



# **Cabarrus County Microtransit Feasibility Study**

**November 2024**



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# 1 INTRODUCTION

Supported by the North Carolina Department of Transportation (NCDOT), Cabarrus County is exploring the potential of microtransit to assist in addressing unmet mobility needs for its residents. The purpose of the study is to consider the feasibility of implementing microtransit services in Cabarrus County to support current transit services.

The Cabarrus County Microtransit Feasibility Study evaluates the feasibility of implementing microtransit service by examining baseline conditions, considering public and stakeholder input, and by refining operational characteristics. Its feasibility is further vetted by a rectified evaluation process which yields the final proposed microtransit implementation plan.

## 1.1 Background

The U.S. Department of Transportation awarded NCDOT \$10.4 million for Mobility for Everyone, Everywhere in NC (MEE NC) through the Rural Surfaces Transportation Grant Program. The grant advances NCDOT's vision and strategy to partner with the state's rural transit systems to launch on-demand microtransit in 11 communities throughout the state. This program focuses on the deployment of high-quality, on-demand transit services leading to more equitable mobility and improved access to opportunities, services, and resources.

## 1.2 What is Microtransit?

As with any emerging technology, definitions may vary between agencies. NCDOT defines microtransit as a shared, technology-enabled, public transportation system with flexible routing developed based on real-time trip demand and origin-destination patterns. Microtransit functions in a similar manner to the private services provided by Transportation Network Companies (TNCs) like Uber and Lyft. In the public version, however, rides may be shared, and the service is operated or procured by a government agency. Microtransit serves as a transit solution in areas where mass transit is traditionally ineffective, yet there is a strong presence of transit-dependent populations who require transportation between employment, housing, and other locations.

FIGURE 1-1 MICROTRANSIT



Source: NCDOT



## 1.3 Report Structure

This report is organized into the following seven chapters:

- Chapter 1 Introduction
- Chapter 2 Local Conditions
- Chapter 3 Public Engagement
- Chapter 4 Goals and Performance Evaluation
- Chapter 5 Needs Assessment and Gap Analysis
- Chapter 6 Service and Operating Concept Evaluation
- Chapter 7 Implementation Plan
- Chapter 8 Appendices

## 2 LOCAL CONDITIONS

This chapter provides a comprehensive summary of the existing conditions and demographic features within Cabarrus County. In addition, the local conditions chapter provide crucial context for the potential delivery of microtransit services in the county, offering valuable insights into CCTS' and Rider Transit's operating environments. The summary includes an overview of the agencies' governance and finances, a detailed description of the service area, an examination of local transit-related plans, information about the population and labor force, travel characteristics, and land use information. These details, when reviewed in conjunction with travel data and public input, will assist in the creation of a proposed microtransit service.

### 2.1 Service Area Profile

The operating environment for potential microtransit service was documented, providing context on the services operated, respective service areas, agency governance structure, ongoing planning efforts, and other related considerations.

#### 2.1.1 Background and Existing Services

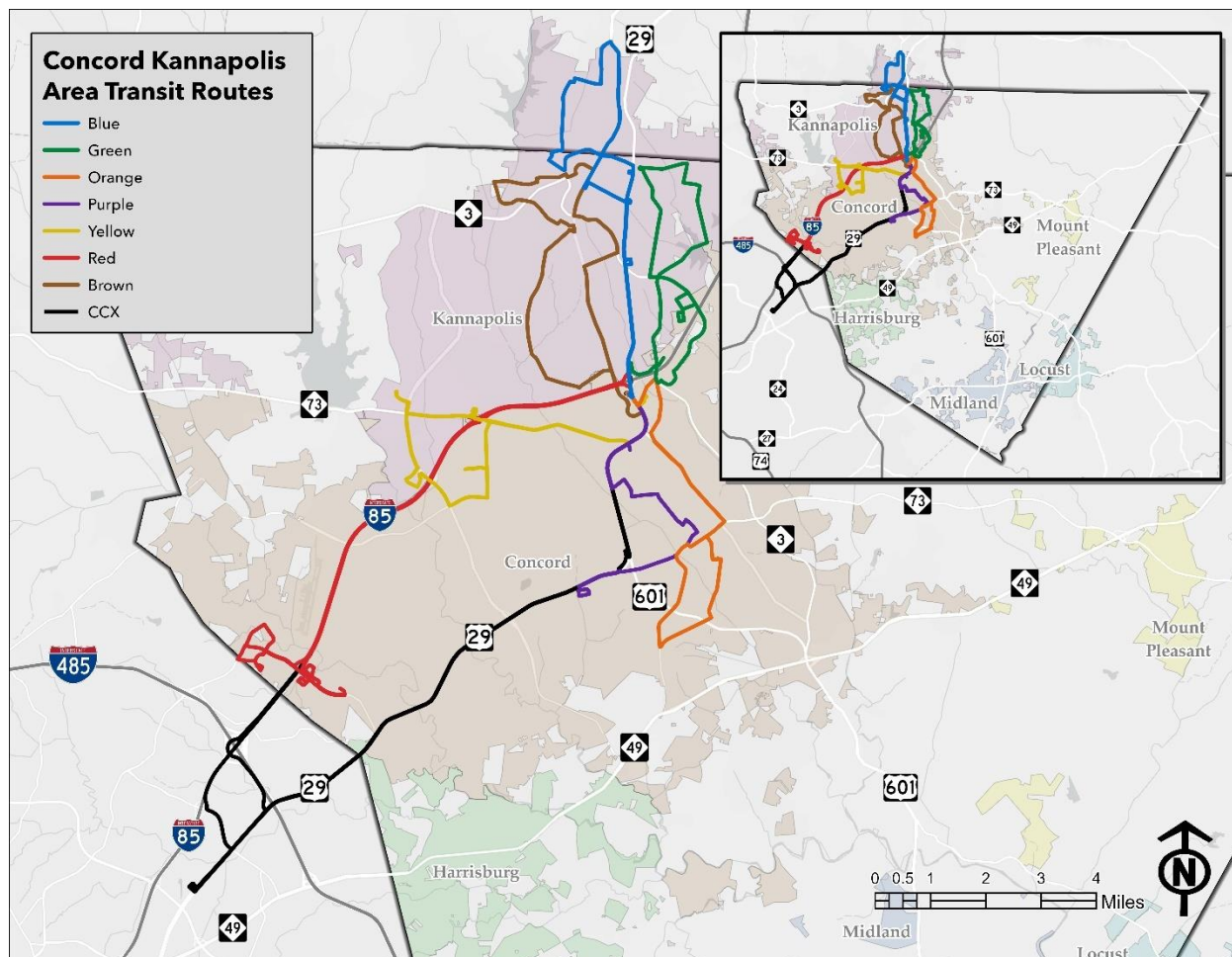
Cabarrus County, located immediately northeast of Mecklenburg County, covers 361.2 square miles of land area and houses 226,396 residents as of 2022. It is also bordered by Rowan County, Stanly County, Union County, and Iredell County. The county seat and largest city is Concord. Its second largest city is Kannapolis. Cabarrus County's other municipalities include Harrisburg, Locust, Midland, and Mount Pleasant. Cabarrus County is best known for its parks and trails, local stores and restaurants, and as the home to the Charlotte Motor Speedway and Concord Mills. The county's economy is bolstered by industry, manufacturing, and the Concord-Padgett Regional Airport.

Cabarrus County is served by two primary public transit service providers. Concord Kannapolis Area Transit (Rider Transit) provides fixed route and paratransit services in the cities of Concord and Kannapolis, while Cabarrus County Transportation Services (CCTS) provides demand response service to eligible populations across the entire county.

A joint venture between the cities of Concord and Kannapolis, Rider Transit operates as a department of the City of Concord. Rider Transit operates eight fixed routes in Concord and Kannapolis including an express route which also serves Charlotte. These routes are depicted in the Rider Transit system map (Figure 2-1). Rider Transit also provides demand response paratransit service within  $\frac{3}{4}$ -mile of its fixed routes, excluding the Concord Charlotte Express (CCX). Paratransit service is available for individuals eligible under the Americans with Disabilities Act (ADA).

A department of Cabarrus County, CCTS provides fare-free transportation throughout Cabarrus County for those who are eligible to ride through one of the following programs: Human Services, Work First Family Assistance program, Medicaid, Adult and Aging Services, Rural General-Purpose program, and more.

FIGURE 2-1: RIDER TRANSIT FIXED ROUTES



While CCTS does not provide fixed route services, Rider Transit operates eight fixed routes, seven of which serve Concord and/or Kannapolis, and an express route connecting Concord to Charlotte’s LYNX light rail. These routes run every 60 minutes, seven days per week. Headways lengthen to 75 minutes in the early afternoon. Weekday service runs from 5:30 AM to 8:25 PM, while weekend service starts later in the morning, operating between 8:30 AM and 8:25 PM, as shown in Table 2-1.

TABLE 2-1: RIDER TRANSIT FIXED-ROUTE SERVICE CHARACTERISTICS

Service Characteristics	Weekdays	Weekends
Service Span	5:30 AM - 8:25 PM	8:30 AM - 8:25 PM
Frequency (minutes)	60 to 75	60 to 75
Route runtimes (minutes)	18 to 40	18 to 40
Peak Vehicles	8	8



Riders who are eligible to use CCTS ride fare free. The Rider Transit fare structure is outlined in Table 2-2. A standard one-way fixed-route trip fare costs \$1.25. Reduced fares are available for persons with disabilities, senior citizens 65 and older, Medicare card holders, and military veterans. In addition to the standard one-way fare, Rider Transit offers day, week, month, and 10-trip passes.

**TABLE 2-2: RIDER TRANSIT FIXED-ROUTE FARE STRUCTURE**

Fare Category	Standard Fare	Reduced Fare
<b>Single Trip</b>	\$1.25	\$0.60
<b>Transfer Pass</b>	\$0.00	\$0.00
<b>1-Day Pass</b>	\$4.00	\$2.00
<b>10-Trip Pass</b>	\$10.00	\$5.00
<b>7-Day Pass</b>	\$12.00	\$6.00
<b>31-Day Pass</b>	\$40.00	\$20.00

### 2.1.2 Governance and Funding

CCTS generates revenue from several sources of funds. The largest source is Medicaid, which provides CCTS with \$1 million to fund transportation services for those enrolled in Medicaid. The next largest source of funds is awarded by the Federal Transit Administration’s 5311 Formula Grant for Rural Areas. Other significant funding sources include the Home and Community Care Block Grant, grants from the Rural Operating Assistance Program, and funding from the North Carolina Department of Transportation.

Operating expenses comprise nearly three quarters of CCTS’ total expenses. Most of this spending covers employee wages and benefits. The local match for 5311 capital funds constitutes most of the remaining quarter of spending. Other smaller expenses include minor technological equipment and the local match for Medicaid funding.

Rider Transit generates three major types of revenue: federal funding, local funding, and farebox. As of FY 2020, local support and matching from Concord and Kannapolis comprise nearly half of all generated revenue. Federal funding is awarded in the form of grants which partially cover capital and operations expenses. These grants come from programs like the State Maintenance Assistance Program, Section 5307, and Section 5339 for buses and bus facilities.

Rider Transit expends funds mostly on operations, including employee wages and benefits, maintenance, and supplies. Capital expenses comprise about a third of total expenses, which fund the purchase of vehicles, construction of facilities, and other infrastructure. Planning accounts for a small portion of all spending.

### 2.1.3 Related Plans and Programs

The key transit-related plans and studies from Cabarrus County were identified and reviewed to help inform this microtransit feasibility study. The primary objective of this section is to document existing plans and policies relating to transit needs and services in the community to improve the understating of the policy context in which CCTS and Rider Transit operates, as well as identify any prior needs or

recommendations related to microtransit. The plans, their summaries, and key takeaways are documented in Table 2-3.

**TABLE 2-3: PLAN REVIEW**

Plan	Summary	Key Takeaways
<b>2050 Cabarrus-Rowan Metropolitan Transportation Plan (2022)</b>	<p>The 2050 Cabarrus-Rowan Metropolitan Transportation Plan (MTP) establishes a set of regional transportation goals and objectives, and recommends strategies and projects that will maintain, manage, and develop Cabarrus and Rowan counties’ transportation system through 2050. It uses data and public feedback to develop a long-range multimodal transportation network plan for implementation through 2050.</p>	<p>The plan’s chief public transportation goal calls for efforts to improve mobility for urban area residents’:</p> <ul style="list-style-type: none"> <li>• Increasing awareness of existing public transit services and exploring new transit opportunities</li> <li>• Supporting expansion plans for existing transit agencies</li> <li>• Supporting stakeholders in projects that would implement or improve public transit service in urban areas</li> </ul> <p>Additionally, the MTP assumes the implementation and schedule of the services outlined in the Cabarrus County Long Range Transportation Master Plan.</p>
<b>Cabarrus-Rowan Comprehensive Transportation Plan (2021)</b>	<p>More actionable than its MTP counterpart, the Cabarrus-Rowan Comprehensive Transportation Plan (CTP) sets a course for how the Cabarrus-Rowan transportation network will need to be improved to support the region’s growth over the long term.</p>	<p>The CTP inventoried the existing fixed route transit system and identified additional corridors recommended to be served by fixed route transit in the future.</p>
<b>Cabarrus County Transportation Title VI Program Plan (2022)</b>	<p>Title VI of the Civil Rights Act of 1964 protects people from discrimination based on race, color, and national origin in programs and activities receiving federal financial assistance. A Title VI Program Plan documents a federally funded transit agency’s compliance with nondiscrimination.</p>	<p>The CCTS Title VI Program Plan outlines the agency’s standard operating procedures for providing inclusive and nondiscriminatory transportation services in compliance with federal requirements.</p>

<p><b>Concord Kannapolis Area Transit Title VI Program Plan (2022)</b></p>	<p>Title VI of the Civil Rights Act of 1964 protects people from discrimination based on race, color, and national origin in programs and activities receiving federal financial assistance. A Title VI Program Plan documents a federally funded transit agency’s compliance with nondiscrimination.</p>	<p>The Rider Transit Title VI Program Plan documents Rider Transit’s efforts to operate a nondiscriminatory and inclusive transit system, in compliance with Title VI. Rider Transit has conducted research and developed materials and procedures to understand which groups use or would like to use its services (like those with Limited English Proficiency), and how to provide equitable and quality service to all groups.</p>
<p><b>Cabarrus County Long Range Public Transportation Master Plan (2020)</b></p>	<p>The overall goal of the Cabarrus County Long Range Public Transportation Master Plan (LRPTMP) is to identify current and future needs and opportunities to expand public transit within Cabarrus County and for regional connections. Existing conditions and services, coupled with future growth are inventoried and then synthesized to create actionable items to improve transit service across short, medium, and long-term horizons.</p>	<p>The LRPTMP functions as a 20-year planning document for public transit service in Cabarrus County. This document also examined the feasibility of consolidating CCTS and Rider Transit into one system. The plan culminates in a slew of capital and service recommendations to be implemented over the next 20 years:</p> <ul style="list-style-type: none"> <li>• Capital Recommendations <ul style="list-style-type: none"> <li>○ New and Replacement Vehicles</li> <li>○ Bus Stop Amenities</li> <li>○ Technology, Software and Data</li> <li>○ 3 New Transit Hubs</li> <li>○ New Administration and Maintenance Facility</li> <li>○ Additional Studies (High Capacity Transit, Park and Ride, Site Feasibility, etc.)</li> <li>○ Park and Ride Lot Construction</li> </ul> </li> <li>• Service Recommendations <ul style="list-style-type: none"> <li>○ Consolidate CCTS and Rider Transit</li> <li>○ Extend hours of service</li> <li>○ Increase route frequency (30-minute, then 15-minute headways)</li> <li>○ Implement countywide demand response service</li> <li>○ Add 13 fixed routes</li> </ul> </li> </ul>
<p><b>NCDOT On-Demand Microtransit Annual Report (2023)</b></p>	<p>NCDOT publishes an annual report on microtransit, serving as both an educational tool for microtransit and a summary of the different microtransit services currently in operation in North Carolina.</p>	<p>The purposes, benefits, and challenges of implementing microtransit can be examined to consider the microtransit implementations most suitable for Cabarrus County. Characteristics of peer agencies’ microtransit services can also be examined to aid in decision-making.</p>



<b>Cabarrus County Transportation Service &amp; Concord Kannapolis Area Transit Consolidation Study (2024)</b>	The purpose of the report was to provide an implementation plan for the two transit agencies operating in Cabarrus County to consolidate. Cabarrus County Transportation Service (CCTS) provides demand response service while Rider Transit provides fixed route and complementary paratransit services.	The analysis included three potential options for consolidation: county-based, city-based and authority-based. Ultimately, decision makers requested implementation plan information on two options: city-based and authority-based. The implementation plans provide an overview of the steps for the two agencies to consolidate into a city department or to create a separate authority that consolidates both transit agencies. The authority implementation plan would require legislative and voter approval to create and fund the new authority.
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## 2.2 Demographic and Socioeconomic Characteristics

Demographic and socioeconomic profiles are provided in this section using American Community Survey (ACS) data from the US Census Bureau as well as state and local sources. Data is used to identify the propensity with which populations most likely to use transit reside in the community. Certain demographic characteristics are more closely associated with transit usage such as individuals who are a member of a minority groups, residents living in low-income households, and persons with Limited English Proficiency (LEP). The analysis compares the occurrence of these populations relative to the general population within the service area and identifies the geographic locations within which they are concentrated.

In addition to reviewing population characteristics, a review of local land uses is also undertaken. Land use can affect the efficiency of transit service and therefore influences mode selection.

### 2.2.1 Population

Per the most recent (2022) ACS 5-year Estimates, Cabarrus County’s population is 226,396, as shown in Table 2-4, along with its municipal populations. The county’s population grew 15 percent over the past five years and 27 percent over the past ten years. According to the North Carolina Office of State Budget and Management population projections, Cabarrus County will continue to steadily grow, increasing its current population by 22 percent in the year 2030 and reaching a population of 374,638 in 2050, depicted in Figure 2-2.

Cabarrus County’s population is largely concentrated in Concord and Kannapolis, especially along the Interstate 85 and US-29 corridors, as shown in Figure 2-3. The eastern half of the county is largely rural.

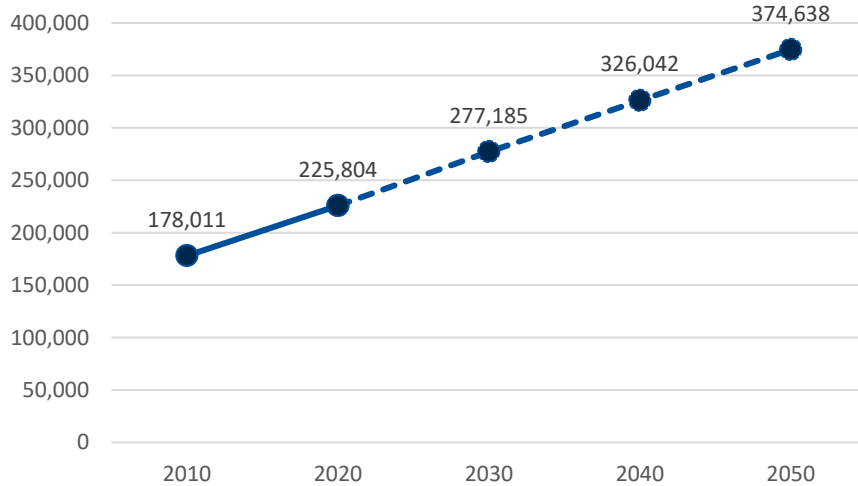
**TABLE 2-4: POPULATION IN CABARRUS COUNTY BY JURISDICTION (ACS 5-YEAR ESTIMATES, 2022)**

Jurisdiction	Population
<b>Cabarrus County</b>	<b>226,396</b>
Concord	105,335
Harrisburg	18,934
Kannapolis*	53,314
Locust**	4,700
Midland	4,675
Mount Pleasant	1,776

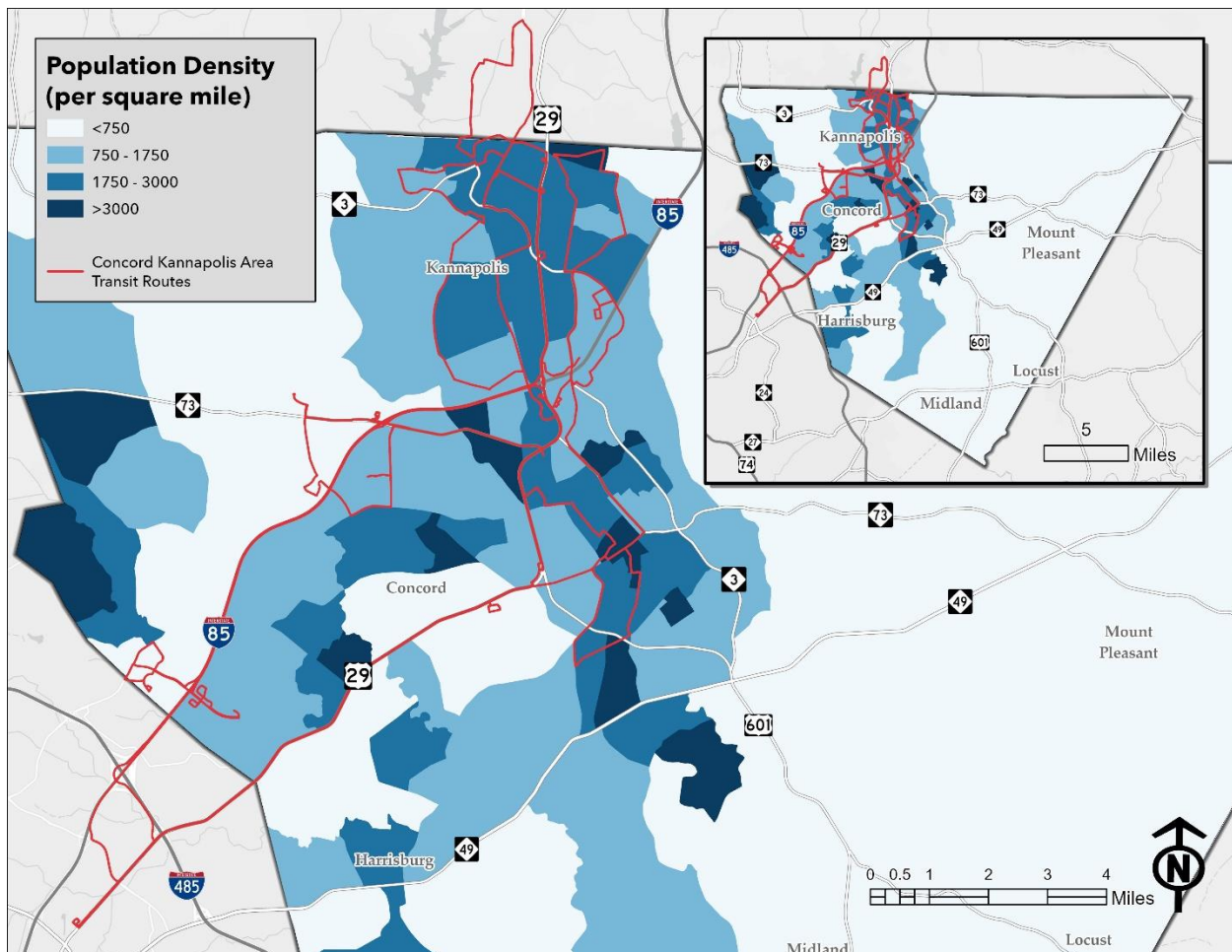
\* Kannapolis is located in both Cabarrus and Rowan Counties

\*\* Locust is located in both Cabarrus and Stanly Counties

**FIGURE 2-2: CABARRUS COUNTY POPULATION COUNTS AND PROJECTIONS (US CENSUS BUREAU, NORTH CAROLINA OFFICE OF STATE BUDGET AND MANAGEMENT)**



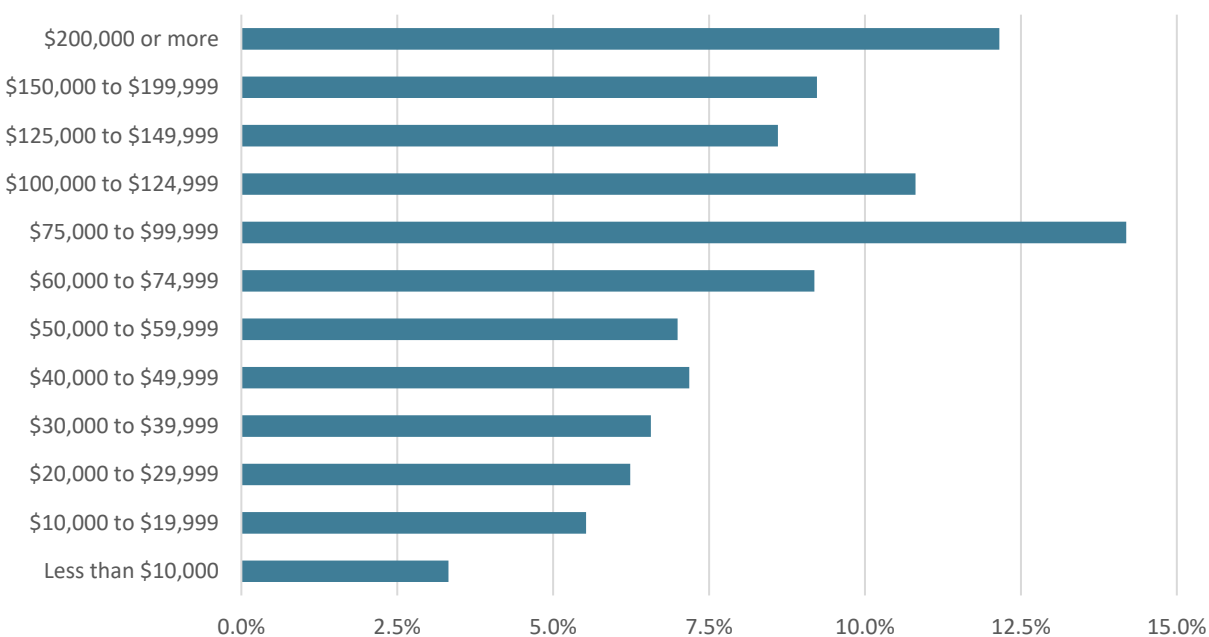
**FIGURE 2-3: CABARRUS COUNTY POPULATION DENSITY (ACS 5-YEAR ESTIMATES, 2022)**



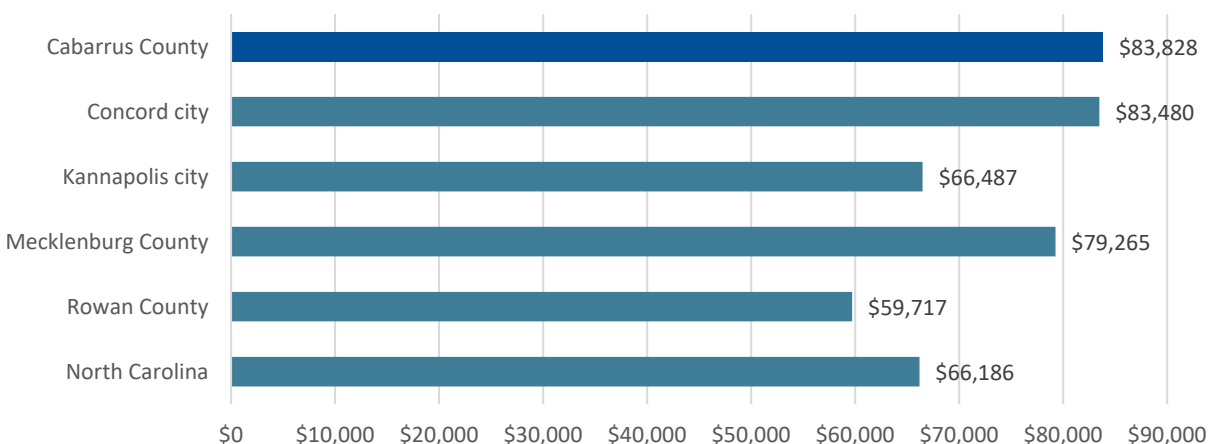
### 2.2.2 Income and Poverty

Cabarrus County’s 2022 median household income was \$83,828, greater than its largest cities and North Carolina’s state median household income. Figure 2-4 documents household income within Cabarrus County while Figure 2-5 compares Cabarrus County’s median household income with nearby jurisdictions. The income brackets which constitute the largest percentage of Cabarrus County’s population are \$75,000 to \$99,999, \$200,000 or more, and \$100,000 to \$124,999. Over 40 percent of Cabarrus County households generate an income of at least \$100,000 per year. About 15 percent of households generate an income of less than \$30,000 per year.

**FIGURE 2-4: CABARRUS COUNTY INCOME DISTRIBUTION (ACS 5-YEAR ESTIMATES, 2022)**



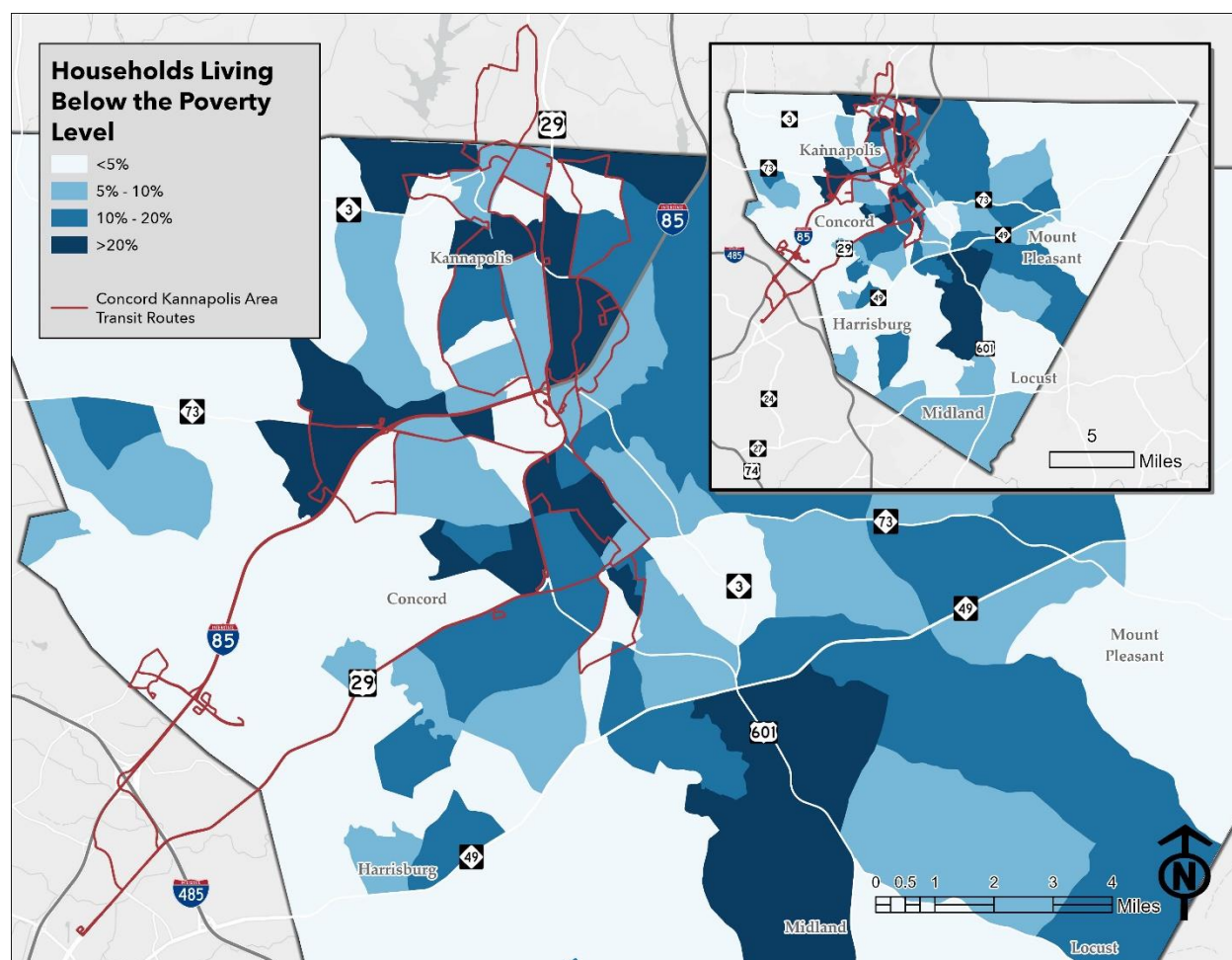
**FIGURE 2-5: MEDIAN HOUSEHOLD INCOME BY JURISDICTION (ACS 5-YEAR ESTIMATES, 2022)**



Associated with income, the poverty level is defined by the U.S. Census Bureau as a household’s pre-tax income threshold, determined by the current cost of living, the number of residents in a household, and the age of its residents. A household is considered to be “in poverty” or “living below the poverty level” if its annual household income is less than its Census-defined income threshold. Depending on the number and age of a household’s residents, the 2022 poverty income thresholds range from \$14,036 to \$64,815.

Figure 2-6 depicts the rates of households living below the poverty level by block group. Poverty occurs at higher rates in the central portion of the county, especially along the US-601 and US-29 corridors in Concord and Kannapolis.

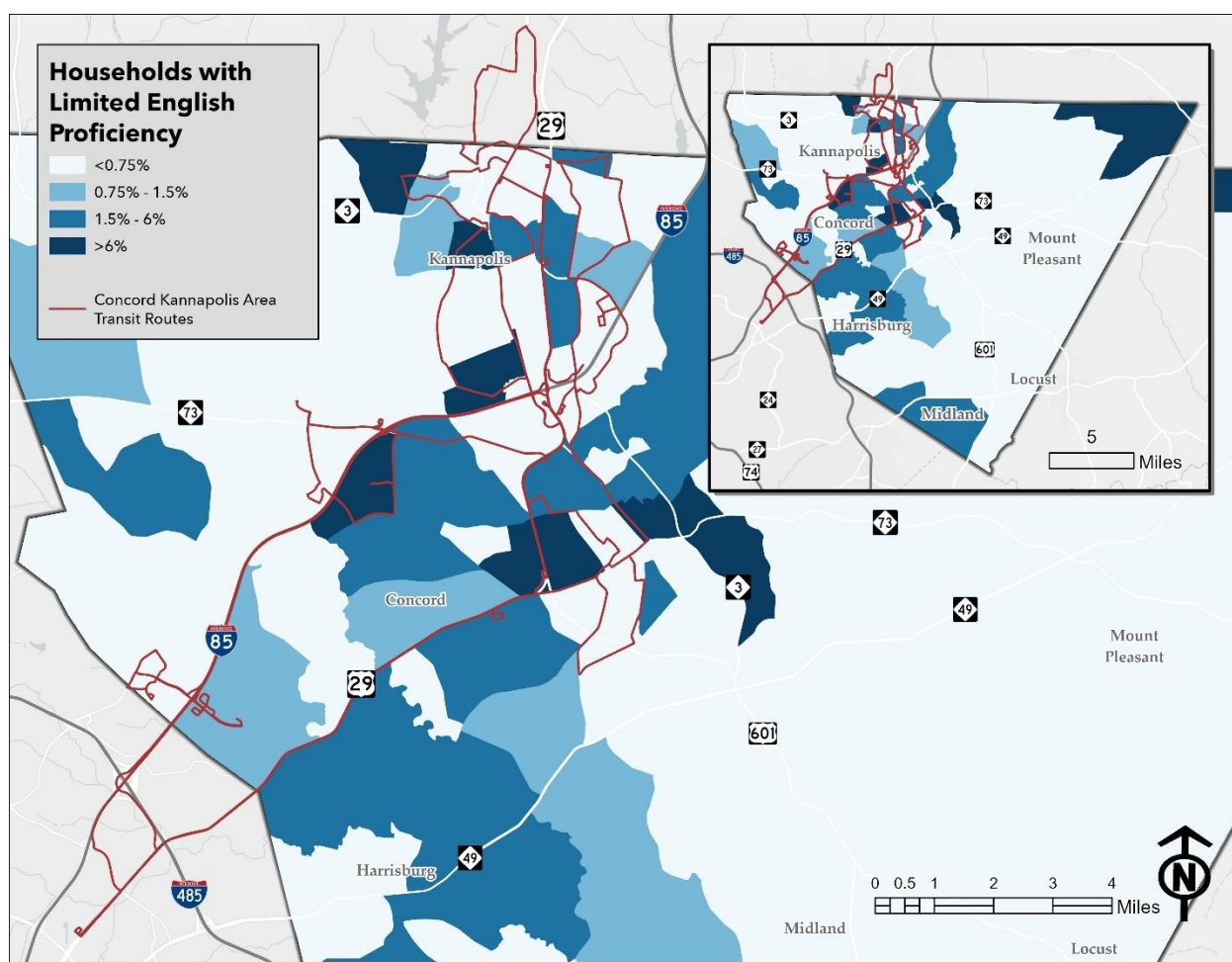
**FIGURE 2-6: CABARRUS COUNTY HOUSEHOLDS BELOW POVERTY (ACS 5-YEAR ESTIMATES, 2022)**



### 2.2.3 Languages

According to the U.S. Census Bureau, LEP individuals are persons aged 5 or older who self-identify as speaking English less than "very well." Figure 2-7 portrays foreign-language-speaking households that are both proficient and not proficient in speaking English, by block group. The LEP household population comprises just a sliver of the county's total population, as most block groups are characterized by 100 percent English proficiency. Certain block groups in Concord, Kannapolis, Harrisburg, and Gold Hill have an elevated percentage of LEP households.

**FIGURE 2-7: CABARRUS COUNTY HOUSEHOLDS WITH LIMITED ENGLISH PROFICIENCY (ACS 5-YEAR ESTIMATES, 2022)**



### 2.2.4 Minority Population

Figure 2-8 displays the proportion of each race and ethnicity in Cabarrus County. Companion map Figure 2-9 depicts the spatial distribution of minority (non-White) and ethnicity (Hispanic/Latino) by block group in Cabarrus County. Overall, minority groups are more prevalent in the block groups adjacent to Mecklenburg County as well as several areas within the cities of Concord and Kannapolis.

**FIGURE 2-8: CABARRUS COUNTY BY RACE AND ETHNICITY (ACS 5-YEAR ESTIMATES, 2022)**

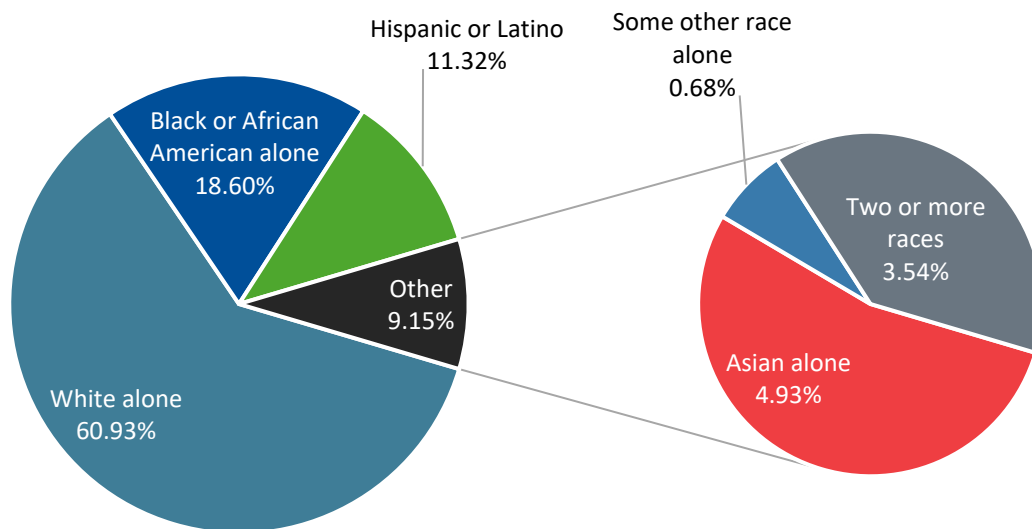
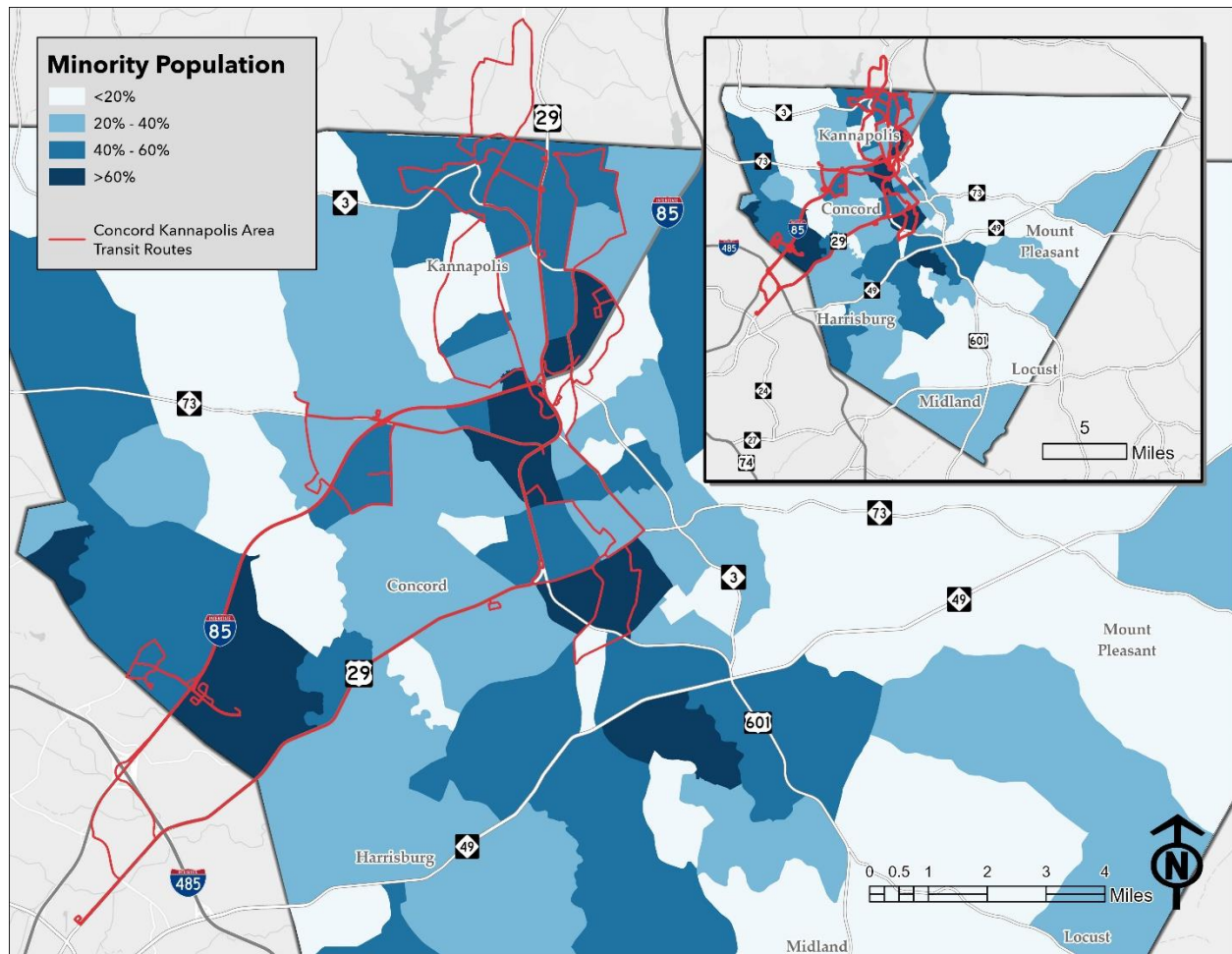


FIGURE 2-9: MINORITY POPULATION IN CABARRUS COUNTY (ACS 5-YEAR ESTIMATES, 2022)



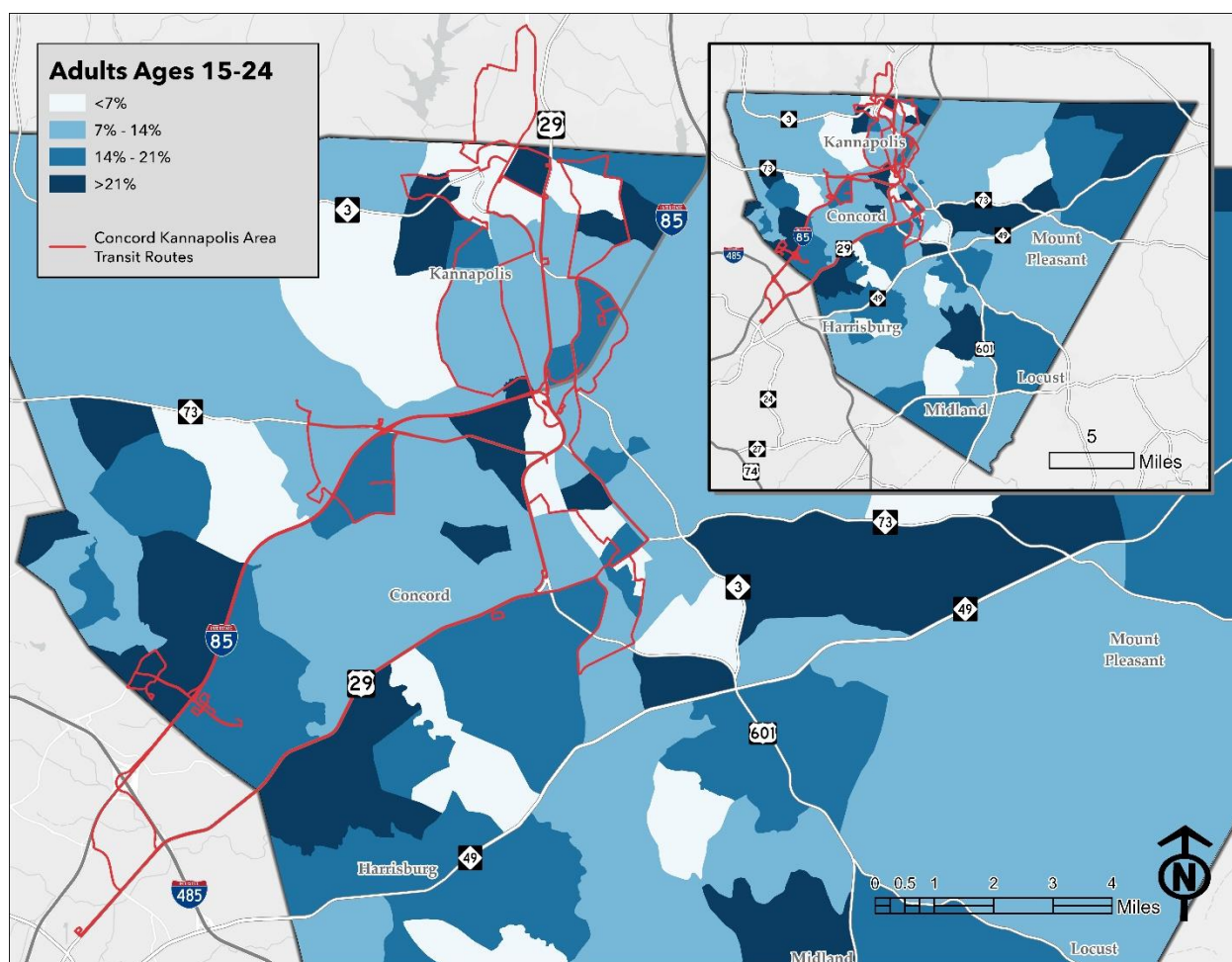
### 2.2.5 Age

Cabarrus County’s age distribution is relatively uniformly distributed across all age brackets. However, diving into the data at a finer level and comparing different areas within Cabarrus County reveals varying proportions of the age cohorts that are most likely to ride transit: younger adults (Ages 15-24) and older adults (ages 65 and older).

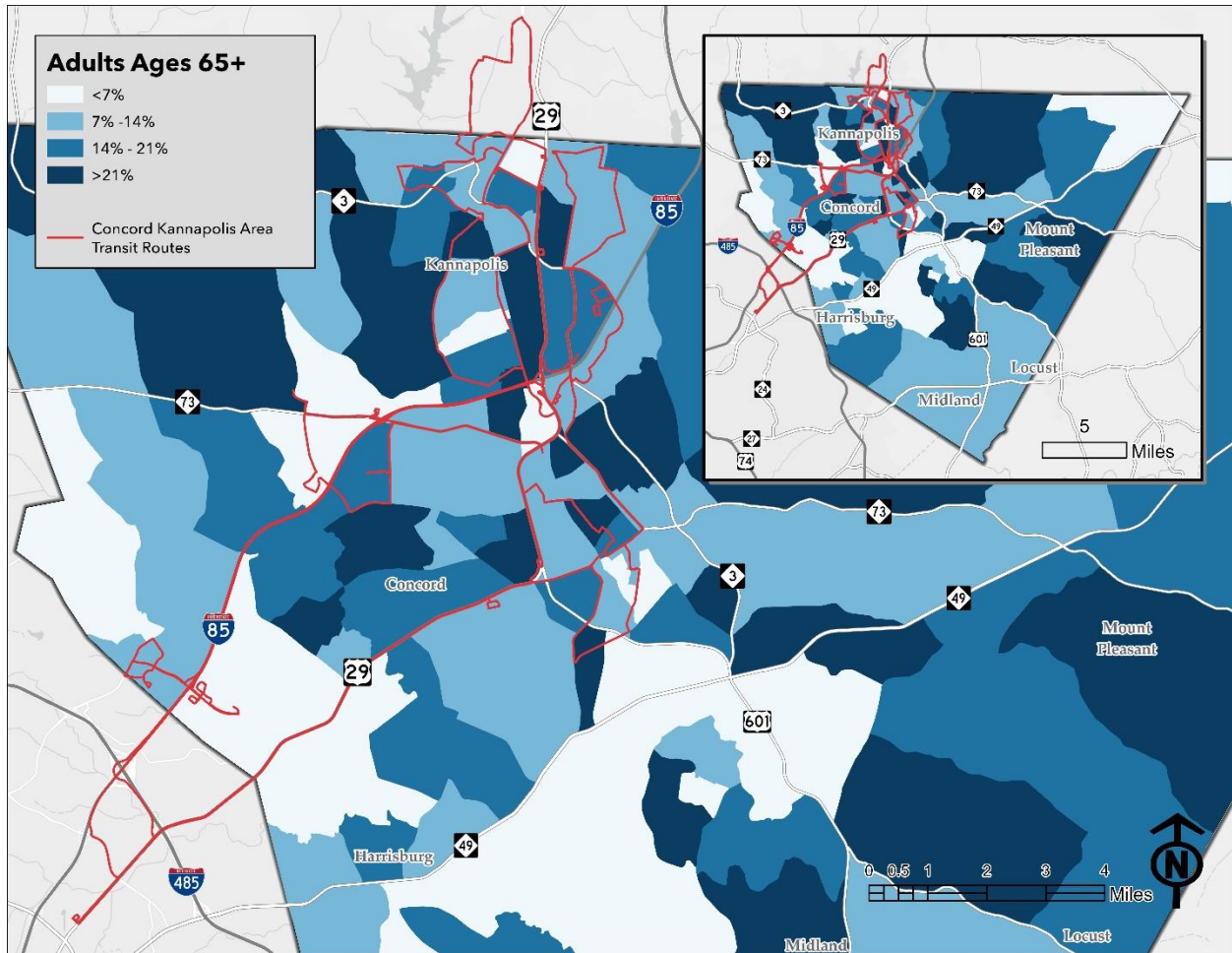
Figure 2-10 and Figure 2-11 illustrate the proportion of the population of each of the younger adult and older adult age cohorts relative to the entire block group population. Across Cabarrus County, there is no general pattern of the distribution of the populations within these age cohorts.

Figure 2-12, a population pyramid, portrays the age distribution of Cabarrus County residents, divided into age brackets. The pyramid depicts a relatively uniform age distribution in the county, although the youth population slightly outsizes the other age cohorts.

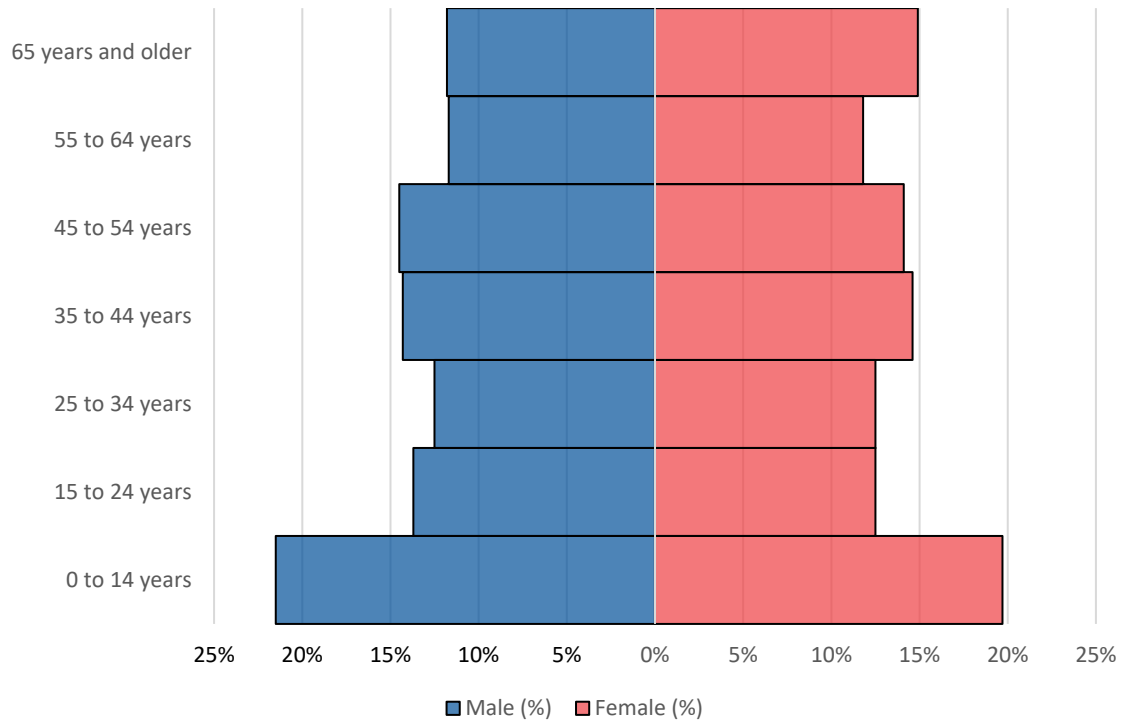
**FIGURE 2-10: YOUNGER ADULT POPULATION IN CABARRUS COUNTY (ACS 5-YEAR ESTIMATES, 2022)**



**FIGURE 2-11: OLDER ADULT POPULATION IN CABARRUS COUNTY (ACS 5-YEAR ESTIMATES, 2022)**



**FIGURE 2-12: CABARRUS COUNTY AGE DISTRIBUTION (ACS 5-YEAR ESTIMATES, 2022)**



### 2.2.6 Vehicle Ownership

Over 96 percent of households in Cabarrus County have access to at least one vehicle, a rate slightly higher than the national average of 92 percent. Two or more vehicles are accessible to over two thirds of Cabarrus County households. Figure 2-13 and Figure 2-14 depict the percentage of households without access to a personal vehicle. Although the vast majority of Cabarrus County households have access to a personal vehicle, the highest prevalence of zero-vehicle households occurs in the cities of Concord and Kannapolis.

**FIGURE 2-13: NUMBER OF VEHICLES AVAILABLE BY HOUSEHOLD IN CABARRUS COUNTY (ACS 5-YEAR ESTIMATES, 2022)**

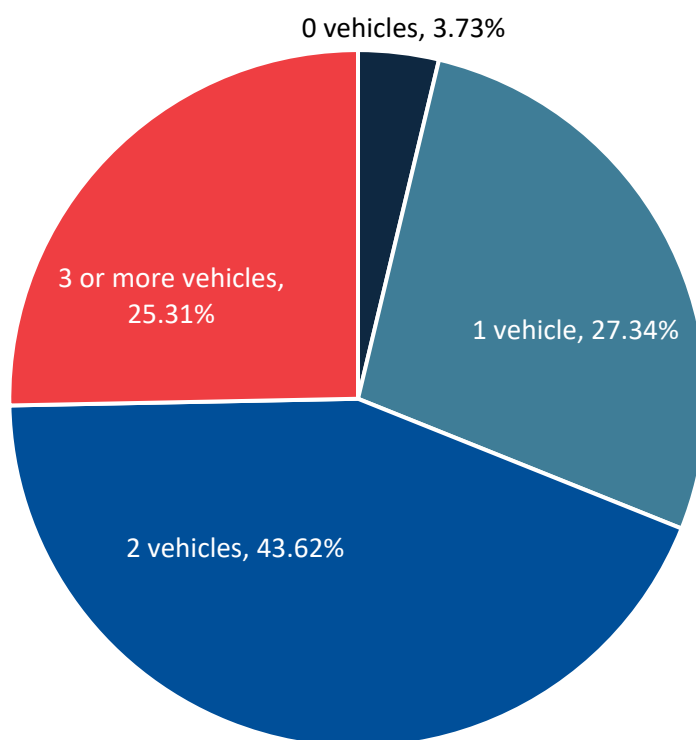
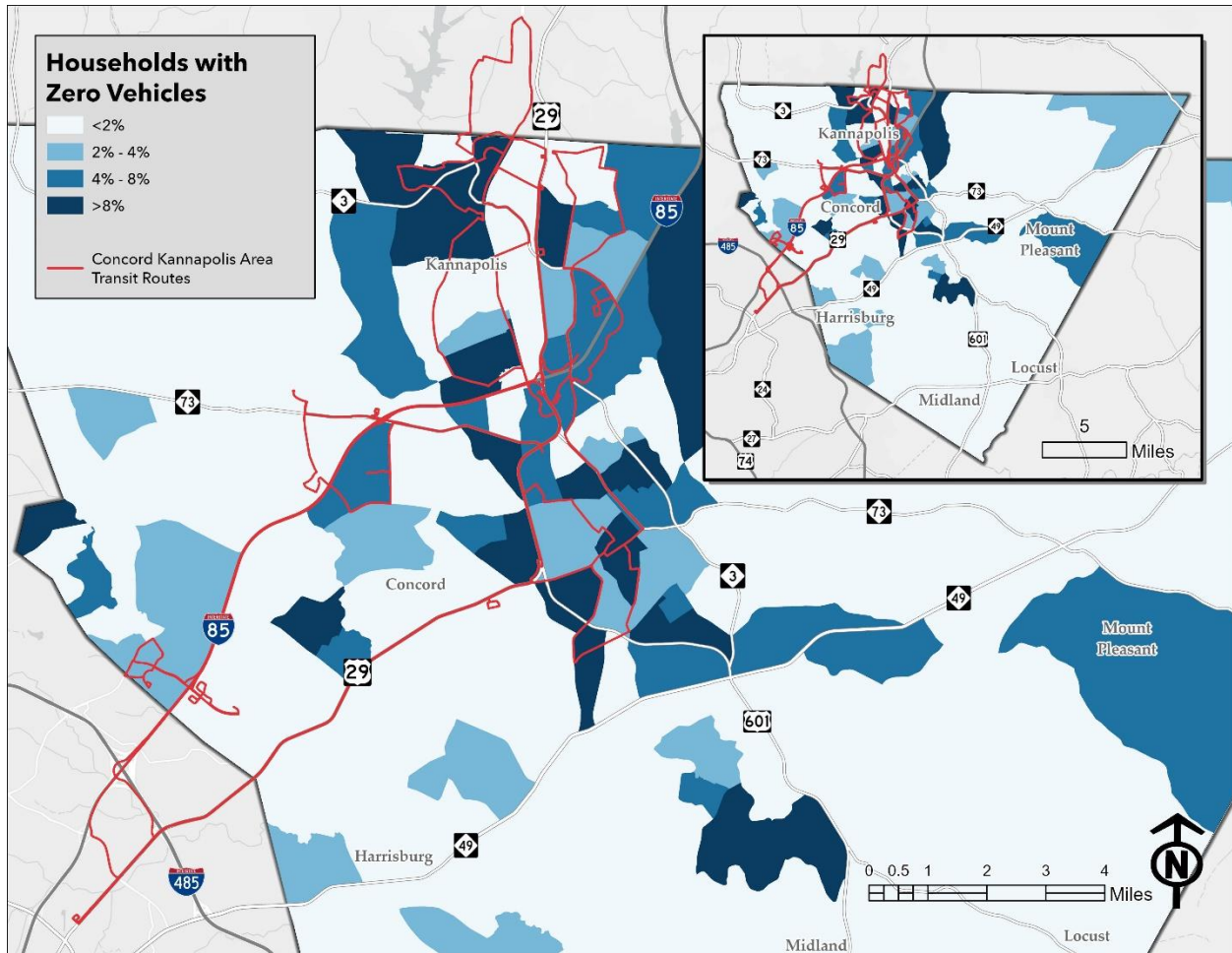


FIGURE 2-14: ZERO-VEHICLE HOUSEHOLDS IN CABARRUS COUNTY (ACS 5-YEAR ESTIMATES, 2022)



### 2.2.7 Population with Disabilities

Figure 2-15 exhibits the percentage of individuals with disabilities by municipality and Figure 2-16 portrays this data by block group. Throughout the county, nearly one in three households have a member with a disability. The map does not indicate a clear pattern, so this may suggest any spatial correlation of household disability status might be exhibited at a finer level, such as within a single neighborhood, since a single block group in Cabarrus County can have anywhere between zero percent and 67 percent of households which house an individual with a disability.

