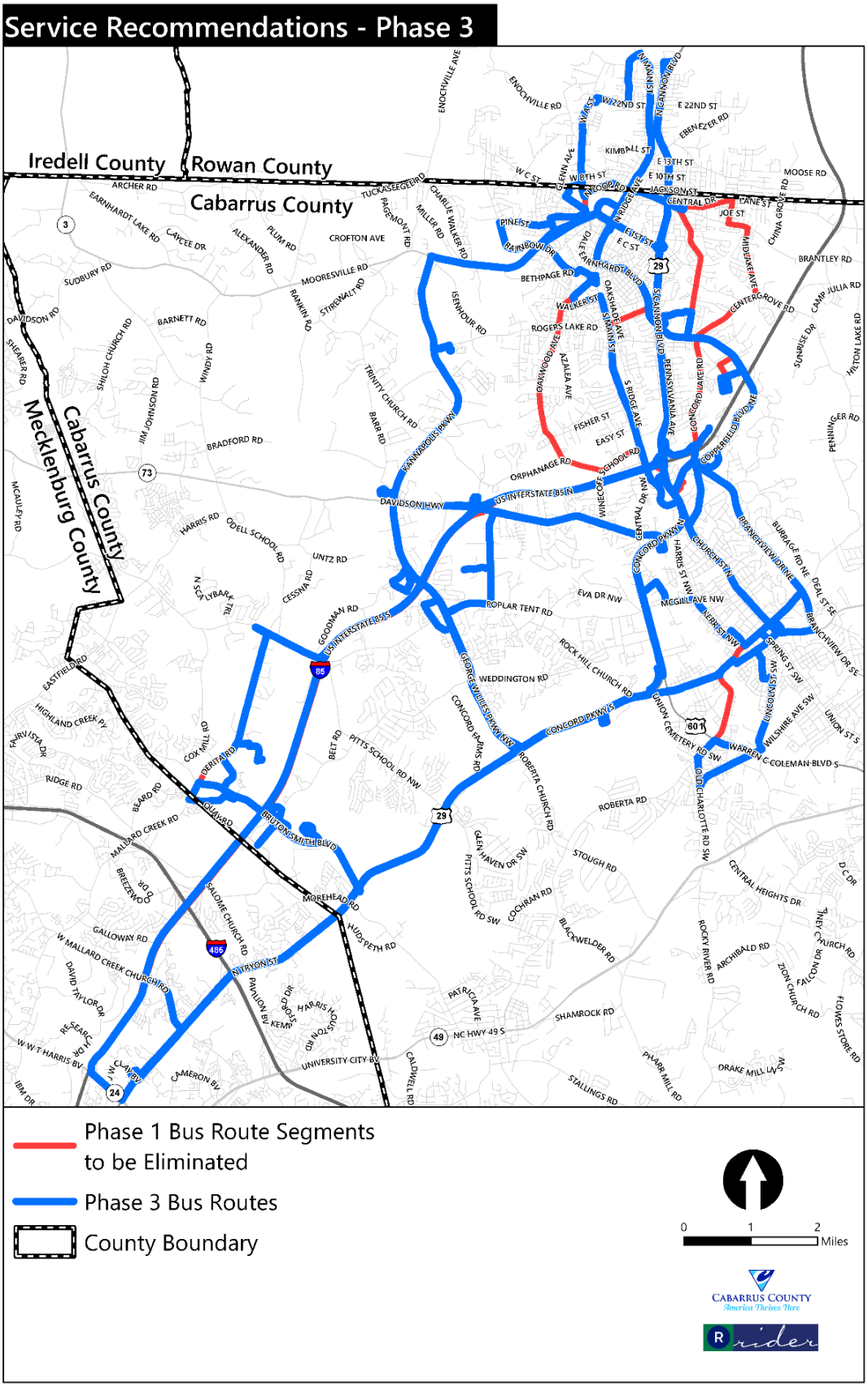
During this phase, a feasibility study would need to be conducted for the location and design of the Harrisburg Town Center hub. This would include identifying first step toward integrating implementable solutions to achieve access to transit, parking availability, enhanced pedestrian and bicycle access and safety, Americans with Disabilities Act (ADA) compliance, connectivity and mobility within Harrisburg Town Center. This would include, but not limited to: Final Transit Center Site(s) Selection, Way-finding (physical signage and transportation information), Transit hub design and aesthetics, and a Financial Plan.

Additional Studies as needed.

Phase 3 Total Ridership Forecast

2,400,000 – 3,100,000 passenger trips per year

Figure 7-7: Phase 3 service recommendations



Phase 4 Service Recommendations (Year 9-11)

Fixed Route Service Recommendations

In the Phase 4, the vehicle headway, or frequency would be increased again on fixed routes from 30 minutes to 15 minutes, Monday through Friday and will continue 60-minute frequency on Saturday and Sunday. Increase in frequency to 15 minutes on all routes will enhance the level of service and provide additional opportunities for riders and non-riders alike to use the system and become a feasible mobility option for all. By increasing frequency, the agency would make transit more convenient to riders and a more competitive mode with automobiles.

Service recommendation changes:

- Span of service for CCX increases to 4:30 am to 2:30 am 7 days per week

Other Recommendations

The following non-operational recommendations are made for Phase 4 (Years 9-11).

Capital Improvements

Capital Costs in Phase 2 will include continuation of Software and Data which is anticipated at $190,000 annually throughout Phase 4, and bus stop infrastructure. Installation of bus stops and continued maintenance will continue during this phase.

The Harrisburg Town Center hub should be established during this phase. This should include benches, shelters, lighting, bathrooms, and kiosks with real-time information installed at transit hubs.

Work towards on the HCT project(s) would continue. If funding is secured, the system, in coordination with Charlotte Area Transit System (CATS), can begin design and construction of the HCT project(s).

Vehicles

This phase will require the acquisition of 37 new and 20 replacement vehicles for the Fixed Route system and 4 new and 46 replacement vehicles for the demand response system.

Purchase of replacement vehicles will be required due to reaching their useful life by FTA standards of 500,000 miles or 12 years in service for Fixed Route or 150,000 or 5 years for the demand response vehicles.

Table 7-8: Phase 4 Operational Need and Purchase Requirement of Vehicles

Fixed Route Vehicles	Year 9	Year 10	Year 11
Revenue Service Vehicle Requirements	68	68	68
Spare Vehicles	14	14	14
Total Fixed Route Vehicle Requirements	**82**	**82**	**82**
Expansion Service Vehicles Required	37	0	0
Replacement Vehicles Required	8	0	12
Total Fixed Route Vehicle Purchase Required	**45**	**0**	**12**
Demand Response Vehicles			
Revenue Service Vehicle Requirements	55	56	58
Spare Vehicles	11	11	12
Total Demand Response Vehicle Requirements	**66**	**67**	**70**
Expansion Service Vehicles Required	1	1	2
Replacement Vehicles Required	5	35	6
Total Demand Response Vehicle Purchase Required	**6**	**36**	**8**

Personnel

In order to achieve the recommendations in the short term, Rider will need to hire one full time staff. Staff job titles will be broken down as follows:

Table 7-9: New Personnel Positions

Personnel	
Quantity	Position
1	HCT Program Manager

Phase 4 Total Ridership Forecast

4,800,000 – 5,200,000 passenger trips per year

Phase 5 Service Recommendations (Year 12-14)

Fixed Route Service Recommendations

Four new routes are recommended in Phase 5 that would expand Fixed Route service in Concord, Kannapolis, and extend service into Harrisburg and Huntersville. The Harrisburg Town Center hub would open in the Phase 5 in order to support Harrisburg Fixed Route service. The CCX frequency increased from 30 minutes to 15 minutes on Saturday and Sunday to more closely match the LYNX Blue Line operating schedule. Four vehicles would be required to operate the CCX. Overall Fixed Route Saturday and Sunday frequency will increase from 60 minutes to 30 minutes on all routes except Route 101, Concord Mills Circulator, CCX (all at 15 minute frequency), and the CHX (45 minute frequency), which all match their weekday frequency. The phase 5 service recommendations are summarized in Figure 7-8.

Expanded Service in Concord

Significant growth has occurred along Poplar Tent Road and is expected to increase in the future. In response to this existing and potential growth, a new route, Route 303, is recommended. Route 303 would depart from the Downtown Concord hub and follow Church Street to McGill Avenue. The route would then proceed west on Poplar Tent Road to I-85 where it would exit the interstate onto Concord Mills Boulevard. Route 303 would end at Concord Mills and connect with the Concord Mills Circulator. This route would be bi-directional, thereby providing efficient connections to Downtown Concord and Concord Mills to residents on Poplar Tent Road.

Express Service from Kannapolis to Charlotte

Most Kannapolis workers are employed in Charlotte according to LEHD data, followed by Concord. There is currently not an express route connecting Kannapolis and Charlotte. Instead, Kannapolis riders would have to take Route 201 to the Rider Transit Center and then connect to the CCX route. In order to reduce travel times and eliminate transfers, the KCX route is recommended in order to serve this commuter market with an express service. The Kannapolis Charlotte Express (KCX) would start at the Kannapolis Train Station and take NC 3 to Kannapolis Parkway. The route would follow Kannapolis Parkway to I-85 where it would then proceed south to the JW Clay LYNX Station. The routing would be the same for outbound and inbound trips. Due to the express nature of this service, there would be limited stops along the route. By operating on Kannapolis Parkway and George Liles Parkway, the KCX would greatly expand express route service coverage to commuters living along these corridors. The KCX cycle time is estimated to be 90 minutes, which would require six vehicles in order to provide 15-minute frequency.

Connections with Harrisburg

The Town of Harrisburg is not currently served by Fixed Route service and is often mentioned in requests for service. Harrisburg was also identified as a service gap through the LRTP public engagement process. Current LEHD data reveals that the majority of Harrisburg residents commute to locations outside the Harrisburg community. According to LEHD, 96 percent of Harrisburg workers commute to locations outside of the town. The statistics also show that of the workers employed within Harrisburg, 93 percent commute into Harrisburg from other locations. These two statistics demonstrate that there is an underserved transit market, particularly for work-related commuters. Further analysis using LEHD data shows that both Charlotte and Concord are the top two places where Harrisburg residents commute to and from where Harrisburg workers commute from.

Route 304 is recommended in Phase 5 connecting Harrisburg with Concord and Charlotte. Route 304 would depart from the Downtown Concord transit hub, taking Union Street south across Highway 49 to the Southgate Commons Shopping Center on US Highway 601. Union Street is another corridor that does not have Fixed Route transit service today, but Rider Transit has received requests for providing some level of Fixed Route service since the inception of service in 2004. Service on Union Street was also requested through the LRTP public engagement process. Southgate Commons Shopping Center could be identified as a park and ride lot for commuters. The route would then continue to down Highway 49, stopping at the Harrisburg transit hub at Town Center. After Town Center, Route 304 would continue on NC 49 and to arrive at the University City LYNX Station.

Service to Huntersville

Huntersville is a community within Mecklenburg County with limited Fixed Route service but has high percentages of commuters. According to LEHD data, 90 percent of Huntersville workers commute to locations outside of the town. Of the workers employed within Huntersville, 87 percent commute into Huntersville from other locations. The Concord Huntersville Express (CHX) route is recommended for cross town/cross county connecting of Huntersville and

Concord. Two options were reviewed for potential routes. The CHX would depart from the Rider Transit Center and follow NC 73 to Huntersville. The first option would proceed to Birkdale Village at exit 25 off I77. The second option would head south on Old Statesville Road, serving downtown Huntersville and proceed west on Gilead Road stopping at the Charlotte Area Transit System (CATS) Huntersville Gateway park and ride lot, and serving the Novant Health Huntersville Medical Center. The CHX route would connect with CATS routes 48X, 77X, 97, 98 (Option B only) and 99, expanding transit options to Charlotte, Cornelius, and Davidson. Exact routing will be determined closer to implementation. The CHX would operate on a 45-minute cycle and frequency in Phase 5.

Service recommendation changes:

- Addition of 4 routes:
    - Route 303
    - Route 304
    - Concord-Huntersville Express (CHX)
    - Kannapolis-Charlotte Express (KCX)
- Weekend frequency improves to 30 minutes except for Route 101 and Concord Mills Circulator which stay at 15 minutes and the CHX which goes to 90 minute frequency.

Phase 5 Total Ridership Forecast

6,400,000 – 6,600,000 passenger trips per year

Other Recommendations

The following non-operational recommendations are made for Phase 5 (Year 12-14).

Capital Improvements

A new transit hub at Harrisburg Town Center. Bus stops infrastructure will continue during this phase. HCT construction continues during this phase. Construction is expected to go over several years and into the next phase.

Vehicles

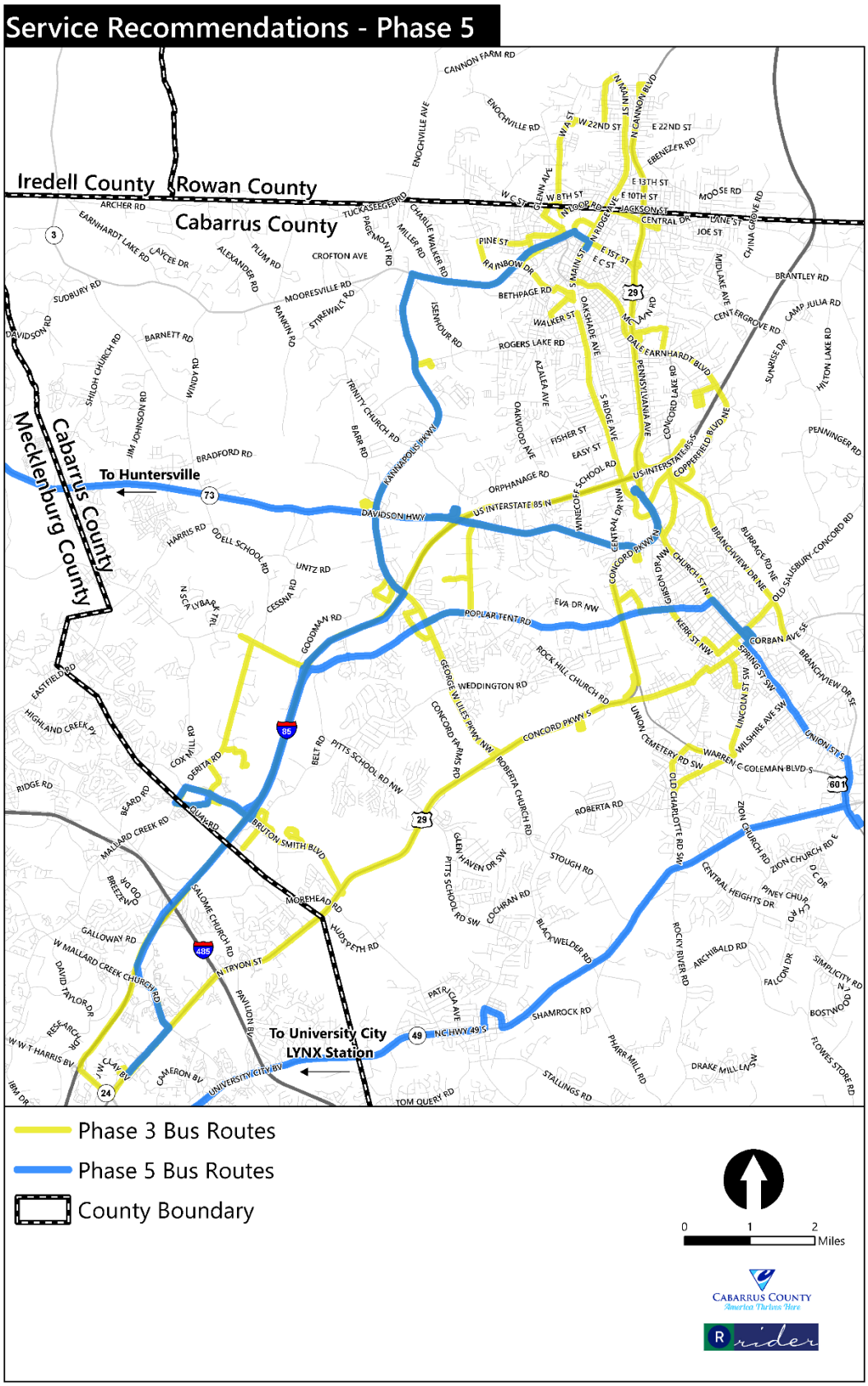
This phase will require the acquisition of 24 new vehicles and 25 replacement vehicles for the Fixed Route system and 4 new vehicles and 15 replacement vehicles for the demand response system.

Purchase of replacement vehicles will be required due to reaching their useful life by FTA standards of 500,000 miles or 12 years in service for Fixed Route or 150,000 or 5 years for the demand response vehicles.

Table 7-10: Phase 5 Operational Need and Purchase Requirement of Vehicles

Fixed Route Vehicles	Year 12	Year 13	Year 14
Revenue Service Vehicle Requirements	88	88	88
Spare Vehicles	18	18	18
Total Fixed Route Vehicle Requirements	**106**	**106**	**106**
Expansion Service Vehicles Required	24	0	0
Replacement Vehicles Required	0	0	25
Total Fixed Route Vehicle Purchase Required	**24**	**0**	**25**
Demand Response Vehicles			
Revenue Service Vehicle Requirements	**59**	**61**	**62**
Spare Vehicles	12	12	12
Total Demand Response Vehicle Requirements	**71**	**73**	**74**
Expansion Service Vehicles Required	1	2	1
Replacement Vehicles Required	1	9	5
Total Demand Response Vehicle Purchase Required	**2**	**11**	**6**

Figure 7-8: Phase 5 service recommendations



Phase 6 Service Recommendations (Year 15-20)

Fixed Route Service Recommendations

The most prominent service improvement in Phase 6 is the introduction of high capacity transit (HCT), which could include bus rapid transit (BRT), light rail, and/or commuter rail. One additional route in Harrisburg is recommended.

Expanded Connections from Harrisburg

Route 401 is proposed as a bi-directional loop route that would start and end at the Harrisburg Town Center hub. The route would depart from Town Center and proceed north on Morehead Road to US 29 where it would connect with other fixed routes at the Charlotte Motor Speedway. In the future, Route 402 would connect with HCT recommended in the US 29 corridor. Route 401 would serve the Walmart Neighborhood Market on US 29 and then turn south onto Pitts School Road. Rider has received numerous service requests for Pitts School Road, which is currently not served by Fixed Route transit. Route 401 would return to Town Center via Roberta Road. The cycle time for this route is estimated to be 30 minutes. Therefore, a 15-minute frequency could be provided with 2 vehicles, one running in each direction.

Introduction of High Capacity Transit (HCT)

Through the LRTP stakeholder and public engagement processes, the following corridors have been identified for potential HCT service:

- HCT-1: Extension from JW Clay LYNX Station on US 29 to current and future development at The Grounds at Concord
- HCT-2: Extension from JW Clay LYNX Station to exit 49 corridor serving Concord Mills and Concord-Padgett Regional Airport
- Commuter Rail: North Carolina Railroad Corridor from the Charlotte Amtrak Station to future stations in Harrisburg and Concord as well as the existing Amtrak station in Kannapolis.

In the HCT-1 and 2 corridors, the potential transit modes are bus rapid transit (BRT) or light rail transit (LRT). BRT in dedicated guideway is a cost-effective solution that can mimic rail operations, with a lower passenger capacity per vehicle, but also lower per vehicle cost. Dedicating roadway for bus can be installed cheaper and faster than rail. Corridor-based BRT projects do not require separated right-of-way for most of the corridor unlike fixed-guideway BRT projects. LRT technology can couple multiple vehicles to carry greater passenger volumes compared to BRT. Vehicle length and conflicts with auto traffic may limit service ability to operate in the densest areas, but it can contribute to potential economic development. LRT has higher capital and annual operating costs due to the rail guideway and electrified infrastructure systems.

The specific transit mode(s) and alignments would be determined during feasibility studies that would consider the following factors among others: ridership forecasts, capital costs, and operating and maintenance costs, socioeconomic impacts, environmental impacts, and traffic impacts. The feasibility studies are recommended to be conducted during Phase 1.

Assuming federal funding would be sought for HCT projects, Rider would apply for Project Development under the FTA Capital Investments Grant (CIG) Program once the feasibility studies are prepared. CIG projects require local funding commitments. Examples of projects and the implementation steps for each category are summarized in Table 7-11. Small Starts projects are usually completed in a shorter timeframe than New Starts projects.

As part of the FTA evaluation of Small Starts and New Starts projects, the following criteria are considered: mobility improvements, cost effectiveness, congestion relief, environmental benefits, land use, economic development, and local financial commitment. However, the majority of these criteria are unknown at this conceptual planning stage. The noted criteria where data is currently available, is land use, which includes population density, employment, and affordability. Affordability is measured as the “proportion of legally binding affordability restricted housing in the project corridor compared to the proportion in the counties through which the project travels” (FTA, 2016).

A summary of the transit service operating in phase 6 is summarized in Figure 7-9.

Table 7-11: Summary of Small Starts and New Starts processes

	Small Starts *Project cost less than $300 million*	New Starts *Project cost equal to or greater than $300 million*
Project types	▪ New fixed guideway systems (light rail, commuter rail etc.) ▪ Extension to existing system ▪ Fixed guideway BRT system ▪ Corridor-based BRT system	▪ New fixed guideway systems (light rail, commuter rail etc.) ▪ Extension to existing system ▪ Fixed guideway BRT system
Phase 1 Implementation Steps	Conduct feasibility studies for the HCT corridors and apply for Project Development under the FTA CIG Program	
Phase 3 Implementation Steps	Complete Project Development under the FTA CIG Program for the selected HCT corridor(s)	Complete Project Development and Engineering under the FTA CIG Program for the selected HCT corridor(s)
Phase 5 Implementation Steps	Receive a funding agreement for the selected HCT corridor(s) through the FTA CIG Program Construct and commence service in HCT corridors	
Phase 6 Implementation Steps	Commence service	Receive a funding agreement for the selected HCT corridor(s) through the FTA CIG Program Construct and commence service in HCT corridors

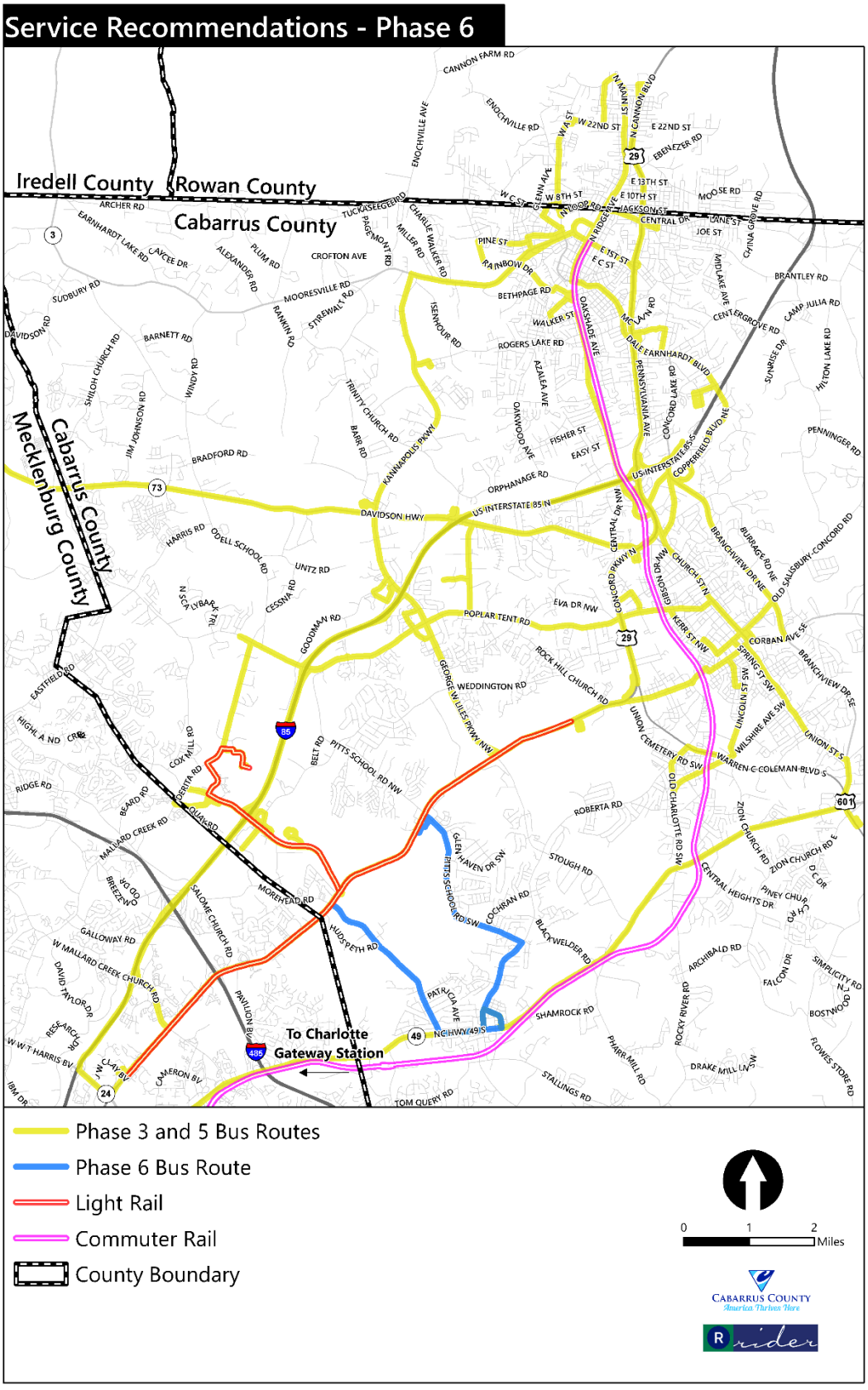
Using population and household data from the ACS, employment data from LODES, and a database of affordable housing units from the National Historic Preservation Database (NHPD), three selected land use criteria were calculated for the HCT corridor areas. Each land use criterion may receive a high, medium-high, medium, medium-low, or low rating based on ranges established by the FTA (Table 7-12). It is important to remember that land use is just one criterion among several that the FTA uses to evaluate Small Starts and New Starts projects. However, land use is one area in which project stakeholders can take a proactive approach in designing a competitive transit project through land use planning and policy.

Table 7-12: Small Starts and New Starts breakpoints for selected land use criteria

Rating	Population Density *Persons per square mile*	Employment *Jobs served by the system*	Affordability
High	15,000 or more	220,000 or more	2.50 or more
Medium-High	9,600 to 15,000	140,000 to 219,999	2.25 to 2.49
Medium	5,760 to 9,599	70,000 to 139,999	1.50 to 2.24
Medium-Low	2,561 to 5,759	40,000 to 69,999	1.10 to 1.49
Low	2,560 or less	40,000 or less	1.10 or less

As stated earlier, to be as competitive as possible in the Small Starts and New Starts programs, Cabarrus County and municipalities should consider increasing population density, employment, and affordability within HCT corridors through zoning land use planning tools such as higher densities, inclusive zoning, and land use plans.

Figure 7-9: Phase 6 service recommendations



Other Recommendations

The following non-operational recommendations are made for Phase 6 (Year 15-20).

Additional studies as needed.

Capital Improvements

HCT construction is finished and operations begin.

Bus stops/HCT infrastructure will continue during this phase.

Vehicles

This phase will require the acquisition of 2 new 57 replacement additional vehicles for the Fixed Route system and 10 new and 69 replacement vehicles for the demand response system.

Purchase of replacement vehicles will be required due to reaching their useful life by FTA standards of 500,000 miles or 12 years in service for Fixed Route or 150,000 or 5 years for the demand response vehicles.

Table 7-13: Phase 6 Operational Need and Purchase Requirement of Vehicles

Fixed Route Vehicles	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Revenue Service Vehicle Requirements	90	88	88	88	88	88
Spare Vehicles	18	18	18	18	18	18
Total Fixed Route Vehicle Requirements	**108**	**106**	**106**	**106**	**106**	**106**
Expansion Service Vehicles Required	2	0	0	0	0	0
Replacement Vehicles Required	0	45	0	12	0	0
Total Fixed Route Vehicle Purchase Required	**2**	**45**	**0**	**12**	**0**	**0**
Demand Response Vehicles						
Revenue Service Vehicle Requirements	64	65	67	69	70	72
Spare Vehicles	13	13	13	14	14	14
Total Demand Response Vehicle Requirements	**77**	**78**	**80**	**83**	**84**	**86**
Expansion Service Vehicles Required	2	1	2	2	1	2
Replacement Vehicles Required	6	36	8	2	11	6
Total Demand Response Vehicle Purchase Required	**8**	**37**	**10**	**4**	**12**	**8**

Phase 6 Total Ridership Forecast

6,400,000 – 6,900,000 passenger trips per year

*** This ridership projection does NOT include ridership gained from the addition of HCT projects****

8. Funding and Financial Plan

This section explores funding sources available to CCTS and Rider to fund service improvements. Initial, baseline service funding for new systems typically comes from a blend of federal, state and some local sources. Initial funding sources are very limited, and their growth over time generally cannot support system expansion. Transit systems that are looking to expand transit service must find alternative ways to increase funding and those rely mostly on local sources. Finding a dedicated funding source that over time funds service improvements is one of the biggest challenges transit agencies face and is the key to long term success. The information below describes those traditional and non-traditional funding sources.

Traditional Funding Sources

The traditional funding sources are those related to federal, state and local sources. The federal and state programs provide annual allocations to transit agencies that qualify for funding, and are formula based. These federal and state funding sources usually require some level of local matching funds, typically 20%-50%.

Urbanized Area Formula Grant - Section 5307 Program

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

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

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

FTA provides funding to eligible recipients for costs incurred in the *operation of public transportation service.* In general, operating expenses are those costs necessary to operate, maintain, and manage a public transportation system. Operating expenses usually include such costs as driver salaries, fuel, and items having a useful life of less than one year.

Established under MAP-21 and upheld by FAST Act legislation, the Section 5307 grant program also includes eligible activities from the Job Access and Reverse Commute (JARC) Program (formerly known as Section 5316), which focuses on providing services to low-income individuals to access jobs. These activities include operating assistance with a 50 percent local match for JARC activities. In addition, the urbanized area formula for distributing funds now includes the number of low-income individuals as a factor. There is no minimum or maximum amount of funding that can be spent on JARC activities. JARC can also be used to fund capital projects that are aligned with eligibility guidelines.

The local match required for the Section 5307 funding can vary from 10 percent to 50 percent depending on the type of project. The federal share for *planning and capital projects* that receive funding under the Section 5307 Program is

generally 80 percent of the project cost. There are several notable exceptions in which the federal share may exceed 80 percent for certain projects related to ADA, the Clean Air Act, and certain bicycle projects as follows:

Vehicles. The federal share is 83 percent for the acquisition of vehicles for purposes of complying with or maintaining compliance with the Americans with Disabilities Act of 1990 (ADA; 42 U.S.C. 12101 et seq.) or the Clean Air Act (CAA; 42 U.S.C. 7401 et seq.).

Vehicle-Related Equipment and Facilities. The federal share for project costs for acquiring vehicle-related equipment or facilities (including clean fuel or alternative fuel vehicle-related equipment or facilities) for purposes of complying or maintaining compliance with the CAA, or required by the ADA, is 90 percent.

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

Bus and Bus Facilities Grant – Section 5339

The Bus and Bus Facilities is a formula grant program created by MAP-21 legislation which replaced the previous Section 5309 discretionary Bus and Bus Facilities program. This capital program provides funding to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities. Distribution of this grant is formula based and normally requires a 20 percent local match. A portion of the total Section 5339 program has been also set aside as a discretionary pot of funding through the FAST Act. These competitive grants also provide additional federal resources to state DOTs and individual transit systems to replace, rehabilitate and purchase buses and related equipment and to construct facilities including technological changes or innovations to modify low or no emission vehicles or facilities. A sub-program, the Low- or No-Emission Vehicle Program, provides competitive grants for projects that support the purchase or rehab of those specified vehicles.

FTA Section 5339(a) – Bus and Bus Facilities *formula* grant	Provides capital funding to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities.	• Designated recipients of urbanized areas. • State DOTs that operate or allocate funding to Fixed Route bus operators. • Sub-recipients include public agencies or private non-profits engaged in public transit.	Up to 80% of eligible capital expenses.
FTA Section 5339(b) – Bus and Bus Facilities *discretionary* grant	Provides capital funding to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities.	• Designated Recipients of urbanized areas. • State DOTs that operate or allocate funding to Fixed Route bus operators. • Sub-recipients include public agencies or private non-profits engaged in public transit.	Up to 80% of eligible capital expenses.

Capital Investment Grants – Section 5309

This FTA discretionary grant program funds transit capital investments, including heavy rail, commuter rail, light rail, streetcars and bus rapid transit. Federal transit law requires transit agencies seeking CIG funding to complete a series of steps over several years. For New Starts and Core Capacity projects, the law requires completion of two phases in advance of receipt of a construction grant agreement – Project Development and Engineering. For Small Starts projects, the law requires completion of one phase in advance of receipt of a construction grant agreement – Project Development. The law also requires projects to be rated by FTA at various points in the process according to statutory criteria evaluating project justification and ensuring local financial commitment.

Flexible Funding Program – Surface Transportation Program (STP) Funds

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

Metropolitan Transportation Planning Program - Section 5303 Program

Section 5303 provides funding and procedural requirements for multimodal transportation planning in metropolitan areas and states. Planning needs to be cooperative, continuous, and comprehensive, resulting in long-range plans and short-range programs reflecting transportation investment priorities. In North Carolina, each urbanized area receives a Section 5303 allocation from NCDOT for MPO transit planning activities based on a funding formula. NCDOT Integrated Mobility Division (IMD) provides one half the local match (10 percent) for FTA Section 5303 funded transit planning tasks. Section 5303 and Section 5307 funds can be used by local agencies to support transit planning activities.

State Maintenance Assistance Program

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

SMAP has played a significant role in public transportation budgets throughout North Carolina. However, the state’s budget bill for FY 19 (House Bill 99) included a recurring reduction in SMAP of approximately 26 percent between FY 2018 and FY 2019. There is no certainty that these funds are going to grow and they might even be eliminated, which could really impact the provision of service in the Cabarrus County area.

Other Traditional Sources for Consideration

In addition to federal and state funding sources outlined above Rider and CCTS should consider applying for the following available competitive programs to supplement transit activities.

Enhanced Mobility of Seniors and Individuals with Disabilities Program – Federal Section 5310

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

Section 5310 funding for the Concord UZA is currently managed by the City of Concord. Operating funds are available through this program only after Section 5310 Capital funding has been allocated and are funded with a 50 percent local match requirement when available. Applications for this competitive program must demonstrate project value towards enhanced mobility for seniors and individuals with disabilities to include filling a gap in service to these populations or otherwise expanding their access through the service. The current amount of 5310 funds allocated to the Concord UZA averages less than $200,000 per year.

Urban Advanced Technology Grant Program

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

NCDOT IMD Mobility Management Program

NCDOT IMD considers applications for a competitive and limited Mobility Management grant program for regional systems. Applicants must complete a mobility management worksheet and budget sheet to submit with their application documents for consideration of funding. PTD only considers applications from multi-county or regional systems and will not fund a mobility management program that it determines duplicates efforts within the same geographic and/or service area. Statewide funding for this program averages approximately $1,000,000 annually.

NCDOT Urban State Match Program

NCDOT IMD provides an Urban State Match funding program to be used as a match for both federally (FTA and FHWA) funded and locally funded urban transit projects. Federal funds matched through this program include 5307 Urbanized Area Formula Grants, 5339 Bus and Bus Facilities, 5310 Elderly and Disabled, and Discretionary grants from the United States Department of Transportation FTA. Applicants can submit an unlimited number of requests for up to a ten percent state match for projects funded with Federal funds or local funds for facility and vehicle replacement projects. Funding is allocated based on transit system operating performance factors, vehicle fleet characteristics, and past receipt of state matching funds and availability of state funds. The availability and amount of funding varies from year to year.

Alternative Funding Sources

Alternative sources of funding were investigated to provide options to implement and fund the transit system in the future years. In total, three sources could be feasibly implemented into the system's structure to supplement current federal, state, and local funding and operating revenues.

These sources require state, county or municipal approval and would be generated through fees and taxes. Transportation bonds and a dedicated transit sales tax would have to be approved by voter referendum while additional vehicle registration fees and rental car taxes would need approval from the local government. Depending on which source or sources are selected, the proposed funding source would need to be marketed to the public and show how the additional revenues would help directly benefit the system. All of these methods have a high administrative complexity because of the process required for approval and management. However, each of these alternative sources have the potential to supplement the system revenues greatly and would benefit the system overall.

County Vehicle Registration Fee for Transit

As of 2009, counties also can impose a vehicle registration fee for transit that would be shared on a pro rata basis with municipalities within their boundaries that operate transit systems. This fee can be up to $7.00 per registration and, like the city-imposed fee, the proceeds can be used for financing, constructing, operating and maintaining a transit system. To enact this fee, the county commission must adopt a resolution following a public hearing.

General Obligation Bonds

Under North Carolina law, any local government may issue bonds secured by its tax levying authority. These are known as General Obligation Bonds. Transportation bonds are an excellent way to generate extra revenues when there are specific capital projects in need of funding. The first step is to apply to the N.C. Local Government Commission for approval and obtain approval from the governing body (City Council or County Commissioners) after a public hearing. The bonds need to be approved by referendum and the majority of those voting approve the bonds. The bonds must be directed to a certain improvement or set of improvements and are a one-time revenue. Bonds may be issued seven years after approval.

Sales Taxes

Projected sales tax revenues are shown in this section. In order to fund the current transit service by Rider and CCTS, local revenues have been used. In addition, this section presents a one cent dedicated transit sales tax. Revenue from a dedicated one cent sales tax (implemented in Year 1) is also calculated for the entire 20-year plan period and shown below in Table 8-1. The revenues for federal and state funding were projected using a conservative 1.3% growth rate over the duration of the 20-year plan. This rate was determined by analyzing past growth rates for federal and state funding for the last decade. It is noted that only existing formula funds were projected for both federal and state funds. This conservative approach does not assume the award of any potential federal or state discretionary funding.

In 2009, the North Carolina General Assembly through NC GS § 105-506.1, authorized counties to consider a ¼ cent sales tax on all but food sales to support public transportation systems in counties and municipalities that operate transit systems. These funds can be used for financing, operating, maintaining and constructing public transportation systems, but the funds cannot replace existing funds. The funds can also be used for first mile/last mile improvements, such as sidewalks, greenways and bike infrastructure that connect to the transit system.

Only counties may impose this tax, and it may be adopted by the county commission only if it passes a voter referendum. Municipalities need special permission if they want to add a similar tax on their own. Counties also need special permission from the General Assembly if they want to raise more than ¼ cent tax.

The results of a referendum would be allocated based on the populations of jurisdictions that provide transit service. This tax could generate a total of $34 million, as of today, for transit in Cabarrus County if a one cent tax was to be implemented. This is currently the only funding mechanism that will allow for the implementation of most of the service recommendations in Chapter 7.

Table 8-1: Revenues Generated (20-year plan summations)

Potential 1 Cent Sales Tax Adjusted	$783,266,087.87
Federal Allocation Adjusted	$49,996,934.71
State Allocation Adjusted	$15,707,459.46
Rider Fare Recovery (not adjusted)	$50,246,582.40
CCTS Medicaid Reimbursements (not adjusted)	$31,398,707.06
Total	$**930,615,771.49**

Financial Plan

The Cities of Concord and Kannapolis and Cabarrus County embarked on a process that will transform their transportation systems, and communities, in years to come, if the Long Range Public Transportation Master Plan is implemented successfully. Additional service, increased frequency, service on-demand with the demand response zones and other recommendations will contribute to remove pressure on their existing, limited networks. The agencies' vision is bold and ambitious and responds to the future changes Cabarrus County is facing. The financial plan in Appendix G shows the funding mechanisms to implement those changes and the path to achieve success.

Transit Service Investment

The amounts shown below are total amounts for the entire 20-year, six phase implementation period, not including projected costs for High Capacity Transit. The total capital amount shown includes the addition of new transit vehicles (Fixed Route and Demand Response) over the life of the plan; replacement vehicles, bus amenities, technologies, software and data, a new administrative and maintenance facility, several feasibility studies required during the life of the plan, 3 new transit hubs in Cabarrus County, and park-and-ride facilities.

Table 8-2: Total 20 Year Non-High Capacity Transit Plan Implementation Costs

Total Operational Costs	$759,482,819
Total Capital Costs	$201,374,000
Total Personnel Costs	$54,070,056
Total Costs	**$ 1,014,926,874.58**

Potential Funding Sources

The new services proposed in this document were developed based on input from a variety of sources and are categorized into six primary phases. The proposed new transit services are those that fit into one of several categories including expanded service hours, additional frequency and additional routes.

Table 8-3: Total Plan Projected Revenue

Potential 1 Cent Sales Tax Adjusted	$	783,266,087.87
Federal Allocation Adjusted	$	49,996,934.71
State Allocation Adjusted	$	15,707,459.46
Current Annual Farebox from Rider Fixed Route	$	50,246,582.40
Current Annual CCTS Reimbursements	$	31,398,707.06
	$	**930,615,771.49**

Table 8-4: Total Plan Projected Revenue Needed

Total Projected Cost	**$ 1,014,926,874.58**
Total Projected Revenue	**$930,615,771.49**
Projected Total Additional Revenue Needed	**$84,311,103.09**

** Note, the revenue projections above are conservative. These projections do not account for Federal or State Formula Fund Growth due to service expansion (impossible to calculate with any accuracy), and it makes no assumption of the award of Federal and State discretionary grants which would sought throughout the various projects over the 20 years in an effort to assist with bridging the current projected shortfall to enable complete project implementation.**

Other Financing Mechanisms for funding High Capacity Transit and Large Public Transit Facilities

The High Capacity Transit option(s) ultimately selected and implemented will cost an estimated $1.5 billion - $4 billion dollars. They will need distinct, separate funding mechanisms from those outlined above in order to build and operate them. Local governments have access to local and federal government strategies and financing mechanisms for major capital projects of this magnitude. Among the most common are 5309 Capital Investment Grants, federal BUILD Grants, Transit Oriented Development, Value Capture, and Public Private Partnerships, Transportation Infrastructure Finance and Innovation Act (TIFIA) and Railroad Rehabilitation and Improvement Financing (RRIF) credits.

Transit Oriented Development (TOD)

TOD is a development strategy aiming to create mixed-used communities along high capacity transit corridors with high tax value. TOD is based on land use policies and strategies that are supportive of transit using different tools, such as zoning, increase in density, public/private partnerships, and with the intent of developing walkable and pedestrian-oriented communities in order to increase the probability of using transit as a transportation mode.

Value Capture

According to the Federal Transit Administration, value capture strategies are used to generate long term revenue streams by assigning a portion of the increase in tax value in a locally defined area around Transit Oriented Development and HCT projects. That helps repaying debt to finance the upfront costs of building infrastructure and annual operating cost once service begins; this could include high capacity corridors, such as light rail, or BRT, or other type of projects, such as multimodal transportation hubs. TOD strategies are frequently associated with value capture because the development created through TOD policies generates revenues to offset the cost of the transit project.

Joint development is another value capture strategy that allows coordination between developers and transit agencies to develop real estate that improves the transit system. In this strategy the agency and the developers share the cost of the investment.

All these strategies can be accomplished in partnership with private entities. Public private partnerships give the opportunity to develop the private realm with infill development, walkable retail, etc., while the public entity develops the public realm.

Transportation Infrastructure Finance and Innovation Act (TIFIA)

The federal government offers other mechanisms to finance infrastructure, such as Transportation Infrastructure Finance and Innovation Act (TIFIA). TIFIA provides credit assistance for projects of regional or national relevance, in the form of direct loans, loan guarantees, and standby lines of credit. The use of TIFIA funds are more appropriate when the project bring benefits to the public, when there are capital market gaps and one of the main benefits is that it reduces the risk.

Railroad Rehabilitation and Improvement Financing (RRIF)

Finally, the Railroad Rehabilitation and Improvement Financing (RRIF) provides direct loans and loan guarantees to finance development of railroad infrastructure. The funds can be used on all the components of capital infrastructure, including intermodal and railroad facilities; planning and design relative to those capital improvements, to finance TOD and refinance outstanding debt.

In Conclusion

Cabarrus County has gone through an amazing period of rapid population growth over the last 30 years.

- In 1990 the population of Cabarrus County was 99,521, Concord 37,881, Kannapolis 32,570
- In 2004 (when Rider Transit began) the population of Cabarrus County was 145,524, Concord was 59,630, Kannapolis was 38,441
- In 2018 the population estimation of Cabarrus County was 211,342, Concord 94,130, Kannapolis 49,761

In the last 30 years, the total population of the county (+112.36%) has more than doubled. The population of Concord (+148.49%) has grown even faster. Kannapolis' population (+53%) has grown significantly as well. This rapid rate of expansion is expected to continue through at least the next 25-30 years. Complaints about traffic and travel times are increasing, even with significant roadway improvements and expansions over the last decade. Development— residential, retail, commercial, industrial— is growing similarly as the population expands, often in areas not adjacent to the existing transit service areas. This creates significant impacts on travel patterns locally and regionally. Many local roadways have been widened to the maximum extent possible. The decades long growth of the City of Atlanta provides a cautionary tale that shows that there can never be enough road capacity to avoid traffic jams and delays and all the challenges that presents to a large urban region. Other means are necessary to help address reducing the ever constantly growing congestion and the number of vehicles traveling within Cabarrus County and the surrounding region. Public transportation can be a key partner in helping address this growth— and the mobility challenges that comes with that growth.

Rider Transit started service nearly 16 years ago. During those 16 years, Rider Transit added two buses and two new routes. CCTS has been operating at maximum capacity for years now, with people in the community waitlisted for services or unable to receive services at all due to a lack of available funding. One reason the growth of service laid out in this plan is so large is that both CCTS and Rider Transit today have significantly less funding and operational capacity to serve the community effectively today than they need. The first three phases of this plan (through Year 8) are essentiality getting public transit service levels up to what they should be today in 2020. The second half of the plan, Phases 4-6, are really what is needed to address the significant growth forecasted over the next 20 years. Without the proposed one cent dedicated sales tax, Value Capture and other means of generating revenue, very little outlined in the plan can be achieved and transit will continue to serve only a fraction of the community. Below is a snapshot of where we are today, and where we can be should the funding obstacles be successfully navigated and secured.

Public Transit in Cabarrus County Today

- Two separate, disconnected systems
- Unserved areas and underserved areas
- 38 Vehicles (10 buses, 28 Demand Response)
- 92 employees
- $7.71M annual budget (combined)
- ~525,000 passenger trips annually
- 60-75 minute frequency (at or below minimum acceptable U.S. transit industry stands)

Public Transit in Cabarrus County after full plan implementation (The Vision)

- **One system**
- **No unserved areas**
- **194 vehicles** (108 buses, 86 Demand Response)
- **559 employees**
- **$70.56M annual budget** (Plan Year 20)
- **6,400,000 to 6,900,000** passenger trips annually – not including HCT
- **High Capacity Transit** (one or more modes)
- **World Class Level Transit Service**

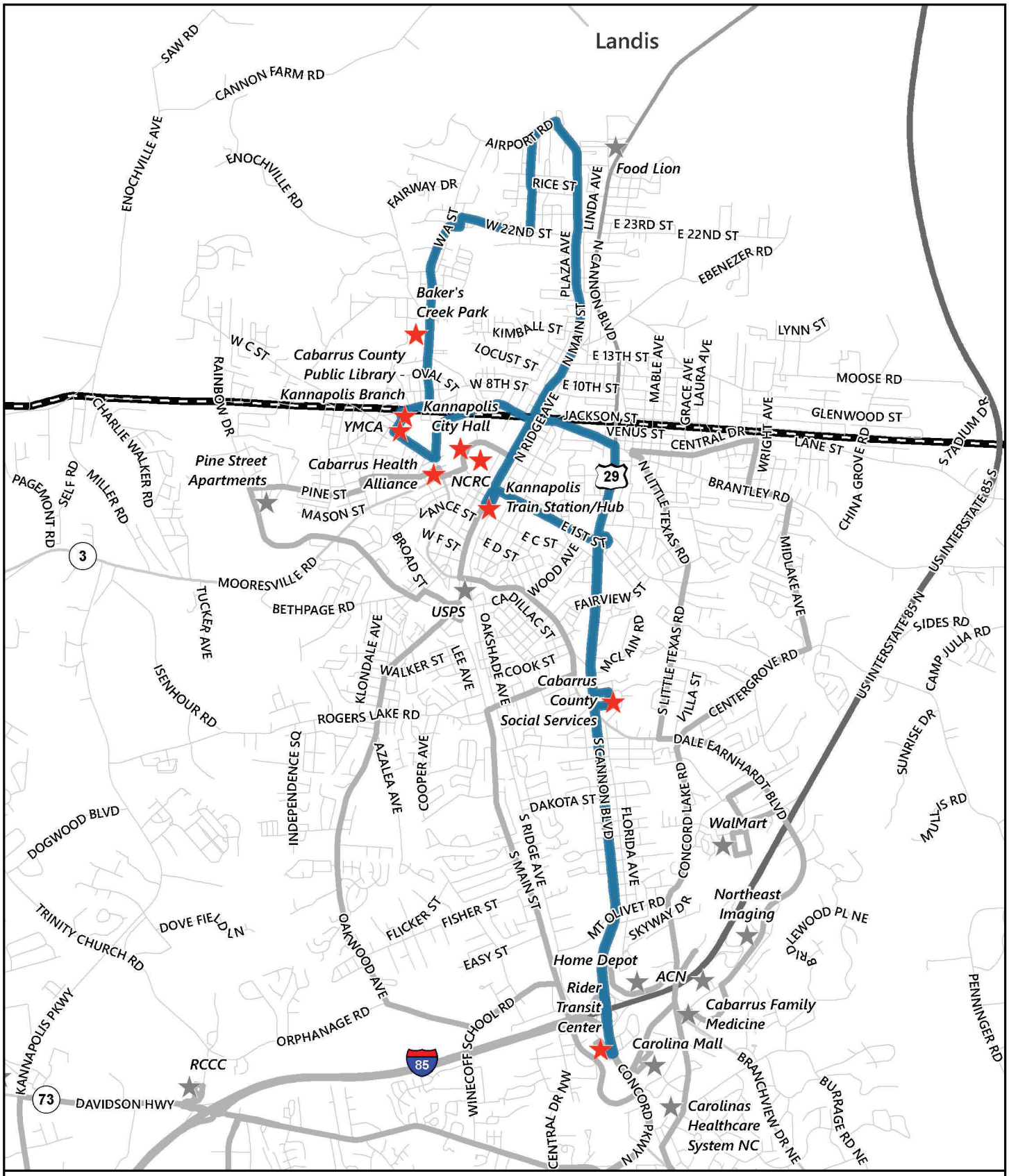
Return on Investment and Community Benefits

The cost of providing public transit services is often viewed in opposition through the narrow perspective of how much money does the transit system earn in fare revenues, which simply does not equal the cost of providing the service itself. The reality is, there is no public transit service that pays for itself through farebox recovery. However, public transit services provide a return on investment (financial as well as improved mobility, livability and quality of life, social justice/equity) to their communities that exceeds the direct cost of the service in myriad, often overlooked ways. Transit provides employees with access to jobs and employers with access to a broader workforce. More employers, more people employed, more goods and services are provided. This helps generate more property tax, more sales tax, and more people gainfully employed and able to spend money within the community. Transit helps provide access to educational opportunities that allow people to become more economically independent and greater contributors to the community. Transit helps more people access health care earlier and more often, so minor health issues don't develop into major issues that result in lost work, lost productivity, and increased costs to individuals and the community at large. Transit allows people to access healthier foods and makes it possible for them to partake in educational and social opportunities within and around our communities. In short, robust investment in public transit makes for healthier, more productive, and ultimately more livable communities. From an economic development perspective, increasingly, companies are prioritizing (and often requiring) transit as a key element when making a decision on where to locate or expand. The recent Amazon HQ2 project made "***direct access to rail, train, subway/metro, bus routes***" one of the cornerstones of their decision matrix on where to locate their multi-billion-dollar project. Per the American Public Transportation Association (APTA), 50,731 jobs are created for every $1 billion of investment in public transportation.

Transit Oriented Development from High Capacity Transit projects and Transit Facilities not only helps reduce congestion, it provides a framework and allows for focused development of more livable communities by combining easy access between housing, employment and life activities of all sorts. It can create significant increases in property tax revenue generation. Traditionally, that additional tax revenue doesn't come back to the transit system, but its value is tangible to the communities in a very real way. The CATS Blue Line has already been credited with $3.5 billion dollars of additional property tax value due to new development and investment along the light rail corridor, and that growth will continue for years to come. If a portion of those increased tax revenues were added as a dedicated revenue source for transit, it would completely change the discussion of the value transit provides to the community, and how it can support existing and future services moving forward.

With this plan, the cities of Concord and Kannapolis and Cabarrus County have a roadmap to help their communities embark on a transformative process to provide fundamental changes to their transportation systems and communities in years to come. The agencies' vision is bold and ambitious and responds to the future changes Cabarrus County is facing. As stated in the introduction, providing a variety of mobility options makes for more vibrant, engaged, sustainable, resilient and healthy communities, as well as ones that are more economically competitive— locally, regionally and globally. Increased mobility contributes to a more livable community, and planned appropriately, can help ensure Concord, Kannapolis and Cabarrus County remain one of the best places in the country to live, work and play for decades to come.

Appendix A-Phased Service Recommendation Bus Routes



Route Blue

Start Phase: 1

Route 201

Transit Service

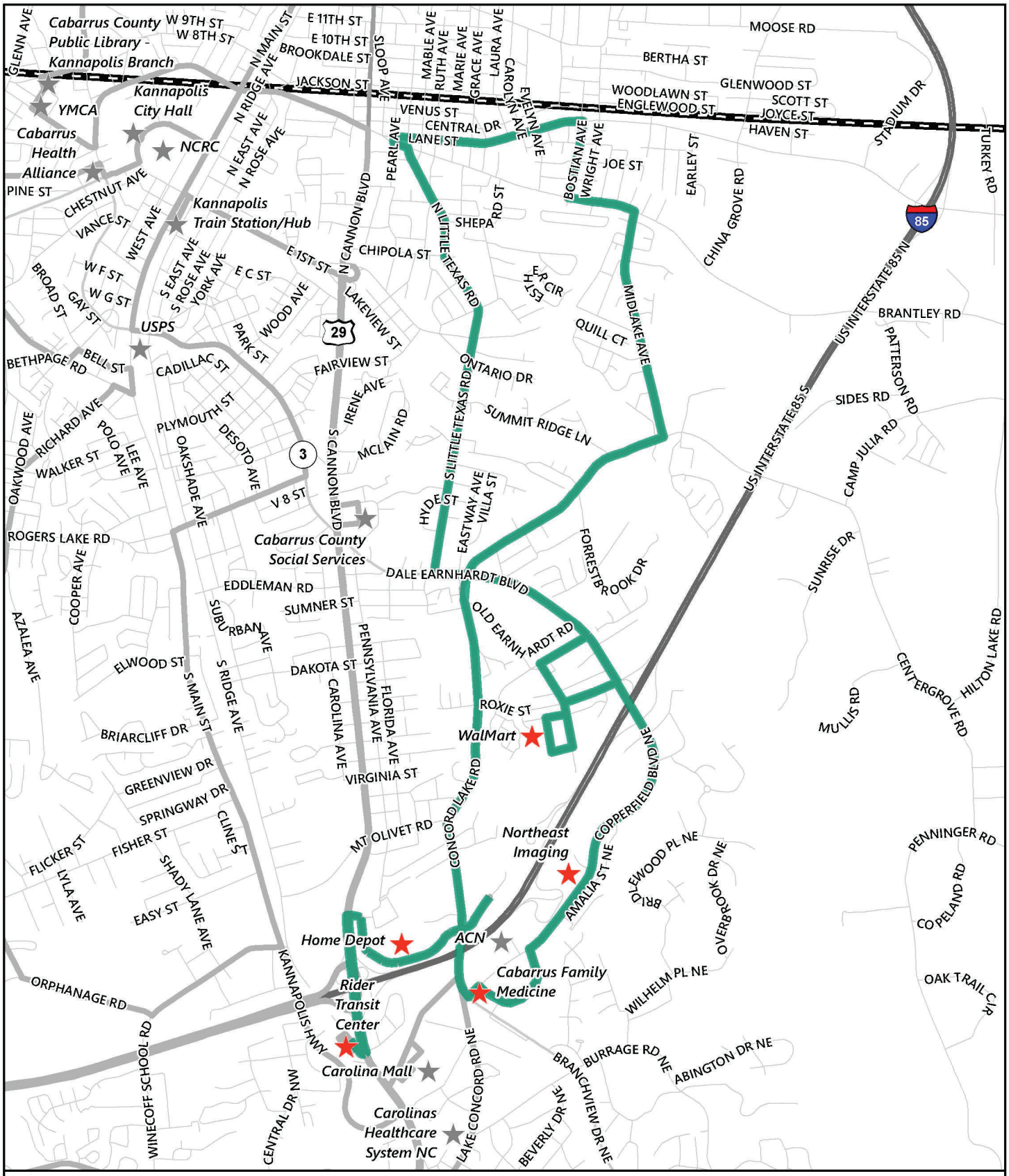
Activity Center

County Boundary

0 1 Miles

CABARRUS COUNTY
America Thrives Here

rider



Route Green

Start Phase: 1

Route 202

Transit Service

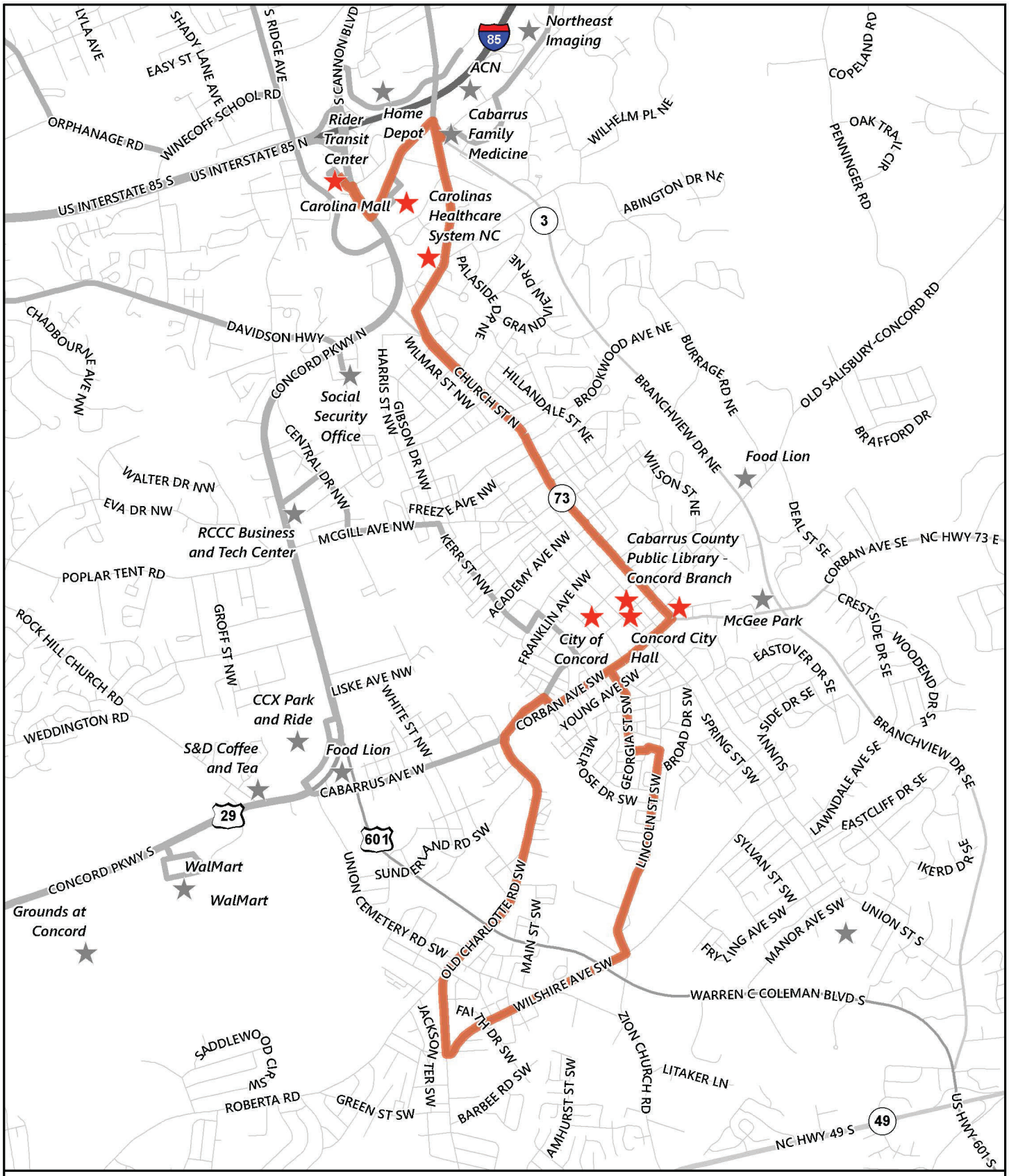
Activity Center

County Boundary

0 0.65 Miles

CABARRUS COUNTY
America Thrives Here

rider



Route Orange

Start Phase: 1

Route 203

Transit Service

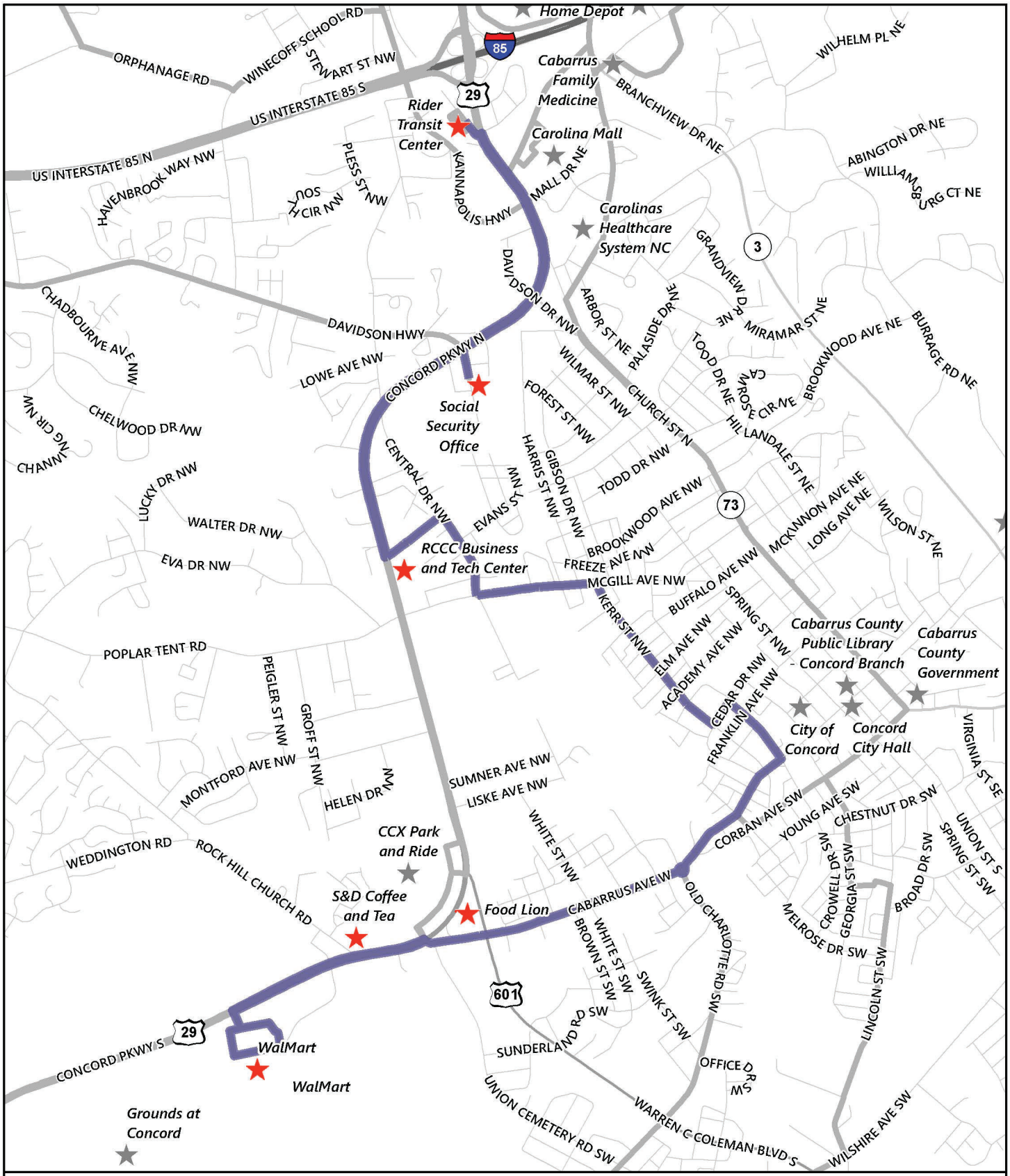
Activity Center

County Boundary

0 0.75 Miles

CABARRUS COUNTY
America Thrives Here

rider



Route Purple

Start Phase: 1

Route 204

Transit Service

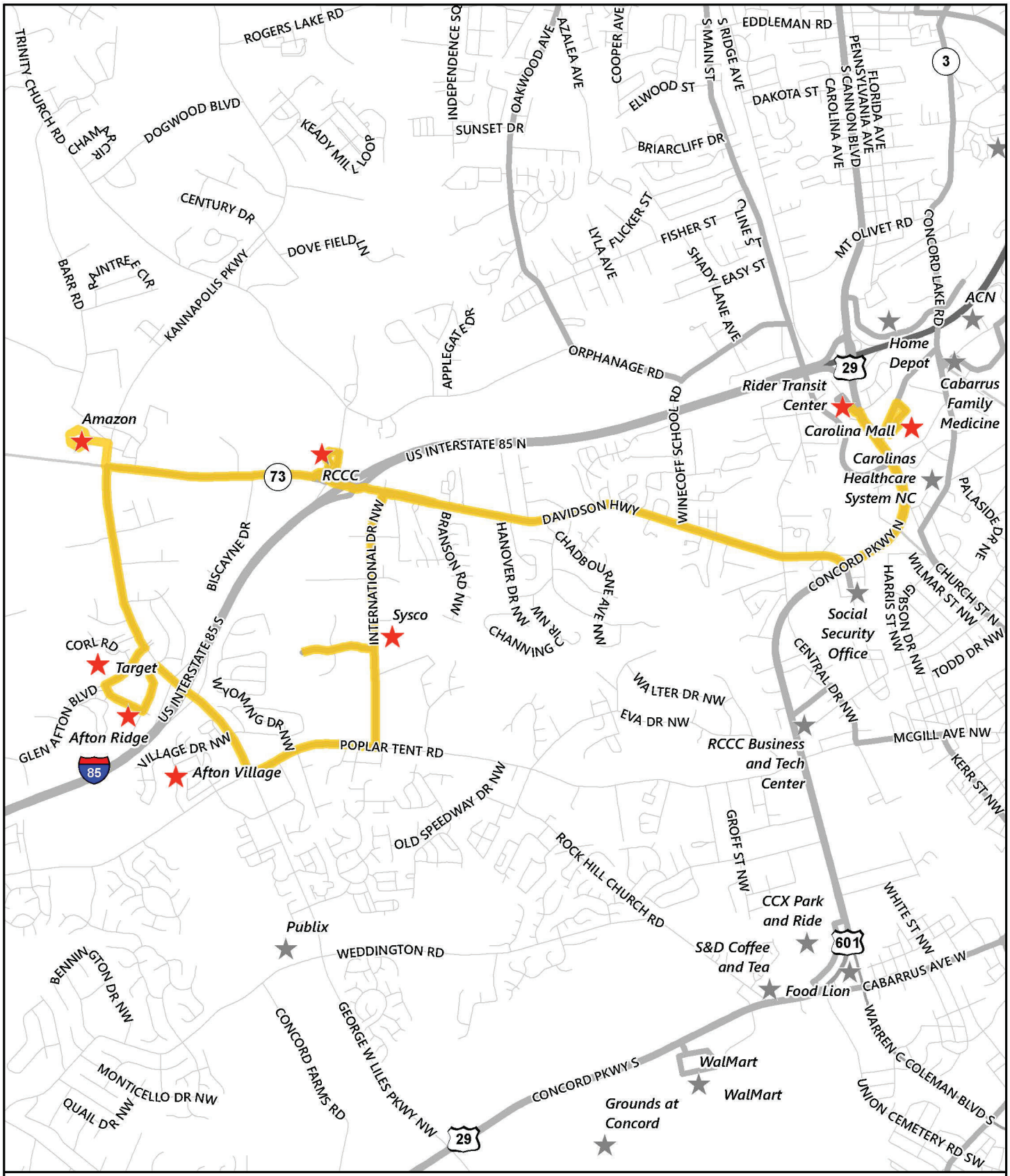
Activity Center

County Boundary

0 0.55 Miles

CABARRUS COUNTY
America Thrives Here

rider



Route Yellow

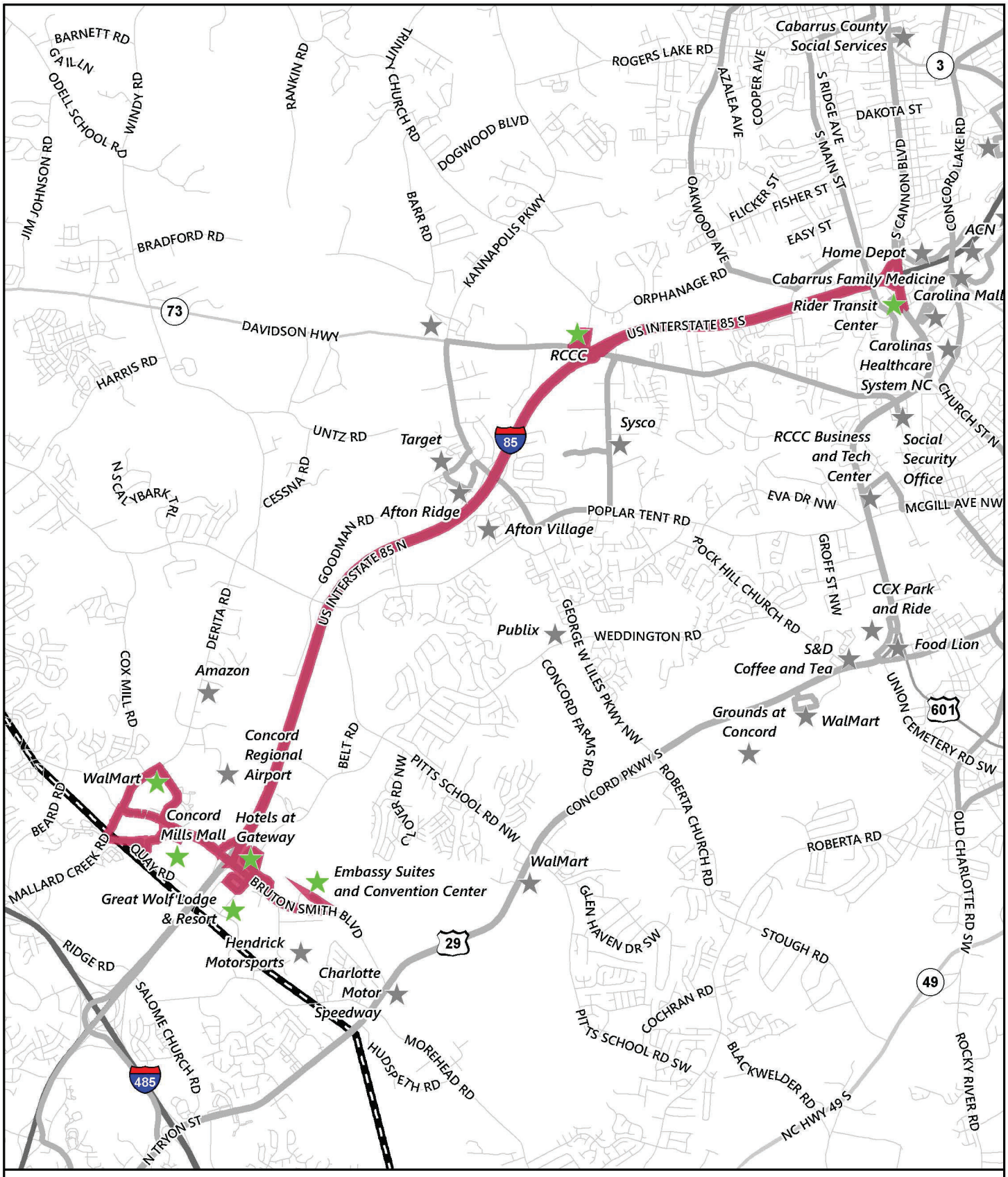
Start Phase: 1

- Route 205
- Transit Service
- Activity Center
- County Boundary

0 0.8 Miles

CABARRUS COUNTY
America Thrives Here

rider



Route Red

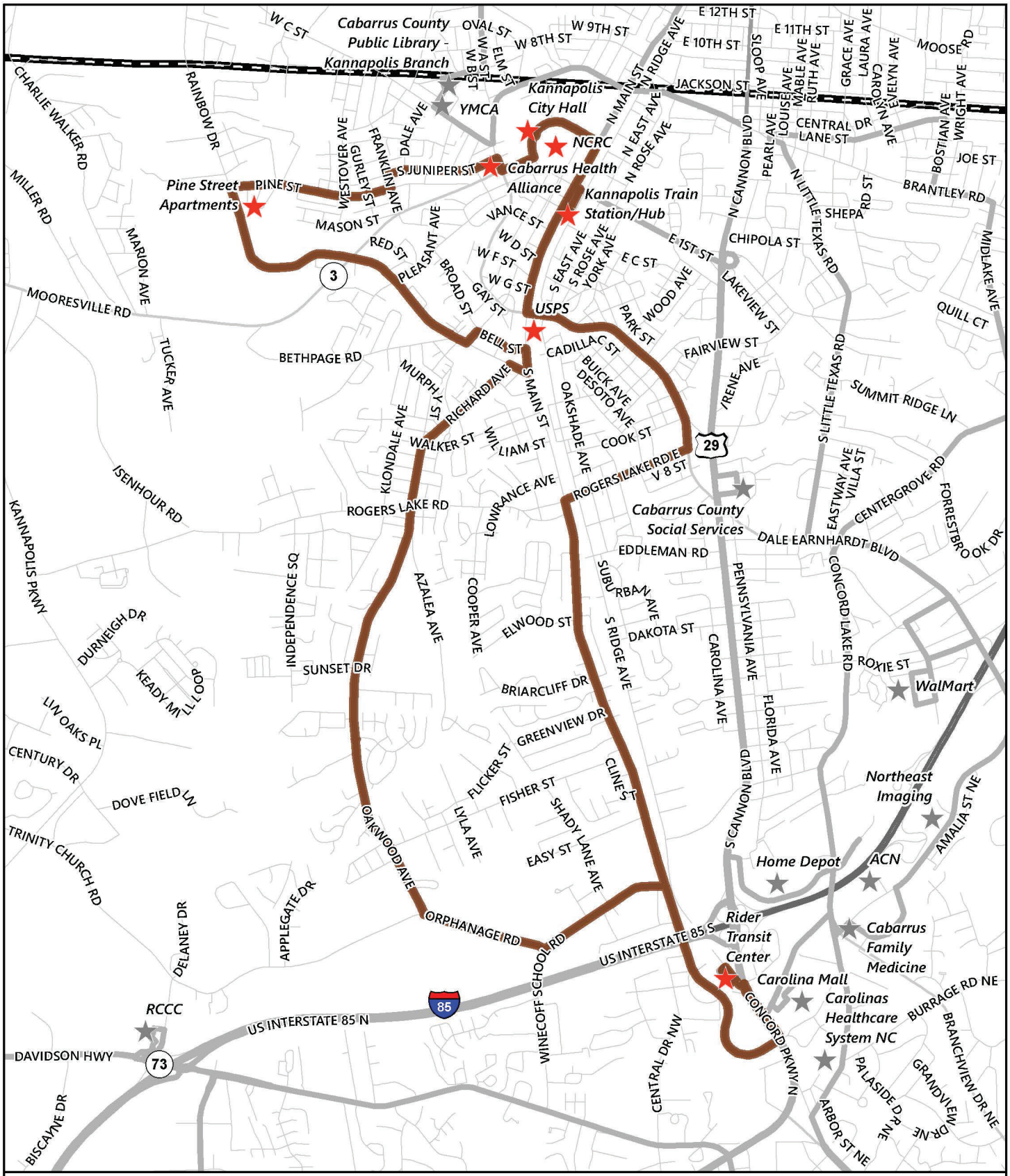
Start Phase: 1

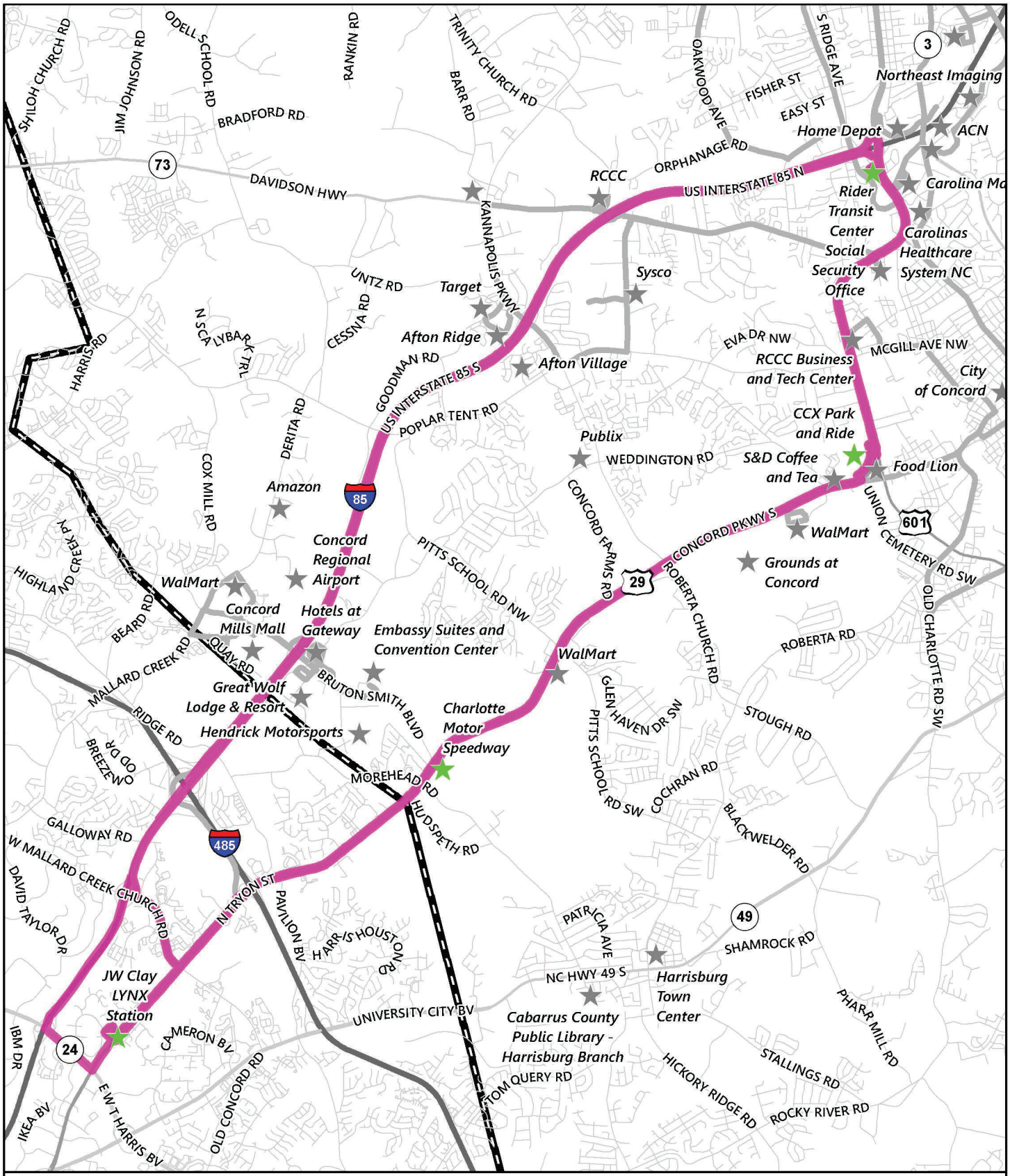
- Route 206
- Transit Service
- Activity Center
- County Boundary

0 1 Miles

CABARRUS COUNTY
America Thrives Here

rider


Cabarrus County Public Library - Kannapolis Branch
Kannapolis City Hall
YMCA
NCRC
Cabarrus Health Alliance
Kannapolis Train Station/Hub
Pine Street Apartments
USPS
Cabarrus County Social Services
WalMart
Northeast Imaging
Home Depot
ACN
Rider Transit Center
Cabarrus Family Medicine
Carolina Mall
Carolinas Healthcare System NC
RCCC
W C ST
OVAL ST
W 9TH ST
W 8TH ST
E 12TH ST
E 11TH ST
E 10TH ST
JACKSON ST
CENTRAL DR
LANE ST
MOOSE RD
WRIGHT AVE
JOE ST
BRANTLEY RD
SHEPARD ST
MIDLAKE AVE
QUILL CT
CHIPOLA ST
LAKEVIEW ST
FAIRVIEW ST
SUMMIT RIDGE LN
CENTERGROVE RD
FORRESTBROOK DR
DALE EARNHARDT BLVD
EDDLEMAN RD
CONCORD LAKE RD
ROXIE ST
DAKOTA ST
ELWOOD ST
GREENVIEW DR
BRIARCLIFF DR
SUNSET DR
ROGERS LAKE RD
ROGERS LAKE RD
WALKER ST
WILLIAM ST
COOK ST
BETHPAGE RD
MOORESVILLE RD
BELL ST
CADILLAC ST
PARK ST
WOOD AVE
E 1ST ST
VANCE ST
W D ST
W F ST
W G ST
E C ST
MASON ST
RED ST
PINE ST
GAY ST
BROAD ST
PLEASANT AVE
MURPHY ST
RICHARD AVE
S MAIN ST
OAKSHADE AVE
BUICK AVE
DESOTO AVE
IRENE AVE
KLONDALE AVE
AZALEA AVE
COOPER AVE
SUBURBAN AVE
S RIDGE AVE
CAROLINA AVE
PENNSYLVANIA AVE
FLORIDA AVE
S CANNON BLVD
N CANNON BLVD
S LITTLE TEXAS RD
N LITTLE TEXAS RD
EASTWAY AVE
VILLA ST
LOWRANCE AVE
INDEPENDENCE SQ
FLICKER ST
FISHER ST
CLINE ST
LYLA AVE
SHADY LANE AVE
EASY ST
OAKWOOD AVE
ORPHANAGE RD
WINECOFF SCHOOL RD
US INTERSTATE 85 S
US INTERSTATE 85 N
CONCORD PKWY N
CENTRAL DR NW
BURRAGE RD NE
BRANCHVIEW DR NE
GRANDVIEW DR NE
PALASIDE DR NE
ARBOR ST NE
AMALIA ST NE
CHARLIE WALKER RD
RAINBOW DR
MILLER RD
MARION AVE
TUCKER AVE
ISENHOUR RD
KANNAPOLIS PKWY
DURNEIGH DR
KEADY MILL POOL
LIN OAKS PL
CENTURY DR
DOVE FIELD LN
TRINITY CHURCH RD
DELANEY DR
APPLEGATE DR
BISCAYNE DR
DAVIDSON HWY
3
29
73
85
0
0.7
Miles
Route Brown
Start Phase: 1
Route 207
Transit Service
Activity Center
County Boundary
CABARRUS COUNTY
America Thrives Here
rider