**FIGURE 2-15: PERCENT OF INDIVIDUALS WITH DISABILITIES (ACS 5-YEAR ESTIMATES, 2022)**

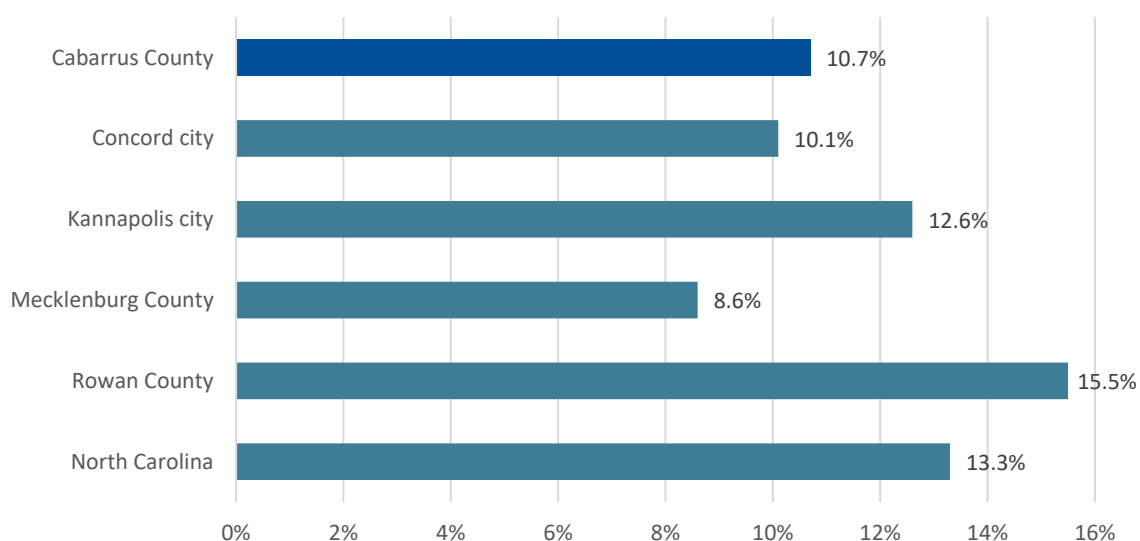
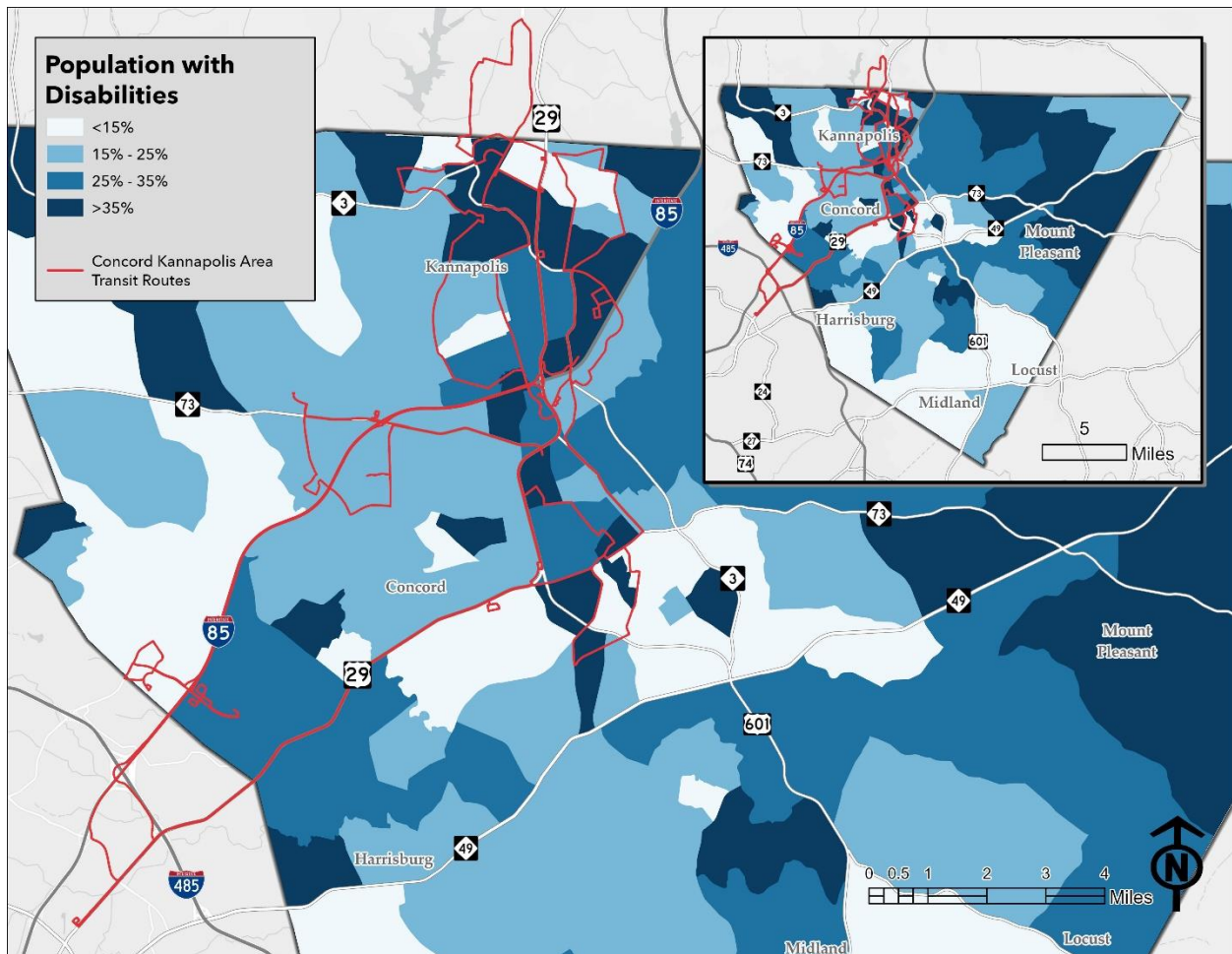


FIGURE 2-16: HOUSEHOLDS WITH INDIVIDUALS WITH DISABILITIES (ACS 5-YEAR ESTIMATES, 2022)

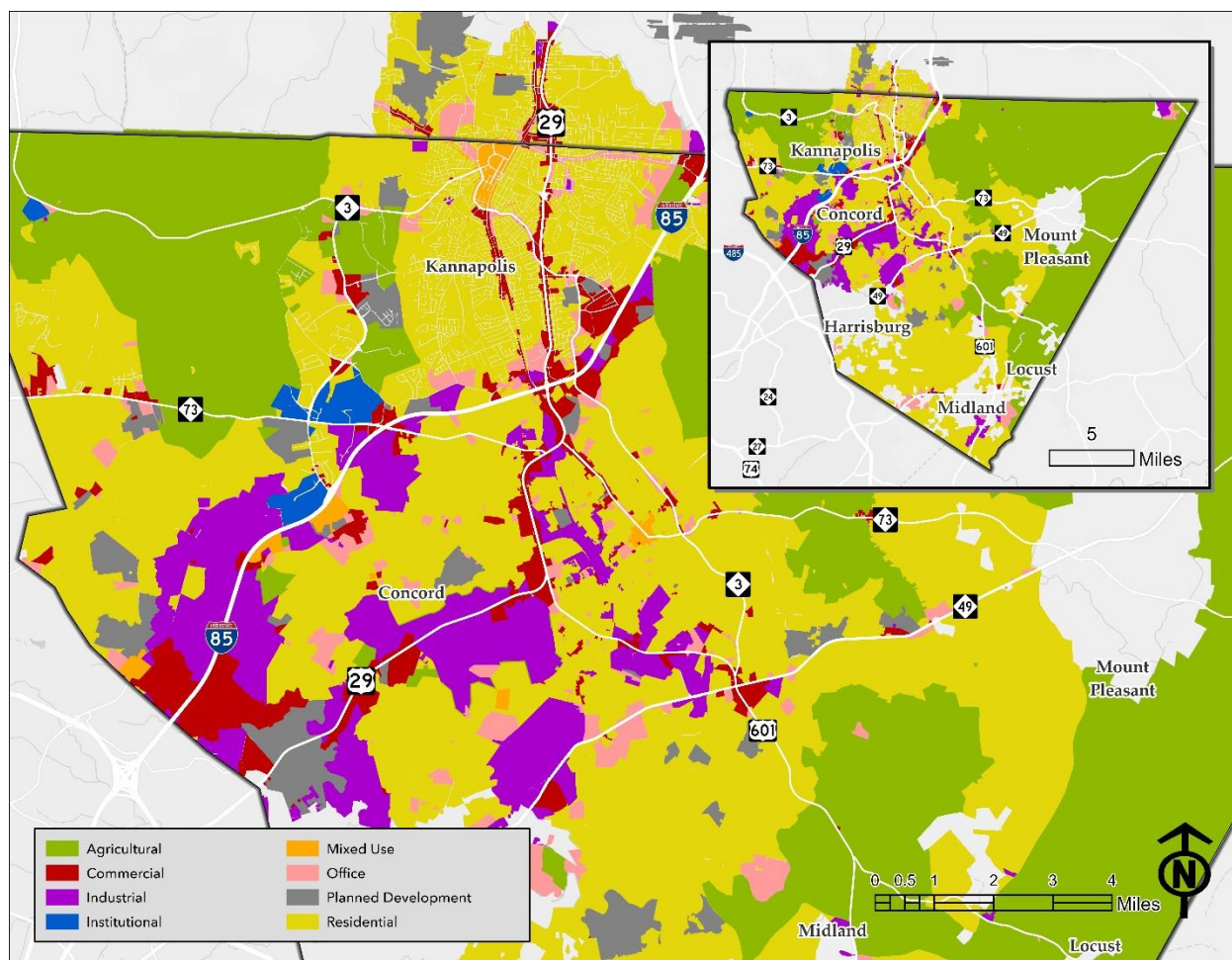


## 2.2.8 Land Use

To better assess the impact of local land use conditions and policies on public transportation needs, it is important to identify the areas that may benefit the most from the provision of public transportation services. Concord and Kannapolis, the principal cities for Rider Transit, make up the area in Cabarrus County best suited for transit. Currently, the Interstate 85, U.S. 29, U.S. 601, and State Road 3 corridors sit in the heart of the county's activity.

General zoning within Concord, Kannapolis, and unincorporated Cabarrus County is illustrated in Figure 2-17. The county's most traveled corridors, Interstate 85 and U.S. 29, are lined with the bulk of the county's commercial and industrial land. The eastern third of the county is agricultural, as is much of the northwest portion. Most of the rest of Cabarrus County is residential, barring some land that is planned development and Downtown Kannapolis' mixed-use development.

**FIGURE 2-17: ZONING IN CONCORD, KANNAPOLIS, AND UNINCORPORATED CABARRUS COUNTY**



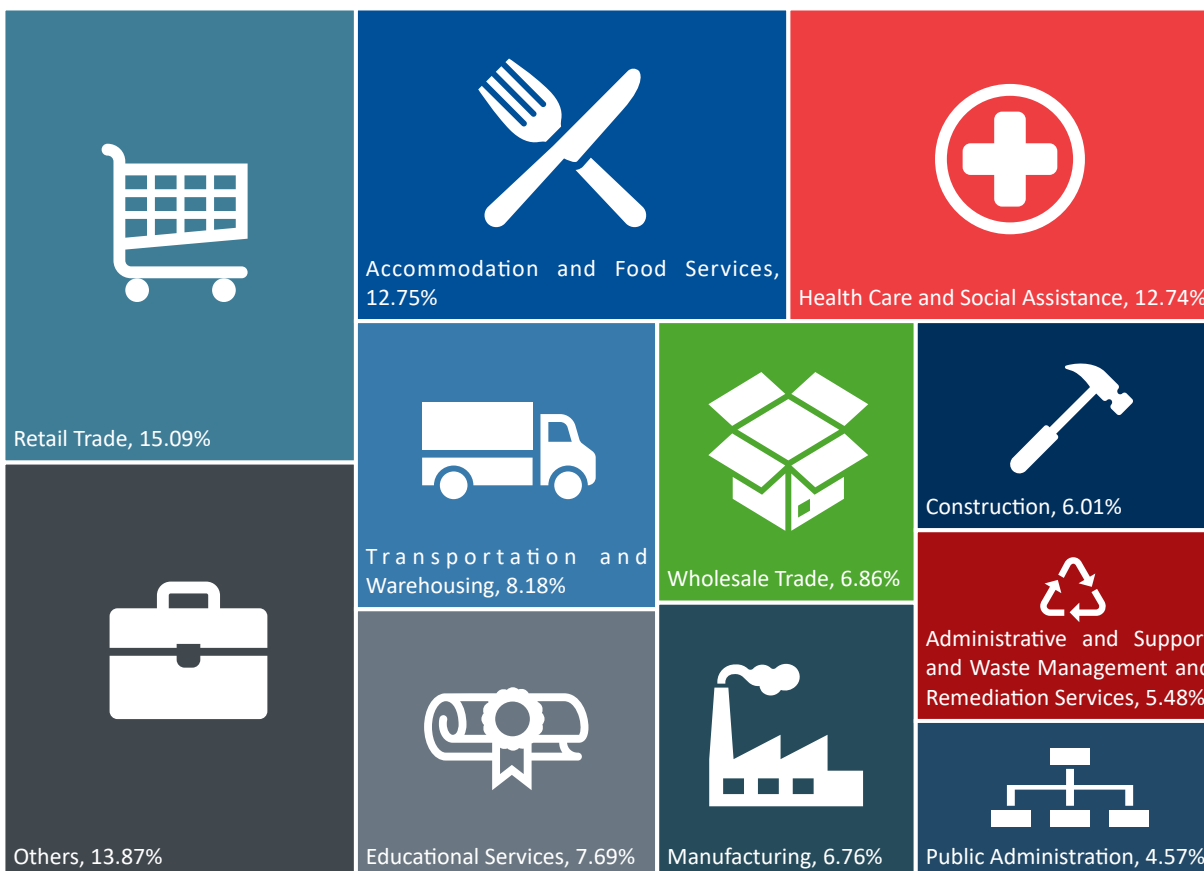
## 2.2.9 Employment

Employment density and major industries are other important factors to consider when analyzing a transit market, as commuting is a major generator of trips. Areas of high employment density often include activity centers that cluster multiple employers like retail centers, medical offices, and/or educational centers that attract transit trips.

According to Cabarrus County’s 2023 Comprehensive Financial Report, the county’s total labor force amounted to 116,075 employees, equivalent to about half of the county’s population. Figure 2-18 illustrates, and Table 2-5 lists the occupational groups with the highest levels of employment in Cabarrus County, including Retail Trade, Accommodation and Food Services, and Health Care. Table 2-6 includes a list of the top 10 institutions that employ 15 percent of Cabarrus County’s workforce. Atrium Health is the largest employer in Cabarrus County, employing over 5,000 workers.

Figure 2-19 illustrates employment densities in the greater Cabarrus County area. Similar to population density, the highest densities of workers are located in the heavily populated areas of Concord, Kannapolis, and Charlotte. The rest of the western half of Cabarrus County exhibits a more moderate employment density while the eastern half of the county exhibits a low employment density.

**FIGURE 2-18: TOP 10 INDUSTRIES IN CABARRUS COUNTY (NC DEPT. OF COMMERCE, 2022)**





**TABLE 2-5: TOP 10 INDUSTRIES IN CABARRUS COUNTY (NC DEPT. OF COMMERCE, 2022)**

Industry	Average Employment	Number of Establishments	Rank
Retail Trade	12,234	741	1
Accommodation and Food Services	10,339	465	2
Health Care and Social Assistance	10,325	507	3
Transportation and Warehousing	6,628	240	4
Educational Services	6,237	148	5
Wholesale Trade	5,564	343	6
Manufacturing	5,479	193	7
Construction	4,871	750	8
Administrative and Support and Waste Management and Remediation Services	4,440	445	9
Public Administration	3,701	23	10

**TABLE 2-6: TOP 10 EMPLOYERS IN CABARRUS COUNTY (CABARRUS COUNTY, 2023)**

Company Name	Industry	Employees	Percent of Total Employment	Rank
Atrium Health	Health Care and Social Assistance	5,140	4.43%	1
Cabarrus County Schools	Educational Services	4,410	3.80%	2
Cabarrus County	Public Administration	1,345	1.16%	3
Wal-Mart Associates Inc.	Retail Trade	1,225	1.06%	4
Amazon.com Services Inc	Transportation and Warehousing	1,175	1.01%	5
City Of Concord	Public Administration	1,123	0.97%	6
FedEx Ground Package System Inc	Transportation and Warehousing	1,050	0.90%	7
Corning Incorporated	Manufacturing	956	0.82%	8
Shoe Show Inc	Management of Companies and Enterprises	811	0.70%	9
Kannapolis City Schools	Educational Services	745	0.64%	10

FIGURE 2-19: JOB DENSITY IN AND AROUND CABARRUS COUNTY (U.S. CENSUS, 2021)

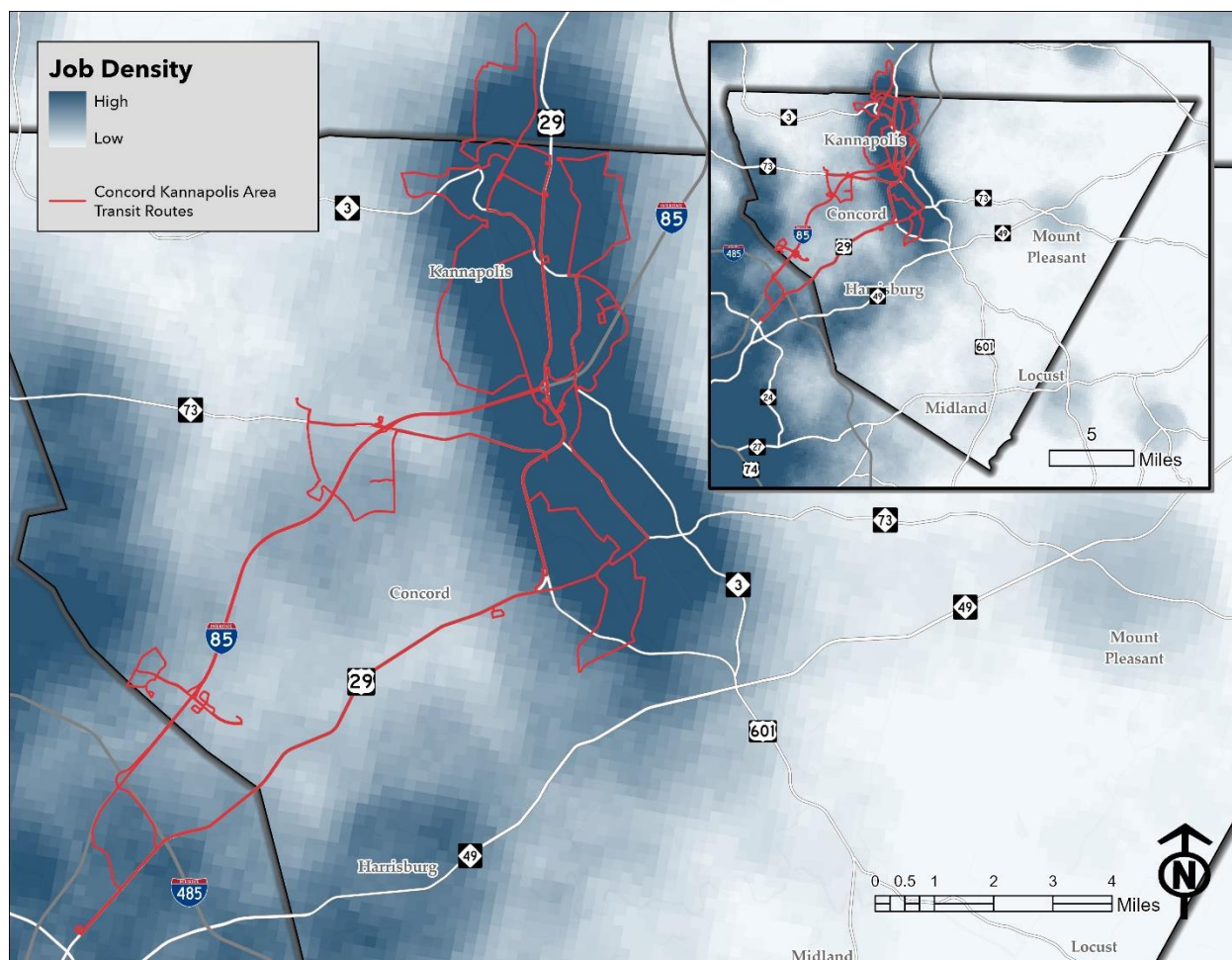
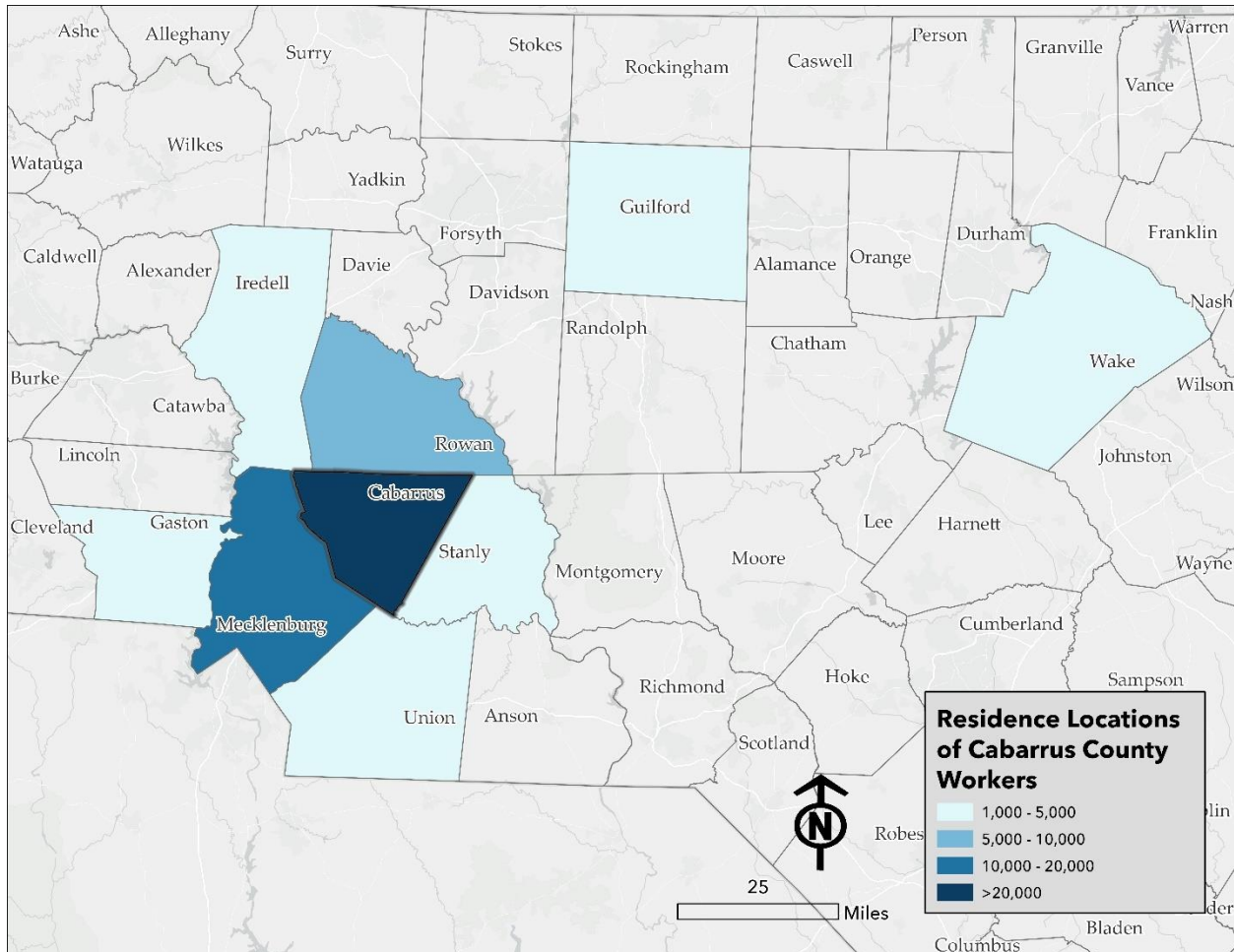


Figure 2-20 depicts Cabarrus County commuter inflow (where Cabarrus County workers reside), while Figure 2-21 depicts Cabarrus County commuter outflow (where Cabarrus County residents work). These maps highlight a strong commuting relationship between Cabarrus and Mecklenburg counties, as well as less strong commuting relationships between Cabarrus and its adjacent counties. Table 2-7 lists this data quantitatively and calculates the net commuter flow between Cabarrus and each other county. Overall, Cabarrus County exports more commuters than it imports by a margin of 58 percent, due in large part to the high number of jobs available in Mecklenburg County. Cabarrus County imports more workers from all other adjacent counties than it exports.

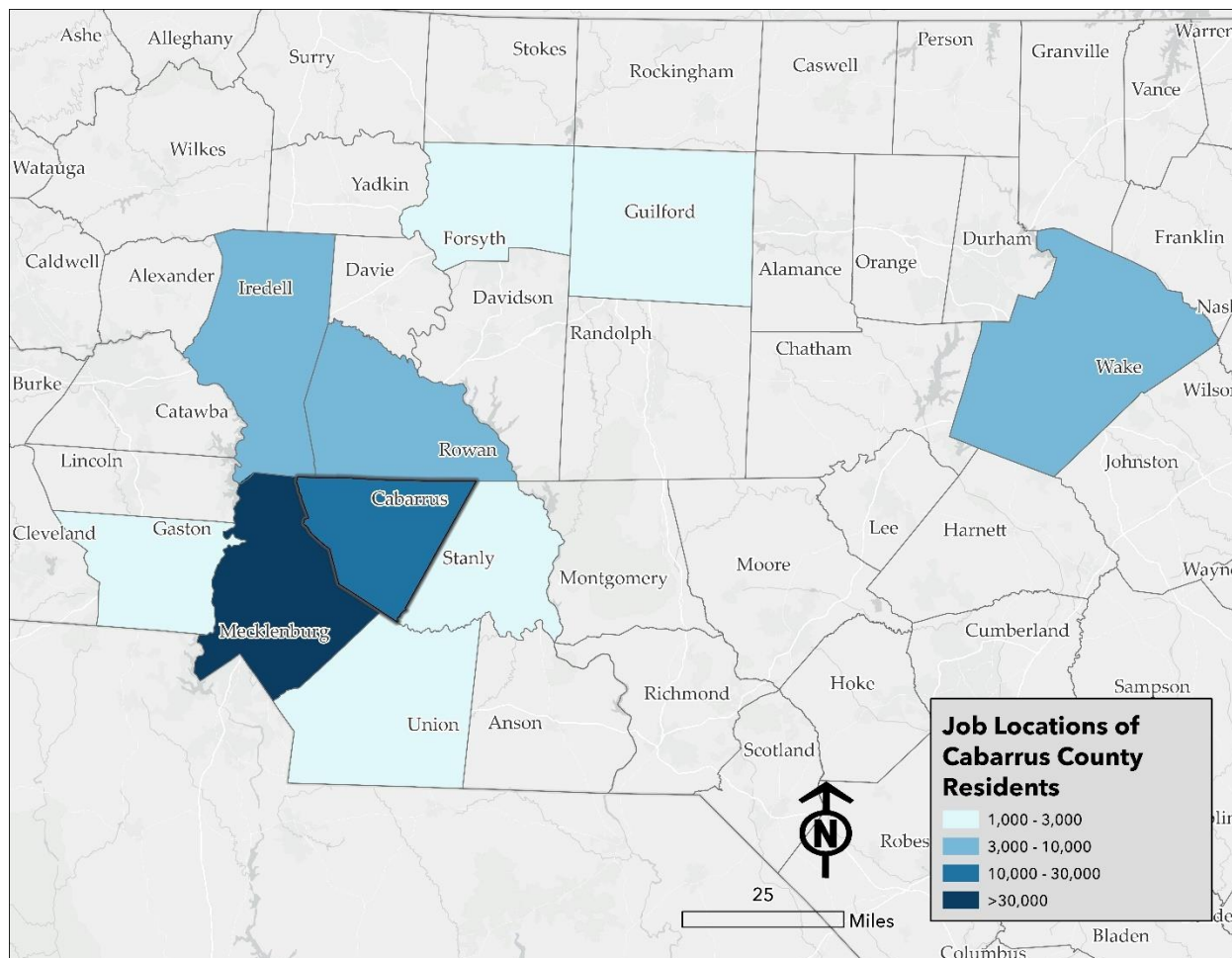
**TABLE 2-7: CABARRUS COUNTY COMMUTER INFLOW AND OUTFLOW (U.S. CENSUS, 2021)**

Location	Cabarrus Commuter Inflow	Cabarrus Commuter Outflow	Net Workers Commuting to Cabarrus County
Cabarrus County	26,513	26,513	Not applicable
Mecklenburg County	18,545	44,888	-26,343
Rowan County	7,336	4,576	2,760
Iredell County	3,221	3,086	135
Union County	2,861	2,392	469
Stanly County	2,676	1,462	1,214
Gaston County	2,285	1,131	1,154
Wake County	1,444	3,068	-1,624
Guilford County	1,255	2,180	-925

**FIGURE 2-20: CABARRUS COUNTY COMMUTER INFLOW (U.S. CENSUS, 2021)**



**FIGURE 2-21: CABARRUS COUNTY COMMUTER OUTFLOW (U.S. CENSUS, 2021)**



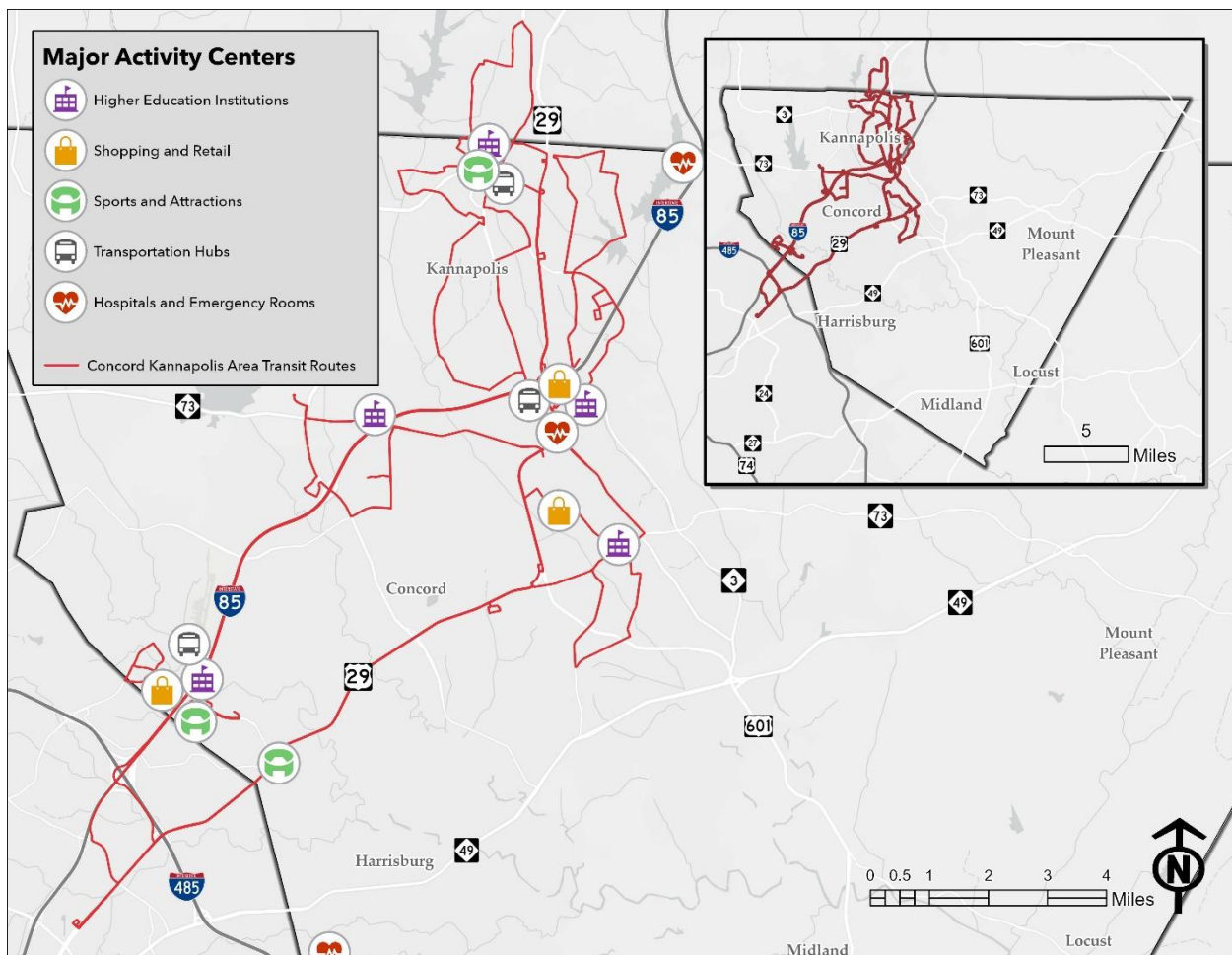
### 2.2.10 Major Activity Centers

Activity centers are critical for transit, as they effectively drive one end of most travel flows, including transit trips. An activity center analysis identifies these major trip generators throughout Cabarrus County to determine if transit is serving key locations for users. Activity centers reviewed include major employment locations and other locations identified as transit generators, such as higher education institutions, health and medical facilities, government services, major shopping destinations, and other attractions and points of interest. The identified major activity centers are depicted in Table 2-8 and Figure 2-22.

**TABLE 2-8: MAJOR ACTIVITY CENTERS IN CABARRUS COUNTY**

Higher Education Institutions	Shopping and Retail	Sports and Attractions	Transportation Hubs	Hospitals and Emergency Rooms
North Carolina Research Campus	Concord Mills	Charlotte Motor Speedway	Concord-Padgett Regional Airport	Atrium Health Cabarrus
Cabarrus College of Health Science	Carolina Mall	Atrium Health Ballpark	Kannapolis Amtrak Station	Atrium Health Harrisburg
Rowan-Cabarrus Community College South Campus	Gibson Mill	Great Wolf Lodge Water Park	Rider Transit Center	Atrium Health Kannapolis
Strayer University North Charlotte Campus				
Barber-Scotia College				

**FIGURE 2-22: MAJOR ACTIVITY CENTERS IN CABARRUS COUNTY**



### 3 PUBLIC ENGAGEMENT

As a part of this microtransit feasibility study, public engagement was completed to provide a framework for connecting with, providing information to, and gathering input from stakeholders for the duration of the feasibility study. This engagement is meant to ensure that the study builds consensus among various project stakeholders for project outcomes and reflects the needs and priorities of the communities it is intended to benefit. Stakeholders include government entities, private and non-profit groups, civic organizations, and other community members.

A Public Engagement Plan was approved by the Project Review Committee at the onset of this effort.

#### 3.1 Public Engagement Activities

Provided are summaries of the engagement activities undertaken and their respective outcomes. Public involvement activities were designed to encourage participation throughout the entire feasibility study process. The following activities to engage stakeholders were leveraged or undertaken:

- Project Review Committee
- Stakeholder Interviews
- Customer Satisfaction Survey Review

##### 3.1.1 Project Review Committee

A Project Review Committee (PRC) of key CCTS, Rider Transit and stakeholder representatives was established to provide technical input, review deliverables, and support decision-making at critical steps during the study. Members of the PRC are detailed in Table 3-1. It is important to note that not all members were able to join all meetings, and some members transitioned on or off the committee in the middle of the project.



TABLE 3-1: PROJECT REVIEW COMMITTEE MEMBERS

Name	Title	Organization
Michael Ambrose	Town Manager	Town of Landis
Bob Bushey	Transit Manager	Cabarrus County Transportation Services
Andy Christy	Deputy Transit Director	Concord Kannapolis Area Transit
Tisha Christy	Driver Supervisor	Cabarrus County Transportation Services
Phil Conrad	Director	Cabarrus-Rowan Metropolitan Planning Organization
Alexius Farris	Mountain Regional Planner	North Carolina Department of Transportation
Franklin Gover	Town Manager	Town of China Grove
Jennifer Hibbert	Federal Grants Advisor	North Carolina Department of Transportation
Bryan Lopez	Regional Planning Manager	North Carolina Department of Transportation
Wilmer Melton	Assistant City Manager	City of Kannapolis
Charles Ratliff	Interim Transit Manager	Cabarrus County Transportation Services
Jamie Smith	Driver Supervisor	Cabarrus County Transportation Services
Jaime Tippet Poe	ADA Coordinator	Concord Kannapolis Area Transit
LJ Weslowski	Transit Director	Concord Kannapolis Area Transit

Four (4) PRC meetings accomplished the following:

- PRC Meeting #1 (March 12, 2024) | Kicked off the study and established the PRC’s role; reviewed the project scope, deliverables, schedule, and data needs; discussed the public engagement strategy; and examined preliminary project goals and objectives. This initial meeting also served as an educational session on microtransit services and the decision points necessary during this study.
- PRC Meeting #2 (May 21, 2024) | Reviewed and confirmed project goals, reviewed stakeholder input and data analysis, examined microtransit service opportunities, reviewed and approved the evaluation process.
- PRC Meeting #3 (August 6, 2024) | Reviewed preliminary microtransit zones and operating concepts. This meeting explored in detail the concept of operations recommendations for developing and deploying microtransit services.

- PRC Meeting #4 (September 10, 2024) | Reviewed study recommendations and introduced the proposed implementation plan.

### 3.1.2 Stakeholder Interviews

The PRC identified a set of stakeholders to be interviewed to provide input into the study. The group of stakeholders varied in their areas of expertise including healthcare, education, social services, economic development, and local government. A list of interview participants is provided in Table 3-2. A list of questions and a microtransit fact sheet were provided to interviewees in advance of the interviews. Full summaries of the interviews are included in Appendix A as well as a list of interview questions.

**TABLE 3-2: STAKEHOLDER INTERVIEWS**

Organization	Name & Title	Date
Atrium Health	Jessica Castrodale, MSN, RN, Clinical Nurse Specialist, Community Health Strategy	April 30, 2024
Cabarrus Chamber of Commerce	Barbie Jones, Executive Director	April 30, 2024
Cabarrus County Commission	Steve Morris, Chairman	May 10, 2024
Cabarrus County Transportation Services (CCTS)	Charles Ratliff, Interim Transit Manager	May 10, 2024
Cabarrus Economic Development	Samantha Grass, Project Manager Stephanie Burleson, Business Support Manager	May 7, 2024
Cabarrus Health Alliance	Erin Shoe, MPH, Health Director & CEO	May 3, 2024
City of Concord, NC	Josh Smith, Assistant City Manager	May 3, 2024
City of Kannapolis, NC	Wilmer Melton, Assistant City Manager	May 6, 2024
Rider Transit	Andy Christy, Deputy Transit Director Jaime Tippet Poe, ADA Coordinator	May 1, 2024
Rider Transit	LJ Weslowski, Transit Director	May 16, 2024
Cooperative Christian Ministries (CCM)	Ed Hosack, CEO Amaha Sheferaw, Chief Program Officer	April 30, 2024
Rowan Cabarrus Community College	Jonathan “JJ” Rowe, Executive Director of Student Success and Title IX Coordinator	May 8, 2024

The following themes were identified through the stakeholder interviews:

- The transit agencies operating in Cabarrus County are doing the best that they can given their very limited resources, which include both funding and drivers. The agencies are great partners for the stakeholders, but they are not always able to meet the demand for transportation due to their limited resources.
- Transit in Cabarrus County is most closely associated with serving those who have no other transportation option. Public transportation is seen as vital for low-income communities, minority populations, and individuals without access to a private automobile. Funding transit is important for residents to access essential services and opportunities.
- There is a desire to broaden the use of transit beyond those who have no other option by providing a service that attracts those who have other options as well. Folks moving into

Cabarrus County may not be as interested in driving as those residents who are already living in the community.

- There are several geographies where individuals do not have access to transit service such as Mt. Pleasant, Midland, and Harrisburg. There are also individuals who do not live proximate to a CK Rider bus route, nor do they qualify for a CCTS funding program, so they are left unserved by current transit options.
- Even if an individual qualifies for CCTS service, they may be placed on a waiting list or may not be able to reserve a trip because CCTS is not available to provide the service. CCTS is required to provide all Medicaid trips so if they are booked with those types of trips, they cannot provide other trips. If CCTS does not have funding remaining in a particular program that a rider is eligible for, then they may not be able schedule a ride.
- There is concern and confusion about microtransit being a replacement for fixed route bus services. It is not clear under what circumstances microtransit will work best.
- Stakeholders identified transit is an essential service connecting residents to employment opportunities, healthcare facilities, and other essential services.
- A focus on the economic development potential of transit is of interest to the community.
- The current fixed route transit system faces challenges with consistency, inefficiency, long wait times, and limited coverage.
- There is a desire to improve connections between Cabarrus County municipalities as well as counties and municipalities beyond Cabarrus County. Light rail was suggested for greater connectivity with Charlotte although many folks did not believe this was a feasible option in the near term. Others suggested an improved bus service for connections to other locations. Regardless of the mode, regional cooperation and funding would be needed to make services available.
- Collaboration between government agencies and business entities is seen as imperative for funding and supporting transit initiatives, especially those entering the workforce.
- Rapid growth, both residential and industrial, creates challenges for transit agencies to adapt and expand services to meet evolving needs of employers and employees.

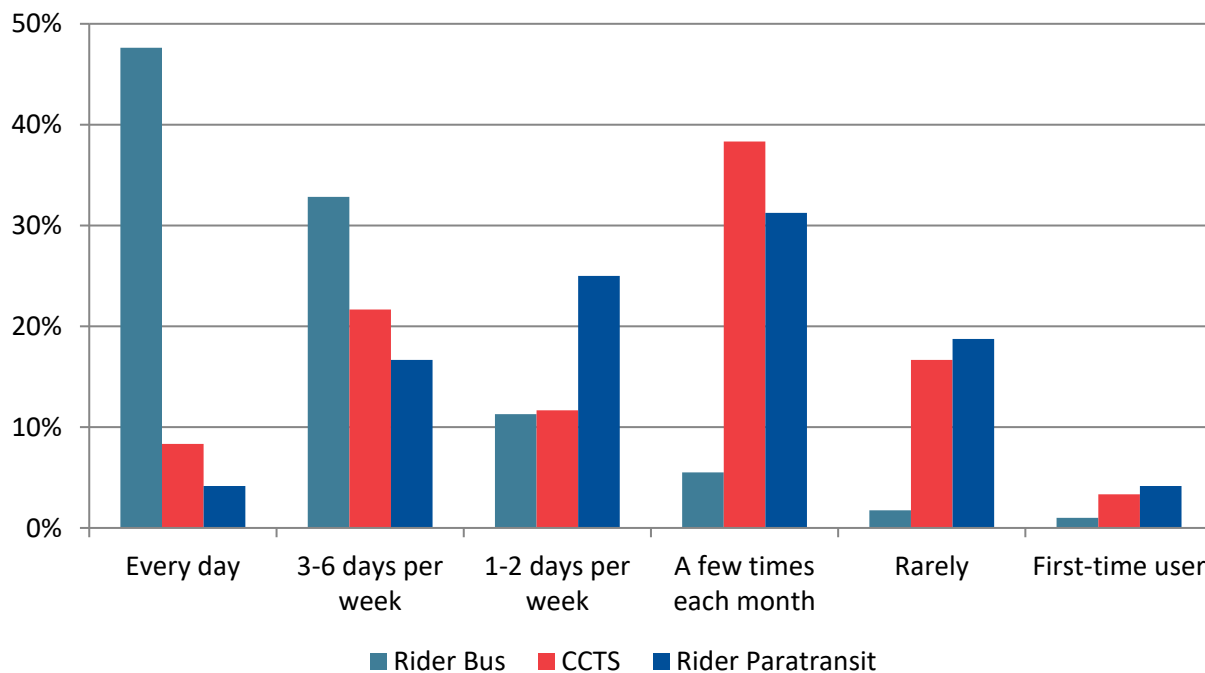
### 3.1.3 Customer Satisfaction Survey Review

Separate from this study, the Consultant conducted a customer satisfaction survey of CCTS and Rider Transit riders and secured 185 surveys from fixed-route users, 24 from ADA paratransit users, and 25 from demand response users. The survey asked questions on service delivery and infrastructure, as well as customer service, call center, and scheduling components. The effort was leveraged to collect important information on service preferences/priorities related to potential microtransit service. Although the survey effort was conducted as a separate project, this study includes coordination concerning the survey instrument and analysis/summary of the data. Survey results pertinent to this study are presented in the following six figures.

Figure 3-1 provides insight into frequency of transit usage by mode with more than 80% of fixed route riders using the service three or more days per week. Demand response riders are more likely to ride

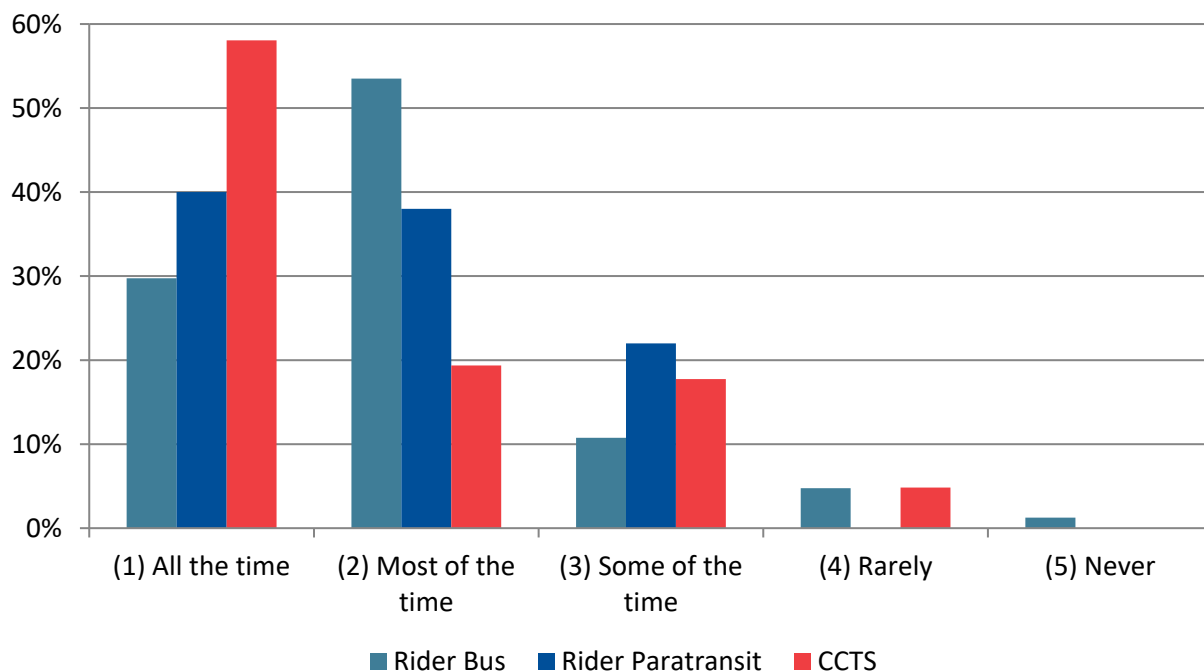
between three and six days per week while paratransit riders are more likely to use the service a few times per month.

**FIGURE 3-1: "HOW OFTEN DO YOU USE TRANSIT?"**



On-time performance is an influential factor in a person’s likelihood to use transit. Figure 3-2 provides insight into how riders perceive the on-time performance of the three services. Fixed route is perceived to be on time most of the time while demand response and paratransit riders feel that the service is on time more often.

FIGURE 3-2: "HOW OFTEN DOES YOUR VEHICLE ARRIVE ON TIME?"



The majority of riders find the service easy to use and schedule a ride with the current services as shown in Figure 3-3. If and when microtransit services are implemented in Cabarrus County, attention should be paid to this metric. It is important to ensure that microtransit services are also easy to use and schedule.

FIGURE 3-3: "HOW EASY IS IT TO USE THE BUS/SCHEDULE A RIDE?"

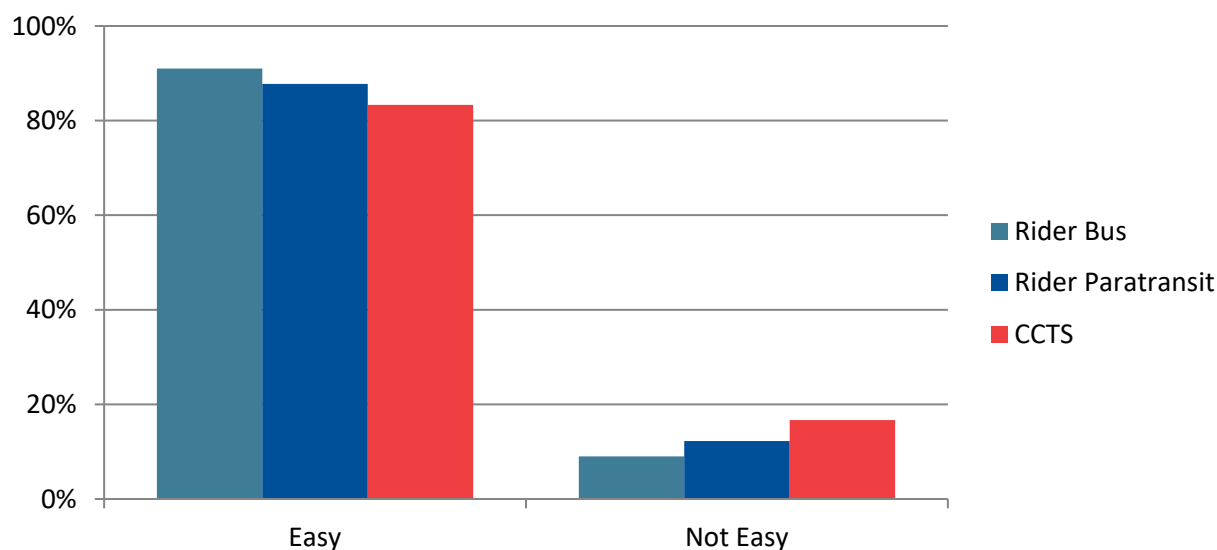
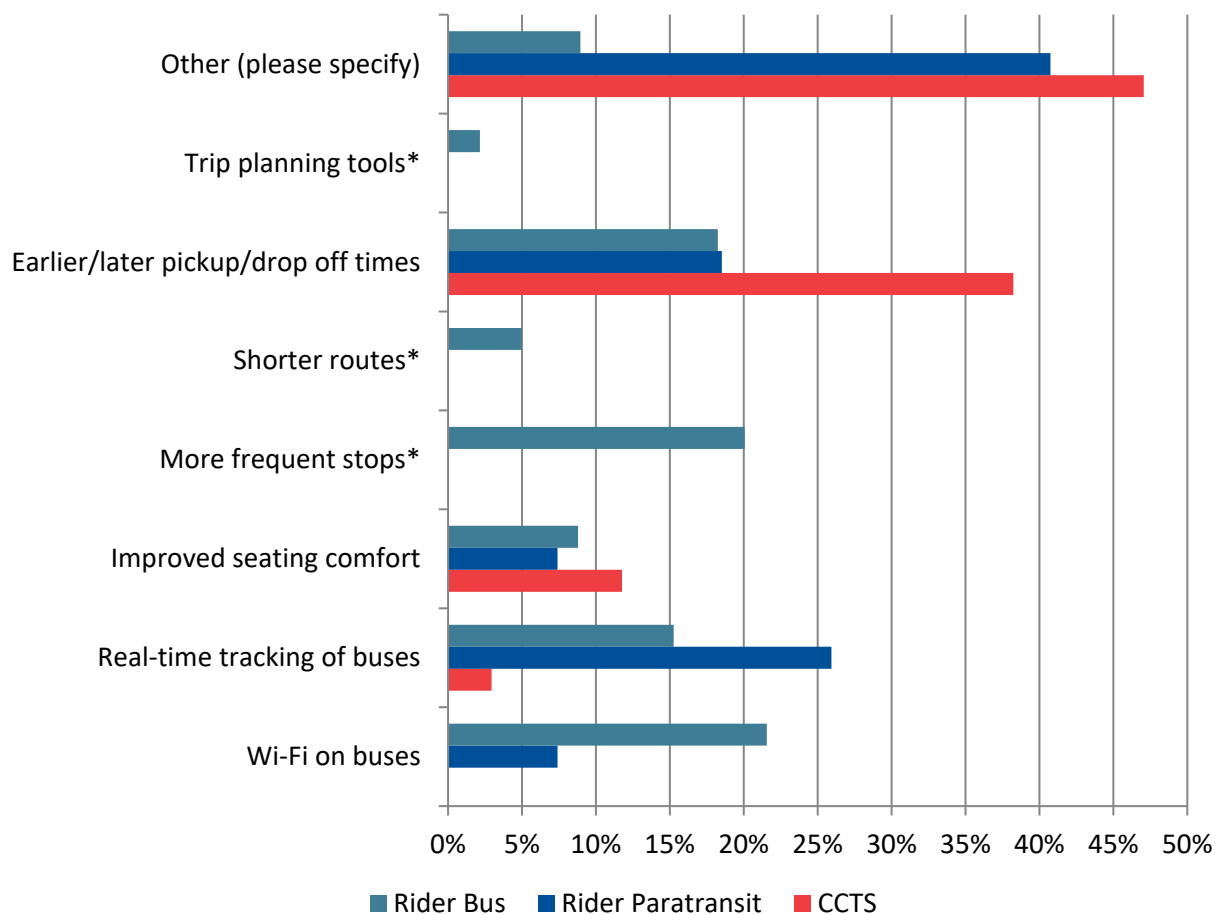


Figure 3-4 shows the types of improvements passengers are interested in. Fixed route riders are most interested in having more frequent stops, earlier/later service, and real-time tracking. Paratransit and demand response riders were more likely to choose “Other” and indicate a desire for improved on-time performance and longer trips.

**FIGURE 3-4: "IMPROVEMENTS OR ADDITIONAL SERVICES YOU'D LIKE TO SEE"**



As shown in Figure 3-5, users of all three modes find that transit is very critical to their ability to get around.

**FIGURE 3-5: "HOW CRITICAL IS TRANSIT TO YOUR ABILITY TO GET AROUND?"**

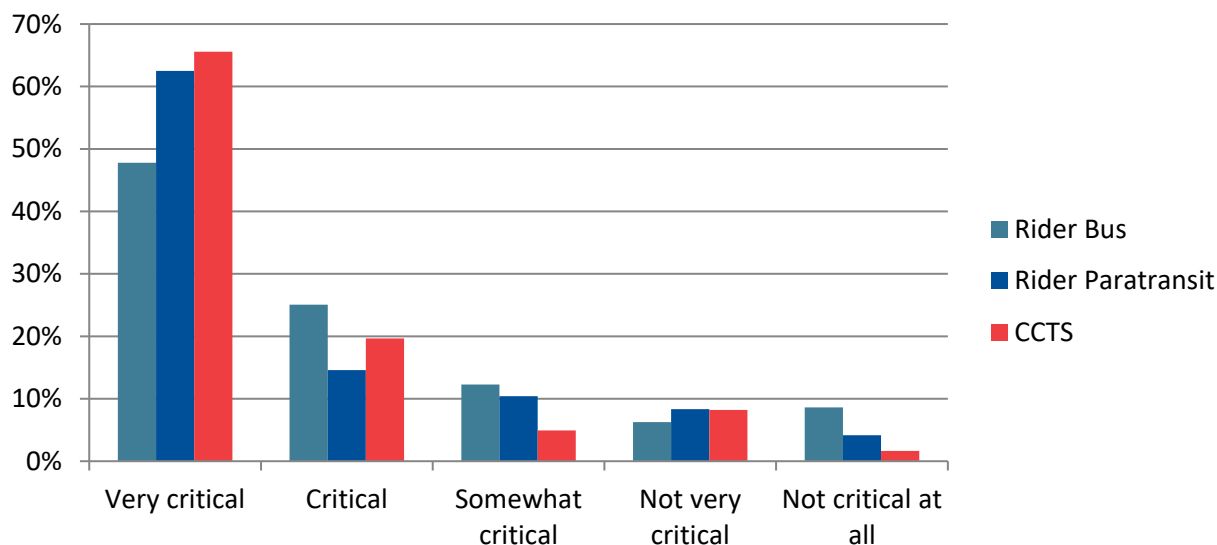
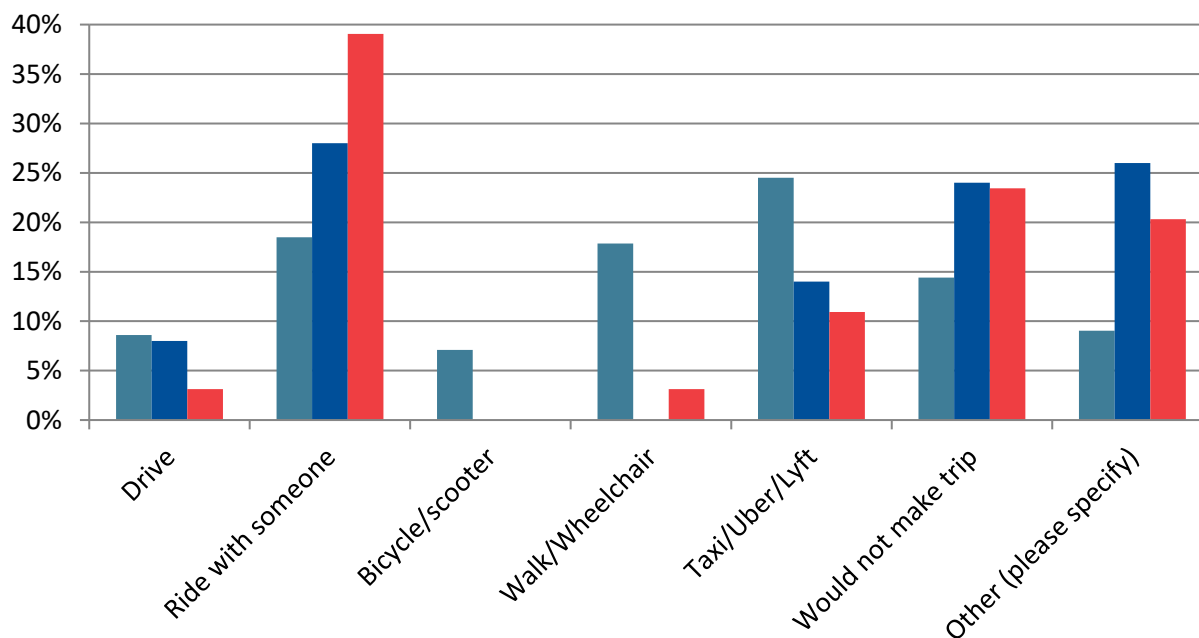


Figure 3-6 provides insight into how folks would accomplish their trips if the three transit modes currently available were not available.