CCX

Start Phase: 1

CCX

Transit Service

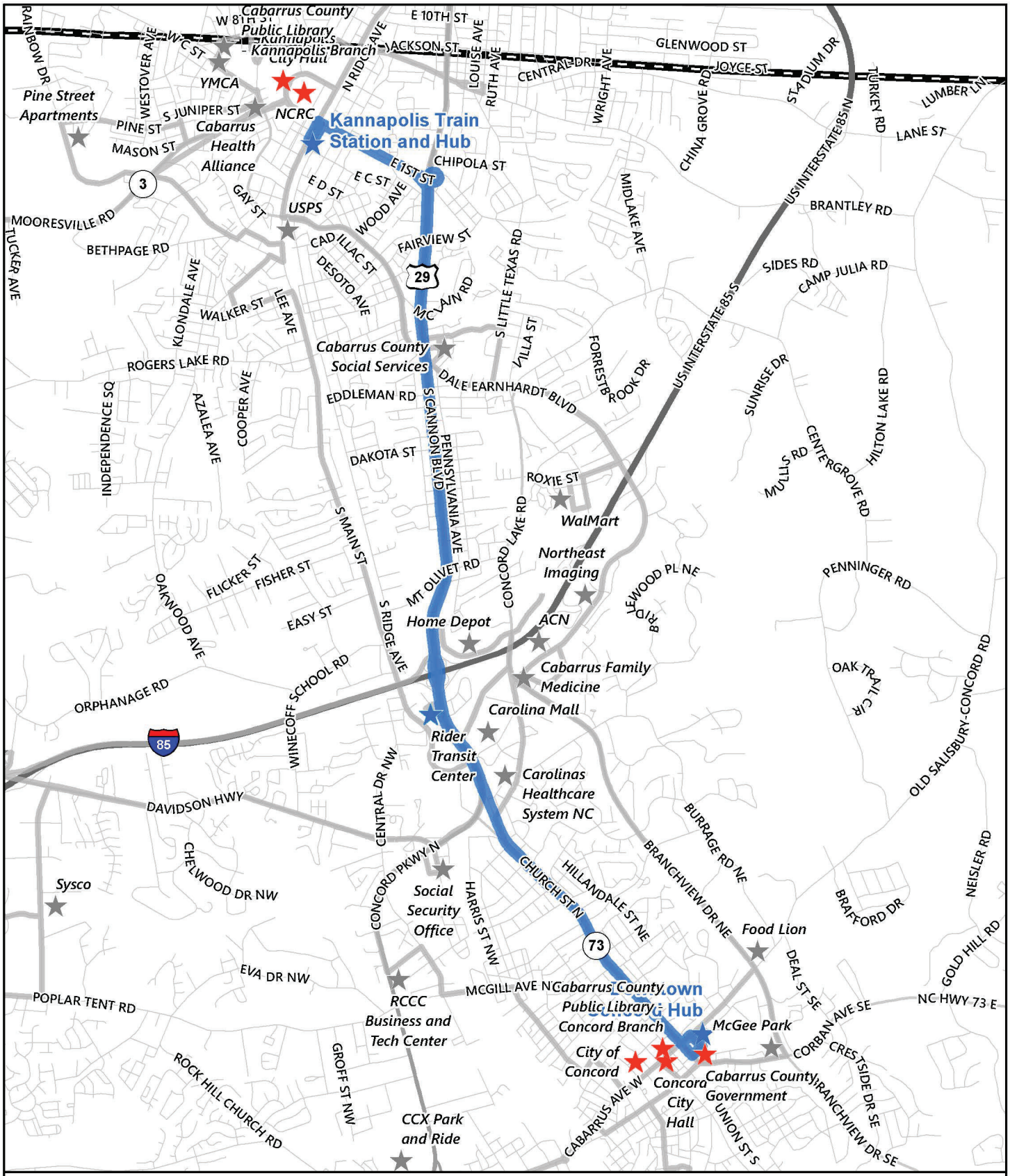
Activity Center

County Boundary

0 1.5 Miles

CABARRUS COUNTY
America Thrives Here

rider



Downtown Kannapolis-Concord Connector Route 100

Start Phase: 3

0 0.95 Miles

Route 100

Transit System

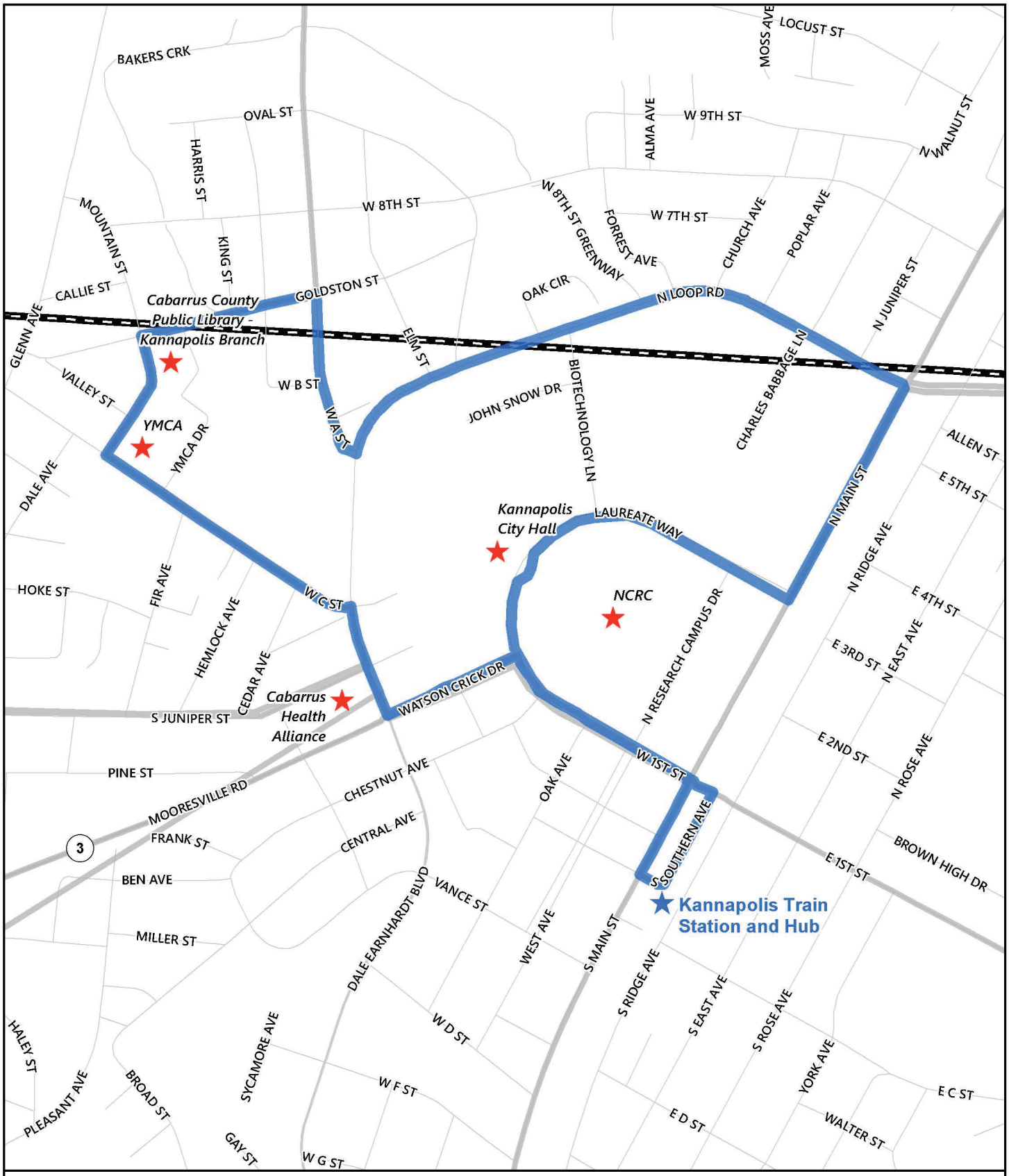
Activity Center

Hub

County Boundary

CABARRUS COUNTY
America Thrives Here

rider



Kannapolis Route 101

Start Phase: 3

Route 101

Transit System

Activity Center

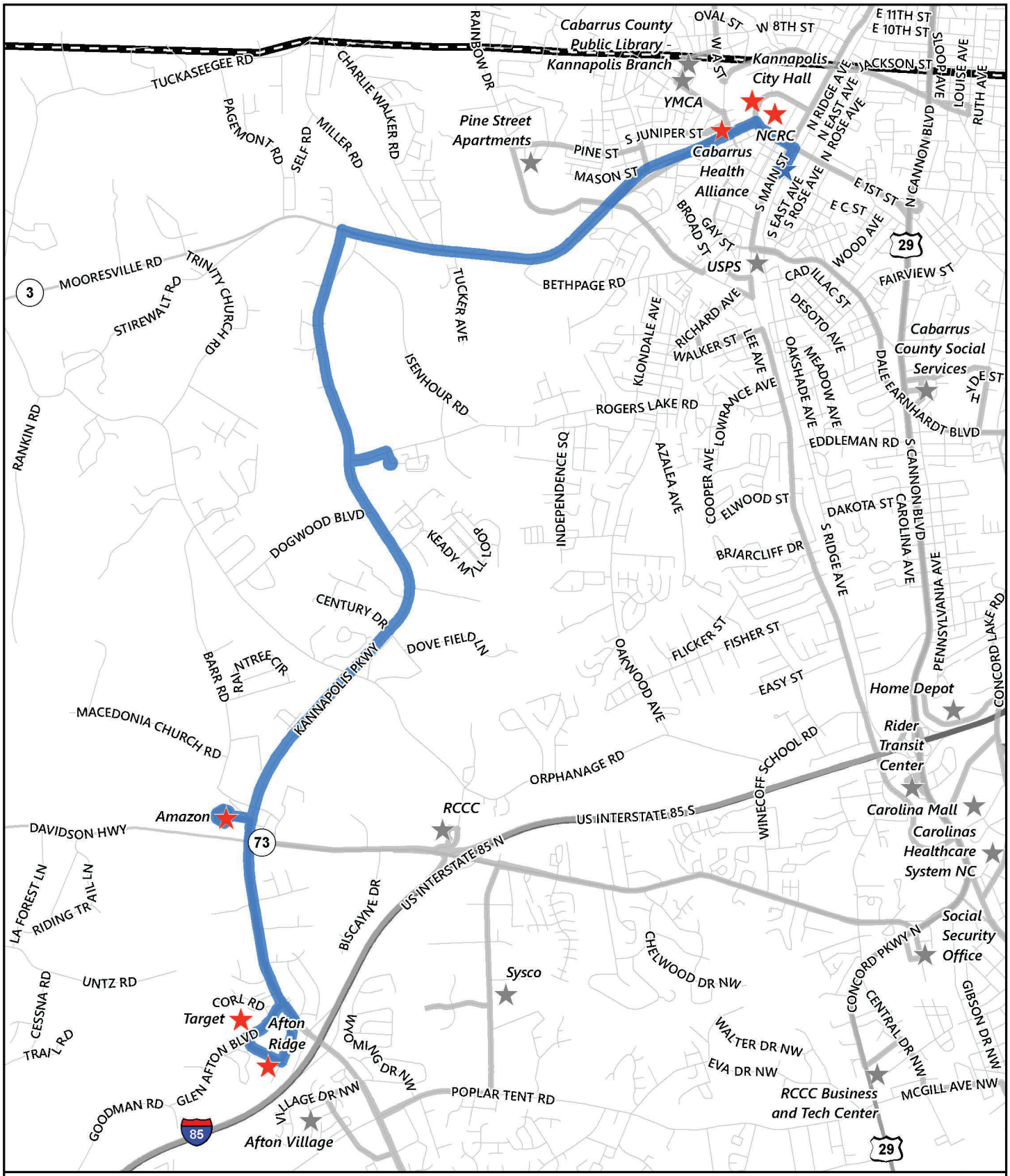
Hub

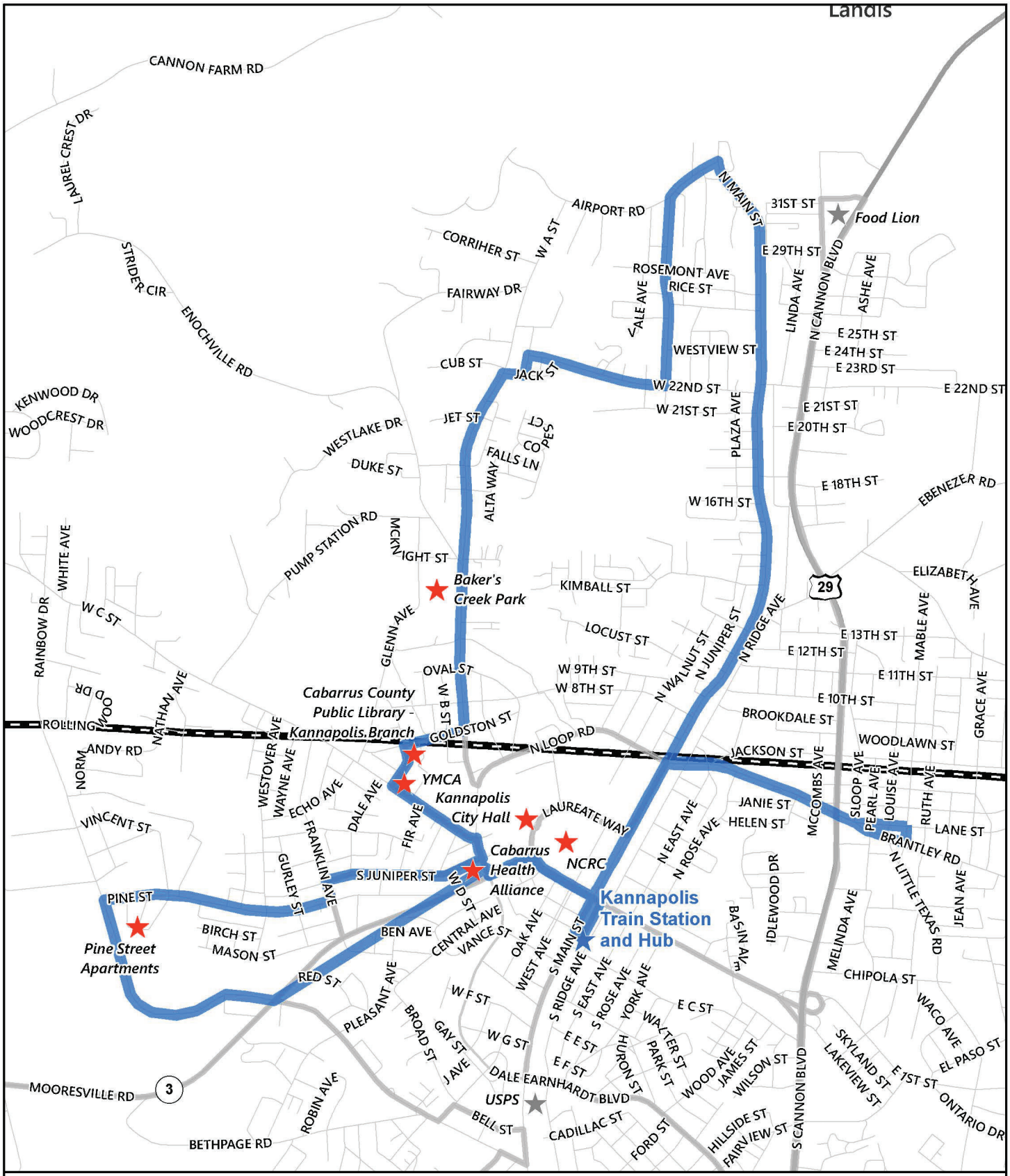
County Boundary

0 0.15 Miles

CABARRUS COUNTY
America Thrives Here

rider


Cabarrus County Public Library - Kannapolis Branch
Kannapolis City Hall
YMCA
NCRC
Pine Street Apartments
Cabarrus Health Alliance
USPS
Cabarrus County Social Services
Home Depot
Rider Transit Center
Carolina Mall
Carolinas Healthcare System NC
Social Security Office
RCCC
Amazon
Target
Afton Ridge
Afton Village
Sysco
RCCC Business and Tech Center
TUCKASEEGEE RD
CHARLIE WALKER RD
RAINBOW DR
PAGEMONT RD
SELF RD
MILLER RD
PINE ST
MASON ST
S JUNIPER ST
OVAL ST
W 8TH ST
E 11TH ST
E 10TH ST
JACKSON ST
SLOOP AVE
LOUISE AVE
RUTH AVE
N RIDGE AVE
N EAST AVE
N ROSE AVE
S MAIN ST
S EAST AVE
S ROSE AVE
E 1ST ST
N CANNON BLVD
E C ST
WOOD AVE
BROAD ST
GAY ST
MOORESVILLE RD
TRINITY CHURCH RD
STIREWALT RD
BETHPAGE RD
TUCKER AVE
ISENHOUR RD
CADILLAC ST
DESOTO AVE
FAIRVIEW ST
RICHARD AVE
WALKER ST
KLONDALE AVE
LEE AVE
OAKSHADE AVE
MEADOW AVE
DALE EARNHARDT BLVD
HYDE ST
ROGERS LAKE RD
LOWRANCE AVE
EDDLEMAN RD
S CANNON BLVD
CAROLINA AVE
INDEPENDENCE SQ
AZALEA AVE
COOPER AVE
ELWOOD ST
DAKOTA ST
S RIDGE AVE
BRIARCLIFF DR
PENNSYLVANIA AVE
CONCORD LAKE RD
RANKIN RD
DOGWOOD BLVD
KEADY MILL LOOP
CENTURY DR
DOVE FIELD LN
KANNAPOLIS PKWY
BARR RD
RAINTREE CIR
MACEDONIA CHURCH RD
OAKWOOD AVE
FLICKER ST
FISHER ST
EASY ST
ORPHANAGE RD
WINECOFF SCHOOL RD
US INTERSTATE 85 S
US INTERSTATE 85 N
DAVIDSON HWY
LA FOREST LN
RIDING TRAIL LN
BISCAYNE DR
CHELWOOD DR NW
CONCORD PKWY N
CENTRAL DR NW
GIBSON DR NW
MCGILL AVE NW
UNTZ RD
CESSNA RD
TRAIL RD
CORL RD
GLEN AFTON BLVD
OMWOOD DR NW
WALTER DR NW
EVA DR NW
VILLAGE DR NW
POPLAR TENT RD
GOODMAN RD
3
73
85
29
Kannapolis Route 102
Start Phase: 3
Route 102
Transit System
County Boundary
Activity Center
Hub
0
0.85
Miles
CABARRUS COUNTY
America Thrives Here
rider



Kannapolis Route 103 (Bi-Directional)

Start Phase: 3

Route 103

Transit System

Activity Center

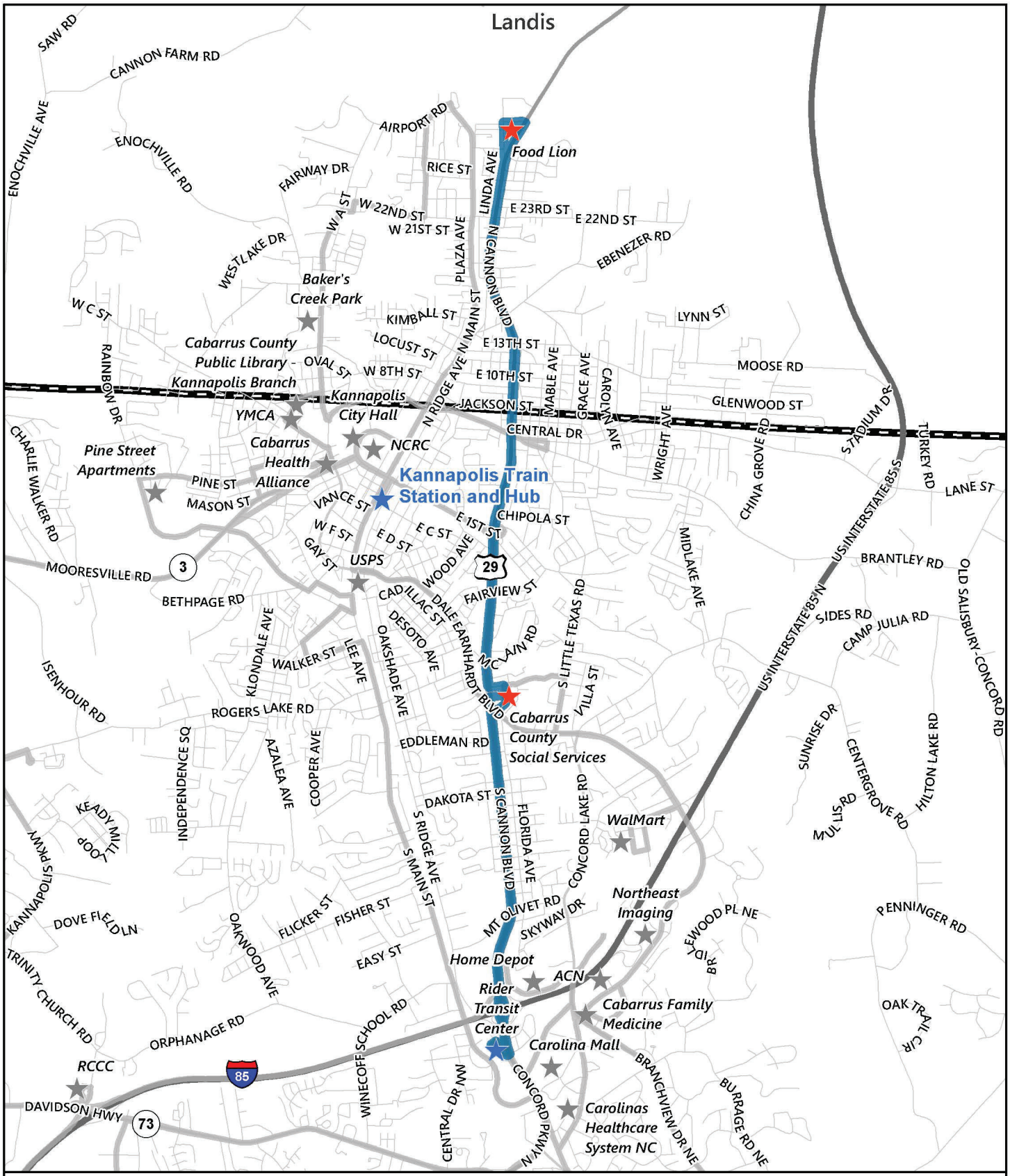
Hub

County Boundary

0 0.5 Miles

CABARRUS COUNTY
America Thrives Here

rider



New Blue Route

Start Phase: 3

Route 201

Transit System

Activity Center

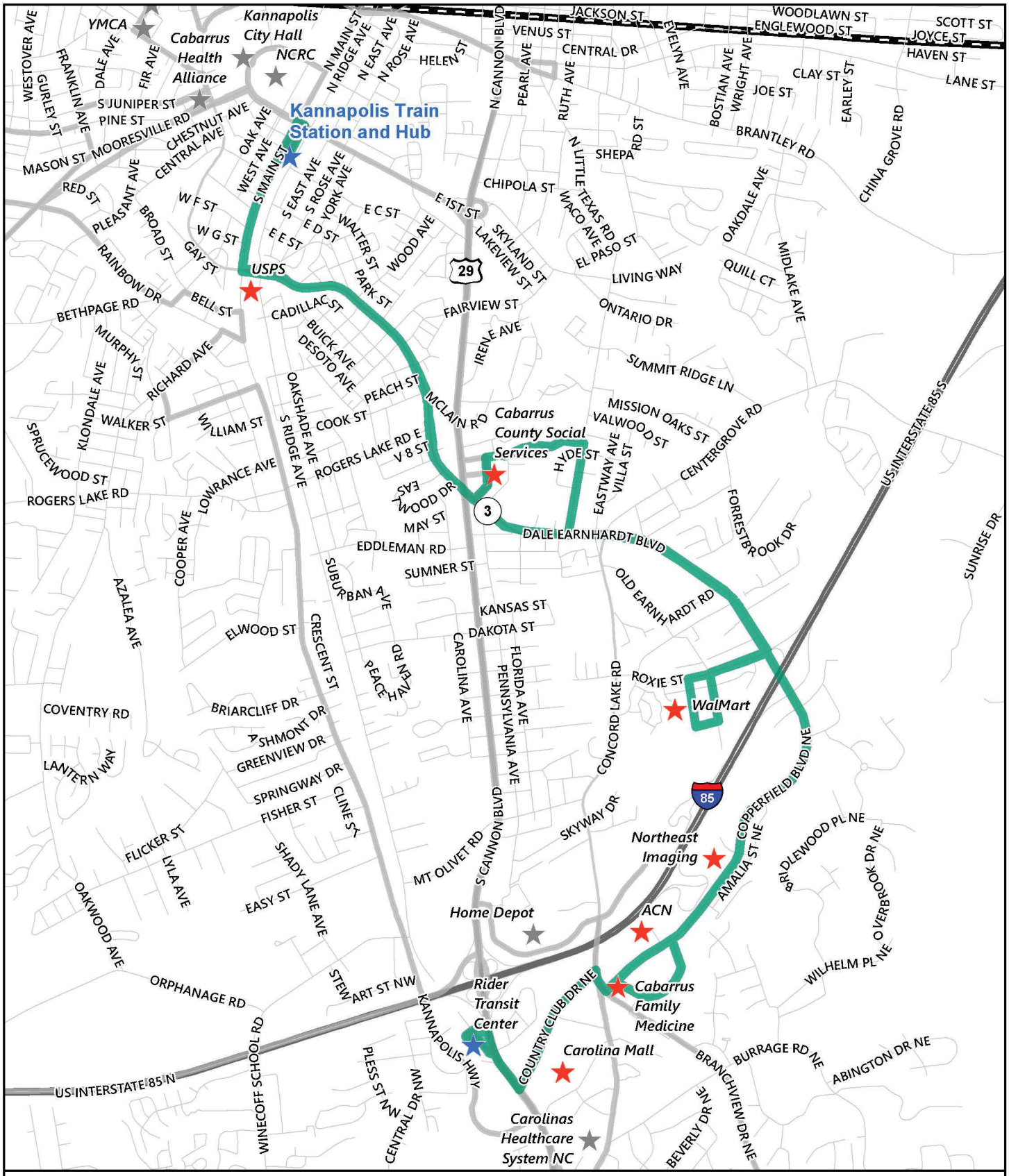
Hub

County Boundary

0 1 Miles

CABARRUS COUNTY
America Thrives Here

rider


YMCA
Cabarrus Health Alliance
Kannapolis City Hall
NCRC
Kannapolis Train Station and Hub
USPS
Cabarrus County Social Services
WalMart
Northeast Imaging
ACN
Home Depot
Cabarrus Family Medicine
Rider Transit Center
Carolina Mall
Carolinas Healthcare System NC
JACKSON ST
WOODLAWN ST
ENGLEWOOD ST
SCOTT ST
JOYCE ST
HAVEN ST
LANE ST
CLAY ST
JOE ST
BRANTLEY RD
CHINA GROVE RD
CENTRAL DR
VENUS ST
N CANNON BLVD
PEARL AVE
RUTH AVE
EVELYN AVE
BOSTIAN AVE
WRIGHT AVE
EARLEY ST
SHEPARD ST
N LITTLE TEXAS RD
WACO AVE
EL PASO ST
OAKDALE AVE
MIDLAKE AVE
QUILL CT
LIVING WAY
ONTARIO DR
SUMMIT RIDGE LN
MISSION OAKS ST
VALWOOD ST
CENTERGROVE RD
HYDE ST
EASTWAY AVE
VILLA ST
FORRESTBROOK DR
SUNRISE DR
US INTERSTATE 85 S
DALE EARNHARDT BLVD
OLD EARNHARDT RD
ROXIE ST
CONCORD LAKE RD
COPPERFIELD BLVD NE
AMALIA ST NE
RIDLEWOOD PL NE
OVERBROOK DR NE
WILHELM PL NE
BURRAGE RD NE
ABINGTON DR NE
BRANCHVIEW DR NE
BEVERLY DR NE
SKYWAY DR
MT OLIVET RD
S CANNON BLVD
KANNAPOLIS HWY
COUNTRY CLUB DR NE
STEWART ST NW
ORPHANAGE RD
US INTERSTATE 85 N
WINECOFF SCHOOL RD
PLESS ST NW
CENTRAL DR NW
OAKWOOD AVE
SHADY LANE AVE
EASY ST
FLICKER ST
LYLA AVE
SPRINGWAY DR
FISHER ST
CLINE ST
GREENVIEW DR
BRIARCLIFF DR
COVENTRY RD
LANTERN WAY
SHMONT DR
ELWOOD ST
CRESCENT ST
PEACE HAVEN RD
CAROLINA AVE
FLORIDA AVE
PENNSYLVANIA AVE
KANSAS ST
DAKOTA ST
SUBURBAN AVE
EDDLEMAN RD
SUMNER ST
AZALEA AVE
COOPER AVE
LOWRANCE AVE
ROGERS LAKE RD
SPRUCEWOOD ST
KLONDALE AVE
WALKER ST
WILLIAM ST
MURPHY ST
RICHARD AVE
BETHPAGE RD
RAINBOW DR
BELL ST
CADILLAC ST
BUICK AVE
DESOTO AVE
OAKSHADE AVE
S RIDGE AVE
PEACH ST
COOK ST
MAY ST
EAST WOOD DR
ROGERS LAKE RD E
V 8 ST
MCLAIN RD
IRENE AVE
FAIRVIEW ST
PARK ST
WALTER ST
WOOD AVE
E 1ST ST
SKYLAND ST
LAKEVIEW ST
E C ST
E D ST
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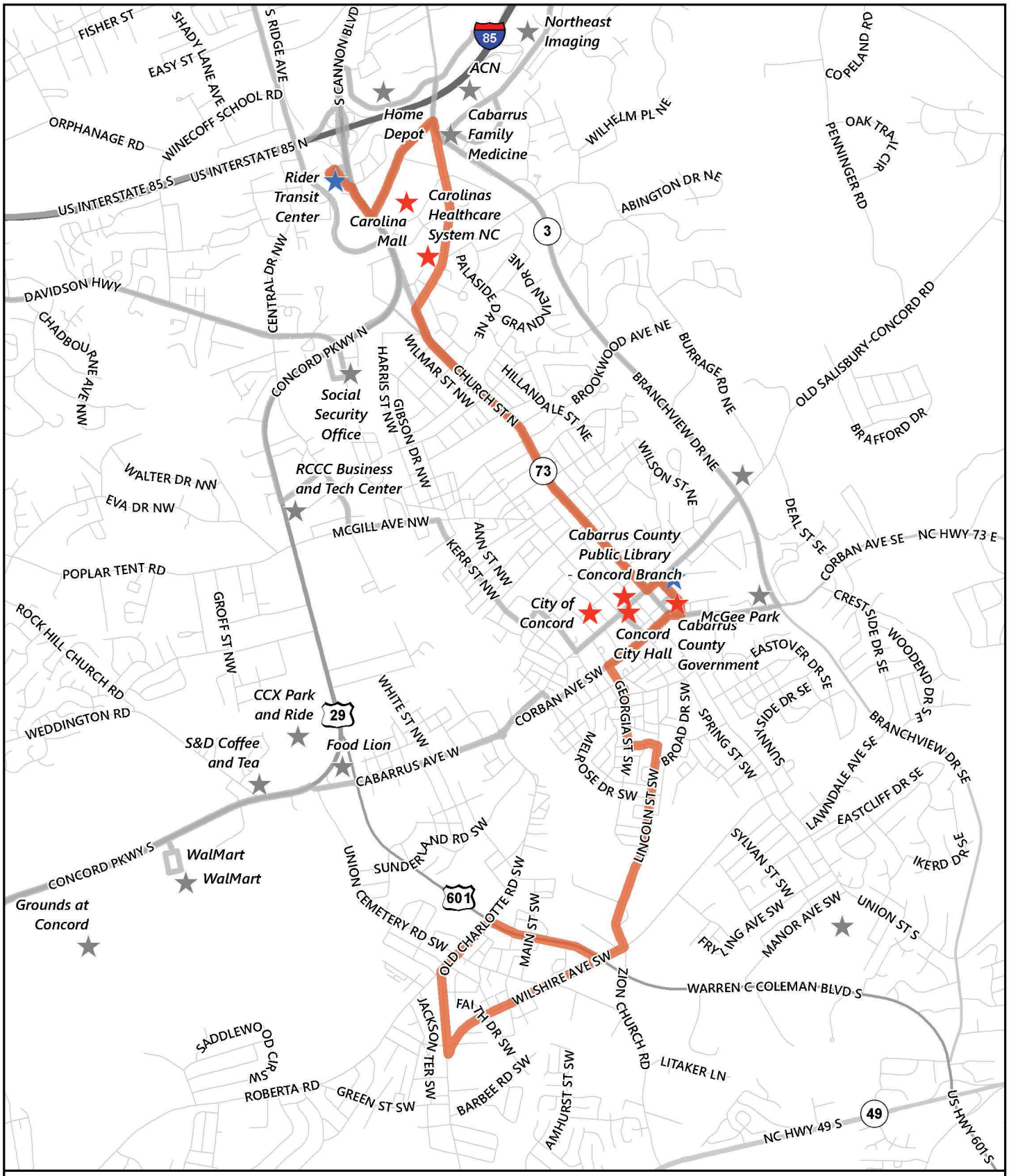
W F ST
W G ST
GAY ST
BROAD ST
PLEASANT AVE
RED ST
MASON ST
MOORESVILLE RD
CHESTNUT AVE
CENTRAL AVE
OAK AVE
WEST AVE
S MAIN ST
S EAST AVE
S ROSE AVE
YORK AVE
N MAIN ST
N RIDGE AVE
N EAST AVE
N ROSE AVE
HELEN ST
S JUNIPER ST
PINE ST
FIR AVE
DALE AVE
FRANKLIN AVE
GURLEY ST
WESTOVER AVE
29
85
3
0
0.6
Miles
New Green Route
Start Phase: 3
Route 202
Transit System
Activity Center
Hub
County Boundary
CABARRUS COUNTY
America Thrives Here
rider



New Orange Route

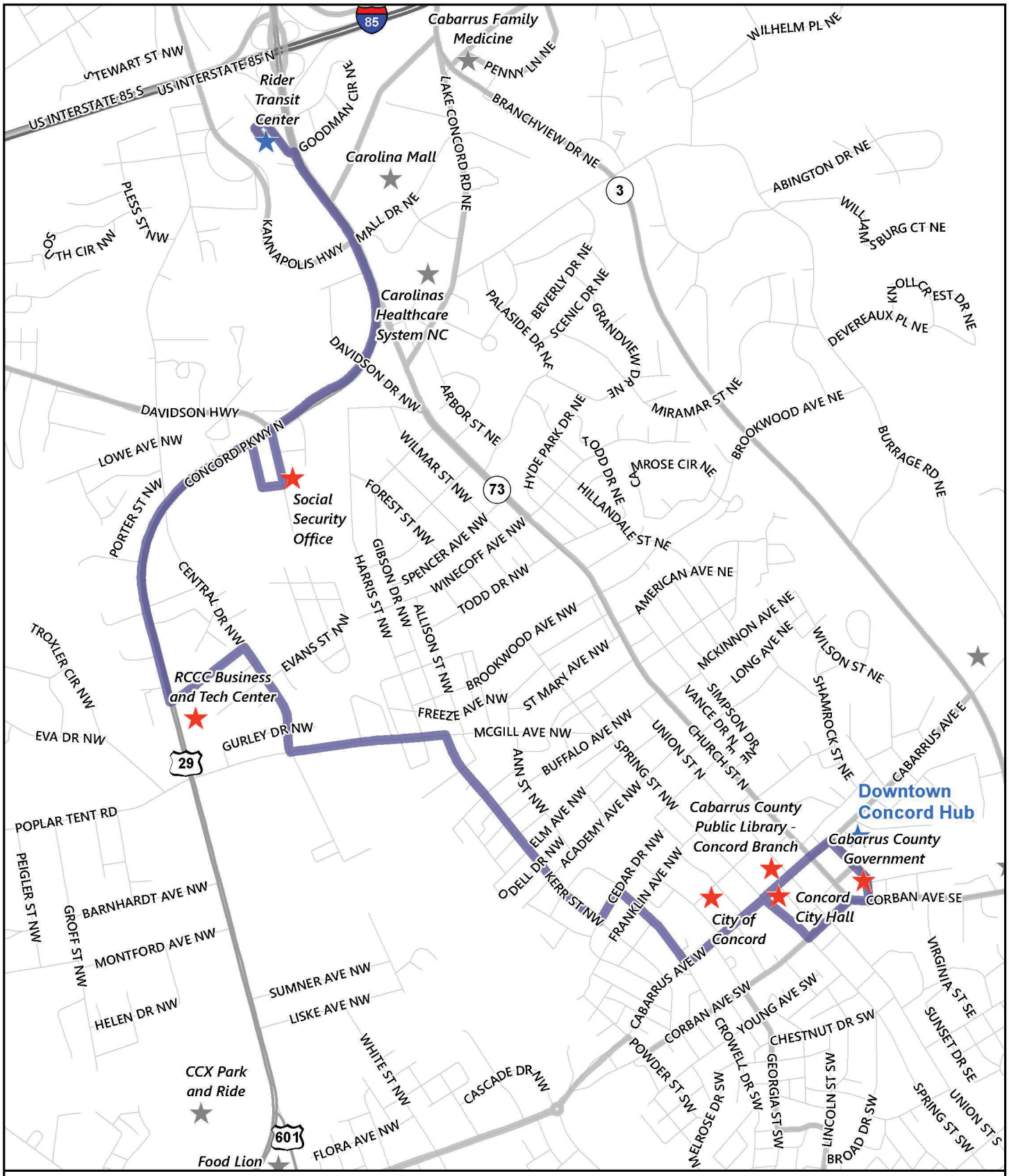
Start Phase: 3

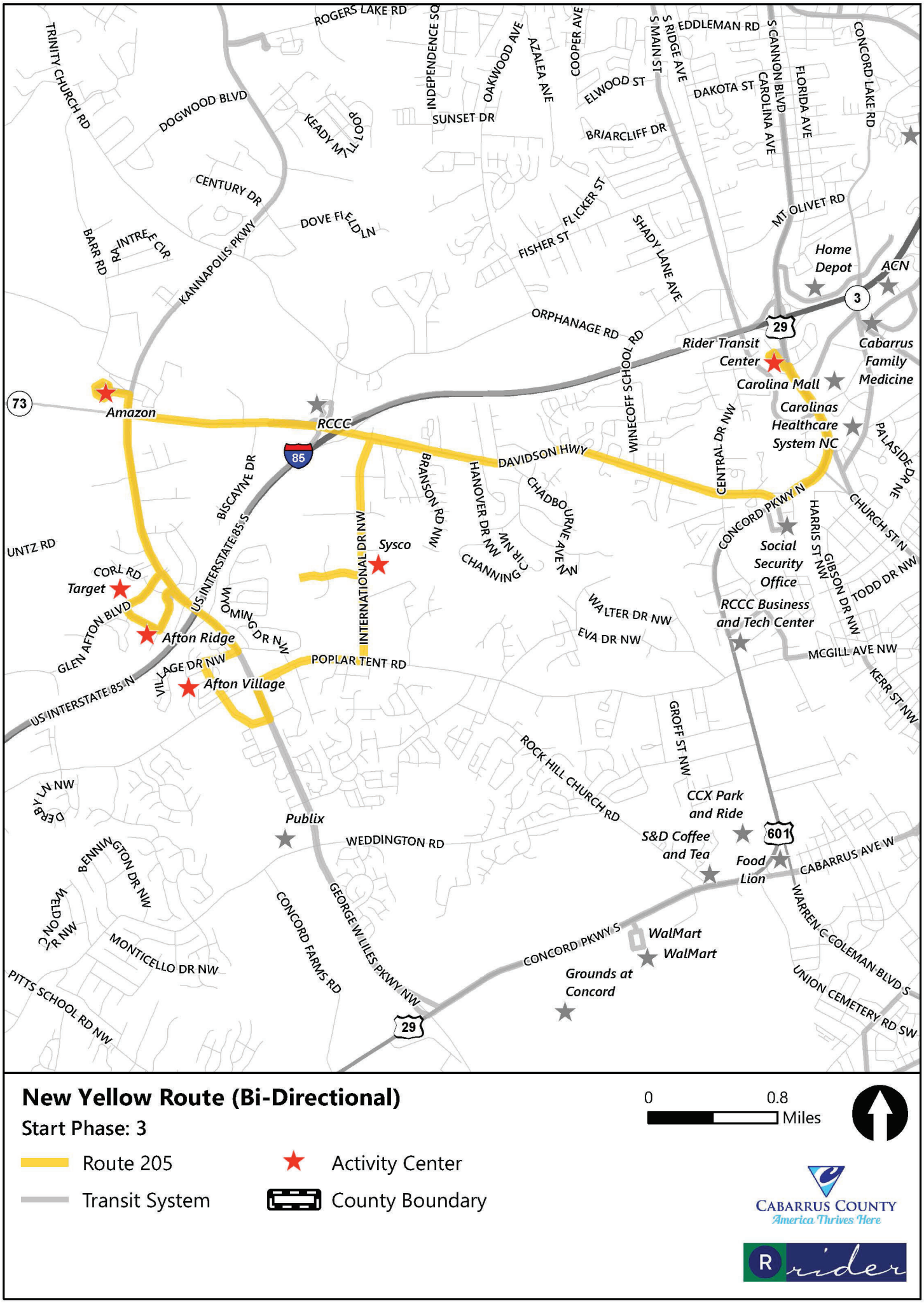
- Route 203
- Transit System
- Activity Center
- Hub
- County Boundary

0 0.75 Miles

CABARRUS COUNTY
America Thrives Here

rider


Cabarrus Family Medicine
Rider Transit Center
Carolina Mall
Carolinas Healthcare System NC
Social Security Office
RCCC Business and Tech Center
CCX Park and Ride
Food Lion
Cabarrus County Public Library - Concord Branch
Downtown Concord Hub
Cabarrus County Government
Concord City Hall
City of Concord
US INTERSTATE 85 S
US INTERSTATE 85 N
STEWART ST NW
GOODMAN CIR NE
LAKE CONCORD RD NE
PENNY LN NE
WILHELM PL NE
BRANCHVIEW DR NE
ABINGTON DR NE
WILLIAMSBURG CT NE
HOLLYCREST DR NE
DEVEREAUX PL NE
BROOKWOOD AVE NE
BURRAGE RD NE
MIRAMAR ST NE
GRANDVIEW DR NE
SCENIC DR NE
BEVERLY DR NE
PALASIDE DR NE
HYDE PARK DR NE
TODD DR NE
CAMROSE CIR NE
HILLANDALE ST NE
AMERICAN AVE NE
MCKINNON AVE NE
LONG AVE NE
WILSON ST NE
SHAMROCK ST NE
CABARRUS AVE E
SIMPSON DR NE
VANCE DR NE
CHURCH ST N
UNION ST N
SPRING ST NW
ACADEMY AVE NW
ELM AVE NW
ODELL DR NW
KERR ST NW
CEDAR DR NW
FRANKLIN AVE NW
CABARRUS AVE W
CORBAN AVE SE
CORBAN AVE SW
YOUNG AVE SW
CROWELL DR SW
POWDER ST SW
MELROSE DR SW
GEORGIA ST SW
CHESTNUT DR SW
LINCOLN ST SW
BROAD DR SW
SPRING ST SW
UNION ST S
SUNSET DR SE
VIRGINIA ST SE
DAVIDSON DR NW
DAVIDSON HWY
CONCORD PKWY N
LOWE AVE NW
PORTER ST NW
ARBOR ST NE
WILMAR ST NW
FOREST ST NW
SPENCER AVE NW
WINECOFF AVE NW
TODD DR NW
GIBSON DR NW
HARRIS ST NW
ALLISON ST NW
BROOKWOOD AVE NW
ST MARY AVE NW
FREEZE AVE NW
MCGILL AVE NW
BUFFALO AVE NW
ANN ST NW
CENTRAL DR NW
EVANS ST NW
GURLEY DR NW
TROXLER CIR NW
EVA DR NW
POPLAR TENT RD
PEIGLER ST NW
GROFF ST NW
BARNHARDT AVE NW
MONTFORD AVE NW
HELEN DR NW
SUMNER AVE NW
LISKE AVE NW
WHITE ST NW
CASCADE DR NW
FLORA AVE NW
KANNAPOLIS HWY
MALL DR NE
PLESS ST NW
SOUTH CIR NW
73
3
29
601
0
0.4
Miles
New Purple Route
Start Phase: 3
Route 204
Transit System
Activity Center
Hub
County Boundary
CABARRUS COUNTY
America Thrives Here
rider



New Yellow Route (Bi-Directional)

Start Phase: 3

Route 205

Transit System

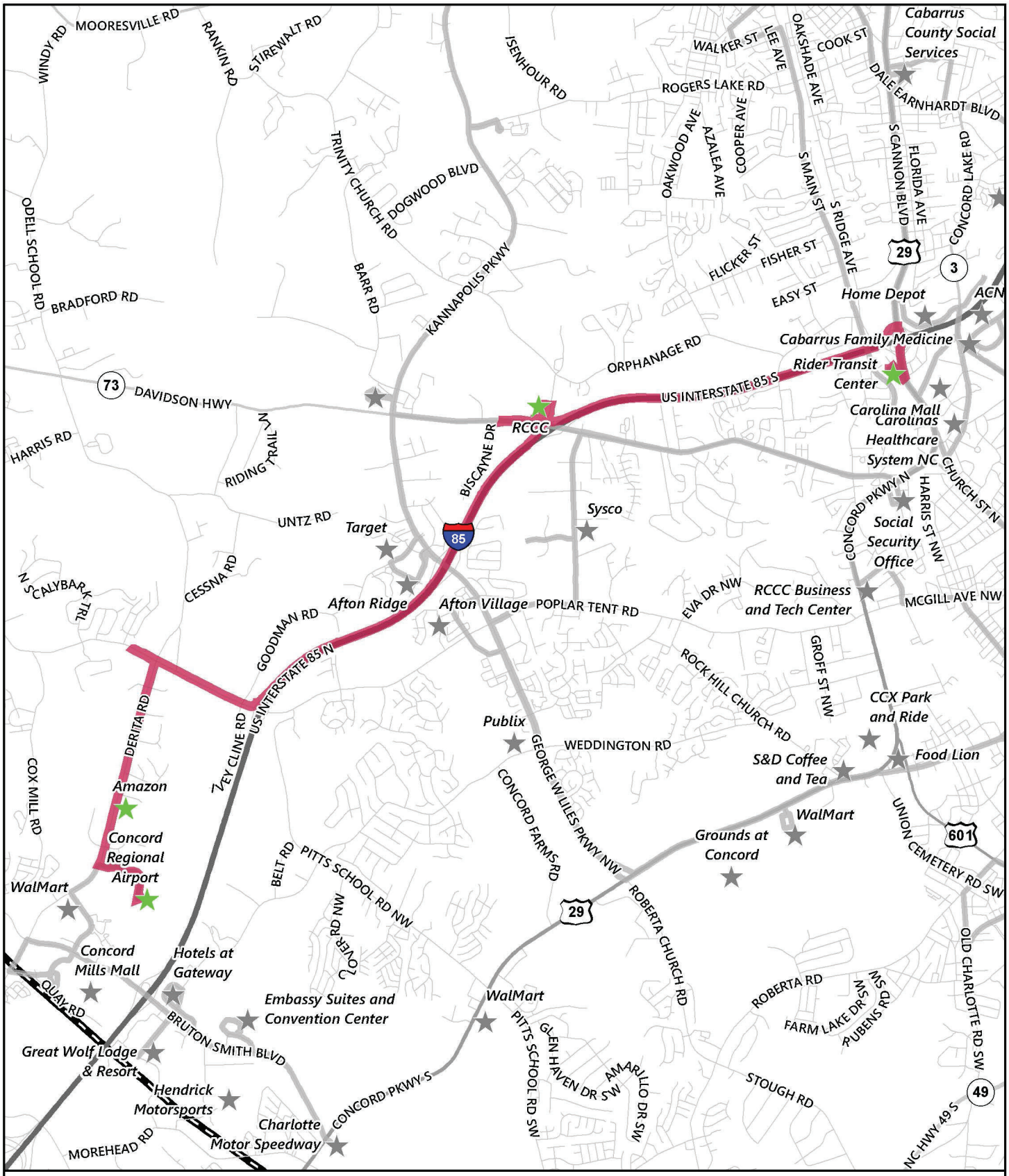
Activity Center

County Boundary

0 0.8 Miles

CABARRUS COUNTY
America Thrives Here

rider


Cabarrus County Social Services
Home Depot
ACN
Cabarrus Family Medicine
Rider Transit Center
Carolina Mall
Carolinas Healthcare System NC
Social Security Office
RCCC
RCCC Business and Tech Center
Sysco
Target
Afton Ridge
Afton Village
Publix
WalMart
Grounds at Concord
S&D Coffee and Tea
Food Lion
CCX Park and Ride
Amazon
Concord Regional Airport
Concord Mills Mall
Hotels at Gateway
Embassy Suites and Convention Center
Great Wolf Lodge & Resort
Hendrick Motorsports
Charlotte Motor Speedway
MOORESVILLE RD
WINDY RD
RANKIN RD
STIREWALT RD
ISENHOUR RD
TRINITY CHURCH RD
DOGWOOD BLVD
ODELL SCHOOL RD
BRADFORD RD
BARR RD
KANNAPOLIS PKWY
ROGERS LAKE RD
WALKER ST
LEE AVE
OAKSHADE AVE
COOK ST
DALE EARNHARDT BLVD
OAKWOOD AVE
AZALEA AVE
COOPER AVE
S MAIN ST
S RIDGE AVE
S CANNON BLVD
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CONCORD LAKE RD
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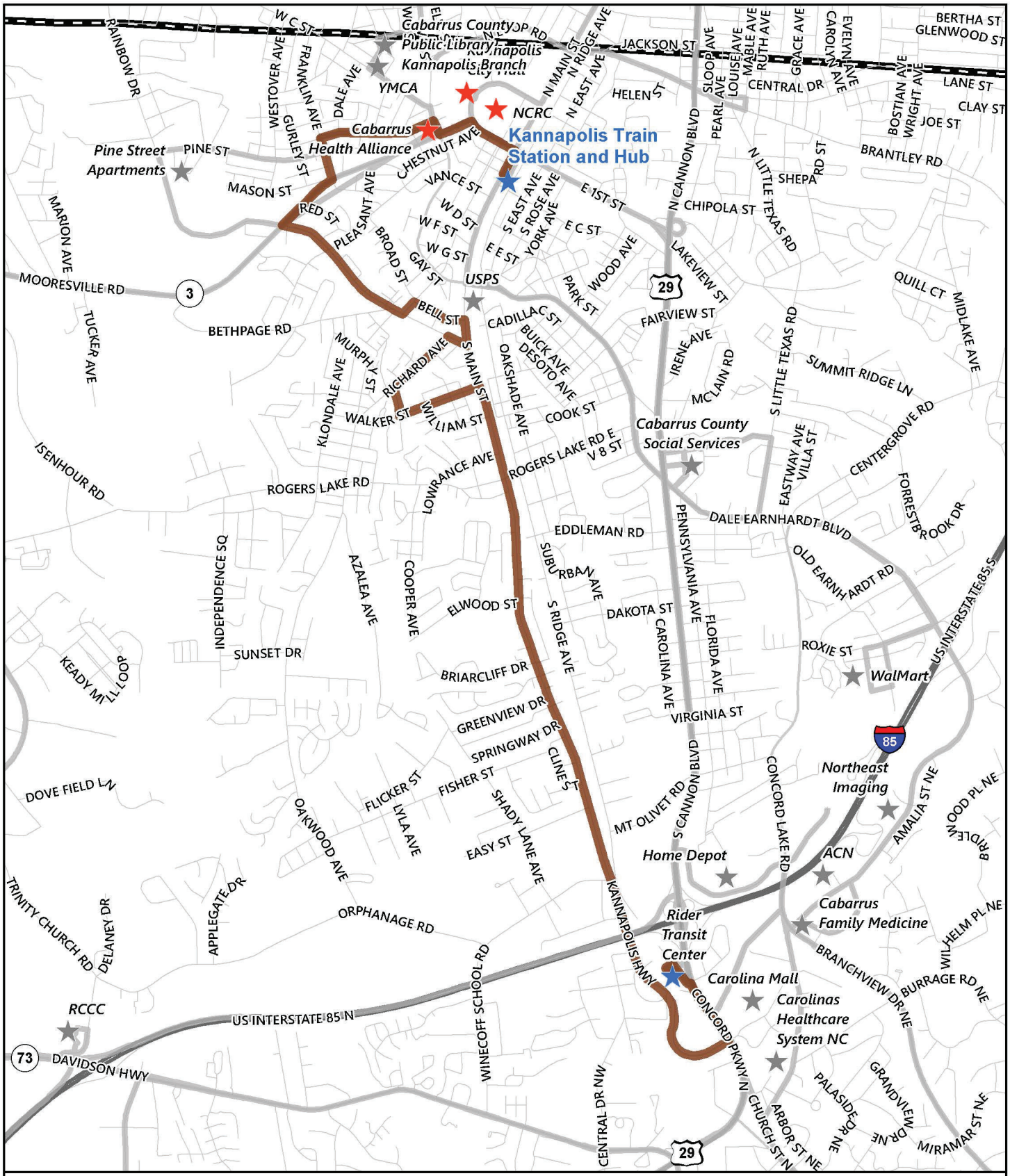
ORPHANAGE RD
US INTERSTATE 85 S
DAVIDSON HWY
HARRIS RD
RIDING TRAIL LN
BISCAYNE DR
UNTZ RD
CESSNA RD
N SCALYBARK TRL
GOODMAN RD
US INTERSTATE 85 N
CONCORD PKWY N
HARRIS ST NW
CHURCH ST N
EVA DR NW
POPLAR TENT RD
MCGILL AVE NW
ROCK HILL CHURCH RD
GROFF ST NW
DERITA RD
ZEY CLINE RD
COX MILL RD
GEORGE W LILES PKWY NW
CONCORD FARMS RD
WEDDINGTON RD
UNION CEMETERY RD SW
BELT RD
PITTS SCHOOL RD NW
CLOVER RD NW
ROBERTA CHURCH RD
ROBERTA RD
FARM LAKE DR SW
RUBENS RD SW
OLD CHARLOTTE RD SW
QUAY RD
BRUTON SMITH BLVD
CONCORD PKWY S
PITTS SCHOOL RD SW
GLEN HAVEN DR SW
AMARILLO DR SW
STOUGH RD
NC HWY 49 S
MOREHEAD RD
73
29
3
85
601
49
New Red Route
Start Phase: 3
Route 206
Transit System
Activity Center
County Boundary
0
1
Miles
CABARRUS COUNTY
America Thrives Here
rider



New Brown Route

Start Phase: 3

Route 207

Transit System

Activity Center

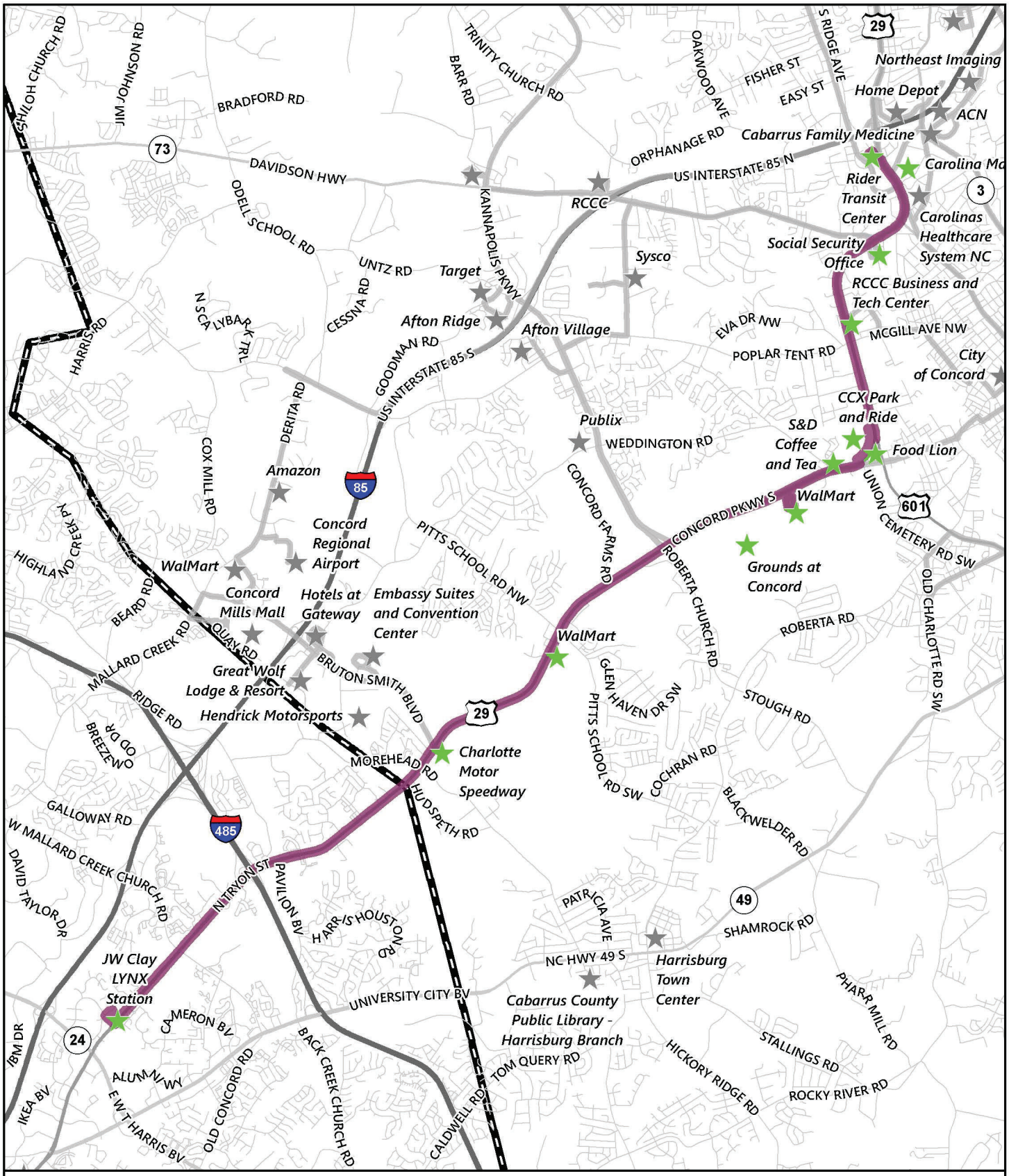
Hub

County Boundary

0 0.65 Miles

CABARRUS COUNTY
America Thrives Here

rider



Concord Route 208

Start Phase: 3

Route 208

Transit System

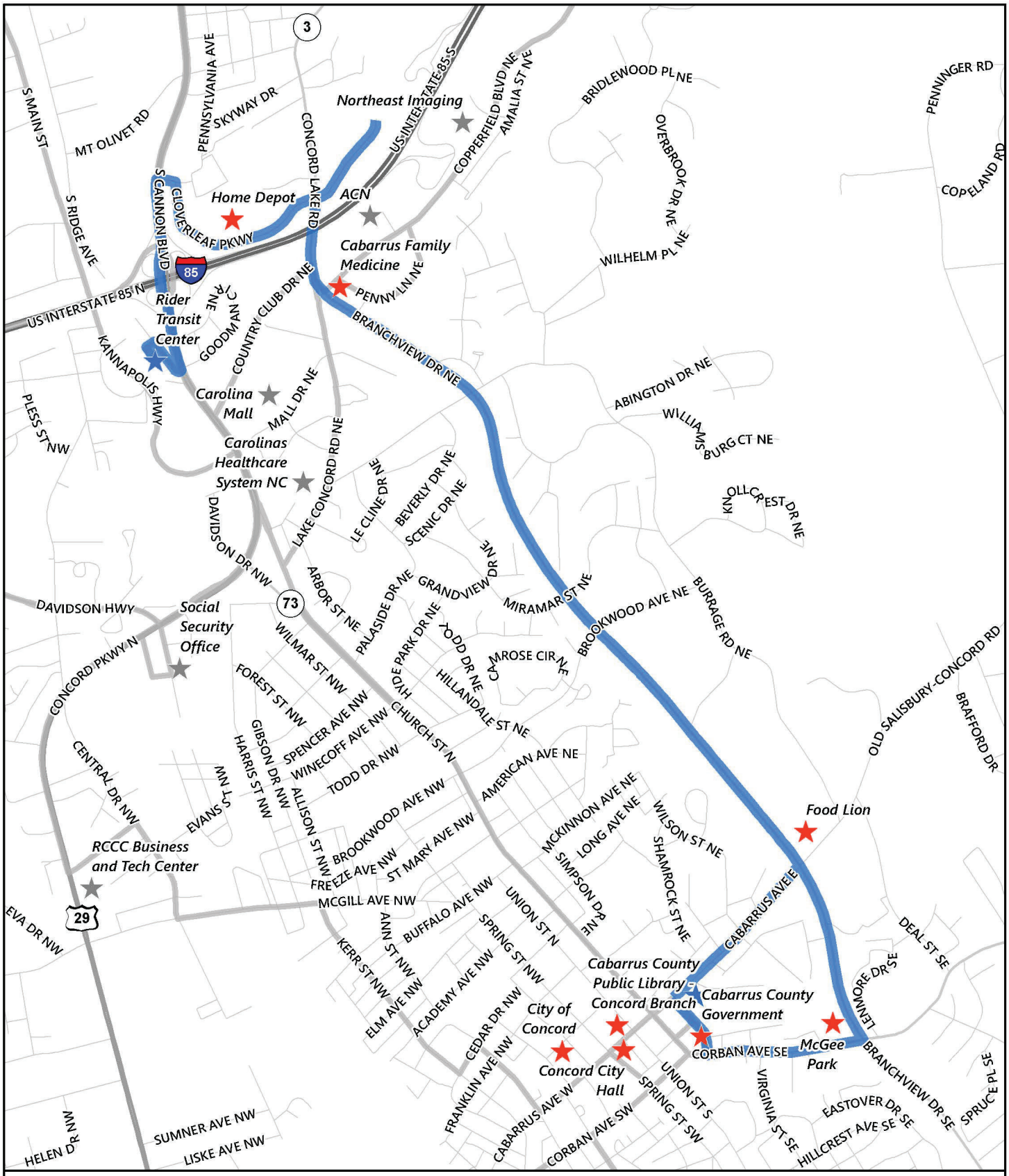
Activity Center

County Boundary

0 1.5 Miles

CABARRUS COUNTY
America Thrives Here

rider



Concord Route 301

Start Phase: 3

0 0.45 Miles

Route 301

Transit System

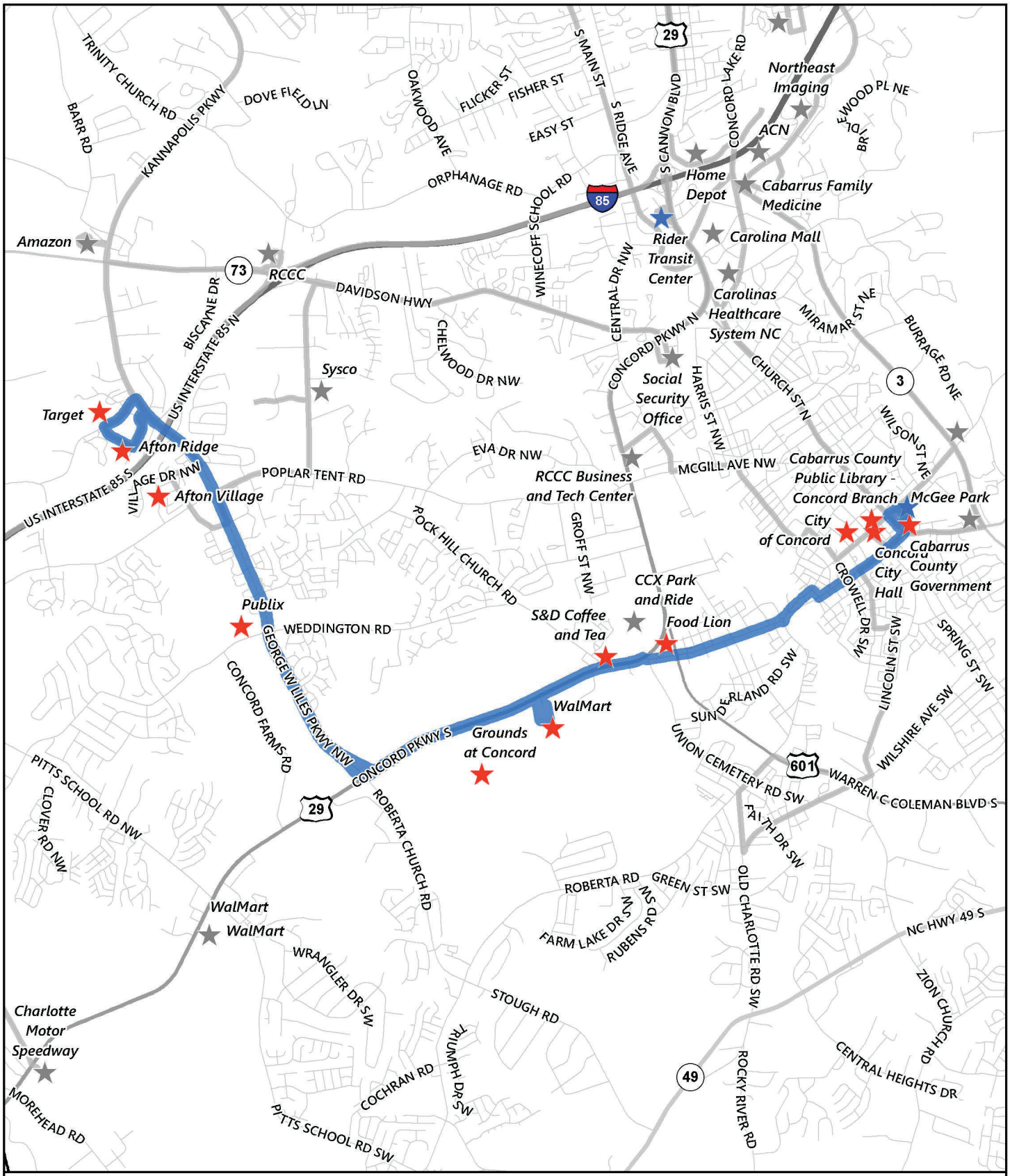
Activity Center

Hub

County Boundary

CABARRUS COUNTY
America Thrives Here

rider



Concord Route 302

Start Phase: 3

0 1 Miles

Route 302

Transit System

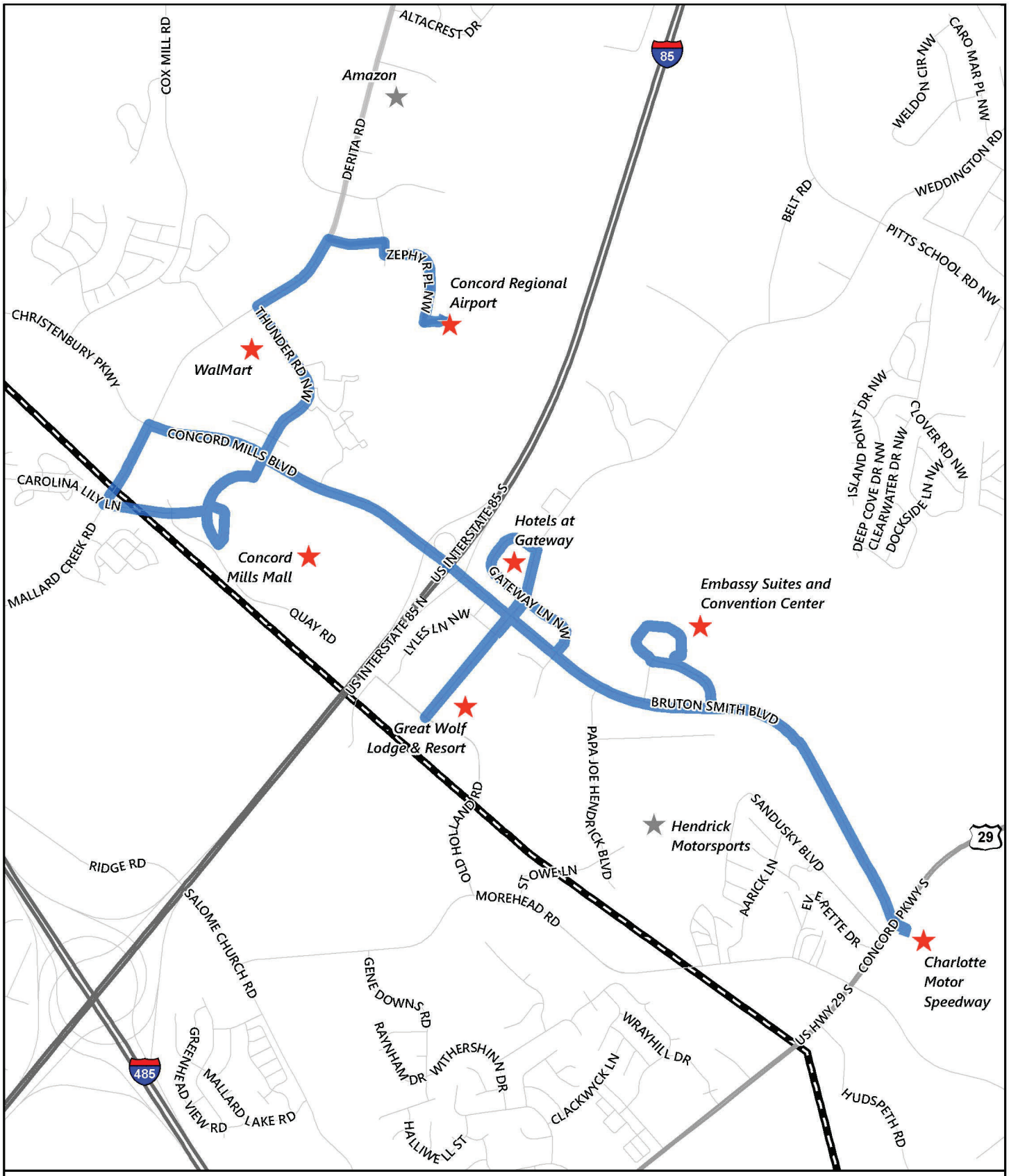
Activity Center

Hub

County Boundary

CABARRUS COUNTY
America Thrives Here

rider



Concord Mills Circulator

Start Phase: 3

0 0.45 Miles

Concord Mills Circulator

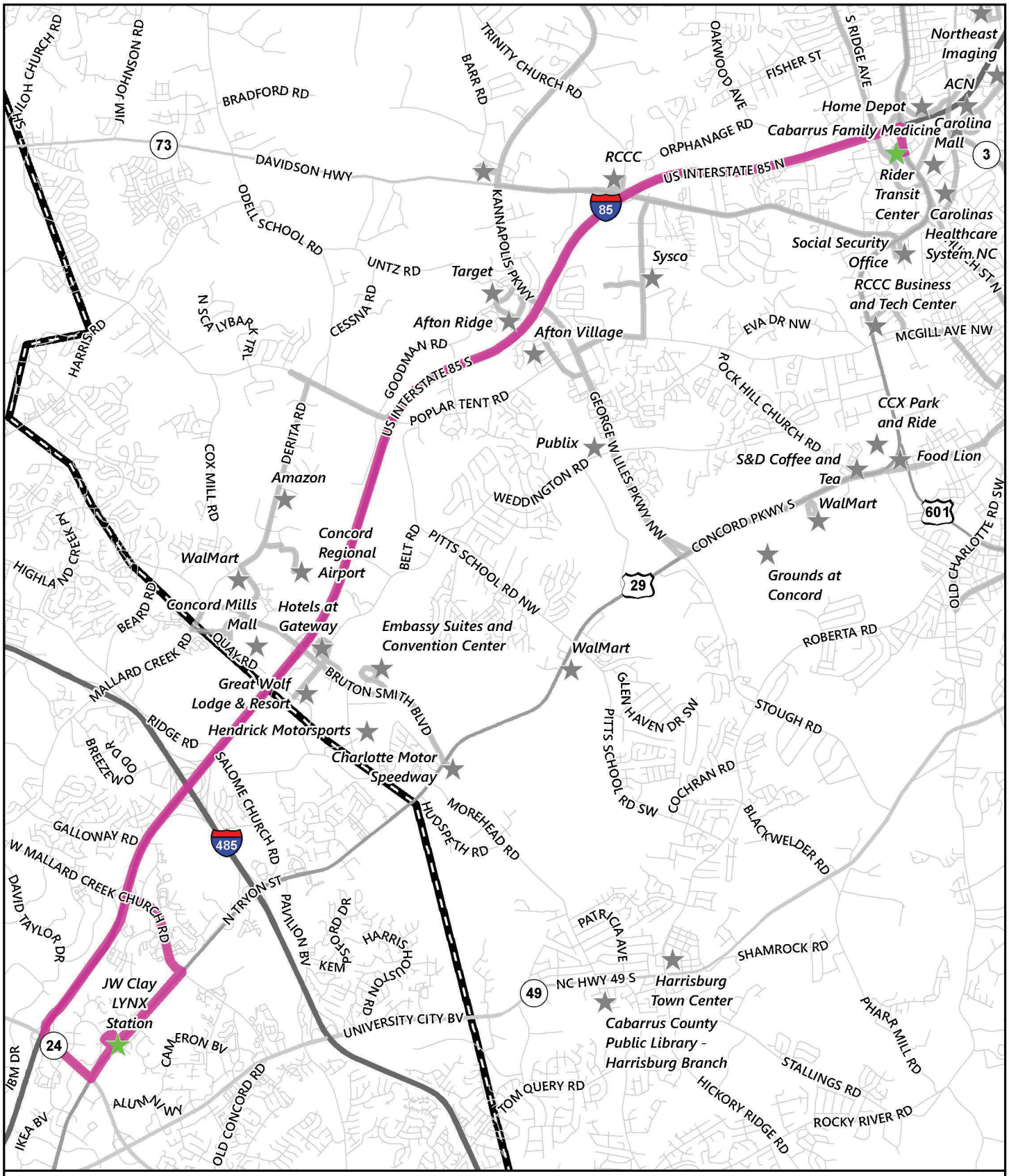
Transit System

Activity Center

County Boundary

CABARRUS COUNTY
America Thrives Here

rider



CCX (True Express)

Start Phase: 3

CCX

Transit System

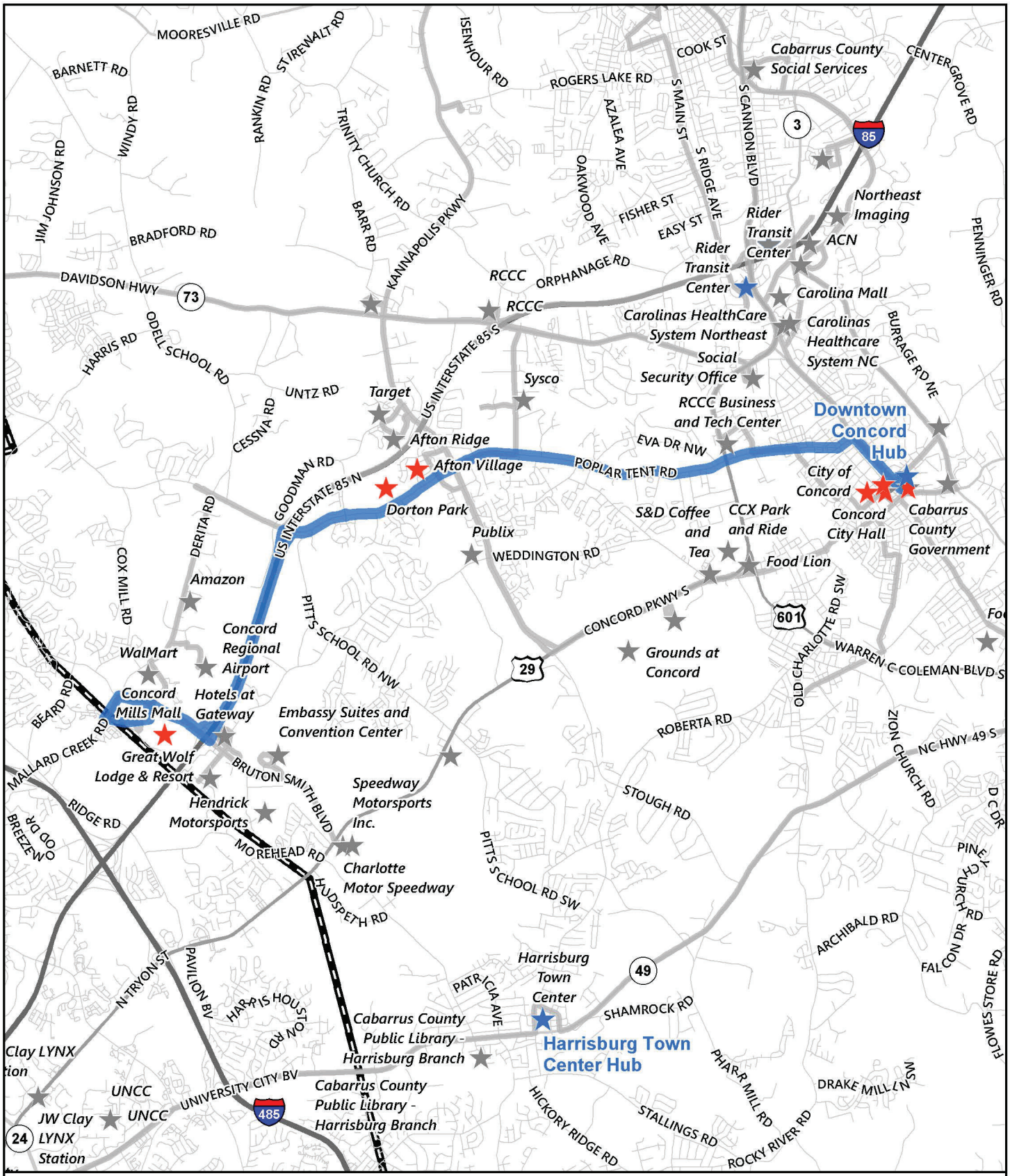
Activity Center

County Boundary

0 1 Miles

CABARRUS COUNTY
America Thrives Here

rider



Concord Route 303

Start Phase: 5

0 1.5 Miles

Route 303

Transit System

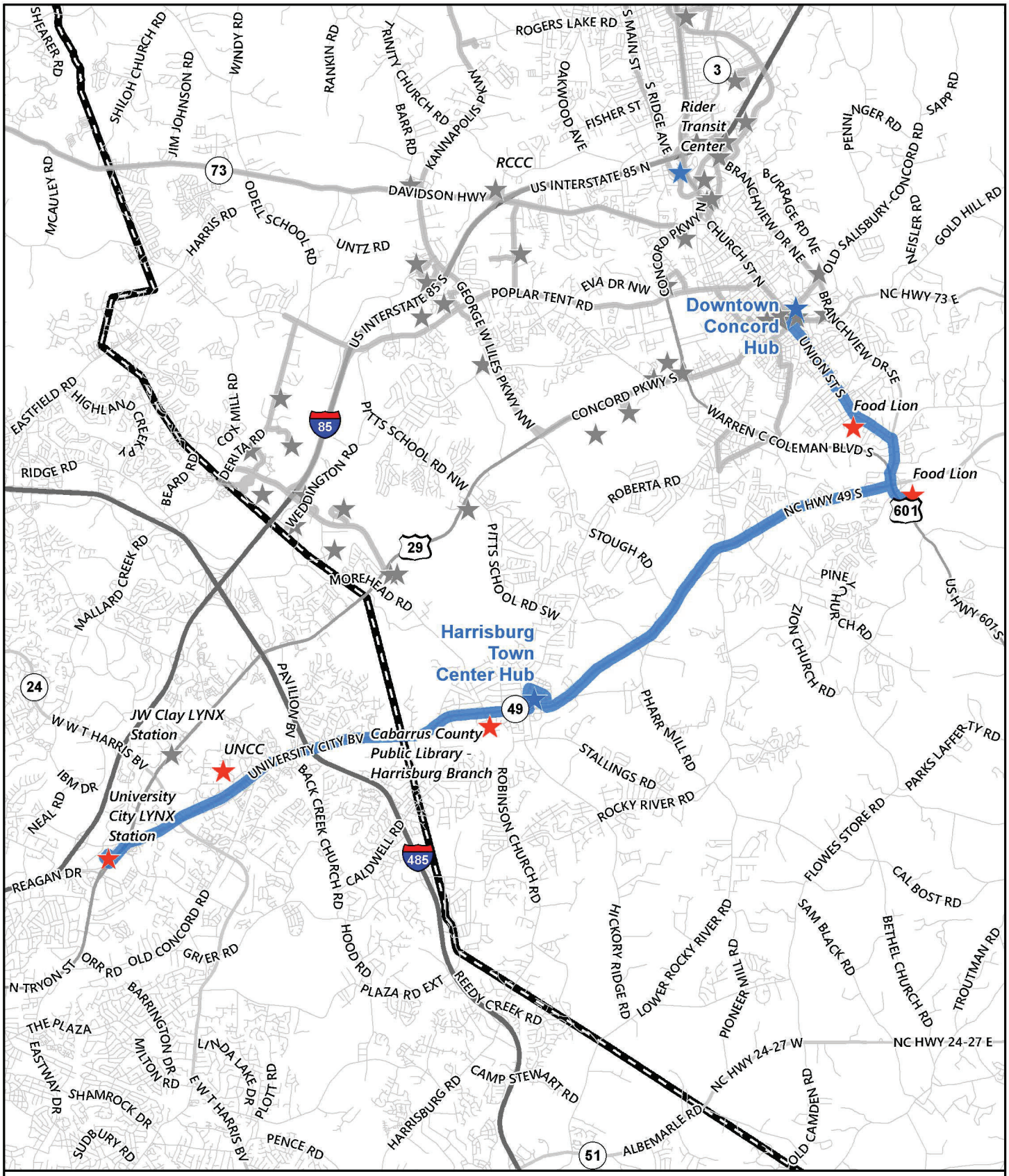
Activity Center

Hub

County Boundary

CABARRUS COUNTY
America Thrives Here

rider



Concord/Harrisburg Route 304

Start Phase: 5

0 2 Miles

Route 304

Transit System

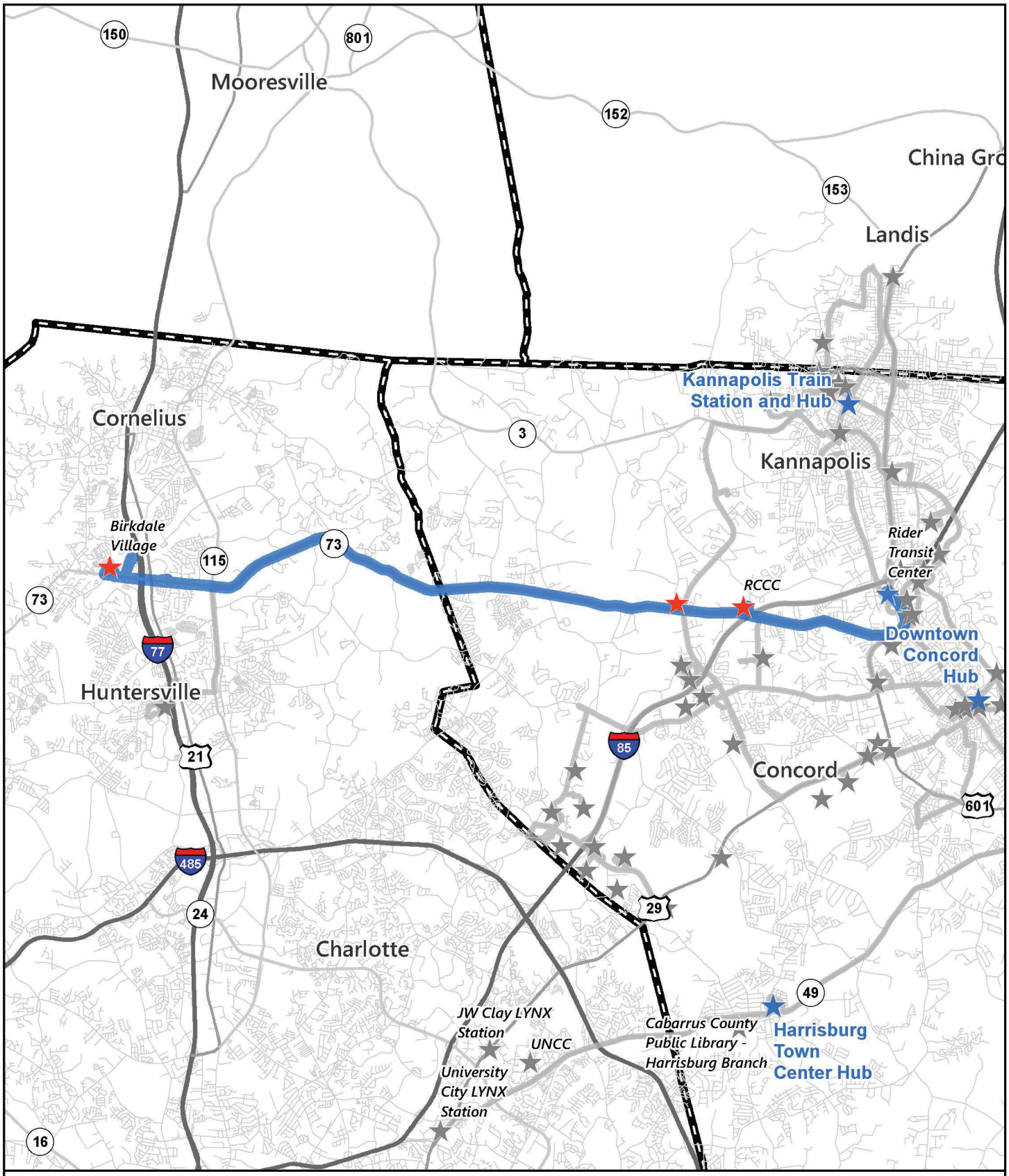
Activity Center

Hub

County Boundary

CABARRUS COUNTY
America Thrives Here

rider



CHX (Concord/Huntersville Express)

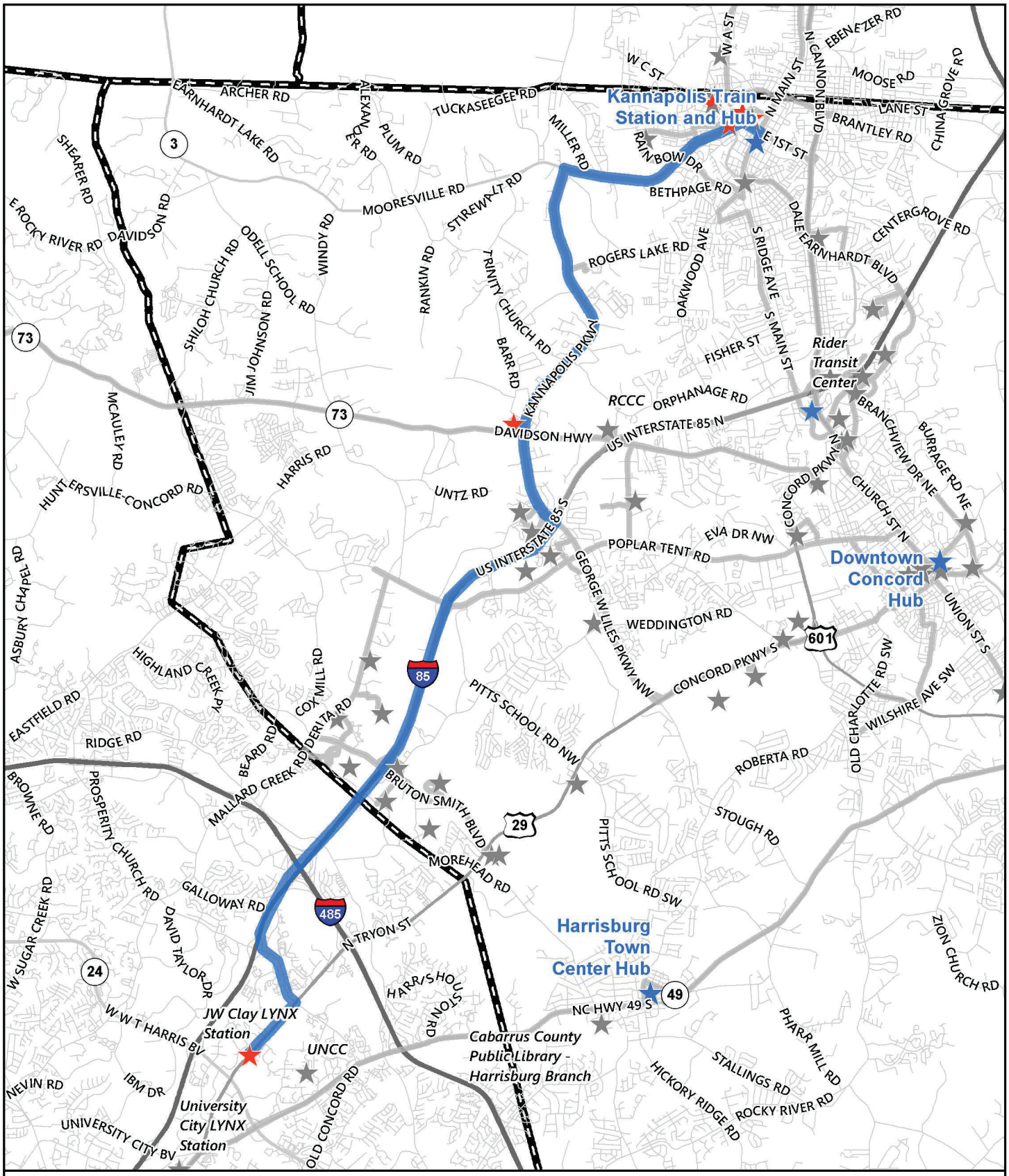
Start Phase: 5

0 2.5 Miles

- CHX
- Transit System
- Activity Center
- Hub
- County Boundary

CABARRUS COUNTY
America Thrives Here

rider



KCX (Kannapolis/Charlotte Express)