**FIGURE 3-6: "HOW WOULD YOU MAKE THIS TRIP IF TRANSIT WAS NOT AVAILABLE?"**



These customer satisfaction survey results emphasize the community’s reliance on quality transit services. Transit users, especially bus riders, are frequent and long-time patrons who often do not have access to other reliable transportation options.

## 4 GOALS AND PERFORMANCE EVALUATION

This chapter defines the specific goals and performance measures that will be used to evaluate the microtransit alternatives developed through this study. The PRC established the goals and performance measures over the course of two meetings. The goals were informed by data analysis and input from the public engagement process.

### 4.1 Process

At the first PRC meeting, the group participated in a facilitated discussion related to project goals. The group discussed the importance of various goals for the microtransit service. At the second PRC meeting, the group confirmed their goal selection and determined that all goals were equal in importance. Also, at the second PRC meeting, the group reviewed the evaluation criteria and approved a series of performance measures.

### 4.2 Goals

The PRC approved the following goals:

- Connecting people to places and opportunity
- Expanding quality of life choices
- Making more effective use of resources
- Addressing growth and demographic shifts
- Complementing economic growth

### 4.3 Performance Measures

From the goals established in the previous section, specific performance measures are defined in this section to evaluate which microtransit alternatives are best suited for Cabarrus County. An example of a performance measure is the identification of areas for which access to transportation is a barrier. Therefore, the performance measure in this case would be a measure of how well new microtransit service will improve access to mobility in that area and, thus, access to opportunities accessible via connection to the broader fixed-route transit network. The performance measures for this study are described and listed below.

### Goal 1 | Connecting people to places and opportunity

This goal captures the aspiration for transit to provide access for as many people to significant destinations as feasible. This goal is measured by the following performance measures:



#### Number of People Served

- Total population in the given service area



#### Number of Large Activity Centers Served

- Major activity centers defined in Existing Conditions

### Goal 2 | Expanding quality of life choices

This goal focuses on expanding transportation choices and destinations for those who rely on public transportation. This goal is measured by the following performance measures:



#### Number of People Served Beyond 1/4-mile of Fixed Route

- Total population served beyond a 1/4-mile fixed route buffer



#### Number of People Served Who Are Older Adults, Youth, Low-Income, or Live in Zero-Vehicle Households

- Total population inclined to use transit

### Goal 3 | Making more effective use of resources

With this goal, the PRC is focusing attention on increasing the effectiveness and efficiency of transit services in Cabarrus County. The idea is to transport more people while reducing the cost per trip. This goal is measured by the following performance measures:



#### Average Cost per Rider

- Operating Expense per Passenger Trip



#### Percent of Opportunity Zones Served

- Opportunity Zones as a Percentage of Total Service Area



#### Aligns with Stakeholder Input

### Goal 4 | Addressing growth and demographic shifts

This goal acknowledges that the planning and provision of transit services should reflect changes in a community's demographics and development patterns. This goal is measured by the following performance measures:



#### Percent of Study Area Land Served

- Total percentage of Cabarrus County served by the alternative



#### Number of Permit Pulls

- Number of Active Development Permits in the Given Service Area

## Goal 5 | Supporting economic growth

This goal considers the implementation of quality and reliable transit service as an aid in economic development within Cabarrus County. The focus is on the extent to which an alternative supports commute trips and employers in attracting staff. This goal is measured by the following performance measures:



### Percent of Employees Served

- Percentage of employment density served



### Hours of Service per Week

- Span of service

## 5 NEEDS ASSESSMENT AND GAP ANALYSIS

The needs assessments and gap analyses focus on using several analytical approaches to identify transportation service gaps and defining areas for potential microtransit service that address mobility needs.

### 5.1 Needs Assessment

The needs assessment in this section identifies mobility needs using various datasets and analyses in order to produce the specific data and indicators needed for the performance evaluation of proposed microtransit service concepts.

#### 5.1.1 Demographic Considerations

A traditional transit market refers to population cohorts that historically have demonstrated a higher demand for public transit to fulfill their mobility needs. Traditional transit users typically include older adults, youth and young adults, and individuals who live in households that are low-income and/or have zero vehicles.

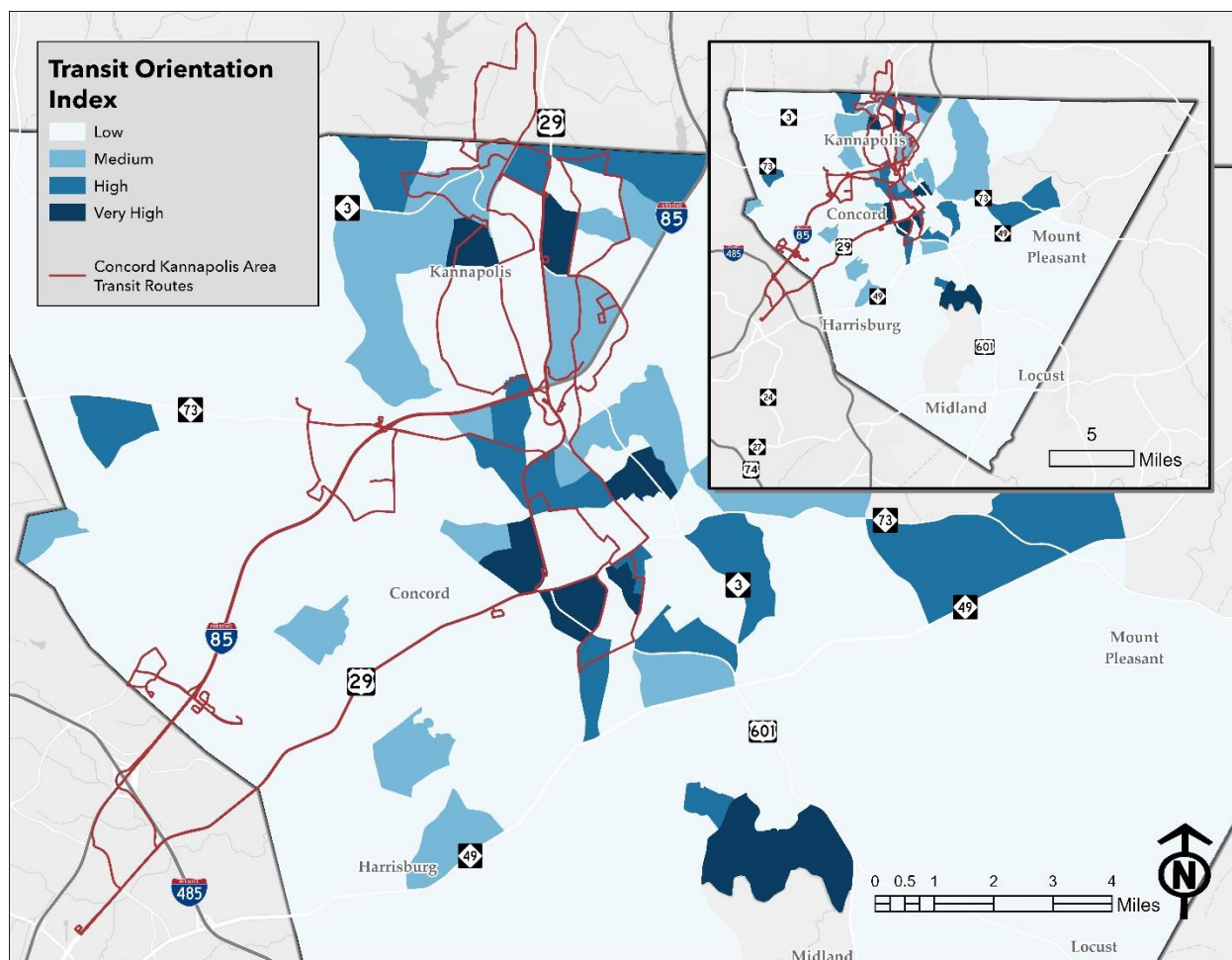
A Transit Orientation Index (TOI) assessment assists in identifying areas where a traditional transit market exists. To create the TOI for this analysis, demographic data from the 2022 American Community Survey (ACS) 5-Year Estimates were compiled at the census block group level and categorized according to each block group's relative ability to support transit based on the prevalence of these demographic characteristics. Four socioeconomic and demographic characteristics traditionally associated with the inclination to use transit were used to develop the TOI and include:

- Proportion of population ages 15-24 (young adults)
- Proportion of population age 65 and over (older adults)
- Proportion of population below poverty level (low income)
- Proportion of households with no vehicles (zero-vehicle households)

Considering the prevalence of these four factors influencing tendency to use transit, census block groups with population densities less than 100 people per square mile were excluded from this analysis, since the population densities of these areas are too low to potentially exhibit the indicators of a traditional transit market. The TOI categorizes transit propensity by block group as "low," "medium," "high," or "very high." Figure 5-1 presents the TOI map for Cabarrus County.

In Cabarrus County, areas very highly prone to benefit from transit services are mostly located in Concord and Kannapolis, as well as an additional block group near Midland. Block groups of medium to high transit propensity are also chiefly located in Concord and Kannapolis, although some are found near Harrisburg, Mount Pleasant, and the Mecklenburg County line.

FIGURE 5-1: TRANSIT ORIENTATION INDEX (ACS 5-YEAR ESTIMATES, 2022)



### 5.1.2 Employment and Activity Center Analysis

Analyzing employment and activity centers is also imperative to addressing a community’s mobility needs. This analysis was conducted as a part of the Local Conditions Report of this study.

The analysis scrutinized Cabarrus County’s labor statistics. It found that the occupational groups with the highest levels of employment in Cabarrus County include retail trade, accommodation and food services, and health care. The top 10 institutions employ 15 percent of Cabarrus County’s workforce. Atrium Health is the largest employer in Cabarrus County, employing over 5,000 workers.

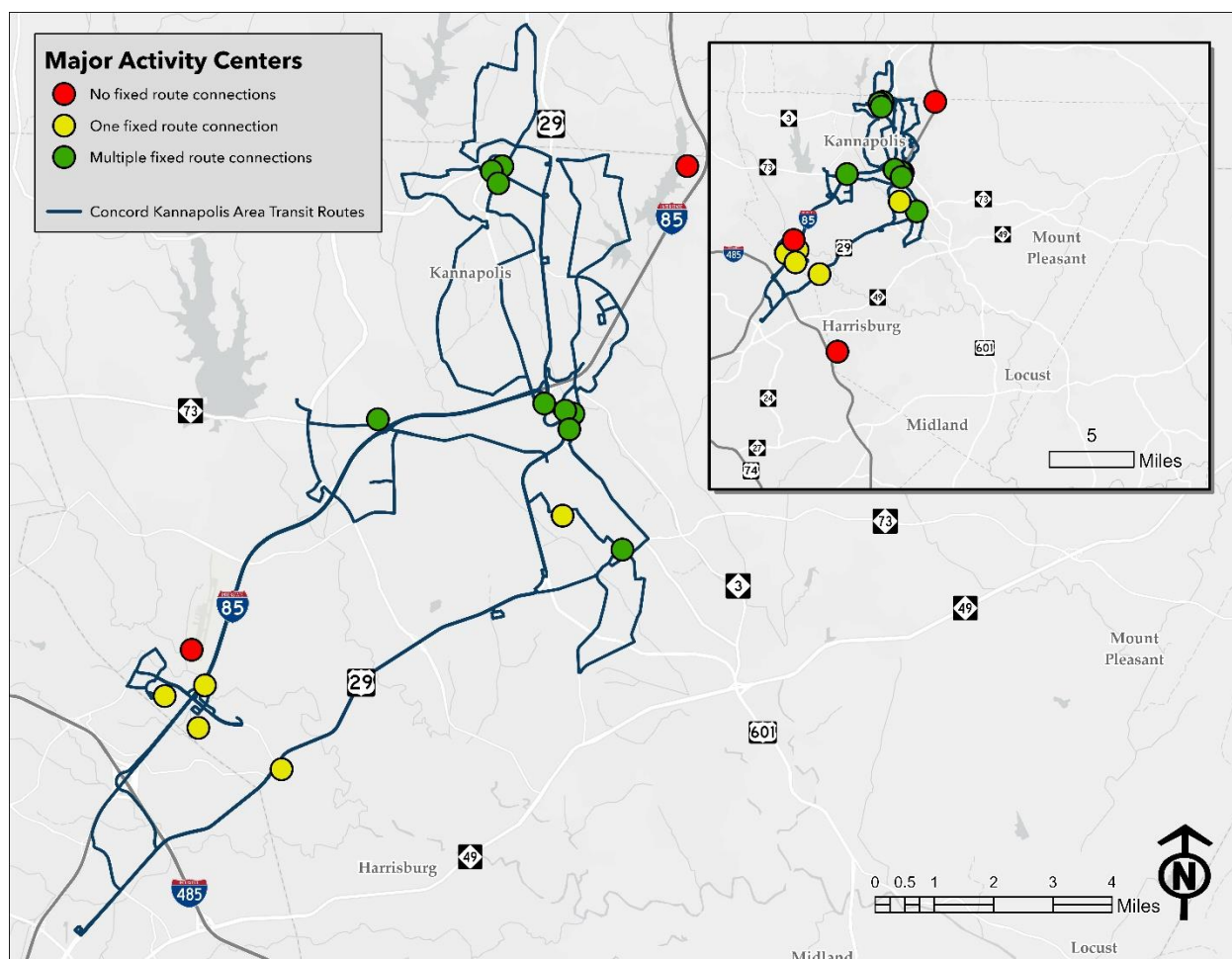
Density of employment was also examined. Similar to population density, the highest densities of workers are located in the heavily populated areas of Concord, Kannapolis, and Charlotte. The rest of the western half of Cabarrus County exhibits a more moderate employment density while the eastern half of the county exhibits a low employment density.

A strong commuting relationship between Cabarrus and Mecklenburg counties was revealed, as well as less strong commuting relationships between Cabarrus and its other adjacent counties. Overall,

Cabarrus County exports more commuters than it imports by a margin of 58 percent, due in large part to the high number of jobs available in Mecklenburg County. Cabarrus County imports more workers from all other adjacent counties than it exports to these counties.

The activity center analysis identified these major trip generators throughout Cabarrus County to determine if transit is serving key locations for users. Activity centers reviewed include major employment locations and other locations identified as transit generators, such as higher education institutions, health and medical facilities, government services, major shopping destinations, and other attractions and points of interest. Currently, fixed route service serves all major activity centers except Concord-Padgett Regional Airport, Atrium Health Kannapolis, and Atrium Health Harrisburg. Major activity centers and their connectivity to fixed routes are depicted in Figure 5-2.

**FIGURE 5-2: FIXED ROUTE CONNECTIVITY OF MAJOR ACTIVITY CENTERS**



### 5.1.3 Travel Flow Analysis

Understanding travel flows and patterns is critical for the optimal provision of transit service. Of particular importance are commuting flows within the cities of Concord and Kannapolis, within Cabarrus County, and between Cabarrus and surrounding counties. Figure 5-3 illustrates the typical travel flows

to, from, or within Cabarrus County, respectively. This data is sourced from Replica, a mobility and economic activities data management tool. Replica estimates travel trends based on data sources, including but not limited to road traffic, mobile locations, and financial transactions. This data is compiled and estimated to determine changes in mode and purpose, as well as socioeconomic and travel characteristics. Figure 5-4 shows the density of travel flows seen in Figures 5-3.

Replica’s estimates of travel flow highlight the status of Concord Mills as the flagship trip generator in Cabarrus County, attracting significant levels of travel from the immediate vicinity and substantial travel from Concord, Kannapolis, Harrisburg, unincorporated areas of Cabarrus County, and northeastern Mecklenburg County. In Concord and Kannapolis, the highest levels of travel occur in and around newly incorporated areas and Interstate 85, rather than in the city centers. These estimates reflect development patterns occurring in the previously undeveloped area between Charlotte and the cities of western Cabarrus County, and the tendency to locate major trip generators next to major highways.

**FIGURE 5-3: ALL TRAVEL FLOWS TO, FROM, OR WITHIN CABARRUS COUNTY (REPLICA, 2023)**

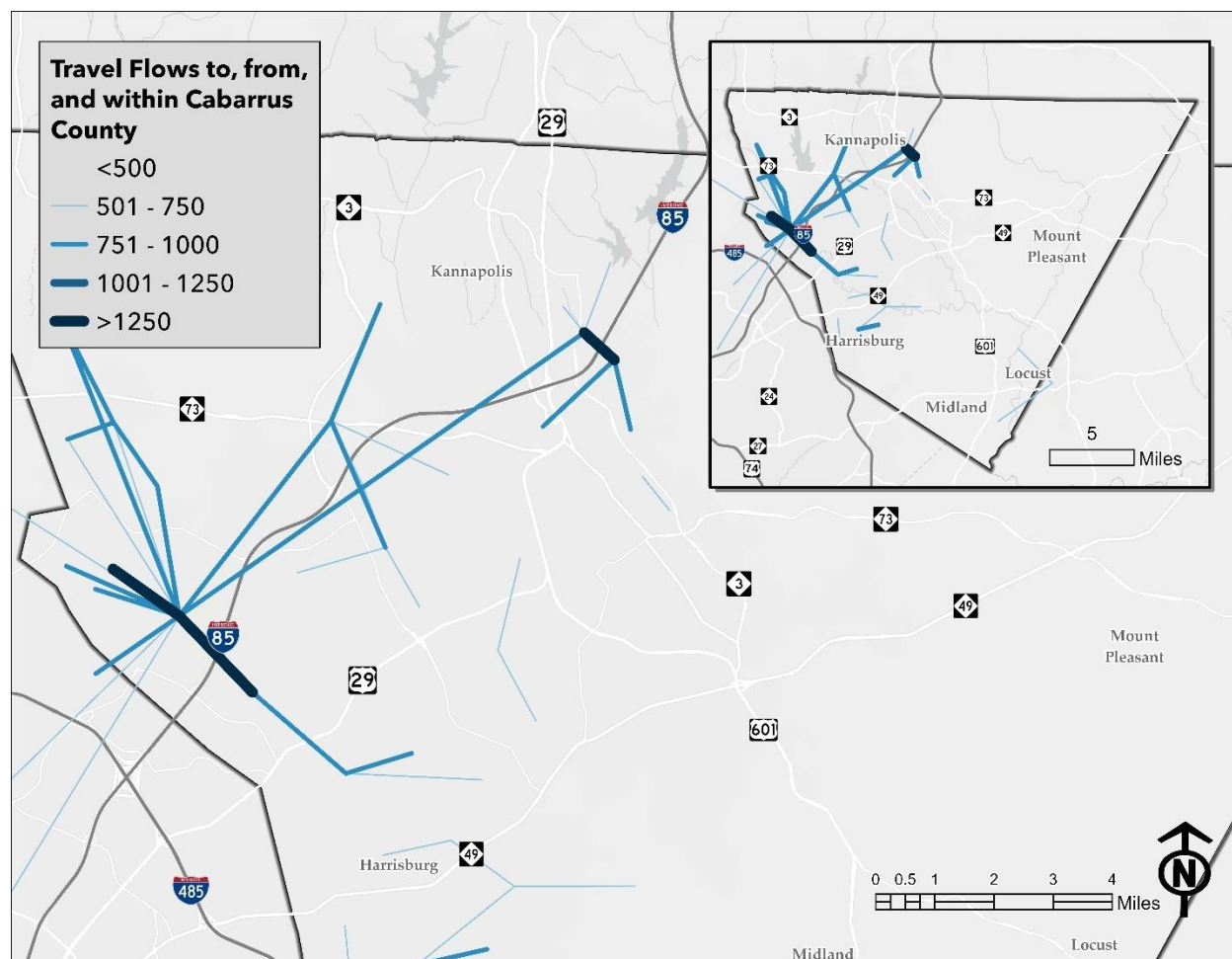
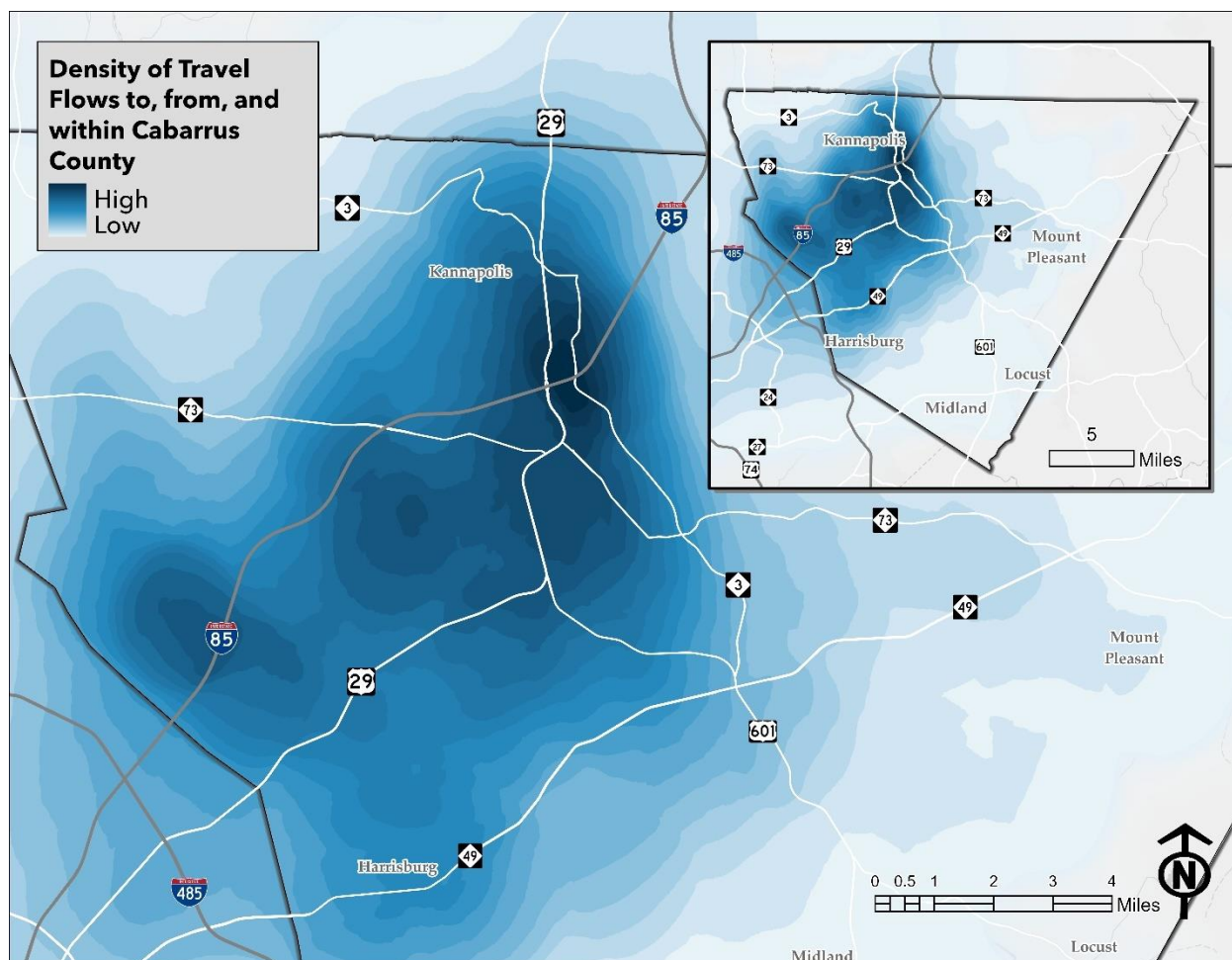


FIGURE 5-4: DENSITY OF ALL TRAVEL FLOWS TO, FROM, OR WITHIN CABARRUS COUNTY (REPLICA, 2023)

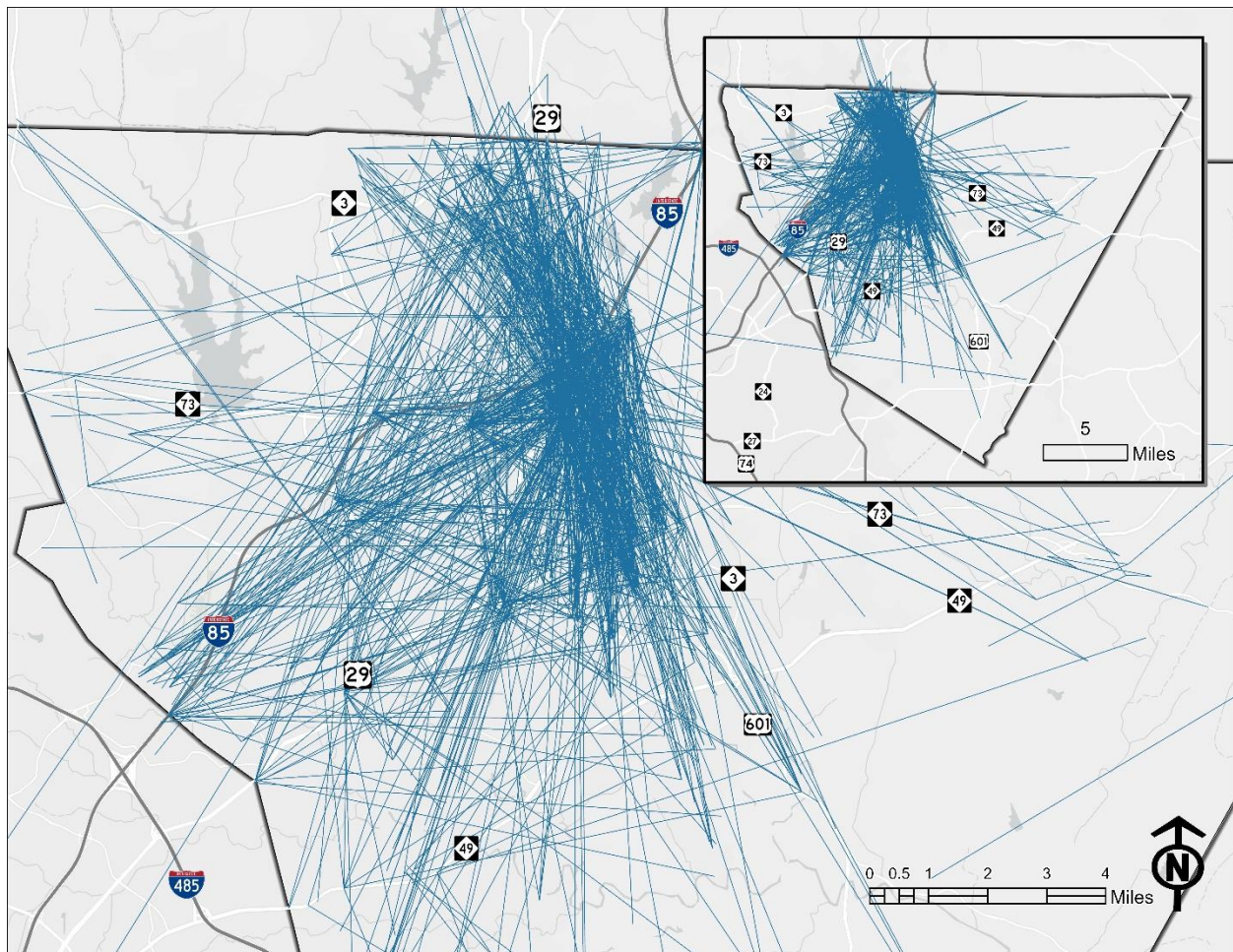


In addition to Replica-derived travel flows, demand response trip data also paints a picture of travel patterns in Cabarrus County, zeroing in on largely transit dependent populations. This data was derived using CCTS demand response and Rider Transit paratransit trip data from October 2023. The analysis of this data provides an understanding of the magnitude of average daily trips between areas, which can be helpful in planning and distributing future transit service provisions.

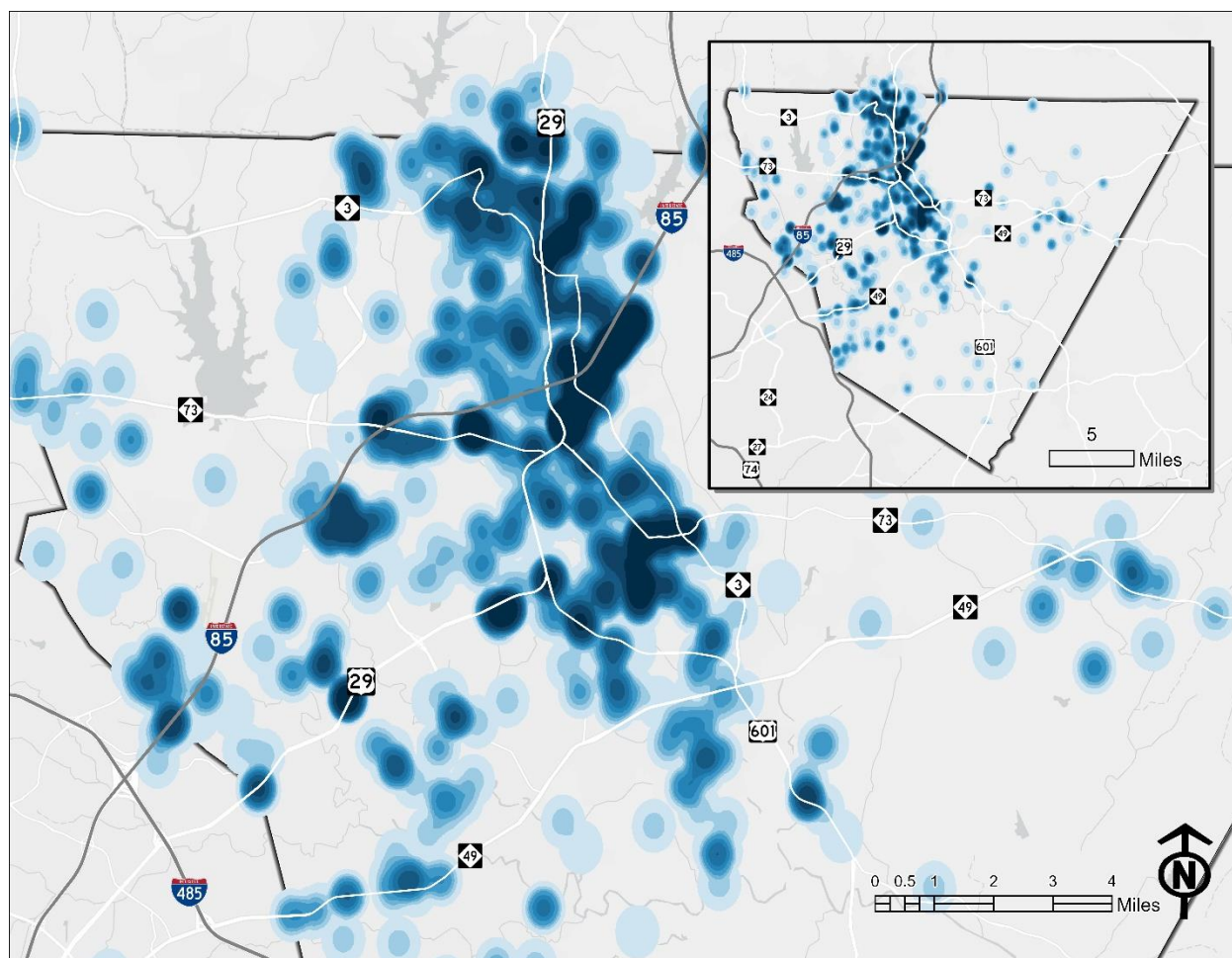
Using GIS tools, a layer symbolizing the density of demand response trips was created to help identify areas where a large number of people begin or end their trip. The demand response trips are depicted in Figure 5-5 and the demand response trip densities are depicted in Figure 5-6, reflecting the dataset from October 2023.

Demand response travel flow trends in Cabarrus County reflect the population cluster in the cities of Concord and Kannapolis, as most demand response and paratransit trips occur within or between the two cities. Many trips also connect Concord and Kannapolis to Concord Mills and the surrounding area of high commercial activity near the Mecklenburg County line.

FIGURE 5-5: PARATRANSIT AND DEMAND RESPONSE TRIPS (OCTOBER 2023)



**FIGURE 5-6: DENSITY OF PARATRANSIT AND DEMAND RESPONSE ORIGINS AND DESTINATIONS (OCTOBER 2023)**



#### 5.1.4 Other Mobility Providers

In addition to Rider Transit’s CCX route which travels to Charlotte, Cabarrus County is regionally connected via other transit providers:

- Charlotte Area Transit System (CATS) connects to Rider Transit’s Red route at Concord Mills and Rider Transit’s CCX route at the JW Clay Station.
- 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 Transit and CCTS provide transit service from the station.
- Rider Transit partners with the North Carolina Department of Transportation (NCDOT) Rail Division to offer a transit pass to provide first-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.

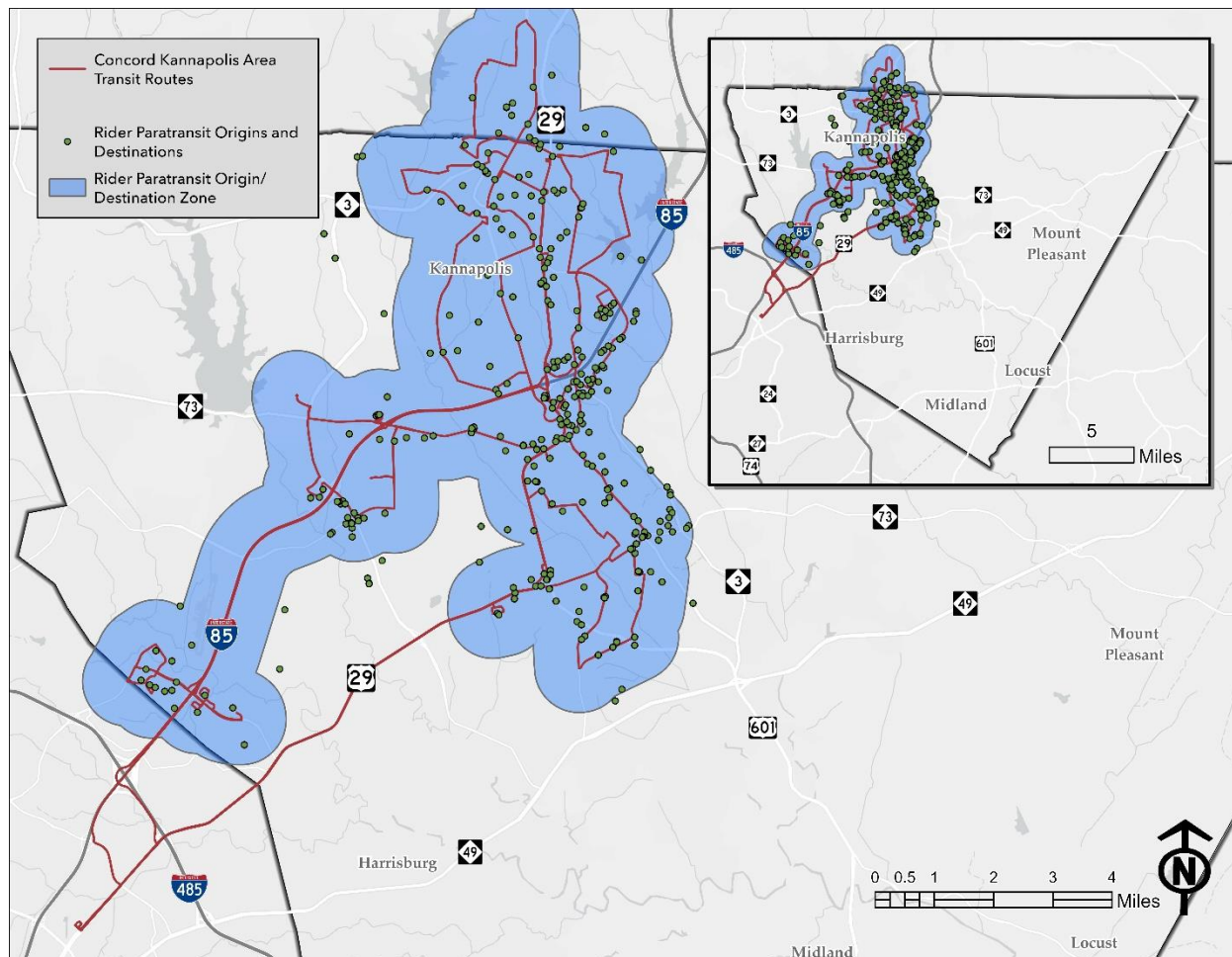
- There are several private taxi companies in Cabarrus County, including Ace Taxi, Concord Taxi, Knox Taxi Service, On Time Taxi, Yellow Cab, and TJ's Taxi
- Rideshare companies Lyft and Uber operate throughout Cabarrus County and the surrounding region.

#### 5.1.5 Transit Service Evaluation

The existing transit services were evaluated to help identify where fixed route, demand response, and paratransit transit service is robust relative to mobility needs and where service is not. Potential microtransit services should complement the transit network and service options by providing more effective mobility and by connecting to fixed routes for travel outside of microtransit zones. The evaluation analyzes transit network coverage, ridership, and utilization. These analyses are then reviewed to determine if there are route segments that could or should be discontinued and replaced with on-demand services. This analysis identifies opportunities for further refinement of the fixed route network, definition of areas where microtransit services may be feasible, and identification of microtransit service delivery types that may be appropriate within each zone of service.

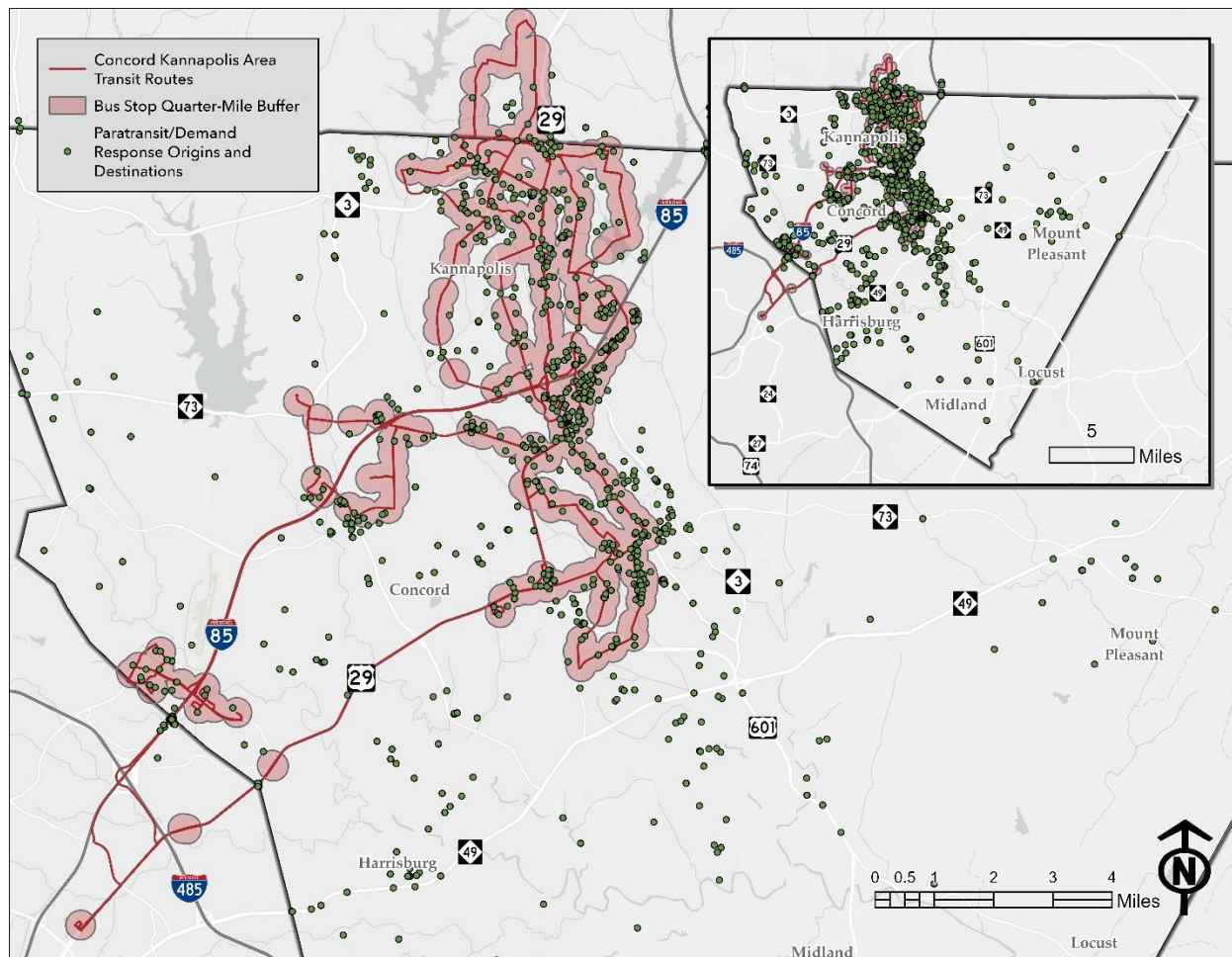
In Cabarrus County, Rider Transit provides paratransit services within  $\frac{3}{4}$  of a mile of Rider Transit fixed routes for eligible individuals whose disabilities prevent them from using fixed route services. CCTS provides demand response services throughout the county to individuals eligible under Medicaid, the Work First Family Assistance Program, Adult and Family Services, Adult and Aging Services, or the Rural General-Purpose program. Figure 5-7 depicts the approximate Rider Transit paratransit service area and its trip origins and destinations from October 2023. These trips largely originate and terminate in the urban cores of Concord and Kannapolis, as well as the Concord Mills area.

**FIGURE 5-7: RIDER TRANSIT PARATRANSIT SERVICE AREA AND TRIP ORIGINS AND DESTINATIONS (OCTOBER 2023)**



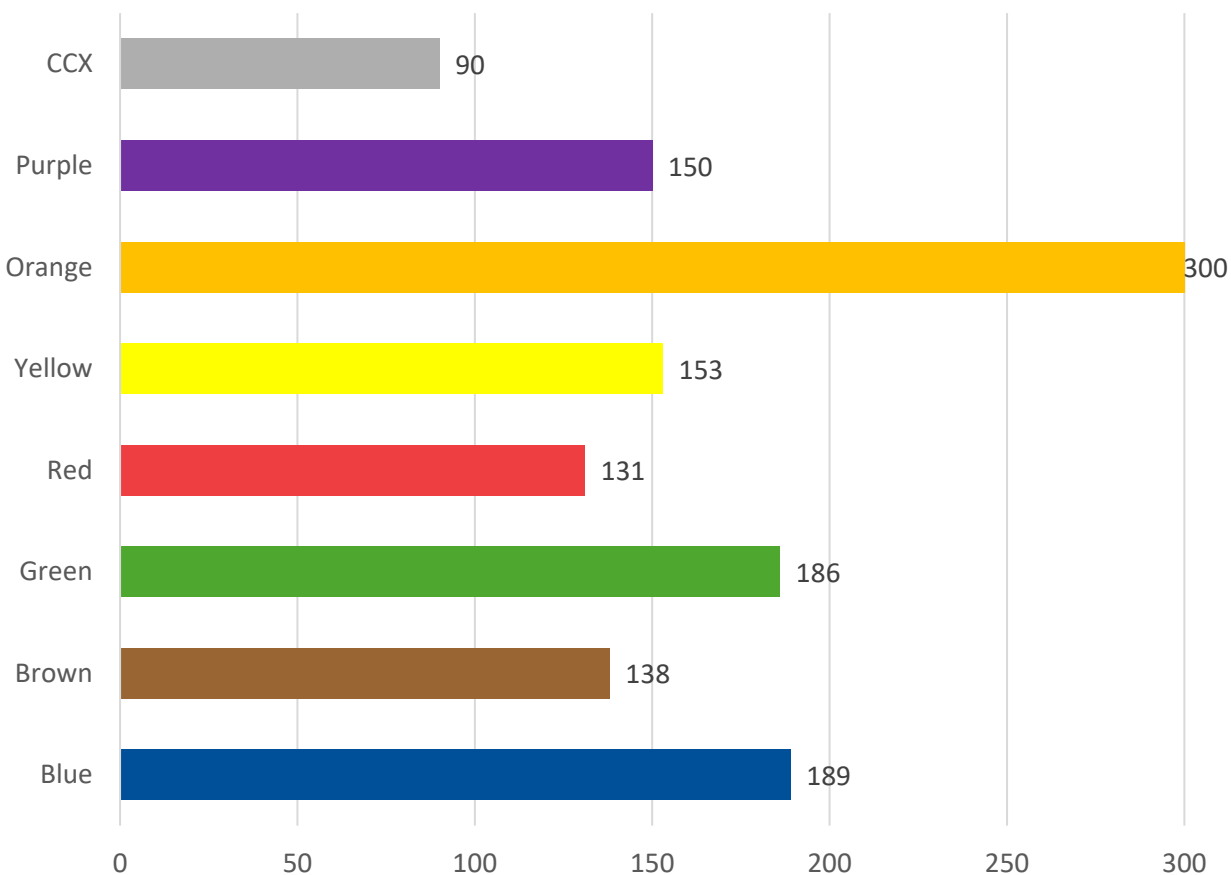
In order to represent the fixed route service area, Figure 5-8 shows Rider Transit’s fixed route system and a quarter mile buffer around all bus stops, as well as all demand response and paratransit trips in Cabarrus County. The quarter-mile buffer represents the typical distance most passengers are willing to walk between a bus stop and their trip origin or destination. Considering the quarter-mile buffer, most of Cabarrus County’s population that is served by fixed route bus service is located near major corridors in Concord and Kannapolis, including Concord Parkway, Main Street, Cannon Boulevard, Davidson Highway, Church Street, and Concord Mills Boulevard. Even in these urbanized areas, there are gaps where individuals might have to walk more than a quarter mile to access fixed route bus service.

**FIGURE 5-8: PARATRANSIT AND DEMAND RESPONSE ORIGINS AND DESTINATIONS; AND AREAS WITHIN WALKING DISTANCE (0.25 MILES) OF RIDER TRANSIT BUS STOPS**



In addition to the geographical coverage of transit services, their levels of usage were also examined. Figure 5-9 compares the October 2023 average daily boardings (ridership) of each of Rider Transit’s fixed routes. The Orange route was by far the highest-ridership route during this timeframe. The Blue and Green routes were the next highest, averaging in the 180’s. The Yellow and the Purple routes finished in the middle of the pack at 153 and 150 average daily boardings, respectively. The Red and Brown routes are at the low end of ridership levels, in the 130’s for average daily boardings. A limited-stop commuter route, the CCX, only recorded an average of 90 daily boardings in October 2023, despite providing the same number of trips as all the other routes. Like most commuter-oriented routes across the country, it is unsurprising that the CCX has not bounced back to pre-COVID ridership levels due to new commuter patterns and behaviors that have emerged since the pandemic, like increased prevalence of remote and hybrid work. However, some of the lower-ridership routes and route segments could be candidates for replacement or supplementation by microtransit services.

**FIGURE 5-9: RIDER TRANSIT FIXED ROUTE AVERAGE DAILY BOARDINGS BY ROUTE (OCTOBER 2023)**



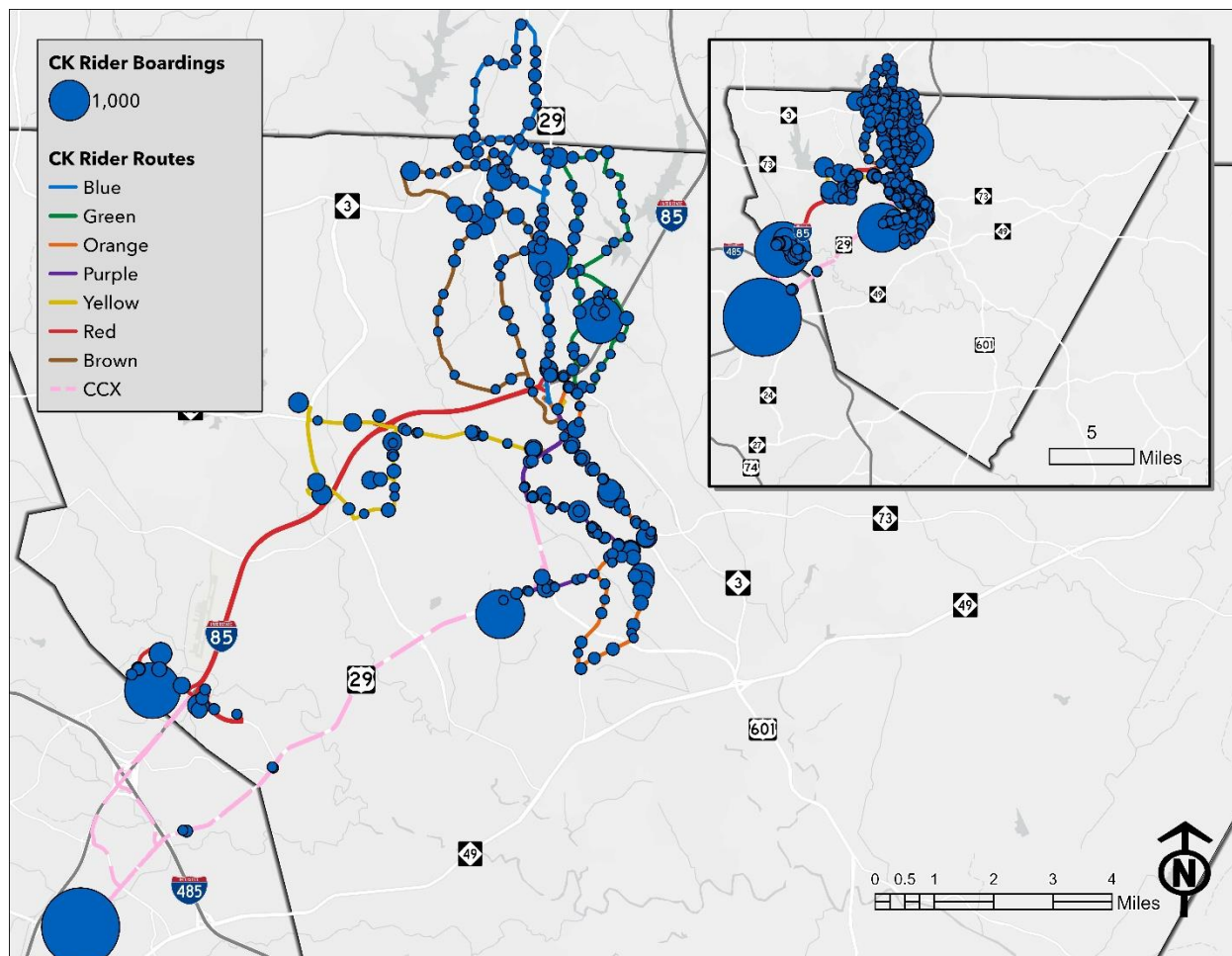
Examining fixed route usage in a finer detail, stop-level ridership reveals which locations are traveled to and from via transit more than others, as seen in Figure 5-10. This data may suggest the location of inefficient bus stops and route segments which could be eliminated and served as part of a zone of microtransit service.

The Rider Transit fixed route system has about half a dozen bus stops which experience a significantly higher ridership than the rest. These stops are typically situated at Cabarrus County’s major activity centers. These very high ridership stops are located at:

- Rider Transit Center
- JW Clay Station (CATS bus and light rail)
- Concord Mills
- Walmart- Concord Commons
- Walmart- Kannapolis Supercenter
- Cabarrus County Human Services Center

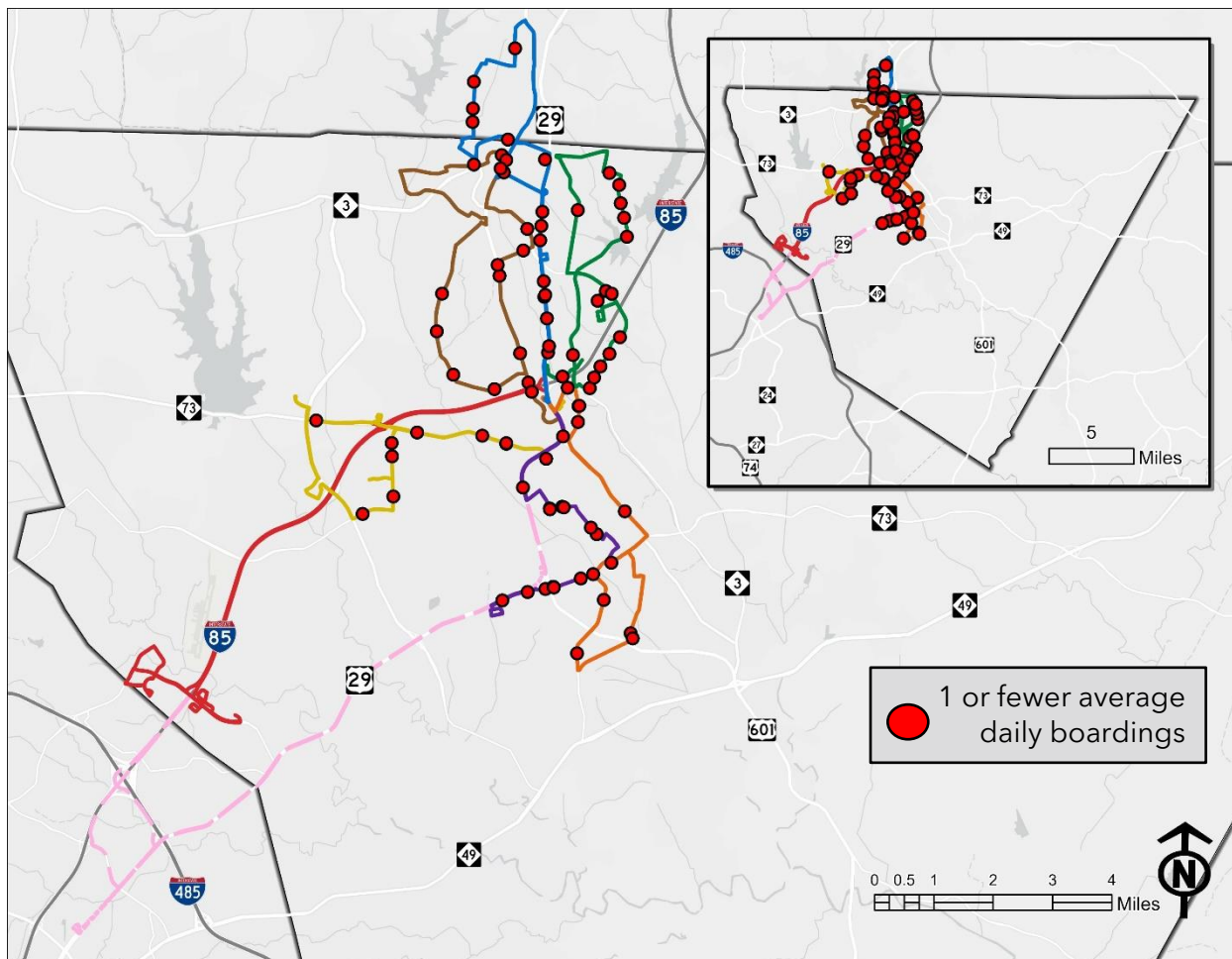
Other bus stops with moderate ridership levels are located near the urban centers of Concord and Kannapolis.

**FIGURE 5-10: RIDER TRANSIT FIXED ROUTE AVERAGE MONTHLY BOARDINGS BY BUS STOP (OCTOBER 2023)**



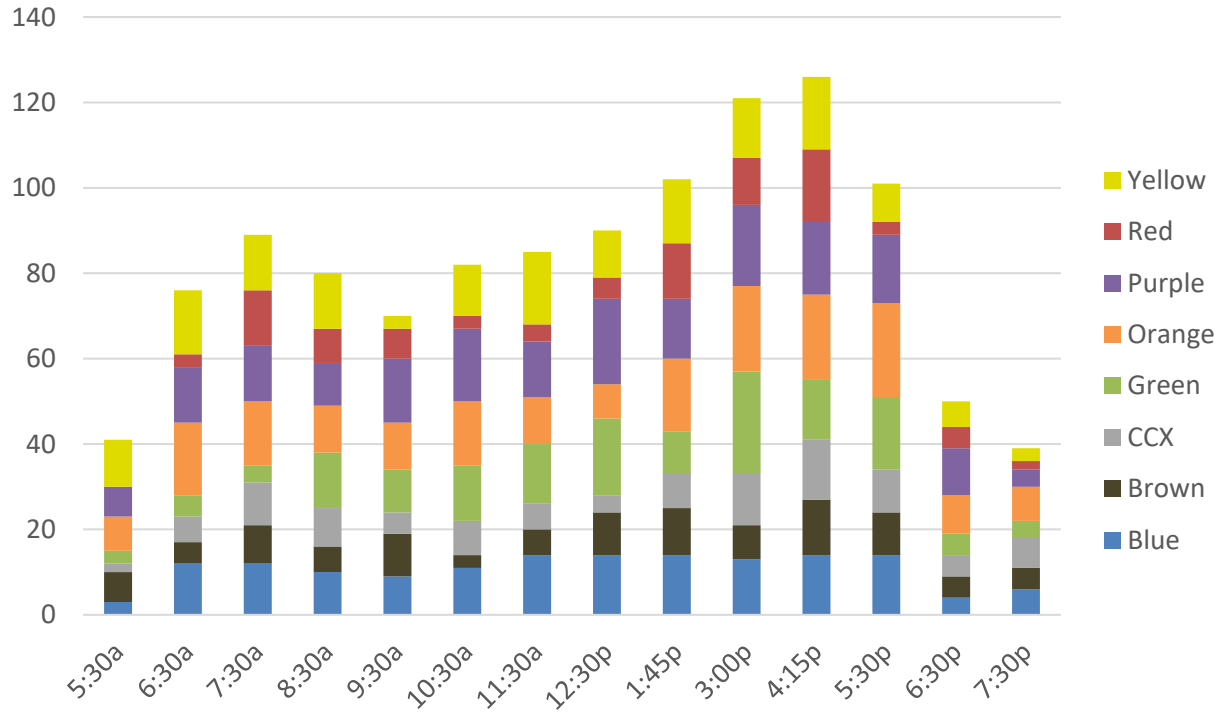
In contrast to heavily frequented bus stops, Figure 5-11 shows only the bus stops which saw on average one or zero average daily boardings in October 2023. Out of 266 total bus stops, 83 bus stops in Rider Transit’s fixed route system averaged fewer than two daily boardings during this period. This represents nearly a third of all of Rider Transit’s bus stops. Although each route serves low-boarding stops, the segments with several contiguous low-boarding stops can be found in Kannapolis along the Brown, Green, and Blue routes. These stops with fewer than two average daily boardings and their respective surrounding areas are candidates for inclusion in potential microtransit zones.