Start Phase: 5

KCX

Transit System

Activity Center

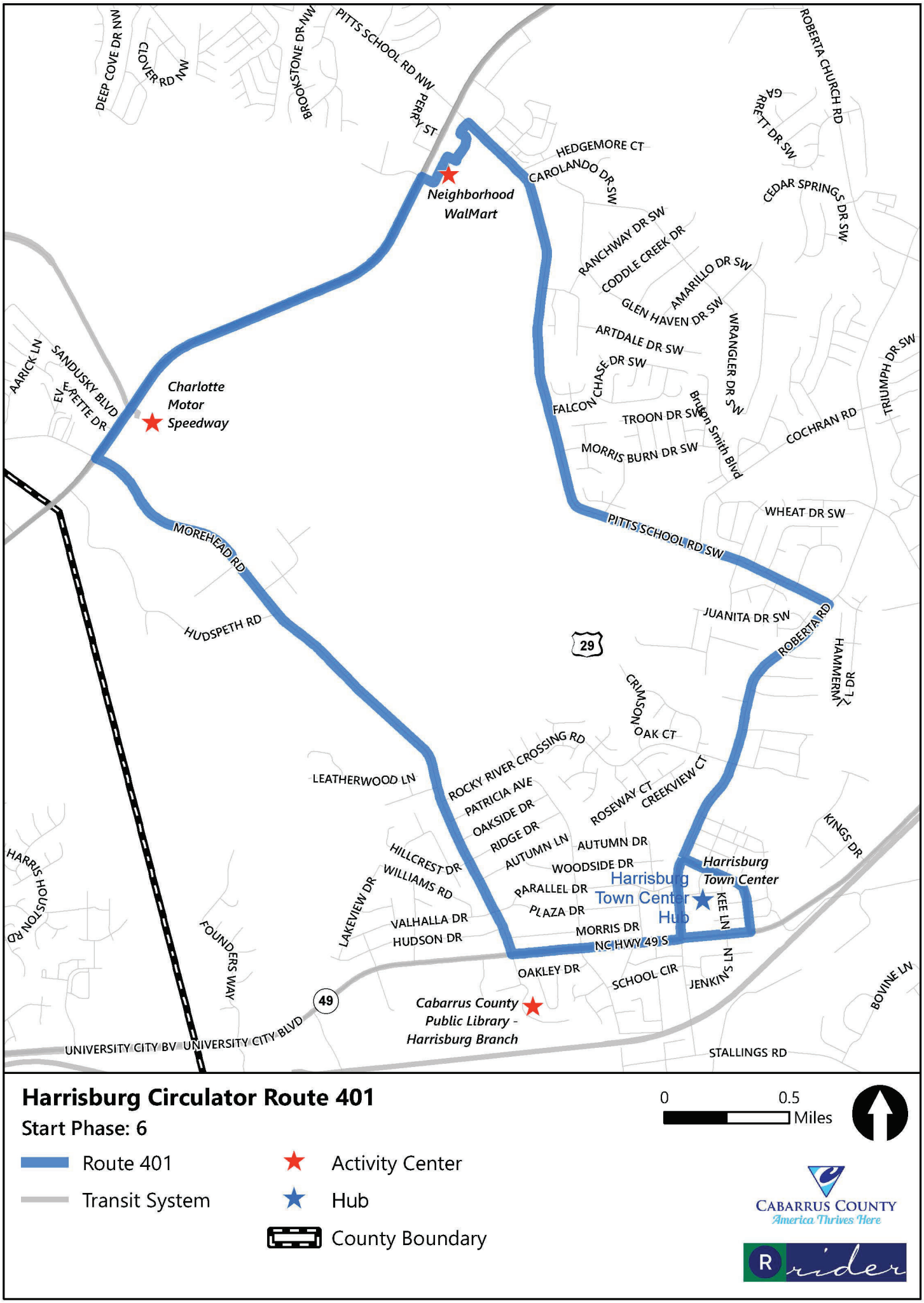
Hub

County Boundary

0 2 Miles

CABARRUS COUNTY
America Thrives Here

rider



Harrisburg Circulator Route 401

Start Phase: 6

0 0.5 Miles

Route 401

Transit System

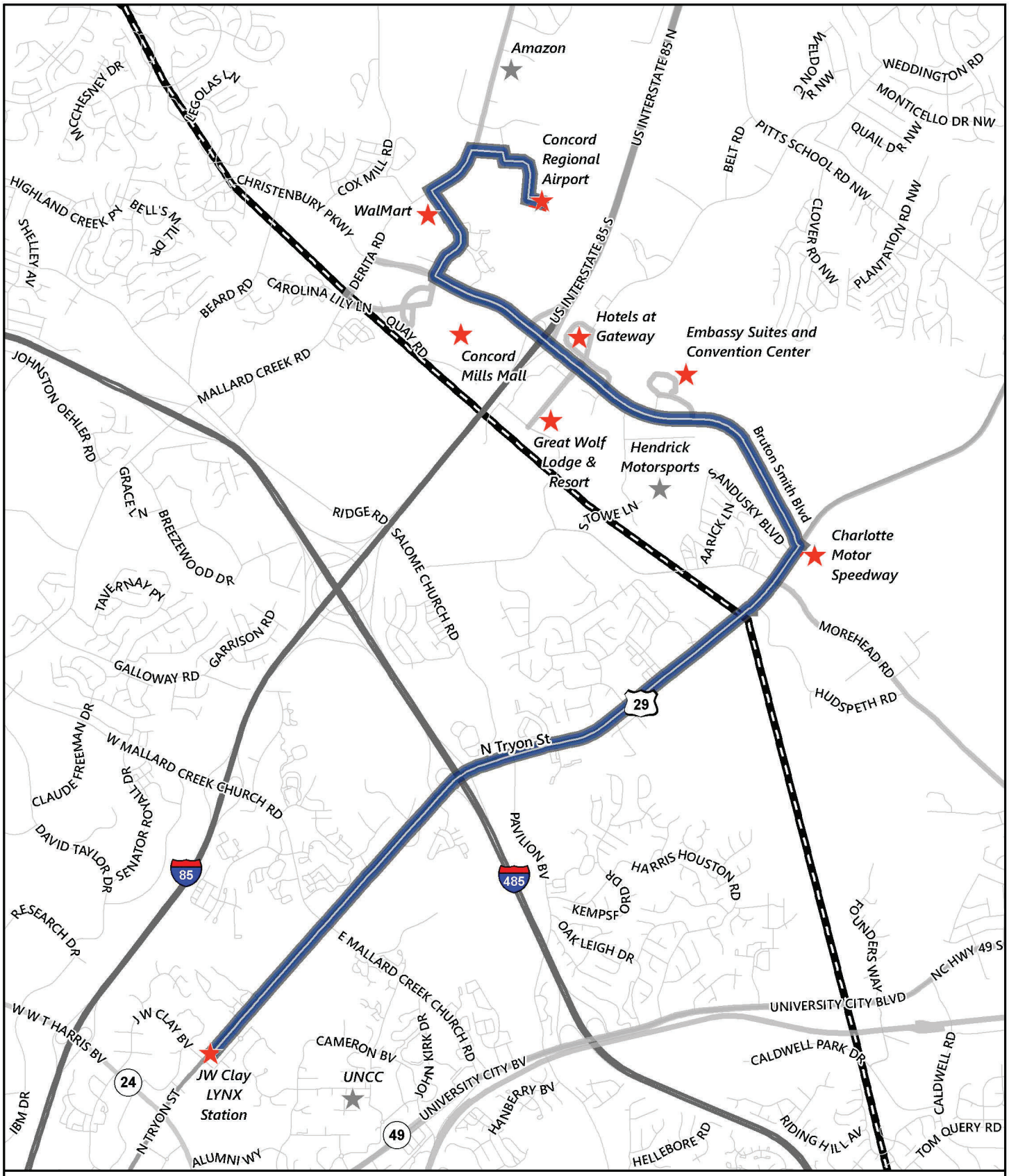
Activity Center

Hub

County Boundary

CABARRUS COUNTY
America Thrives Here

rider



Light Rail Option 1B

Start Phase: 6

0 0.8 Miles

Light Rail

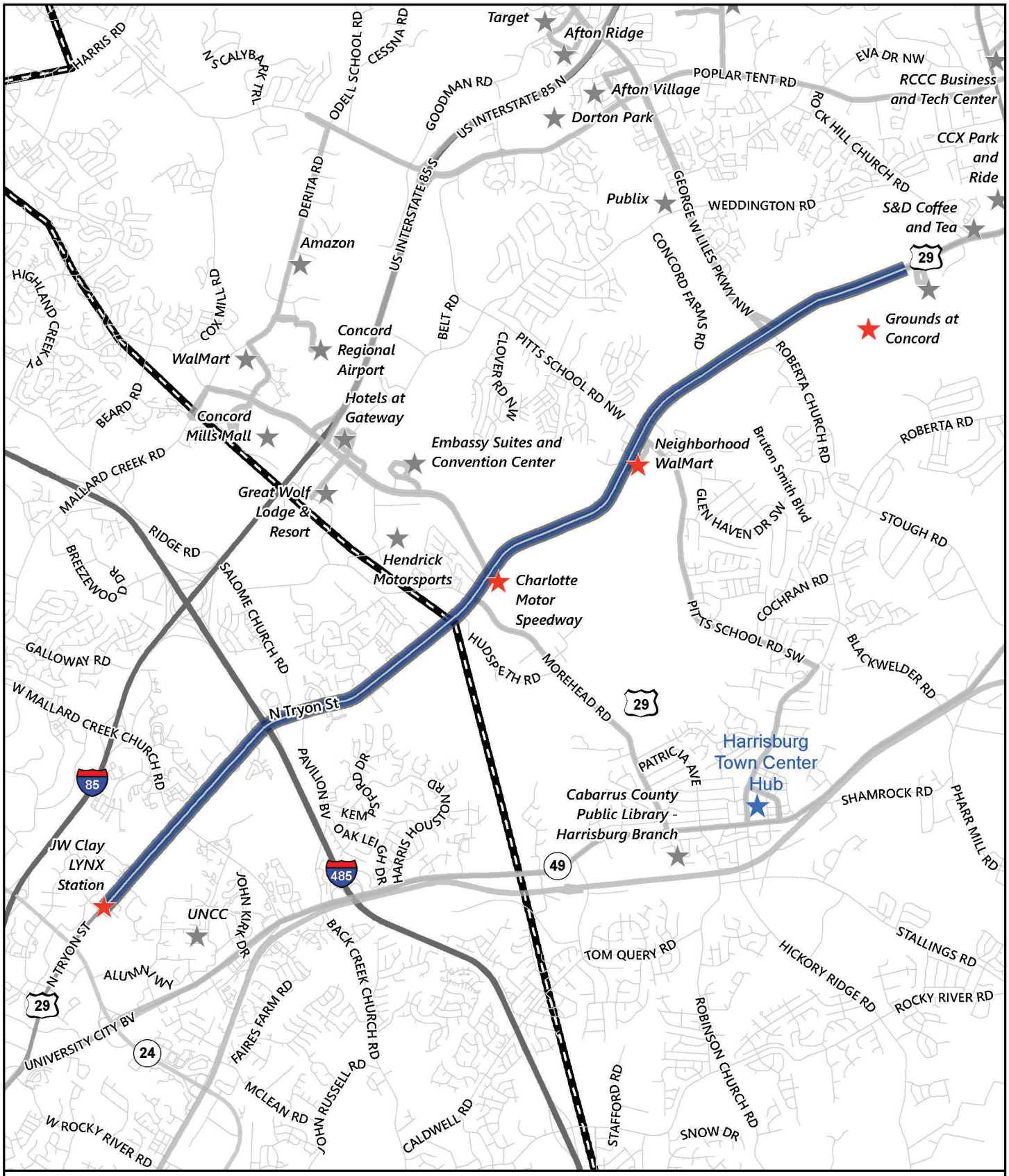
Transit System

Activity Center

County Boundary

CABARRUS COUNTY
America Thrives Here

rider



Light Rail Option 1A

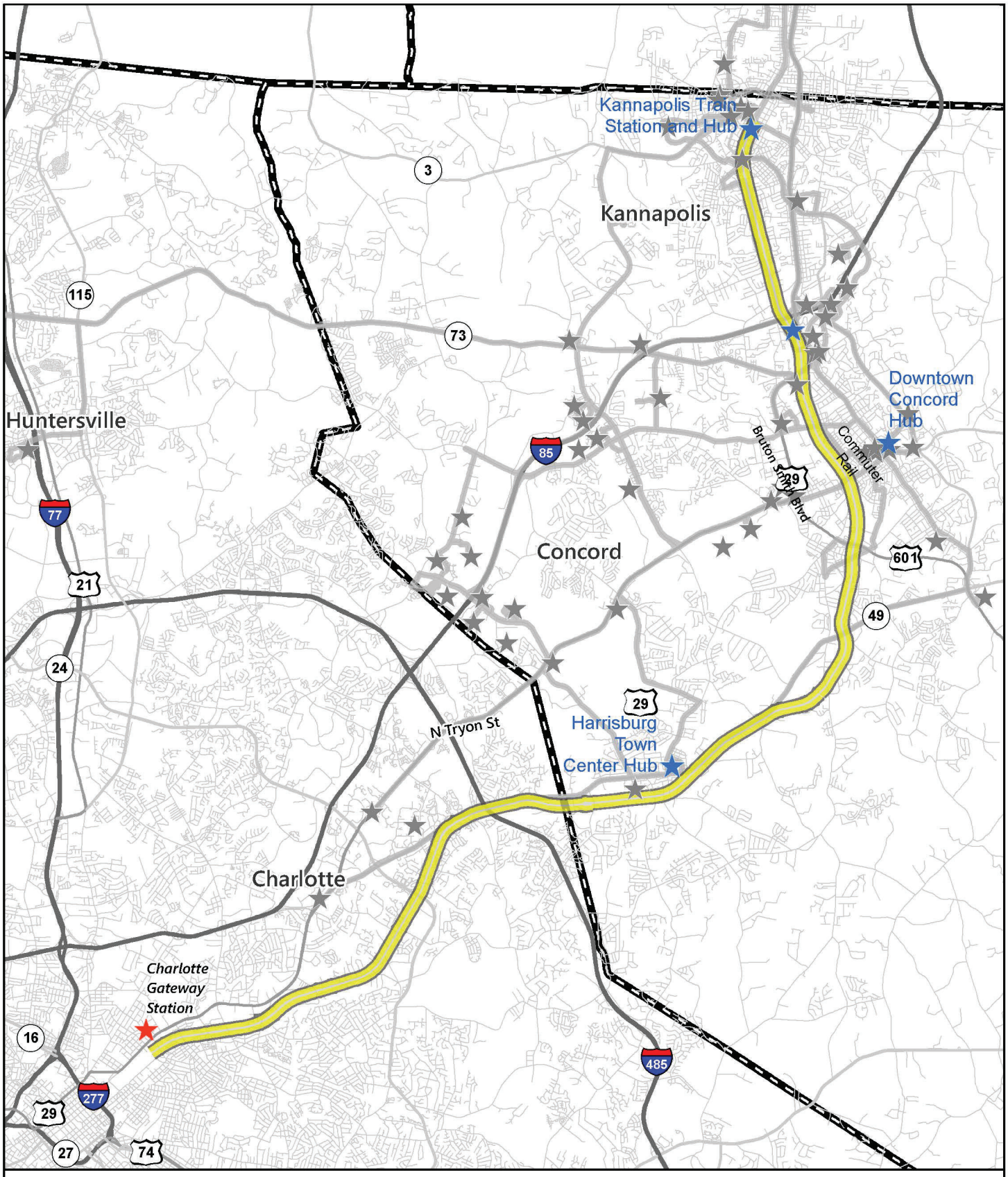
Start Phase: 6

0 1 Miles

- Light Rail
- Transit System
- Activity Center
- Hub
- County Boundary

CABARRUS COUNTY
America Thrives Here

rider



Commuter Rail

Start Phase: 6

Commuter Rail

Transit System

Activity Center

Hub

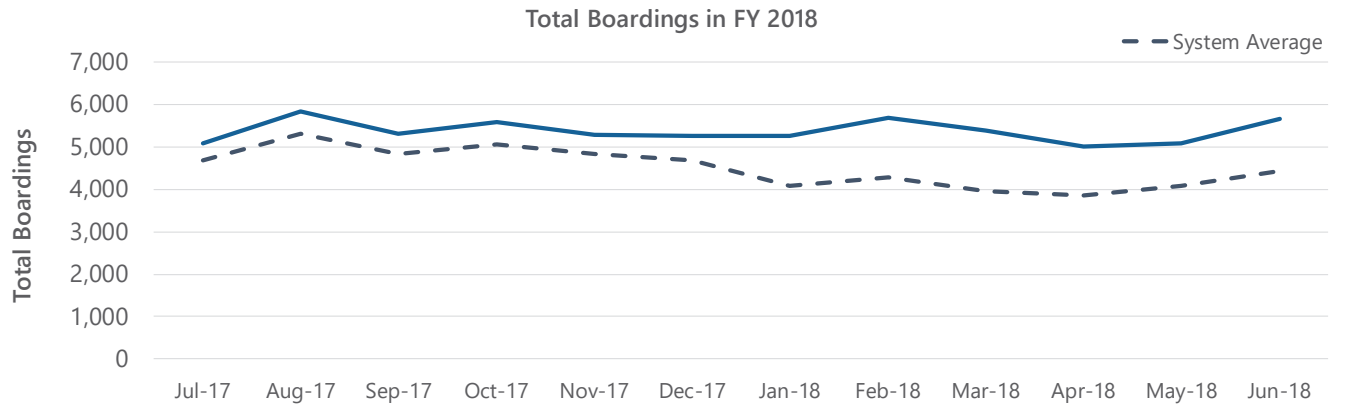
County Boundary

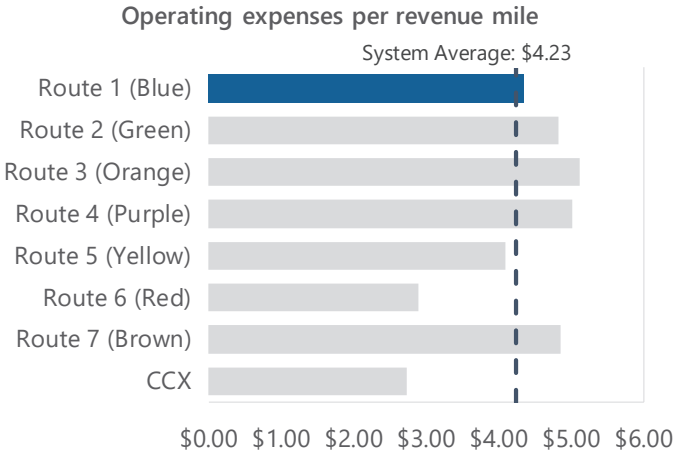
0 2.5 Miles

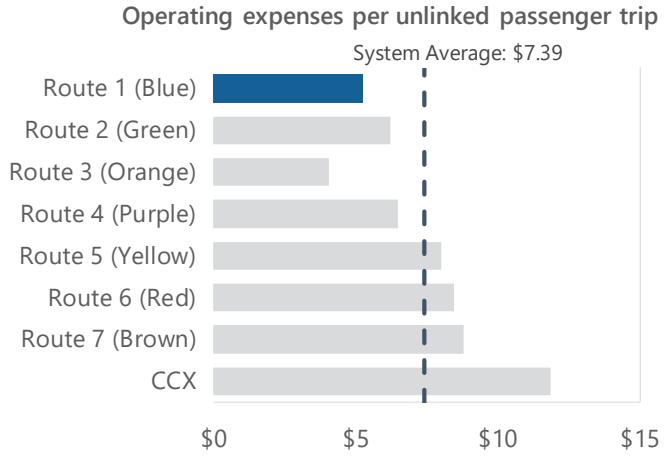
CABARRUS COUNTY
America Thrives Here

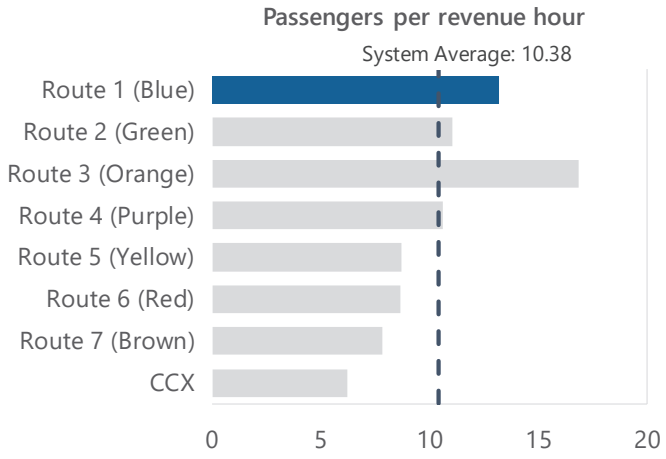
rider

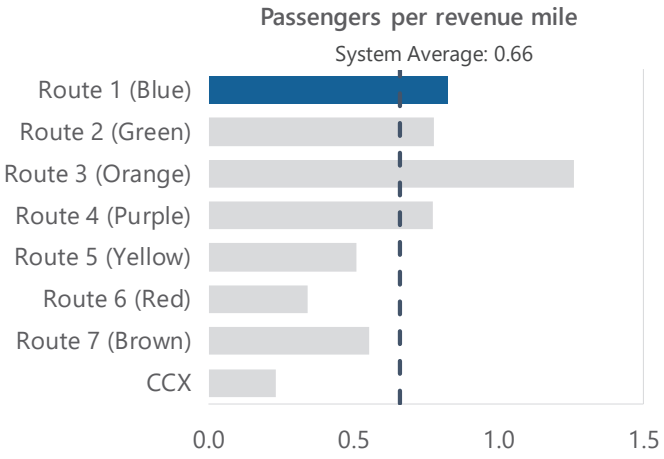
	Route 1 (Blue)	System Average	System Rank
Operational			
Length (round-trip):	17.19	18.88	#4 out of 8
Frequency:	60 minutes	60 minutes	--
Hours of operation:	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	--
Days of operation:	Monday-Sunday	Monday-Sunday	--
Annual unlinked passenger trips:	67,002	52,666	#2 out of 8
Annual vehicle revenue miles:	81,274	89,270.5	#4 out of 8
Annual vehicle revenue hours:	5,073	5,073	--
Annual operating cost:	$352,205.51	$355,233.84	#4 out of 8
Performance			
Operating expenses per revenue mile:	$4.33	$4.23	#5 out of 8
Operating expenses per revenue hour:	$69.43	$70.02	#4 out of 8
Operating expenses per unlinked passenger trip:	$5.26	$7.39	#7 out of 8
Passengers per revenue hour:	13.21	10.38	#2 out of 8
Passengers per revenue mile:	0.82	0.66	#2 out of 8
Demographics			
Population Density (people per square mile):	1,980	1,630	#3 out of 8
Persons below poverty level:	25%	21%	#3 out of 8
Minority population:	48%	48%	#5 out of 8
Zero vehicle households:	8%	7%	#4 out of 8
Persons with disabilities:	13%	11%	#4 out of 8
Population 17 years and Under:	25%	25%	#7 out of 8
Population 65 years and Over:	14%	11%	#2 out of 8
Strengths, Challenges, and Opportunities			

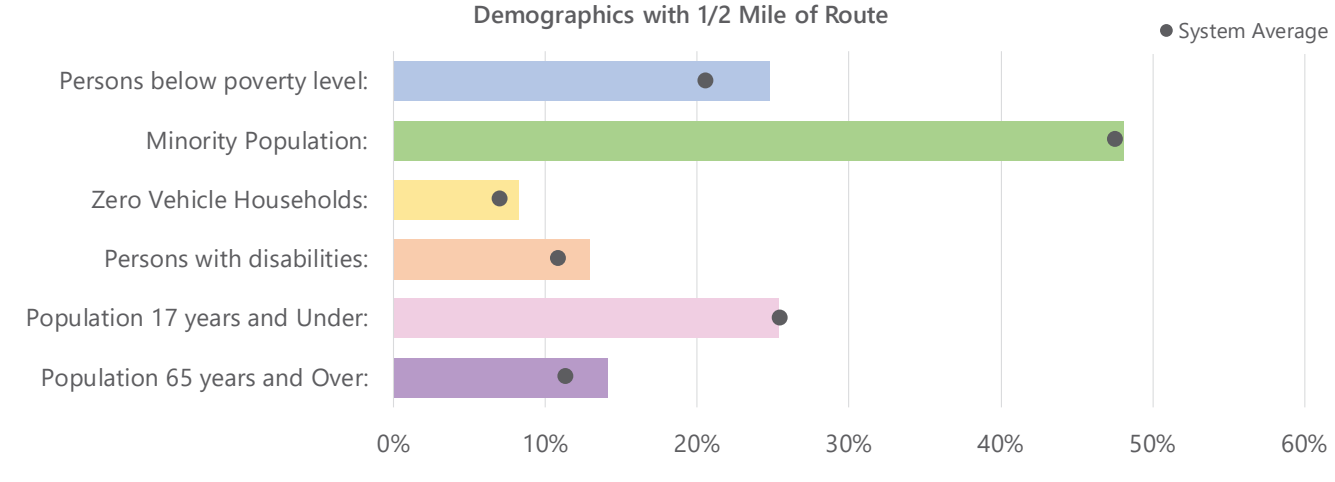

Total Boardings in FY 2018
System Average
Total Boardings
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18

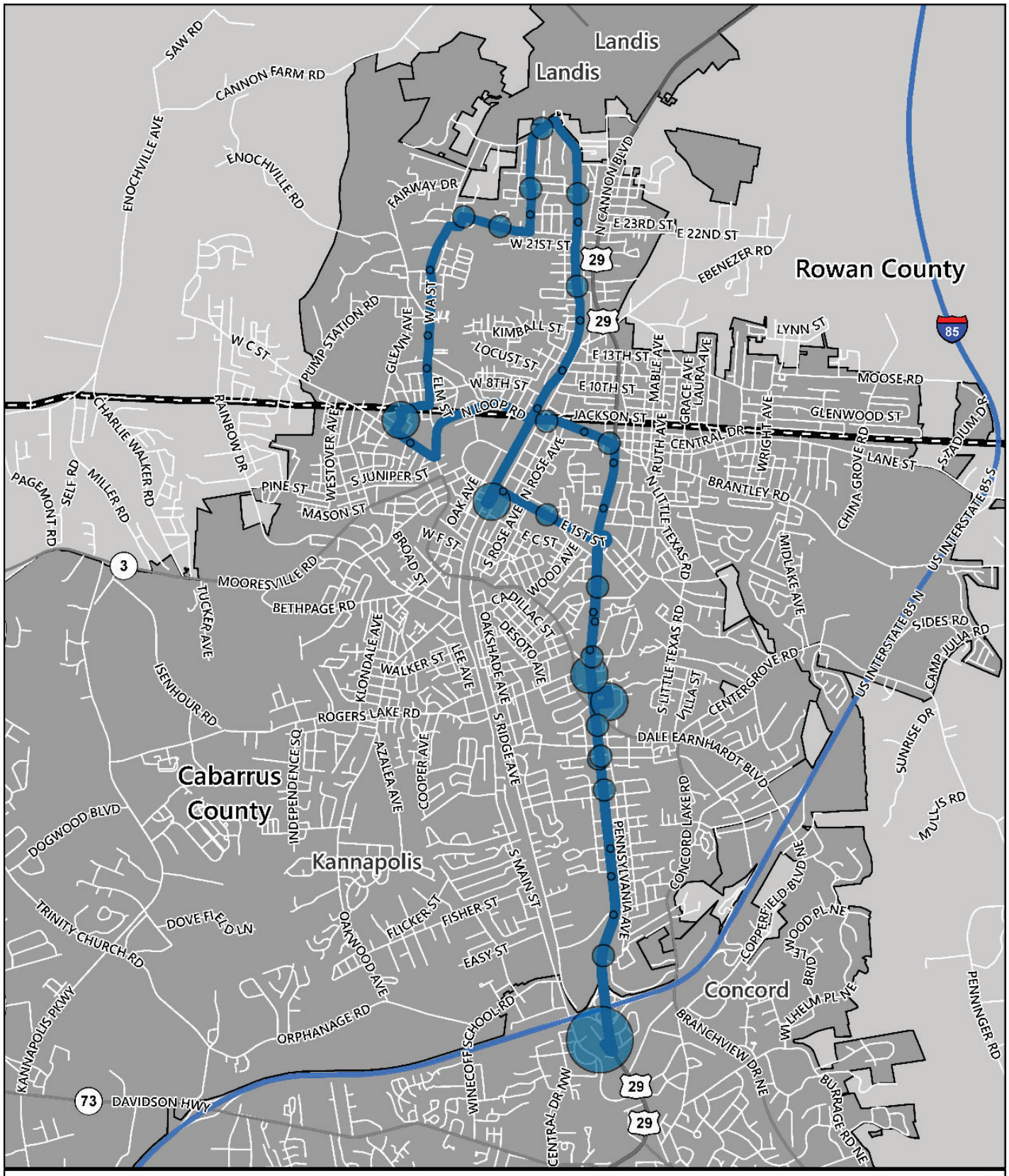

Operating expenses per revenue mile
System Average: $4.23
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0.00
$1.00
$2.00
$3.00
$4.00
$5.00
$6.00


Operating expenses per unlinked passenger trip
System Average: $7.39
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0
$5
$10
$15

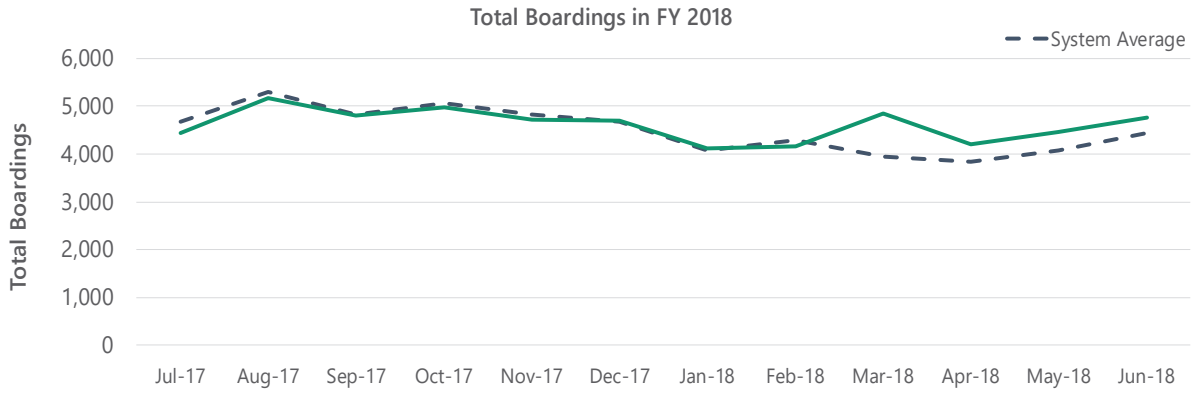

Passengers per revenue hour
System Average: 10.38
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0
5
10
15
20

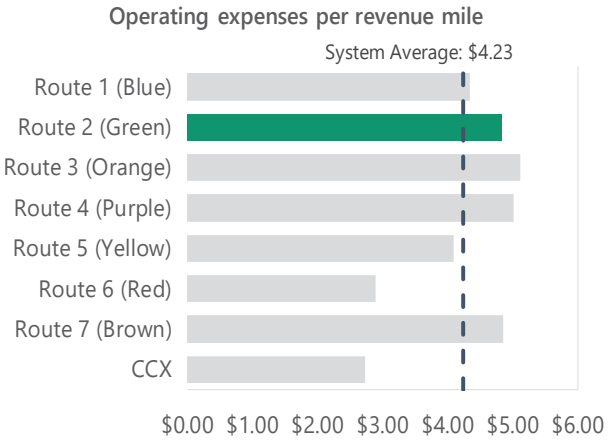

Passengers per revenue mile
System Average: 0.66
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0.0
0.5
1.0
1.5

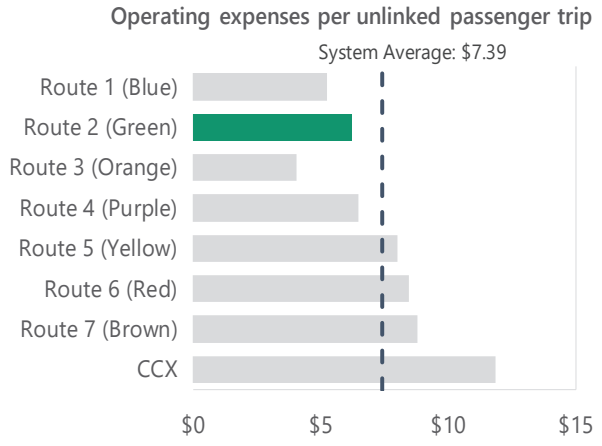

Demographics with 1/2 Mile of Route
System Average
Persons below poverty level:
Minority Population:
Zero Vehicle Households:
Persons with disabilities:
Population 17 years and Under:
Population 65 years and Over:
0%
10%
20%
30%
40%
50%
60%

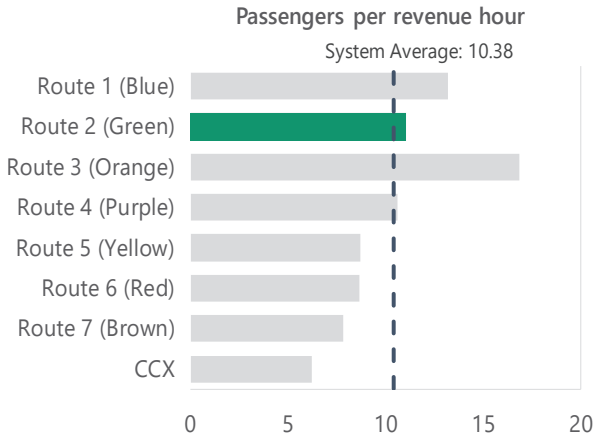

Landis
Landis
Rowan County
Cabarrus County
Kannapolis
Concord
SAW RD
CANNON FARM RD
ENOCHVILLE AVE
ENOCHVILLE RD
FAIRWAY DR
N CANNON BLVD
E 23RD ST
E 22ND ST
W 21ST ST
29
EBENEZER RD
PUMP STATION RD
W A ST
GLENN AVE
KIMBALL ST
LOCUST ST
E 13TH ST
MABLE AVE
GRACE AVE
LAURA AVE
LYNN ST
85
MOOSE RD
W C ST
W 8TH ST
E 10TH ST
ELM ST
N LOOP RD
JACKSON ST
GLENWOOD ST
CHARLIE WALKER RD
RAINBOW DR
WESTOVER AVE
S JUNIPER ST
PINE ST
MASON ST
RUTH AVE
CENTRAL DR
WRIGHT AVE
STADIUM DR
LANE ST
BRANTLEY RD
CHINA GROVE RD
PAGEMONT RD
SELF RD
MILLER RD
OAK AVE
N ROSE AVE
E 1ST ST
S ROSE AVE
E C ST
W F ST
BROAD ST
N LITTLE TEXAS RD
MIDLAKE AVE
US INTERSTATE 85 S
US INTERSTATE 85 N
3
MOORESVILLE RD
BETHPAGE RD
TUCKER AVE
WOOD AVE
CADILLAC ST
DESOTO AVE
OAKSHADE AVE
S RIDGE AVE
LEE AVE
WALKER ST
KLONDALE AVE
S LITTLE TEXAS RD
VILLA ST
CENTERGROVE RD
SIDES RD
CAMP JULIA RD
ISENHOUR RD
ROGERS LAKE RD
INDEPENDENCE SQ
AZALEA AVE
COOPER AVE
DALE EARNHARDT BLVD
SUNRISE DR
DOGWOOD BLVD
S MAIN ST
PENNSYLVANIA AVE
CONCORD LAKE RD
MULLIS RD
TRINITY CHURCH RD
DOVE FIELD LN
FLICKER ST
FISHER ST
EASY ST
OAKWOOD AVE
COPPERFIELD BLVD NE
WOOD PL NE
LE BRID
LHELM PL NE
PENNINGER RD
KANNAPOLIS PKWY
ORPHANAGE RD
WINECOFF SCHOOL RD
BRANCHVIEW DR NE
CENTRAL DR NW
BURRAGE RD NE
73
DAVIDSON HWY
29
29
Route 1 (Blue) Stop Activity
Total boardings and alightings
0 to 6
6.1 to 19
19.1 to 60
115 to 1,132
Route 1 (Blue)
Municipality
County
CCTS
rider
CONNECTING COMMUNITY
0 2,000
Feet

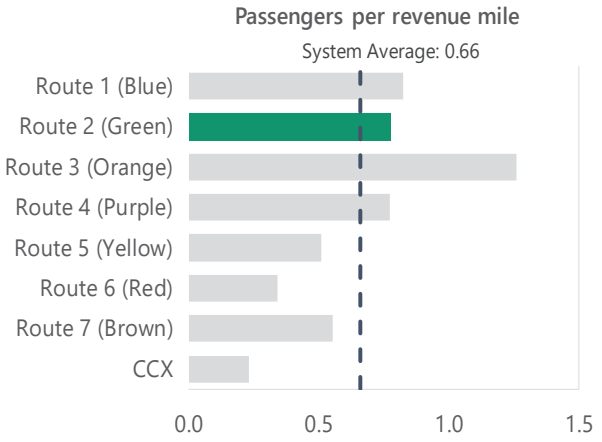
	Route 2 (Green)	System Average	System Rank
Operational			
Length (round-trip):	15.28	18.88	#5 out of 8
Frequency:	60 minutes	60 minutes	--
Hours of Operation:	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	--
Days of Operation:	Monday-Sunday	Monday-Sunday	--
Annual unlinked passenger trips:	56,023	52,666	#3 out of 8
Annual vehicle revenue miles:	7,2244	89,270.5	#5 out of 8
Annual vehicle revenue hours:	5,073	5,073	--
Annual operating cost:	$348,785.48	$355,233.84	#5 out of 8
Performance			
Operating expenses per revenue mile:	$4.83	$4.23	#4 out of 8
Operating expenses per revenue hour:	$68.75	$70.02	--
Operating expenses per unlinked passenger trip:	$6.23	$7.39	#6 out of 8
Passengers per revenue hour:	11.04	10.38	#3 out of 8
Passengers per revenue mile:	0.78	0.66	#3 out of 8
Demographics			
Population density (people per square mile):	1,730	1,630	#5 out of 8
Persons below poverty level:	19%	21%	#6 out of 8
Minority population:	48%	48%	#4 out of 8
Zero vehicle households:	7%	7%	#5 out of 8
Persons with disabilities:	13%	11%	#3 out of 8
Population 17 years and under:	27%	25%	#4 out of 8
Population 65 years and over:	14%	11%	#1 out of 8
Strengths, Challenges, and Opportunities			

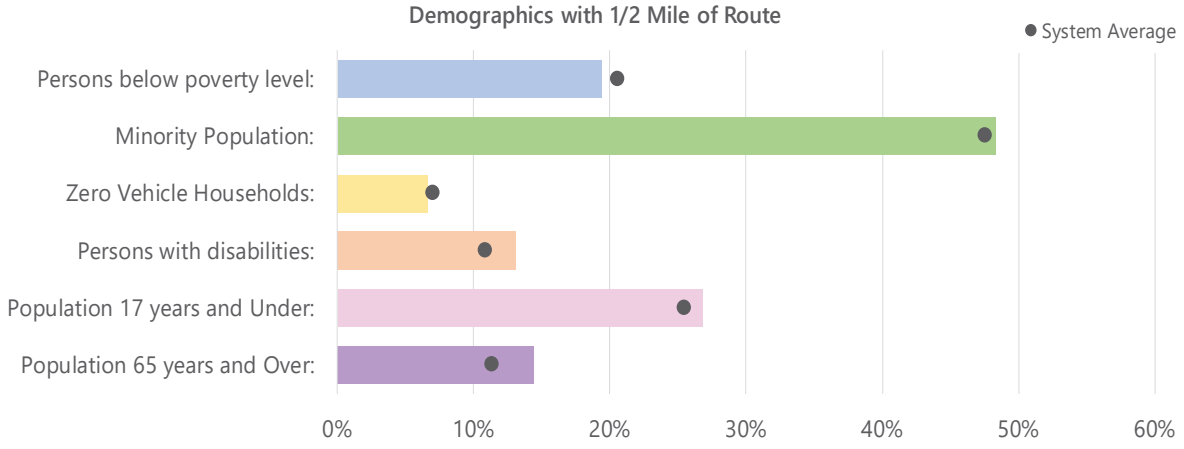

Total Boardings in FY 2018
System Average
Total Boardings
6,000
5,000
4,000
3,000
2,000
1,000
0
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18

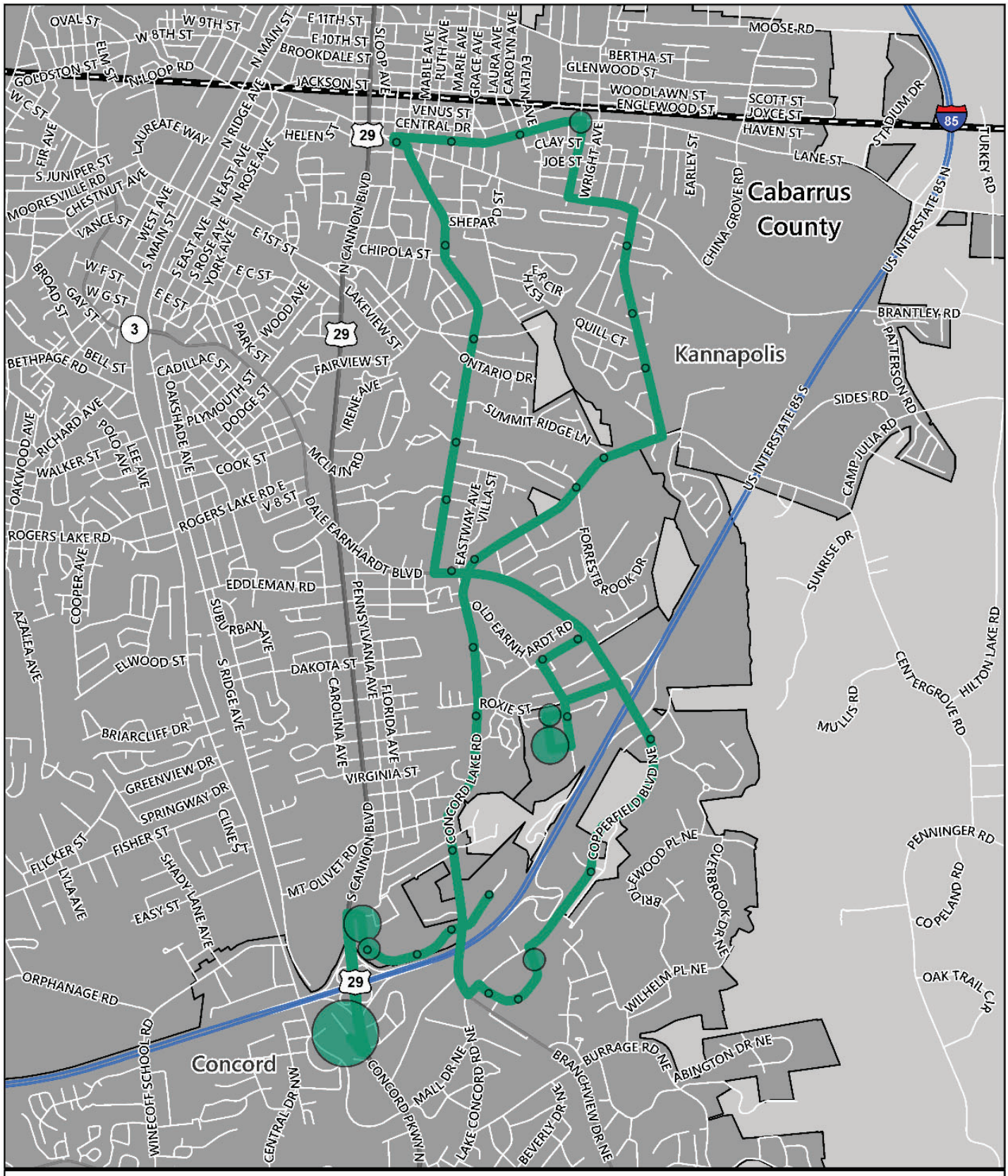

Operating expenses per revenue mile
System Average: $4.23
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0.00 $1.00 $2.00 $3.00 $4.00 $5.00 $6.00


Operating expenses per unlinked passenger trip
System Average: $7.39
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0
$5
$10
$15


Passengers per revenue hour
System Average: 10.38
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0
5
10
15
20


Passengers per revenue mile
System Average: 0.66
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0.0
0.5
1.0
1.5


Demographics with 1/2 Mile of Route
System Average
Persons below poverty level:
Minority Population:
Zero Vehicle Households:
Persons with disabilities:
Population 17 years and Under:
Population 65 years and Over:
0%
10%
20%
30%
40%
50%
60%



Route 2 (Green) Stop Activity

Total boardings and alightings

- 0 to 6
- 6.1 to 19
- 19.1 to 60
- 115 to 1,132

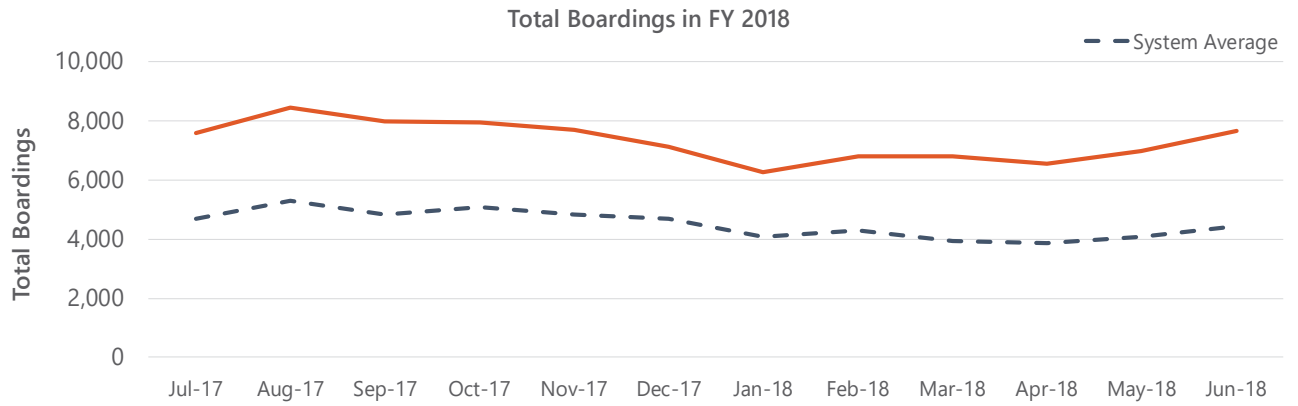
- Route 2 (Green)
- Municipality
- County

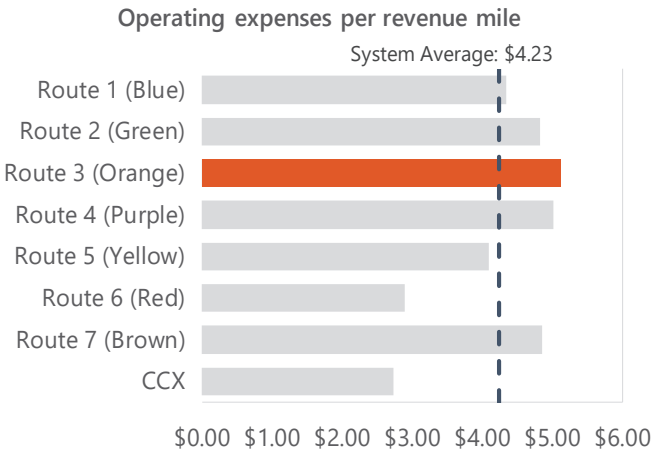
CCTS

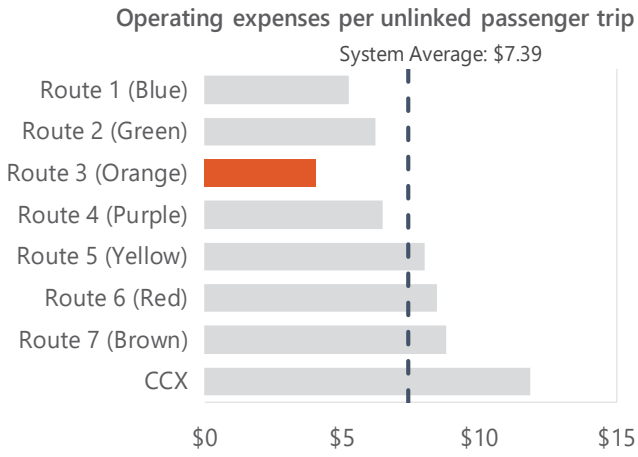
rider
CONNECTING COMMUNITY

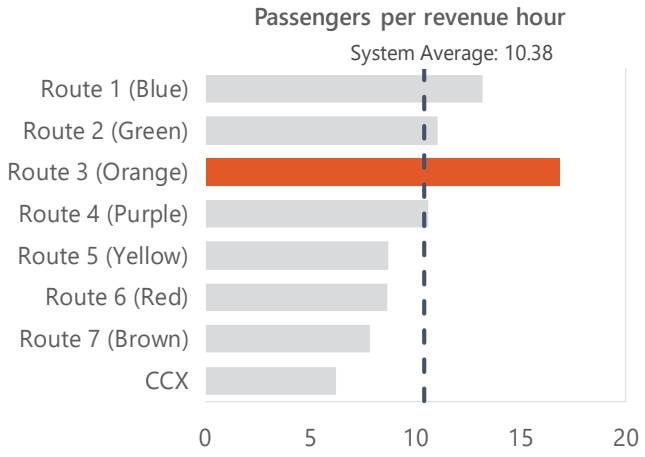
0 2,000 Feet

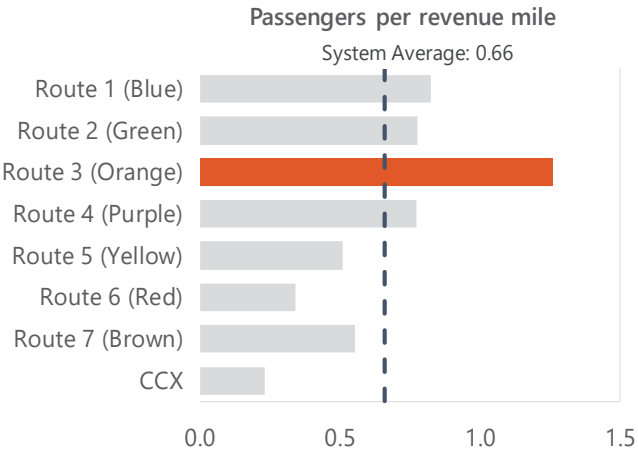
	Route 3 (Orange)	System Average	System Rank
Operational			
Length (round-trip):	14.34	18.88	#8 out of 8
Frequency:	60 minutes	60 minutes	--
Hours of Operation:	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	--
Days of Operation:	Monday-Sunday	Monday-Sunday	--
Annual unlinked passenger trips:	85,366	52,666	#1 out of 8
Annual vehicle revenue miles:	67,800	89,270.5	#8 out of 8
Annual vehicle revenue hours:	5,073	5,073	--
Annual operating cost:	$347,102.33	$355,233.84	#8 out of 8
Performance			
Operating expenses per revenue mile:	$5.12	$4.23	#1 out of 8
Operating expenses per revenue hour:	$68.42	$70.02	#8 out of 8
Operating expenses per unlinked passenger trip:	$4.07	$7.39	#8 out of 8
Passengers per revenue hour:	16.83	10.38	#1 out of 8
Passengers per revenue mile:	1.26	0.66	#1 out of 8
Demographics			
Population Density (people per square mile):	2,090	1,630	#1 out of 8
Persons below poverty level:	27%	21%	#1 out of 8
Minority population:	51%	48%	#3 out of 8
Zero vehicle households:	10%	7%	#2 out of 8
Persons with disabilities:	15%	11%	#1 out of 8
Population 17 years and under:	29%	25%	#2 out of 8
Population 65 years and over:	13%	11%	#3 out of 8
Strengths, Challenges, and Opportunities			

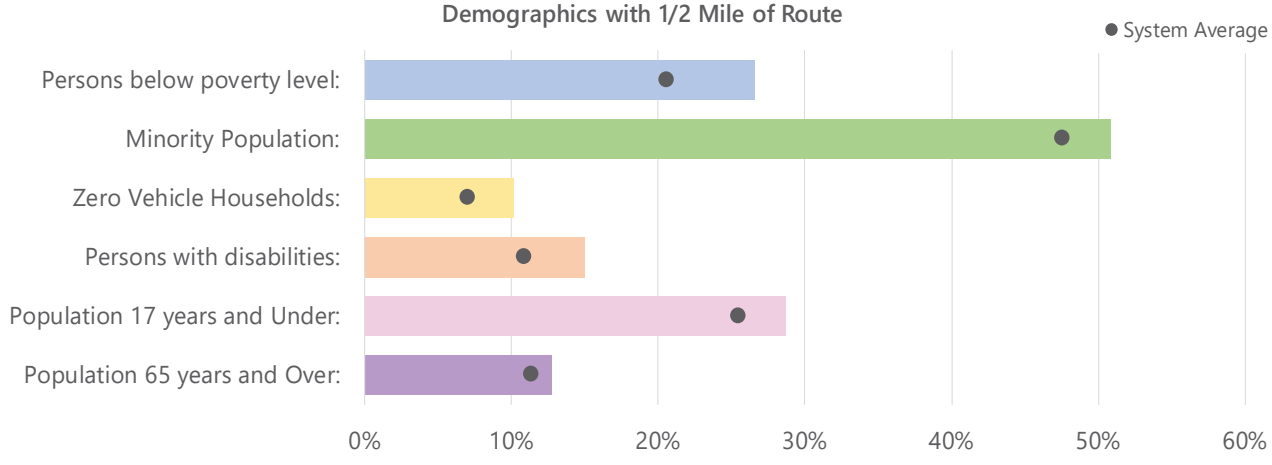

Total Boardings in FY 2018
System Average
Total Boardings
10,000
8,000
6,000
4,000
2,000
0
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18

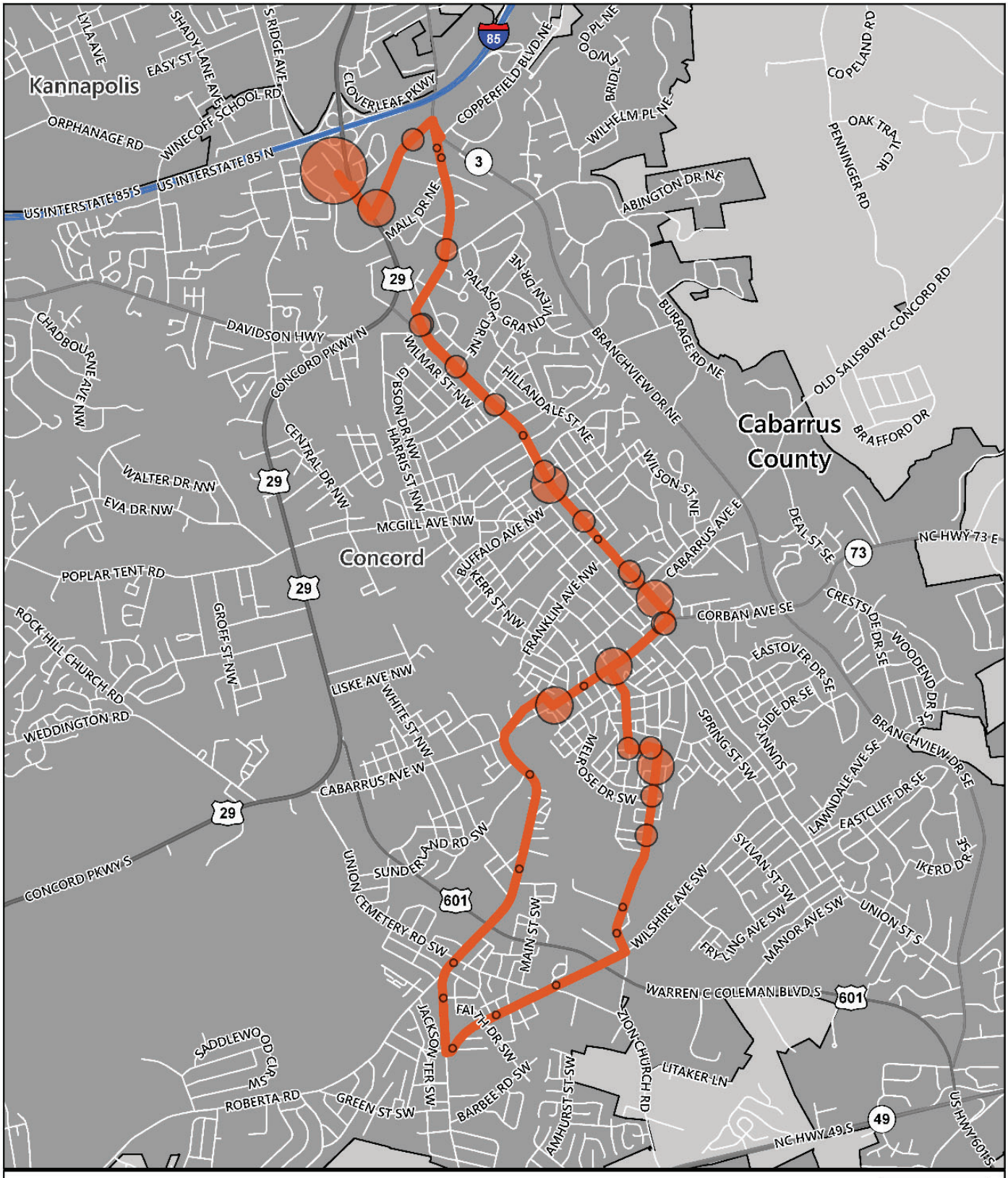

Operating expenses per revenue mile
System Average: $4.23
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0.00
$1.00
$2.00
$3.00
$4.00
$5.00
$6.00


Operating expenses per unlinked passenger trip
System Average: $7.39
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0
$5
$10
$15


Passengers per revenue hour
System Average: 10.38
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0
5
10
15
20


Passengers per revenue mile
System Average: 0.66
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0.0
0.5
1.0
1.5


Demographics with 1/2 Mile of Route
System Average
Persons below poverty level:
Minority Population:
Zero Vehicle Households:
Persons with disabilities:
Population 17 years and Under:
Population 65 years and Over:
0%
10%
20%
30%
40%
50%
60%



Route 3 (Orange) Stop Activity

Total boardings and alightings

- 0 to 6
- 6.1 to 19
- 19.1 to 60
- 115 to 1,132

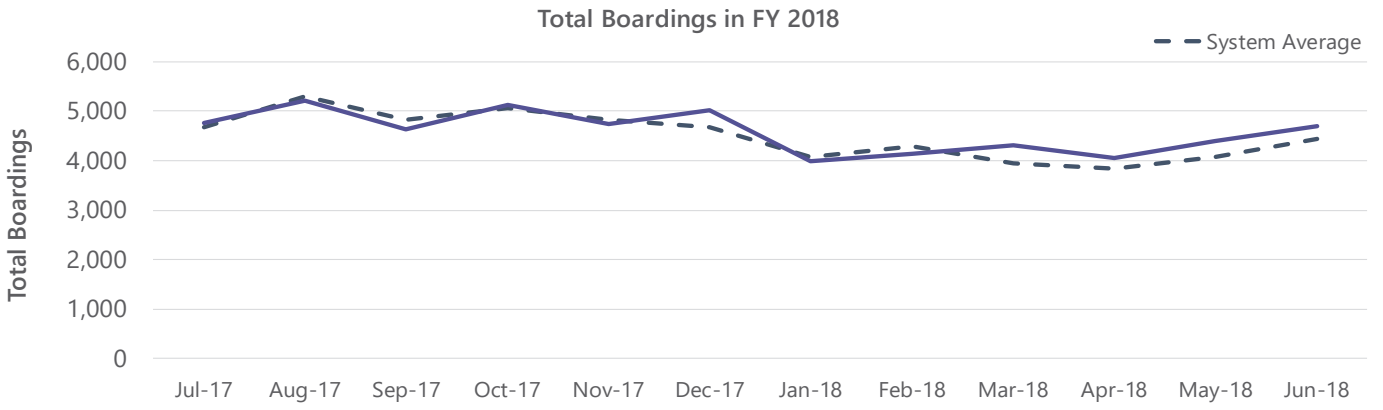
- Route 3 (Orange)
- Municipality
- County