**FIGURE 5-11: RIDER TRANSIT FIXED ROUTE BUS STOPS WITH AN AVERAGE OF ONE OR FEWER DAILY BOARDINGS (OCTOBER 2023)**

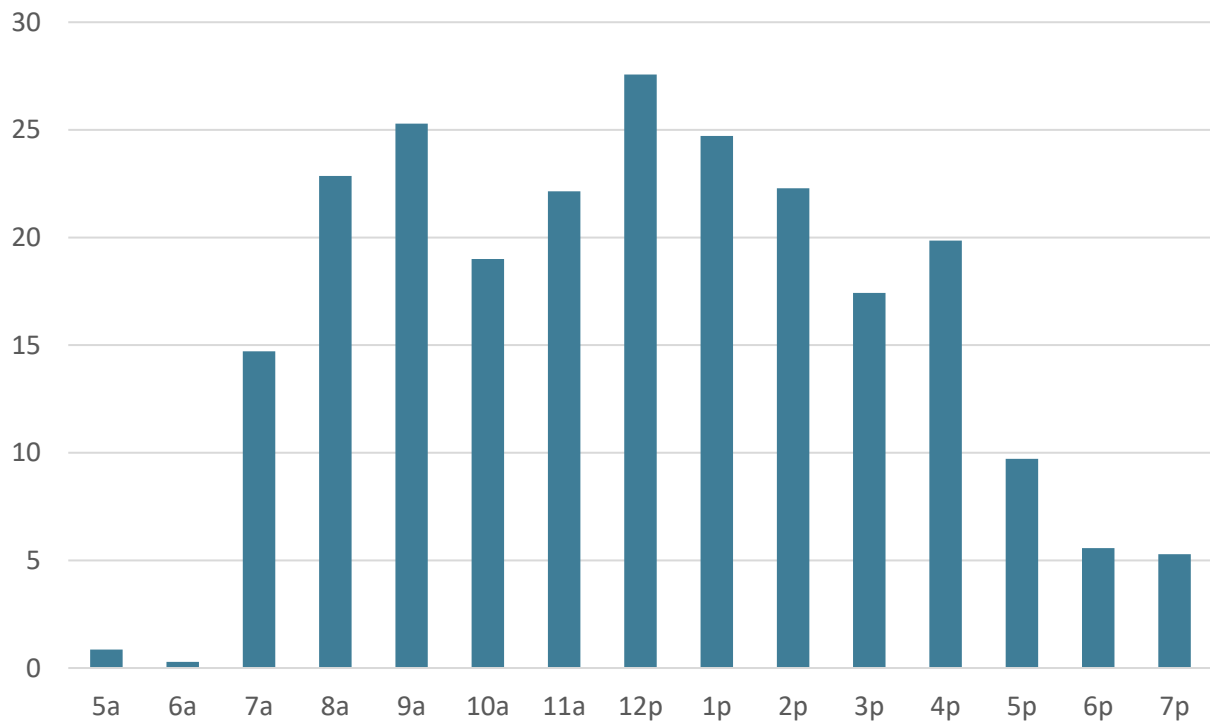


In addition to overall and stop-level boardings, ridership data by time of day was also analyzed. This data is used to determine the feasibility of microtransit to complement fixed route service as an alternative during periods of typically low transit usage (early in the morning and late at night). Figure 5-12 displays this data for Rider Transit’s fixed route service while Figure 5-13 displays this data for Rider Transit’s paratransit service. Fixed route ridership is steady throughout much of the day, with a slight swell in the late afternoon. Its usage is lowest from 5:30 am to 6:30 am (the first runs of the day) and from 6:30 pm to 8:30 pm (the last two runs of the day). The pattern for paratransit ridership is very similar, although the peak time of day is shifted to the early afternoon.

**FIGURE 5-12: RIDER TRANSIT FIXED ROUTE AVERAGE BOARDINGS BY ROUTE BY TIME OF DAY (OCTOBER 2023)**



**FIGURE 5-13: RIDER TRANSIT PARATRANSIT TRIPS BY TIME OF DAY (OCTOBER 2023)**



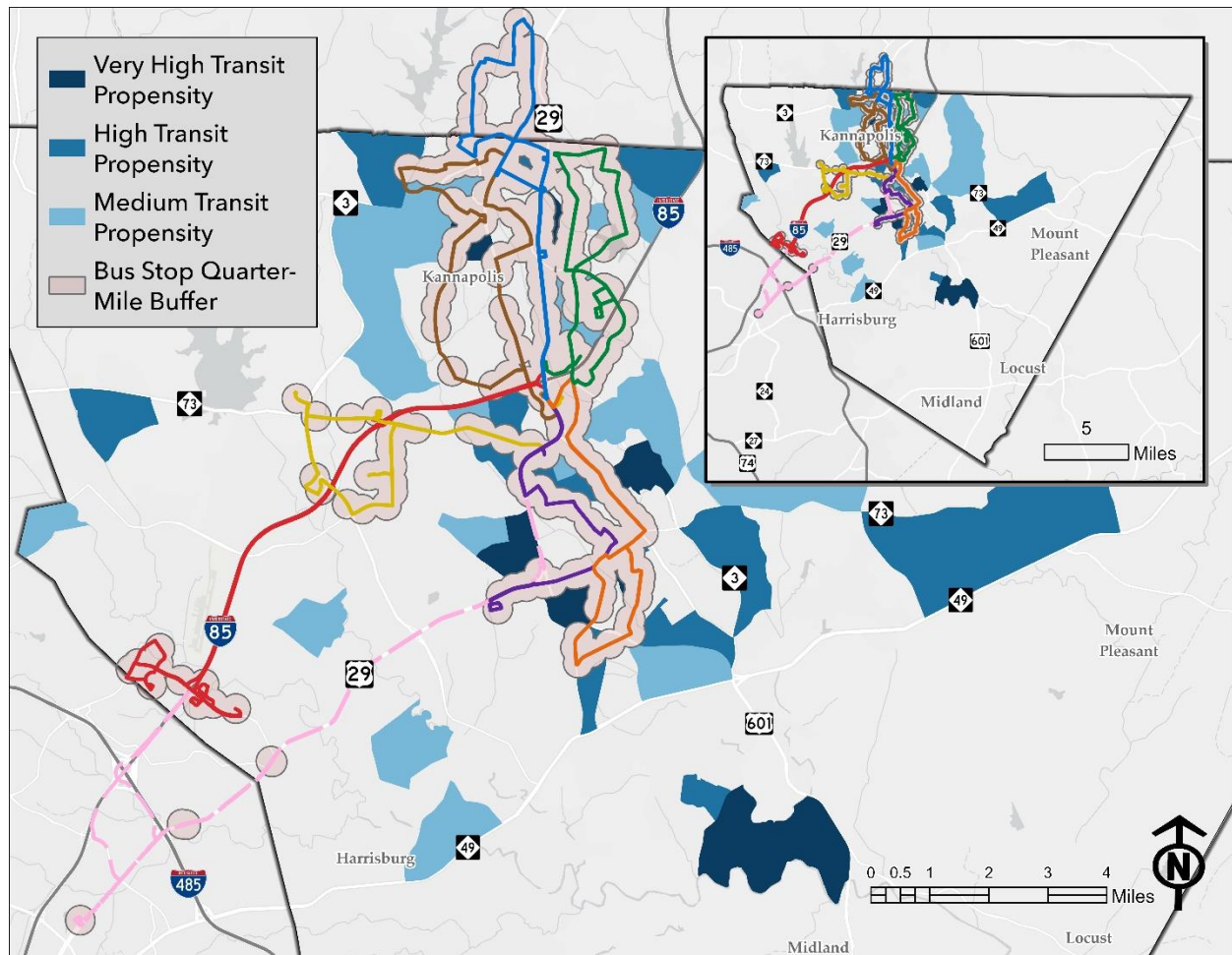
## 5.2 Gap Analysis

This section presents the gap analysis, which is an evaluation process that compares existing service coverage to areas of potential need using the TOI analysis results for Cabarrus County. This approach assesses the performance of public transit in meeting the needs of the populations within a service area which are most inclined to use transit.

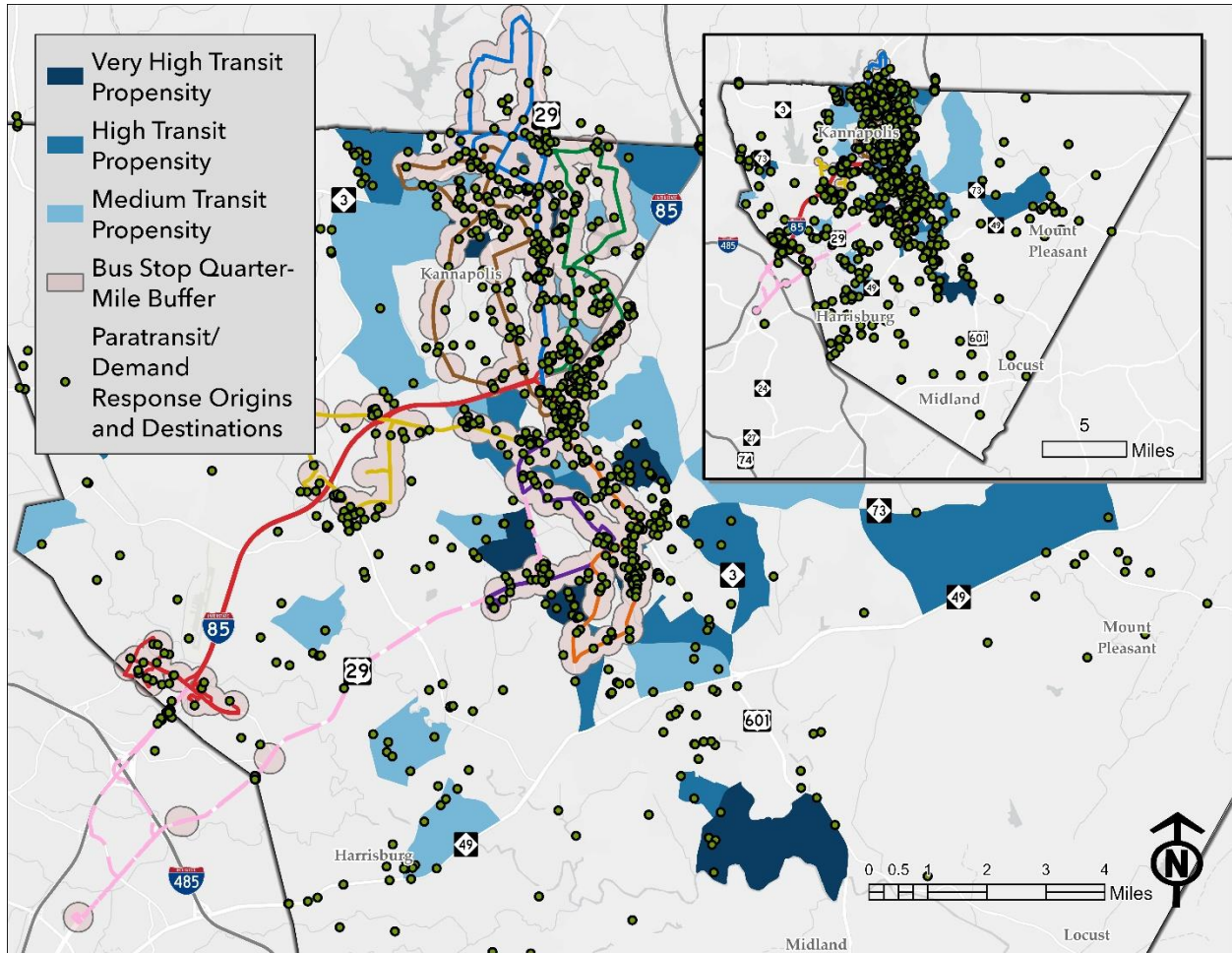
The gap analysis aims to identify geographical gaps in public transit where travel needs are high, but services are non-existent or insufficient. This is a twofold process that uses socioeconomic data and geographic analysis. The first step determines where pockets of high demand for transit exist within the service area, considering TOI factors which include young adult populations, older adult populations, households in poverty, and zero-vehicle households. The second step uses geographic analyses to determine the extent of each route's service reach by using buffer tools. Ultimately, the two outputs are overlaid with one another to identify general gaps in transit in Cabarrus County, and more specifically, high priority TOI areas that are served, unserved, or underserved. Note that areas beyond the buffered area along the route are considered to be unserved for the purpose of the gap analysis, although a separate map is shown to include demand response origins and destinations, which may be located outside the fixed route service area.

As shown in Figure 5-14, there are several small pockets in and around Concord and Kannapolis where no fixed route service exists yet there are populations who might need transit. Figure 5-15 shows the same data as Figure 5-14 in addition to all paratransit and demand response trips. These gaps on the map are symbolized as polygons with different shades of blue, which represent the intersection of medium/high/very high TOI scores and areas outside the bus stop quarter mile range. These areas are mostly located in Central Kannapolis and near Concord Parkway. Since these areas are not located in the urban core of Cabarrus County, their lower densities and less-commercial land uses render microtransit service to be feasible for these areas.

**FIGURE 5-14: GAP ANALYSIS- TRANSIT ORIENTATION INDEX AND FIXED ROUTE SERVICE AREA**



**FIGURE 5-15: GAP ANALYSIS- TRANSIT ORIENTATION INDEX, FIXED ROUTE SERVICE AREA, AND PARATRANSIT/DEMAND RESPONSE ORIGINS AND DESTINATIONS**



## 6 SERVICE AND OPERATING CONCEPT EVALUATION

This chapter identifies, evaluates, and prioritizes microtransit service zones for potential implementation. First, preliminary microtransit service concepts were developed based on the data analysis presented in the Local Conditions, Public Engagement, Needs Assessment, and Gap Analysis chapters of this report. After preliminary concepts were reviewed by the Project Review Committee (PRC), the concepts were refined based on feedback and evaluated using a weighted matrix, resulting in graded microtransit service concepts. Finally, these refined and graded concepts were incorporated in the development of comprehensive operational concepts and service deployment strategies.

### 6.1 Preliminary Service Concepts

Using the information from prior tasks, potential microtransit service zones were identified and reviewed with the PRC. These preliminary microtransit service zones were developed using Remix, a transportation planning and scheduling software, which supports the creation, scheduling, and analysis of mobility on-demand (microtransit) services. The development of these conceptual services was supported by demographic data, a rider survey, stakeholder engagement, travel flow data, and data from existing transit services in Cabarrus County.

Ultimately, five distinct conceptual microtransit service zones were developed for this study, including three geographically distinct zones for daytime services and two geographically distinct zones for nighttime services. This section describes these zones both individually and as a complete service.

Additionally, this section describes the proposed conceptual fixed route service, which primarily constitutes realignments of Rider's existing fixed route service. Fixed route realignments are proposed alongside microtransit service concepts because the provision of microtransit service is best supported by a fixed route network that is direct, efficient, and able to connect major trip generators via primary corridors of travel.

#### 6.1.1 Methodology for the Development of Microtransit Concepts

A four-part methodology was used to develop the microtransit concepts:

1. **Evaluation of existing conditions** | The first step is to evaluate the conditions surrounding the existing transit routes. This evaluation includes reviewing where passengers are accessing the fixed route network. It also involves reviewing the origins and destinations of Rider Transit paratransit passengers and CCTS demand response passengers.

In addition to current passengers, it is important to understand the potential demand from passengers who are not close enough to access the fixed route system and/or do not qualify for paratransit and demand response services. To assist with this review, a Transit Orientation Index (TOI) analysis was completed. The provides an indication of where individuals with higher propensities to use transit live. These individuals include young adults, older adults, individuals living in low-income households, and individuals living in households without access to a private automobile.

2. **Identify inefficient segments** | Once there is a baseline understanding of where current passengers live and what areas might generate more passengers, it is important to look for areas in the fixed route network that may not be generating passengers. By analyzing ridership data, each bus stop generating fewer than 1 average passenger boarding per day was highlighted. If several of these low-ridership stops were clustered together, that segment of fixed route bus service was reviewed and identified for realignment to repurpose savings to more productive areas of the service.
3. **Enhance fixed route service** | Using the information gathered in Steps 1 and 2, the fixed route alignments were streamlined to remove inefficient segments while still preserving coverage to high ridership stops. Routes with circuitous loops were also scrutinized. Looping routes are those that travel outbound using one road, but use a different, parallel road on the inbound trip. While the loops allow for more people to have closer access to the transit route, they are inefficient for travel. When riders access a transit route while it is traveling along a circuitous loop, the passenger must ride the entire loop to get to their destination and back again. For example, if the passenger boards the bus and rides the loop for three stops, the passenger cannot simply travel back three stops on the return trip, they must ride the entire loop to get back to their origin, which is a considerable travel time impact for riders.

The current routes were streamlined to remove/reduce loops and allow for more bidirectional travel on one roadway to improve the efficiency of service. This streamlining is important as passengers will be able to use microtransit to access the fixed route network so the geographic coverage reduction does not create as big of an impact as it might without microtransit services.

4. **Define microtransit service zone** | The final step is to define the microtransit service zone around the fixed route network. This step, considering the results of the previous three steps, uses Remix to develop microtransit zones with the desired geographic extent, level of service, and operating expense. The zones were developed to ensure that all riders served by the current fixed route network were served by the updated fixed route network and/or the proposed microtransit zones. Popular origins and destinations on the paratransit and demand response systems were also included within the newly defined microtransit zones when feasible. The zones were also defined to overlap in areas where there would be a confluence of popular origins and destinations so that passengers could travel in either direction from those popular areas.

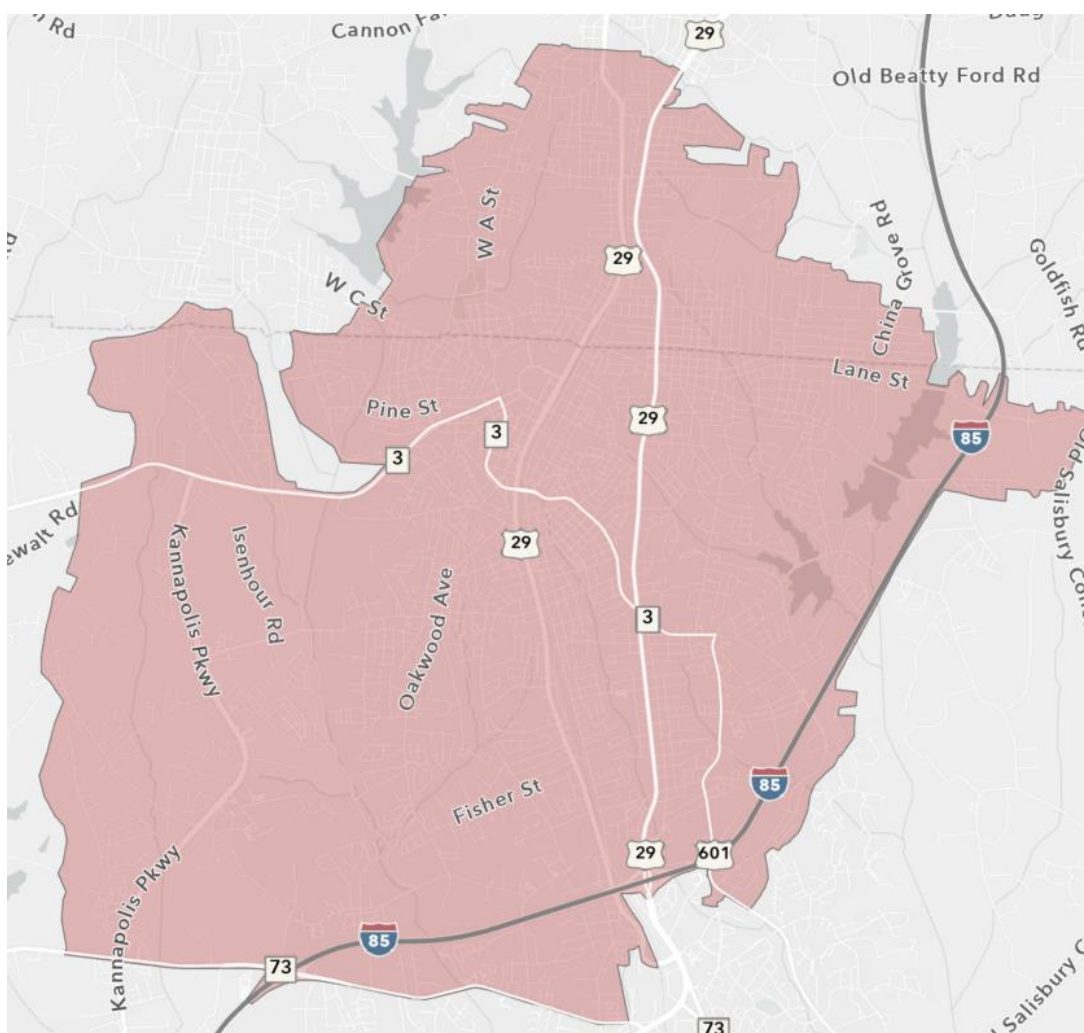
### 6.1.2 Kannapolis Zone

Covering nearly all of the City of Kannapolis, the proposed Kannapolis microtransit zone spans 31 square miles and provides the most trips and highest effectiveness of any of the proposed microtransit zones.

The Kannapolis zone facilitates fixed route connections to major trip generators like Downtown Kannapolis and Rider Transit Center via the Blue, Brown, and Green Routes.

The Kannapolis zone also provides microtransit to Concord north of Davidson Highway and connects to the Northwest Concord/Harrisburg microtransit zone.

Kannapolis Daytime Zone- 5:30 to 19:30	
Annual Ridership	62,600
Average Trip Distance	4.4
Peak Vehicles	5
Annual Operating Expense	\$1,450,000
Expense per Trip	\$23.16
Expense per Peak Vehicle	\$290,000
Expense per Revenue Mile	\$5.26
Revenue Miles	275,519
Trips per Revenue Hour	3.46
Revenue Hours	18,125



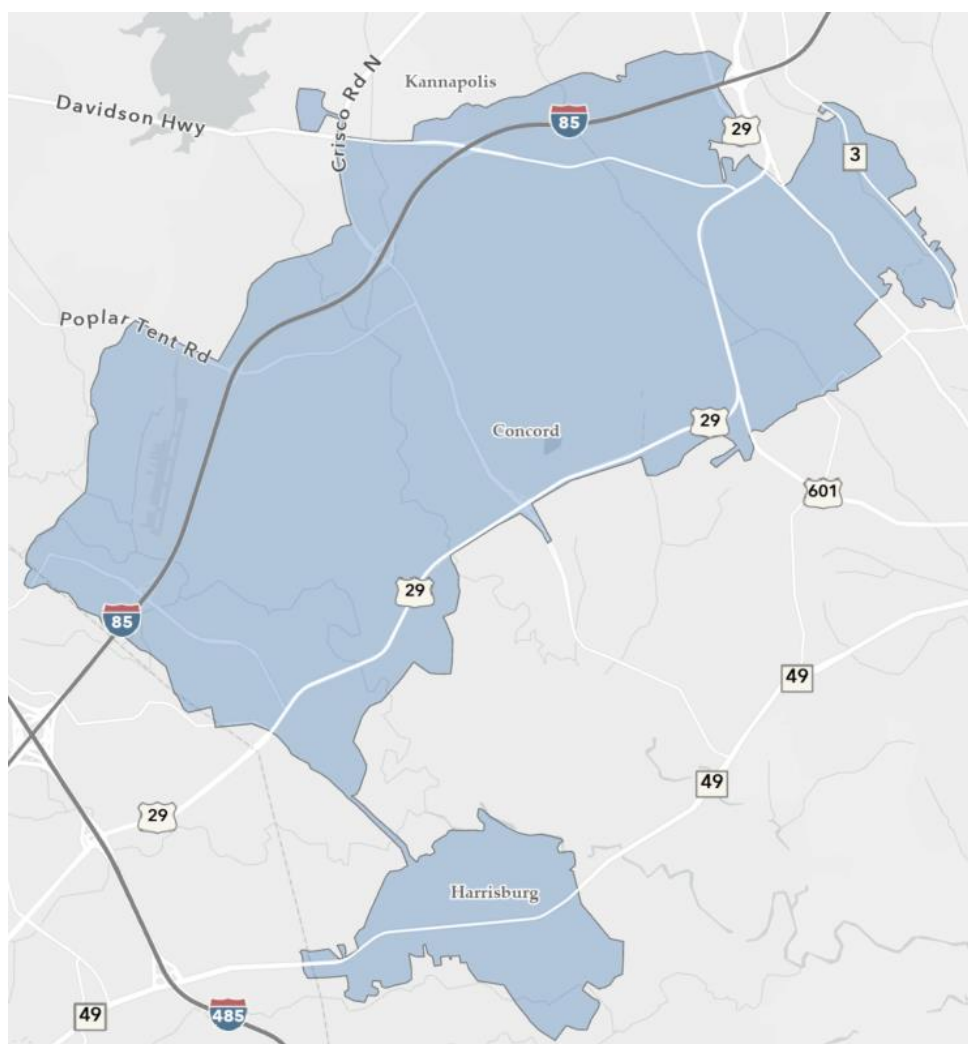
### 6.1.3 Northwest Concord/Harrisburg Zone

The largest daytime microtransit zone at 32 square miles, the Northwest Concord/Harrisburg microtransit zone serves Concord between the Mecklenburg County line, Interstate 85, Concord Parkway South, and Branchview Drive. The zone also serves the core of Harrisburg.

This zone facilitates fixed route connections to major trip generators like Concord Mills and Rider Transit Center via the CCX, Yellow, Purple, and Orange routes.

The Northwest Concord/Harrisburg zone also provides microtransit to Kannapolis south of Orphanage Road and connects to the Kannapolis microtransit zone.

Northwest Concord/Harrisburg Zone- 5:30 to 19:30	
Annual Ridership	40,081
Average Trip Distance	5.3
Peak Vehicles	4
Annual Operating Expense	\$1,410,000
Expense per Trip	\$35.18
Expense per Peak Vehicle	\$352,500
Expense per Revenue Mile	\$6.64
Revenue Miles	212,429
Trips per Revenue Hour	2.27
Revenue Hours	17,625



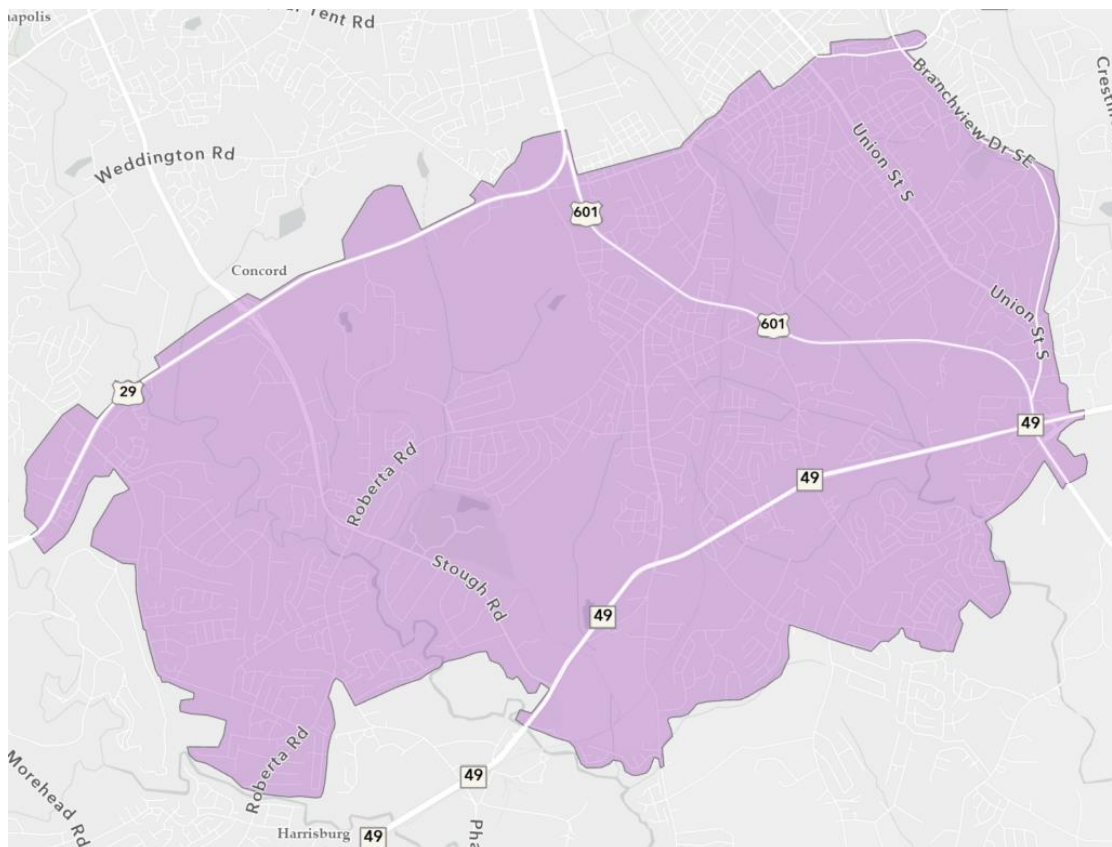
### 6.1.4 Southeast Concord Zone

Covering the City of Concord south of Cabarrus Avenue, east of Pitts School Road, and west of Branchview Drive, the proposed Southeast Concord microtransit zone spans only 18 square miles and provides the least trips and lowest effectiveness of any of the proposed microtransit zones.

The Southeast Concord zone facilitates fixed route connections to major trip generators like Walmart and Downtown Concord via the Orange and Purple routes.

This zone also provides microtransit connections to the Northwest Concord/Harrisburg zone near Concord Parkway South and Cabarrus Avenue.

Southeast Concord Zone- 5:30 to 19:30	
Annual Ridership	32,141
Average Trip Distance	4.1
Peak Vehicles	3
Annual Operating Expense	\$1,060,000
Expense per Trip	\$32.98
Expense per Peak Vehicle	\$353,333
Expense per Revenue Mile	\$8.04
Revenue Miles	131,778
Trips per Revenue Hour	3.46
Revenue Hours	13,250

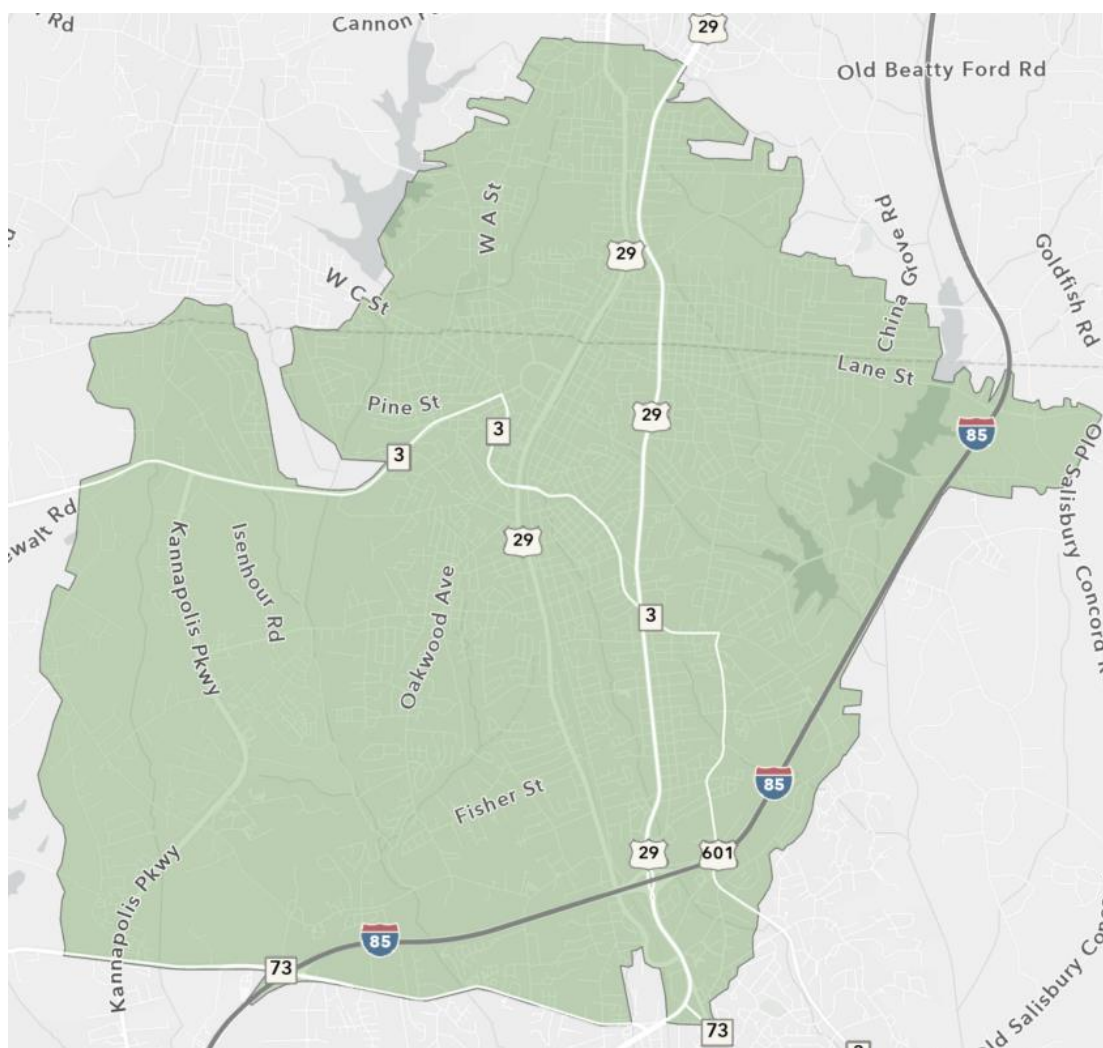


### 6.1.5 Kannapolis Night Zone

Similar to the daytime Kannapolis microtransit, the nighttime Kannapolis zone serves much of the City of Kannapolis between 7:30pm and 11:30pm nightly, in addition to direct microtransit connections to Rider Transit Center, Carolina Mall, Atrium Health Cabarrus, and the surrounding area.

After 8:30pm, the nighttime Kannapolis microtransit zone, in conjunction with the nighttime Concord microtransit zone, exclusively provide transit Concord, Kannapolis, and Harrisburg in the absence of fixed route service.

Kannapolis Night Zone- 19:30 to 23:30	
Annual Ridership	5,200
Average Trip Distance	4.6
Peak Vehicles	2
Annual Operating Expense	\$199,700
Expense per Trip	\$23.16
Expense per Peak Vehicle	\$99,850
Expense per Revenue Mile	\$8.35
Revenue Miles	23,820
Trips per Revenue Hour	2.08
Revenue Hours	2,496

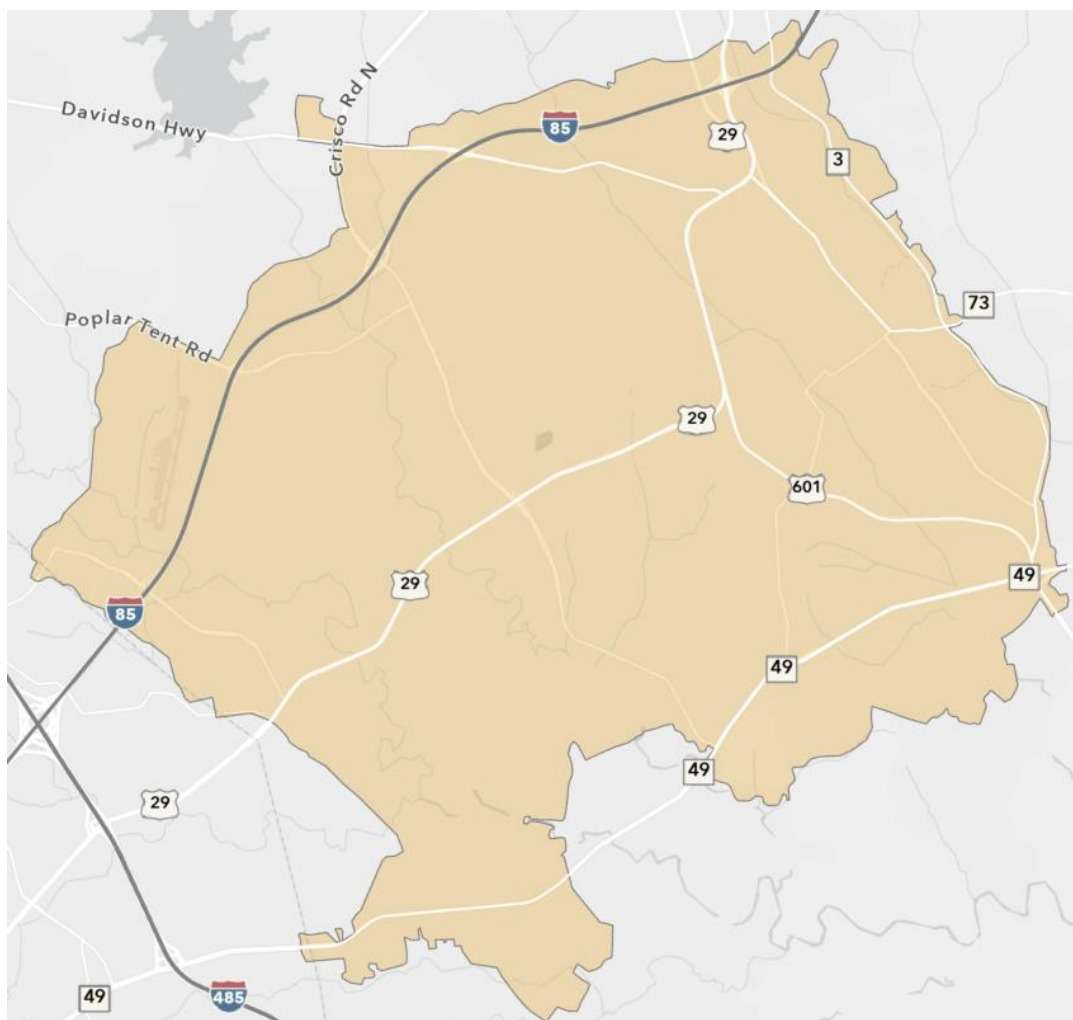


### 6.1.6 Concord/Harrisburg Night Zone

Similar to the daytime Southeast Concord and Northwest Concord/Harrisburg microtransit zone, the nighttime Concord zone serves much of the cities of Concord and Harrisburg between 7:30pm and 11:30pm nightly, in addition to direct microtransit connections to Rider Transit Center, Carolina Mall, Atrium Health Cabarrus, and the surrounding area, as well as Downtown Concord

After 8:30pm, the nighttime Concord/Harrisburg microtransit zone, in conjunction with the nighttime Kannapolis microtransit zone, exclusively provides transit services in Concord, Kannapolis, and Harrisburg in the absence of fixed route service.

Concord/Harrisburg Night Zone- 19:30 to 11:30	
Annual Ridership	9,276
Average Trip Distance	6.6
Peak Vehicles	4
Annual Operating Expense	\$432,600
Expense per Trip	\$46.64
Expense per Peak Vehicle	\$108,150
Expense per Revenue Mile	\$7.07
Revenue Miles	61,222
Trips per Revenue Hour	1.72
Revenue Hours	5,408



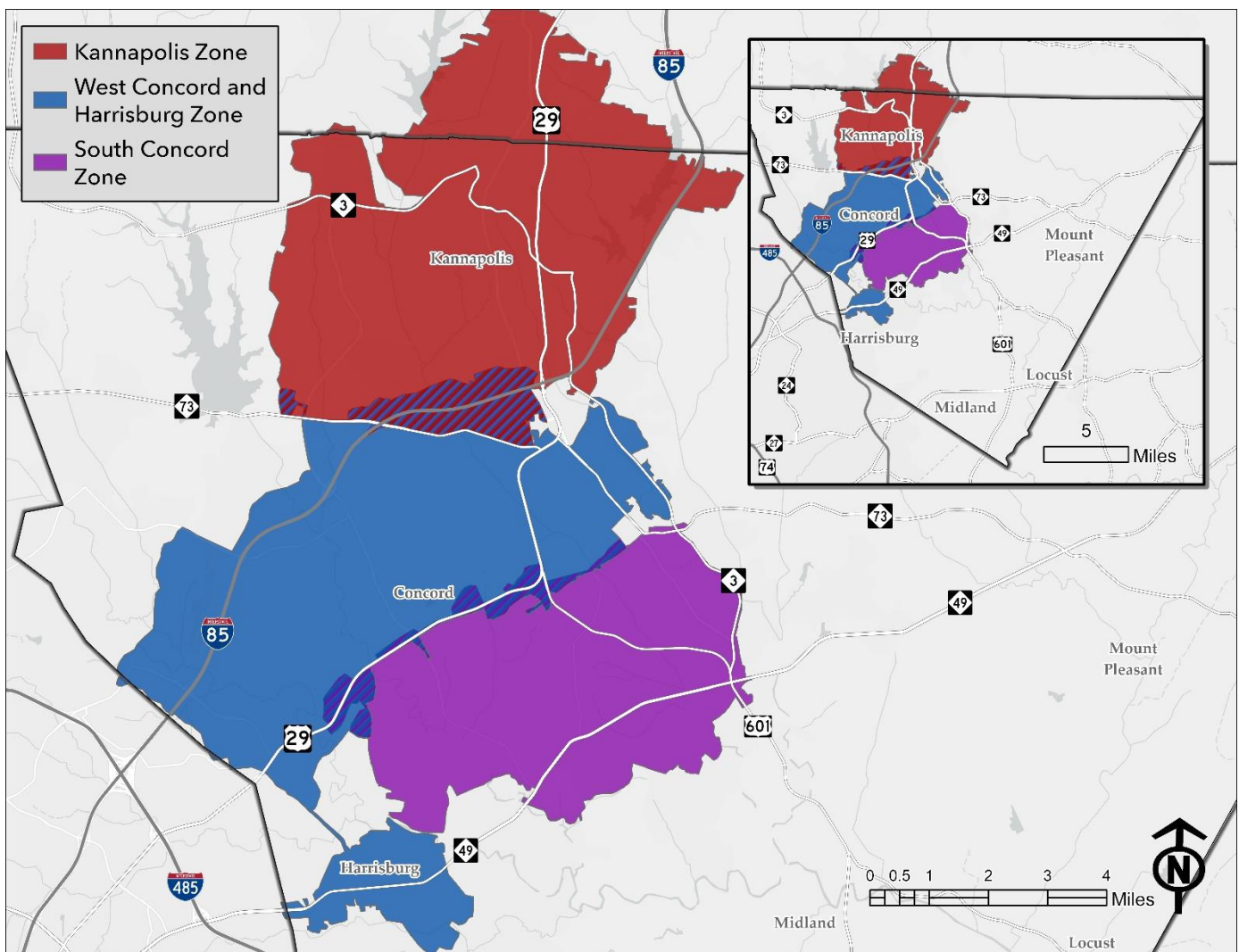
### 6.1.7 All Daytime Zones

The Kannapolis, Southeast Concord, and Northwest Concord/Harrisburg microtransit zones constitute the entire daytime microtransit service in Cabarrus County from 5:30am to 7:30pm on weekdays and 8:30am to 7:30pm on weekends.

These microtransit zones operate in conjunction with the seven proposed fixed routes. Modified CCTS demand response and Rider paratransit services will also operate during their currently scheduled hours of operation.

#### All Daytime Zones- 5:30 to 19:30

Annual Ridership	134,840
Average Trip Distance	4.6
Peak Vehicles	12
Annual Operating Expense	\$3,920,000
Expense per Trip	\$29.07
Expense per Peak Vehicle	\$326,667
Expense per Revenue Mile	\$6.33
Revenue Miles	619,727
Trips per Revenue Hour	2.75
Revenue Hours	48,984



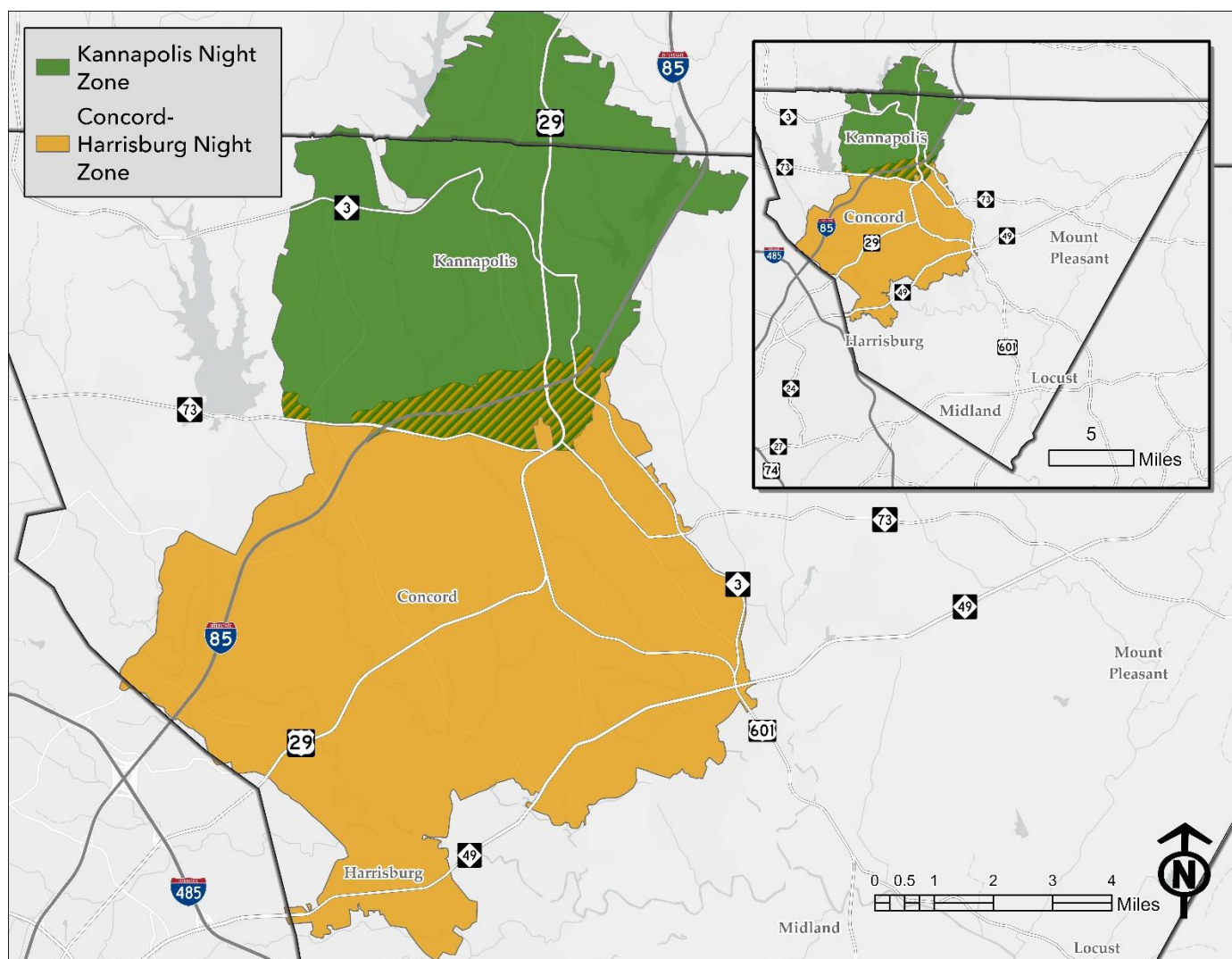
### 6.1.8 All Nighttime Zones

The Kannapolis night zone and the Concord/Harrisburg zone constitute the entirety of nighttime transit services in Cabarrus County, operating seven days a week.

From 7:30pm to 8:30pm, these zones operate in conjunction with fixed route services.

#### All Nighttime Zones- 19:30 to 23:30

Annual Ridership	14,476
Average Trip Distance	5.9
Peak Vehicles	6
Annual Operating Expense	\$632,300
Expense per Trip	\$43.68
Expense per Peak Vehicle	\$105,383
Expense per Revenue Mile	\$7.43
Revenue Miles	85,142
Trips per Revenue Hour	1.83
Revenue Hours	7,904

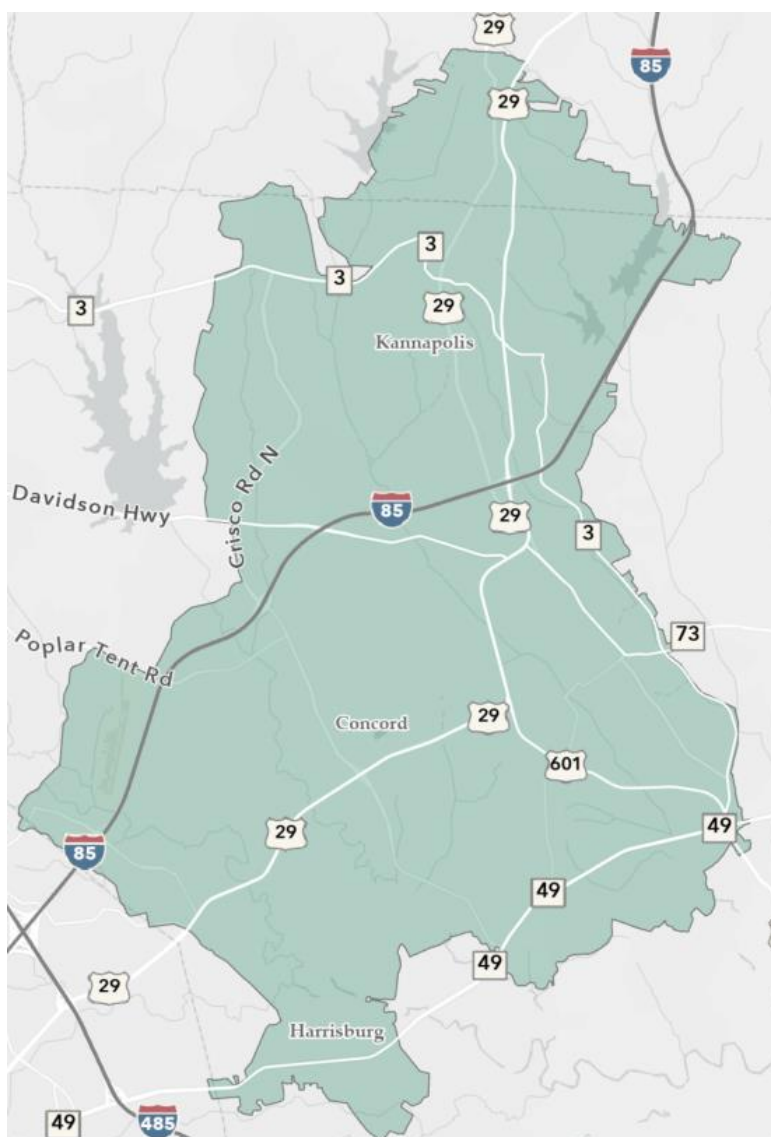


### 6.1.9 All Microtransit Zones

Three daytime microtransit zones and two nighttime microtransit zones comprise the entirety of this conceptual microtransit service for Cabarrus County.

Microtransit service is proposed to operate between 5:30am and 11:30pm on weekdays, and between 8:30am and 11:30pm on weekends. The service is expected to serve a population of approximately 150,000 residents and will require approximately 12 vehicles to operate during peak service.

All Microtransit Zones- 5:30 to 23:30	
Annual Ridership	149,316
Average Trip Distance	4.7
Peak Vehicles	12
Annual Operating Expense	\$4,552,300
Expense per Trip	\$30.49
Expense per Peak Vehicle	\$379,358
Expense per Revenue Mile	\$6.46
Revenue Miles	704,868
Trips per Revenue Hour	2.62
Revenue Hours	56,888

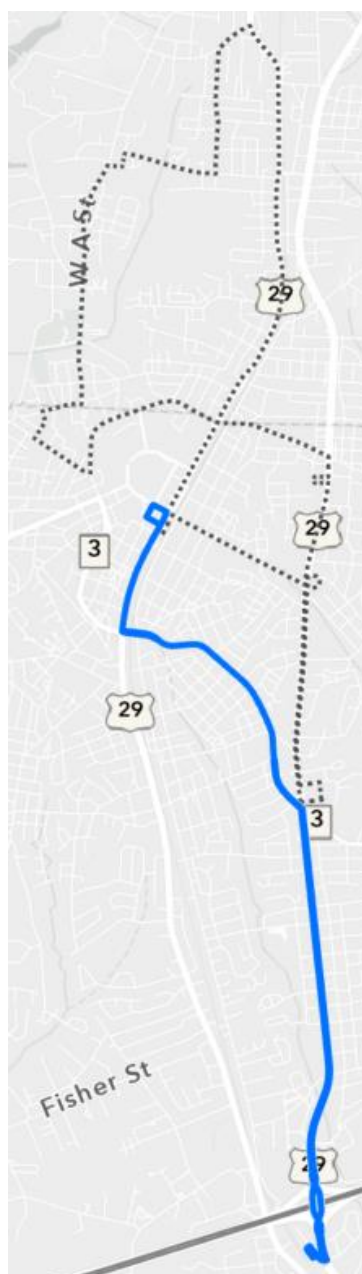


### 6.1.10 Blue Route

Truncated by nearly eight miles, the proposed alignment for the Blue route allows it to operate on 30-minute headways, facilitating a direct connection between the Rider Transit Center and Downtown Kannapolis.

Conceptual Blue Route	
Route Length (mi)	9.6
Change in Route Length (mi)	-7.8
Proposed Headway (mins)	30
Proposed Service Span	5:30 – 20:30

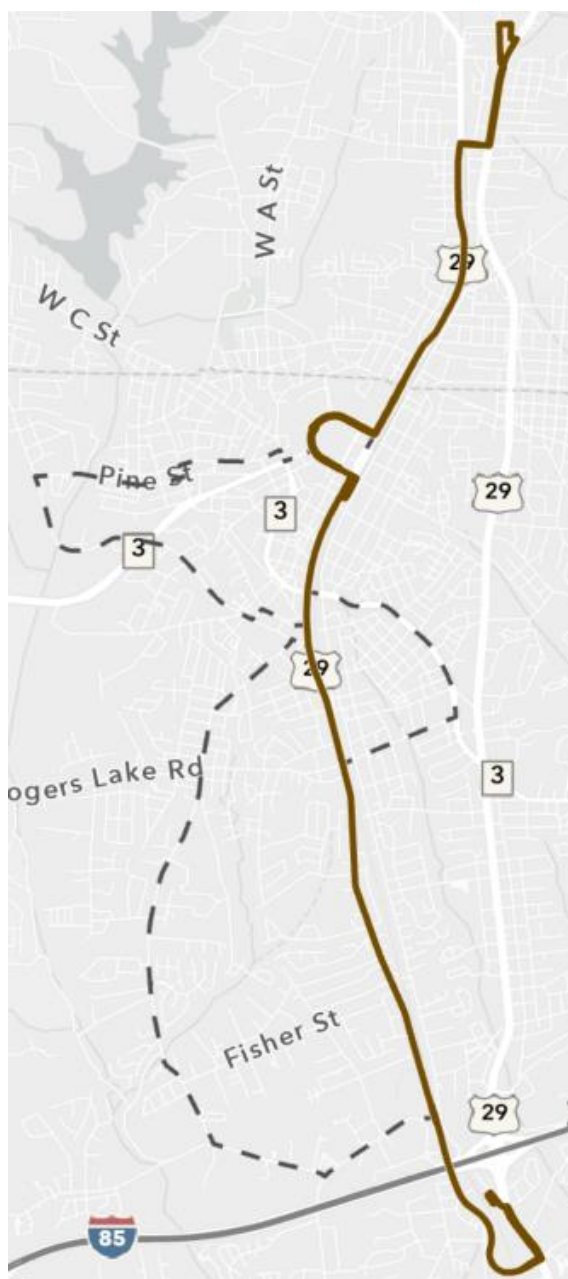
The proposed Blue route travels along Cannon Boulevard, Dale Earnhardt Boulevard, and Main Street.



### 6.1.11 Brown Route

Primarily serving Main Street in Kannapolis, the proposed alignment of the Brown route provides a direct connection between the Rider Transit Center, Downtown Kannapolis, and the northernmost parts of Kannapolis, terminating at the Food Lion on North Cannon Boulevard.

Conceptual Brown Route	
Route Length (mi)	17.5
Change in Route Length (mi)	-0.8
Proposed Headway (mins)	60
Proposed Service Span	5:30 – 20:30

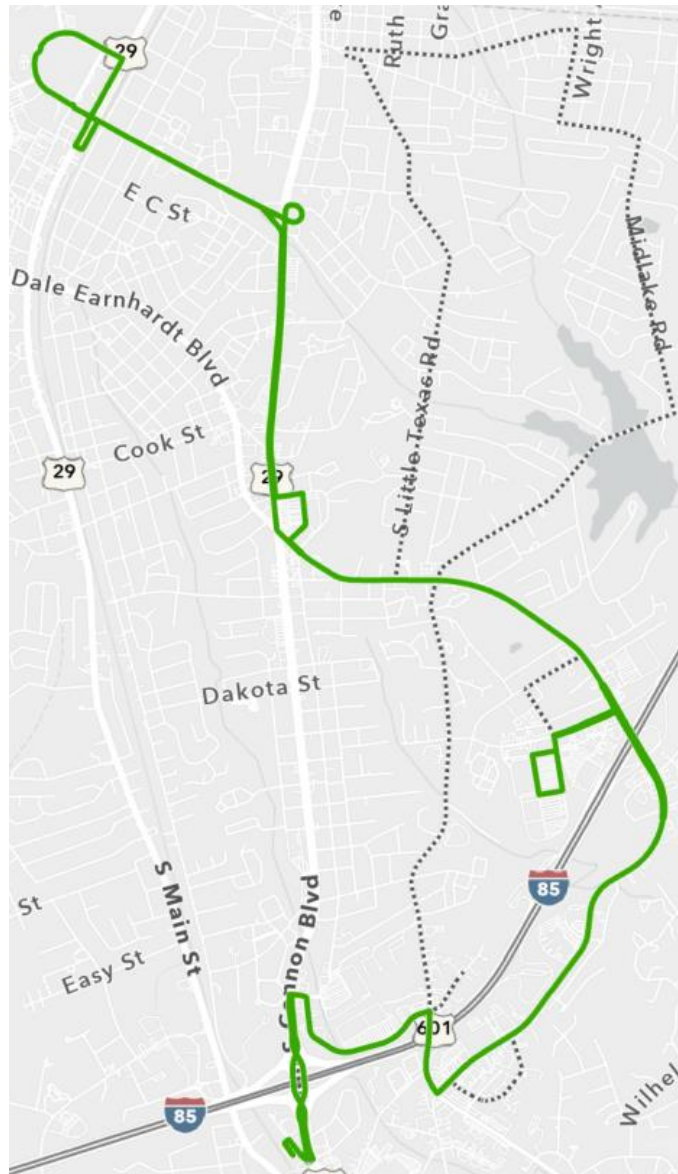


### 6.1.12 Green Route

In order to connect major activity centers and directly serve principal corridors, the proposed alignment for the Green Route primarily runs along Copperfield/Dale Earnhardt Boulevard, Cannon Boulevard, and Martin Luther King Jr Avenue.

Conceptual Green Route	
Route Length (mi)	18.1
Change in Route Length (mi)	+3.2
Proposed Headway (mins)	60
Proposed Service Span	5:30 – 20:30

The Green Route will connect Downtown Kannapolis, the Cabarrus County Human Services Center, the Northlite shopping center, and Rider Transit Center.



### 6.1.13 Orange Route

Only slightly different from the current alignment, the proposed Orange route alignment runs along Coleman Boulevard to serve the Village Shopping Center and better connect with Concord Parkway and the Purple route. The route's one-way loop at its southern end allows for maximized coverage for this route but can rely upon the Southeast Concord microtransit zone to facilitate travel in this area when it is more feasible than the Orange route.

Conceptual Orange Route	
Route Length (mi)	14.6
Change in Route Length (mi)	+0.1
Proposed Headway (mins)	60
Proposed Service Span	5:30 – 20:30

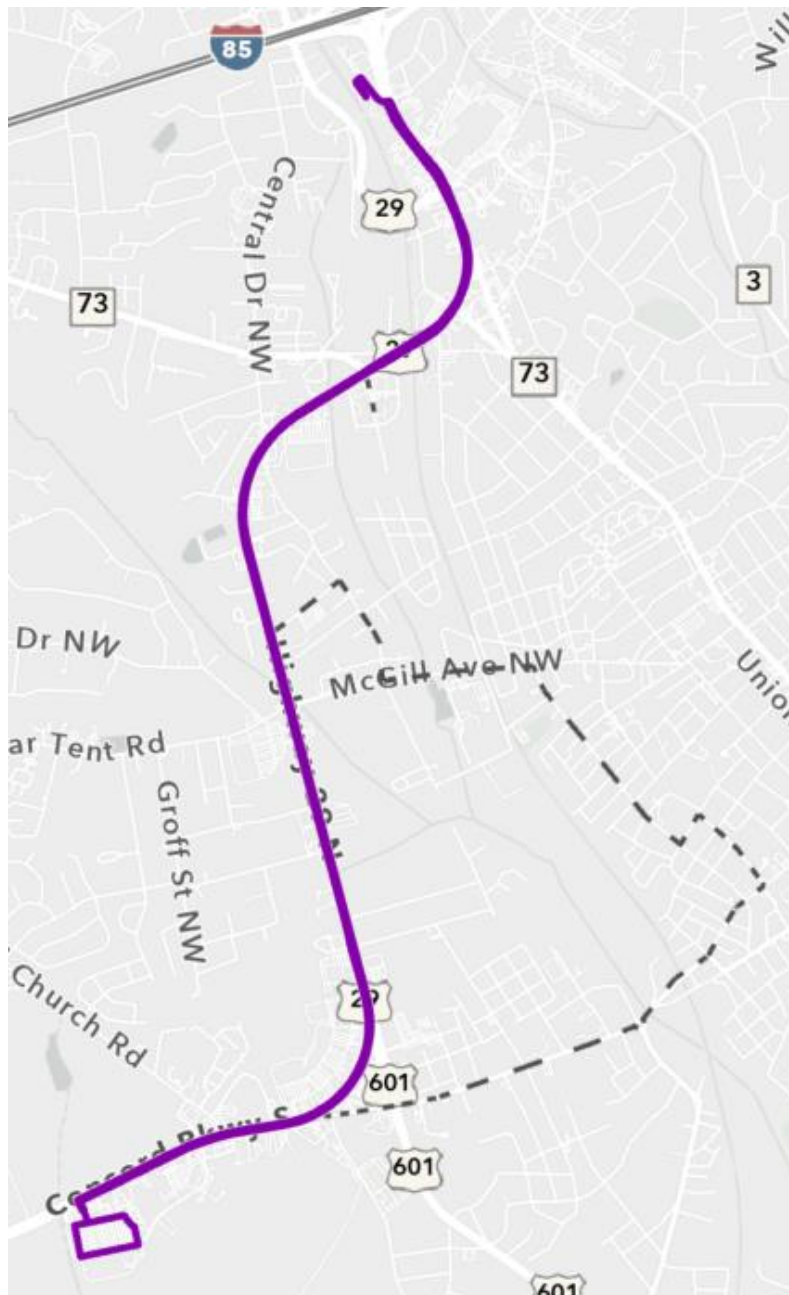
The Orange route continues to serve Carolina Mall, Atrium Health Concord, and Downtown Concord. The proposed alignment also serves the entirety of Cabarrus Avenue West.



### 6.1.14 Purple Route

Truncated by nearly five miles, the proposed alignment for the Purple route allows it to operate on 30-minute headways, facilitating a direct connection between the Rider Transit Center and Concord Commons via Concord Parkway.

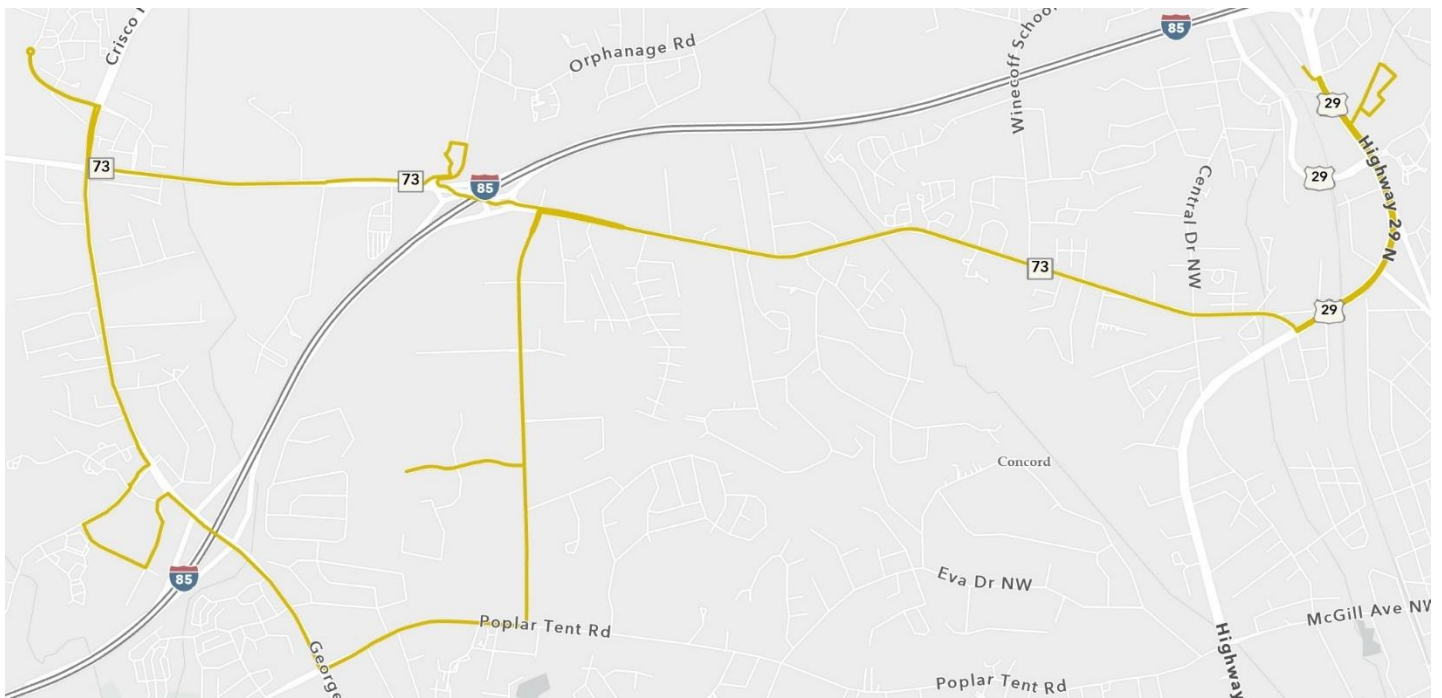
Conceptual Purple Route	
Route Length (mi)	10.0
Change in Route Length (mi)	-4.8
Proposed Headway (mins)	30
Proposed Service Span	5:30 – 20:30



### 6.1.15 Yellow Route

The Yellow route is proposed to remain unchanged from its current alignment and operation.

Conceptual Yellow Route	
Route Length (mi)	18.36
Change in Route Length (mi)	0
Proposed Headway (mins)	60
Proposed Service Span	5:30 – 20:30

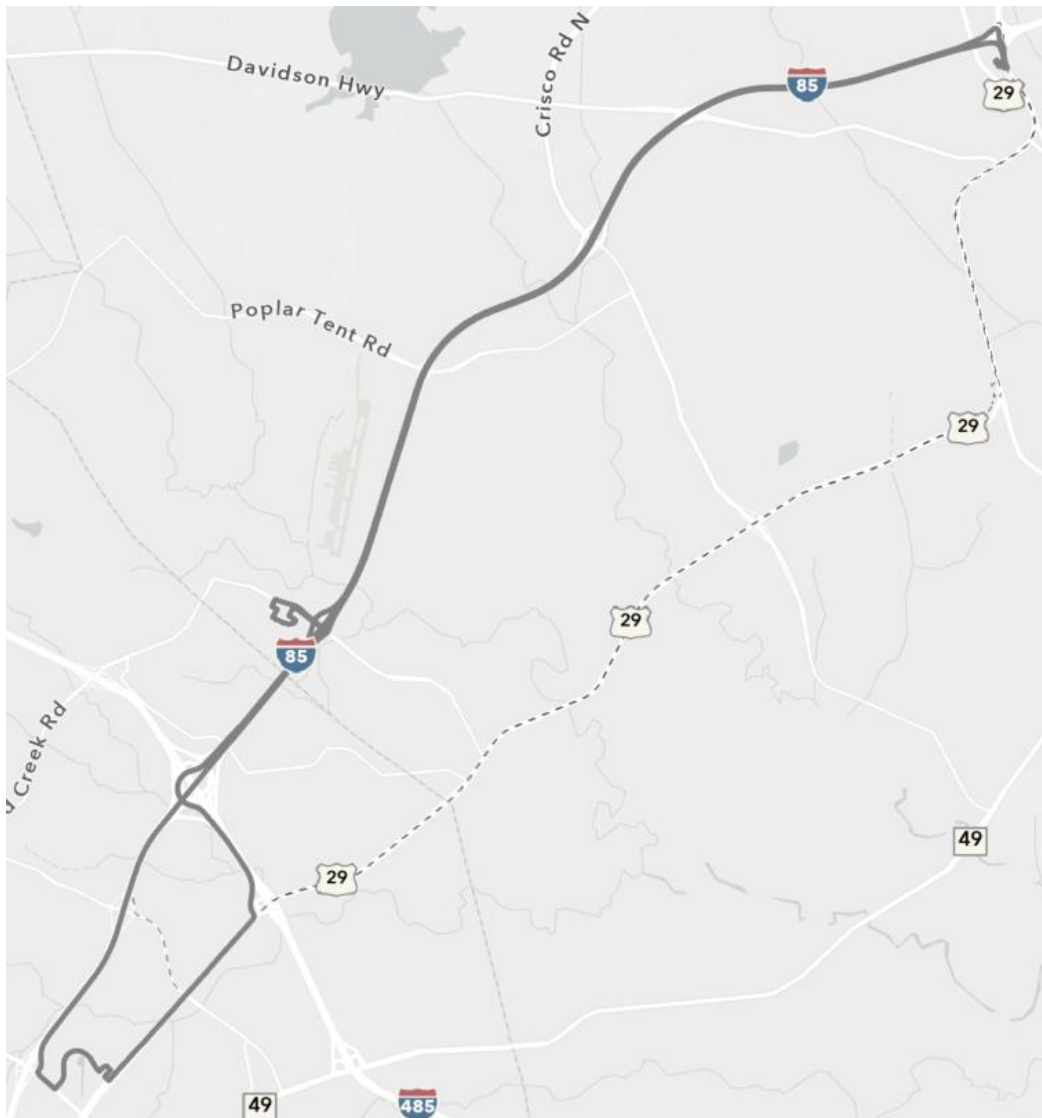


### 6.1.16 CCX Route

The proposed CCX realignment represents a major service change that attempts to streamline the current Red and CCX routes.

The proposed CCX route directly connects Rider Transit Center, Concord Mills, and the JW Clay light rail station without any additional stops. The proposed CCX operates primarily along Interstate 85 to serve its four stops.

Conceptual CCX Route	
Route Length (mi)	30.7
Change in Route Length (mi)	+1.8
Proposed Headway (mins)	60
Proposed Service Span	5:30 – 20:30



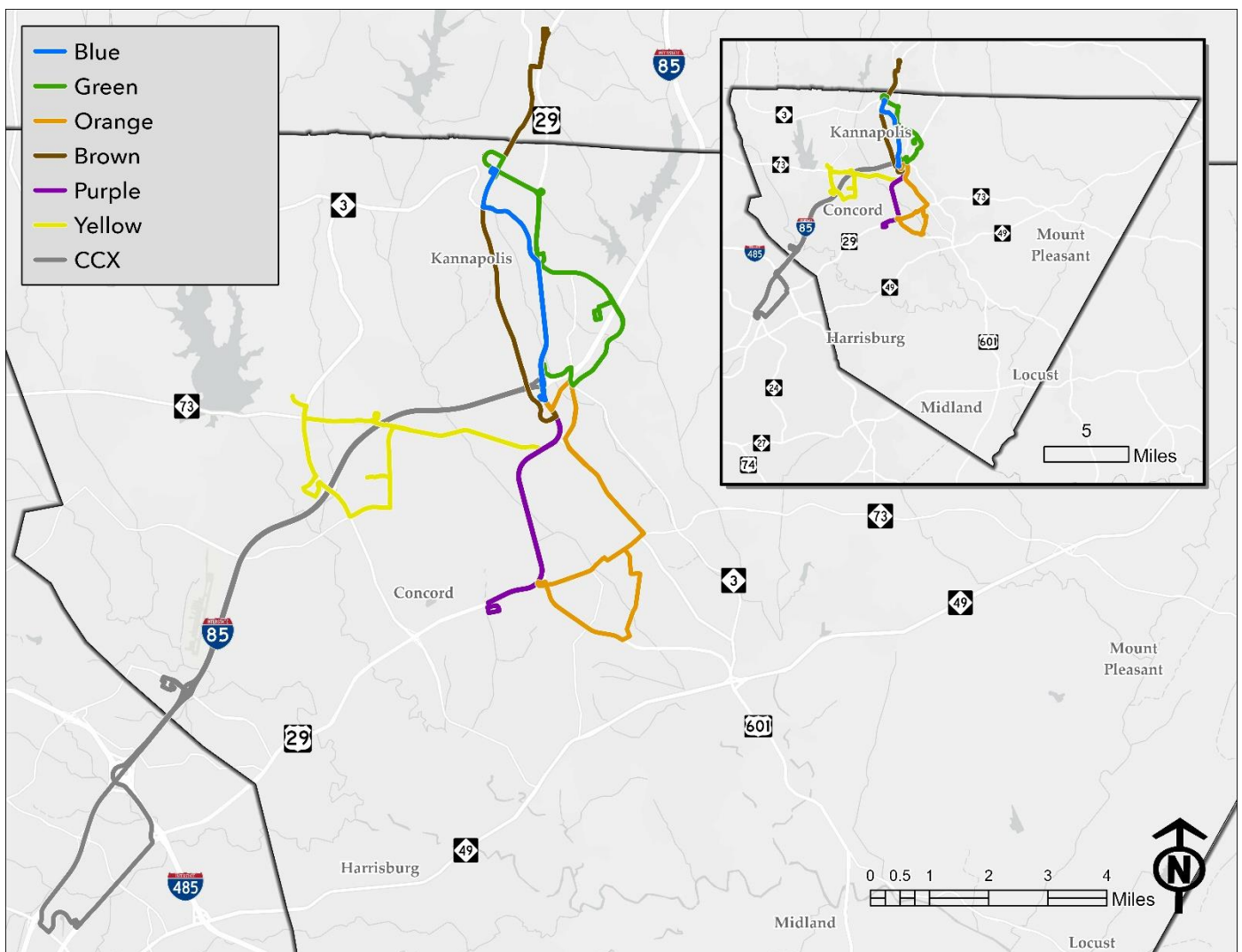
### 6.1.17 All Fixed Routes

Seven fixed routes comprise the entirety of this conceptual microtransit service for Cabarrus County. Five fixed routes provide service every 60 minutes while two fixed routes provide service every 30 minutes. Seven vehicles will be required to operate a fixed route service.

Fixed route service is proposed to maintain its current service span, running between 5:30am and 8:30pm on weekdays, and between 8:30am and 8:30pm on weekends.

#### All Fixed Routes- 5:30 to 20:30

Average Route	17
Distance (mi)	
Peak Vehicles	7
Annual Operating Expense	\$2,522,124
Expense per Peak Vehicle	\$360,303
Expense per Revenue Mile	\$1.77
Revenue Miles	1,422,631
Revenue Hours	87,960



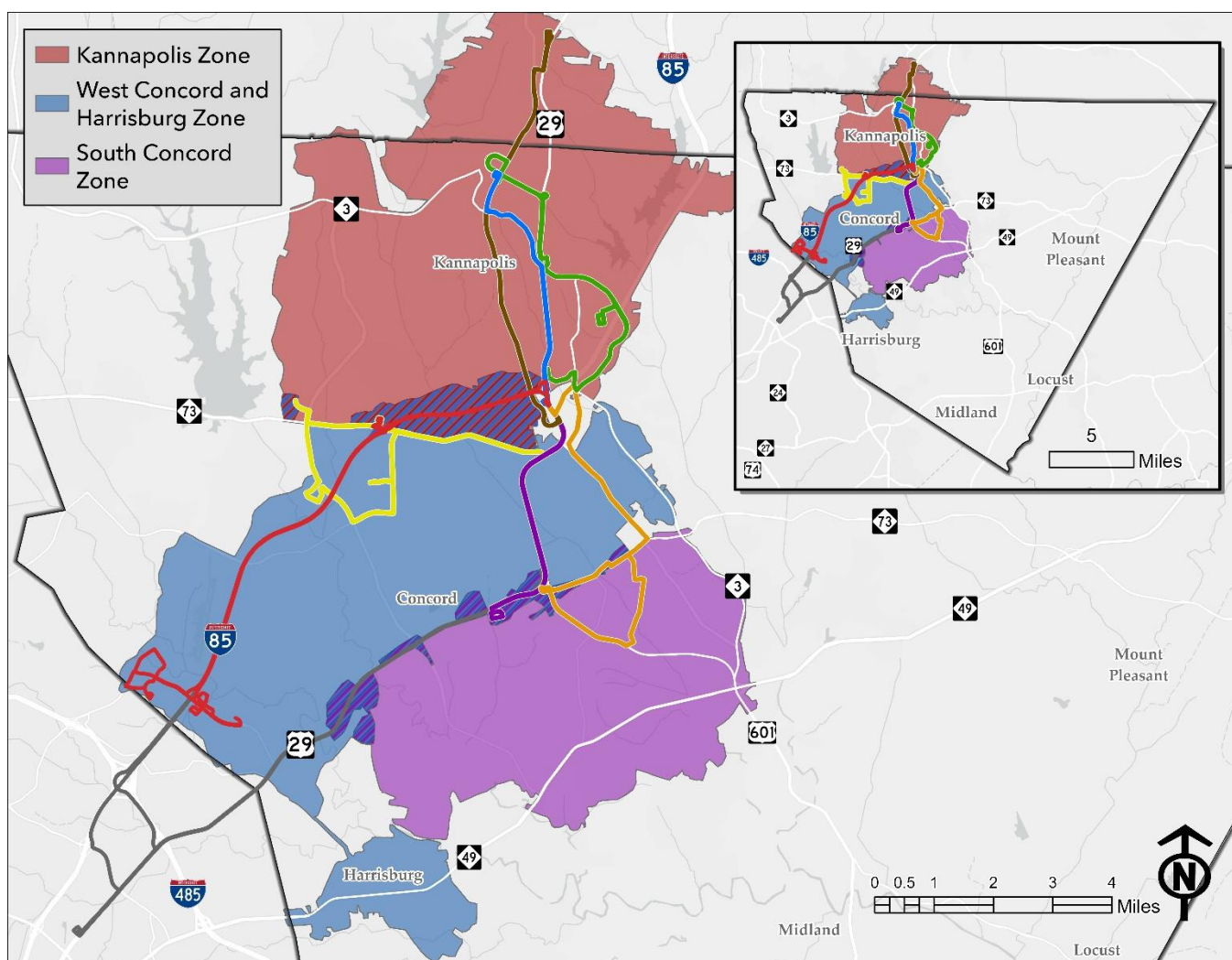
### 6.1.18 All Microtransit Zones and Fixed Routes

Seven fixed routes, three daytime microtransit zones, and two nighttime microtransit zones comprise the entirety of this conceptual microtransit service for Cabarrus County.

Transit service is proposed to operate between 5:30am and 11:30pm on weekdays, and between 8:30am and 11:30pm on weekends. The service is expected to serve a population of approximately 150,000 residents and will require approximately 19 vehicles to operate during peak service, excluding vehicles needed to complete paratransit trips and vehicles needed to provide service outside of the microtransit service area.

#### All Fixed Route and Microtransit Zones- 5:30 to 23:30

Peak Vehicles	19
Annual Operating Expense	\$7,074,424
Expense per Peak Vehicle	\$372,338
Expense per Revenue Mile	\$4.97
Revenue Miles	1,443,793
Revenue Hours	87,960



### 6.1.19 Impact of Potential Microtransit Services on Existing Paratransit and Demand Response Services

As microtransit service is introduced in Cabarrus County, the customer reliance on the specific services offered by Rider paratransit and CCTS demand response will decrease because many customers will find the level of service, efficiency, speed, scheduling, and convenience of microtransit to be more desirable than existing services. However, microtransit does not meet all the mobility needs that are currently offered by existing services. Primarily, the proposed microtransit service concepts in this study do not meet all the needs of geographic coverage and ADA assistance that are currently offered by the existing transit services.

Considering the mobility demands that microtransit does and does not meet in Cabarrus County, a certain percentage of transit trips carried out by Rider paratransit and CCTS will no longer need to be fulfilled by those services and can instead be completed by the proposed microtransit service. A small percentage of transit trips will still need to be completed by the existing transit services because either the trip occurs outside the proposed microtransit service area or because a passenger requires assistance beyond what is required to navigate a traditional curb-to-curb microtransit trip.

The proposed microtransit service concepts suggest a significant reduction in demand, and therefore total operating expense, for Rider paratransit and CCTS demand response services. The estimated levels of service and operating expenses for these providers under the proposed service concepts in this chapter are outlined in the implementation plan of this study.

### 6.1.20 Service Concept for the Concord Mills/Bruton Smith Boulevard Corridor

The preliminary microtransit service concepts do not directly accommodate the unique travel needs and behaviors of the Concord Mills/Bruton Smith Boulevard corridor, which experiences some of the highest travel and economic activity in the region, attracting people to major destinations like Concord Mills, Charlotte Motor Speedway, Concord Convention Center, and Great Wolf Lodge. The area can experience exceptionally high levels of travel during rush hour, weekends, and special events, which puts a strain on the corridor's current transportation infrastructure.

It is not feasible for microtransit or a direct radial/crosstown bus route to adequately serve the corridor. Therefore, this study did not directly develop a service concept to address this area. However, a prospective solution for the corridor is incorporated into this study's implementation plan.

## 6.2 Evaluation

An evaluation methodology was created to support the evaluation of proposed microtransit service concepts in alignment with the goals and performance measures established in coordination with the PRC. The outcome of the evaluation is a graded set of proposed microtransit service concepts.

### 6.2.1 Evaluation Criteria

To aid in the evaluation of microtransit service concepts for Cabarrus County, a methodology to score the concepts was developed. Ultimately, each concept received a final score, which indicates the preferability for that concept. The final score is the weighted sum of the scores of each individual

category of evaluation, which mirror each performance measure established in the Goals and Performance Evaluation chapter of this study. The categories of evaluation are listed as follows:

Number of People Served	Number of Large Activity Centers Served	Number of People Served Beyond 1/4-mile of Fixed Routes	Percentage of People Who Are Transit Oriented
Operating Expense per Passenger Trip	Opportunity Zones as a Percentage of Total Service Area	Aligns with Stakeholder Input	Percent of Cabarrus County Land Served
Number of Active Development Permits	Percent of Employees Served	Hours of Service per Week	

Each microtransit service concept received one of the following scores for each category:

<ul style="list-style-type: none"> <li>• Service concept applies very little to the given category</li> </ul>	<ul style="list-style-type: none"> <li>• Service concept applies somewhat to the given category</li> </ul>	<ul style="list-style-type: none"> <li>• Service concept applies very much to the given category</li> </ul>

For instance, the lowest total score a service concept can receive is 10, while the highest total score a concept can receive is 50. The resulting cumulative score reveals the relative desirability for the implementation of each service concept.

### 6.2.2 Evaluation Results

The microtransit service concepts evaluation resulted in final scores for each concept, with higher scores indicating a more optimal service to implement at the given time. It is important to note that the scoring order is not an indicator of whether a concept is “bad” or “good”, but rather a reflection of its relevance and suitability under the chosen evaluation criteria. The results are shown in Table 6-1 and summarized in Figure 6-2.

Due to the criteria of the evaluation matrix and their weights, service concepts that provided a higher level of service scored higher for this evaluation. The highest scoring concepts are those comprised of the implementation of multiple microtransit zones: all day zones, all night zones, and all day and night zones. On average, nighttime microtransit zones score higher than daytime microtransit zones because the night zones serve a greater area and population than the day zones. Of the three daytime microtransit zones, the Kannapolis zone scored the highest because it serves the greatest population, is supported by transit-oriented populations, and is the most operationally efficient. The other daytime zones scored lower than the Kannapolis zone because they are generally less proficient in the aforementioned categories.

The results of this evaluation informed the final step of this feasibility study, the development of the implementation plan, which phases the implementation of microtransit service and considers factors such as cost, funding sources, and practicality of the service concepts.

FIGURE 6-1: SUMMARY OF THE EVALUATION OF PROPOSED SERVICE CONCEPTS

- All microtransit zones
- All daytime microtransit zones
- All nighttime microtransit zones
- Concord/Harrisburg Night Zone
- Kannapolis Day Zone
- Kannapolis Night Zone
- Northwest Concord/Harrisburg Zone
- Southeast Concord Zone



TABLE 6-1: EVALUATION OF PROPOSED SERVICE CONCEPTS

Alternatives	Evaluation Criteria											Score
	Number of People Served	Number of Large Activity Centers Served	Number of People Served Beyond 1/4-mile of Fixed Route	Percent of People Served Who Are Transit Oriented	Operating Expense per Passenger Trip	Opportunity Zones as a Percentage of Total Service Area	Aligns with Stakeholder Input	Percent of Cabarrus County Land Served	Number of Active Development Permits	Percent of Employees Served	Hours of Service per Week	
Weight	0.5	1.0	0.5	0.5	1.0	0.5	2.0	1.0	1.0	1.0	1.0	
<b>Daytime Microtransit Zones</b>												
Kannapolis Zone	3	3	1	5	5	5	5	3	3	1	3	35
West Concord/Harrisburg Zone	1	3	1	3	3	3	3	3	3	3	3	28
South Concord Zone	1	1	1	3	3	1	5	3	1	1	3	25
<b>Nighttime Microtransit Zones</b>												
Kannapolis Night Zone	3	3	3	5	3	5	5	3	3	3	1	34
Concord Night Zone	3	5	3	3	1	3	5	5	3	5	1	36
<b>Combined Microtransit Zones</b>												
All day zones	5	5	5	3	5	3	5	5	5	5	3	46
All night zones	5	5	5	3	1	3	5	5	5	5	1	40
All day and night zones and routes	5	5	5	3	3	3	5	5	5	5	5	46

## 7 IMPLEMENTATION PLAN

The final chapter of this feasibility study details the implementation plan of the proposed microtransit service concepts in Cabarrus County. This comprises a phased plan for the implementation of microtransit services, as well as estimations of added costs and cost savings to be incurred due to the implementation of microtransit. Operational parameters, benefits of microtransit, and additional considerations are also described.

### 7.1 Phased Implementation Plan

In order to optimize the customer experience and operational efficiencies associated with the provision of microtransit services, a phased plan for implementation has been developed. The implementation is comprised of three main phases that ease the community and transit system into the final phase of implementation, which consists of both daytime and microtransit services, as well as a realigned fixed route network with seven routes.

The phases of implementation are described below and illustrated in Figure 7-1.

FIGURE 7-1 PHASED IMPLEMENTATION PLAN



**Phase 1A Add Daytime Microtransit Zones** | The first phase begins with the introduction of the daytime microtransit zones in addition to the fixed route services currently offered by Rider Transit. By starting only with the addition of daytime microtransit zones, riders can begin to familiarize themselves with how the microtransit services work before any realignments to the fixed route take place. This phase also includes a significant amount of internal training and external marketing by the transit agencies. By delaying the changes to the fixed route service, the transit agency can address any operational concerns with the microtransit service before shifting the fixed route service.

**Phase 1B Realign Fixed Routes** | The first phase is completed with the realignment of six Rider Transit fixed routes to streamline services, focus on major roadways, and remove circuitous loops. These routes include the Blue, Brown, Green, Orange, Purple, and Yellow. It is anticipated that this step will be completed several months after Phase 1A begins. By dividing Phase 1 into two steps, the transit agencies have an opportunity to manage one major change at a time and passengers are able to slowly adjust to the changes. After the fixed route changes are put in place, Rider Transit should adjust any operational issues that arise.

There is also an opportunity to consider the need for virtual stops. As demand grows for microtransit service, it is possible that trip demand will be great enough that virtual stops would be a useful addition to the service. The initial implementation of microtransit service is suggested to operate a true curb-to-curb service where passengers are transported directly between their requested origin and destination. However, with virtual stops, a passenger would be instructed to walk to/from a nearby location for pickup/drop off. The benefit of virtual stops is that multiple passengers can be picked up from the same location at the same time. It also allows for passengers to be dropped off in the same location passengers are being picked up.

**Phase 2 Add Nighttime Microtransit Zones** | The second phase focuses on the addition of nighttime microtransit service. The timing of this phase is fluid and can be introduced as demand and fiscal capacity become available. There are two proposed nighttime microtransit zones which cover most of Concord, Kannapolis, and Harrisburg.

At 7:30pm, the daytime microtransit service will cease to operate and the nighttime microtransit service will commence operation. At this time, the last run of Rider buses will depart the Transit Center, providing overlapping service with the nighttime microtransit zones. At 8:30pm, fixed operations will cease for the night and the nighttime microtransit zones will exclusively provide transit services in Cabarrus County through 11:30pm.

**Phase 3 Address Boulevards of Concord** | The final phase is to address the Concord Mills/Bruton Smith Boulevard corridor. This corridor experiences some of the highest travel and economic activity in the region, attracting people to major destinations like Concord Mills, Charlotte Motor Speedway, Concord Convention Center, and Great Wolf Lodge. The area can experience exceptionally high levels of travel during rush hour, weekends, and special events, which puts a strain on the corridor's current transportation infrastructure.

It is not feasible for microtransit or a direct radial/crosstown bus route to adequately serve the corridor. Instead, the *Boulevards of Concord* study proposes a circulator route that serves travel localized within the Concord Mills/Bruton Smith Boulevard corridor, also similarly proposed in the Cabarrus County Long Range Public Transportation Master Plan. The implementation of a circulator or deviated fixed route in that area permits the consolidation of the existing Red and CCX routes into a single express route that directly connects the Rider Transit Center in Concord, Concord Mills, and the JW Clay light rail station in Charlotte.

## 7.2 Financial Considerations

This section provides an overview of the expected capital and operating cost implications for microtransit service. This section also includes a discussion of the cost savings that may occur with the streamlining of the fixed route network and potential transition of some passengers from paratransit and demand response service to microtransit service.

### 7.2.1 Cost Estimates

As mentioned in the previous chapter, the proposed transit service concept in Cabarrus County calls for an overall increase in the level of service. This is achieved by implementing microtransit service, implementing a circulator for the Concord Mills area, and by scaling back on fixed route, paratransit, and demand response services due to the addition of microtransit. Tables 7-1 and 7-2 respectively depict the current and proposed characteristics of transit operations and expense for Cabarrus County.

The same unit costs are used to calculate both existing total operating expense and proposed total operating expense for Rider fixed route, Rider paratransit, and CCTS demand response. Conservatively, the microtransit total operating expense assumes an operating cost of \$80 per revenue hour, which represents the high end of observed microtransit services. Also conservatively, a provisional Concord Mills circulator assumes an operating cost of \$472,748 per vehicle, five vehicles operating in peak service, and a minimum annual ridership estimation of 50,000.

The operating expense for each mode decreases proportionally to the number of trips that are moved to microtransit under the proposed service concept. Including all phases of implementation, the annual operating expense for microtransit in Cabarrus County is approximately \$4.55 million. However, the annual cost to operate fixed route, paratransit, and demand response services decreases by \$360,304, \$571,300, and \$1.66 million, respectively. Including the addition of a Concord Mills circulator, this represents a net \$4.28 million increase in annual operating expenses compared to existing transit services in Cabarrus County. This recommendation provides access to transit for an additional 83,200 people from the general public who currently cannot access transit within a reasonable distance. Furthermore, many of those who already have access to transit will be able to use transit quicker, at later hours, and to access more destinations throughout the county.

**TABLE 7-1: COST AND SERVICE CHARACTERISTICS OF EXISTING TRANSIT SERVICES IN CABARRUS COUNTY**

System	Annual Ridership	Peak Vehicles	Annual Operating Expense	Revenue Miles	Revenue Hours	Expense per Passenger Trip	Population Served
Existing Fixed Route	355,856	8	\$2,882,428	705,945	35,511	\$8.10	50,900
Existing Rider Paratransit	19,167	4	\$1,077,987	157,404	11,595	\$56.24	N/A*
Existing CCTS	55,676	22	\$2,365,392	481,022	28,854	\$42.48	N/A*
<b>Existing Total</b>	<b>430,699</b>	<b>34</b>	<b>\$6,325,807</b>	<b>1,344,371</b>	<b>75,960</b>	<b>\$14.63</b>	<b>50,900</b>

\*These services have restrictions on rider eligibility

**TABLE 7-2: COST AND SERVICE CHARACTERISTICS OF PROPOSED SERVICE CONCEPTS IN CABARRUS COUNTY**

System	Annual Ridership	Peak Vehicles	Annual Operating Expense	Revenue Miles	Revenue Hours	Expense per Trip	Population Served
Proposed Fixed Route	343,239	7	\$2,522,124	632,663	31,072	\$7.35	30,300
Daytime Microtransit	134,840	12	\$3,920,000	704,868	48,978	\$29.07	130,200
Nighttime Microtransit	14,476	6	\$632,300	85,100	7,910	\$43.68	132,100
Potential Rider Paratransit	9,008	2	\$506,687	73,980	5,450	\$56.25	N/A*
Potential CCTS	16,703	6	\$709,543	116,587	6,994	\$42.48	N/A*
Concord Mills Circulator**	50,000	5	\$2,363,740	201,548	24,975	\$47.27	N/A
<b>Proposed Daytime Total</b>	<b>553,790</b>	<b>32</b>	<b>\$10,022,094</b>	<b>1,729,646</b>	<b>117,469</b>	<b>\$18.10</b>	<b>130,200</b>
<b>Proposed Total</b>	<b>568,266</b>	<b>32</b>	<b>\$10,654,394</b>	<b>1,814,746</b>	<b>125,379</b>	<b>\$18.75</b>	<b>134,100</b>

\*These services have restrictions on rider eligibility

\*\*Assumes a \$472,748 expense per peak vehicle, a low-end ridership of 50,000 trips, and a high number of peak vehicles (5)

## 7.2.2 Supplementary Funding Sources

Federal funding sources are noted for their ability to support major projects that would be challenging to support solely on local or state funds. The following briefly describes some of the identified federal funding sources that could support the initiatives listed in the implementation plan.

- **Accelerated Innovative Mobility (AIM)** – The AIM program helps fund innovative approaches to mobility and may be useful during Phase 1 to support the Microtransit Pilots.
- **Public Transportation Innovation (§5312 Funds)** – The FTA provides funding to develop innovative products and services assisting transit agencies in better meeting the needs of their customers. These funds could be useful during Phase 1 to support the Microtransit Pilots.

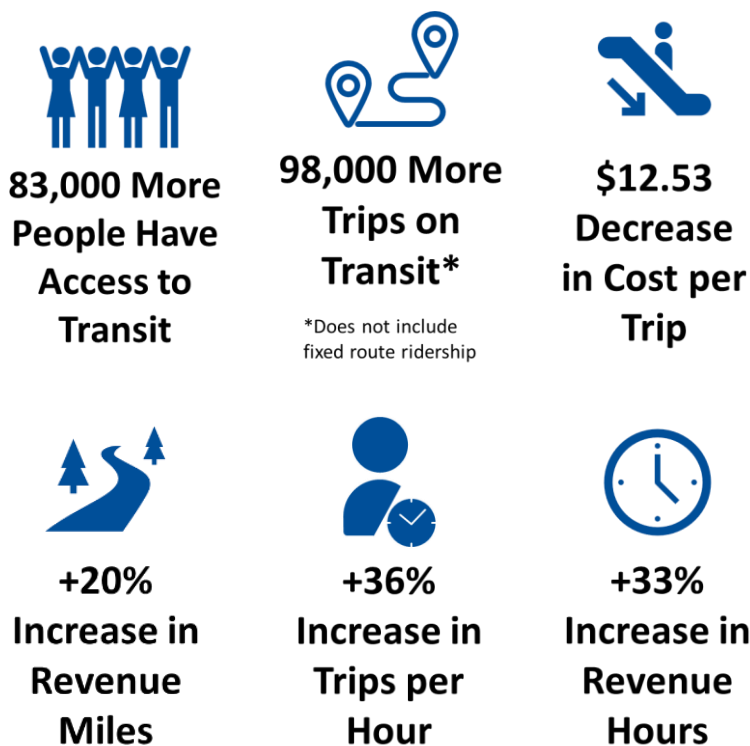
There are many local funding sources that can be used to support some of the solutions proposed in this plan. Accessing local funds will require collaboration with counties, municipalities, and other local partners. The following briefly describes some of the identified local funding sources that could support the initiatives listed in the implementation plan. Generally speaking, local funding sources have fewer restrictions than federal and state funding sources.

- **Local Partners** – Local funds can best be accessed through local partnerships with entities that support and benefit from transit services. Stakeholders identified the following list of entities to engage in partnerships:
  - Economic Development Agencies
  - Workforce Development Agencies
  - Planning Departments
  - RPOs, MPOs, and COGs
  - Municipalities
    - This is an opportunity for other municipalities to provide funding for transit that serves their communities, such as Harrisburg, which is served by the proposed Northwest Concord/Harrisburg microtransit zone

## 7.3 Benefits of Microtransit Implementation

This section highlights the benefits of this study’s proposed implementation of microtransit, especially pertinent to its ability to vastly improve upon Cabarrus County’s existing transit conditions and to address unmet needs. Figure 7-2 provides a visual summary of these benefits.

FIGURE 7-2: SUMMARY OF THE BENEFITS OF MICROTRANSIT IMPLEMENTATION



As mentioned previously, the proposed transit service concept in Cabarrus County calls for an overall increase in the level of service, primarily due to the operation of microtransit throughout most of the county’s developed areas. This increased level of transit service provides nearby transit access to 134,100 Cabarrus County residents, which is 83,200 more than what is currently served. This increased geographic coverage and service span is accomplished by increases in revenue miles traveled and revenue hours in operations. This massive increase in the service area population will greatly increase demand for transit services and increase transit access inclusivity for people who do not currently have access to transit.

The proposed microtransit service also improves the county’s average transit productivity and cost efficiency. Specifically, transit would be able to accommodate an additional 36% more trips per hour and reduce the average cost per demand response trip by \$12.53. These efficiency improvements are a benefit of microtransit improvement that signify a more financially stable transit service and one that is more desired by riders and community leaders.

## 7.4 Operational Parameters and Assessments

In order to optimize the customer experience and operational efficiencies associated with the provision of microtransit services, certain operational parameters and requirements should be in place. Furthermore, the performance of those services should be routinely monitored and analyzed so that

changes can be made to the operational parameters for the purpose of increasing efficiency and customer satisfaction.

#### 7.4.1 Operational Parameters

When implementing microtransit service, there are certain operational variables that can be altered specific to the presumed mobility needs of the community it will be serving. These are primarily altered for the purposes of maximizing the efficiency of the service and providing the highest quality and level of service to its passengers.

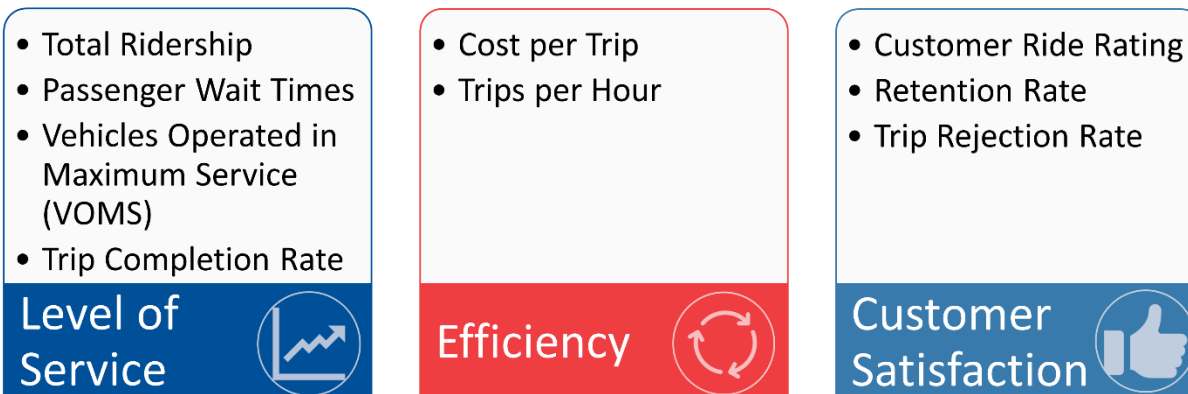
For microtransit in Cabarrus County, it is recommended that its operation is optimized through the procurement and use of an on-demand scheduling software that prioritizes shared rides, minimizes the number of transfers, and processes ride requests so that trips default to fixed route service when feasible. Such a software, provided by RideCo, is already in place for Rider. CCTS intends to transition to a similar software.

It should also be noted that many operational parameters can be adjusted easily. Microtransit geographic areas of coverage can be altered relatively quickly in order to include or exclude certain areas based on changing demand and service efficiency. Microtransit service span can also be adjusted in order to meet demand temporally, as funding allows.

#### 7.4.2 Assessment of Services

To sustain microtransit service efficiency and quality of service, key performance indicators (KPIs) should be monitored and routinely evaluated to indicate how well the service is performing and which changes to the service, if any, should be implemented.

Several KPIs are identified in Figure 7-3 and detailed below. A minimum of satisfactory performance in each of these indicators is essential to the success of a microtransit service in fulfilling the mobility needs it was implemented for.



## Level of Service

- Total Ridership
  - The total number of microtransit trips completed in a given time frame. This best represents the level of service of a microtransit service.
- Passenger Wait Times
  - The average time a passenger must wait between requesting a ride and getting picked up. This indicator represents the efficiency of the service and if it adequately meets demand.
- Vehicles Operated in Maximum Service (VOMS)
  - The maximum number of vehicles required to operate microtransit at its peak level of service. This indicator documents the level of service in terms of capital (revenue vehicles) required to operate the service at its peak.
- Trip Completion Rate
  - The percentage of requested trips that are completed. This indicator represents the ability of a microtransit service to adequately meet demand and to provide satisfactory service to its customers.

## Efficiency

- Cost per Trip
  - The total operating expense divided by the total number of trips completed. This indicates the cost-efficiency of the service.
- Trips per Hour
  - The total number of trips completed divided by the total number of revenue hours. This indicates how effective the service is in serving as many riders as quickly as possible.

## Customer Satisfaction

- Customer Ride Rating
  - The average rating given by customers who use the microtransit service. This is a direct indicator of customer satisfaction.
- Retention Rate
  - The percentage of riders who continue to use the service. This indicates customer satisfaction with the service by calculating how many customers continue to use the service time after time.
- Trip Rejection Rate
  - The percentage of riders who do not accept and complete the trips they are assigned based on a ride request. This primarily indicates customer dissatisfaction with the transportation solutions provided in response to ride requests.

## 7.5 Additional Considerations

In addition to the benefits and challenges of implementing microtransit service that were already discussed in this study, there are additional considerations beyond the scope of this study that should be accounted for regarding the implementation of microtransit in Cabarrus County.

Adding microtransit service to the repertoire of transit services offered in Cabarrus County represents a major service change, as it is proposed in this implementation. Aside from financial and operational considerations, a significant amount of marketing and outreach should be considered to promote and educate the public on what service changes will come about with the introduction of microtransit, how to use those services, and what the benefits are to using those services.

Additionally, a consolidation study was completed in the third quarter of 2024 which evaluated the feasibility and proposed implementations of a plausible consolidation of CCTS and Rider Transit into a single entity providing public transit in Cabarrus County. The two proposed solutions were a city-based transit system and a transit authority. A consolidation of transit services could affect the implementation of microtransit services. If the two agencies were to consolidate, it could be a prime opportunity to begin the implementation of microtransit in Cabarrus County because each transit service will undergo significant changes regardless of consolidation. Furthermore, the implementation of microtransit in Cabarrus County in the absence of a consolidated public transit agency could pose complications between agencies in terms of procurement, administration, and even operations. We would encourage a planned and phased implementation of microtransit services in conjunction with consolidation efforts.

However, it is conceivable that each agency (Rider and CCTS) could have a contract with RideCo for services operated within a combined service area and these services would operate under the same user application. This allows the public to access rides when needed and where needed, as the app figures out which provider serves the trip. Under this model, each agency pays per-vehicle license fees for their vehicles and costs associated with the trips they provide. This shares the overall costs and allows each agency to remain independent. Overall, access to mobility is expanded, as commingled trips increase and save costs on the ADA side and on a per trip basis.



## **8 APPENDICES**

### **8.1 Appendix A – Microtransit – Executive Summary**

A two-page, graphically oriented, and user-friendly executive summary was created to highlight this study's outcomes

### **8.2 Appendix B – Onboard Survey Results**

This appendix provides the results from both rounds of the most recent customer satisfaction survey of Rider and CCTS users, conducted in early 2024.

### **8.3 Appendix C – Stakeholder Interview Summaries**

Detailed notes from each of the 12 stakeholder interviews are included in this appendix.

### **8.4 Appendix D – Concord Kannapolis Area Transit Commission Meeting**

This appendix includes the presentation slides from the October 24, 2024, Concord Kannapolis Area Transit Commission meeting. The consultant presented to the commission the overview of this study, its proposed service concepts, and its proposed implementation plan.

### **8.5 Appendix E – PRC Meetings**

The presentation slides from the four Project Review Committee meetings are included in this appendix.



## 8.1 Appendix A – Microtransit – Executive Summary



# Cabarrus County Microtransit Feasibility

## WHAT IS MICROTRANSIT?

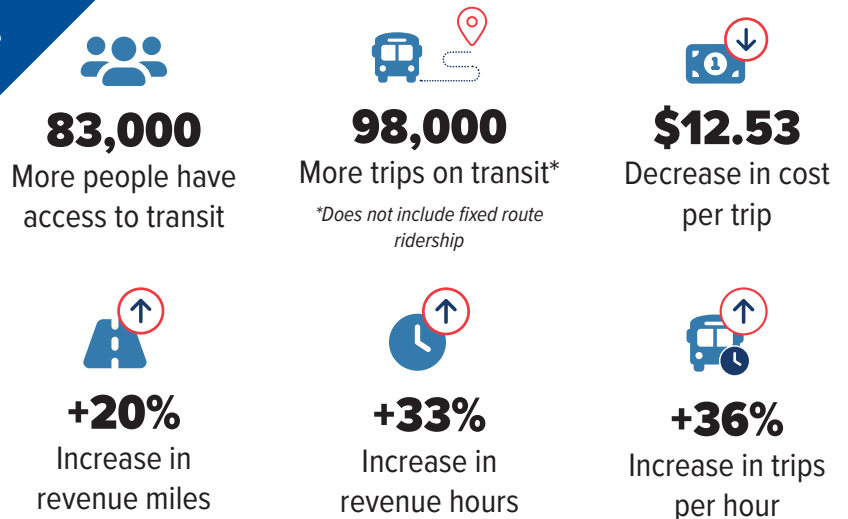
“A shared, technology-enabled, public transportation system with flexible routing developed based on real-time trip demand and origin-destination patterns.”  
(NCDOT)



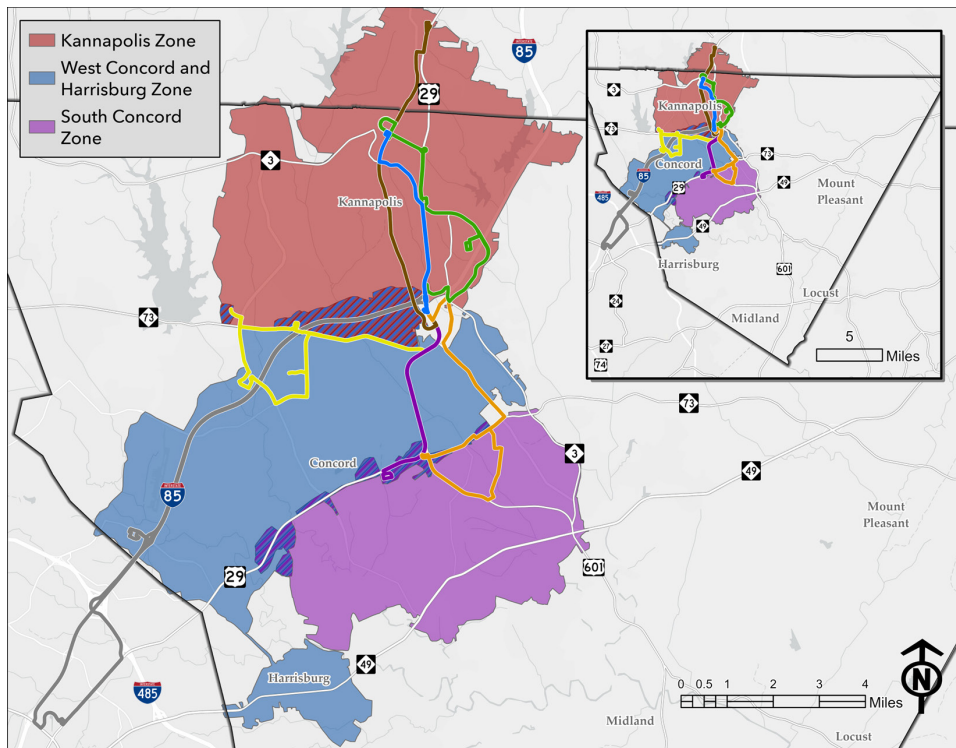
## HIGHLIGHTS OF MICROTRANSIT SERVICE

- ✓ Add connections to fixed route service
- ✓ Replace inefficient fixed route segments
- ✓ New service in low-density areas
- ✓ Provides service when other modes are unavailable
- ✓ Convenience beyond demand response

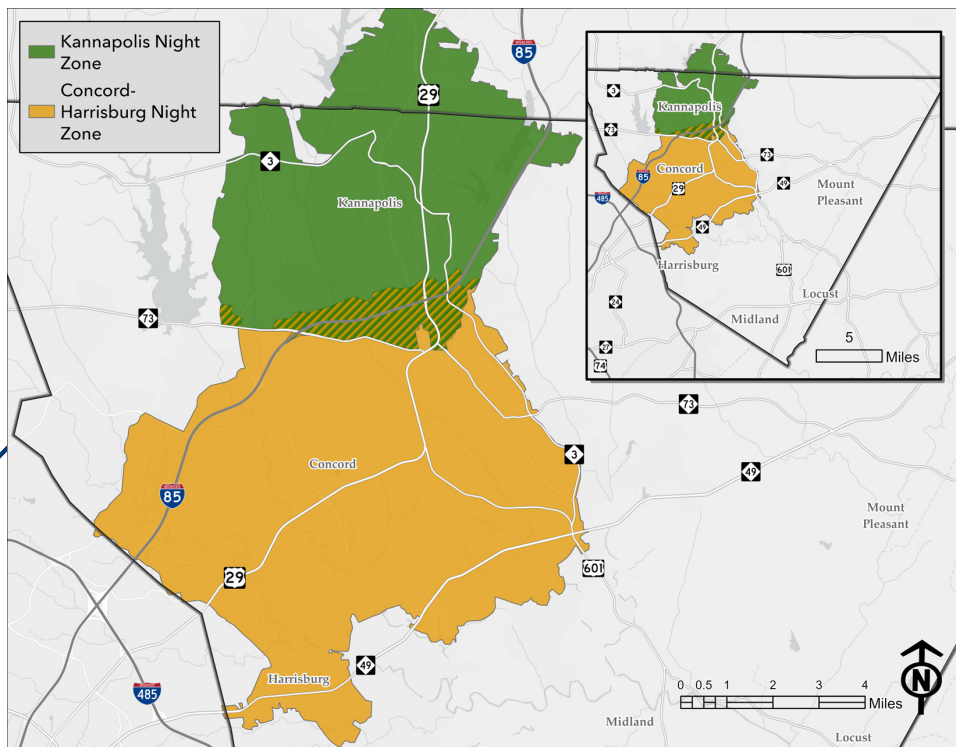
## BENEFITS OF MICROTRANSIT SERVICE



## RECOMMENDED DAYTIME TRANSIT SERVICE



## RECOMMENDED NIGHTTIME TRANSIT SERVICE



*Study paid for by the North Carolina  
Department of Transportation*



## 8.2 Appendix B – Onboard Survey Results



# Customer Satisfaction Survey Report

## First Round: January 23<sup>rd</sup> - 24<sup>th</sup>

## INTRODUCTION

Following the completion of the first round of surveying, the team is pleased to present an overview of our findings and insights gathered from the initial phase of the Customer Satisfaction Survey program. In partnership with Concord Kannapolis Area Transit (Rider) and Cabarrus County Transportation Services (CCTS), this program aimed to gauge customer satisfaction levels with existing fixed route and paratransit services.

Our team adhered to sample size standards throughout the survey administration process to ensure statistical significance. By administering a survey comprising no more than 18 questions, the team collected valuable data on crucial service attributes, infrastructure, customer service experiences, and scheduling components. Moreover, including demographic questions and bilingual availability ensured inclusivity and broad participation from diverse user groups. The team aimed to collect a minimum of 200 completed surveys from fixed route users, along with 25 completed surveys each from ADA paratransit users within Rider's system and Demand Response users from CCTS's system.

To optimize survey efficiency and reach, we administered surveys onboard Rider's fixed route buses during peak weekday morning and afternoon times. Leveraging handheld technology such as cell phones, as well as the use of paper surveys, facilitated swift data collection and minimized time spent on data input, enhancing overall survey administration effectiveness.

The following sections of this report will delve into the essential findings and trends identified through our analysis of the first-round survey data. Additionally, the report will outline recommendations for targeted improvements based on these insights, aiming to enhance services and customer satisfaction.

## OBJECTIVES

The primary objective of this initial round was to establish a baseline understanding of customer satisfaction, serving as the foundation for subsequent comparative analyses. Other objectives for this first round of surveying were:

- Collect 200 fixed route (FR) and 50 paratransit (PT) surveys in the first round of surveying.
- Develop messaging consistent with Rider Transit's existing communication strategies.
- Utilize multiple data collection methods, including onboard surveys on fixed route services and telephone interviews with Rider Paratransit and Demand Response users.

- Provide comprehensive training to surveyors, equipping them with the necessary knowledge and communication skills.
- Mitigate survey fatigue
- Offer incentives, such as a tablet.

By diligently executing these objectives, the team aimed to gather actionable insights to inform strategic decisions to improve the overall customer experience and service quality provided by Rider Transit and CCTS.

## METHODOLOGY

The Customer Satisfaction Survey program's effectiveness hinges mainly on the strength of its methodology. Here, we offer a comprehensive overview of the methods utilized to meet the objectives outlined in the survey initiative.

### **Capturing Baseline Data:**

Gathering baseline data is important for comprehending present levels of customer contentment, monitoring shifts over time, pinpointing trends and patterns, and is the basis for ongoing improvement endeavors.

### **Developing Consistent Messaging:**

Messaging was developed in alignment with Rider Transit's existing communication strategies to promote survey participation. By ensuring consistency in messaging across various channels, including social media, websites, and transit stations, the team aimed to enhance awareness and encourage participation among target respondents.

### **Utilizing Multiple Data Collection Methods:**

To capture a comprehensive range of perspectives, the team employed various data collection methods. These methods included onboard surveys conducted on fixed route services and telephone interviews with Rider Paratransit and Demand Response users. This multifaceted approach ensured inclusivity and enabled us to gather insights from diverse user groups.

### **Providing Comprehensive Training to Surveyors:**

Before conducting any survey activities, surveyors underwent comprehensive training sessions. These sessions equipped them with the necessary knowledge about Rider Transit's mission, survey objectives, and communication techniques.

**Mitigating Survey Fatigue:**

To mitigate survey fatigue and ensure optimal response rates, the team limited the number of questions in the survey instrument to a maximum of 18. This strategic decision aimed to maintain respondent engagement and facilitate a higher completion rate for each survey.

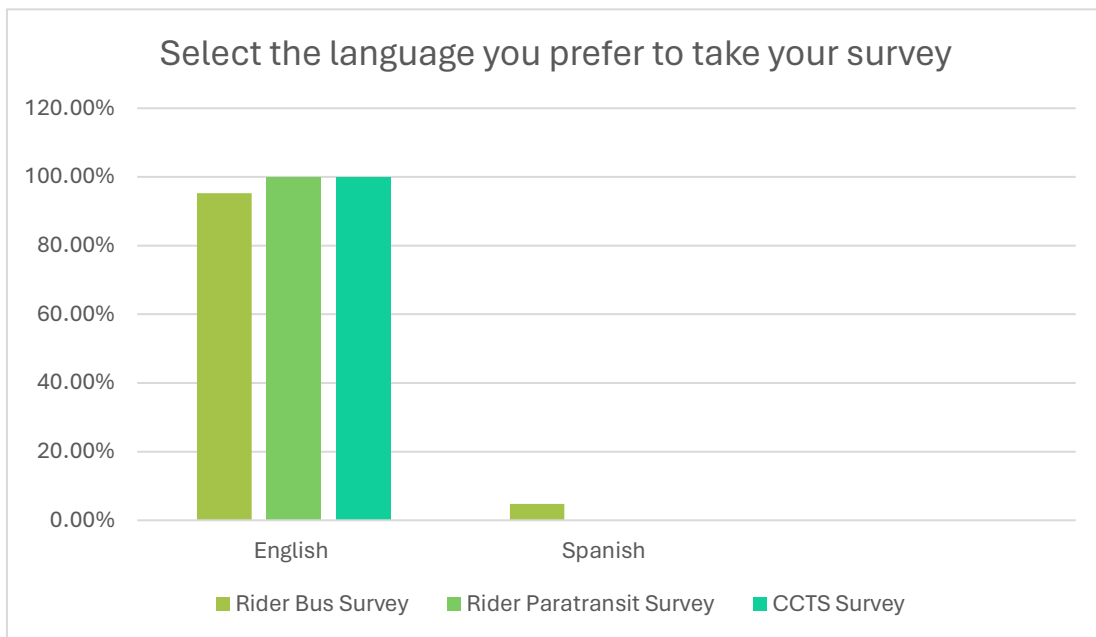
**Offering Incentives:**

As an incentive to encourage survey participation, respondents were offered the opportunity to enter a raffle for incentives such as tablets. Each participant was also given a free, one-ride pass after they completed the survey. Donuts and Rider items were also provided at the survey table in Rider’s Transit Center to anyone participating in the survey. These incentives were included to increase respondent motivation and engagement with the survey process.

## SURVEY RESULTS

**Question: Select the language you prefer to take your survey/ Selecciona el idioma que prefieres para realizar tu encuesta.**

The majority of riders across all three services opted to take the survey in English. For the Rider Paratransit survey and CCTS survey, 100% of riders preferred to take the survey in English, while the Rider Bus survey had almost 95% preferred English and 5% preferred Spanish.



**Question: In what zip code do you live?**

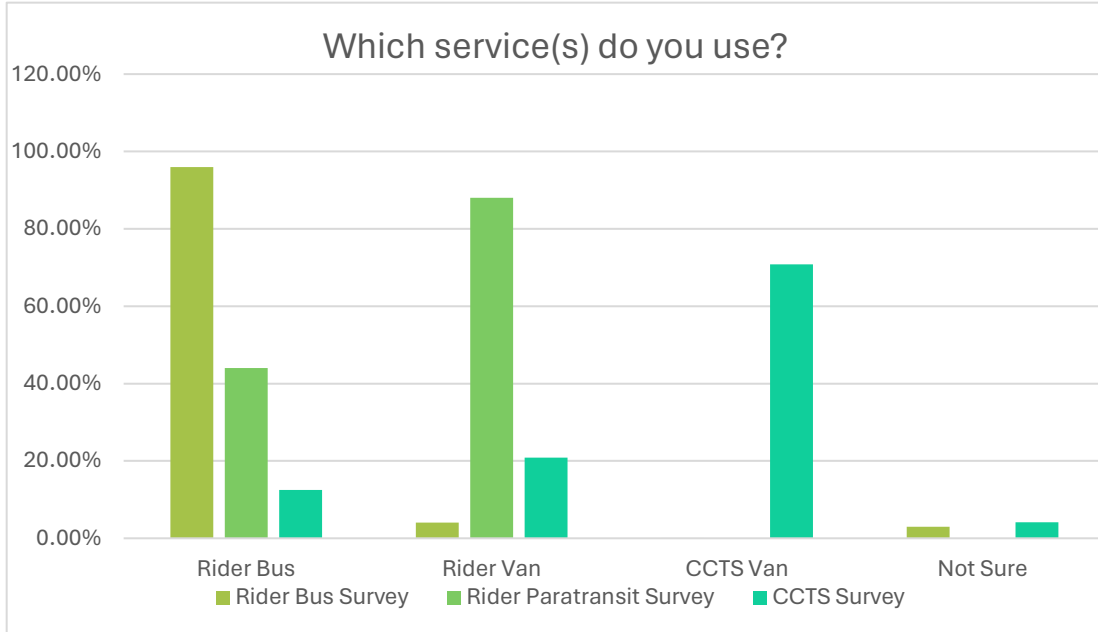
The collection of respondents from the Rider Bus, Rider Paratransit, and CCTS surveys listed 22 different zip codes in which they live. The four most common zip codes across all three surveys were 28025, 28027, 28081, and 28083.