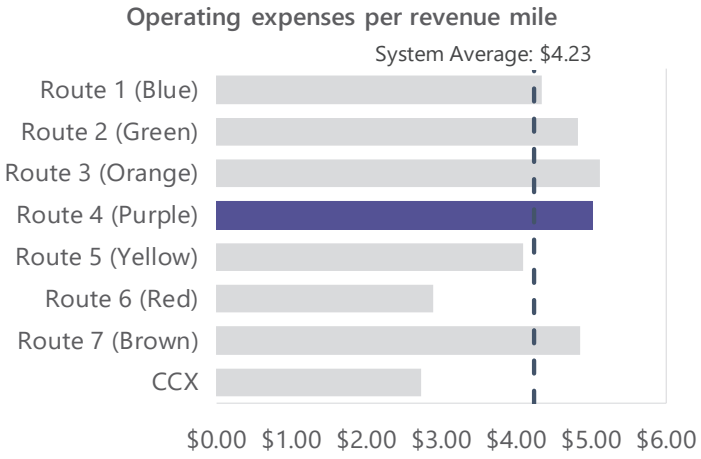
CCTS

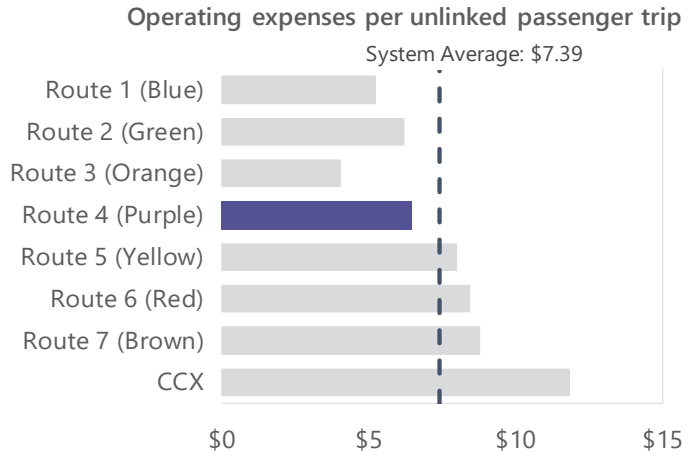
rider
CONNECTING COMMUNITY

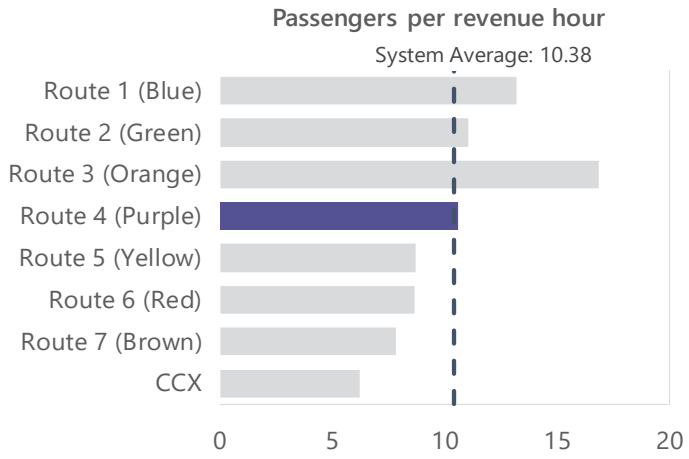
0 2,000 Feet

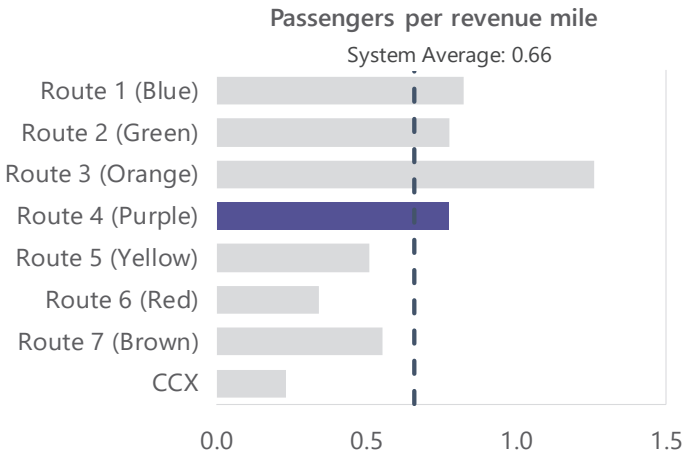
	Route 4 (Purple)	System Average	System Rank
Operational			
Length (round-trip):	14.69	18.88	#7 out of 8
Frequency:	60 minutes	60 minutes	--
Hours of Operation:	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	--
Days of Operation:	Monday-Sunday	Monday-Sunday	--
Annual unlinked passenger trips:	53,758	52,666	#4 out of 8
Annual vehicle revenue miles:	69,454	89,270.5	#7 out of 8
Annual vehicle revenue hours:	5,073	5,073	--
Annual operating cost:	$347,729.03	$355,233.84	#7 out of 8
Performance			
Operating expenses per revenue mile:	$5.01	$4.23	#2 out of 8
Operating expenses per revenue hour:	$68.55	$70.02	#7 out of 8
Operating expenses per unlinked passenger trip:	$6.47	$7.39	#5 out of 8
Passengers per revenue hour:	10.60	10.38	#4 out of 8
Passengers per revenue mile:	0.77	0.66	#4 out of 8
Demographics			
Population density (people per square mile):	1,870	1,630	#4 out of 8
Persons below poverty level:	25%	21%	#2 out of 8
Minority population:	55%	48%	#1 out of 8
Zero vehicle households:	10%	7%	#1 out of 8
Persons with disabilities:	14%	11%	#2 out of 8
Population 17 years and under:	30%	25%	#1 out of 8
Population 65 years and over:	10%	11%	#7 out of 8
Strengths, Challenges, and Opportunities			

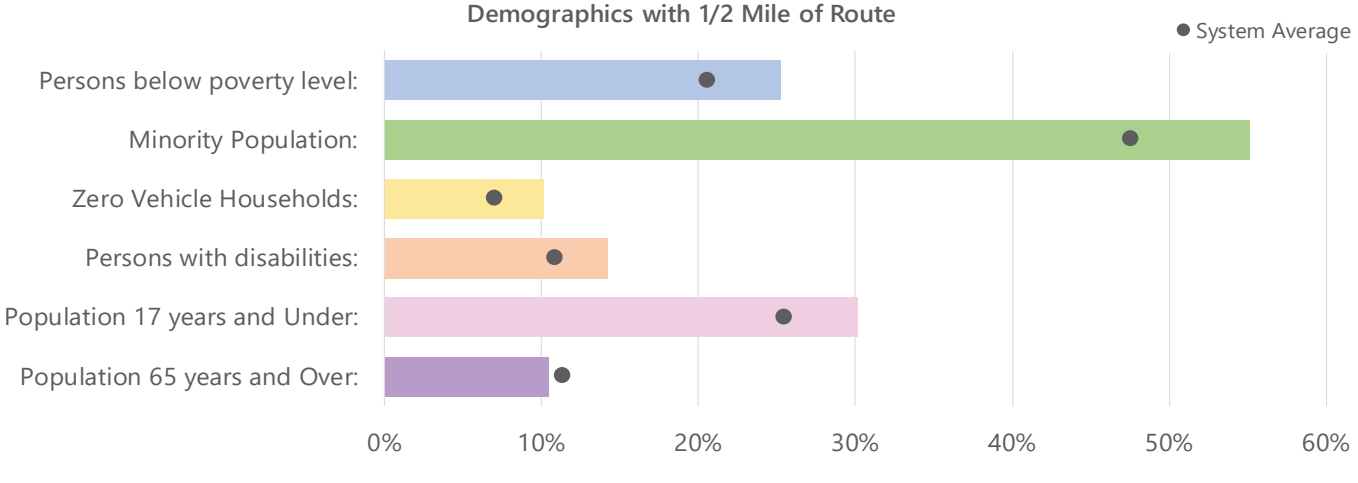

Total Boardings in FY 2018
System Average
Total Boardings
6,000
5,000
4,000
3,000
2,000
1,000
0
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18

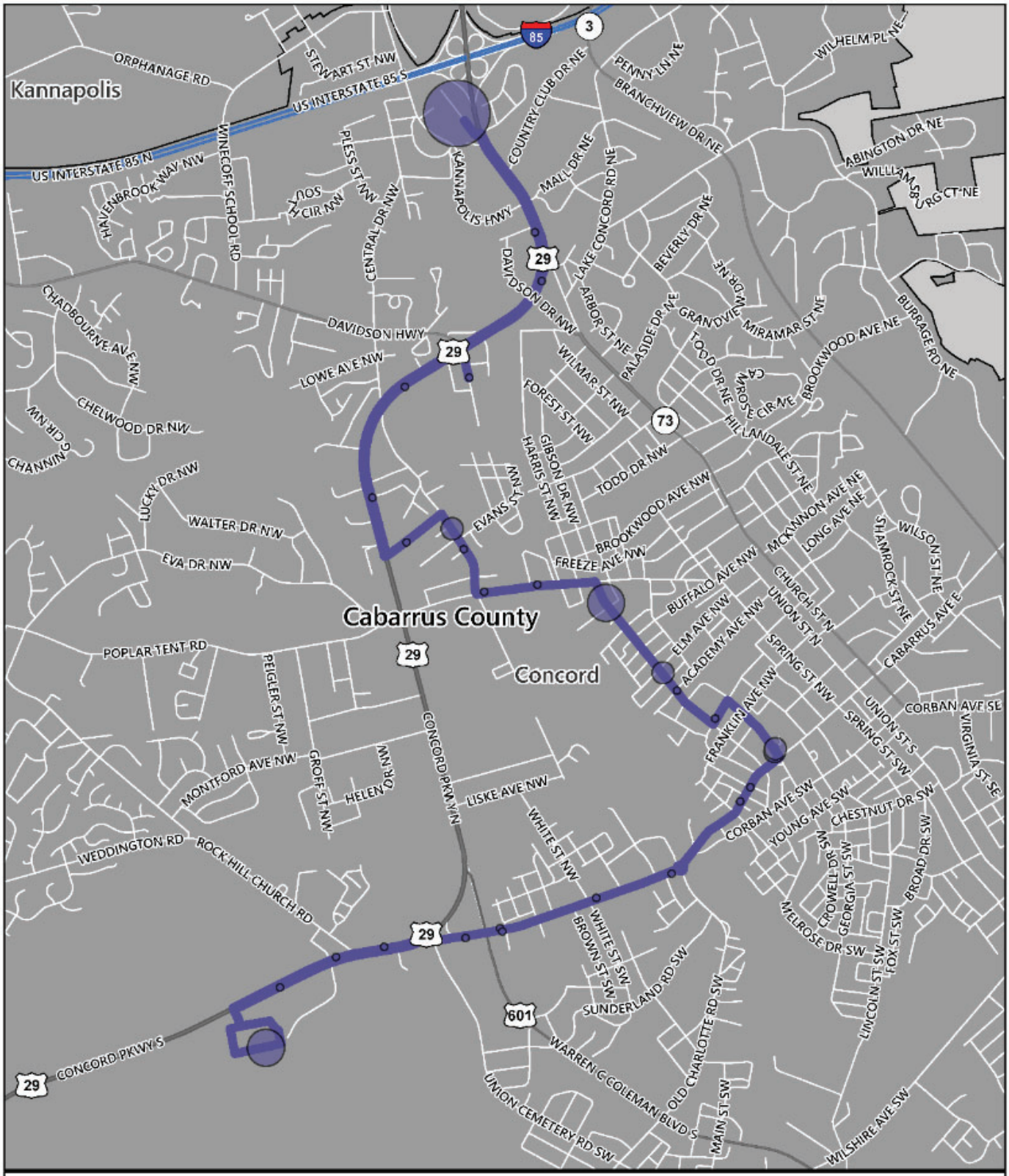

Operating expenses per revenue mile
System Average: $4.23
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0.00
$1.00
$2.00
$3.00
$4.00
$5.00
$6.00


Operating expenses per unlinked passenger trip
System Average: $7.39
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0
$5
$10
$15


Passengers per revenue hour
System Average: 10.38
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0
5
10
15
20


Passengers per revenue mile
System Average: 0.66
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0.0
0.5
1.0
1.5


Demographics with 1/2 Mile of Route
System Average
Persons below poverty level:
Minority Population:
Zero Vehicle Households:
Persons with disabilities:
Population 17 years and Under:
Population 65 years and Over:
0%
10%
20%
30%
40%
50%
60%



Route 4 (Purple) Stop Activity

Total boardings and alightings

- 0 to 6
- 6.1 to 19
- 19.1 to 60
- 115 to 1,132

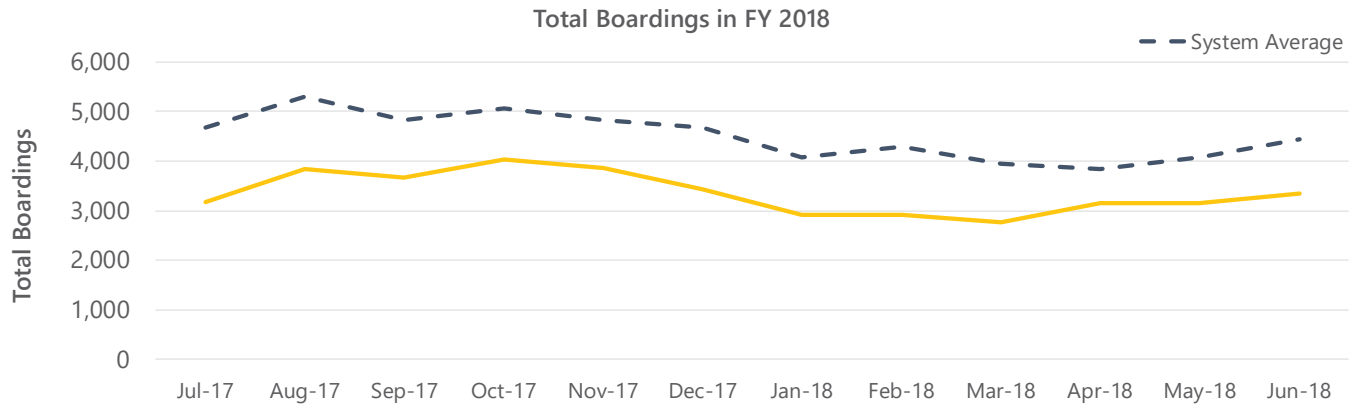
- Route 4 (Purple)
- Municipality
- County

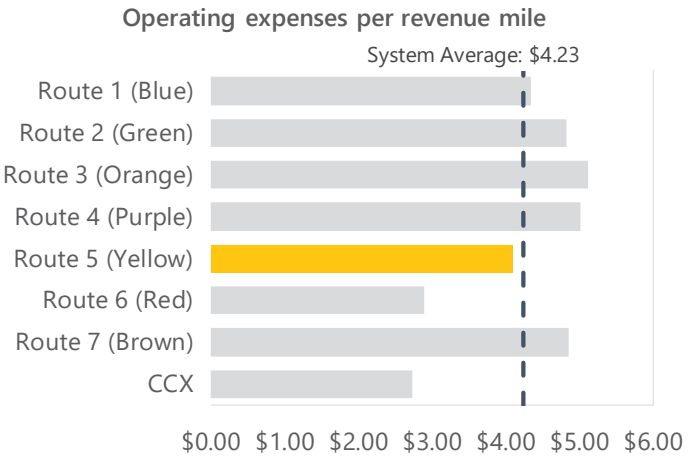
CCTS

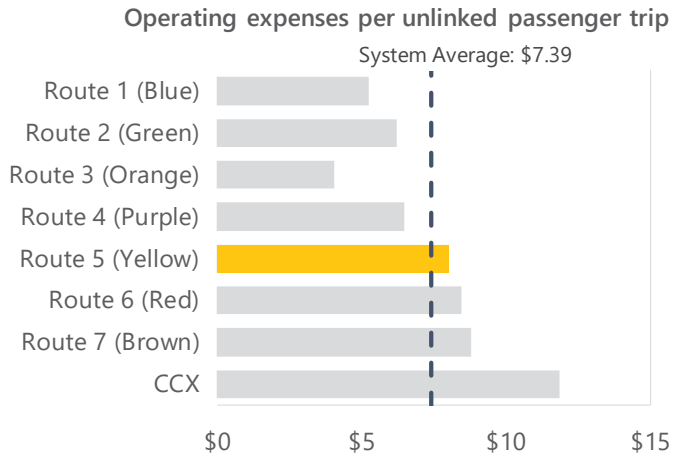
rider
CONNECTING COMMUNITY

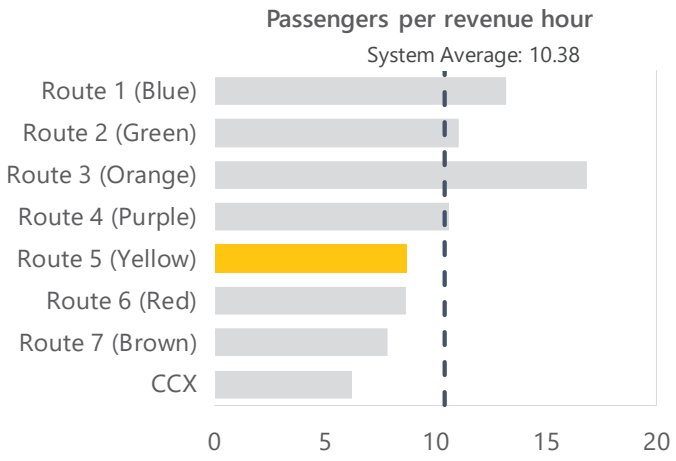
0 2,000 Feet

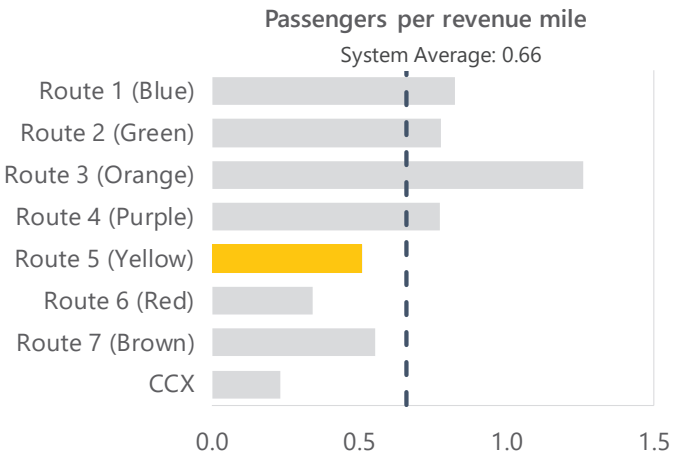
	Route 5 (Yellow)	System Average	System Rank
Operational			
Length (round-trip):	18.33	18.88	#3 out of 8
Frequency:	60 minutes	60 minutes	--
Hours of operation:	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	--
Days of Operation:	Monday-Sunday	Monday-Sunday	--
Annual unlinked passenger trips:	44,200	52,666	#5 out of 8
Annual vehicle revenue miles:	86,664	89,270.5	#3 out of 8
Annual vehicle revenue hours:	5,073	5073	--
Annual operating cost:	$354,246.78	$355,233.84	#3 out of 8
Performance			
Operating expenses per revenue mile:	$4.09	$4.23	#6 out of 8
Operating expenses per revenue hour:	$69.83	$70.02	#3 out of 8
Operating expenses per unlinked passenger trip:	$8.01	$7.39	#4 out of 8
Passengers per revenue hour:	8.71	10.38	#6 out of 8
Passengers per revenue mile:	0.51	0.66	#6 out of 8
Demographics			
Population density (people per square mile):	1,340	1,630	#7 out of 8
Persons below poverty level:	13%	21%	#7 out of 8
Minority population:	37%	48%	#7 out of 8
Zero vehicle households:	4%	7%	#7 out of 8
Persons with disabilities:	10%	11%	#6 out of 8
Population 17 years and under:	27%	25%	#3 out of 8
Population 65 years and over:	12%	11%	#6 out of 8
Strengths, Challenges, and Opportunities			

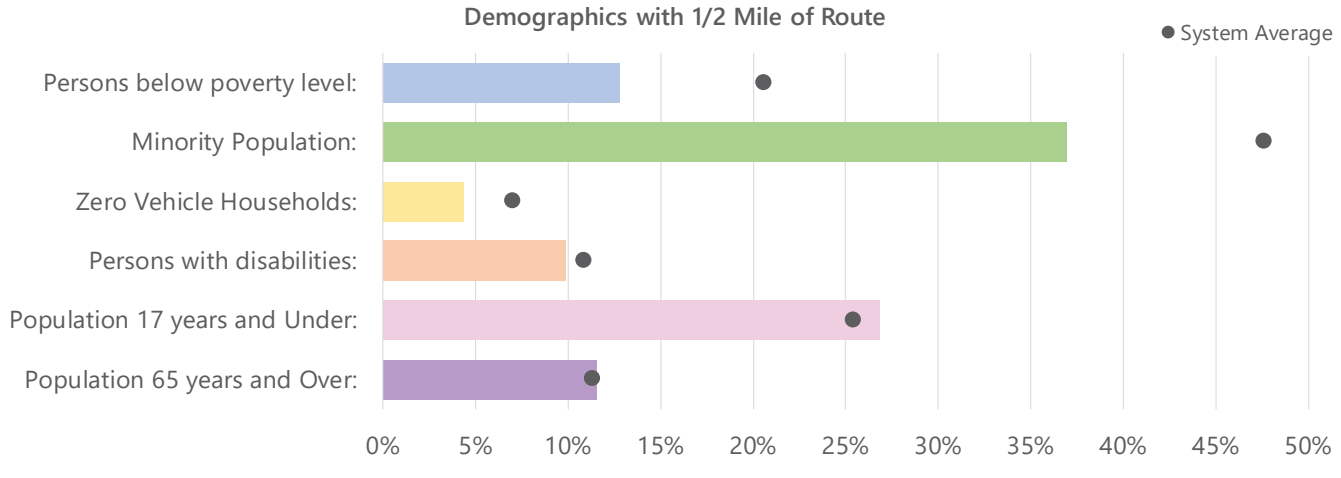

Total Boardings in FY 2018
System Average
Total Boardings
6,000
5,000
4,000
3,000
2,000
1,000
0
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18

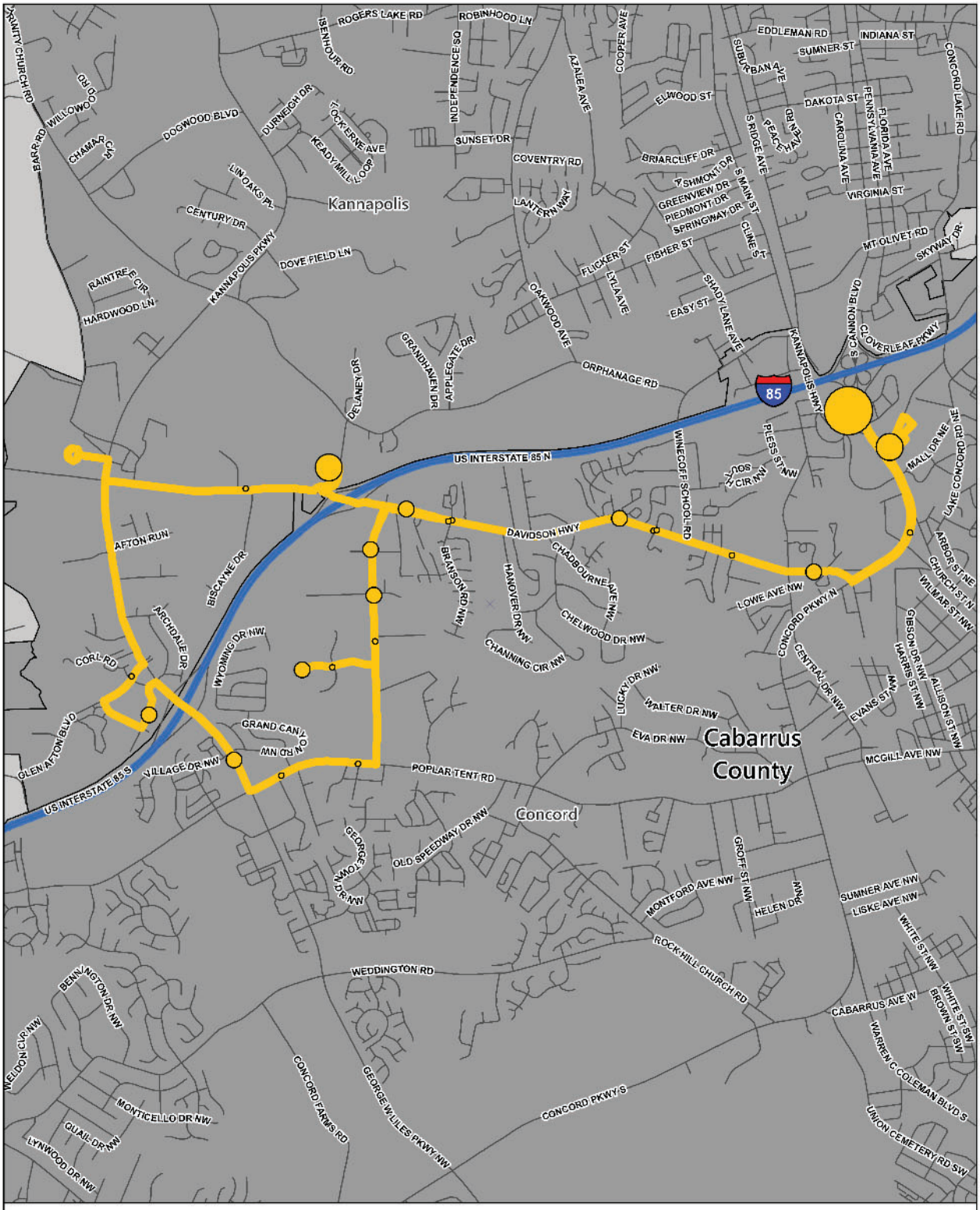

Operating expenses per revenue mile
System Average: $4.23
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0.00
$1.00
$2.00
$3.00
$4.00
$5.00
$6.00


Operating expenses per unlinked passenger trip
System Average: $7.39
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0
$5
$10
$15

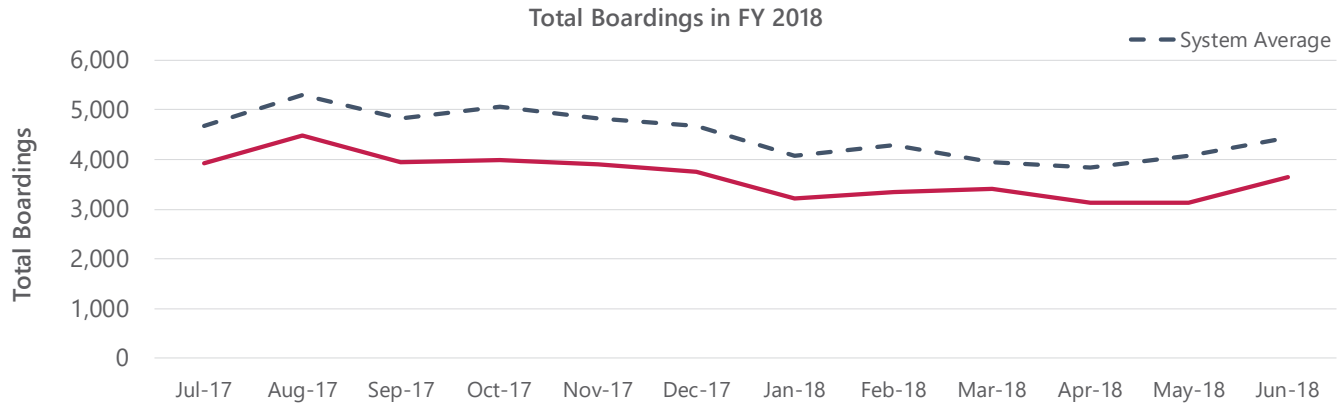

Passengers per revenue hour
System Average: 10.38
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0
5
10
15
20

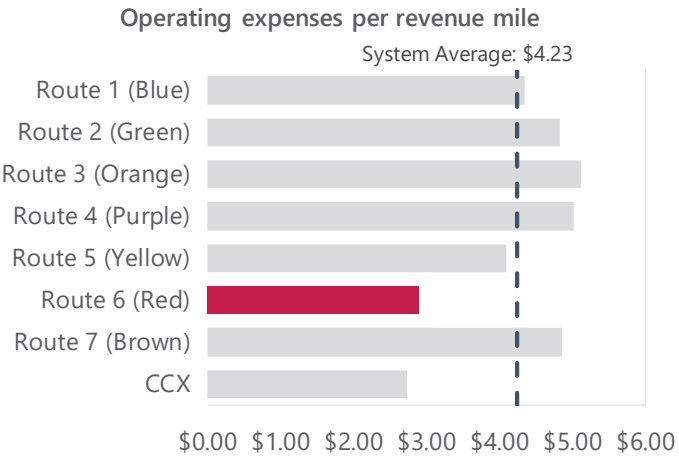

Passengers per revenue mile
System Average: 0.66
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0.0
0.5
1.0
1.5

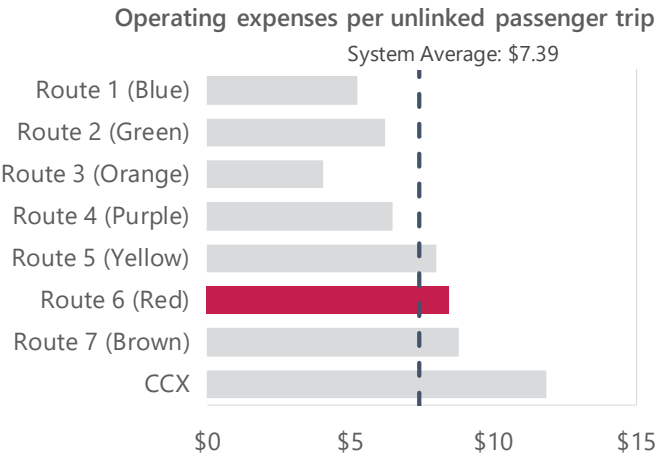

Demographics with 1/2 Mile of Route
System Average
Persons below poverty level:
Minority Population:
Zero Vehicle Households:
Persons with disabilities:
Population 17 years and Under:
Population 65 years and Over:
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%

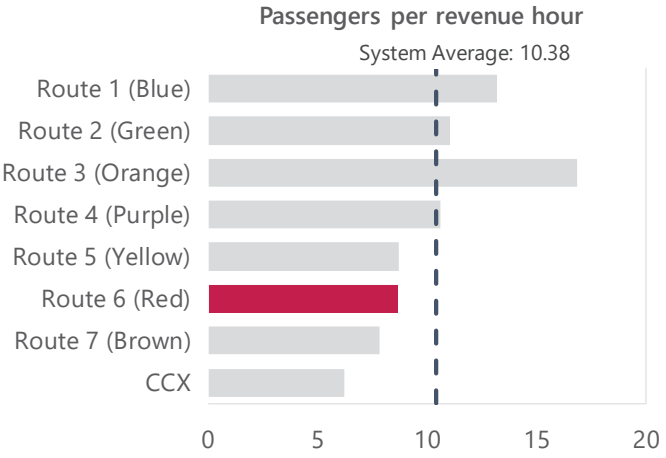

ROGERS LAKE RD
ROBINHOOD LN
EDDLEMAN RD
INDIANA ST
SUMNER ST
CONCORD LAKE RD
TRINITY CHURCH RD
BARR RD
WILLOWOOD RD
DOGWOOD BLVD
CHAMARAC LN
DURHEIGH DR
ROCKY RIVER AVE
KEADY MILL LOOP
INDEPENDENCE SQ
AZALEA AVE
COOPER AVE
SUBURBAN AVE
ELWOOD ST
DAKOTA ST
PENNSYLVANIA AVE
FLORIDA AVE
CAROLINA AVE
VIRGINIA ST
SUNSET DR
COVENTRY RD
BRIARCLIFF DR
LANTERN WAY
GREENVIEW DR
PIEDMONT DR
SPRINGWAY DR
S MAIN ST
S RIDGE AVE
PEACE HAVEN DR
CLINE CT
LIN OAKS PL
CENTURY DR
Kannapolis
KANNAPOLIS PKWY
DOVE FIELD LN
RAINTREE CIR
HARDWOOD LN
FLICKER ST
FISHER ST
EASY ST
SHADY LANE AVE
LYLA AVE
OAKWOOD AVE
MT OLIVET RD
SKYWAY DR
CANNON BLVD
CLOVERLEAF PKWY
KANNAPOLIS HWY
ORPHANAGE RD
GRANDHAVEN DR
APPLEGATE DR
DELANEY DR
85
US INTERSTATE 85 N
PLESS ST NW
SOUTH CIR NW
WINECOFF SCHOOL RD
MALL DR NE
LAKE CONCORD RD NE
AFTON RUN
BISCAYNE DR
DAVIDSON HWY
BRANSON RD NW
HANOVER DR NW
CHADBOURNE AVE NW
CHELWOOD DR NW
CHANNING CIR NW
LOWE AVE NW
CONCORD PKWY N
ARBOR ST NE
CHURCH ST N
WILMAR ST NW
GIBSON DR NW
HARRIS ST NW
ALLISON ST NW
EVANS ST NW
CENTRAL DR NW
ARCHDALE DR
WYOMING DR NW
CORL RD
GLEN AFTON BLVD
GRAND CANYON RD NW
VILLAGE DR NW
US INTERSTATE 85 S
LUCKY DR NW
WALTER DR NW
EVA DR NW
Cabarrus County
MCGILL AVE NW
POPLAR TENT RD
Concord
GEORGE TOWN DR NW
OLD SPEEDWAY DR NW
GROFF ST NW
MONTFORD AVE NW
HELEN DR NW
SUMNER AVE NW
LISKE AVE NW
WHITE ST NW
ROCK HILL CHURCH RD
WEDDINGTON RD
BENNINGTON DR NW
WELDON CIR NW
CABARRUS AVE W
WHITE ST SW
BROWN ST SW
WARREN C COLEMAN BLVD S
CONCORD FARMS RD
GEORGE W LILES PKWY NW
CONCORD PKWY S
UNION CEMETERY RD SW
MONTICELLO DR NW
QUAIL DR NW
LYNWOOD DR NW
Route 5 Rider Stop Activity
Total Boardings and Alightings
0 to 6
6.1 to 19
19.1 to 60
115 to 1,132
Rider Route
Route 5 (Yellow)
Municipality
County
CABARRUS COUNTY
America Thrives Here
rider
CONNECTING COMMUNITY
0
0.5
1
Miles

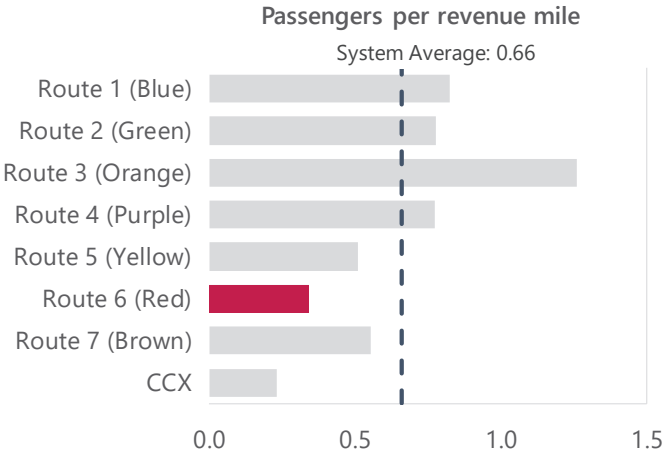
	Route 6 (Red)	System Average	System Rank
Operational			
Length (round-trip):	27.09	18.88	#2 out of 8
Frequency:	60 minutes	60 minutes	--
Hours of operation:	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	--
Days of Operation:	Monday-Sunday	Monday-Sunday	--
Annual unlinked passenger trips:	43,793	52,666	#6 out of 8
Annual vehicle revenue miles:	12,8082	89,270.5	#2 out of 8
Annual vehicle revenue hours:	5,073	5,073	--
Annual operating cost:	$369,932.34	$355,233.84	#2 out of 8
Performance			
Operating expenses per revenue mile:	$2.89	$4.23	#7 out of 8
Operating expenses per revenue hour:	$72.92	$70.02	#2 out of 8
Operating expenses per unlinked passenger trip:	$8.45	$7.39	#3 out of 8
Passengers per revenue hour:	8.63	10.38	#6 out of 8
Passengers per revenue mile:	0.34	0.66	#7 out of 8
Demographics			
Population sensity (people per square mile):	990	1,630	#8 out of 8
Persons below poverty level:	11%	21%	#8 out of 8
Minority population:	35%	48%	#8 out of 8
Zero vehicle households:	4%	7%	#8 out of 8
Persons with disabilities:	7%	11%	#8 out of 8
Population 17 years and under:	26%	25%	#6 out of 8
Population 65 years and over:	12%	11%	#5 out of 8
Strengths, Challenges, and Opportunities			

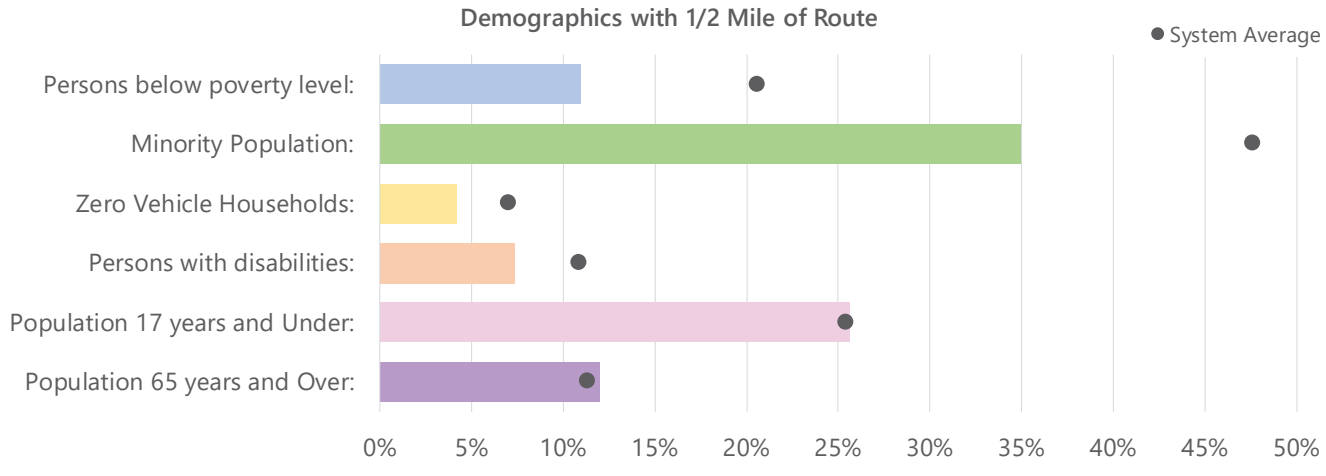

Total Boardings in FY 2018
System Average
Total Boardings
6,000
5,000
4,000
3,000
2,000
1,000
0
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18

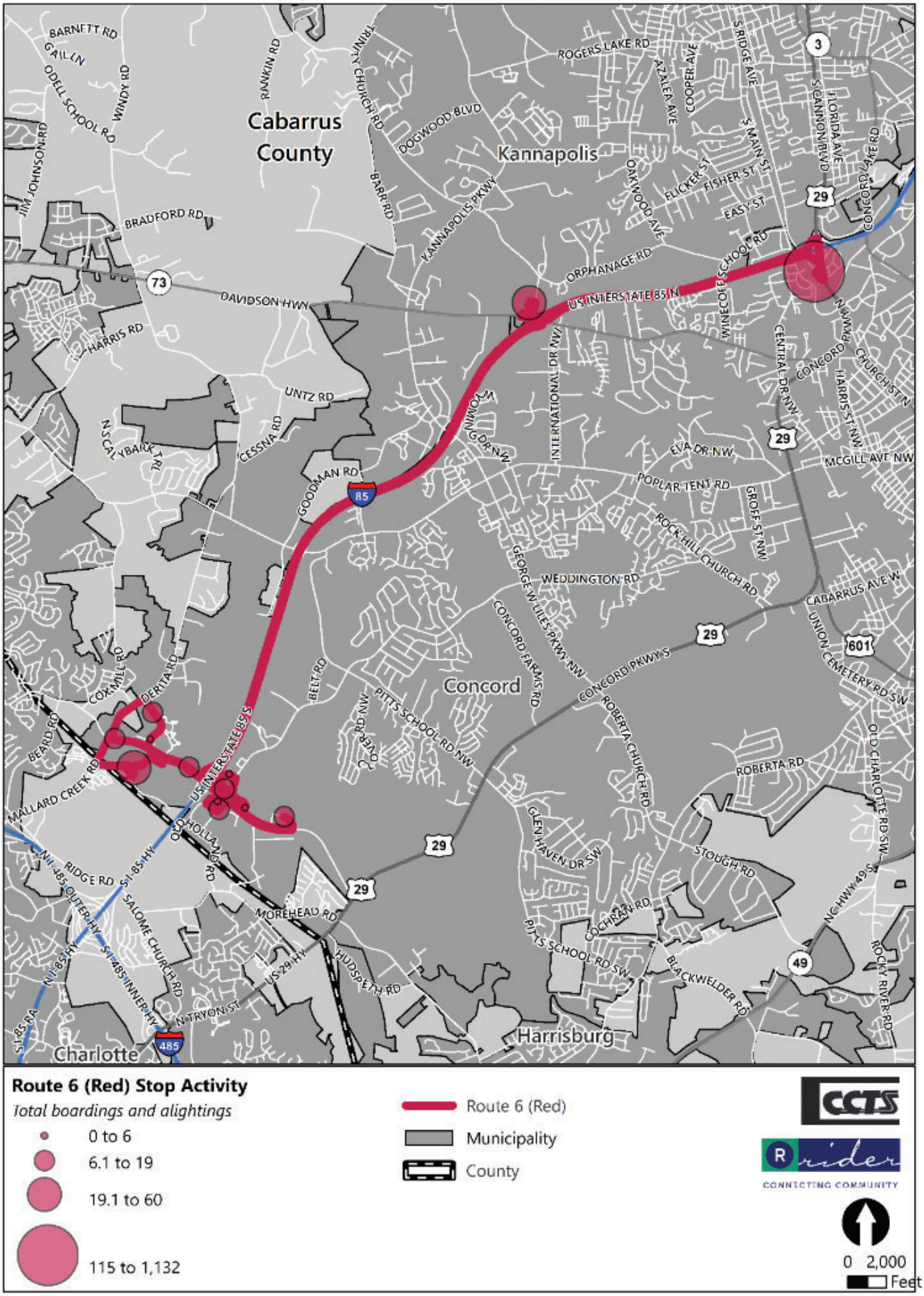

Operating expenses per revenue mile
System Average: $4.23
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0.00
$1.00
$2.00
$3.00
$4.00
$5.00
$6.00


Operating expenses per unlinked passenger trip
System Average: $7.39
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0
$5
$10
$15


Passengers per revenue hour
System Average: 10.38
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0
5
10
15
20


Passengers per revenue mile
System Average: 0.66
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0.0
0.5
1.0
1.5


Demographics with 1/2 Mile of Route
System Average
Persons below poverty level:
Minority Population:
Zero Vehicle Households:
Persons with disabilities:
Population 17 years and Under:
Population 65 years and Over:
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%



Route 6 (Red) Stop Activity

Total boardings and alightings

- 0 to 6
- 6.1 to 19
- 19.1 to 60
- 115 to 1,132

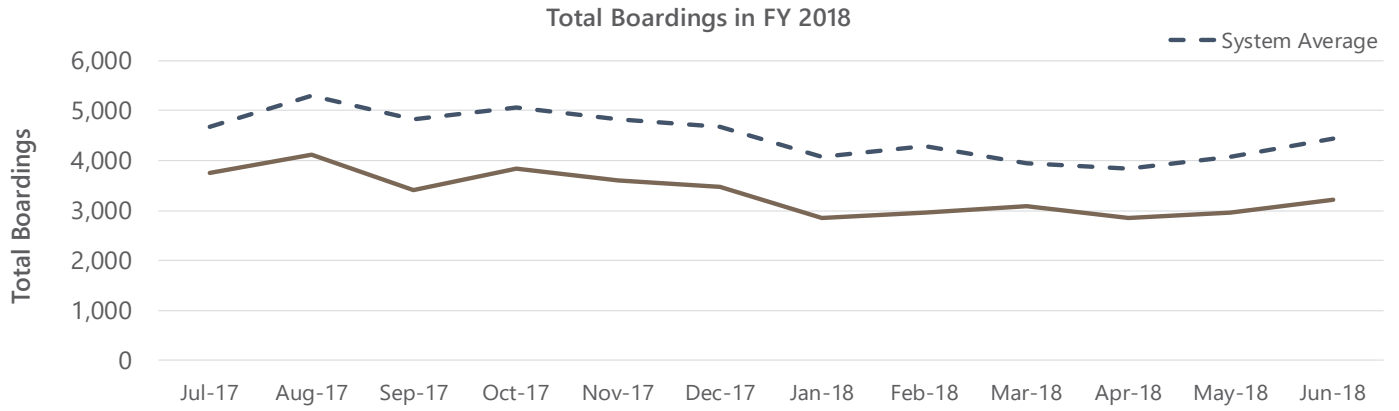
- Route 6 (Red)
- Municipality
- County

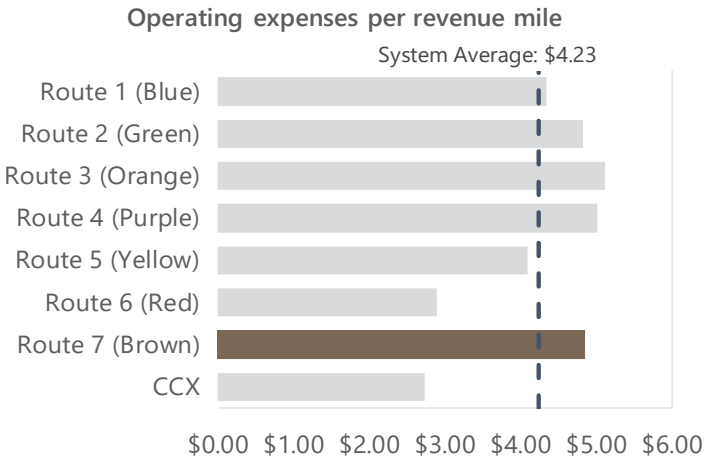
CCTS

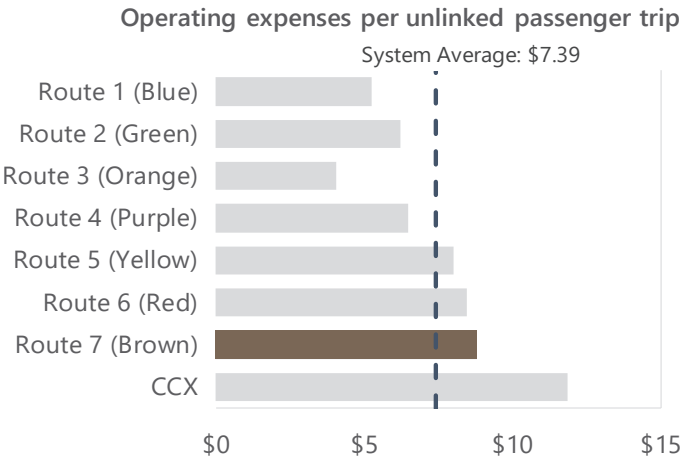
rider
CONNECTING COMMUNITY

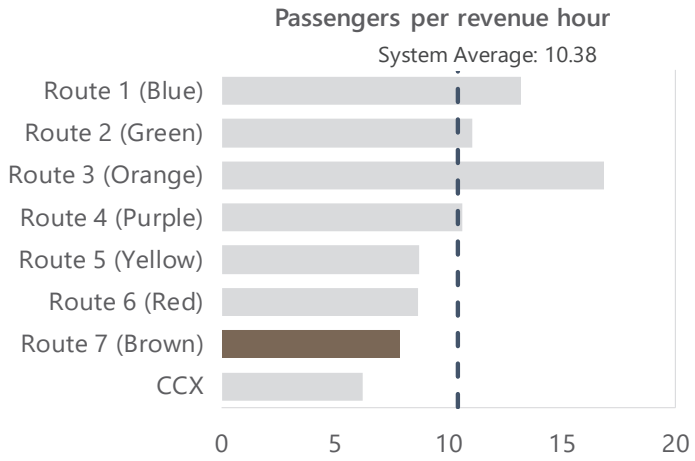
0 2,000
Feet

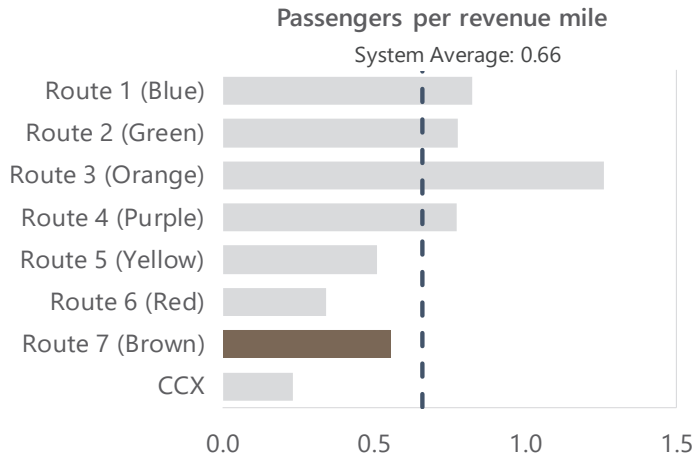
	Route 7 (Brown)	System Average	System Rank
Operational			
Length (round-trip):	15.22	18.88	#6 out of 8
Frequency:	60 minutes	60 minutes	--
Hours of Operation:	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	--
Days of operation:	Monday-Sunday	Monday-Sunday	--
Annual unlinked passenger trips:	39,701	52,666	#7 out of 8
Annual vehicle revenue miles:	71,960	89,270.5	#6 out of 8
Annual vehicle revenue hours:	5,073	5,073	--
Annual operating cost:	$348,678.05	$355,233.84	#6 out of 8
Performance			
Operating expenses per revenue mile:	$4.85	$4.23	#3 out of 8
Operating expenses per revenue hour:	$68.73	$70.02	#6 out of 8
Operating expenses per unlinked passenger trip:	$8.78	$7.39	#2 out of 8
Passengers per revenue hour:	7.83	10.38	#7 out of 8
Passengers per revenue mile:	0.55	0.66	#5 out of 8
Demographics			
Population density (people per square mile):	2,080	1,630	#2 out of 8
Persons below poverty level:	20%	21%	#4 out of 8
Minority population:	40%	48%	#6 out of 8
Zero vehicle households:	8%	7%	#3 out of 8
Persons with disabilities:	12%	11%	#5 out of 8
Population 17 years and under:	26%	25%	#5 out of 8
Population 65 years and over:	13%	11%	#4 out of 8
Strengths, Challenges, and Opportunities			