Zip Code	Rider Bus	Rider Paratransit	CCTS
23825	1	0	0
28012	1	0	0
28023	0	1	1
28025	79	4	7
28027	27	11	5
28035	1	0	0
28060	1	0	0
28081	22	4	1
28082	1	0	0
28083	31	5	4
28088	1	0	0
28105	1	0	0
28124	0	0	1
28138	2	0	0
28144	1	0	0
28202	1	0	0
28205	1	0	0
28208	2	0	0
28209	1	0	0
28262	2	0	0
28264	1	0	0
28302	1	0	0

**Question: Which service(s) do you use?**

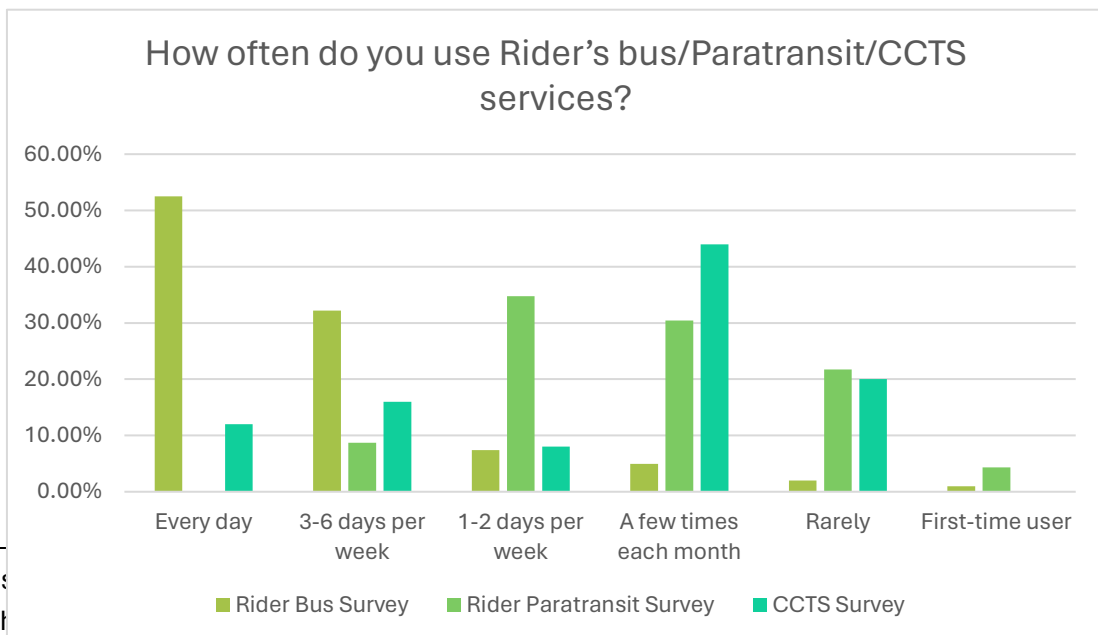
This question was asked in all three surveys, and the team instructed respondents to select all that apply. Rider Bus services had the most significant overlap from all three surveys, with 96% of Rider Bus survey respondents, 44% of Rider Paratransit survey respondents, and 12.5% of CCTS survey respondents reporting using Rider Bus services. Only 4% of Rider Bus survey respondents reported using Rider Paratransit services, while 88% of Rider Paratransit survey respondents and 20.8% of CCTS survey respondents reported using Rider Paratransit services. No Rider Bus or Rider Paratransit survey respondents reported using CCTS van services, while 70.8% of CCTS survey respondents reported using this service. There was also a “Not Sure” answer option, which 3% of Rider Bus survey

respondents selected, 0% of the Paratransit respondents selected, and 4% of the CCTS survey respondents selected.



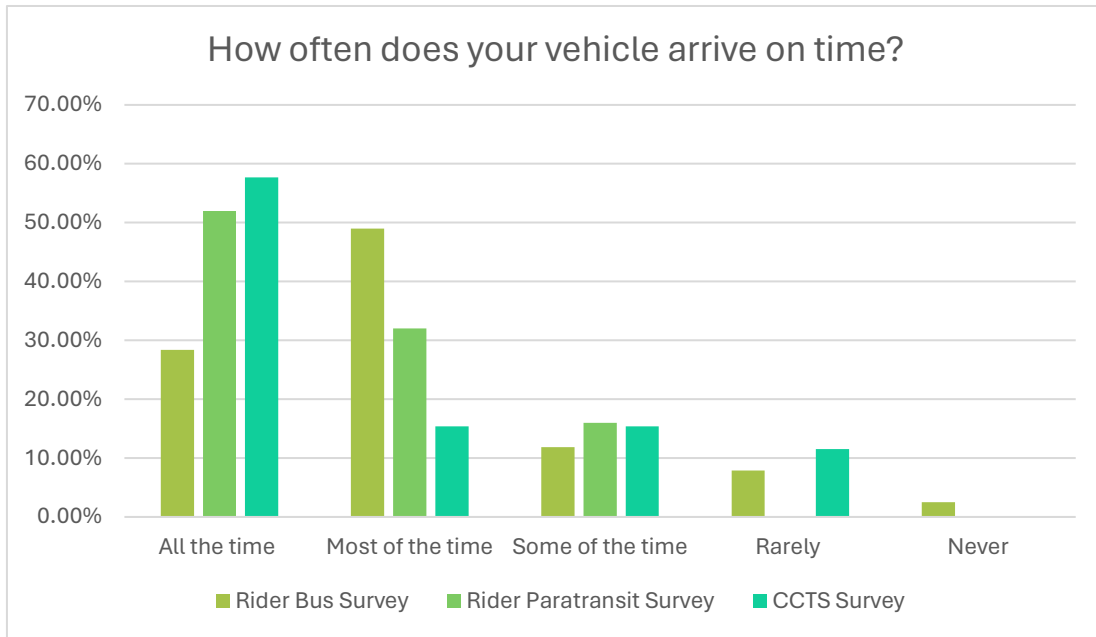
**Question: How often do you use Rider’s Bus/Rider’s Paratransit/CCTS services?**

For this question, the team asked respondents to select how often they use the service they are riding. Most Rider Bus survey respondents reported using the bus frequently, with 52.5% selecting “Every Day” and 32.2% selecting 3-6 days per week. Most Rider Paratransit survey respondents reported using their service less frequently, with 35% selecting “1-2 days per week” and 30% selecting “A few times a month.” The majority of CCTS survey respondents reported using their service the least frequently, with 44% selecting “A few times a month” and 20% selecting “Rarely.”



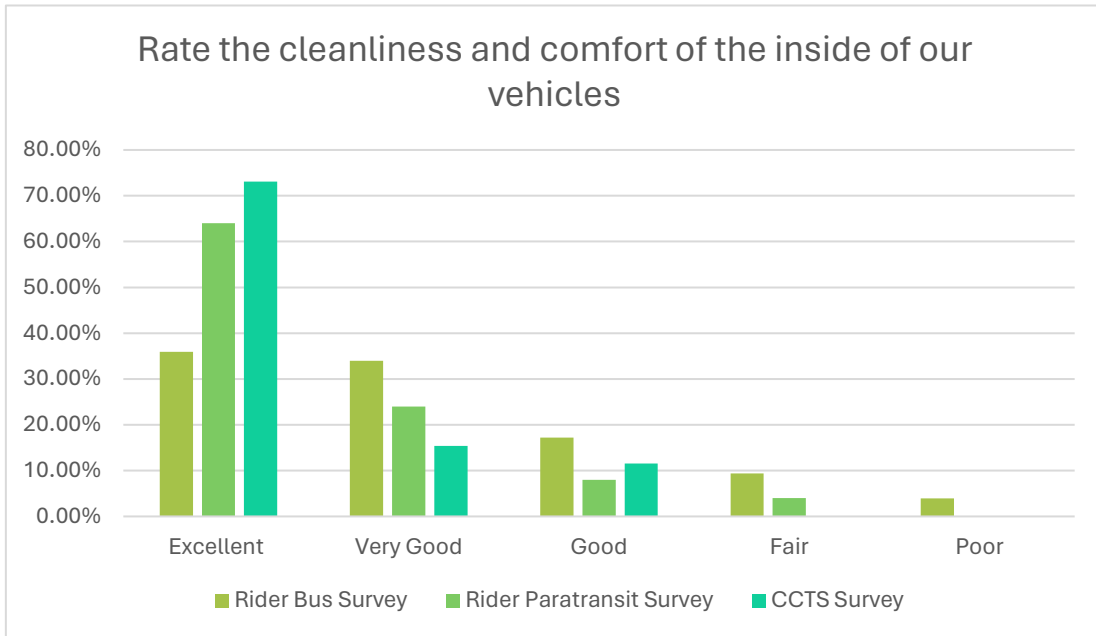
**Question: On a scale of 1 - 5, please rate how often the bus/vehicle arrives on time at your bus stop/within your pick-up window.**

For this question, the team asked respondents to rate the timeliness of their service on a scale of 1 to 5. The majority of survey respondents reported their service arriving on time with 28.4% of Rider Bus, 52% of Rider Paratransit, and 57.7% of CCTS survey respondents selecting their service arrives on time “(1) All the time.” 49% of Rider Bus, 32% of Rider Paratransit, and 15.4% of CCTS survey respondents reported their services arriving on time “(2) Most of the time.”



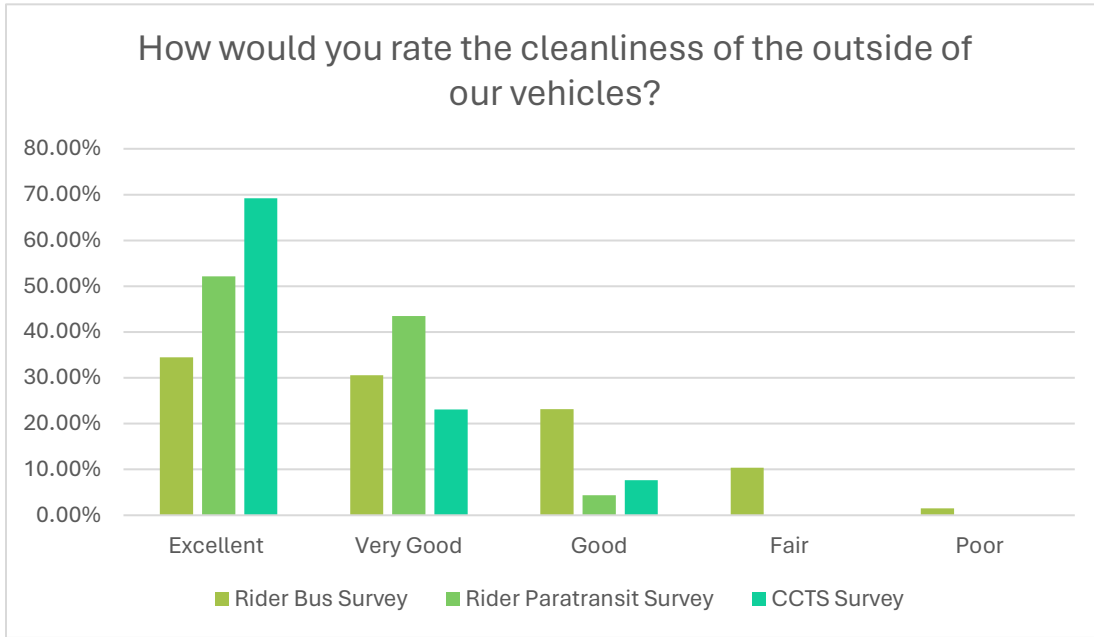
**Question: On a scale of 1 – 5, how would you rate the cleanliness and comfort of the inside of our buses/vehicles?**

For this question, survey respondents were asked to rate the cleanliness of the outside of their bus or van on a scale of 1 to 5. The majority of riders reported satisfaction with the cleanliness of their vehicle, with 36% of Rider Bus, 64% of Rider Paratransit survey, and 73% of CCTS survey respondents rating the cleanliness as “(1) Excellent.” 34% of Rider Bus, 24% of Rider Paratransit, and 15.4% of CCTS survey respondents rated the cleanliness as “(2) Very Good.”



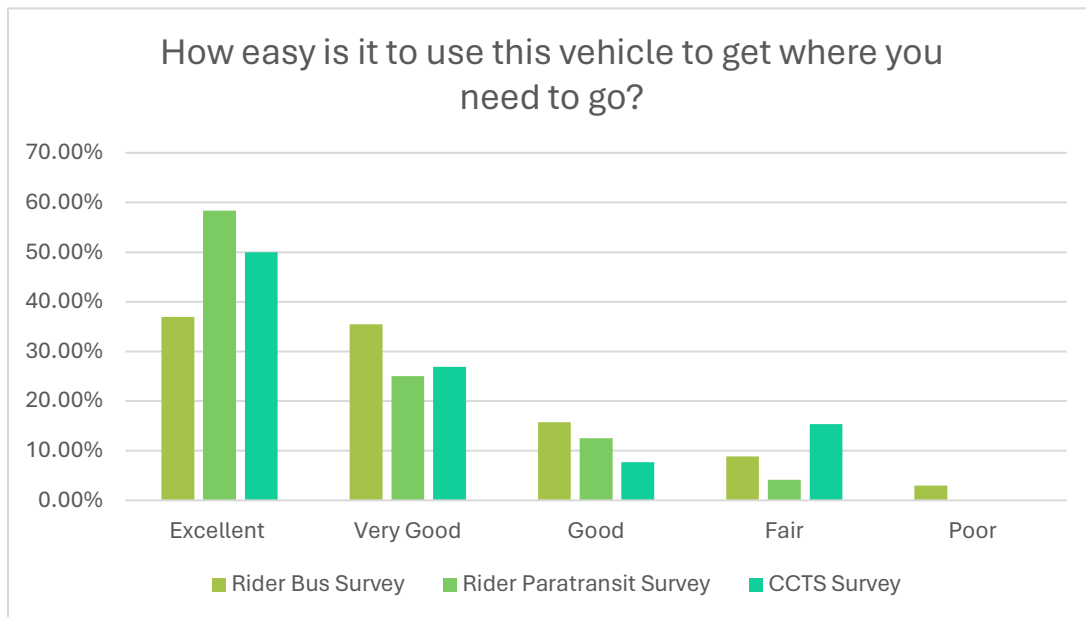
**Question: On a scale of 1 – 5, how would you rate the cleanliness of the outside of our vehicles?**

This question is similar to the previous one, but the team asked respondents to rate the cleanliness outside the bus or van on a scale of 1 to 5. The results were also similar to the previous selection, with 35% of Rider Bus survey respondents rating the cleanliness as “(1) Excellent” and 30% rating the cleanliness as “(2) Very Good.” The “(1) Excellent” rating for the Rider Paratransit and CCTS surveys was slightly lower, with 52.2% of Rider Paratransit respondents and 69% of CCTS respondents selecting this answer. The “(2) Very Good” rating was a bit higher for Rider Paratransit and CCTS surveys, with 43.5% of Rider Paratransit respondents and 23% of CCTS respondents selecting this option. No Rider Paratransit and CCTS survey respondents were completely unsatisfied with the cleanliness, and only 1% of Rider Bus survey respondents selected a “(5) Poor” rating.



**Question: On a scale from 1 – 5, how easy is it to use the bus/schedule a ride to get where you need to go?**

For this question, survey respondents were asked to rate how easy it is to use the bus or van service to get where they need to go on a scale of 1 to 5. The majority of riders responded positively, with 37% of Rider Bus, 58.3% of Rider Paratransit, and 50% of CCTS survey respondents rated the ease of use as “(1) Excellent.” No Rider Paratransit or CCTS survey respondents were dissatisfied with the ease of use, while only 3% of Rider Bus survey respondents reported being dissatisfied, selecting “(5) Poor.”



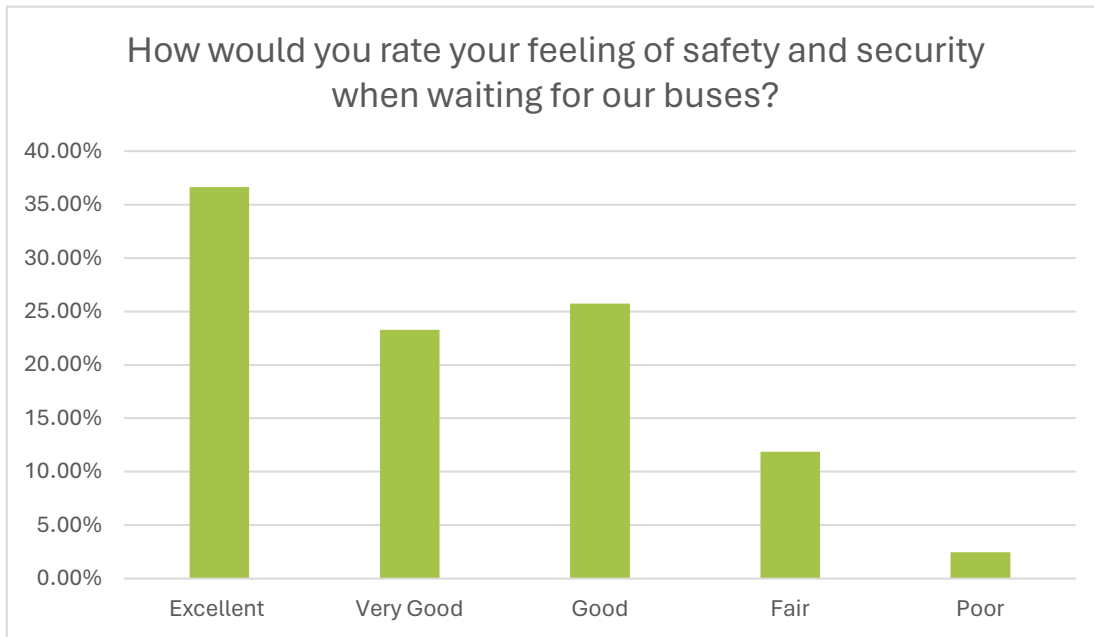
**Question: On a scale from 1 – 5, how would you rate your feeling of safety and security when riding our buses?**

This question was only present on the Rider Bus survey. Respondents were asked to rate their feeling of safety when riding the bus on a scale of 1 to 5. 46% of riders selected a rating of “(1) Excellent” while only 6.7% selected a rating of “(4) Fair” and 0.5% selected a rating of “(5) Poor.” The majority of riders reported feeling satisfied with their feeling of safety while riding the bus.



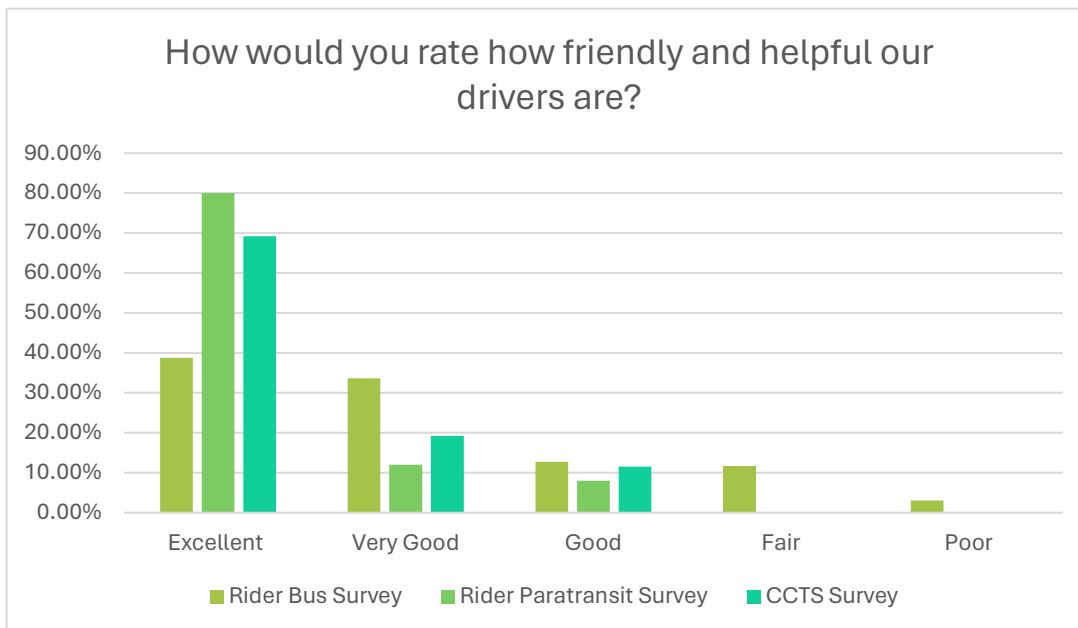
**Question: On a scale from 1 – 5, how would you rate your feeling of safety and security when waiting for our buses?**

This question was also only asked in the Rider Bus survey. Respondents were asked to rate their feeling of safety when waiting for the bus on a scale of 1 to 5. 36.7% of riders selected a rating of “(1) Excellent,” and 23.3% of riders selected a rating of “(2) Very Good.” The number of riders who felt unsafe when waiting for the bus was a little higher than the number of riders who felt unsafe riding the bus, with 12% selecting a rating of “(4) Fair” and 2% selecting a rating of “(5) Poor.” Rider Bus customers reported feeling slightly less safe while waiting for the bus than riding the bus.



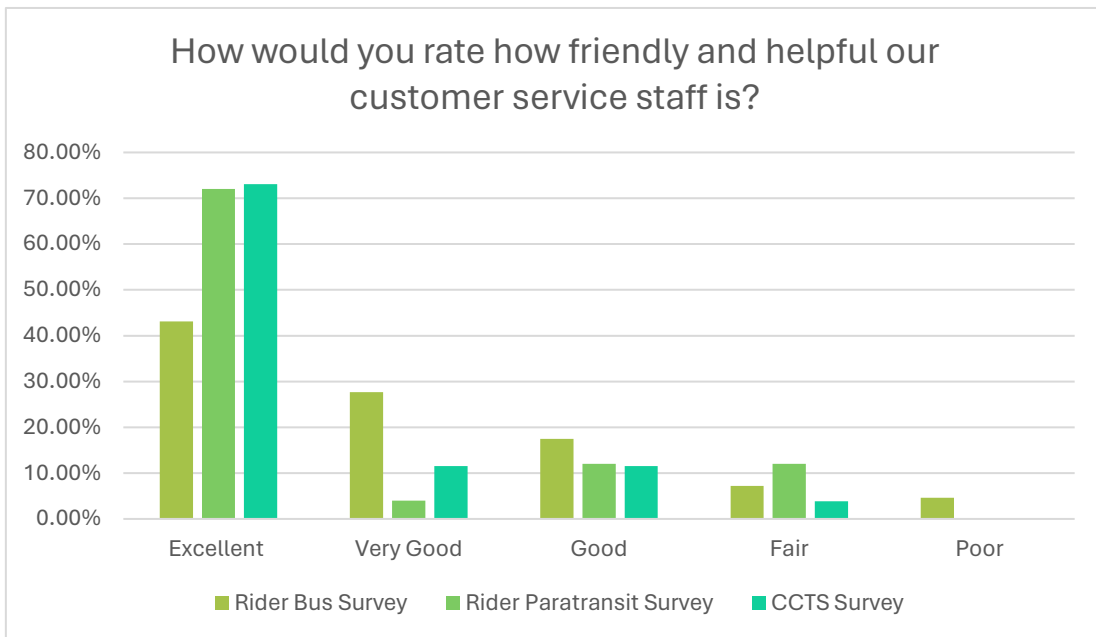
**Question: On a scale from 1 – 5, how would you rate how friendly and helpful our drivers are?**

All three surveys asked riders to rate how friendly and helpful their drivers are on a scale of 1 to 5. The majority of all survey respondents were satisfied with the friendliness and helpfulness of their bus or van drivers with 39% of Rider Bus, 80% of Rider Paratransit, and 69.2% of CCTS survey respondents selected a rating of “(1) Excellent” and 33.7% of Rider Bus, 12% of Rider Paratransit, and 19.2% of CCTS survey respondents selected a rating of “(2) Very Good.” 11.8% of Rider Bus survey respondents selected a rating of “(4) Fair,” and 3.1% selected a rating of “(5) Poor,” while no Rider Paratransit or CCTS survey respondents selected ratings of “(4) Fair” or “(5) Poor.”



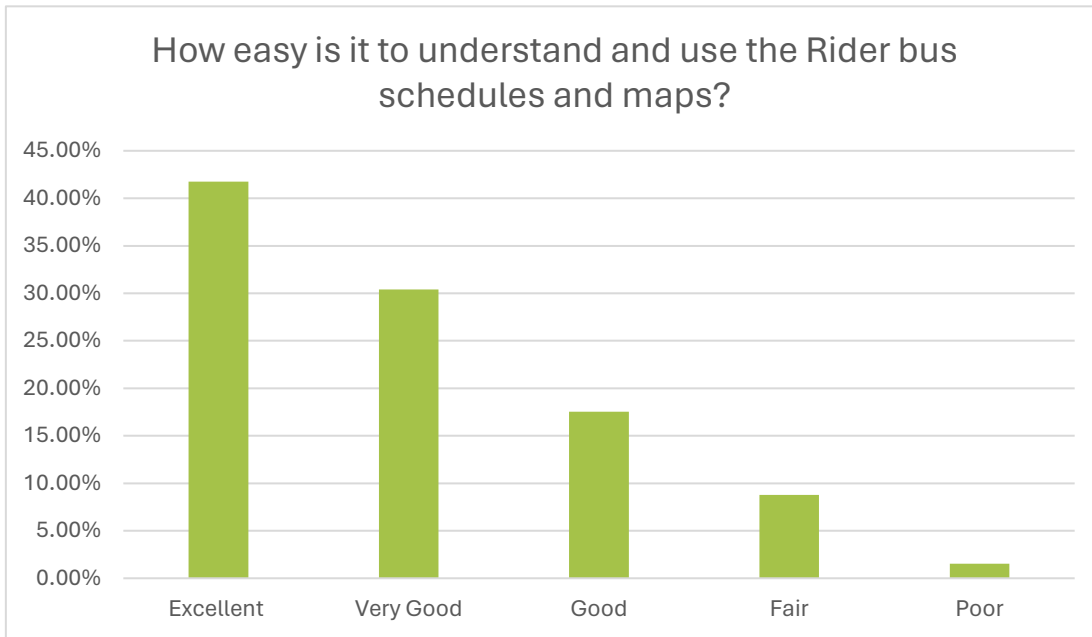
**Question: On a scale from 1 – 5, please rate how friendly and helpful our customer service staff is.**

All three surveys asked riders to rate how friendly and helpful the Rider or CCTS customer service staff are on a scale of 1 to 5. The majority of all survey respondents were satisfied with the friendliness and helpfulness of customer service staff, with 43% of Rider Bus, 72% of Rider Paratransit, and 73% of CCTS survey respondents selected a rating of “(1) Excellent” and 27.7% of Rider Bus, 4% of Rider Paratransit, and 11.5% of CCTS survey respondents selected a rating of “(2) Very Good.” 4.5% of Rider Bus survey respondents selected a rating of “(5) Poor,” while no Rider Paratransit or CCTS survey respondents selected ratings of “(5) Poor.”



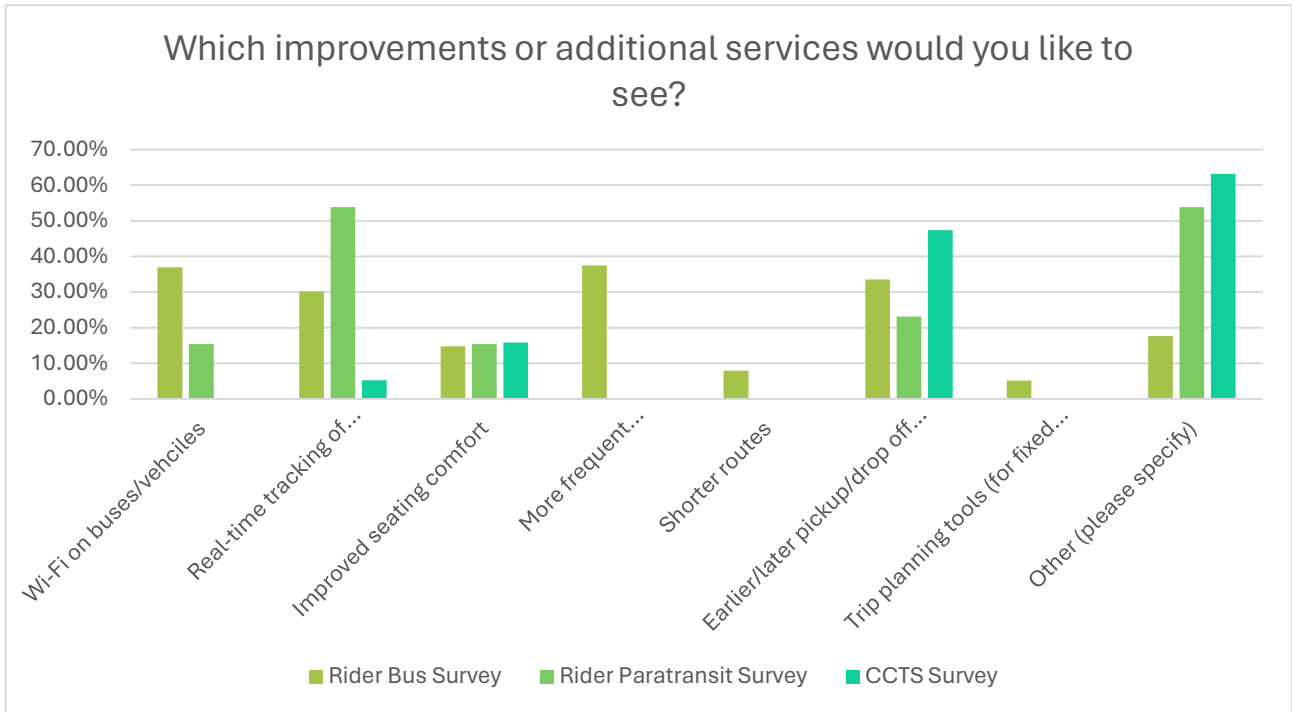
**Question: On a scale from 1 – 5, please rate how easy it is to understand and use the Rider bus schedules and maps.**

Only Rider Bus survey respondents found this question in their survey. Riders were asked to rate how easy it is to understand the bus schedules and maps on a scale of 1 to 5. The majority of respondents reported positive ratings, with 41.8% selecting a rating of “(1) Excellent” and 30.4% selecting a rating of “(2) Very Good.” Only 1.6% of respondents were dissatisfied and chose a “(5) Poor” rating.



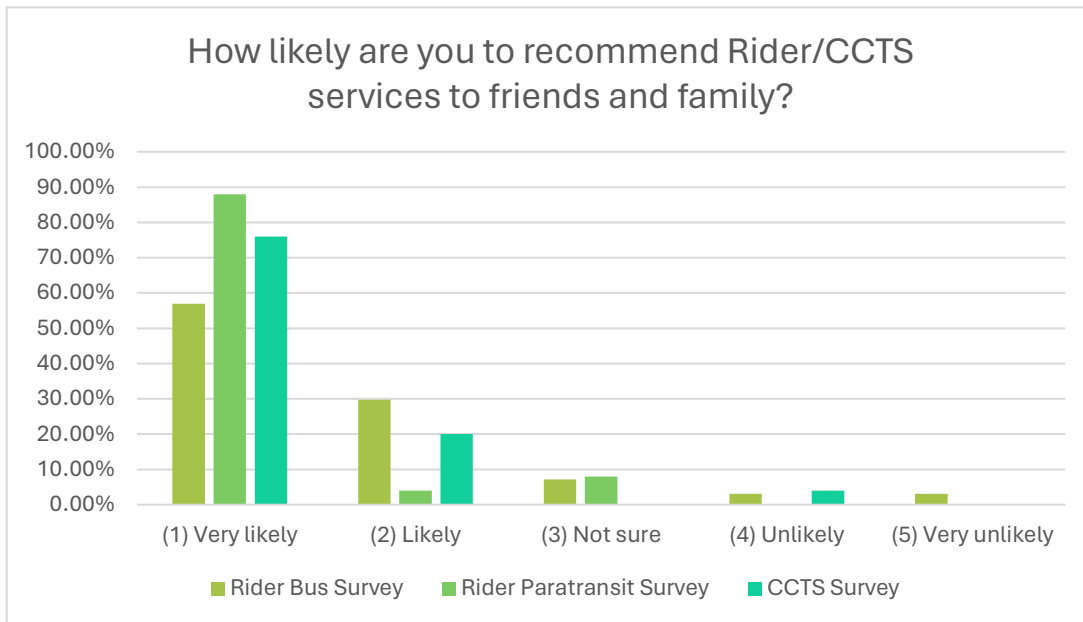
**Question: Which improvements or additional services would you like to see from Rider? (Select all that apply)**

This question varied slightly from the Rider Bus survey compared to the Rider Paratransit and CCTS surveys. Participants were asked to select all the improvements or additional services they would like to see for the transit service they are using. The Rider Bus survey had four answers that the majority selected. 36% selected “Wi-Fi on buses,” 30.1% selected “Real-time tracking of buses,” 37.5% selected “More frequent/additional stops,” and 33.5% selected “Earlier/Later pickup/drop off times.” The Rider Paratransit Survey had two answers that the majority selected. 53.9% of respondents selected “Real-time tracking of vehicles,” and 53.9% selected “Other.” Some of the “Other” suggestions were adding earlier pickup times on weekends and recognizing that not all riders have capabilities. The CCTS survey also had two answers that the majority of respondents selected. 47% selected “Earlier/late pickup/drop off times,” and 63% selected “Other.” Some “Other” suggestions emphasized earlier pickup/drop off times and improved seating.



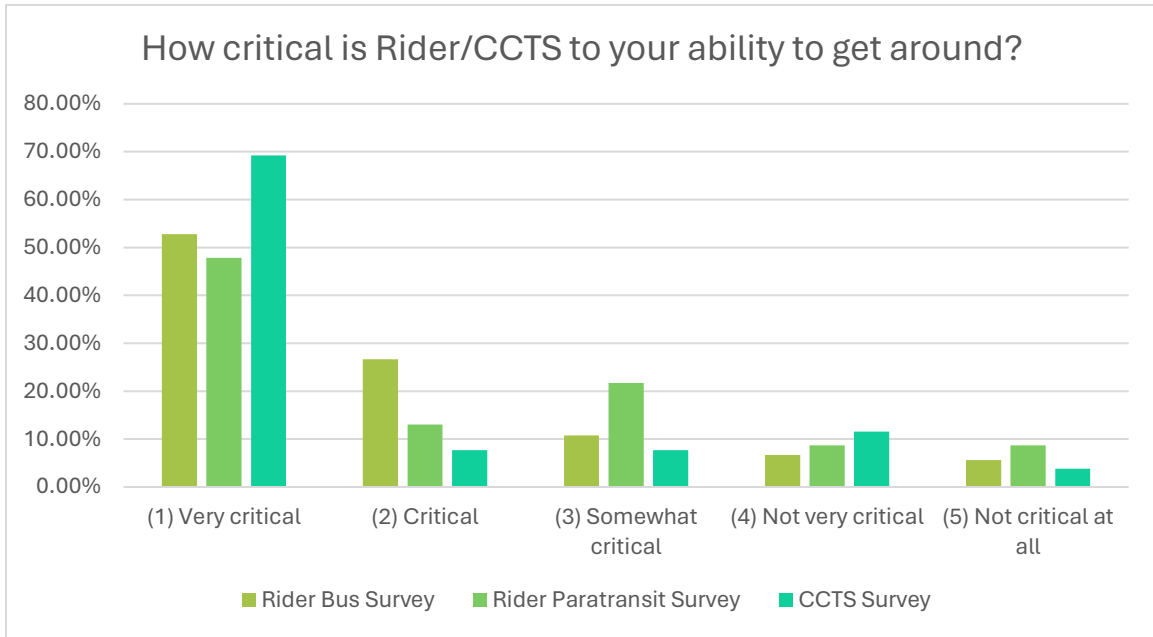
**Question: On a scale of 1 to 5, how likely are you to recommend Rider/CCTS services to friends and family?**

Survey participants were asked to rate their likelihood of recommending Rider or CCTS services to friends and family. Most respondents reported that they would recommend these services to friends and family by selecting a rating of “(1) Very Likely.” 56.9% of Rider Bus, 88% of Rider Paratransit, and 76% of CCTS survey respondents chose this answer. Only 2.7% of Rider Bus survey respondents selected “(5) Very Unlikely,” and no Rider Paratransit and CCTS respondents selected this answer.



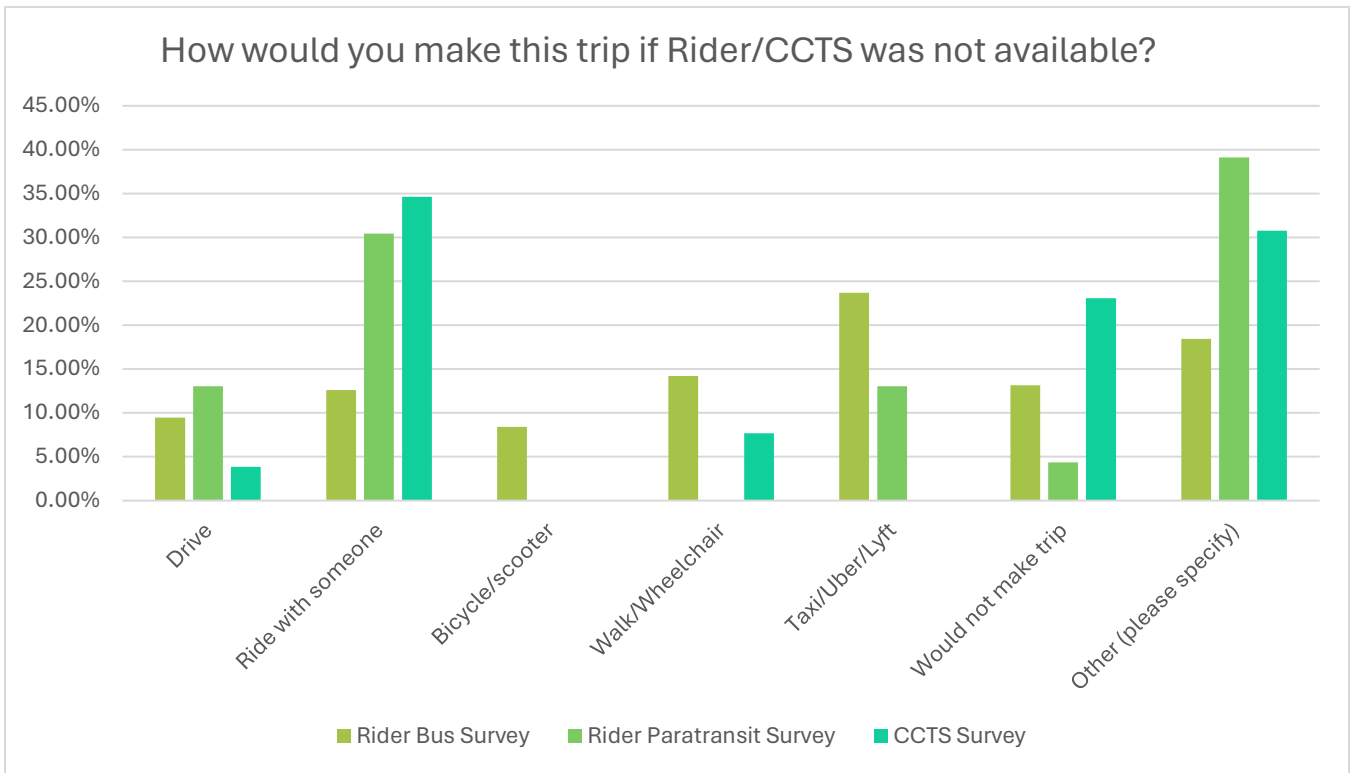
**Question: On a scale of 1 to 5, How critical is Rider/CCTS to your ability to get around?**

Survey participants were asked to rate how critical Rider or CCTS is to their ability to get around on a scale of 1 to 5. Most respondents from all three surveys reported that Rider/CCTS surveys were “(1) Very critical” for their ability to get around. 52.8% of Rider Bus, 47.8% of Rider Paratransit, and 69.2% of CCTS respondents selected this answer. Only a small percentage of respondents from all three surveys selected that these services were “(5) Not critical at all.”



**Question: How would you make this trip if Rider bus/Rider Paratransit/CCTS service was not available?**

Survey respondents were asked to select how they would make their trip if Rider or CCTS were not available. The two most common answers for the Rider Bus survey were “Taxi/Uber/Lyft,” with 23.7% selecting this answer, and “Other,” with 18.4% selecting this answer. Many of the “Other” respondents wanted to choose several of the answer choices. A few of the additional “Other” responses were “use a rental car” or “unsure.” The two most common answers for both Rider Paratransit and CCTS surveys were “Ride with someone else,” with 30.4% of Rider Paratransit respondents and 34.6% of CCTS respondents selecting this answer, and “Other,” with 39.1% of Rider Paratransit respondents and 30.8% of CCTS respondents selecting this answer. Many of the “Other” respondents for these surveys were those who wanted to choose several of the answer choices. The most common additional “Other” answer was “no other way.”



**Question: If you would like to be entered into a raffle to win a tablet, courtesy of RIDER, please provide your email address or phone number on the line below.**

Survey participants were asked to provide their email or phone number to enter to win a tablet. The majority of all respondents liked the incentive and provided a phone number or email. 82.9% of Rider Bus survey respondents, 61.5% of Rider Paratransit survey respondents, and 51.9% of CCTS survey respondents answered this question.

**Question: Any additional comments?**

The last question on each survey allowed respondents to share any remaining comments, questions, or concerns regarding the service. Due to the nature of the question and the variety of responses, these responses are listed in the corresponding data file for further review.

**NEXT STEPS AND RECOMMENDATIONS**

Our upcoming initiatives entail conducting our second round of on-board and phone surveys scheduled for April 30, May 1, and May 2. Our primary objective is to obtain a minimum of 200 completed surveys from fixed-route users. Additionally, the team aims to procure 25 completed surveys from ADA paratransit users within Rider's system and

Demand Response users from CCTS's system. This endeavor will culminate in 400 completed surveys from fixed route users and 50 completed surveys each from ADA paratransit users within Rider's system and Demand Response users from CCTS's system.

Drawing from our initial survey, the team advocates for alterations to questions and formatting. Specifically, the team will address the question, "How would you make this trip if Rider bus/Rider Paratransit/CCTS service was not available?" Given the responses garnered in our preliminary survey, we may need to revise the formatting of this question to enable multiple answer selections. Such adjustments are vital to enhancing data accuracy and facilitating meaningful service updates.

Additionally, for the first question in the online survey ("Select the language you prefer to take your survey"), the team recommends modifications to ensure alignment between online and paper surveys. The team proposes either refining the format of the initial question in Survey Monkey or incorporating a language question at the beginning of the paper surveys. This modification will streamline data matching for simplified post-survey analysis, fostering more efficient data gathering and utilization.

## Rider Bus Survey Questions: / Encuesta de Rider Bus:

The survey is designed to gather insights into overall customer satisfaction and user experience with our services. We want to know how well our systems meet transportation needs and expectations. Feedback on aspects such as reliability, cleanliness, accessibility, and customer service will guide us in potential enhancements to the overall quality of our services. / El objetivo de la encuesta es conocer la satisfacción general de los usuarios y su experiencia con nuestros servicios. Queremos saber hasta qué punto nuestros sistemas satisfacen las necesidades y expectativas del transporte. Los comentarios sobre aspectos como la fiabilidad, la limpieza, la accesibilidad y el servicio al cliente nos orientarán sobre posibles mejoras de la calidad general de nuestros servicios.

1. In what Zip Code do you live in? / ¿En qué código postal vive?
  - (a) Rider Bus
  - (b) Rider Van
  - (c) CCTS Van
  - (d) Not Sure / No estoy seguro/a
2. Which service(s) do you use? / Cuales servicios usa?
  - (a) Rider Bus
  - (b) Rider Van
  - (c) CCTS Van
  - (d) Not Sure / No estoy seguro/a
3. How often do you use Rider's bus services? / ¿Con qué frecuencia utiliza los servicios de autobús de Rider?
  - (a) Every day / Todos los días
  - (b) 3-6 days per week / 3-6 veces a la semana
  - (c) 1-2 days per week / 1-2 veces a la semana
  - (d) A few times each month / Unas veces al mes
  - (e) Rarely / Pocas veces
  - (f) First-time user / Es mi primera vez usando estos servicios
4. On a scale of 1 - 5, please rate how often the bus arrives on time at your bus stop. / ¿En una escala de 1 - 5, por favor califique cuantas veces el autobús llega a tiempo a su parada de autobús?
  - (1) All the time / Todas las veces
  - (2) Most of the time / Casi todas las veces
  - (3) Some of the time / Algunas veces
  - (4) Fair / Razonable
  - (5) Poor / Malo
5. On a scale of 1 - 5, how would you rate the cleanliness and comfort of the inside of our buses? / ¿En una escala de 1-5, cómo calificaría usted la limpieza y comodidad de a dentro de los autobuses?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
6. On a scale of 1 - 5, how would you rate the cleanliness of the outside of our buses? / ¿En una escala de 1 - 5 cómo calificaría usted la limpieza de afuera de nuestros autobuses?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
7. On a scale from 1 - 5, how easy is it to use the bus to get where you need to go? / En una escala de 1 - 5, que de facil es utilizar el autobús para llegar a su destino?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo

8. On a scale from 1 – 5, how would you rate your feeling of safety and security when riding our buses? / ¿En una escala de 1 – 5, ¿cómo calificaría su sentimiento de seguridad cuando usa los autobuses?
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
9. On a scale from 1 – 5, how would you rate your feeling of safety and security when waiting for our buses? / ¿En una escala de 1 – 5, cómo calificaría su sentimiento de seguridad cuando está esperando a nuestros autobuses?
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
10. On a scale from 1 – 5, please rate how friendly and helpful our bus drivers are: / En una escala de 1 – 5, Por favor califique que amable y atento nuestros conductores de autobuses son:
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
11. On a scale of 1 to 5, please rate how friendly and helpful our customer service staff is: / En una escala de 1 – 5, por favor califique que amable y atentos nuestros empleados de servicios al cliente son: (1) Very likely / Muy probable
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
12. On a scale of 1 to 5, please rate how easy it is to understand and use the Rider bus schedules and maps: / En una escala de 1-5 Por favor califique que de fácil es de entender y usar los mapas y horarios de Rider Bus:
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
13. Which improvements or additional services would you like to see from Rider? (Select all that apply) / ¿Qué mejoras o servicios adicionales le gustaría ver por parte de Rider? (Seleccione todo lo que corresponda)
- (a) Wi-Fi on buses / Wi-Fi en los autobuses
  - (b) Real-time tracking of buses / Seguimiento de los auto buses en tiempo real
  - (c) Improved seating comfort / Mejor comodidad de asientos
  - (d) More frequent stops/additional stops / Paradas más frecuentes/ Paradas adicionales
  - (e) Shorter routes / Rutas más cortas
  - (f) Earlier/later pickup/drop off times/ Tiempos de recogida y bajada más temprano/más tarde
  - (g) Trip planning tools (for fixed routes only) / Funciones de planificación de viajes (solamente para rutas fijadas)
  - (h) Other (please specify) / Otro (por favor especifique)
14. On a scale of 1 to 5, how likely are you to recommend Rider services to friends and family? / En una escala de 1 – 5, ¿que probable eres de recomendar nuestros servicios Rider a sus amigos y familiares?
- (1) Very likely / Muy probable
  - (2) Likely / Probable
  - (3) Not sure / No estoy seguro/a
  - (4) Unlikely / Improbable
  - (5) Very unlikely / Muy improbable

15. On a scale of 1 to 5, How critical is Rider to your ability to get around? / En una escala del 1 al 5, ¿Qué importancia tiene Rider para su habilidad para moverse?

- (1) Very critical / Muy extremo
- (2) Critical / Extremo
- (3) Somewhat critical / Un poco extremo
- (4) Not very critical / No tan extremo
- (5) Not critical at all / Nada de extremo

16. How would you make this trip if Rider bus service was not available? / Como haría su viaje si los servicios de Rider no estarían disponible?

- (a) Drive / Manejar
- (b) Ride with someone / Viajar con alguien
- (c) Bicycle/scooter / Bicicleta/patineta
- (d) Walk/Wheelchair / Caminar/Silla de ruedas
- (e) Taxi/Uber/Lyft
- (f) Would not make trip / No haria mi viaje
- (g) Other(specify): / Otro (specifique):

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17. If you would like to be entered into a raffle to win a tablet, courtesy of RIDER, please provide your email address or phone number on the line below: / Si le gustaria entrar a una rifa para ganar una tableta, cortesia de Rider, por favor deje su correo electronico o numero de telefono en la linea abajo.

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Any additional comments? / Comentarios adicionales?

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# Rider Paratransit Survey Questions: Encuesta de Rider Paratransit

## Overview and Goals: Objetivo y metas

The survey is designed to gather insights into overall customer satisfaction and user experience with our services. We want to know how well our systems meet transportation needs and expectations. Feedback on aspects such as reliability, cleanliness, accessibility, and customer service will guide us in potential enhancements to the overall quality of our services. / El objetivo de la encuesta es conocer la satisfacción general de los usuarios y su experiencia con nuestros servicios. Queremos saber hasta qué punto nuestros sistemas satisfacen las necesidades y expectativas del transporte. Los comentarios sobre aspectos como la fiabilidad, la limpieza, la accesibilidad y el servicio al cliente nos orientarán sobre posibles mejoras de la calidad general de nuestros servicios.

1. In what Zip Code do you live in? / ¿En qué código postal vive?
  - (a) Rider Bus
  - (b) Rider Van
  - (c) CCTS Van
  - (d) Not Sure / No estoy seguro/a
2. Which service(s) do you use? / Cuales servicios usa?
  - (a) Rider Bus
  - (b) Rider Van
  - (c) CCTS Van
  - (d) Not Sure / No estoy seguro/a
3. How often do you use Rider Paratransit? / ¿Con qué frecuencia utiliza los servicios de Rider Paratransit?
  - (a) Every day / Todos los días
  - (b) 3-6 days per week / 3-6 veces a la semana
  - (c) 1-2 days per week / 1-2 veces a la semana
  - (d) A few times each month / Unas veces al mes
  - (e) Rarely / Pocas veces
  - (f) First-time user / Es mi primera vez usando estos servicios
4. On a scale of 1 - 5, please rate how often the Rider Paratransit vehicle arrives within your pick up window. / En una escala de 1 - 5, por favor califique la frecuencia con que frecuencia el vehículo de Rider Paratransit llega dentro de su ventana de recogida.
  - (1) All the time / Todas las veces
  - (2) Most of the time / Casi todas las veces
  - (3) Some of the time / Algunas veces
  - (4) Fair / Razonable
  - (5) Poor / Malo
5. On a scale of 1 - 5, how would you rate the cleanliness and comfort of the inside of our vehicles? / ¿En una escala de 1 -5, cómo calificaría usted la limpieza y comodidad de a dentro de los vehículos?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
6. On a scale of 1 - 5, how would you rate the cleanliness of the outside of our vehicles? / ¿En una escala de 1 - 5 cómo calificaría usted la limpieza de afuera de nuestros vehículos?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
7. On a scale from 1 - 5, how easy is it to schedule a ride to get where you need to go? / En una escala de 1 - 5, ¿qué tan fácil es programar un viaje para llegar a donde necesita ir?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Likely / Probable
  - (5) Not sure / No estoy seguro/a
  - (6) Unlikely / Improbable
  - (7) Very unlikely / Muy improbable

8. On a scale from 1 – 5, please rate how friendly and helpful our drivers are: / En una escala de 1 – 5, Por favor califique que amable y atento nuestros conductores son:
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
9. On a scale from 1 – 5, please rate how friendly and helpful our customer service staff is: / En una escala de 1 – 5, Por favor califique que amable y atentos nuestros empleados de servicios al cliente son.
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
10. Which improvements or additional services would you like to see from Rider Paratransit? (Select all that apply) / ¿Qué mejoras o servicios adicionales le gustaría ver por parte de Rider? (Seleccione todo lo que corresponda)
- (a) Wi-Fi
  - (b) Real-time tracking of vehicles / Seguimiento de los vehículos en tiempo real
  - (c) Improved seating comfort / Mejor comodidad de asientos
  - (f) Earlier/later pickup/drop off times / Paradas más frecuentes/ Paradas adicionales
  - (h) Other (please specify) / Otro (por favor especifique)
- 
11. On a scale of 1 to 5, how likely are you to recommend Rider Paratransit services to friends and family? / En una escala de 1 – 5, ¿que probable eres de recomendar nuestros servicios Rider Paratransit a sus amigos y familiares?
- (1) Very likely / Muy probable
  - (2) Likely / Probable
  - (3) Not sure / No estoy seguro/a
  - (4) Unlikely / Improbable
  - (5) Very unlikely / Muy improbable
12. On a scale of 1 to 5, How critical is Rider Paratransit to your ability to get around? / En una escala del 1 al 5, ¿Qué importancia tiene Rider Paratransit para su habilidad para moverse?
- (1) Very critical / Muy extremo
  - (2) Critical / extremo
  - (3) Somewhat critical / Un poco extremo
  - (4) Not very critical / No tan extremo
  - (5) Not critical at all / Nada de extremo
13. How would you make this trip if Rider Paratransit was not available? / Como haría su viaje si los servicios de Rider Paratransit no estarían disponible?
- (a) Drive / Manejar
  - (b) Ride with someone / Viajar con alguien
  - (c) Bicycle/scooter / Bicicleta/patineta
  - (d) Walk/Wheelchair / Caminar/Silla de ruedas
  - (e) Taxi/Uber/Lyft
  - (f) Would not make trip / No haria mi viaje.
  - (g) Other (specify) / Otro (especifique):
- 
14. If you would like to be entered into a raffle to win a tablet, courtesy of RIDER, please provide your email address or phone number on the line below:
- \_\_\_\_\_ Si le gustaria entrar a una rifa para ganar una tableta, cortesia de Rider, por favor deje su correo electronico o numero de telefono en la linea abajo.
- Any additional comments? / Comentarios adicionales?
- 
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- 
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## CCTS Survey Questions: Encuesta de CCTS

The survey is designed to gather insights into overall customer satisfaction and user experience with our services. We want to know how well our systems meet transportation needs and expectations. Feedback on aspects such as reliability, cleanliness, accessibility, and customer service will guide us in potential enhancements to the overall quality of our services. / El objetivo de la encuesta es conocer la satisfacción general de los usuarios y su experiencia con nuestros servicios. Queremos saber hasta qué punto nuestros sistemas satisfacen las necesidades y expectativas del transporte. Los comentarios sobre aspectos como la fiabilidad, la limpieza, la accesibilidad y el servicio al cliente nos orientarán sobre posibles mejoras de la calidad general de nuestros servicios.

1. In what Zip Code do you live in? / ¿En qué código postal vive?
  - (a) Rider Bus
  - (b) Rider Van
  - (c) CCTS Van
  - (d) Not Sure / No estoy seguro/a
2. Which service(s) do you use? / Cuales servicios usa?
  - (a) Rider Bus
  - (b) Rider Van
  - (c) CCTS Van
  - (d) Not Sure / No estoy seguro/a
3. How often do you use CCTS vehicles? / ¿Cuántas veces usa los servicios de vehículos CCTS?
  - (a) Every day / Todos los días
  - (b) 3-6 days per week / 3-6 veces a la semana
  - (c) 1-2 days per week / 1-2 veces a la semana
  - (d) A few times each month / Unas veces al mes
  - (e) Rarely / Pocas veces
  - (f) First-time user / Es mi primera vez usando estos servicios
4. On a scale of 1 - 5, please rate how often the CCTS vehicle arrives within your pick up window. / En una escala de 1 - 5, por favor califique la frecuencia con que frecuencia el vehículo de CCTS llega dentro de su ventana de recogida.
  - (1) All the time / Todas las veces
  - (2) Most of the time / Casi todas las veces
  - (3) Some of the time / Algunas veces
  - (4) Fair / Razonable
  - (5) Poor / Malo
5. On a scale of 1 - 5, how would you rate the cleanliness and comfort of the inside of our vehicles? / ¿En una escala de 1 -5, cómo calificaría usted la limpieza y comodidad de adentro de los vehículos?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
6. On a scale of 1 - 5, how would you rate the cleanliness of the outside of our vehicles? / ¿En una escala de 1 - 5 cómo calificaría usted la limpieza de afuera de nuestros vehículos?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
7. On a scale from 1 - 5, how easy is it to schedule a ride to get where you need to go? / En una escala de 1 - 5, ¿qué tan fácil es programar un viaje para llegar a donde necesita ir?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo

8. On a scale from 1 – 5, please rate how friendly and helpful our drivers are: / En una escala de 1 – 5, Por favor califique que amable y atento nuestros conductores son:
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
9. On a scale from 1 – 5, please rate how friendly and helpful our customer service staff is: / En una escala de 1 – 5, Por favor califique que amable y atentos nuestros empleados de servicios al cliente son:
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
10. Which improvements or additional services would you like to see from CCTS? (Select all that apply) / ¿Qué mejoras o servicios adicionales le gustaría ver por parte de Rider? (Seleccione todo lo que corresponda)
- (a) Wi-Fi
  - (b) Real-time tracking of vehicles / Seguimiento de los vehículos en tiempo real
  - (c) Improved seating comfort / Mejor comodidad de asientos
  - (f) Earlier/later pickup/drop off times / Paradas más frecuentes/ Paradas adicionales
  - (h) Other (please specify) / Otro (por favor especifique): \_\_\_\_\_
- 
11. On a scale of 1 to 5, how likely are you to recommend CCTS services to friends and family? / En una escala de 1 – 5, ¿que probable eres de recomendar nuestros servicios de CCTS a sus amigos y familiares?
- (1) Very likely / Muy probable
  - (2) Likely / Probable
  - (3) Not sure / No estoy seguro/a
  - (4) Unlikely / Improbable
  - (5) Very unlikely / Muy improbable
12. On a scale of 1 to 5, How critical is CCTS to your ability to get around? / En una escala del 1 al 5, ¿Qué importancia tiene CCTS para su habilidad para moverse?
- (1) Very critical / Muy extremo
  - (2) Critical / extremo
  - (3) Somewhat critical / Un poco extremo
  - (4) Not very critical / No tan extremo
  - (5) Not critical at all / Nada de extremo
13. How would you make this trip if CCTS was not available? / ¿Como haría su viaje si CCTS no estarían disponibles?
- (a) Drive / Manejar
  - (b) Ride with someone / Viajar con alguien
  - (c) Bicycle/scooter / Bicicleta/patineta
  - (d) Walk/Wheelchair / Caminar/Silla de ruedas
  - (e) Taxi/Uber/Lyft
  - (f) Would not make trip / No haria mi viaje.
  - (g) Other(specify)/ Otro (specifique): \_\_\_\_\_
14. If you would like to be entered into a raffle to win a tablet, courtesy of RIDER, please provide your email address or phone number on the line below: \_\_\_\_\_ / Si le gustaria entrar a una rifa para ganar una tableta, cortesia de Rider, por favor deje su correo electronico o numero de telefono en la linea abajo.
- Any additional comments? / Comentarios adicionales?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



# Customer Satisfaction Survey Report

## Second Round: April 30<sup>th</sup> – May 1<sup>st</sup>

## INTRODUCTION

Following the completion of the second round of surveying, the team is pleased to present an overview of our findings and insights gathered from this additional phase of the Customer Satisfaction Survey program. In partnership with Concord Kannapolis Area Transit (Rider) and Cabarrus County Transportation Services (CCTS), this program aimed to gauge customer satisfaction levels with existing fixed route and paratransit services.