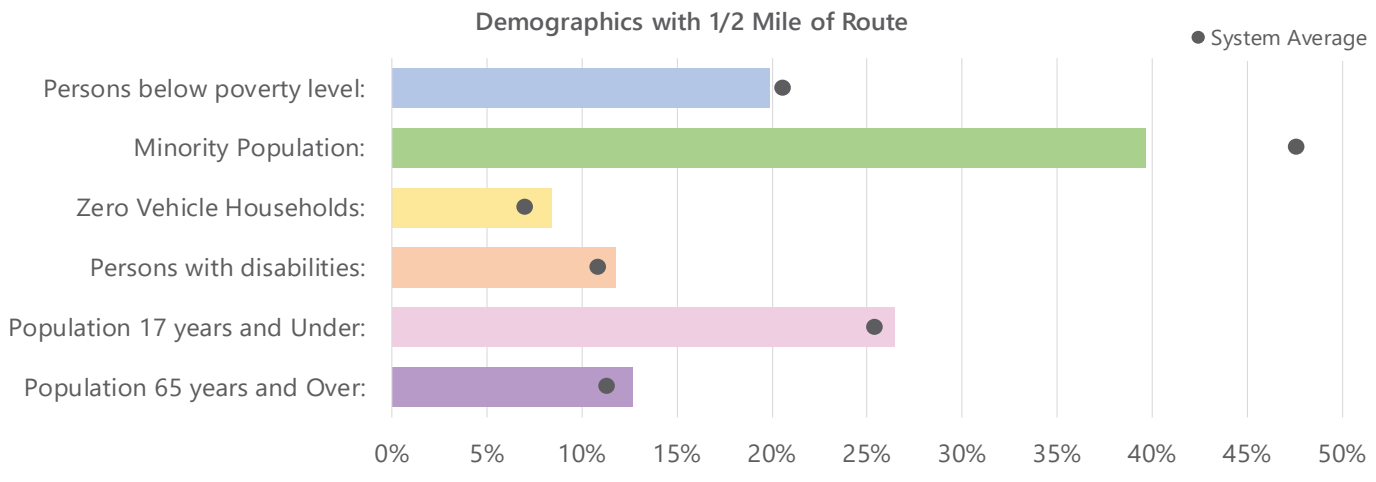

Total Boardings in FY 2018
System Average
Total Boardings
6,000
5,000
4,000
3,000
2,000
1,000
0
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18

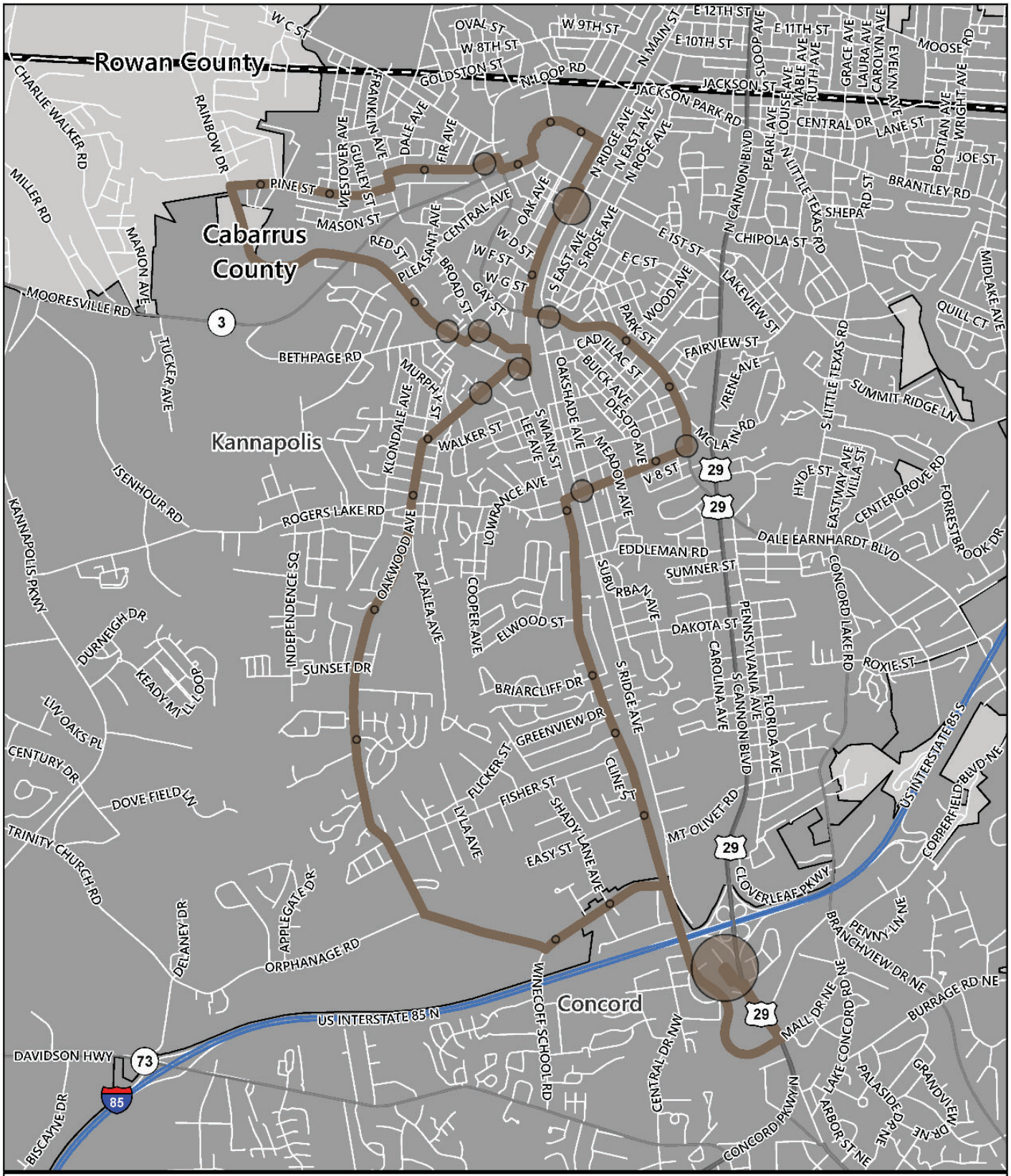

Operating expenses per revenue mile
System Average: $4.23
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0.00
$1.00
$2.00
$3.00
$4.00
$5.00
$6.00


Operating expenses per unlinked passenger trip
System Average: $7.39
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0
$5
$10
$15


Passengers per revenue hour
System Average: 10.38
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0
5
10
15
20


Passengers per revenue mile
System Average: 0.66
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0.0
0.5
1.0
1.5


Demographics with 1/2 Mile of Route
System Average
Persons below poverty level:
Minority Population:
Zero Vehicle Households:
Persons with disabilities:
Population 17 years and Under:
Population 65 years and Over:
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%



Route 7 (Brown) Stop Activity

Total boardings and alightings

- 0 to 6
- 6.1 to 19
- 19.1 to 60
- 115 to 1,132

- Route 7 (Brown)
- Municipality
- County

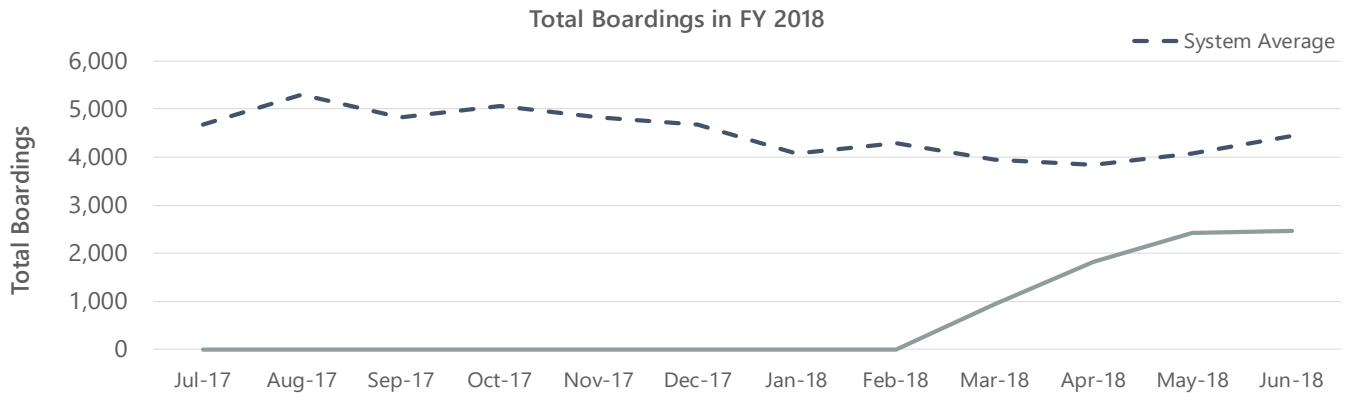
CCTS

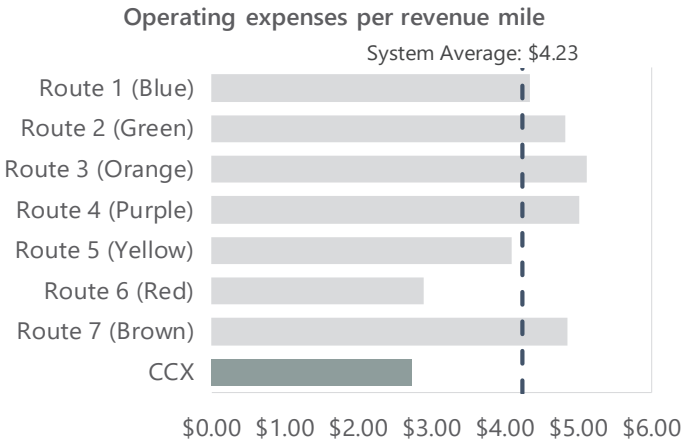
rider
CONNECTING COMMUNITY

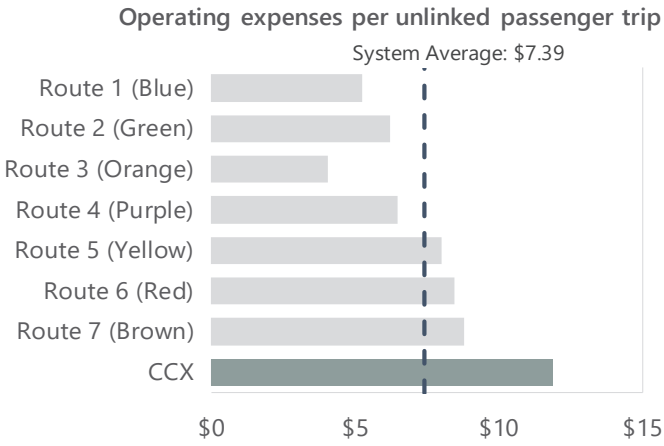
0 2,000 Feet

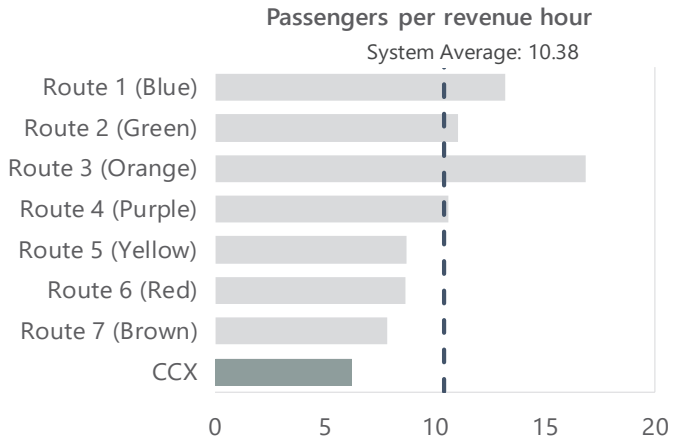
	CCX	System Average	System Rank
Operational			
Length (round-trip):	28.91	18.88	#1 out of 8
Frequency:	60 minutes	60 minutes	--
Hours of operation:	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	M-F: 5:30 a.m. - 8:30 p.m. Sat, Sun: 8:30 a.m. - 8:30 p.m.	--
Days of operation:	Monday-Sunday	Monday-Sunday	--
Annual unlinked passenger trips:	31,487	52,666	#8 out of 8
Annual vehicle revenue miles:	136,686	89,270.5	#1 out of 8
Annual vehicle revenue hours:	5,073	5,073	--
Annual operating cost:	$373,191.21	$355,233.84	#1 out of 8
Performance			
Operating expenses per revenue mile:	$2.73	$4.23	#8 out of 8
Operating expenses per revenue hour:	$73.56	$70.02	#1 out of 8
Operating expenses per unlinked passenger trip:	$11.85	$7.39	#1 out of 8
Passengers per revenue hour:	6.21	10.38	#8 out of 8
Passengers per revenue mile:	0.23	0.66	#8 out of 8
Demographics			
Population density (people per square mile):	1,510	1,630	#6 out of 8
Persons below poverty level:	20%	21%	#5 out of 8
Minority population:	51%	48%	#2 out of 8
Zero vehicle households:	5%	7%	#6 out of 8
Persons with disabilities:	8%	11%	#7 out of 8
Population 17 years and under:	21%	25%	#8 out of 8
Population 65 years and over:	8%	11%	#8 out of 8
Strengths, Challenges, and Opportunities			

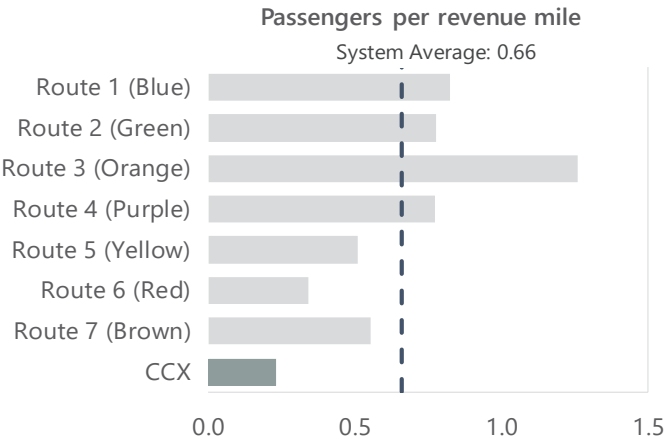
Source: Rider, 2019

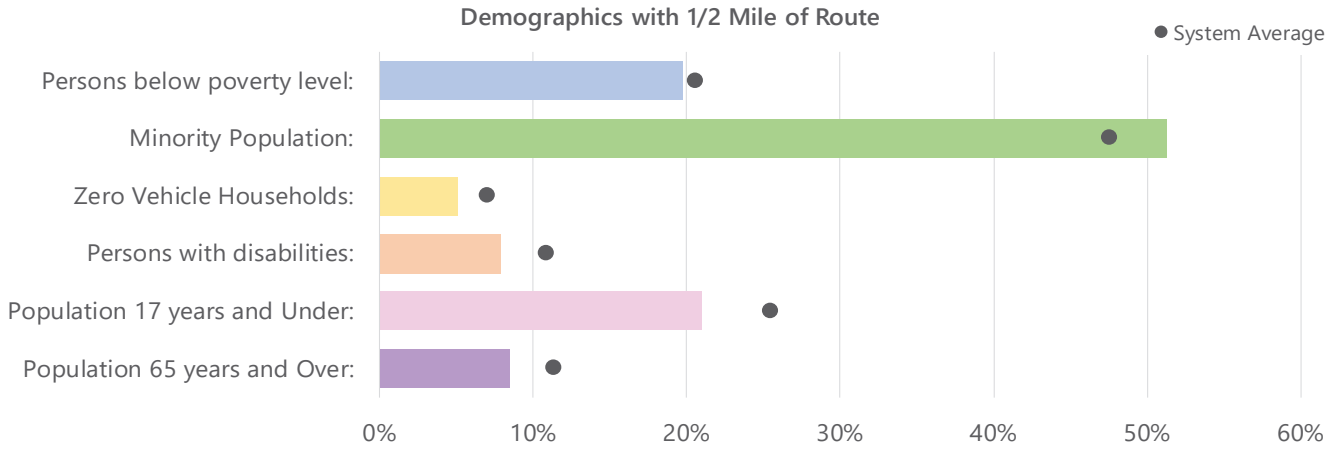

Total Boardings in FY 2018
System Average
Total Boardings
6,000
5,000
4,000
3,000
2,000
1,000
0
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18

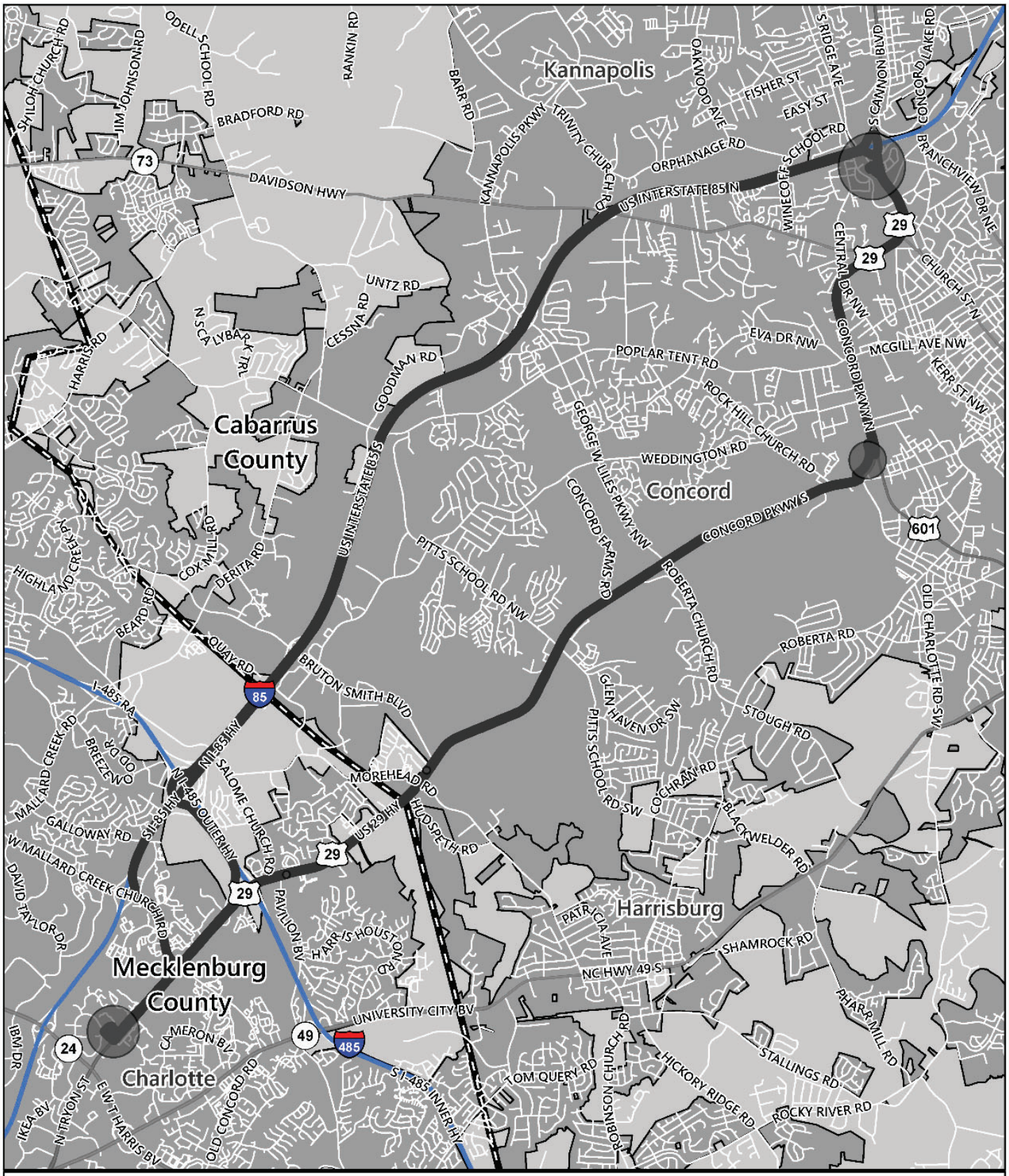

Operating expenses per revenue mile
System Average: $4.23
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0.00
$1.00
$2.00
$3.00
$4.00
$5.00
$6.00

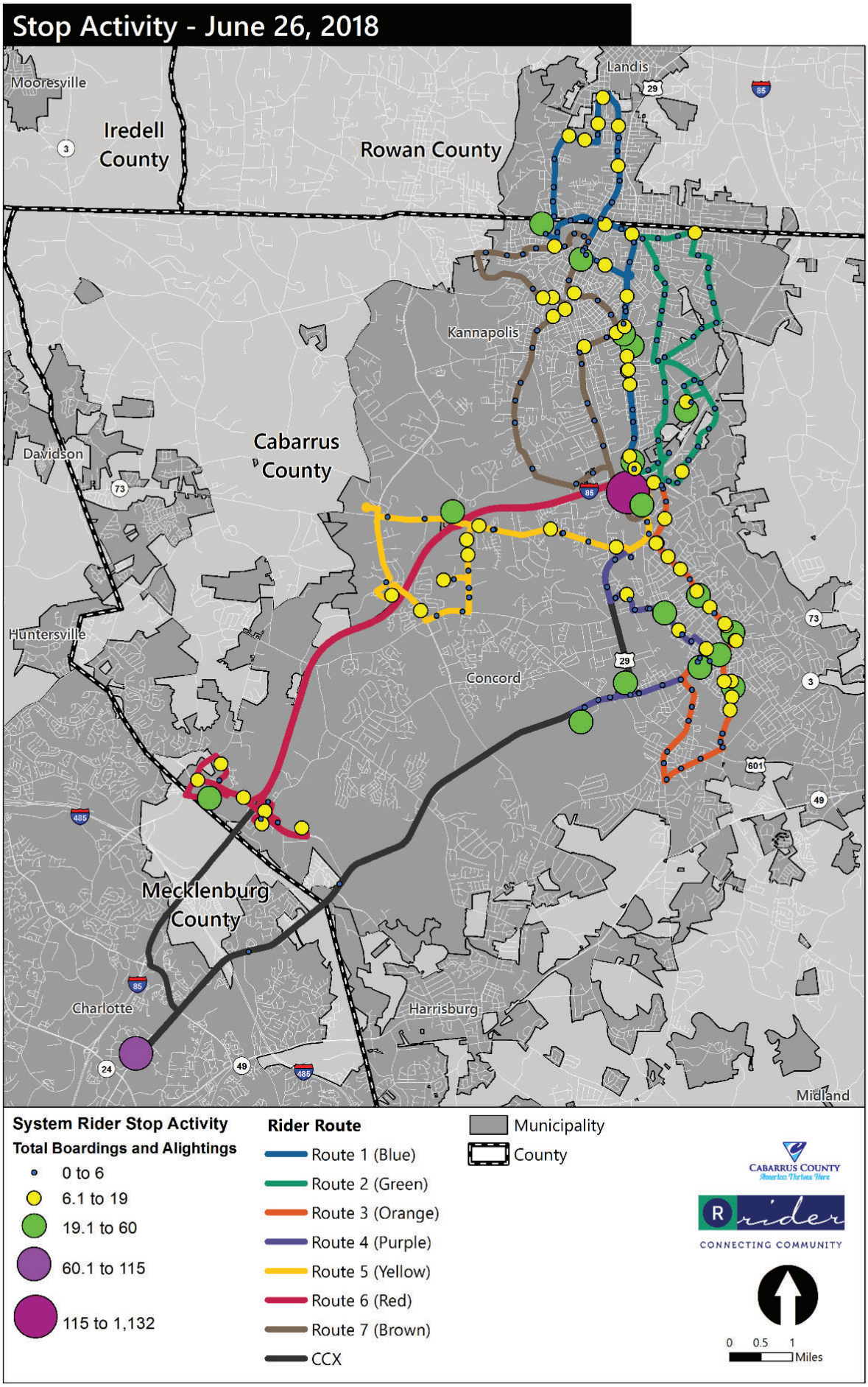

Operating expenses per unlinked passenger trip
System Average: $7.39
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
$0
$5
$10
$15


Passengers per revenue hour
System Average: 10.38
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0
5
10
15
20


Passengers per revenue mile
System Average: 0.66
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
0.0
0.5
1.0
1.5


Demographics with 1/2 Mile of Route
System Average
Persons below poverty level:
Minority Population:
Zero Vehicle Households:
Persons with disabilities:
Population 17 years and Under:
Population 65 years and Over:
0%
10%
20%
30%
40%
50%
60%


Kannapolis
Cabarrus County
Concord
Harrisburg
Mecklenburg County
Charlotte
US INTERSTATE 85 N
US INTERSTATE 85 S
DAVIDSON HWY
BRADFORD RD
ODELL SCHOOL RD
RANKIN RD
BARR RD
KANNAPOLIS PKWY
TRINITY CHURCH RD
OAKWOOD AVE
FISHER ST
EASY ST
S RIDGE AVE
S CANNON BLVD
CONCORD LAKE RD
ORPHANAGE RD
WINECOFF SCHOOL RD
BRANCHVIEW DR NE
CENTRAL DR NW
CHURCH ST N
UNTZ RD
CESSNA RD
GOODMAN RD
N SCALYBARK TRL
HARRIS RD
EVA DR NW
POPLAR TENT RD
MCGILL AVE NW
KERR ST NW
CONCORD PKWY N
ROCK HILL CHURCH RD
GEORGE W LILES PKWY NW
WEDDINGTON RD
CONCORD FARMS RD
CONCORD PKWY S
PITTS SCHOOL RD NW
ROBERTA CHURCH RD
ROBERTA RD
OLD CHARLOTTE RD SW
COX MILL RD
DERITA RD
HIGHLAND CREEK PKWY
BEARD RD
QUAY RD
BRUTON SMITH BLVD
I-485 RA
GLEN HAVEN DR SW
PITTS SCHOOL RD SW
STOUGH RD
COCHRAN RD
BLACKWELDER RD
MALLARD CREEK RD
BREEZEWOOD DR
NC 85 HWY
SALOME CHURCH RD
I-85 HWY
I-485 OUTER HWY
MOREHEAD RD
US 29 HWY
HUDSPETH RD
GALLOWAY RD
W MALLARD CREEK CHURCH RD
DAVID TAYLOR DR
PAVILION BV
HARRISHOUSTON RD
PATRICIA AVE
SHAMROCK RD
NC HWY 49 S
UNIVERSITY CITY BV
CAMERON BV
IBM DR
IKEA BV
N TRYON ST
E W T HARRIS BV
OLD CONCORD RD
I-485 INNER HWY
TOM QUERY RD
ROBINSON CHURCH RD
HICKORY RIDGE RD
STALLINGS RD
PHARR MILL RD
ROCKY RIVER RD
73
29
601
85
49
485
24
CCX Stop Activity
Total boardings and alightings
0 to 6
19.1 to 60
60.1 to 115
115 to 1,132
CCX
Municipality
County
CCTS
rider
CONNECTING COMMUNITY
0 2,000
Feet


Stop Activity - June 26, 2018
Mooresville
Iredell County
Rowan County
Landis
Kannapolis
Cabarrus County
Davidson
Huntersville
Concord
Mecklenburg County
Charlotte
Harrisburg
Midland
System Rider Stop Activity
Total Boardings and Alightings
0 to 6
6.1 to 19
19.1 to 60
60.1 to 115
115 to 1,132
Rider Route
Route 1 (Blue)
Route 2 (Green)
Route 3 (Orange)
Route 4 (Purple)
Route 5 (Yellow)
Route 6 (Red)
Route 7 (Brown)
CCX
Municipality
County
Cabarrus County
rider
CONNECTING COMMUNITY
0 0.5 1
Miles

Rank	Route	Stop	Route 1	Route 2	Route 3	Route 4	Route 5	Route 6	Route 7	Route CCX	Total
1	System	Rider Transit Center	120	74	116	54	64	77	35	49	589
2	System	Rider Center/Off	119	53	44	44	54	47	37	45	443
3	CCX	JW Clay Station	0	0	0	0	0	0	0	115	115
4	Route 4	Concord Commons/Wal-Mart	0	0	0	60	0	0	0	0	60
5	Route 1 Route 7	Kannapolis Train Station	26	0	0	0	0	0	16	0	42
6	Route 1	DSS	37	0	0	0	0	0	0	0	37
7	Route 5 Route 6	RCCC	0	0	0	0	24	13	0	0	37
8	Route 2	Northlite Walmart	0	34	0	0	0	0	0	0	34
9	Route 6	Concord Mills Entrance 5	0	0	0	0	0	31	0	0	31
10	Route 3	Church Street/Locke Mill Plaza	0	0	30	0	0	0	0	0	30
11	Route 2	Cloverleaf Blvd/Cloverleaf Plaza	0	28	0	0	0	0	0	0	28
12	Route 4	Kerr Street/Meisnheimer Drive	0	0	0	27	0	0	0	0	27
13	Route 1	Mountain Street/Kannapolis YMCA	25	0	0	0	0	0	0	0	25
14	CCX	The Village / Big Lots	0	0	0	0	0	0	0	25	25
15	Route 3	Corban Avenue/Georgia Street	0	0	24	0	0	0	0	0	24
16	Route 3	Lincoln Street/Logan Medical Center	0	0	24	0	0	0	0	0	24
17	Route 1	North Cannon Blvd/Wendy's/Taco Bell	22	0	0	0	0	0	0	0	22
18	Route 3	Church Street/Mean Street	0	0	20	0	0	0	0	0	20
19	Route 6	Applebee's/Speedway	0	0	0	0	0	19	0	0	19
20	Route 3	Country Club Dr/Carolina Mall - Starbucks	0	0	19	0	0	0	0	0	19
21	Route 7	Leonard Avenue/Bell Street	0	0	0	0	0	0	18	0	18
22	Route 3	Lincoln Street/Malvern Drive	0	0	18	0	0	0	0	0	18
23	Route 5	Afton Ridge/George Bay	0	0	0	0	15	0	0	0	15
24	Route 3	Church Street/Meadow Avenue	0	0	15	0	0	0	0	0	15
25	Route 5	Fortune Drive	0	0	0	0	15	0	0	0	15

Appendix D-Surveys for CCTS, Rider fixed route, ADA Paratransit, and Community

CCTS Survey Questions:

Cabarrus County Transportation Services (CCTS) is partnering with Concord Kannapolis Area Transit (Rider) to develop a long-range transportation plan for the region. In order to develop transit services that meet the needs of the community and region now and in the future, we need your help!

1. For which trip purposes do you use CCTS?
   Work/School/College/Training/Medical/Social/Fun/Entertainment/Shopping/Errands/Other
2. Do you use other public transportation services?
   Yes/No If yes, which one?_____
3. Typically, how often do you ride the bus/van?
   This is my first time/A few times a month or less/1-4 trips per week/5 or more trips per week
4. How long have you been using CCTS service?
   This is my first day/0 to 6 months/7 months to less than 1 year/1 to 2 years/2 to 5 years/more than 5 years
5. If bus/van service had not been available today, how would you have made this trip?
   Drive own vehicle/Ride with someone/Taxi/Uber/Lyft/Walk/Bike/Other public transit service/Would not have made this trip
6. How would you rate your overall bus/van service experience over the past year?
   Very Good/Good/Average/Poor
   If very good or good:
   What is your reason for any level of satisfaction?
   Convenience/Cost savings/I don't drive/No parking hassle/I don't have a license/I don't have access to a reliable vehicle/I want to let someone else do the driving/I'm making a green choice/Connections to other transportation services/Other_____
   If average or poor:
   What is your reason for any level of dissatisfaction?
   I had to wait too long/The trip took too long/Cleanliness/It doesn't go where I need it to go/It doesn't operate when I need it to operate/Safety/I think it's too expensive/Other_____
7. Are there places that you'd like to go on the bus/van where it doesn't go now?
   Yes/No If yes, where?_____
8. Are there times that you'd like to ride the bus/van but it doesn't operate now?
   Yes/No If yes, when? (multiple choice based on when service is not operated now)
9. Which of the following service improvements would most improve CCTS service for you to use?
   Later evening service/Less wait time /Sunday service/ More trip purposes/ Other_____
10. Are you familiar with Rider fixed route services in Concord and Kannapolis?
    Yes/No
11. Do you think that combining CCTS and Rider would improve transportation services in Cabarrus County?
    Yes/No/Don't Know Why?_____
12. What would you like public transportation to look like in Cabarrus County in the future?

In order to be entered into a drawing for X, please provide:

13. What is your current employment status?
    Employed full-time/employed part-time/retired/full-time student/part-time student/not currently employed
14. What is your age?
    Under 18/18-24/25-34/35-54/55-64/65-74/74-84/85+
15. How many vehicles are available in your household?
    0/1/2/3+
16. Do you speak a language other than English at home?
    Yes/No If yes, which language?_____
17. What is your annual household income?

Under $10,000/$10,000-$19,999/$20,000-$29,999/$30,000-$39,999/$40,000-$49,999/$50,000+

18. Name:_____
    Email address:_____
    Phone number: _____
    Home zip code: _____
19. Would you like to be kept informed about the study as it progresses?
    Yes/No

Thank you for completing the survey and helping us improve transportation services in the region – now and into the future!

Rider On-Board Survey Questions:

Concord Kannapolis Area Transit (Rider) is partnering with Cabarrus County to develop a long-range transportation plan for the region. In order to develop transit services that meet the needs of the community and region now and in the future, we need your help!

20. Where did your trip start?
    Address, nearest intersection, or landmark:_____
21. How did you get to the bus stop?
    Walk/wheelchair/ride a bike/drive/get dropped off/carpool/ carpool/Uber/Lyft/other
22. Where will your trip end?
    Address, nearest intersection, or landmark:_____
23. How will you get from the bus stop to your destination?
    Walk/wheelchair/ride a bike/drive/get dropped off/carpool/ carpool/Uber/Lyft/other
24. Did you need to transfer between bus routes to get to your destination?
    Yes/No
25. Did you use a wheelchair, scooter, or walker during your trip?
    Yes/No
26. Did you use the bike racks on your trip?
    Yes/No
27. What is the purpose of your trip today?
    Work/School/College/Medical/Social/Fun/Entertainment/Shopping/Errands/Other
28. Will you use other public transportation services today?
    Yes/No If yes, which one?_____
29. Typically, how often do you ride the bus?
    This is my first time/A few times a month or less/1-4 trips per week/5 or more trips per week
30. How long have you been using Rider service?
    This is my first day/0 to 6 months/7 months to less than 1 year/1 to 2 years/2 to 5 years/more than 5 years
31. If bus service had not been available today, how would you have made this trip?
    Drive own vehicle/Ride with someone/Taxi/Uber/Lyft/Walk/Bike/Other public transit service/Would not have made this trip
32. How would you rate your overall bus service experience over the past year?
    Very Good/Good/Average/Poor
    If very good or good:
    What is your reason for any level of satisfaction?
    Convenience/Cost savings/No parking hassle/I don't have a license/I don't have access to a reliable vehicle/I want to let someone else do the driving/I'm making a green choice/Connections to other transportation services/Other_____
    If average or poor:
    What is your reason for any level of dissatisfaction?
    I had to wait too long/The trip took too long/Cleanliness/It doesn't go where I need it to go/It doesn't operate when I need it to operate/Safety/I think it's too expensive/Other_____
33. Would you recommend Rider to your family and friends?
    Yes/No Why_____
34. Are there places that you'd like to go on the bus where it doesn't go now?
    Yes/No If yes, where?_____
35. Are there times that you'd like to ride the bus but it doesn't operate now?
    Yes/No If yes, when? (multiple choice based on when service is not operated now)
36. Which three of the following service improvements would make Rider service better for you to use?
    More frequent service on existing routes/More benches and shelters at bus stops/More bike racks at bus stops/Improved security at stops and on buses/Later service _____/Improved on-time performance on existing routes/More routes/services _____/More places to purchase farecards_____ /Other_____

37. Do you use the Rider Trip Planner app?
    Yes/No
38. What would you like public transportation to look like in Cabarrus County in the future?

In order to be entered into a drawing for X, please provide:

39. What is your current employment status?
    Employed full-time/employed part-time/retired/full-time student/part-time student/not currently employed
40. What is your age?
    Under 18/18-24/25-34/35-54/55-64/65-74/74-84/85+
41. How many vehicles are available in your household?
    0/1/2/3+
42. Do you speak a language other than English at home?
    Yes/No If yes, which language?_____
43. What is your annual household income?
    Under $10,000/$10,000-$19,999/$20,000-$29,999/$30,000-$39,999/$40,000-$49,999/$50,000+
44. Name:_____
    Email address:_____
    Phone number: _____
    Home zip code: _____
45. Would you like to be kept informed about the study as it progresses?
    Yes/No

Thank you for completing the survey and helping us improve transportation services in the region – now and into the future!

Community online and in person Survey Questions:

Concord Kannapolis Area Transit (Rider) is partnering with Cabarrus County to develop a long-range transportation plan for the region. In order to develop transit services that meet the needs of the community and region now and in the future, we need your help!

46. Which community do you live in?_____ (drop down menu of communities in Cabarrus County)
47. Place an X in the box where you travel frequently for the reasons listed across the top of the table.

	Work	School	Shopping	Recreation/ entertainment	Medical Appointments	Social/ Family Visits	Other
Downtown Concord							
Downtown Kannapolis							
Speedway							
Carolinas Healthcare							
Rowan-Cabarrus Community College							
Other							

48. When you travel to you most frequent destination, how long is your one-way trip?
    10 minutes or less/10-30 minutes/30-60 minutes/more than 60 minutes
49. Do you use a wheelchair, walker or scooter?
    Yes/No
50. How do you most frequently travel to the places you need to go?
    Personal vehicle/Carpool/Public transportation/Ride a bike/Walk/Get a ride with family/friends/Taxi/Uber/Lyft/Get a ride with a volunteer driver/Other_____
51. Do you know which type of transportation services Cabarrus County Transportation provides how, when, and where it is possible to ride?
    Yes/Somewhat/No
52. Do you know which type of transportation services Rider provides and how, when and where it is possible to ride?
    Yes/Somewhat/No
53. Have you ever used any of these public transportation services?
    Rider/CCTS/Blue Line, etc. – (then route to next question based on answer)
54. When was the last time you used public transportation service?
    This week/Last week/Last month/Last year/Two years ago or more (if select this week or least week, route to the next question)
55. Have you completed the onboard survey? (link to the onboard survey)
    Yes/No
56. Why haven't you used public transportation in the past?
    The bus doesn't fit my schedule/The bus doesn't go where I need it to go/I have mobility issues/I didn't know the service was available/I have access to a car so I don't need to ride a bus/I don't want to ride a bus/I'm nervous to ride a bus because I've never ridden one before/I think it is too expensive/Other_____
57. Are there places that you'd like to go on the bus where it doesn't go now?
    Yes/No If yes, where?_____
58. Are there times that you'd like to ride the bus but it doesn't operate now?
    Yes/No If yes, when? (multiple choice based on when service is not operated now)
59. What are the primary reasons you would use a bus in the future?

Convenience/Cost savings/No parking hassle/Connect to other transit services/I don't have a license/I don't have access to a reliable vehicle/I want to do something other than drive while traveling/Other_____

60. I would not use a bus no matter what improvements/expansions are made because:
    Need car for work/The bus won't go where I need it to go/Bus service won't fit my schedule/I make other stops during my trip/I have access to a car so I don't need public transportation/Other_____
61. What would you like public transportation to look like in Cabarrus County in the future?

In order to be entered into a drawing for X, please provide:

62. What is your current employment status?
    Employed full-time/employed part-time/retired/full-time student/part-time student/not currently employed
63. What is your age?
    Under 18/18-24/25-34/35-54/55-64/65-74/74-84/85+
64. How many vehicles are available in our household?
    0/1/2/3+
65. Do you speak a language other than English at home?
    Yes/No If yes, which language?_____
66. What is your annual household income?
    Under $10,000/$10,000-$19,999/$20,000-$29,999/$30,000-$39,999/$40,000-$49,999/$50,000+
67. Name:_____
    Email address:_____
    Phone number: _____
    Home zip code: _____
68. Would you like to be kept informed about the study as it progresses?
    Yes/No

Thank you for completing the survey and helping us improve transportation services in the region – now and into the future!

CABARRUS COUNTY
America Thrives Here

CONNECTING COMMUNITY
rider
Concord Kannapolis Area Transit

CABARRUS COUNTY LONG RANGE TRANSIT MASTER PLAN

Concord Kannapolis Area Transit (Rider) is partnering with Cabarrus County Transportation Services (CCTS) to develop a long-range transportation plan for the region. In order to develop transit services that meet the needs of the community and region now and in the future, we need your help!

If you have any questions about the survey, please contact: Mariate Echeverry by email at mariate.echeverry@aecom.com or by phone at (704) 716-0734.

THANK YOU IN ADVANCE!

All personal information is confidential and WILL NOT be shared or sold.

Print letters/numbers clearly in upper case: A B C 1 2 3

Fill in bubble with: ●

REGISTER TO WIN
55 in. LED TV, one of 5 $25 gift cards, or one of 50 bus passes of various denominations!

Please fill out the following information, as well as answer all questions to be entered into a drawing for a prize.

Name

HOME Street Address **(NO P.O. BOXES PLEASE)**

Apt# City State

Zip ( ) Telephone

1. For which trip purposes do you use Rider's ADA serevice?

- ○ 01 Work
- ○ 02 School
- ○ 03 College/Training
- ○ 04 Medical
- ○ 05 Social/Fun/Entertainment
- ○ 06 Sopping/ Errands
- ○ 97 Other (specify) _____

2. Have you completed the onboard survey currently being conducted on Rider and CCTS buses/vans?

- ○ 01 Yes
- ○ 02 No

3. If yes, which one?

_____

_____

4. Typically, how often do you ride the bus?

- ○ 01 This is my first time
- ○ 02 A few times a month or less
- ○ 03 1-4 trips per week
- ○ 04 5 or more trips per week

5. How long have you been using Rider's ADA service?

- ○ 01 This is my first day
- ○ 02 0-6 months
- ○ 03 7 months to less than 1 year
- ○ 04 1-2 years
- ○ 05 2-5years
- ○ 06 More than 5 years

6. If bus/van service had not been available today, how would you have made this trip?

- ○ 01 Personal vehicle
- ○ 02 Carpool
- ○ 03 Uber/Lyft
- ○ 04 Walk
- ○ 05 Taxi
- ○ 06 Would not have made this trip
- ○ 07 Bike
- ○ 08 Other public transit service

7. How would you rate your overall bus/van service experience over the past year?

- ○ 01 Very Good
- ○ 02 Good
- ○ 03 Average
- ○ 04 Poor
- ○ 05 Very Poor

8. What is your reason for any level of satisfaction?

- ○ 01 Convenience
- ○ 02 Cost Savings
- ○ 03 No parking hassle
- ○ 04 Connect to other transportation services
- ○ 05 I don't have a license
- ○ 06 I don't have access to a reliable vehicle
- ○ 07 I want to let someone else do the driving
- ○ 07 I'm making an environmentally friendly choice
- ○ 97 Other (specify) _____

9. What is your reason for any level of dissatisfaction?

- ○ 01 I had to wait to long
- ○ 02 The trip took to long
- ○ 03 Cleanliness
- ○ 04 It doesn't go where I need it to go
- ○ 05 It doesn't operate when I need it to operate
- ○ 06 Safety
- ○ 07 I think its too expensive
- ○ 97 Other (specify) _____

CONTINUE ⇨

10. Are there places you'd like to go on the bus where the bus doesn't go now?

○01 Yes ○02 No

11. Where?

_____
_____
_____

12. Are there times you'd like to ride the bus but it doesn't operate now?

○01 Yes ○02 No

13. When?

_____
_____
_____

14. Which of the following service improvements would most improve Rider's ADA service for you to use?

○01 Later evening service

○02 Less waiting time ○04 More coverage

○97 Other (specify) _____
_____

15. Are you familiar with CCTS services in Cabarrus County?
Rider website: https://www.cabarruscounty.us/departments/transportation

○01 Yes ○02 Somewhat ○03 No

16. Do you think combining CCTS and Rider would improve transportation services in Cabarrus County?

○01 Yes ○02 No ○03 Don't Know

17. Why?

_____
_____
_____

18. What would you like public transportation to look like in Cabarrus County in the future?

_____
_____
_____

19. What is your current employment status?

○01 Employed full-time ○04 Full-time student
○02 Employed part-time ○05 Full-time student
○03 Retired ○06 Homemaker

20. What is your age?

○01 Under 18 ○03 25-34 ○05 55-64 ○07 75-84
○02 18-24 ○04 35-54 ○06 65-74 ○08 85+

21. How many vehicles are available to your household?

○01 None ○02 One ○03 Two ○04 Three or more

22. Do you speak a language other than English at home?

○01 Yes ○02 No

23. Which language?

_____
_____

24. What was your estimated **TOTAL HOUSEHOLD INCOME** in 2017 before taxes?

○01 Less than $10,000 ○03 $30,000 - $39,999 ○05 $40,000 - $49,999
○02 $10,000 - $19,999 ○04 $20,000 - $29,999 ○06 $50,000 or more

25. Would you like to be kept informed about the study as it progresses?

○01 Yes ○02 No

26. If so, please enter your email address below.

○01 @gmail.com ○02 @yahoo.com ○03 @outlook.com
○04 @AOL.om ○97 @Other (specify)_____

Thank you for completing the survey and helping us improve transportation services in the region - now and into the future!