Our team adhered to sample size standards throughout the survey administration process to ensure statistical significance. By administering a survey comprising no more than 18 questions, the team collected valuable data on crucial service attributes, infrastructure, customer service experiences, and scheduling components. Moreover, including demographic questions and bilingual availability ensured inclusivity and broad participation from diverse user groups. The team collected a total of 206 completed surveys from fixed route users, along with 26 completed surveys from ADA paratransit users within Rider's system and 27 completed surveys from Demand Response users from CCTS's system.

To optimize survey efficiency and reach, the team administered surveys onboard Rider's fixed route buses during peak weekday morning and afternoon times. Leveraging handheld technology such as cell phones, as well as the use of paper surveys, facilitated swift data collection and minimized time spent on data input, enhancing overall survey administration effectiveness.

The following sections of this report will delve into the essential findings and trends identified through our analysis of the second-round survey data. Additionally, this report will outline recommendations for targeted improvements based on these insights, aiming to enhance services and customer satisfaction.

## OBJECTIVES

The primary objective of the second round was to determine whether any changes to customer satisfaction have occurred since the initial baseline was measured. Other objectives for this second round of surveying were:

- Collect 200 fixed route (FR) and 50 paratransit (PT) surveys in the second round of surveying.
- Utilize multiple data collection methods, including onboard surveys on fixed route services and telephone interviews with Rider Paratransit and Demand Response users.

- Mitigate survey fatigue
- Offer incentives, such as a tablet.

By diligently executing these objectives, the team aimed to gather actionable insights to inform strategic decisions to improve the overall customer experience and service quality provided by Rider Transit and CCTS.

## METHODOLOGY

The effectiveness of the Customer Satisfaction Survey program hinges mainly on the strength of its methodology. Here, the team offers a comprehensive overview of the methods utilized to meet the objectives outlined in the survey initiative.

### **Capturing Baseline Data:**

Gathering baseline data is important for comprehending present levels of customer contentment, monitoring shifts over time, pinpointing trends and patterns, and is the basis for ongoing improvement endeavors.

### **Developing Consistent Messaging:**

Messaging was developed in alignment with Rider Transit's existing communication strategies to promote survey participation. By ensuring consistency in messaging across various channels, including social media, websites, and transit stations, the team aimed to enhance awareness and encourage participation among target respondents.

### **Utilizing Multiple Data Collection Methods:**

To capture a comprehensive range of perspectives, the team employed various data collection methods. These methods included onboard surveys conducted on fixed route services and telephone interviews with Rider Paratransit and Demand Response users. This multifaceted approach ensured inclusivity and enabled us to gather insights from diverse user groups.

### **Providing Comprehensive Training to Surveyors:**

Before conducting any survey activities, surveyors underwent comprehensive training sessions. These sessions equipped them with the necessary knowledge about Rider Transit's mission, survey objectives, and communication techniques.

### **Mitigating Survey Fatigue:**

To mitigate survey fatigue and ensure optimal response rates, the team limited the number of questions in the survey instrument to a maximum of 18. This strategic

decision aimed to maintain respondent engagement and facilitate a higher completion rate for each survey.

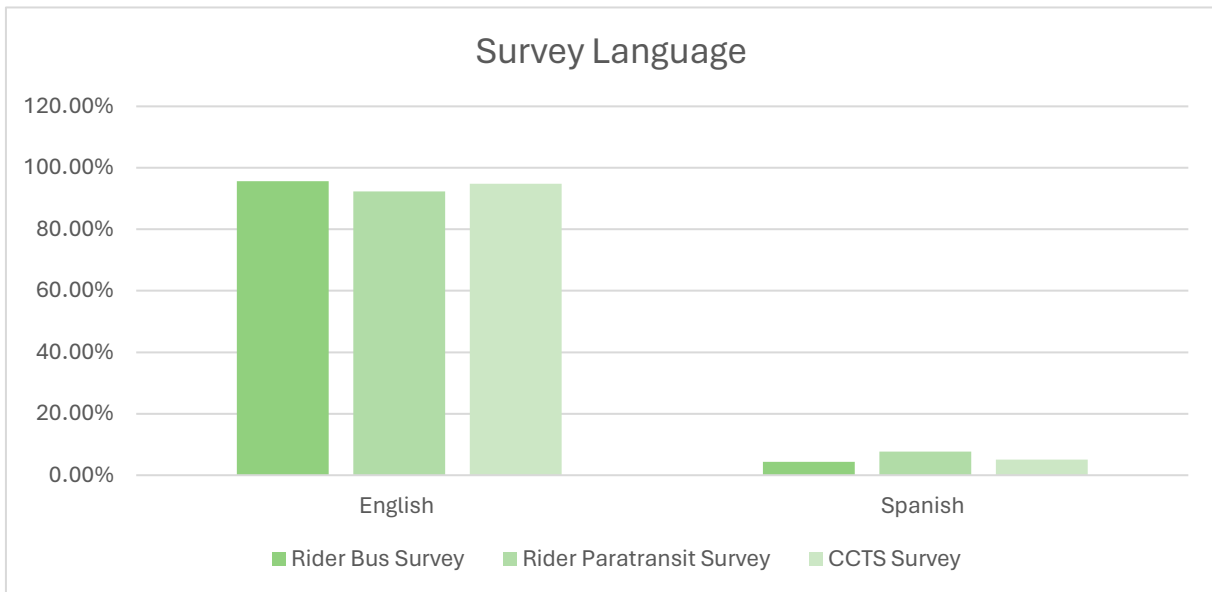
**Offering Incentives:**

As an incentive to encourage survey participation, respondents were offered the opportunity to enter a raffle for incentives such as a gift card or tablet. Each participant was also given a free, one-ride pass after they completed the survey. Donuts and Rider items were also provided at the survey table in Rider’s Transit Center to anyone participating in the survey. These incentives were included to increase respondent motivation and engagement with the survey process.

**SURVEY RESULTS**

**Question: Select the language you prefer to take your survey / Selecciona el idioma que prefieres para realizar tu encuesta.**

The majority of riders across all three services chose to complete the survey in English. For the Rider Bus and CCTS surveys, approximately 95% of participants preferred English. In the Rider Paratransit survey, nearly 92% opted for English, with 8% choosing Spanish. Compared to Round 1 data, there is a slight shift: previously, 100% of respondents for both the Rider Paratransit and CCTS surveys preferred English, while the Rider Bus survey had the lowest percentage of English preferences.



**Question: In what zip code do you live?**

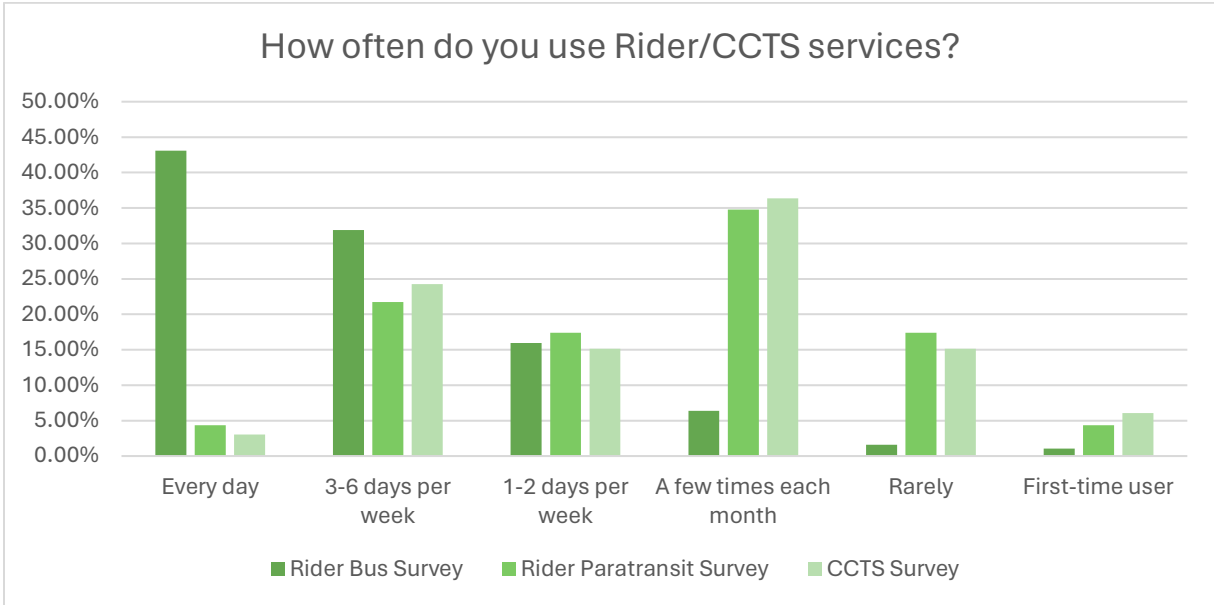
Respondents from the Rider Bus, Rider Paratransit, and CCTS surveys reported living in 21 different zip codes. This round, the survey included an additional "Unhoused" option, which received two responses in the Rider Bus survey. The most frequently mentioned zip codes across all three surveys were 28025, 28027, 28081, and 28083—consistent with the most common zip codes identified during Round 1 surveying.

Zip Code	Rider Bus	Rider Paratransit	CCTS
27104	1	0	0
28016	0	0	1
28023	1	0	0
28024	1	0	0
28025	82	8	2
28026	1	0	0
28027	21	6	4
28075	0	0	2
28081	20	0	1
28083	16	7	5
28085	1	0	0
28088	4	0	0
28107	0	0	1
28124	1	0	0
28138	2	0	0
28203	1	0	0
28207	2	0	0
28211	0	1	1
28215	0	0	1
28265	1	0	0
28408	1	0	0
Unhoused	2	0	0

**Question: How often do you use Rider’s bus/Paratransit/CCTS services?**

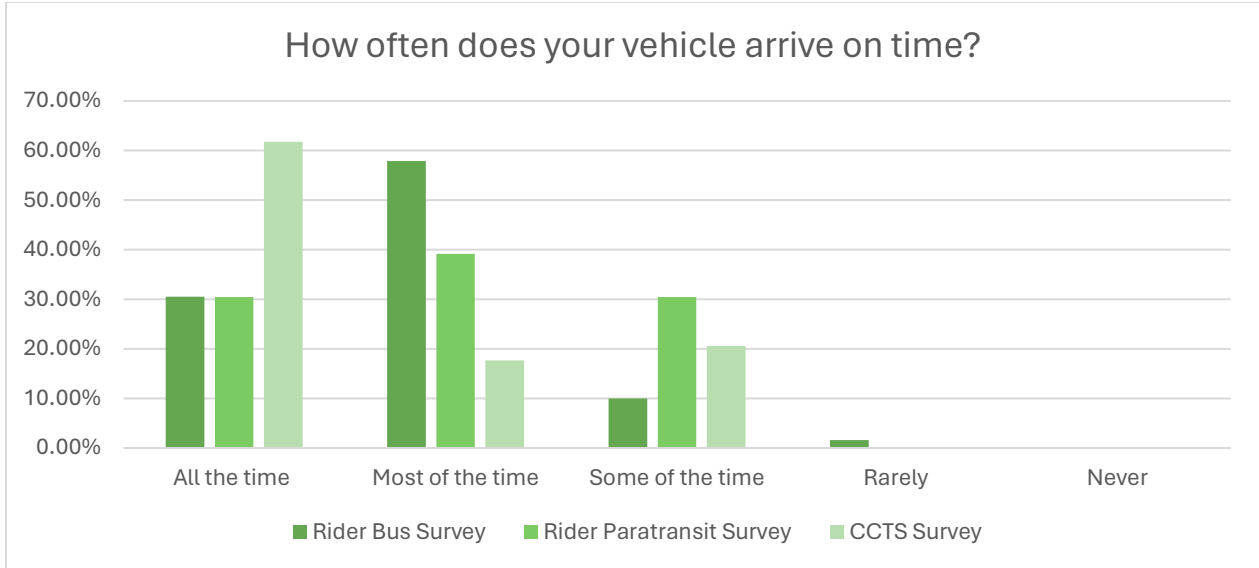
In this question, respondents were asked about the frequency of their service use. Many Rider Bus survey participants reported frequent usage, with 43% indicating they use the bus "Every Day" and 32% selecting "3-6 days per week." In contrast, most Rider Paratransit and CCTS survey respondents used their services less often, with 34-36% choosing "A few times each month" and 21-24% selecting "3-6 days per week." These patterns are largely consistent with Round 1 data, though there are notable differences: 4.35% of Rider

Paratransit survey participants now report using the service "Every Day," compared to 0% in Round 1, and the percentage of Rider Bus survey respondents choosing "Every Day" decreased by about 10%.



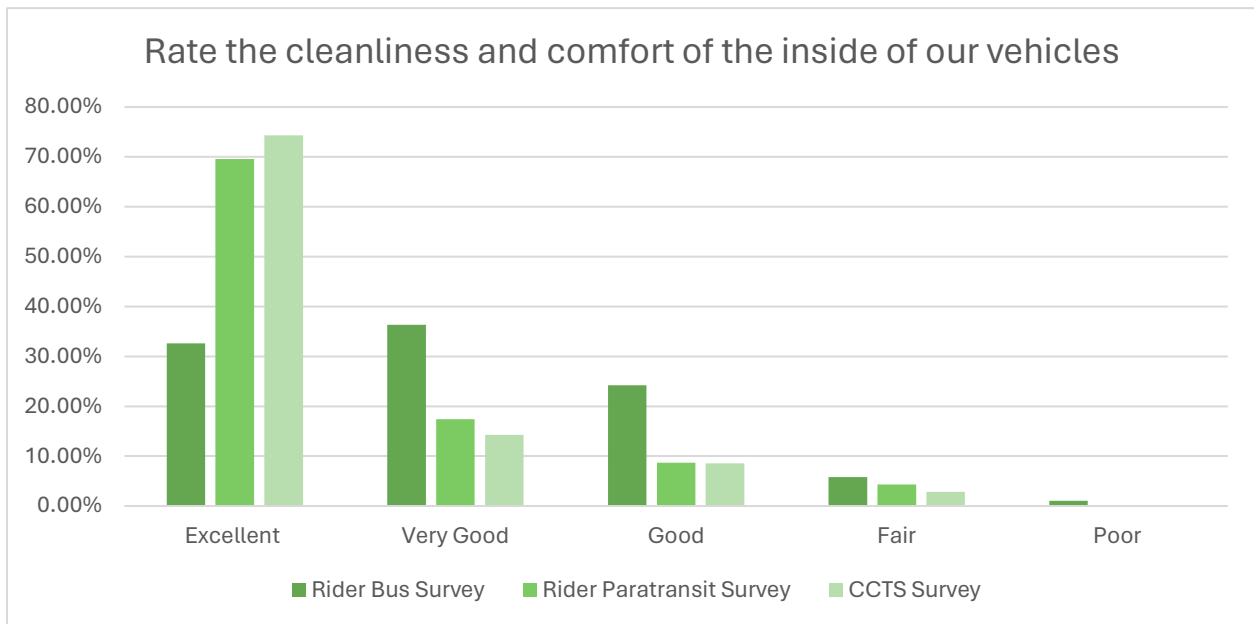
**Question: On a scale of 1 – 5, please rate how often the bus/vehicle arrives on time at your bus stop/within your pick-up window.**

For this question, the team asked respondents to rate the timeliness of their service on a scale from 1 to 5. Responses were divided between services arriving on time "(1) All the time" and "(2) Most of the time." Specifically, 30.5% of Rider Bus, 30.4% of Rider Paratransit, and 61.8% of CCTS respondents indicated their service arrives on time "All the time." Meanwhile, 57.9% of Rider Bus, 39.1% of Rider Paratransit, and 17.7% of CCTS respondents selected "Most of the time." Compared to Round 1, Round 2 saw an increase in selections for "Most of the time" and a decrease for "All the time."



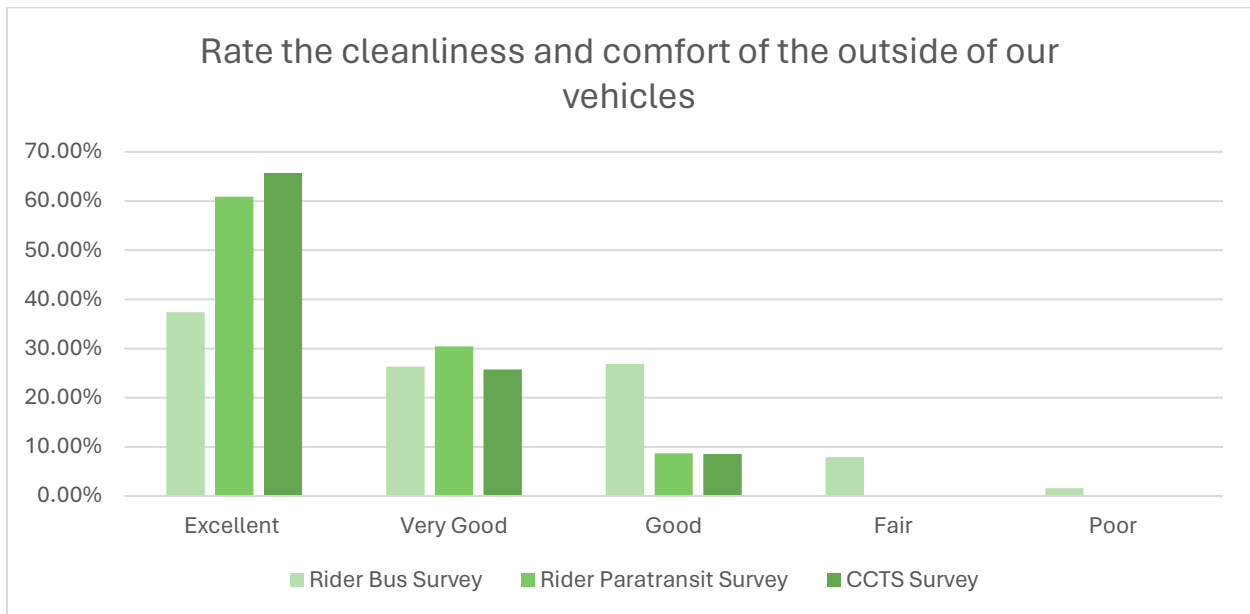
**Question: On a scale of 1 - 5, how would you rate the cleanliness and comfort of the inside of our buses/vehicles?**

For this question, survey respondents were asked to rate the cleanliness of the outside of their bus or van on a scale of 1 to 5. The majority expressed satisfaction, with 33% of Rider Bus, 70% of Rider Paratransit, and 74% of CCTS respondents rating the cleanliness as "(1) Excellent." Additionally, 36% of Rider Bus, 17% of Rider Paratransit, and 14% of CCTS respondents rated it as "(2) Very Good." These results closely mirror the data collected during Round 1 surveying.



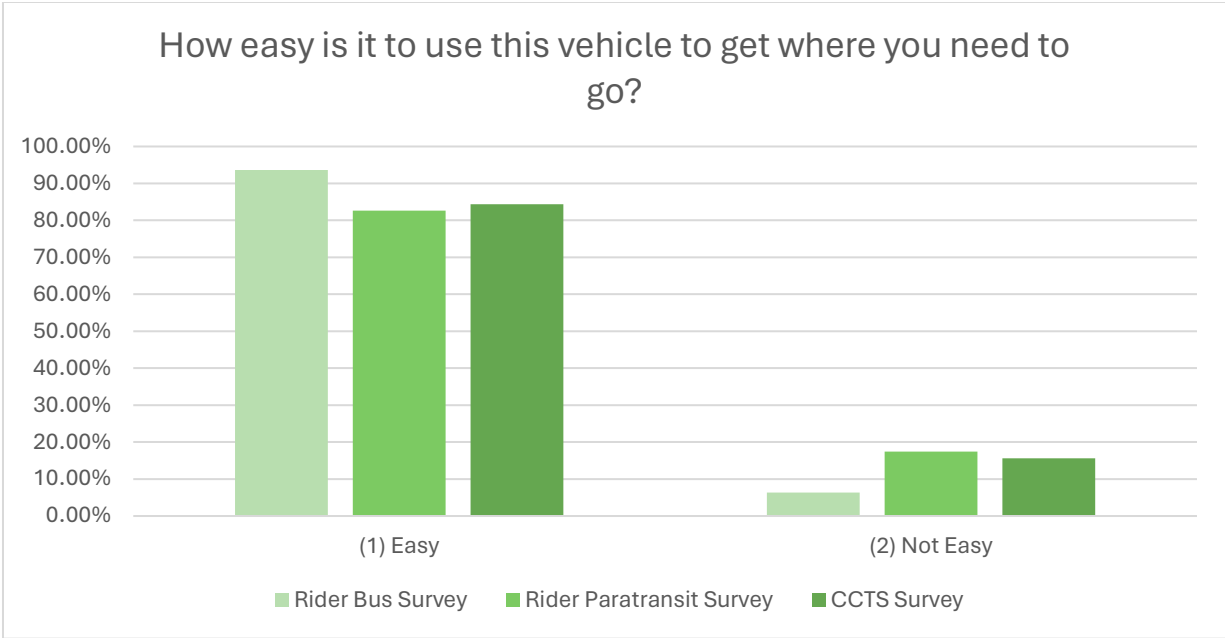
**Question: On a scale of 1 - 5, how would you rate the cleanliness and comfort of the outside of our buses/vehicles?**

This question, similar to the previous one, asked respondents to rate the cleanliness of the outside of their bus or van on a scale of 1 to 5. The trends were consistent with the previous responses: 37% of Rider Bus survey participants rated the cleanliness as "(1) Excellent," and 26% rated it as "(2) Very Good." The "(1) Excellent" rating was slightly higher for Rider Paratransit and CCTS surveys, with 69.6% and 74.3% of respondents selecting this option. This contrasts with Round 1 data, where the Rider Bus survey had the highest percentage of "(1) Excellent" ratings. No respondents from the Rider Paratransit and CCTS surveys were completely unsatisfied with the cleanliness, and only 1% of Rider Bus respondents rated it as "(5) Poor," consistent with findings from Round 1.



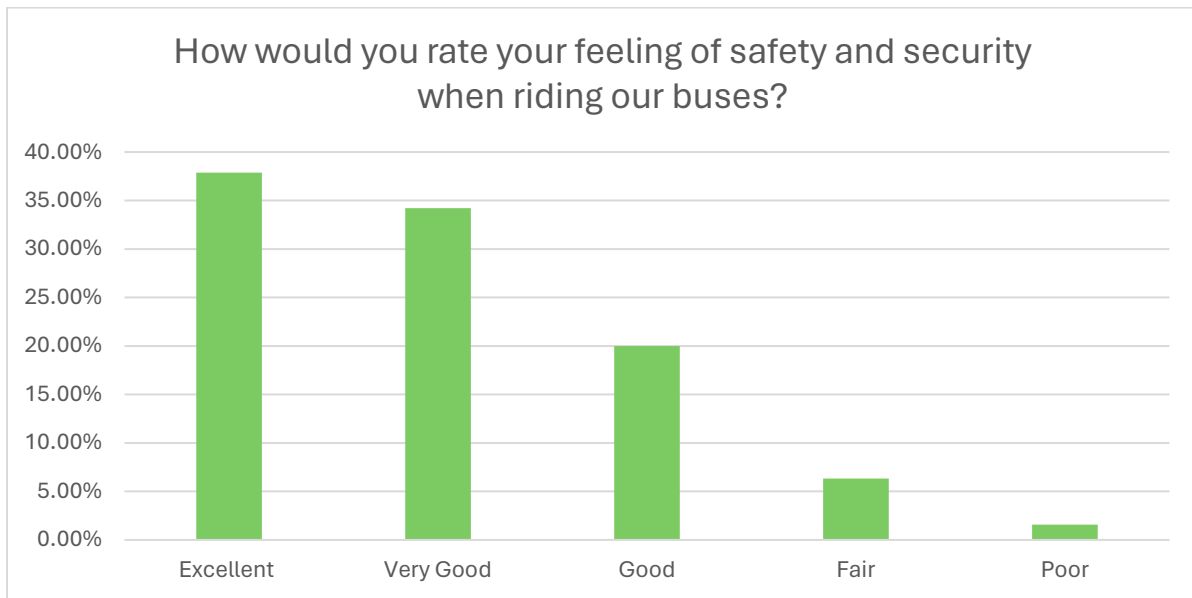
**Question: How easy is it to use the bus/schedule a ride to get to where you need to go?**

For this question, survey respondents were asked to rate the ease of using their service to get to their destinations by selecting either "(a) Easy" or "(b) Not Easy." Unlike Round 1, which used a 1 to 5 scale, Round 2 simplified the choices to these two options. The majority of riders responded positively: 94% of Rider Bus, 83% of Rider Paratransit, and 84% of CCTS survey respondents rated the service as "(a) Easy."



**Question: On a scale from 1 – 5, how would you rate your feeling of safety and security when riding our buses?**

This question was included only in the Rider Bus survey. Respondents were asked to rate their feeling of safety while riding the bus on a scale of 1 to 5. The results were as follows: 37.9% of riders rated their safety as "(1) Excellent," 34.2% as "(2) Very Good," and 20% as "(3) Good." Only 6.3% rated it as "(4) Fair," and 1.6% as "(5) Poor." These trends are very similar to the data collected during Round 1, with the most notable difference being a 12% decrease in the selection of "(1) Excellent" in Round 2.



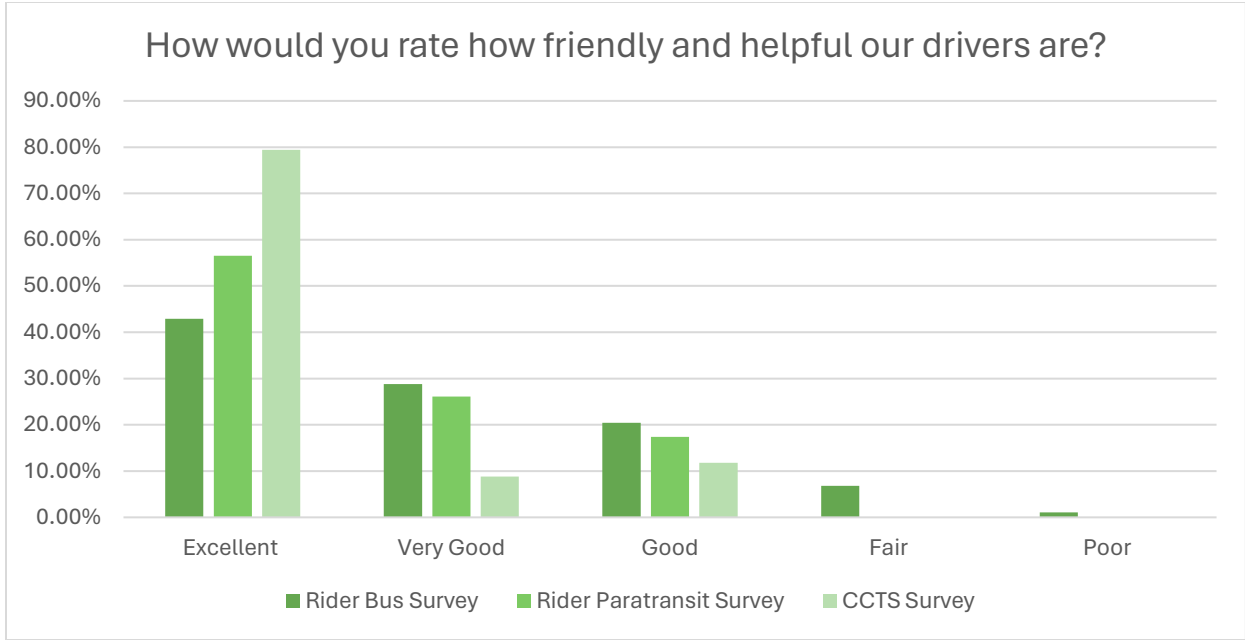
**Question: On a scale from 1 – 5, how would you rate your feeling of safety and security when waiting for our buses?**

This question, included only in the Rider Bus survey, asked respondents to rate their feeling of safety while waiting for the bus on a scale of 1 to 5. The results were as follows: 32.5% rated their safety as "(1) Excellent," and 26.2% rated it as "(2) Very Good." A slightly higher percentage of riders felt less safe waiting for the bus than riding it, with 9.4% selecting "(4) Fair" and 2.6% selecting "(5) Poor." Overall, Rider Bus customers reported feeling slightly less safe while waiting for the bus compared to riding it. These trends were consistent with the Round 1 survey data.



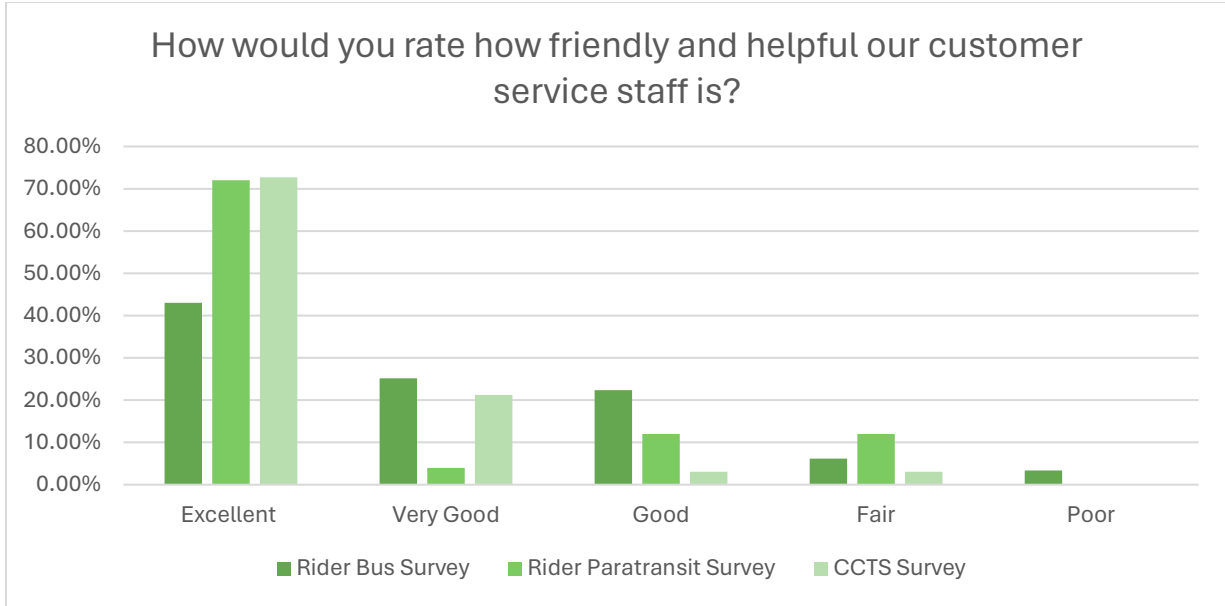
**Question: On a scale from 1 – 5, how would you rate how friendly and helpful our drivers are?**

All three surveys asked riders to rate the friendliness and helpfulness of their drivers on a scale of 1 to 5. The majority of respondents across all surveys expressed satisfaction, with 42.9% of Rider Bus, 56.5% of Rider Paratransit, and 79.4% of CCTS respondents rating their drivers as "(1) Excellent," and 33.7% of Rider Bus, 28.8% of Rider Paratransit, and 8.8% of CCTS respondents rating them as "(2) Very Good." Notably, these ratings increased from the Round 1 survey for Rider Bus and CCTS users, while the "Excellent" rating decreased for Rider Paratransit users. Only 6.8% of Rider Bus respondents selected "(4) Fair," and 1.1% selected "(5) Poor," with no such ratings from Rider Paratransit or CCTS respondents. These dissatisfaction rates from Rider Bus users decreased compared to Round 1.



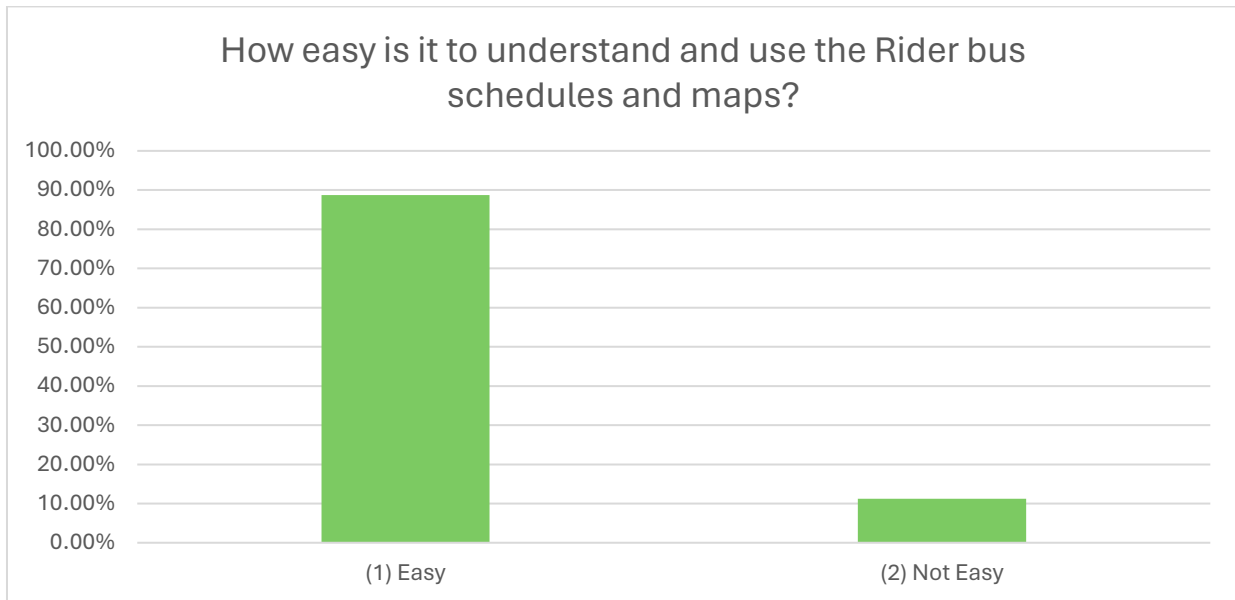
**Question: On a scale from 1 – 5, please rate how friendly and helpful our customer service staff is.**

All three surveys asked riders about their perceptions of the friendliness and helpfulness of Rider or CCTS customer service staff, using a scale of 1 to 5. The majority of respondents expressed satisfaction, with 43% of Rider Bus, 50% of Rider Paratransit, and 73% of CCTS survey participants selecting a rating of "(1) Excellent," while 26% of Rider Bus, 36% of Rider Paratransit, and 21% of CCTS respondents opted for "(2) Very Good." These satisfaction levels remained consistent with the Round 1 survey among Rider and CCTS users. Notably, only 3.3% of Rider Bus survey respondents selected "(5) Poor," whereas no such ratings were chosen by Rider Paratransit or CCTS respondents. This indicates a decrease in dissatisfaction among Rider Bus users compared to Round 1.



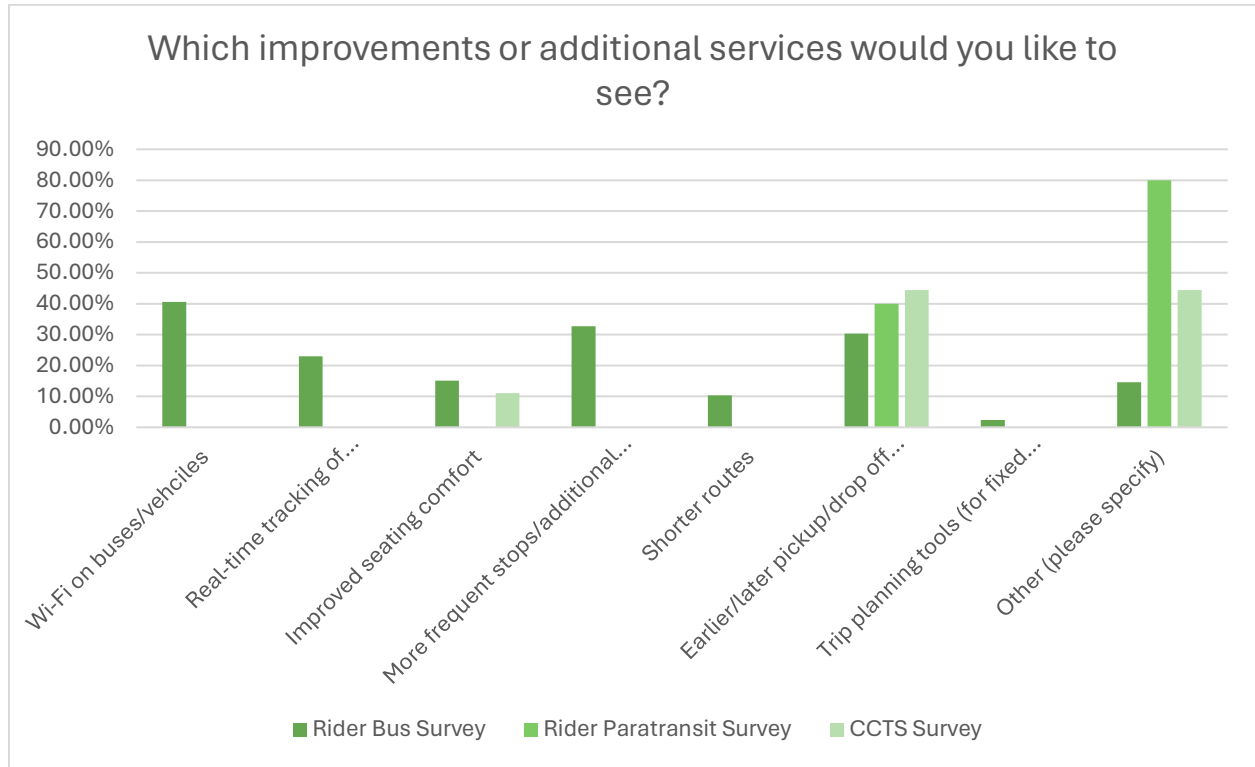
**Question: How easy it is to understand and use the Rider bus schedules and maps?**

This question was revised after the Round 1 survey. Initially, respondents were prompted to rate the ease of using Rider bus schedules and maps on a scale from 1 to 5. However, in Round 2, respondents were simply asked whether they found the schedules and maps easy to understand and use. The findings revealed a sentiment of ease, with 88.8% of respondents indicating that they found them "(1) Easy," while 11.2% selected "(2) Not Easy."



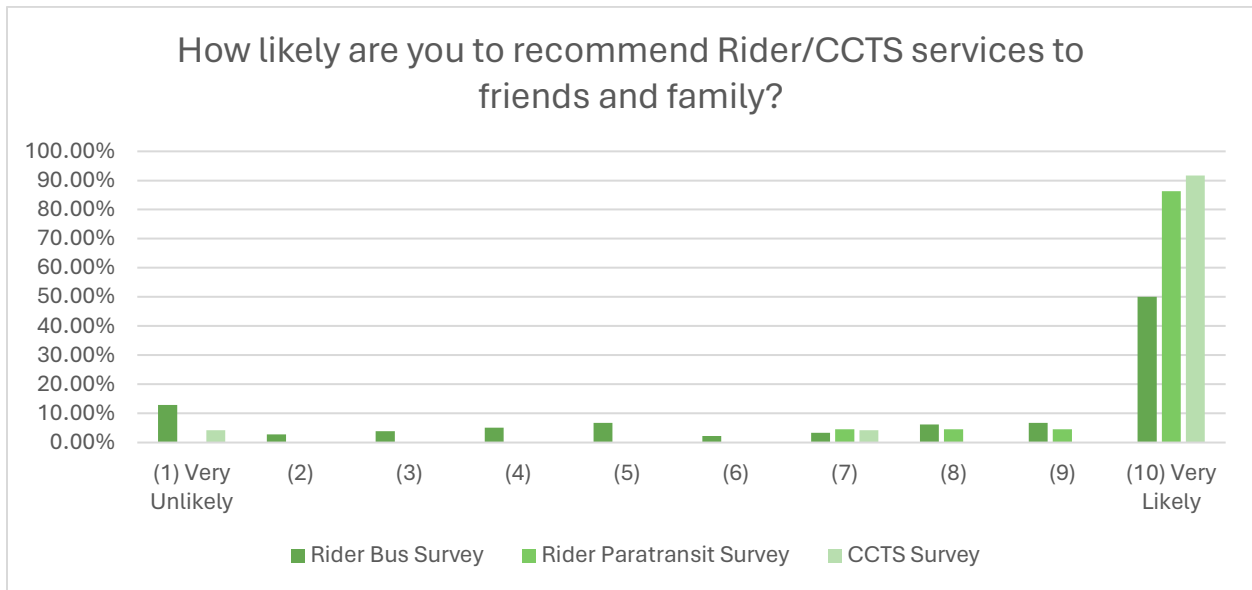
**Question: Which improvements or additional services would you like to see from Rider? (Select all that apply)**

This question varied slightly from the Rider Bus survey compared to the Rider Paratransit and CCTS surveys. Participants were asked to select all the improvements or additional services they would like to see for the transit service they are using. The Rider Bus survey had four answers that the majority selected. 40.6% selected “Wi-Fi on buses,” 23% selected “Real-time tracking of buses,” 32.7% selected “More frequent/additional stops,” and 30.3% selected “Earlier/Later pickup/drop off times.” The Rider Paratransit Survey had two answers that the majority selected. 40% of respondents selected “Earlier/Later pickup/drop off times,” and 80% selected “Other.” The most common “Other” suggestion was ensuring drivers arriving on time. The CCTS survey also had two answers that the majority of respondents selected. 44% selected “Earlier/later pickup/drop off times,” and 44% selected “Other.” Some “Other” suggestions emphasized longer routes. The responses from all 3 surveys remained constant from Round 1.



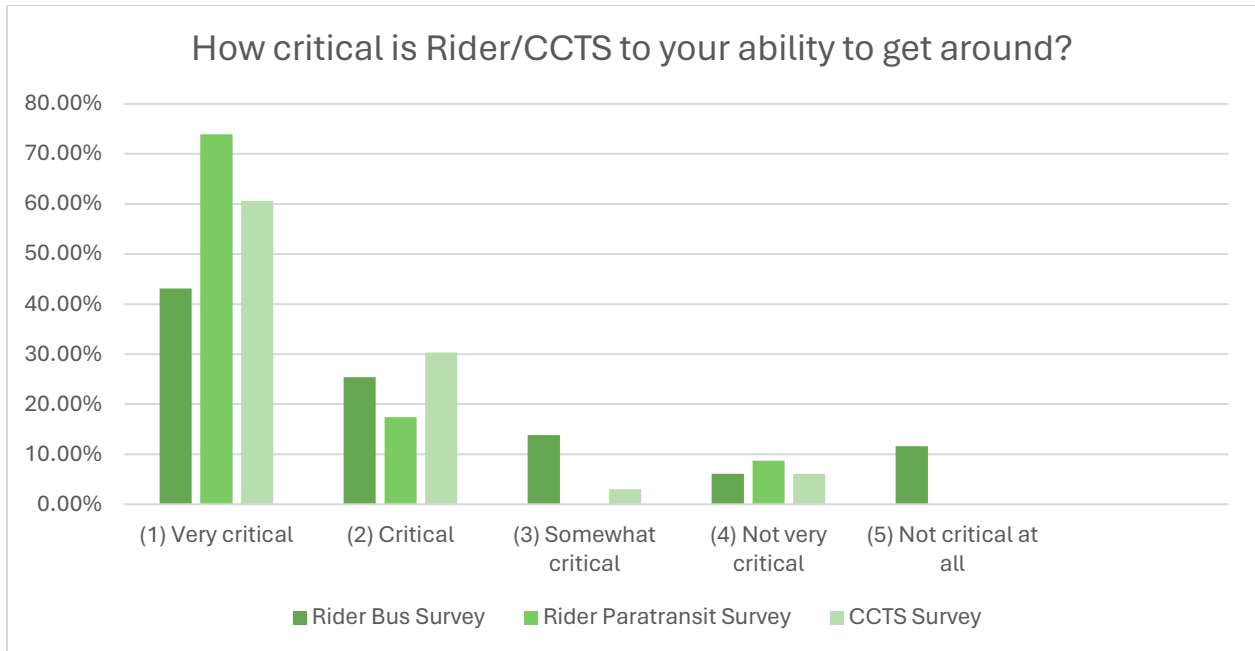
**Question: On a scale of 1 to 10, how likely are you to recommend Rider/CCTS services to friends and family?**

This question was revised from the Round 1 survey. In all three surveys, respondents were tasked with assessing their likelihood of recommending Rider/CCTS services to their friends and family. However, instead of using a 1-5 rating scale, they were presented with a broader range of 1-10. The majority of respondents from all three groups expressed a positive inclination toward endorsing the services. Specifically, 50% of Rider Bus respondents, 86.3% of Rider Paratransit respondents, and an impressive 91.7% of CCTS respondents selected “(10) Very Likely”. Conversely, a minority of respondents, comprising 12.9% of Rider Bus participants, none of the Rider Paratransit participants, and only 4% of CCTS participants, indicated a lower likelihood of recommending the services by choosing “(1) Very Unlikely”.



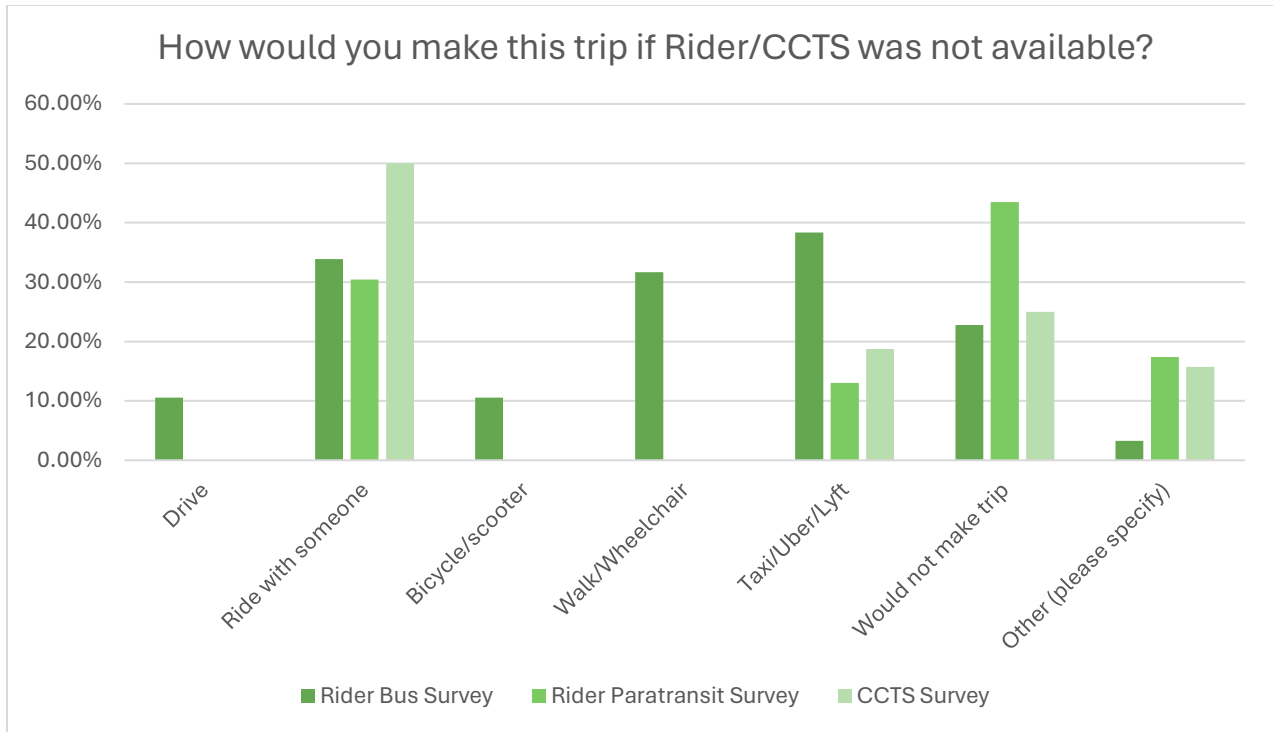
**Question: On a scale of 1 to 5, How critical is Rider/CCTS to your ability to get around?**

Survey participants were asked to rate how critical Rider or CCTS is to their ability to get around on a scale of 1 to 5. The majority of respondents across all three surveys emphasized the significance of Rider/CCTS to their transportation needs, with 43% of Rider Bus, 73% of Rider Paratransit, and 60% of CCTS respondents selecting “(1) Very critical.” Compared to Round 1, these ratings experienced an uptick among both Rider Paratransit and CCTS users while showing a slight decrease among Rider Bus users.



**Question: How would you make this trip if Rider bus/Rider Paratransit/ CCTS service was not available?**

Survey respondents were asked to select how they would make their trip if Rider or CCTS services were unavailable. In the Rider Bus survey, the top three responses were “Taxi/Uber/Lyft,” chosen by 38.3% of participants, followed by “Ride with Someone” at 33.9%, and “Walk/Wheelchair” at 31.6%. Notably, "Walk/Wheelchair" and "Ride with Someone" saw significant increases in selection compared to Round 1. Conversely, for both Rider Paratransit and CCTS surveys, the most common responses were "Ride with someone else," selected by 30.4% of Rider Paratransit respondents and 50% of CCTS respondents, and "Would not make the trip," chosen by 43.5% of Rider Paratransit respondents and 25% of CCTS respondents. It's worth noting that "Would not make the trip" experienced a notable surge in respondents selecting this option compared to Round 1.



**Question: If you would like to be entered into a raffle to win a tablet, courtesy of RIDER, please provide your email address or phone number on the line below.**

Survey participants were invited to share their email or phone number for a chance to win a tablet. The majority of respondents across all surveys embraced the incentive, with 54.4% of Rider Bus participants, 64.5% of Rider Paratransit participants, and 38.5% of CCTS participants providing their contact information.

**Question: Any additional comments?**

The last question on each survey allowed respondents to share any remaining comments, questions, or concerns regarding the service. Due to the nature of the question and the variety of responses, these responses are listed in the corresponding data file for further review.

## NEXT STEPS AND RECOMMENDATIONS

Based on the comprehensive analysis of the second round of surveying, the team has identified specific areas for improvement and actionable steps to enhance Rider and CCTS services. Our recommendations address the feedback received from both rounds of

surveying and ensure continuous service quality and improvement in customer satisfaction.

1. Improve Communication and Information Accessibility:

**Enhance Schedule and Map Clarity:** While the majority of respondents found the schedules and maps easy to understand, there is still room for improvement. Simplifying and displaying route information can further assist riders, particularly those who reported difficulties.

**Expand Real-Time Tracking:** There is a notable demand for real-time bus tracking, and investing in technology to provide live updates can significantly enhance the user experience and reduce uncertainty.

2. Address Safety Concerns:

**Increase Security Measures at Bus Stops:** Given that respondents felt slightly less safe waiting for the bus compared to riding it, implementing additional safety measures at bus stops, such as better lighting and security patrols, can improve perceptions of safety.

**Enhance Onboard Safety:** Continue to monitor and address safety concerns on buses, ensuring that all riders feel secure throughout their journey.

3. Focus on Cleanliness and Comfort:

**Maintain High Standards of Cleanliness:** While most respondents were satisfied with the cleanliness of the buses and vans, maintaining and regularly monitoring cleaning protocols will ensure continued satisfaction.

**Upgrade Vehicle Comfort:** Consider feedback on the comfort of buses and vans and explore opportunities for upgrading seating and onboard facilities to enhance rider comfort.

4. Expand Service Availability:

**Increase Service Frequency and Coverage:** The demand for more frequent and additional stops and earlier and later pickup/drop-off times indicates a need for expanded service hours and route coverage. Evaluating the feasibility of these changes can help meet rider needs more effectively.

**Pilot Wi-Fi on Buses:** Many Rider Bus survey respondents expressed a desire for Wi-Fi on buses, so piloting this feature can add value to the rider's experience.

5. Enhance Customer Service Training:

**Focus on Driver and Staff Friendliness:** Continue to invest in customer service training for drivers and staff, emphasizing the importance of friendliness and helpfulness. This has been a strong point of satisfaction and should be maintained.

**Address Dissatisfaction Promptly:** For the small percentage of respondents who rated customer service poorly, promptly addressing their concerns through targeted training and feedback mechanisms will be essential.

6. Utilize Incentives to Boost Engagement:

**Continue Offering Incentives:** Incentives such as tablet raffles and ride passes have proven effective in encouraging survey participation. Continuing this practice can maintain high levels of engagement in future surveys.

**Gather More Detailed Feedback:** To gain deeper insights into specific areas of improvement, consider adding more qualitative questions or follow-up interviews.

7. Monitor and Adjust Based on Feedback:

**Regularly Review Survey Data:** Establish a routine for reviewing survey data and feedback regularly to identify trends and areas needing attention. This will enable timely adjustments and continuous service improvement.

**Engage with the Community:** Hold regular community meetings or forums to discuss survey findings and proposed changes, ensuring transparency and gaining further insights from riders.

By implementing these recommendations, Rider and CCTS can enhance the overall customer experience, address specific areas of concern, and ensure that services continue to meet the needs and expectations of all riders. Continuous monitoring and adjustment based on rider feedback will be crucial for maintaining high satisfaction levels and service quality.

## SURVEYS

### Rider Bus Survey Questions:

The survey is designed to gather insights into overall customer satisfaction and user experience with our services. We want to know how well our systems meet transportation needs and expectations. Feedback on aspects such as reliability, cleanliness, accessibility, and customer service will guide us in potential enhancements to the overall quality of our services.

1. What language are you taking this survey in?
  - (a) English
  - (b) Spanish
2. In what Zip Code do you live in?
3. How often do you use Rider's bus services?
  - (a) Every day
  - (b) 3-6 days per week
  - (c) 1-2 days per week
  - (d) A few times each month
  - (e) Rarely
  - (f) First-time user
4. On a scale of 1 – 5, please rate how often the bus arrives on time at your bus stop.
  - (1) All the time
  - (2) Most of the time
  - (3) Some of the time
  - (4) Rarely
  - (5) Never
5. On a scale of 1 – 5, how would you rate the cleanliness and comfort of the inside of our buses?
  - (1) Excellent
  - (2) Very Good
  - (3) Good
  - (4) Fair
  - (5) Poor
6. On a scale of 1 – 5, how would you rate the cleanliness of the outside of our buses?
  - (1) Excellent
  - (2) Very Good
  - (3) Good
  - (4) Fair
  - (5) Poor
7. How easy is it to use the bus to get where you need to go?
  - (1) Easy
  - (2) Not easy
8. On a scale from 1 – 5, how would you rate your feeling of safety and security when riding our buses?
  - (1) Excellent
  - (2) Very Good
  - (3) Good
  - (4) Fair
  - (5) Poor
9. On a scale from 1 – 5, how would you rate your feeling of safety and security when waiting for our buses?
  - (1) Excellent
  - (2) Very Good / Muy Bien
  - (3) Good
  - (4) Fair
  - (5) Poor

10. On a scale from 1 – 5, please rate how friendly and helpful our bus drivers are:

- (1) Excellent
- (2) Very Good
- (3) Good
- (4) Fair
- (5) Poor

11. On a scale of 1 to 5, please rate how friendly and helpful our customer service staff is:

- (1) Excellent
- (2) Very Good
- (3) Good
- (4) Fair
- (5) Poor

12. How easy it is to understand and use the Rider bus schedules and maps:

- (1) Easy
- (2) Not easy

13. Which improvements or additional services would you like to see from Rider? (Select all that apply):

- (a) Wi-Fi on buses
- (b) Real-time tracking of buses
- (c) Improved seating comfort
- (d) More frequent stops/additional stops
- (e) Shorter routes
- (f) Earlier/later pickup/drop off times
- (g) Trip planning tools (for fixed routes only)
- (h) Other (please specify): \_\_\_\_\_  
\_\_\_\_\_

14. On a scale of 1 to 10, how likely are you to recommend Rider services to friends and family?

- (1) Very unlikely
- (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- (10) Very likely

15. On a scale of 1 to 5, How critical is Rider to your ability to get around?

- (1) Very critical
- (2) Critical
- (3) Somewhat critical
- (4) Not very critical
- (5) Not critical at all

16. How would you make this trip if Rider bus service was not available? (Select all that apply)

- (a) Drive
- (b) Ride with someone
- (c) Bicycle/scooter
- (d) Walk/Wheelchair
- (e) Taxi/Uber/Lyft
- (f) Would not make trip
- (g) Other(specify): \_\_\_\_\_  
\_\_\_\_\_

17. If you would like to be entered into a raffle to win a tablet, courtesy of RIDER, please provide your email address or phone number on the line below:  
\_\_\_\_\_

Any additional comments?

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## Encuesta de Rider Bus:

El objetivo de la encuesta es conocer la satisfacción general de los usuarios y su experiencia con nuestros servicios. Queremos saber hasta qué punto nuestros sistemas satisfacen las necesidades y expectativas del transporte. Los comentarios sobre aspectos como la fiabilidad, la limpieza, la accesibilidad y el servicio al cliente nos orientarán sobre posibles mejoras de la calidad general de nuestros servicios.

1. ¿En qué idioma estás respondiendo esta encuesta?
2. ¿En qué código postal vive?
3. ¿Con qué frecuencia utiliza los servicios de autobús de Rider?
  - (a) Todos los días
  - (b) 3-6 veces a la semana
  - (c) 1-2 veces a la semana
  - (d) Unas veces al mes
  - (e) Pocas veces
  - (f) Es mi primera vez usando estos servicios
4. ¿En una escala de 1 – 5, por favor califique cuantas veces el autobús llega a tiempo a su parada de autobús?
  - (1) Todas las veces
  - (2) Casi todas las veces
  - (3) Algunas veces
  - (4) Pocas veces
  - (5) Nunca
5. ¿En una escala de 1 – 5, cómo calificaría usted la limpieza y comodidad de a dentro de los autobuses?
  - (1) Excelente
  - (2) Muy bien
  - (3) Bien
  - (4) Razonable
  - (5) Malo
6. ¿En una escala de 1 – 5 cómo calificaría usted la limpieza de afuera de nuestros autobuses?
  - (1) Excelente
  - (2) Muy Bien
  - (3) Bien
  - (4) Razonable
  - (5) Malo
7. ¿Qué de fácil es utilizar el autobús para llegar a su destino?
  - (1) Fácil
  - (2) No es fácil
8. ¿En una escala de 1 – 5, ¿cómo calificaría su sentimiento de seguridad cuando usa los autobuses?
  - (1) Excelente
  - (2) Muy Bien
  - (3) Bien
  - (4) Razonable
  - (5) Malo
9. ¿En una escala de 1 – 5, cómo calificaría su sentimiento de seguridad cuando está esperando a nuestros autobuses?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien

10. En una escala de 1 – 5, Por favor califique que amable y atento nuestros conductores de autobuses son:
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
11. En una escala de 1 – 5, por favor califique que amable y atentos nuestros empleados de servicios al cliente son:
- (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
12. ¿Qué de fácil es de entender y usar los mapas y horarios de Rider Bus:
- (1) Fácil
  - (2) No es fácil
13. ¿Qué mejoras o servicios adicionales le gustaría ver por parte de Rider? (Seleccione todo lo que corresponda)
- (a) Wi-Fi en los autobuses
  - (b) Seguimiento de los auto buses en tiempo real
  - (c) Mejor comodidad de asientos
  - (d) Paradas más frecuentes/ Paradas adicionales
  - (e) Rutas más cortas
  - (f) Tiempos de recogida y bajada más temprano/más tarde
  - (g) Funciones de planificación de viajes (solamente para rutas fijadas)
  - (h) Otro (por favor especifique):
- 
14. En una escala de 1 – 10, ¿que probable eres de recomendar nuestros servicios Rider a sus amigos y familiares?
- (1) Muy improbable
  - (2)
  - (3)
  - (4)
  - (5)
  - (6)
  - (7)
  - (8)
  - (9)
  - (10) Muy probable
15. En una escala del 1 al 5, ¿Qué importancia tiene Rider para su habilidad para moverse?
- (1) Muy extremo
  - (2) Extremo
  - (3) Un poco extremo
  - (4) No tan extremo
  - (5) Nada de extremo
16. ¿Como haría su viaje si los servicios de Rider no estarían disponible? (Seleccione todo lo que corresponda)
- (a) Manejar
  - (b) Viajar con alguien
  - (c) Bicicleta/patineta
  - (d) Caminar/Silla de ruedas
  - (e) Taxi/Uber/Lyft
  - (f) No haria mi viaje
  - (g) Otro (specifique):
17. Si le gustaria entrar a una rifa para ganar una tableta, cortesia de Rider, por favor deje su correo electronico o número de telefono en la linea abajo.
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Comentarios adicionales?