Appendix E-New Personnel Table for Plan

Phase	Personnel	
	Quantity	Position
Phase 1	1	Marketing & Communications Coordinator
	1	Development Reviewer /Data Analyst
	1	TDM Coordinator
	1	Senior Transit Planner
	1	Customer Service - bilingual
	1	Senior Mobility Manager
	1	Mobility Coordinator
Phase 2	1	Deputy Director
	1	Grants Program Manager
	1	Administrative Assistant
	1	Procurement Specialist
	1	IT & Technology Coordinator
	1	Transit Planner
	2	Call Center Representative
	1	Customer Service Manager
	1	Facilities Manager
Phase 3	1	Marketing & Communications Specialist
Phase 4	1	HCT Program Manager

Phase 1

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 201	Rider Transit Center, Cannon Blvd., Main St., Kannapolis City Hall, Kannapolis Train Station	5:30 am to 12:30 am	60-75	1
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Little Texas Road, Concord Lake Rd	5:30 am to 12:30 am	60-75	1
Route 203	Rider Transit Center, Cabarrus Ave., Church St., Lincoln St., Wilshire Ave, Old Charlotte Rd.	5:30 am to 12:30 am	60-75	1
Route 204	Rider Transit Center, Hwy 29, McGill Ave, Kerr Street, Cabarrus Ave	5:30 am to 12:30 am	60-75	1
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	60-75	1
Route 206	Rider Transit Center, RCCC South Campus, Bruton Smith Blvd, Concord Mills Mall	5:30 am to 12:30 am	60-75	1
Route 207	Rider Transit Center, Main St., Kannapolis Train Station, Oakwood Ave.	5:30 am to 12:30 am	60-75	1
CCX	Rider Transit Center, US 29/I85, JW Clay Light Rail Station	5:30 am to 12:30 am	60-75	1

Phase 2

Fixed routes operating in the Phase 2 Weekday

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 201	Rider Transit Center, Cannon Blvd., Main St., Kannapolis City Hall, Kannapolis Train Station	5:30 am to 12:30 am	30	2
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Little Texas Road, Concord Lake Rd	5:30 am to 12:30 am	30	2
Route 203	Rider Transit Center, Cabarrus Ave., Church St., Lincoln St., Wilshire Ave, Old Charlotte Rd.	5:30 am to 12:30 am.	30	2
Route 204	Rider Transit Center, Hwy 29, McGill Ave, Kerr Street, Cabarrus Ave	5:30 am to 12:30 am	30	2
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	30	2
Route 206	Rider Transit Center, RCCC South Campus, Bruton Smith Blvd, Concord Mills Mall	5:30 am to 12:30 am	30	2
Route 207	Rider Transit Center, Main St., Kannapolis Train Station, Oakwood Ave.	5:30 am to 12:30 am	30	2
CCX	Rider Transit Center, US 29/I85, JW Clay Light Rail Station	5:30 am to 12:30 am	30	2

Fixed routes operating in the Phase 2 Weekend

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 201	Rider Transit Center, Cannon Blvd., Main St., Kannapolis City Hall, Kannapolis Train Station	5:30 am to 12:30 am	60	1
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Little Texas Road, Concord Lake Rd	5:30 am to 12:30 am	60	1
Route 203	Rider Transit Center, Cabarrus Ave., Church St., Lincoln St., Wilshire Ave, Old Charlotte Rd.	5:30 am to 12:30 am	60	1
Route 204	Rider Transit Center, Hwy 29, McGill Ave, Kerr Street, Cabarrus Ave	5:30 am to 12:30 am	60	1
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	60	1
Route 206	Rider Transit Center, RCCC South Campus, Bruton Smith Blvd, Concord Mills Mall	5:30 am to 12:30 am	60	1
Route 207	Rider Transit Center, Main St., Kannapolis Train Station, Oakwood Ave.	5:30 am to 12:30 am	60	1
CCX	Rider Transit Center, US 29/I85, JW Clay Light Rail Station	5:30 am to 12:30 am	60	1

Phase 3

Fixed routes operating in Phase 3 Weekday

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 100	Kannapolis Train Station hub, Hwy 29, Downtown Concord hub (Downtown Kannapolis-Concord Connector)	5:30 am to 12:30 am	30	2
Route 101	Kannapolis Train Station hub, Main St., Loop Rd, W C St (Downtown Kannapolis Circulator)	5:30 am to 12:30 am	30	1
Route 102	Afton Ridge, Kannapolis Pkwy., NC 3, Kannapolis Train Station hub	5:30 am to 12:30 am	30	2
Route 103	Kannapolis Train Station hub, Main St. Brantley Rd., Loop Rd., W. A St.	5:30 am to 12:30 am	30	2
Route 201	Cannon Blvd., Main St., Rider Transit Center	5:30 am to 12:30 am	30	2
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Main St., and Kannapolis Train Station	5:30 am to 12:30 am	30	2
Route 203	Rider Transit Center, Church St., Lincoln St., Wilshire Ave.	5:30 am to 12:30 am	30	2
Route 204	Rider Transit Center, Cabarrus Ave., McGill Ave, Kerr St, Cabarrus Ave, Downtown Concord hub	5:30 am to 12:30 am	30	2
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	30	2
Route 206	Rider Transit Center, Derita Rd., Concord-Padgett Regional Airport	5:30 am to 12:30 am	30	2
Route 207	Rider Transit Center, Main St., Bell Street, Kannapolis Train Station hub	5:30 am to 12:30 am	30	2
Route 208	Rider Transit Center, US 29 , JW Clay Light Rail Station (CCX Local)	5:30 am to 12:30 am	30	4
Route 301	Rider Transit Center, Branchview Dr., Downtown Concord hub	5:30 am to 12:30 am	30	2
Route 302	Downtown Concord hub, Hwy 29, George Liles Pkwy., Afton Ridge	5:30 am to 12:30 am	30	2
Concord Mills Circulator	Bruton Smith Blvd. and Concord Mills Blvd. (Concord Mills Circulator)	5:30 am to 12:30 am	15	6
CCX	Rider Transit Center, I-85, JW Clay Light Rail Station	5:30 am to 12:30 am	30	2

Fixed routes operating in Phase 3 Weekend

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 100	Kannapolis Train Station hub, Hwy 29, Downtown Concord hub (Downtown Kannapolis-Concord Connector)	5:30 am to 12:30 am	60	1
Route 101	Kannapolis Train Station hub, Main St., Loop Rd, W C St (Downtown Kannapolis Circulator)	5:30 am to 12:30 am	30	1
Route 102	Afton Ridge, Kannapolis Pkwy., NC 3, Kannapolis Train Station hub	5:30 am to 12:30 am	60	1
Route 103	Kannapolis Train Station hub, Main St. Brantley Rd., Loop Rd., W. A St.	5:30 am to 12:30 am	60	1
Route 201	Cannon Blvd., Main St., Rider Transit Center	5:30 am to 12:30 am	60	1
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Main St., and Kannapolis Train Station	5:30 am to 12:30 am	60	1
Route 203	Rider Transit Center, Church St., Lincoln St., Wilshire Ave.	5:30 am to 12:30 am	60	1
Route 204	Rider Transit Center, Cabarrus Ave., McGill Ave, Kerr St, Cabarrus Ave, Downtown Concord hub	5:30 am to 12:30 am	60	1
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	60	1
Route 206	Rider Transit Center, Derita Rd., Concord-Padgett Regional Airport	5:30 am to 12:30 am	60	1
Route 207	Rider Transit Center, Main St., Bell Street, Kannapolis Train Station hub	5:30 am to 12:30 am	60	1
Route 208	Rider Transit Center, US 29 , JW Clay Light Rail Station (CCX Local)	5:30 am to 12:30 am	60	1
Route 301	Rider Transit Center, Branchview Dr., Downtown Concord hub	5:30 am to 12:30 am	60	1
Route 302	Downtown Concord hub, Hwy 29, George Liles Pkwy., Afton Ridge	5:30 am to 12:30 am	60	1
Concord Mills Circulator	Bruton Smith Blvd. and Concord Mills Blvd. (Concord Mills Circulator)	5:30 am to 12:30 am	15	6
CCX	Rider Transit Center, I-85, JW Clay Light Rail Station	5:30 am to 12:30 am	60	2

Phase 4

Fixed routes operating in Phase 4 Weekday

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 100	Kannapolis Train Station hub, Hwy 29, Downtown Concord hub (Downtown Kannapolis-Concord Connector)	5:30 am to 12:30 am	15	4
Route 101	Kannapolis Train Station hub, Main St., Loop Rd, W C St (Downtown Kannapolis Circulator)	5:30 am to 12:30 am	15	2
Route 102	Afton Ridge, Kannapolis Pkwy., NC 3, Kannapolis Train Station hub	5:30 am to 12:30 am	15	4
Route 103	Kannapolis Train Station hub, Main St. Brantley Rd., Loop Rd., W. A St.	5:30 am to 12:30 am	15	4
Route 201	Cannon Blvd., Main St., Rider Transit Center	5:30 am to 12:30 am	15	4
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Main St., and Kannapolis Train Station	5:30 am to 12:30 am	15	4
Route 203	Rider Transit Center, Church St., Lincoln St., Wilshire Ave.	5:30 am to 12:30 am	15	4
Route 204	Rider Transit Center, Cabarrus Ave., McGill Ave, Kerr St, Cabarrus Ave, Downtown Concord hub	5:30 am to 12:30 am	15	4
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	15	4
Route 206	Rider Transit Center, Derita Rd., Concord-Padgett Regional Airport	5:30 am to 12:30 am	15	4
Route 207	Rider Transit Center, Main St., Bell Street, Kannapolis Train Station hub	5:30 am to 12:30 am	15	4
Route 208	Rider Transit Center, US 29 , JW Clay Light Rail Station (CCX Local)	5:30 am to 12:30 am	15	6
Route 301	Rider Transit Center, Branchview Dr., Downtown Concord hub	5:30 am to 12:30 am	15	4
Route 302	Downtown Concord hub, Hwy 29, George Liles Pkwy., Afton Ridge	5:30 am to 12:30 am	15	4
Concord Mills Circulator	Bruton Smith Blvd. and Concord Mills Blvd. (Concord Mills Circulator)	5:30 am to 12:30 am	15	6
CCX	Rider Transit Center, I-85, JW Clay Light Rail Station	4:30 am to 2:30 am	15	6

Fixed routes operating in Phase 4 Weekend

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 100	Kannapolis Train Station hub, Hwy 29, Downtown Concord hub (Downtown Kannapolis-Concord Connector)	5:30 am to 12:30 am	60	1
Route 101	Kannapolis Train Station hub, Main St., Loop Rd, W C St (Downtown Kannapolis Circulator)	5:30 am to 12:30 am	30	1
Route 102	Afton Ridge, Kannapolis Pkwy., NC 3, Kannapolis Train Station hub	5:30 am to 12:30 am	60	1
Route 103	Kannapolis Train Station hub, Main St. Brantley Rd., Loop Rd., W. A St.	5:30 am to 12:30 am	60	1
Route 201	Cannon Blvd., Main St., Rider Transit Center	5:30 am to 12:30 am	60	1
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Main St., and Kannapolis Train Station	5:30 am to 12:30 am	60	1
Route 203	Rider Transit Center, Church St., Lincoln St., Wilshire Ave.	5:30 am to 12:30 am	60	1
Route 204	Rider Transit Center, Cabarrus Ave., McGill Ave, Kerr St, Cabarrus Ave, Downtown Concord hub	5:30 am to 12:30 am	60	1
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	60	1
Route 206	Rider Transit Center, Derita Rd., Concord-Padgett Regional Airport	5:30 am to 12:30 am	60	1
Route 207	Rider Transit Center, Main St., Bell Street, Kannapolis Train Station hub	5:30 am to 12:30 am	60	1
Route 208	Rider Transit Center, US 29 , JW Clay Light Rail Station (CCX Local)	5:30 am to 12:30 am	60	2
Route 301	Rider Transit Center, Branchview Dr., Downtown Concord hub	5:30 am to 12:30 am	60	1
Route 302	Downtown Concord hub, Hwy 29, George Liles Pkwy., Afton Ridge	5:30 am to 12:30 am	60	1
Concord Mills Circulator	Bruton Smith Blvd. and Concord Mills Blvd. (Concord Mills Circulator)	5:30 am to 12:30 am	15	6
CCX	Rider Transit Center, I-85, JW Clay Light Rail Station	4:30 am to 2:30 am	60	1

Phase 5

Fixed routes operating in Phase 5 Weekday

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 100	Kannapolis Train Station hub, Hwy 29, Downtown Concord hub (Downtown Kannapolis-Concord Connector)	5:30 am to 12:30 am	15	4
Route 101	Kannapolis Train Station hub, Main St., Loop Rd, W C St (Downtown Kannapolis Circulator)	5:30 am to 12:30 am	15	2
Route 102	Afton Ridge, Kannapolis Pkwy., NC 3, Kannapolis Train Station hub	5:30 am to 12:30 am	15	4
Route 103	Kannapolis Train Station hub, Main St. Brantley Rd., Loop Rd., W. A St.	5:30 am to 12:30 am	15	4
Route 201	Cannon Blvd., Main St., Rider Transit Center	5:30 am to 12:30 am	15	4
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Main St., and Kannapolis Train Station hub	5:30 am to 12:30 am	15	4
Route 203	Rider Transit Center, Church St., Lincoln St., Wilshire Ave.	5:30 am to 12:30 am	15	4
Route 204	Rider Transit Center, Cabarrus Ave., McGill Ave, Kerr St, Cabarrus Ave, Downtown Concord hub	5:30 am to 12:30 am	15	4
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	15	4
Route 206	Rider Transit Center, Derita Rd., Concord-Padgett Regional Airport	5:30 am to 12:30 am	15	4
Route 207	Rider Transit Center, Main St., Bell Street, Kannapolis Train Station.	5:30 am to 12:30 am	15	4
Route 208	Rider Transit Center, US 29 , JW Clay Light Rail Station (CCX Local)	5:30 am to 12:30 am	15	8
Route 301	Rider Transit Center, Branchview Dr., Downtown Concord hub	5:30 am to 12:30 am	15	4
Route 302	Downtown Concord hub, Hwy 29, George Liles Pkwy., Afton Ridge	5:30 am to 12:30 am	15	4
Route 303	Downtown Concord hub, Poplar Tent Road, I85, Concord Mills Mall	5:30 am to 12:30 am	15	4
Route 304	Downtown Concord hub, S. Union Street, Hwy 49, Harrisburg Town Center Hub, University City Light Rail Station	5:30 am to 12:30 am	15	8
Concord Mills Circulator	Bruton Smith Blvd. and Concord Mills Blvd. Concord Mills Circulator)	5:30 am to 12:30 am	15	6
CCX	Rider Transit Center, I-85, JW Clay Light Rail Station	4:30 am to 2:30 am	15	4
CHX	Rider Transit Center, NC 73 West, Birkdale Village	5:30 am to 12:30 am	45	2
KCX	Kannapolis Train Station hub, Hwy 3, Kannapolis Pkwy, I85, JW Clay Light Rail Station	5:30 am to 12:30 am	15	6

Fixed routes operating in Phase 5 Weekend

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 100	Kannapolis Train Station hub, Hwy 29, Downtown Concord hub (Downtown Kannapolis-Concord Connector)	5:30 am to 12:30 am	30	2
Route 101	Kannapolis Train Station hub, Main St., Loop Rd, W C St (Downtown Kannapolis Circulator)	5:30 am to 12:30 am	15	1
Route 102	Afton Ridge, Kannapolis Pkwy., NC 3, Kannapolis Train Station hub	5:30 am to 12:30 am	30	2
Route 103	Kannapolis Train Station hub, Main St. Brantley Rd., Loop Rd., W. A St.	5:30 am to 12:30 am	30	2
Route 201	Cannon Blvd., Main St., Rider Transit Center	5:30 am to 12:30 am	30	2
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Main St., and Kannapolis Train Station hub	5:30 am to 12:30 am	30	2
Route 203	Rider Transit Center, Church St., Lincoln St., Wilshire Ave.	5:30 am to 12:30 am	30	2
Route 204	Rider Transit Center, Cabarrus Ave., McGill Ave, Kerr St, Cabarrus Ave, Downtown Concord hub	5:30 am to 12:30 am	30	2
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	30	2
Route 206	Rider Transit Center, Derita Rd., Concord-Padgett Regional Airport	5:30 am to 12:30 am	30	2
Route 207	Rider Transit Center, Main St., Bell Street, Kannapolis Train Station.	5:30 am to 12:30 am	30	2
Route 208	Rider Transit Center, US 29 , JW Clay Light Rail Station (CCX Local)	5:30 am to 12:30 am	30	3
Route 301	Rider Transit Center, Branchview Dr., Downtown Concord hub	5:30 am to 12:30 am	30	2
Route 302	Downtown Concord hub, Hwy 29, George Liles Pkwy., Afton Ridge	5:30 am to 12:30 am	30	2
Route 303	Downtown Concord hub, Poplar Tent Road, I85, Concord Mills Mall	5:30 am to 12:30 am	30	2
Route 304	Downtown Concord hub, S. Union Street, Hwy 49, Harrisburg Town Center Hub, University City Light Rail Station	5:30 am to 12:30 am	30	4
Concord Mills Circulator	Bruton Smith Blvd. and Concord Mills Blvd. Concord Mills Circulator)	5:30 am to 12:30 am	15	6
CCX	Rider Transit Center, I-85, JW Clay Light Rail Station	4:30 am to 2:30 am	30	2
CHX	Rider Transit Center, NC 73 West, Birkdale Village	5:30 am to 12:30 am	90	1
KCX	Kannapolis Train Station hub, Hwy 3, Kannapolis Pkwy, I85, JW Clay Light Rail Station	5:30 am to 12:30 am	30	3

Phase 6

Fixed routes operating in Phase 6 Weekday

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 100	Kannapolis Train Station hub, Hwy 29, Downtown Concord hub (Downtown Kannapolis-Concord Connector)	5:30 a.m. to 12:30 a.m.	15	4
Route 101	Kannapolis Train Station hub, Main St., Loop Rd, W C St (Downtown Kannapolis Circulator)	5:30 am to 12:30 am	15	2
Route 102	Afton Ridge, Kannapolis Pkwy., NC 3, Kannapolis Train Station hub	5:30 am to 12:30 am	15	4
Route 103	Kannapolis Train Station hub, Main St. Brantley Rd., Loop Rd., W. A St.	5:30 am to 12:30 am	15	4
Route 201	Cannon Blvd., Main St., Rider Transit Center	5:30 am to 12:30 am	15	4
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Main St., and Kannapolis Train Station hub	5:30 am to 12:30 am	15	4
Route 203	Rider Transit Center, Church St., Lincoln St., Wilshire Ave.	5:30 am to 12:30 am	15	4
Route 204	Rider Transit Center, Cabarrus Ave., McGill Ave, Kerr St, Cabarrus Ave, Downtown Concord hub	5:30 am to 12:30 am	15	4
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 am to 12:30 am	15	4
Route 206	Rider Transit Center, Derita Rd., Concord-Padgett Regional Airport	5:30 am to 12:30 am	15	4
Route 207	Rider Transit Center, Main St., Bell Street, Kannapolis Train Station	5:30 am to 12:30 am	15	4
Route 208	Rider Transit Center, US 29 , JW Clay Light Rail Station (CCX Local)	5:30 am to 12:30 am	15	8
Route 301	Rider Transit Center, Branchview Dr., Downtown Concord hub	5:30 am to 12:30 am	15	4
Route 302	Downtown Concord hub, Hwy 29, George Liles Pkwy., Afton Ridge	5:30 am to 12:30 am	15	4
Route 303	Downtown Concord hub, Poplar Tent Road, I85, Concord Mills Mall	5:30 am to 12:30 am	15	4
Route 304	Downtown Concord hub, S. Union Street, Hwy 49, Harrisburg Town Center Hub, University City Light Rail Station	5:30 am to 12:30 am	15	8
Route 401	Harrisburg Town Center hub, Hwy 49, Morehead Road, Hwy 29, Pitts School Road, Roberta Rd	5:30 am to 12:30 am	15	2
Concord Mills Circulator	Bruton Smith Blvd. and Concord Mills Blvd. Concord Mills Circulator)	5:30 am to 12:30 am	15	6
CCX	Rider Transit Center, I-85, JW Clay Light Rail Station	4:30 am to 2:30 am	15	4
CHX	Rider Transit Center, NC 73 West, Birkdale Village	5:30 am to 12:30 am	60	2
KCX	Kannapolis Train Station hub, Hwy 3, Kannapolis Pkwy, I85, JW Clay Light Rail Station	5:30 am to 12:30 am	15	6
HCT-1	JW Clay Light Rail Station, Hwy 29 to future development near the Grounds at Concord	4:30 am to 2:30 am	15	N/A*
HCT-2	JW Clay Light Rail Station, Hwy 29 to exit 49 corridor serving Concord Mills and Concord-Padgett Regional Airport	4:30 am to 2:30 am	15	N/A*
Commuter Rail	North Carolina Railroad Corridor	6:00 am to 7:00 pm	30	N/A*

*Vehicle type/requirements for HCT are to be determined based on future feasibility studies.

Fixed routes operating in Phase 6 Weekend

Route Name	Corridors Served	Span of Service	Frequency/Headway (minutes)	Required Vehicles
Route 100	Kannapolis Train Station hub, Hwy 29, Downtown Concord hub (Downtown Kannapolis-Concord Connector)	5:30 a.m. to 12:30 a.m.	30	2
Route 101	Kannapolis Train Station hub, Main St., Loop Rd, W C St (Downtown Kannapolis Circulator)	5:30 a.m. to 12:30 a.m.	30	1
Route 102	Afton Ridge, Kannapolis Pkwy., NC 3, Kannapolis Train Station hub	5:30 a.m. to 12:30 a.m.	30	2
Route 103	Kannapolis Train Station hub, Main St. Brantley Rd., Loop Rd., W. A St.	5:30 a.m. to 12:30 a.m.	30	2
Route 201	Cannon Blvd., Main St., Rider Transit Center	5:30 a.m. to 12:30 a.m.	30	2
Route 202	Rider Transit Center, Copperfield Blvd., Dale Earnhardt Blvd., Main St., and Kannapolis Train Station hub	5:30 a.m. to 12:30 a.m.	30	2
Route 203	Rider Transit Center, Church St., Lincoln St., Wilshire Ave.	5:30 a.m. to 12:30 a.m.	30	2
Route 204	Rider Transit Center, Cabarrus Ave., McGill Ave, Kerr St, Cabarrus Ave, Downtown Concord hub	5:30 a.m. to 12:30 a.m.	30	2
Route 205	Rider Transit Center, Hwy 29, NC 73 West, Kannapolis Parkway, Afton Ridge, International Drive	5:30 a.m. to 12:30 a.m.	30	2
Route 206	Rider Transit Center, Derita Rd., Concord-Padgett Regional Airport	5:30 a.m. to 12:30 a.m.	30	2
Route 207	Rider Transit Center, Main St., Bell Street, Kannapolis Train Station.	5:30 a.m. to 12:30 a.m.	30	2
Route 208	Rider Transit Center, US 29 , JW Clay Light Rail Station (CCX Local)	5:30 a.m. to 12:30 a.m.	30	3
Route 301	Rider Transit Center, Branchview Dr., Downtown Concord hub	5:30 a.m. to 12:30 a.m.	30	2
Route 302	Downtown Concord hub, Hwy 29, George Liles Pkwy., Afton Ridge	5:30 a.m. to 12:30 a.m.	30	2
Route 303	Downtown Concord hub, Poplar Tent Road, I85, Concord Mills Mall	5:30 a.m. to 12:30 a.m.	30	2
Route 304	Downtown Concord hub, S. Union Street, Hwy 49, Harrisburg Town Center Hub, University City Light Rail Station	5:30 a.m. to 12:30 a.m.	30	4
Route 401	Harrisburg Town Center hub, Hwy 49, Morehead Road, Hwy 29, Pitts School Road, Roberta Rd	5:30 a.m. to 12:30 a.m.	30	1
Concord Mills Circulator	Bruton Smith Blvd. and Concord Mills Blvd. Concord Mills Circulator)	5:30 a.m. to 12:30 a.m.	15	6
CCX	Rider Transit Center, I-85, JW Clay Light Rail Station	4:30 a.m. to 2:30 a.m.	30	2
CHX	Rider Transit Center, NC 73 West, Birkdale Village	5:30 a.m. to 12:30 a.m.	90	1
KCX	Kannapolis Train Station hub, Hwy 3, Kannapolis Pkwy, I85, JW Clay Light Rail Station	5:30 a.m. to 12:30 a.m.	30	3
HCT-1	JW Clay Light Rail Station, Hwy 29 to future development near the Grounds at Concord	4:30 a.m. to 2:30 a.m.	15	N/A*
HCT-2	JW Clay Light Rail Station, Hwy 29 to exit 49 corridor serving Concord Mills and Concord-Padgett Regional Airport	4:30 a.m. to 2:30 a.m.	15	N/A*
Commuter Rail	North Carolina Railroad Corridor	6:00 a.m. to 7:00 p.m.	30	N/A*

*Vehicle type/requirements for HCT are to be determined based on future feasibility studies.

Appendix G-Financial Sheet

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
	$488,111	$498,820	$509,802	$891,049	$910,648	$930,713	$951,246	$972,128	$2,103,836	$2,152,325	$2,199,556	$2,456,025	$2,510,057	$2,565,169	$2,621,633	$2,679,177	$2,738,342	$2,798,587	$2,859,914	$2,922,861
							$1,902,491	$1,944,256	$3,637,354	$3,717,652	$3,799,232	$4,242,224	$4,335,552	$4,430,747	$4,528,275	$4,627,669	$4,729,863	$4,833,924	$4,939,851	$5,048,578
							$951,246	$972,128	$1,818,677	$1,858,826	$1,899,616	$2,121,112	$2,167,776	$2,215,373	$2,264,137	$2,313,834	$2,364,932	$2,416,962	$2,469,926	$2,524,289
							$556,184	$568,394	$993,477	$1,015,409	$1,037,691	$1,240,194	$1,267,478	$1,295,308	$1,323,820	$1,352,877	$1,382,753	$1,413,175	$1,444,142	$1,475,928
							$951,246	$972,128	$1,818,677	$1,858,826	$1,899,616	$2,121,112	$2,167,776	$2,215,373	$2,264,137	$2,313,834	$2,364,932	$2,416,962	$2,469,926	$2,524,289
							$951,246	$972,128	$1,818,677	$1,858,826	$1,899,616	$2,121,112	$2,167,776	$2,215,373	$2,264,137	$2,313,834	$2,364,932	$2,416,962	$2,469,926	$2,524,289
							$951,246	$972,128	$1,818,677	$1,858,826	$1,899,616	$2,121,112	$2,167,776	$2,215,373	$2,264,137	$2,313,834	$2,364,932	$2,416,962	$2,469,926	$2,524,289
							$3,337,106	$3,410,364	$3,485,258	$3,562,199	$3,640,368	$3,720,583	$3,802,435	$3,885,924	$3,971,459	$4,058,631	$4,148,259	$4,239,524	$4,332,426	$4,427,784
							$951,246	$972,128	$1,818,677	$1,858,826	$1,899,616	$2,121,112	$2,167,776	$2,215,373	$2,264,137	$2,313,834	$2,364,932	$2,416,962	$2,469,926	$2,524,289
												$2,121,112	$2,167,776	$2,215,373	$2,264,137	$2,313,834	$2,364,932	$2,416,962	$2,469,926	$2,524,289
												$3,882,948	$3,968,372	$4,055,504	$4,144,772	$4,235,749	$4,329,288	$4,424,536	$4,521,492	$4,621,011
												$880,918	$900,298	$920,066	$940,318	$960,957	$982,178	$1,003,787	$1,025,783	$1,048,361
												$3,684,037	$3,765,085	$3,847,754	$3,932,449	$4,018,765	$4,107,513	$4,197,881	$4,289,871	$4,384,292
															$1,132,069	$1,156,917	$1,182,466	$1,208,481	$1,234,963	$1,262,145
	$3,904,886	**$3,990,558**	**$4,078,412**	**$7,128,393**	**$7,285,184**	**$7,445,708**	**$18,161,975**	**$18,560,674**	**$28,408,695**	**$32,753,500**	**$33,472,241**	**$47,681,386**	**$48,730,366**	**$49,800,326**	**$52,028,578**	**$53,170,591**	**$54,344,772**	**$55,540,400**	**$56,757,474**	**$58,006,718**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
	$2,462,464	$2,524,026	$2,587,126	$5,303,609	$5,436,199	$5,572,104	$5,711,407	$5,854,192	$6,000,547	$6,150,560	$6,304,324	$6,461,932	$6,623,481	$6,789,068	$6,958,794	$7,132,764	$7,311,083	$7,493,860	$7,681,207	$7,873,237
	$3,904,886	$3,990,558	$4,078,412	$7,128,393	$7,285,184	$7,445,708	$18,161,975	$18,560,674	$28,408,695	$32,753,500	$33,472,241	$47,681,386	$48,730,366	$49,800,326	$52,028,578	$53,170,591	$54,344,772	$55,540,400	$56,757,474	$58,006,718
	$6,367,350	**$6,514,583**	**$6,665,539**	**$12,432,001**	**$12,721,383**	**$13,017,812**	**$23,873,382**	**$24,414,866**	**$34,409,241**	**$38,904,060**	**$39,776,565**	**$54,143,318**	**$55,353,847**	**$56,589,393**	**$58,987,373**	**$60,303,355**	**$61,655,855**	**$63,034,260**	**$64,438,681**	**$65,879,955**

e Hours	59,045	60,521	62,034	127,171	130,350	133,609	136,949	140,373	143,882	147,479	151,166	154,945	158,819	162,789	166,859	171,030	175,306	179,689	184,181	188,786
e Hours	54,568	54,568	54,568	93,328	93,328	93,328	222,737	222,737	376,304	376,304	376,304	524,490	524,490	524,490	536,156	536,156	536,156	536,156	536,156	536,156

ements	8			16			37		68			88			90					
Vehicles	2			4			8		14			18			18					
ements	**10**	0	0	**20**	0	0	**45**	0	**82**	**0**	0	**106**	0	0	**108**	0	0	0	0	0
equired				**10**			**25**		**37**			**24**			**2**					
equired		8		2					8		12			25		45		12		
equired	**0**	**8**	**0**	**12**	**0**	**0**	**25**	**0**	**45**	**0**	**12**	**24**	**0**	**25**	**2**	**45**	**0**	**12**	**0**	**0**

ements	**23**	**23**	**24**	**49**	**50**	**51**	**52**	**54**	**55**	**56**	**58**	**59**	**61**	**62**	**64**	**65**	**67**	**69**	**70**	**72**
ements	5	5	5	10	10	10	10	11	11	11	12	12	12	12	13	13	13	14	14	14
ements	**28**	**28**	**29**	**59**	**60**	**61**	**62**	**65**	**66**	**67**	**70**	**71**	**73**	**74**	**77**	**78**	**80**	**83**	**84**	**86**
equired	0	0	1	30	1	1	1	2	1	1	2	1	2	1	2	1	2	2	1	2
equired	8	3	4	5	5	0	8	3	5	35	6	1	9	5	6	36	8	2	11	6
equired	**8**	**3**	**5**	**35**	**6**	**1**	**9**	**5**	**6**	**36**	**8**	**2**	**11**	**6**	**8**	**37**	**10**	**4**	**12**	**8**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
	$0	$5,600,000	$0	$8,400,000	$0	$0	$17,500,000	$0	$31,500,000	$0	$8,400,000	$16,800,000	$0	$17,500,000	$1,400,000	$31,500,000	$0	$8,400,000	$0	$0
	$640,000	$240,000	$416,000	$2,800,000	$496,000	$96,000	$736,000	$432,000	$496,000	$2,896,000	$672,000	$176,000	$912,000	$496,000	$672,000	$2,976,000	$832,000	$352,000	$976,000	$672,000
	$0	$0	$0	$0	$0	$0	$1,800,000	$0	$0	$0	$0	$900,000	$0	$0	$225,000	$0	$0	$0	$0	$0
	$50,000	$50,000	$50,000	$100,000	$100,000	$100,000	$140,000	$140,000	$190,000	$190,000	$190,000	$225,000	$225,000	$225,000	$240,000	$240,000	$240,000	$240,000	$240,000	$240,000
	$0	$150,000	$0	$0	$1,500,000	$0	$150,000	$0	$0	$1,950,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$300,000	$0	$0	$20,000,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
tc.)	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000
	$0	$0	$0	$1,000,000	$0	$0	$0	$0	$0	$0	$0	$2,000,000	$0	$0	$0	$0	$0	$0	$0	$0
	$1,140,000	**$6,190,000**	**$616,000**	**$32,450,000**	**$2,246,000**	**$346,000**	**$20,476,000**	**$722,000**	**$32,336,000**	**$5,186,000**	**$9,412,000**	**$20,251,000**	**$1,287,000**	**$18,371,000**	**$2,687,000**	**$34,866,000**	**$1,222,000**	**$9,142,000**	**$1,366,000**	**$1,062,000**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
	1.022	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***
	$133,187	$136,116.64	$139,111.21	$142,171.65	$145,299.43	$148,496.02	$151,762.93	$155,101.71	$158,513.95	$162,001.26	$165,565.29	$169,207.72	$172,930.29	$176,734.76	$180,622.92	$184,596.63	$188,657.75	$192,808.22	$197,050.00	$201,385.10
	$98,664	$100,834.13	$103,052.49	$105,319.64	$107,636.67	$110,004.68	$112,424.78	$114,898.13	$117,425.89	$120,009.26	$122,649.46	$125,347.75	$128,105.40	$130,923.72	$133,804.04	$136,747.73	$139,756.18	$142,830.81	$145,973.09	$149,184.50
	$71,822	$73,402.16	$75,017.00	$76,667.38	$78,354.06	$80,077.85	$81,839.56	$83,640.03	$85,480.11	$87,360.67	$89,282.61	$91,246.83	$93,254.26	$95,305.85	$97,402.58	$99,545.44	$101,735.44	$103,973.62	$106,261.04	$108,598.78
	$68,013	$69,509.17	$71,038.37	$72,601.22	$74,198.44	$75,830.81	$77,499.09	$79,204.07	$80,946.56	$82,727.38	$84,547.38	$86,407.42	$88,308.39	$90,251.17	$92,236.70	$94,265.90	$96,339.75	$98,459.23	$100,625.33	$102,839.09
	$52,966	$54,131.11	$55,321.99	$56,539.08	$57,782.94	$59,054.16	$60,353.35	$61,681.13	$63,038.11	$64,424.95	$65,842.30	$67,290.83	$68,771.23	$70,284.20	$71,830.45	$73,410.72	$75,025.75	$76,676.32	$78,363.20	$80,087.19
	$52,994	$54,159.57	$55,351.08	$56,568.80	$57,813.32	$59,085.21	$60,385.09	$61,713.56	$63,071.26	$64,458.82	$65,876.92	$67,326.21	$68,807.39	$70,321.15	$71,868.21	$73,449.32	$75,065.20	$76,716.63	$78,404.40	$80,129.30
	$78,832	$80,566.71	$82,339.18	$84,150.64	$86,001.96	$87,894.00	$89,827.67	$91,803.88	$93,823.56	$95,887.68	$97,997.21	$100,153.15	$102,356.52	$104,608.36	$106,909.74	$109,261.76	$111,665.52	$114,122.16	$116,632.84	$119,198.77
	$56,588	$57,832.84	$59,105.16	$60,405.47	$61,734.40	$63,092.55	$64,480.59	$65,899.16	$67,348.94	$68,830.62	$70,344.89	$71,892.48	$73,474.12	$75,090.55	$76,742.54	$78,430.87	$80,156.35	$81,919.79	$83,722.03	$85,563.91
	$62,834	$64,215.84	$65,628.59	$67,072.41	$68,548.01	$70,056.06	$71,597.30	$73,172.44	$74,782.23	$76,427.44	$78,108.84	$79,827.24	$81,583.44	$83,378.27	$85,212.60	$87,087.27	$89,003.19	$90,961.26	$92,962.41	$95,007.58
	$54,722	$55,925.46	$57,155.83	$58,413.25	$59,698.34	$61,011.71	$62,353.97	$63,725.75	$65,127.72	$66,560.53	$68,024.86	$69,521.41	$71,050.88	$72,614.00	$74,211.51	$75,844.16	$77,512.73	$79,218.01	$80,960.81	$82,741.95
	$43,913	$44,879.39	$45,866.74	$46,875.80	$47,907.07	$48,961.03	$50,038.17	$51,139.01	$52,264.07	$53,413.88	$54,588.98	$55,789.94	$57,017.32	$58,271.70	$59,553.68	$60,863.86	$62,202.86	$63,571.33	$64,969.89	$66,399.23
	$50,199	$51,303.44	$52,432.11	$53,585.62	$54,764.50	$55,969.32	$57,200.64	$58,459.06	$59,745.16	$61,059.55	$62,402.86	$63,775.72	$65,178.79	$66,612.72	$68,078.20	$69,575.92	$71,106.59	$72,670.94	$74,269.70	$75,903.63
	$57,011	$58,265.21	$59,547.05	$60,857.08	$62,195.94	$63,564.25	$64,962.66	$66,391.84	$67,852.46	$69,345.22	$70,870.81	$72,429.97	$74,023.43	$75,651.94	$77,316.29	$79,017.24	$80,755.62	$82,532.25	$84,347.96	$86,203.61
	$59,951	$61,269.94	$62,617.88	$63,995.48	$65,403.38	$66,842.25	$68,312.78	$69,815.66	$71,351.61	$72,921.34	$74,525.61	$76,165.17	$77,840.81	$79,553.31	$81,303.48	$83,092.15	$84,920.18	$86,788.43	$88,697.77	$90,649.12
	$41,324	$42,233.15	$43,162.28	$44,111.85	$45,082.31	$46,074.12	$47,087.75	$48,123.68	$49,182.40	$50,264.41	$51,370.23	$52,500.37	$53,655.38	$54,835.80	$56,042.19	$57,275.12	$58,535.17	$59,822.94	$61,139.05	$62,484.11
	$42,822	$43,764.25	$44,727.06	$45,711.05	$46,716.70	$47,744.46	$48,794.84	$49,868.33	$50,965.43	$52,086.67	$53,232.58	$54,403.70	$55,600.58	$56,823.79	$58,073.91	$59,351.54	$60,657.27	$61,991.73	$63,355.55	$64,749.37
	1.022	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***	***1.022***
		$67,891	$69,384.60	$70,911.06	$72,471.11	$74,065.47	$75,694.91	$77,360.20	$79,062.12	$80,801.49	$82,579.12	$84,395.86	$86,252.57	$88,150.13	$90,089.43	$92,071.40	$94,096.97	$96,167.10	$98,282.78	$100,445.00
				$76,366	$78,046.05	$79,763.07	$81,517.85	$83,311.25	$85,144.09	$87,017.26	$88,931.64	$90,888.14	$92,887.68	$94,931.21	$97,019.69	$99,154.13	$101,335.52	$103,564.90	$105,843.33	$108,171.88
		$64,387	$65,803.51	$67,251.19	$68,730.72	$70,242.79	$71,788.13	$73,367.47	$74,981.56	$76,631.15	$78,317.04	$80,040.01	$81,800.89	$83,600.51	$85,439.72	$87,319.40	$89,240.42	$91,203.71	$93,210.20	$95,260.82
		$50,135	$51,237.97	$52,365.21	$53,517.24	$54,694.62	$55,897.90	$57,127.65	$58,384.46	$59,668.92	$60,981.64	$62,323.23	$63,694.34	$65,095.62	$66,527.72	$67,991.33	$69,487.14	$71,015.86	$72,578.21	$74,174.93
		$93,481	$95,537.58	$97,639.41	$99,787.48	$101,982.80	$104,226.42	$106,519.40	$108,862.83	$111,257.81	$113,705.48	$116,207.00	$118,763.56	$121,376.36	$124,046.64	$126,775.66	$129,564.73	$132,415.15	$135,328.29	$138,305.51
		$65,802	$67,249.64	$68,729.14	$70,241.18	$71,786.48	$73,365.79	$74,979.83	$76,629.39	$78,315.24	$80,038.17	$81,799.01	$83,598.59	$85,437.76	$87,317.39	$89,238.37	$91,201.62	$93,208.05	$95,258.63	$97,354.32
			$62,447	$63,820.83	$65,224.89	$66,659.84	$68,126.36	$69,625.14	$71,156.89	$72,722.34	$74,322.23	$75,957.32	$77,628.38	$79,336.21	$81,081.60	$82,865.40	$84,688.44	$86,551.58	$88,455.72	$90,401.74
		$111,760	$114,218.72	$116,731.53	$119,299.63	$121,924.22	$124,606.55	$127,347.89	$130,149.55	$133,012.84	$135,939.12	$138,929.78	$141,986.24	$145,109.93	$148,302.35	$151,565.00	$154,899.43	$158,307.22	$161,789.98	$165,349.36
						$101,983	$104,226.63	$106,519.61	$108,863.04	$111,258.03	$113,705.71	$116,207.23	$118,763.79	$121,376.59	$124,046.88	$126,775.91	$129,564.98	$132,415.41	$135,328.55	$138,305.78
						$52,416	$53,569.15	$54,747.67	$55,952.12	$57,183.07	$58,441.10	$59,726.80	$61,040.79	$62,383.69	$63,756.13	$65,158.76	$66,592.26	$68,057.29	$69,554.55	$71,084.75
						$75,205	$76,859.51	$78,550.42	$80,278.53	$82,044.66	$83,849.64	$85,694.33	$87,579.61	$89,506.36	$91,475.50	$93,487.96	$95,544.69	$97,646.68	$99,794.90	$101,990.39
				$76,366	$78,046.05	$79,763	$81,518	$83,311	$85,144	$87,017	$88,932	$90,888	$92,888	$94,931	$97,020	$99,154	$101,336	$103,565	$105,843	$108,172
				$63,820	$65,224.04	$66,659	$68,125	$69,624	$71,156	$72,721	$74,321	$75,956	$77,627	$79,335	$81,081	$82,864	$84,687	$86,550	$88,455	$90,401
						$52,416	$53,569.15	$54,747.67	$55,952.12	$57,183.07	$58,441.10	$59,726.80	$61,040.79	$62,383.69	$63,756.13	$65,158.76	$66,592.26	$68,057.29	$69,554.55	$71,084.75
						$52,416	$53,569.15	$54,747.67	$55,952.12	$57,183.07	$58,441.10	$59,726.80	$61,040.79	$62,383.69	$63,756.13	$65,158.76	$66,592.26	$68,057.29	$69,554.55	$71,084.75
						$101,983	$104,226.63	$106,519.61	$108,863.04	$111,258.03	$113,705.71	$116,207.23	$118,763.79	$121,376.59	$124,046.88	$126,775.91	$129,564.98	$132,415.41	$135,328.55	$138,305.78
						$101,983	$104,226.63	$106,519.61	$108,863.04	$111,258.03	$113,705.71	$116,207.23	$118,763.79	$121,376.59	$124,046.88	$126,775.91	$129,564.98	$132,415.41	$135,328.55	$138,305.78
							$68,126	$69,624.77	$71,156.52	$72,721.96	$74,321.84	$75,956.92	$77,627.98	$79,335.79	$81,081.18	$82,864.97	$84,687.99	$86,551.13	$88,455.26	$90,401.27
										$144,076	$147,245.67	$150,485.08	$153,795.75	$157,179.25	$160,637.20	$164,171.22	$167,782.98	$171,474.21	$175,246.64	$179,102.07
	$1,025,841	**$1,501,865**	**$1,597,353**	**$1,849,047**	**$1,889,726**	**$2,469,702**	**$2,592,161**	**$2,649,189**	**$2,707,471**	**$2,911,111**	**$2,975,156**	**$3,040,609**	**$3,107,503**	**$3,175,868**	**$3,245,737**	**$3,317,143**	**$3,390,120**	**$3,464,703**	**$3,540,926**	**$3,618,827**
		$453,456	**$62,447**	**$216,552**		**$538,402**	**$68,126**			**$144,076**										

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
$55,000	$55,000	$55,000	$68,750	$68,750	$68,750	$85,938	$85,938	$107,422	$107,422	$107,422	$134,277	$134,277	$134,277	$167,847	$167,847	$167,847	$167,847	$167,847	$167,847

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
$6,367,350	$6,514,583	$6,665,539	$12,432,001	$12,721,383	$13,017,812	$23,873,382	$24,414,866	$34,409,241	$38,904,060	$39,776,565	$54,143,318	$55,353,847	$56,589,393	$58,987,373	$60,303,355	$61,655,855	$63,034,260	$64,438,681	$65,879,955
$1,140,000	$6,190,000	$616,000	$32,450,000	$2,246,000	$346,000	$20,476,000	$722,000	$32,336,000	$5,186,000	$9,412,000	$20,251,000	$1,287,000	$18,371,000	$2,687,000	$34,866,000	$1,222,000	$9,142,000	$1,366,000	$1,062,000
$1,025,841	$1,501,865	$1,597,353	$1,849,047	$1,889,726	$2,469,702	$2,592,161	$2,649,189	$2,707,471	$2,911,111	$2,975,156	$3,040,609	$3,107,503	$3,175,868	$3,245,737	$3,317,143	$3,390,120	$3,464,703	$3,540,926	$3,618,827
$8,533,191	**$14,206,448**	**$8,878,892**	**$46,731,048**	**$16,857,109**	**$15,833,514**	**$46,941,543**	**$27,786,055**	**$69,452,712**	**$47,001,172**	**$52,163,721**	**$77,434,927**	**$59,748,349**	**$78,136,261**	**$64,920,109**	**$98,486,498**	**$66,267,976**	**$75,640,963**	**$69,345,607**	**$70,560,781**

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