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# Rider Paratransit Survey Questions: Encuesta de Rider Paratransit

## Overview and Goals: Objetivo y metas

The survey is designed to gather insights into overall customer satisfaction and user experience with our services. We want to know how well our systems meet transportation needs and expectations. Feedback on aspects such as reliability, cleanliness, accessibility, and customer service will guide us in potential enhancements to the overall quality of our services. / El objetivo de la encuesta es conocer la satisfacción general de los usuarios y su experiencia con nuestros servicios. Queremos saber hasta qué punto nuestros sistemas satisfacen las necesidades y expectativas del transporte. Los comentarios sobre aspectos como la fiabilidad, la limpieza, la accesibilidad y el servicio al cliente nos orientarán sobre posibles mejoras de la calidad general de nuestros servicios.

1. What language are you taking this survey in?  
¿En qué idioma estás respondiendo esta encuesta?  
(a) English/Inglés  
(b) Español/Spanish
2. In what Zip Code do you live in? / ¿En qué código postal vive?
3. How often do you use Rider Paratransit? / ¿Con qué frecuencia utiliza los servicios de Rider Paratransit?  
(a) Every day / Todos los días  
(b) 3-6 days per week / 3-6 veces a la semana  
(c) 1-2 days per week / 1-2 veces a la semana  
(d) A few times each month / Unas veces al mes  
(e) Rarely / Pocas veces  
(f) First-time user / Es mi primera vez usando estos servicios
4. On a scale of 1 – 5, please rate how often the Rider Paratransit vehicle arrives within your pick up window. / En una escala de 1 - 5, por favor califique la frecuencia con que frecuencia el vehículo de Rider Paratransit llega dentro de su ventana de recogida.  
(1) All the time / Todas las veces  
(2) Most of the time / Casi todas las veces  
(3) Some of the time / Algunas veces  
(4) Rarely/ Pocas veces  
(5) Never / Nunca
5. On a scale of 1 – 5, how would you rate the cleanliness and comfort of the inside of our vehicles? / ¿En una escala de 1 -5, cómo calificaría usted la limpieza y comodidad de a dentro de los vehículos?  
(1) Excellent / Excelente  
(2) Very Good / Muy bien  
(3) Good / Bien  
(4) Fair / Razonable  
(5) Poor / Malo
6. On a scale of 1 – 5, how would you rate the cleanliness of the outside of our vehicles? / ¿En una escala de 1 – 5 cómo calificaría usted la limpieza de afuera de nuestros vehículos?  
(1) Excellent / Excelente  
(2) Very Good / Muy Bien  
(3) Good / Bien  
(4) Fair / Razonable  
(5) Poor / Malo
7. How easy is it to schedule a ride to get where you need to go? / ¿Qué tan fácil es programar un viaje para llegar a donde necesita ir?  
(1) Easy / Fácil  
(2) Not easy / No es fácil

8. On a scale from 1 – 5, please rate how friendly and helpful our drivers are: / En una escala de 1 – 5, Por favor califique que amable y atento nuestros conductores son:

- (1) Excellent / Excelente
- (2) Very Good / Muy Bien
- (3) Good / Bien
- (4) Fair / Razonable
- (5) Poor / Malo

9. On a scale from 1 – 5, please rate how friendly and helpful our customer service staff is: / En una escala de 1 – 5, Por favor califique que amable y atentos nuestros empleados de servicios al cliente son.

- (1) Excellent / Excelente
- (2) Very Good / Muy Bien
- (3) Good / Bien
- (4) Fair / Razonable
- (5) Poor / Malo

10. Which improvements or additional services would you like to see from Rider Paratransit? (Select all that apply) / ¿Qué mejoras o servicios adicionales le gustaría ver por parte de Rider? (Seleccione todo lo que corresponda)

- (a) Wi-Fi
- (b) Real-time tracking of vehicles / Seguimiento de los vehículos en tiempo real
- (c) Improved seating comfort / Mejor comodidad de asientos
- (d) Earlier/later pickup/drop off times / Paradas más frecuentes/ Paradas adicionales
- (e) Other (please specify) / Otro (por favor especifique)

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11. On a scale of 1 to 10, 1 being very unlikely and 10 being very likely, how likely are you to recommend Rider Paratransit services to friends and family? / En una escala de 1 – 10, siendo 1 muy improbable y 10 muy probable, ¿que probable eres de recomendar nuestros servicios Rider Paratransit a sus amigos y familiares?

12. On a scale of 1 to 5, How critical is Rider Paratransit to your ability to get around? / En una escala del 1 al 5, ¿Qué importancia tiene Rider Paratransit para su habilidad para moverse?

- (1) Very critical / Muy extremo
- (2) Critical / extremo
- (3) Somewhat critical / Un poco extremo
- (4) Not very critical / No tan extremo
- (5) Not critical at all / Nada de extremo

13. How would you make this trip if Rider Paratransit was not available? (Select all that apply) / Como haría su viaje si los servicios de Rider Paratransit no estarían disponible? (Seleccione todo lo que corresponda)

- (a) Drive / Manejar
- (b) Ride with someone / Viajar con alguien
- (c) Bicycle/scooter / Bicicleta/patineta
- (d) Walk/Wheelchair / Caminar/Silla de ruedas
- (e) Taxi/Uber/Lyft
- (f) Would not make trip / No haria mi viaje.
- (g) Other (specify) / Otro (especifique):

14. If you would like to be entered into a raffle to win a tablet, courtesy of RIDER, please provide your email address or phone number on the line below/ Si le gustaria entrar a una rifa para ganar una tableta, cortesia de Rider, por favor deje su correo electronico o numero de telefono en la linea abajo.

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Any additional comments? / Comentarios adicionales?

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## CCTS Survey Questions: Encuesta de CCTS

The survey is designed to gather insights into overall customer satisfaction and user experience with our services. We want to know how well our systems meet transportation needs and expectations. Feedback on aspects such as reliability, cleanliness, accessibility, and customer service will guide us in potential enhancements to the overall quality of our services. / El objetivo de la encuesta es conocer la satisfacción general de los usuarios y su experiencia con nuestros servicios. Queremos saber hasta qué punto nuestros sistemas satisfacen las necesidades y expectativas del transporte. Los comentarios sobre aspectos como la fiabilidad, la limpieza, la accesibilidad y el servicio al cliente nos orientarán sobre posibles mejoras de la calidad general de nuestros servicios.

1. What language are you taking this survey in? ¿En qué idioma estás respondiendo esta encuesta?
  - (a) English/Inglés
  - (b) Español/Spanish
2. In what Zip Code do you live in? / ¿En qué código postal vive?
3. How often do you use CCTS vehicles? / ¿Cuántas veces usa los servicios de vehículos CCTS?
  - (a) Every day / Todos los días
  - (b) 3-6 days per week / 3-6 veces a la semana
  - (c) 1-2 days per week / 1-2 veces a la semana
  - (d) A few times each month / Unas veces al mes
  - (e) Rarely / Pocas veces
  - (f) First-time user / Es mi primera vez usando estos servicios
4. On a scale of 1 – 5, please rate how often the CCTS vehicle arrives within your pick up window. / En una escala de 1 - 5, por favor califique la frecuencia con que frecuencia el vehículo de CCTS llega dentro de su ventana de recogida.
  - (1) All the time / Todas las veces
  - (2) Most of the time / Casi todas las veces
  - (3) Some of the time / Algunas veces
  - (4) Rarely / Pocas veces
  - (5) Never / Nunca
5. On a scale of 1 – 5, how would you rate the cleanliness and comfort of the inside of our vehicles? / ¿En una escala de 1 -5, cómo calificaría usted la limpieza y comodidad de a dentro de los vehículos?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor/ Malo
6. On a scale of 1 – 5, how would you rate the cleanliness of the outside of our vehicles? / ¿En una escala de 1 – 5 cómo calificaría usted la limpieza de afuera de nuestros vehículos?
  - (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
7. How easy is it to schedule a ride to get where you need to go? / ¿Qué tan fácil es programar un viaje para llegar a donde necesita ir?
  - (1) Easy / Fácil
  - (2) Not easy / No es fácil
8. On a scale from 1 – 5, please rate how friendly and helpful our drivers are: / En una escala de 1 – 5, Por favor califique que amable y atento nuestros conductores son:
  - (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo
9. On a scale from 1 – 5, please rate how friendly and helpful our customer service staff is: / En una escala de 1 – 5, Por favor califique que amable y atentos nuestros empleados de servicios al cliente son:
  - (1) Excellent / Excelente
  - (2) Very Good / Muy Bien
  - (3) Good / Bien
  - (4) Fair / Razonable
  - (5) Poor / Malo

10. Which improvements or additional services would you like to see from CCTS? (Select all that apply) / ¿Qué mejoras o servicios adicionales le gustaría ver por parte de Rider? (Seleccione todo lo que corresponda)

- (a) Wi-Fi
- (b) Real-time tracking of vehicles / Seguimiento de los vehículos en tiempo real
- (c) Improved seating comfort / Mejor comodidad de asientos
- (d) Earlier/later pickup/drop off times / Paradas más frecuentes/ Paradas adicionales
- (e) Other (please specify) / Otro (por favor especifique): \_\_\_\_\_

\_\_\_\_\_

11. On a scale of 1 to 10, 1 being very unlikely and 10 being very likely, how likely are you to recommend Rider Paratransit services to friends and family? / En una escala de 1 - 10, siendo 1 muy improbable y 10 muy probable, ¿que probable eres de recomendar nuestros servicios Rider Paratransit a sus amigos y familiares?

12. On a scale of 1 to 5, How critical is CCTS to your ability to get around? / En una escala del 1 al 5, ¿Qué importancia tiene CCTS para su habilidad para moverse?

- (1) Very critical / Muy extremo
- (2) Critical / extremo
- (3) Somewhat critical / Un poco extremo
- (4) Not very critical / No tan extremo
- (5) Not critical at all / Nada de extremo

13. How would you make this trip if CCTS was not available? (Select all that apply) / ¿Como haría su viaje si CCTS no estarían disponibles? (Seleccione todo lo que corresponda)

- (a) Drive / Manejar
- (b) Ride with someone / Viajar con alguien
- (c) Bicycle/scooter / Bicicleta/patineta
- (d) Walk/Wheelchair / Caminar/Silla de ruedas
- (e) Taxi/Uber/Lyft
- (f) Would not make trip / No haria mi viaje.
- (g) Other(specify)/ Otro (specifique): \_\_\_\_\_

\_\_\_\_\_

14. If you would like to be entered into a raffle to win a tablet, courtesy of RIDER, please provide your email address or phone number on the line below/ Si le gustaria entrar a una rifa para ganar una tableta, cortesia de Rider, por favor deje su correo electronico o numero de telefono en la linea abajo. \_\_\_\_\_

Any additional comments? / Comentarios adicionales?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



## 8.3 Appendix B – Stakeholder Interview Summaries



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

### Where are we today?

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?

### Where are we going?

4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?

### How do we get there?

6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?

### Final Thoughts

8. Do you have any additional comments or thoughts to share?

## MICROTRANSIT OVERVIEW

### What is microtransit?

“A shared, technology-enabled, public transportation system with flexible routing developed based on real-time trip demand and origin-destination patterns.” (NCDOT)



### What is the purpose of microtransit?

Microtransit functions like Uber or Lyft, except that rides may be shared, and the service is operated or procured by a government agency. Microtransit serves as a transit solution in areas where mass transit is traditionally ineffective, yet there is a strong presence of transit-dependent populations who require transportation between employment, housing, and other locations.

### How is microtransit different from other modes of transit?

Service Element	Public On-Demand Microtransit	Demand Response (e.g., CCTS and Rider paratransit)	Fixed-Route (e.g., Rider bus)	Uber & Lyft
Curb-to-curb service	✓	✓*		✓
Operates within defined service zone	✓	✓	N/A	
Trips may be shared with other riders	✓	✓	✓	
Trips must be booked	✓	✓		✓
Must be booked 1+ day in advance		✓		
Accessible booking options	✓	✓	N/A	
Accessible vehicle mandated	✓	✓	✓	

\*Demand response service provides door-to-door assisted mobility for eligible ADA customers who need assistance. (Source: NCDOT)

### How can microtransit improve mobility within a community?



Connect riders to fixed-route service



Provides service when other modes are unavailable



Replace low ridership fixed-route segments



Convenience beyond demand response



New service in low-density areas



Opportunity to upgrade technology and improve service analysis



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

Cabarrus County Commission – Steve Morris, Chairman

May 10, 2024

### Where are we today?

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. Believes it touches on all of these items
  - b. Cabarrus County is a rapidly growing community; desirable place to live; *USA Today* just named 2 municipalities in top 10 places people would like to move;
  - c. He is seeing the walkability factor is very important; more than it was before
  - d. There is a strong desire to be able to move about Cabarrus County without driving a car
    - i. This idea is not unique to Cabarrus County
  - e. Public transit has a perception attached to it that it is designed only for people who do not have the means to get transportation otherwise
  - f. Partially because of the locations of routes and schedules, public transit has never been considered as something that he might use to get around
  - g. He did walk to a CK Rider bus stop closest to his house and got on the bus; road the bus, wanted to experience it; worked very well;
    - i. The problem was he had a compelling urge to interview everyone on the bus to see why they were riding
    - ii. So he did a thought exercise, he pretended he did not have a car and tried to live in Concord and try to get to Kannapolis for work; could he do the commute via public transit?; he found that he could not do it via public transport at that time; probably still true today
    - iii. He worked late night hours (9 pm to midnight) so timing did not work
  - h. A lot of holes in the service
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. The try to be responsive to community needs, but not totally responsive at this point
  - b. Had conversations with industry moving into town on how to get bus stop close to their facilities; because the employers want to recruit workers; they have not been able to accommodate these requests and he believes that is largely due to financial restraints
  - c. He is not directly involved with CK Rider, but he is very involved in the Transportation Advisory Board in Cabarrus County

- d. From the Cabarrus County side, it is always very confusing because funding is so complicated; this grant does rural to urban; and then this other grant is supposed to be for seniors;
  - e. There are situations where a rider is trying to get a ride, but they did not qualify because they are not in a rural area; there are a lot of arbitrary factors that do not relate to the needs
  - f. For these reasons, transit has not been able to be responsive
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
    - a. Not extremely familiar, but had heard about it
    - b. Heard of other communities in North Carolina that adopted a microtransit model
    - c. Involved with conversations with other counties
    - d. Sounded like an idea worth exploring, especially when compared to the cost of adding another bus route

## Where are we going?

4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
  - a. Like to see a more comfortable interface with Charlotte
  - b. It would be wonderful if he could walk to a bus stop in Concord and go to downtown Charlotte comfortably (e.g., seamlessly)
    - i. Personally that would appeal to him
  - c. Complexity of getting someone who lives in Cabarrus County getting to job in Mecklenburg County is tough; the timing is critical so if one bus is late, then a domino effect, creates issues for commute
  - d. On the other hand, when talk about bus routes, the public thinks the buses are empty
    - i. Of course it depends on which route you see and what point in route the bus is
    - ii. Agencies report that this is not the case
  - e. He was troubled that another elevated official with a municipality recently indicated that he/she did not think the figures being provided by the transit providers were accurate; that is a problem
5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
  - a. Our issues are similar to the rest of the state
  - b. Affordable housing is an issue
  - c. Transportation is important for less developed areas of the county, the less developed areas are great places for affordable housing, but those areas are more remote so difficult to get to them; individuals are ruled out of the areas with affordable housing if they have transportation issues

- d. If had transportation available, then there is more opportunity to offer a solution to those folks
- e. Water and sewer availability is also a limiting factor in the rural areas
- f. He visited Austin, Texas, and went to a development designed for formerly homeless folks; it was working well, but it was so far from town so how do folks get back and forth for services
  - i. Not a clear answer

## How do we get there?

- 6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
  - a. Without being extremely familiar with all details, the on-demand piece appears beneficial for folks, especially seniors
  - b. He had a doctor's appointment today at 8:40 am; he saw the doctor for 5 minutes, if he had ridden public transit, then he would have had wait a long time to get back home
    - i. Microtransit might give more flexibility in this regard
  - c. For those with physical mobility issues, it is a big ordeal to get to the doctor and back home
    - i. One question for him, how do we accommodate individuals with mobility options with microtransit?
  - d. They are having conversations about doing transit better together; there are concerns that there may be some duplication of effort between municipal and county efforts; but it has always stopped with the kind of funding we need to this work; there is a high price tag so it killed the discussion; like to see some movement there
    - i. Had a meeting two years ago but never made a decision
    - ii. Thing that keeps coming up is that the price tag is high
- 7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
  - a. Smaller municipalities like Midland and Mt. Pleasant are more rural and further from the county seat and other services (e.g., Human services dept)
  - b. He has always been concerned that those folks have access to services, which is why the county has been trying to have satellite locations such as building a senior center in Mt. Pleasant and the western area of the county

## Final Thoughts

- 8. Do you have any additional comments or thoughts to share?
  - a. How did Cabarrus County get chosen for this study? Is the state thinking of funding a pilot program?



## **,CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE**

City of Kannapolis, NC – Wilmer Melton, Asst. City Manager

Cabarrus-Rowan Metropolitan Planning Organization – Phil Conrad, Transportation Planner

May 6, 2024

Preliminary discussion

- a. Not envision microtransit will override fixed route bus services, but is being open minded
  - i. Fixed route is a connection between hub locations
- b. Based on how the local community evolved, fixed route service is underutilized
- c. Would like to see it connect passengers to fixed route bus service
- d. Kannapolis has a train station in downtown; there used to be a bus services that connected to Rowan County, but it does not exist any longer
- e. Amtrak – what a great opportunity to have a station in Kannapolis; could have a bus hub that could link to Raleigh and Charlotte
- f. Would love to have light rail in Kannapolis, but does not think it will come that far out; if can link to light rail, wouldn't that be great
- g. DC has Metro in downtown; links to Amtrak; thinks about the linkages of transit options;

### **Where are we today?**

2. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. View as a service provided to the community; some use more than others; getting from point A to point B
  - b. Transit would benefit from getting from point A to point B in a reasonable time frame;
  - c. In San Diego, waited 10 minutes for train (which was a long time) so understand that the wait times are not great in Cabarrus County; not where they want them to be
3. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. Today, the system is not broad enough – it is a challenge for those who depend on it;
  - b. Costs associated with everything
  - c. Responsive – do not think it is meeting full community needs; folks using it are grateful as it is their only means of transportation; imagine that the wait times are a challenge
  - d. Phil: communities north of Kannapolis used to have Rowan Express; supported by Congestion Mitigation and Air Quality (CMAQ) funding; Cabarrus County funded capital;

- e. Cities not have flexibility with fixed route to address those needs
  - f. Some of these communities need transit the most – low-income, minority individuals, those with no automobile
  - g. One community, Fishertown community, is not served at present; a challenge because folks need access to medical facilities
  - h. Rowan Express used to link to the veterans administration hospital in Salisbury; ran for over 11 years;
  - i. Harrisburg and Mt. Pleasant need service; not sure if all these communities want to be a part of this; they may not think big buses are right for them
  - j. Opportunity to open up the links outside of Kannapolis and within the community; downtown Kannapolis has become more urbanized with people living downtown; would it make sense to have smaller shuttles? Get some links going
4. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
- a. Knew about Wilson service
  - b. Knew about Gastonia conversations
  - c. Looking at options for how to improve service
  - d. Really trying to think about options
  - e. May not be more cost-effective; but how well is the service utilized?; perception of large buses that are empty is not helping fixed route service
  - f. Use of smaller vehicles and transfer to larger vehicles might be a good idea

## Where are we going?

5. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
- a. Like to see better connectivity for those riders to destinations throughout the community
  - b. Not all large buses
  - c. Want to see options where better link for those who need it and want to ride with cost effective means
  - d. Link to key destinations
  - e. Would like to be able to see how to improve ridership in underutilized areas without expanding fixed route model
6. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
- a. Seeing a lot of growth
  - b. Concord and Kannapolis have seen a good steady pace of growth with proximity to Charlotte
  - c. Lot of residential but also industrial and commercial, too

- d. Businesses like Amazon and FedEx like to have transit connections; Lily also wants transit
- e. Not all of their residents want a car
- f. Fixed route system is good but does not fill this gap
- g. Cabarrus County is going to continue to grow
- h. Exit 65 interchange is new so have to figure out how to serve this area
  - i. A development with 5 million sq ft of industrial space is coming into Kannapolis and they want transit; want express connection; It is on the Rowan County border; this is a job creation situation
- i. In years to come, not as much multifamily and single family detached homes will be built as there are sewer limitations
- j. Phil – Cabarrus County does not have the density of Charlotte; it is not light rail oriented; Census says it is one of fastest growing urbanized area in nation and has been for 20 years now; they get federal money for transit;
- k. It is not feasible to cover the entire urbanized area with transit; they do not have the budget nor does the density warrant it; the urbanized area is shifting
- l. Concord and Kannapolis metropolitan statistical area (MSA) expanded into Mecklenburg County recently
- m. There is a large congestion issue
- n. Some communities building downtowns; they are reducing the jobs/housing imbalance; not just a bedroom community anymore
- o. Good for transit
- p. The downtown Kannapolis streetscape shifted from commuter to having jobs in downtown; Kannapolis had first transit system operated by Cannon Mills; largest employer in Cabarrus and Rowan counties; it has its own bus system; no one lived in downtown then;
- q. Now folks live and work in downtown; there is housing in downtown
- r. In walkable communities can get to grocery stores and restaurants without a car
- s. Downtown is full of life now
- t. Wilmer grew up in Kannapolis
- u. Mill closed in 2003
- v. People wanted things to do outside of work in downtown and now they have it
- w. With COVID, things have changed; not in the office five days a week; Kannapolis staff work from home two days/week
- x. New model with COVID for transportation

## How do we get there?

- 7. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
  - a. Supplement what we have
  - b. Modification of fixed route so look holistically; use microtransit to fill the gaps

- c. Link folks to larger system
  - d. Clear that may modify fixed route; look at Concord Mills mall and Cannon Blvd
    - i. Connect at Cannon Blvd with microtransit?
    - ii. George Lyles
    - iii. Kannapolis Parkway
    - iv. Transport folks to hub or if close enough they skip the bus altogether
      - 1. First mile/last mile
      - 2. Not great sidewalk networks and not great streetlighting
    - v. Share a ride is important feature of microtransit
8. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
- a. A lot of areas that are underserved – just look at a map
  - b. Fishertown has made numerous requests for fixed route service
  - c. Linking back to Veterans hospital in Salisbury is important
  - d. Phil – not talk geography; talk about transit as a hook for economic development
    - i. Bringing in these huge employers
    - ii. There is not an elastic tool for businesses to cost share in providing transit service; this is a missing piece
    - iii. The big buses are smelly and huge such that they are cost prohibitive
  - e. Wilmer – ask for transit support; employer might do a shelter, but community has to pay for bus
  - f. Need to consider this as expand
  - g. Western side of county is not served at all; rural areas and borders of Charlotte County are not served
  - h. Fastest growing area in Kannapolis is western Highway 73; lot of traffic congestion; Mecklenburg County line and Hwy 73
  - i. School buses serve schools, but kids use transit system for after-school activities; it is a problem if kids have to walk a long way to bus stop;

## Final Thoughts

9. Do you have any additional comments or thoughts to share?
- a. Important to recognize light rail is not there; Kannapolis has a train station that is upgrading to a second platform; more rail from Raleigh to Charlotte
  - b. Have to look to enhance transit
  - c. Are we calculating depreciation of assets with large buses?; perhaps it is better to contract out for vehicles so the contractor is dealing with the depreciation;
  - d. Thinking about the transition of service like going to electric vehicles; these do not run as far as other vehicles before refueling



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

Cabarrus County Transportation Services (CCTS) – Charles Ratliff, Interim Transit Manager

May 10, 2024

### Where are we today?

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. CCTS serves a wide range of demographics from newborns to senior citizens that are going to medical appointments
  - b. They serve a vital role because without them folks would not get to their medical appointments
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. With two agencies operating in Cabarrus County, there are still areas where it is a struggle to get service
  - b. If you live outside of the city bus route and also do not qualify for a CCTS program, you may not have transit service
  - c. There are still some areas that are left out
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
  - a. Not at all
  - b. He was not familiar with microtransit until CCTS saw grant the grant opportunity offered by NCDOT to do this study

### Where are we going?

4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
  - a. I would think that the end goal is to get consolidation with CK Rider completed so that the combined agency is a bigger fish in the pond to attract more federal grants
  - b. A bigger agency would allow them to expand to areas like the Midland-Harrisburg area
5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
  - a. Just last month, CCTS did over 5,800 trips, which is a lot



- b. Every week, they get emails for to add new patients for dialysis or new folks going to the local community college, which offers classes for folks with disabilities (added 8 folks in the last few weeks for the community college)
- c. The need keeps growing, but CCTS is limited by the number of drivers it has
- d. They are required to serve Medicaid trips so the other trips have to be fit in around Medicaid
- e. CCTS would like to expand, but need more resources
- f. There are some folks on a waiting list for CCTS services, particularly those with development disabilities or those seeking to get to senior citizen meal sites as CCTS has to prioritize medical appointments
  - i. Limited funding
  - ii. Not enough drivers

### How do we get there?

- 6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
  - a. Microtransit could be beneficial to Cabarrus County in a way, but in a way, it might not be as beneficial as people think it will be
  - b. If we get a minivan but not have enough capacity, then not as helpful; he believes you can only hold one wheelchair per minivan so that may be a constraint
  - c. He believes microtransit could work for Cabarrus County as long as schedule it correctly
- 7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
  - a. Need more service to rural areas which are situated beyond the CK Rider bus routes; places where someone might qualify for ADA services but because they do not live within the ¼-mile buffer of bus stop, then they cannot get ADA paratransit services
  - b. Think more the rural areas – Harrisburg, Midland, Mt. Pleasant
    - i. Outskirts of county

### Final Thoughts

- 8. Do you have any additional comments or thoughts to share?
  - a. Just wishes they had an answer on the consolidation piece



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

CK Rider – Andy Christy, Deputy Transit Director, and Jaime Tippet Poe, ADA Coordinator

May 1, 2024

### Where are we today?

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. There is a difference between the role CK Rider plays today and vision the agency has for itself.
  - b. It's current role is to serve as a transportation connection for those community members who do not have other means.
  - c. Staff works at CK Rider to make a difference in their community.
  - d. As for vision, would like transit to be as efficient, or more efficient, than getting in your car to drive; want to be an amenity as opposed to a necessity for users; would like to design a system that people want to use and prioritize using it
  - e. Role is for those who have no other option; For 68% of riders, CK Rider is their only mode of transportation; 67% of riders are going to work; it is not convenient to take laundry or shopping if have to wait 60 minutes for a bus
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. See above
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
  - a. Very familiar

### Where are we going?

4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
  - a. Would like to expand agency's accessibility to employment areas and other areas where receive a lot of requests, but cannot fulfill them; would like to adjust service based on new development in County;
  - b. The service needs a revamp; there are lots of new places that need service such as Lily or the new mental health facility;

- c. Would like to be more of a player/factor in economic development arena for the County; they are reactionary right now; would like to be at the table with economic development
  - d. Regionalism is a buzz word right now, but it is needed; need regional connectivity such as connection into Charlotte and the Salisbury Veterans Medical Center
  - e. There is a focus on the 10-county mega Charlotte region and ultimately commuter rail in the southeast corridor from Atlanta to Charlotte to Raleigh to Richmond to Washington, DC
5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
- a. Affordable housing trends are not positive; recent report showed significant increases in income needed to afford housing; there is a waiting list for vouchers that is too long; even if they have a voucher, there may not be housing available to them; people are aging in place, which is great except when they go to sell their house and people cannot afford to buy it;
  - b. There is a trend of retrofitting downtown housing into more expensive properties; this is pushing people into Rowan County and other areas; paratransit trips are more expensive as passengers more further and further away; even worse, people are forced out of the CK Rider service area and therefore are no longer served by paratransit service;
  - c. The primary development challenge right now is that new development is being built at the outskirts of the urban limits; it is hard for bus service as there is no service in these areas; transit needs to be codified into city ordinances; transit is mentioned and recommended in the ordinances, but there is no formal requirement to provide transit access within development standards;
  - d. The State of the County revealed that the Cabarrus median household income is greater than \$79,000; 64% of riders make less than \$20,000/year with an additional 27% making less than \$40,000/year;

## How do we get there?

6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
- a. Optimistic there are ways to supplement fixed route services with microtransit;
  - b. There have been examples in some areas where they moved away from fixed route to microtransit; Gastonia will be a case study;
  - c. Despite being optimistic, they are concerned that microtransit is just putting more cars on the road; Rider will need to double or triple the number of vehicles to serve with microtransit to serve same number of people as buses; environmental and congestion are already beyond where they should be;

- d. There are holes in service such as for ADA and elderly passengers; Cabarrus County has RGP that is out-dated data; they run out of funds quickly; there is a wait list for Cabarrus services; in order to get service, you have to fit into their buckets of eligible funding; you cannot simply go to Wal-Mart; that leaves a huge gap
  - e. There are two areas where service is often denied because they are not in an eligible geography: Roberta Church area and Pitts School Road area
  - f. Service for those who use a wheelchair is an issue; only one cab company can serve wheelchair passengers, but they do not offer any assistance to the passenger;
  - g. If get microtransit, would like to see wheelchair accessibility in at least some portion of the vehicles
  - h. People think of Uber/Lyft when think microtransit, but Rider cannot do that type of service; cannot do surge pricing and have to have vehicles available; already a struggle to get drivers
  - i. Concerned about drug/alcohol testing and oversight of employees
7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
- a. A lot of holes in urban areas where fixed route service goes around them
    - i. Poplar Tent corridor has a lot of growth, but no transit
    - ii. Western part of Concord urban area has all new suburban development (higher income residents)
    - iii. Long-range plan has on-demand service countywide
  - b. Poplar Tent Road, Roberta Church, and Pitts School Road areas
    - i. Western portion with Concord Mills, Christenbury area, into Harrisburg; smaller towns such as Mt. Pleasant
    - ii. Lots of doctors moving to Harrisburg; cannot get folks to these facilities on transit
    - iii. All up and down Highway 29 south of Wal-Mart
    - iv. Kannapolis Parkway
    - v. Salisbury Veterans Medical Center
    - vi. Off of Zion Church Road – other side of 49 – large affordable housing community that has no service
  - c. Worries that one long trip will replace many shorter ones, but how does that person get anywhere

## Final Thoughts

8. Do you have any additional comments or thoughts to share?
- a. We have a small microtransit zone right now, but can't serve it effectively
  - b. On the topic of effectiveness, we do not have a definition of effective; it would be great to define measurable numbers for microtransit effectiveness

- c. Currently running 8-10 passengers per day on microtransit; she does not know if that is good
  - i. Jaime does not think it is good
  - ii. Were doing more on fixed route bus before the change; doing half or less of what were doing on fixed route before
  - iii. Concerned that communication is the problem; they also have staffing issue;
  - iv. Trips are dropped because passengers have to wait over 15 minutes past when the service was supposed to pick them up; so passenger waiting 30+ minutes;
  - v. Staff are driving 15 minutes to pick someone up when have a chance to get out there; all supervisors are driving today because the driver shortage is such a problem;
  - vi. Inconsistent and inefficient service
  - vii. Phone number on sign is not even functional
- d. Lots of operational struggles
- e. Managers and elected officials need to understand constraints of a microtransit system; if CK Rider had adequate resources, then pilot would be in better shape
- f. Microtransit companies promising big results to get foot in the door; if going to be successful, then need more resources
- g. Not want to set selves up to fail with this project
- h. Long-range transit plan notes that the first step is to expand fixed route hours of service with microtransit
  - i. After that, they are to expand the area of service (geography)
- i. Transit oriented development (TOD) as an element may be useful to success of transit; need to get more involved with economic development and planning to get more funding; if transit were at the table, they could influence decision making; need to be in the front of these conversations
- j. A city in North Carolina recently passed a transit referendum so maybe it is possible locally



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

City of Concord, NC – Josh Smith, Assistant City Manager

May 3, 2024

### Where are we today?

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. There is a huge diff between where we are and where we hope to be;
  - b. Primarily serve low-income populations who have no other option for getting to work and medical services;
  - c. Would like to expand to relieve congestion
  - d. Would like to serve 2<sup>nd</sup> and 3<sup>rd</sup> shift jobs or random errands
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. Doing a great job with what we have, but not meeting community needs overall ;
  - b. Have to capture services for 2<sup>nd</sup> shift employees; there is lots of growth in manufacturing;
  - c. Frequency of service is a short-coming; hourly frequency does not cut it;
  - d. Limited by number of routes and who they actually reach in the community; some folks do not have access to system
  - e. Spoke to a lady a few weeks ago who has chronic knee issues and relies on public transit; she lives a mile from a bus stop so it is hard for her; she walked to the bus stop on a day when there was a driver shortage so the bus never showed up; she had to walk back home and it was hard on her.
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
  - a. Somewhat. Baseline knowledge, but has recently gotten a crash course with LJ Weslowski.

### Where are we going?

4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
  - Service levels that positively impact the economic status and quality of life of the community;

- Would like to get to a point that people use of transit as a choice and not just because they need to; the system is very need-based now; wish they were robust enough of a system for folks to choose to use it
  - He personally likes the Panthers and drives into Charlotte to catch light rail to attend the games; the service alleviates congestion around stadium;
  - There is a local focus on affordable housing; they are tackling it citywide; they do not want to just increase density in low-income neighborhoods, but rather provide affordable housing throughout the city; that way parents can choose which school district they live in and be close to work; but some neighborhoods do not have public transit; so they may be saving on housing, but have to spend a lot of money on transportation
5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
- a. Affordable housing is a focus; congestion is a huge problem;
  - b. NCDOT is behind schedule by 20 years on many road widening and capacity building projects
  - c. Corridors are already above or at capacity in Concord; they are waiting on NCDOT to widen the roads
  - d. They will never solve the problem with asphalt so have to do other things like invest in transit
  - e. Definitely growing fast

## How do we get there?

6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
- a. Sees microtransit as adding flexibility;
    - i. Routes are only operating every hour and have limited geographies;
    - ii. Could use microtransit so offer the flexibility of travel on the half hour so not waiting for the bus for an hour;
    - iii. To provide a solution to the geographical issue, could use microtransit to address first mile/last mile access to the transit system
    - iv. Avoid the weather and help individuals with physical disabilities
7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
- a. Western part of city (beyond Concord Mills)
  - b. Southern parts of the city
  - c. 70 and 49 corridors



## Final Thoughts

8. Do you have any additional comments or thoughts to share?
  - a. Biggest obstacle to microtransit is clearing up misperceptions regarding the cost and the idea that microtransit will fully replace fixed route bus service;
  - b. Does not help that other communities are replacing their fixed route transit services with microtransit
  - c. If we do move to microtransit as a solution, it cannot reduce capacity; it needs to expand capacity



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

Rowan Cabarrus Community College – Jonathan “JJ” Rowe, Executive Director of Student Success and Title IX Coordinator

May 8, 2024

### Where are we today?

1. How do you view transit’s role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. Transit is a basic need; it is hard to afford mobility for educational goals and work
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. Cabarrus has issues consistent with transit in similarly sized counties; biggest issue is the lack of flexibility in the fixed route network – it cannot serve every location;
  - b. Located at Trinity Road South Campus, right off the interstate in Concord; they are on the bus route so that is helpful
  - c. Students have indicated that the fixed nature of the routes make it hard to get from home to another place
  - d. Not enough scale of the system to cover the entire county
  - e. Mainly students not staff or faculty using the transit system
  - f. Too vehicle centric in Cabarrus county
  - g. Generally, need to invest in transit and sidewalks; give people more mobility; everything is centered around building new roads or expanding them; the county is not thinking about people who are walking
  - h. They are off Highway 73, the road from Concord to Huntersville is very congested; if he sees someone is walking without a sidewalk, he prays for them
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
  - a. Read a report for Gaston County
  - b. Sounds similar except they are doing away with fixed route bus service

### Where are we going?

4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
  - a. If had a magic wand, would extend light rail into the county from Mecklenburg County

- b. Light rail would be good for everyone
  - c. Less focus on vehicles
  - d. Microtransit would be effective if had more flexibility than fixed route bus service
  - e. Students who use the bus find it is helpful for them
  - f. Microtransit has to have enough capacity if it is going to be helpful
  - g. Cannot have surge pricing if this is going to work
5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
- a. Students do not live near campus as the campus is right near the interstate
  - b. They have another campus in downtown Kannapolis – not sure if folks live close to it or not; housing is very expensive in downtown Kannapolis so it may price students out
  - c. Not sure where students are ending up when they use the transit service
  - d. He is thinking about jumping on a route this summer
  - e. Transportation Center in Concord is not downtown so out of the way
  - f. Routes near campus go near Concord Mills, Amazon warehouse, etc.
  - g. Vast majority of students drive and park on campus

## How do we get there?

6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
- a. No complaints about evening service from students
  - b. Do not have many night classes
  - c. Biggest issue is that the fixed nature of the routes
  - d. Consistency of the bus is good at the school
  - e. Current route does a good job
  - f. Capacity at peak times might be a microtransit issue; it has to have decent capacity
7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
- a. Microtransit would help with travel time as it takes so long on the fixed route bus system
  - b. Transfers are tough on riders
  - c. One student lives near Cabarrus- Mecklenburg county line near Highway 29; has to transfer so a long trip;

## Final Thoughts

8. Do you have any additional comments or thoughts to share?
- a. Concerned about driver not being vetted by the transit agency and surge pricing; those would not work for students



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

Cooperative Christian Ministries (CCM) – Ed Hosack, CEO, and Amaha Sheferaw, Chief Program Officer  
April 30, 2024

CCM provides food relief, financial assistance, housing, education and support services

### Where are we today?

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. Reviewed 3 years of applications; had 1400 applications in 3 years; 48% of applicants did not have transportation; defaulting to Uber/Lyft/taxi; spending \$300-\$800/month for these services;
  - b. Need transportation from home to work, hospital, Medicaid services, and school
  - c. Need access for individuals with disabilities
  - d. Moms with young children have a stroller; difficult to access the bus with strollers
  - e. Transit services two populations and two roles: not effective today; not there yet;
    - i. Transportation for employment (huge need); affordable housing and commercial locations are getting further and further apart; time involved in commute on bus is difficult; Some can't afford vehicle or only one vehicle per household
    - ii. Other group – younger group that like to work while riding the bus; but there are concerns over walk to the stop due to distance, weather, time involved in bus commute, etc. Cabarrus may not get where it needs to be with transit with large vehicles.
  - f. Need a period of testing and failure to get the system we need in Cabarrus County
  - g. Ed grew up in Miami so used to public transportation
  - h. Going to take investment by the community as well
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. Biggest disconnect is single parent household with young children; bus stops not conducive to safety for small children; no shelter; tall grass around bus stop and on edge of roadway; can't go to the grocery store as not enough hands to carry child, stroller, diaper bag, and groceries
  - b. Bus only seems beneficial for folks who only have one place to go and have all day to get there; those folks can avoid the weather if need be; they can take their time
  - c. Most people need to go on time and be dry when they get there

- d. May have to leave two hours before an appointment and wait two hours after; quick doctor's appointment takes all day and you have to take off from work
  - e. Picking up medicine at pharmacy is a big deal
  - f. Using whole paycheck to get to work
  - g. Need urgent care but difficult without a car
  - h. Uber/Lyft is not as efficient in Cabarrus County as well
  - i. Perhaps there is an opportunity with younger adults with special events. Cabarrus is seeing more events (minor league ball team) so why not have park and ride with bus service to events; attract new riders
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
- a. Had a conversation with LJ Weslowski with regard to new CCM property
  - b. CCM purchased property on Kannapolis Parkway – growing number of services out there; formerly assisted living center but they will house families; bring families to this campus so they will need transportation from this location
  - c. Another property near downtown Concord; building residential, healthcare, and other services; surrounded by other low-income communities; interested in making a microhub at the facility where use microtransit to get to bus
  - d. Housing program has the “blue van” but only one vehicle to help all of their families get to doctor/pharmacy

## Where are we going?

4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
- a. Cabarrus will take a long time to hit density needed to support large buses
  - b. Have to do something now until density is higher
  - c. Biggest issue is commute trips; work is the key to people being stable and successful
  - d. If get rider 5 days a week, then get a transit model that is sustainable
  - e. Most obvious and beneficial need is getting people to work
  - f. Need to get from residential center to commercial center – do not need to stop at every house or business
  - g. Need a combination of fixed route and microtransit
  - h. Friend is hotel manager – they provide transportation for visitors to airport and dry cleaning
  - i. Accessibility is key; reducing cost of transportation
5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
- a. Downtown Kannapolis and Concord are both expanding with residential options; parking is becoming an issue in terms of cost;

- b. Bringing in working age adults (younger and middle age)
- c. Employment centers are not in these downtowns
- d. Employment at Grounds at Concord (used to be Phillip Morris) – attracting employment opportunities
- e. May be six miles away from residential opportunities
- f. The folks living in downtown might ride transit if it was reliable
- g. Much of our affordable housing is a bit of infill in legacy communities, but not where the jobs are
- h. Adults are starting new careers or new opportunities so need transportation to support their access to work
- i. Success of transit will be built on those who choose not to use car as opposed to those who cannot afford a car

### How do we get there?

- 6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
  - a. Three big challenges with public transportation
    - i. Distance to bus stop – walk is far
    - ii. Weather conditions on way to bus stop and at bus stop (no shelters)
    - iii. Timeliness of service
  - b. Folks who buy monthly pass do ok with transit
  - c. If can't put a shelter at every stop and place stops near to people's homes, then being able to get folks dry/safe to bus stop is important
  - d. If can overcome these challenges, then people can commit to ridership
- 7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
  - a. Kannapolis Parkway is a developing area; understand why not served today but rapidly growing; apartment complexes being built; services are being located out there; grocery store and school are being built;

### Final Thoughts

- 8. Do you have any additional comments or thoughts to share?
  - a. CCM is creating a campus with 48 and then 96 apartments to house 300 people; commercial on front side; retail and public health authority; hundreds of people a day at public health department; therefore a transit need on Cabarrus Ave; surrounded by three neighborhoods that are lower income; what would transit look like for these folks; has bus stop now with no shelter
  - b. Campus means they all know each other so sharing rides would work well
  - c. Being able to book in advance so know they have a ride is important



- d. Their constituents would rather use their minimal funds to get Uber/Lyft to avoid the bus (not sure the reason)
- e. Campus also serving elderly folks so curb-to-curb service is important
- f. Emergency services – moving between shelters is important; have to get there before the shelters fill up
- g. If they have access to transportation, childcare, and employment, much more likely to be successful
- h. Driver will help setup car seat as soon as Uber/Lyft pulls up; works well



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

Cabarrus Health Alliance – Erin Shoe, MPH, Health Director & CEO

May 3, 2024

Cabarrus Health Alliance is the public health department in Cabarrus County; provide traditional health services and unique services such as behavior health therapy. They have three brick and mortar locations with 300 staff and a \$40M budget

### Where are we today?

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. Transit is evolving; at one time, it was for a specific population...lower income individuals
  - b. Evolving to those who just do not care to drive (their preference) and could afford a different mode, but they choose transit
  - c. Diversification for those who desire transit
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. Responsive, but they do not have an adequate volume
  - b. Strong partners, but not enough routes or geographic coverage or days and hours of service
  - c. They are responsive as they can be with the limited resources they have
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
  - a. Only at a very high level

### Where are we going?

4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
  - a. Her vision is that individuals in Cabarrus County can get to where they need to be in a manner that is both easily accessible, affordable and timely
  - b. One can get to Wal-mart on transit in Cabarrus County, but it might take 6.5 hours roundtrip
  - c. One cannot get to work and pick up kids with that schedule

5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
  - a. Cabarrus County is definitely growing at a fast rate
  - b. Some of the growth are apartment-style complexes that are densely populated so transit is critical to those complexes
  - c. They talk a lot about commute times and the impact they have on health; the longer your commute is tied to worse mental health; some of that is a loneliness factor
  - d. Microtransit allows you to connect with other riders and driver so may be beneficial to mental health
  - e. Robert Wood Johnson has done a lot of research on the correlation between commute times and mental health

### How do we get there?

6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
  - a. When think about transportation as a continuum, Cabarrus County has bus and taxi services as well as Uber and Lyft, but microtransit fills in the gap on the continuum
  - b. It is a value add as opposed to a competitor with transit
  - c. Thinks it will be a huge support to those using transit, especially if go to locations outside of bus routes
  - d. Service for Mt. Pleasant would be good
7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
  - a. Mt. Pleasant
  - b. Outskirts away from municipalities
  - c. Rural Harrisburg
  - d. The further away from large municipalities you get, then it is harder and harder

### Final Thoughts

8. Do you have any additional comments or thoughts to share?
  - a. Biggest thing to stress is that there are a lot of individuals who are trying to take advantage of third shift work so she is advocating for us to think about non-traditional hours of work as we consider microtransit
  - b. As childcare costs rise, parents choose third shift work so they can split childcare duties and not have to pay for outside care providers
  - c. But the service has to be timely for parents to get home or it will not be useful



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

Cabarrus Economic Development – Samantha Grass, Project Manager, and Stephanie Burlison, Business Support Manager

May 7, 2024

### Where are we today?

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. Making sure folks who want an opportunity to work have options for transportation to get to work if they do not own their own vehicle
  - b. When New industry is looking to relocate they want to know where bus routes are; they want to know if the bus routes serve them; If not a route currently serving them, how can they add a route to serve them?
  - c. Conversations with companies on transit options; how can Cabarrus County and these employers work together? Business community may be open toward funding transit, but would need to know that they will directly benefit from it
  - d. There is a willingness to entertain the question; is there a way for multiple businesses to partner to fund transit
  - e. Corridors of industry have existing bus routes but the scheduling may not work for everyone
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. The current transit service is Not very responsive, because they are limited by the number of drivers and things like that
  - b. People need to get to daycare and then to work which takes hours to make that happen
  - c. Transit agency can only do what they can do with current resources, but they want to be responsive
  - d. Budget is limiting as well; very expensive to add a new route
  - e. Enjoy working with LJ and the CK Rider team
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
  - a. Samantha first learned about it when working on an economic development project pitch; several communities were presenting to the same company; Wilson EDC pitched their new microtransit service as a benefit

- i. This was about a year or so ago
  - ii. She started asking LJ about it to learn more
- b. Stephanie was somewhat familiar with it before; Heard of Uber/Lyft for years; on strategic task force with county and they are looking at microtransit to get residents to county services; in-house service to offer residents

## Where are we going?

- 4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
  - a. Fill gaps – transit system doing a great job but need to fill in gaps
  - b. If could cut bus route shorter, then use rideshare to get there quicker
  - c. Get folks to the bus route and go straight to work
  - d. How get home from 2<sup>nd</sup> or 3<sup>rd</sup> shift job
- 5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
  - a. Definitely growing
  - b. Lots of new industry; because of where they are located; very attractive;
  - c. Growth is on western side of County in Concord and Kannapolis
  - d. Along I-85 corridor – industrial development
    - i. Growth in housing as well
  - e. Sewer capacity issues are going to slow them down a bit; countywide; municipalities are prioritizing projects;
    - i. Concord – formal sewer allocation requests (residential, industrial, commercial)
    - ii. Slowing a bit
  - f. First wastewater treatment plant expansion – 2024; next one is 2027; after that is 2033;
    - i. In near future, not going to have unlimited sewer capacity
    - ii. Communities will have to prioritize projects
    - iii. Residential developments are phasing them as sewer capacity is available
    - iv. Not sure how this will ultimately impact growth

## How do we get there?

- 6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
  - a. 2<sup>nd</sup>/3<sup>rd</sup> shift transportation
  - b. It could possibly open up residential growth in areas other than Concord and Kannapolis, microtransit might help expand to other areas; growth may be able to spread out a little more in the rest of the county if there were other routes to connect to



7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
  - a. Areas beyond Concord and Kannapolis; beyond current Rider routes to Midland, Harrisburg, or Mt. Pleasant
    - i. Less populated areas of Cabarrus are underserved
  - b. Map out higher poverty areas; see if bus route cover them; make sure populations have opportunity to get to work; they may be one or zero-car household; help them to get to work
  - c. Eastern part of the county
  - d. Fills the gaps

## Final Thoughts

8. Do you have any additional comments or thoughts to share?
  - a. Can we provide examples of employers funding microtransit
  - b. Other folks to talk to
    - i. Convention and Visitors Bureau representative
    - ii. Patrick Graham
  - c. LJ does live experiences for folks on the bus; great way to learn about system



## **,CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE**

Atrium Health – Jessica Castrodale, MSN, RN, Clinical Nurse Specialist, Community Health Strategy

April 30, 2024

Over 20 years with Atrium Health; worked with community the whole time; previously working on hospital-community connections to improve overall health; now work with mobile primary care...trying to increase access to primary care; convert COVID mobile units to primary care; transportation is important to get to primary care; when sick do not want to walk to the unit; or the weather is bad;

### **Where are we today?**

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. In acute care setting, case managers have a difficult time doing in-house and outpatient care. Can call an Uber to get them home. Can't get them to follow up on transit if not have service. If not have transportation, then may have to readmit them.
  - b. If live in Mt. Pleasant, may not have Uber available.
  - c. With bus routes, will drop off at certain points so hospital is well served. Mobile units are not. Try to locate near bus route; Dream Center – wrap around services for low-income folks. Bus drops off there. In order to go home, you either cross a scary road or ride the bus an hour into Charlotte to come back home.
  - d. Trying to change the bus to serve Lily
  - e. At Kannapolis, at Central Baptist Church. Bus stop is 8 blocks away.
  - f. Have purchased bus passes to give to people. Cannot give bus pass to get to services (considered an incentive), but can given patients a pass to go home or come back.
  - g. Only two mobile units in Cabarrus County
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. Staff (at all levels) at transit agencies are very responsive and want to meet community need
  - b. Hands are tied for various things
  - c. Changing bus route – had to go to board to get approval
  - d. Vast majority of the mobile unit patients are there for chronic disease management or pediatric services
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
  - a. Had not heard of public version of microtransit, but had heard of Uber/Lyft

## Where are we going?

4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
  - a. Would love to see light rail into the 3 major cities – mainly to go to Charlotte for business purposes
  - b. Microtransit seems like a wonderful addition to meeting challenges
5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
  - a. Cooperative Christian Ministries is developing the Brown Mill area and will need transit. Not sure where residents will need to go.
  - b. Logan Community is downtown Concord; largely Black neighborhood; challenges in late 1990s violence; since then, there is a strong neighborhood coalition working to revitalize it; City is working to help them; subsidized housing there; working to get landlords to fix up their homes
  - c. Should connect with Rebuild Concord; uses community land trust; creating affordable housing to create generational wealth

## How do we get there?

6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
  - a. Helping people connect to doctor's appointments
  - b. Retiring July 1
  - c. Meals on Wheels brigade – are there folks who would like to drive if paid by the trip and reimbursed by the mile?
7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
  - a. Mt Pleasant
  - b. Whole eastern half of the county

## Final Thoughts

8. Do you have any additional comments or thoughts to share?
  - a. Really could be something where individuals who use their car (like Uber and Lyft) to go beyond CCTS service area; User would pay them by the mile and pay for the trip;
  - b. NOAH – naturally occurring affordable housing



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

Cabarrus Chamber of Commerce – Barbie Jones, Executive Director

April 30, 2024

### Where are we today?

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. The Cabarrus County Chamber of Commerce has identified affordable/available transportation for workforce as a major need
  - b. Workforce transportation is needed; people need to get from home to work in a timely manner
  - c. Bus adds 1-2 hours to commute time
  - d. Proximity to childcare locations – to go there before and after work – is essential
  - e. Time that buses currently run may not meet manufacturing services; workers need to be on-site by 5:30 or 6:00 am
  - f. Affordable housing, childcare and transportation are the three primary workforce barriers
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. Based on budget, the local operators do the best they can
  - b. If agencies are going to be more flexible, they are going to need more funding
  - c. Doing best they can with the budget they have
  - d. Such limited resources, buses run half empty
  - e. Funding is biggest barrier
  - f. County and municipalities need to figure out funding; have some federal funding, but really has to be local; tax increases may be needed;
  - g. Loves the idea of figuring out microtransit
3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
  - a. She has been following microtransit in other communities
  - b. Uber/Lyft just so expensive, but good transportation



## Where are we going?

4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
  - a. Ideally everyone would have access to transportation
  - b. The folks who are most impacted are seniors and those who are not well resourced; rely on public transportation
  - c. As housing costs keep rising, can't afford to drive. Folks will have to make choices
  - d. Seniors are using for grocery stores and medical appointments; Cabarrus County's population is aging
5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
  - a. Suburban areas (e.g., Mt. Pleasant) continue to grow and do not have transit
  - b. Manufacturing (Lily) is moving into full production soon; generous employer; starting salaries are \$68,000
  - c. Other industrial areas need more frequency
  - d. Tried the bus one day and was incredibly frustrated; speaking with riders is eye opening; all elected officials should do this
  - e. People moving in aren't going to be as reliant on public transit as those who are already here
  - f. New companies are paying very well; may not need transit; really, it is the employers already here that need service; Concord Mills only has one bus per hour;
  - g. Exit 49 off I-85 (speedway and hotels) needs service; very little pay

## How do we get there?

6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
  - a. Geographies where no bus service and where they need to get to the bus from their homes
  - b. In areas where nothing is available
7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
  - a. Malls don't close until 9 pm so not able to get home using transit
  - b. When bus is not operating

## Final Thoughts

8. Do you have any additional comments or thoughts to share?
  - a. Thrilled to see it is being addressed



- b. A bit behind in this area when it comes to transit
- c. Scared to see what next 5-10 years will be if we don't fix it now
- d. Really need to remember those without cars



## CABARRUS COUNTY MICROTRANSIT FEASIBILITY STUDY STAKEHOLDER INTERVIEW GUIDE

CK Rider – LJ Weslowski, Transit Director

May 16, 2024

### Where are we today?

1. How do you view transit's role in the community? (e.g., transportation for specific population groups—workers, elderly, low income, individuals with disabilities, tourists; attracting choice riders; to prevent congestion; to reduce emissions; to create economic opportunities)?
  - a. Currently viewed as a social service life line for individuals without other options
  - b. Would like the community to see transit as an asset; people see the school system as an asset even if they do not have children so would like that for transit
  - c. They are not seen as the city's mobility choice; they are seen to serve poor people that cannot do anything else
  - d. Within Cabarrus County, no one knows the transit agencies exist unless they need them; since people do not know about them, they do not have an opinion
  - e. There is definitely confusion between CK Rider and CCTS
  - f. Folks may not know there is transit system
  - g. People stumble their way to awareness of the transit agencies
2. Overall, are current transit services responsive to community needs? How so? If not, what do you see as the primary reason(s)?
  - a. Generally, there is a lack of vision for transit and no desire to do anything for funding (outside of transit agency staff)
  - b. They know there is a lot more need in community than they can serve
  - c. Both agencies serve what we can serve; know they should do more, but they are financially constrained
  - d. Believes that CCTS still has not hit pre-pandemic ridership levels and that there is a wait list for some programs
  - e. CK Rider is a little system that should have been a 50-bus system when the pandemic hit; instead it was only a 10- or 11-bus system;
    - i. The system is geographically constrained
    - ii. Only has hourly service
    - iii. Just celebrated its 20-year anniversary
    - iv. Have built weekend service, but really undersized for the need
  - f. Passengers are regular users
    - i. 40% of riders make \$10,000/annual household income
    - ii. They are financially dependent on the service so they are happy
    - iii. CK Rider is only serving a small sliver of the population

- iv. The system has no choice riders at this point
    - g. One amazon facility has a stop; the other is a mile away from a stop
    - h. He feels like CK Rider was stunted at the toddler stage, but it should be going to college right now
    - i. Massive chunks of Concord (west of interstate) are missing transit service except service to Rowan-Cabarrus Community College and Target
    - j. Harrisburg only gets CCTS service; no rural service from CK Rider
- 3. Before hearing about this project, how familiar were you with the concept of microtransit as a transportation service?
  - a. On one hand, very familiar; Been following the trend for years
    - i. But he would like to understand where the secret sauce is that microtransit providers talk about
  - b. When Gastonia replaced their fixed route bus service with microtransit, it became a topic of conversation in Cabarrus
  - c. He is concerned that microtransit providers are pitching the moon, but cannot actually provide on their promises. He sees how microtransit is a better service than fixed route bus in some ways, but you cannot provide the service for less than fixed route bus service
  - d. He has heard that Wilson (NC) is providing microtransit service for cheaper than fixed route bus service but carrying 40% more people
  - e. For years, the transit agencies in Cabarrus have been asking for more money so they could do more. Microtransit is not magically going to do better with less money.
  - f. And then, of course, the benefit of fixed route bus, over microtransit, is that it assists with congestion
  - g. Pre-pandemic, Via and RideCo provided information to CK Rider on providing microtransit services
    - i. Their base rate was \$80-\$90/hour
    - ii. They could not serve the entire county as the geography was too large
      - 1. They can only do well with short distance trips
    - iii. Via proposal – leave fixed route bus service as is, but wanted to supplement each route with two microtransit vehicles; do FMLM at \$89/hour;
    - iv. RideCo proposal - Cut Kannapolis into 3 zones and put 5-6 vehicles in those areas; cut service in Kannapolis
  - h. The road network is tricky to serve with fixed route bus in Concord and Kannapolis; it lacks a grid network and there are some challenging rail crossings
    - i. They will not fixed route bus service in rural areas like Mt. Pleasant
  - i. Microtransit is just demand response in real-time; it is not really a new mode
  - j. The concern is that folks do not understand the difference between cost per hour and cost per trip so they may not understand the microtransit proposals



- k. Currently, CK Rider has a microtransit pilot due to a bridge construction project, but they have a staffing issue with contractor

## Where are we going?

- 4. What is your vision for public transit in the community? What goals would you like to see local transit services accomplish over the next five years?
  - a. Would like to see transit turn a corner somehow; all the social service providers are behind them, but is not resulting in more funding
  - b. Citizens are not going to fight for more transit funding
  - c. New industries like Lily ask about public transit service, but they do not demand it
  - d. Would like to see transit working toward some level of dedicated funding source; it is the only way to fund new modes (e.g., microtransit, more fixed route bus, light rail)
  - e. It is clear that the local governments are not going to fund from the general fund, but they also are not supportive of a dedicated fund
  - f. Would like to see the two transit agencies consolidated, running microtransit or vanpool to service employers; build a singular brand; and be deep into discussion on dedicated funding source in the next five years
  - g. They have not been able to accomplish anything in the first 5 years of the recommendations in the 20-year long-range plan
- 5. What is happening in the county in terms of growth and development (e.g., affordable housing issues, congestion, etc.)? Where? How can transit best respond to these trends?
  - a. Cabarrus is one of fastest growing counties in the country
    - i. They are about to get their sewer capacity issue resolved so development will take off again
    - ii. Would not be shocked to see another Lily investment
  - b. Right now, the growth is primarily in the southern third of the county, but it will have to spread to other areas
  - c. North Carolina will continue to grow
  - d. Concord folks need to get to employment
  - e. Employers are struggling to get employees so ping the Chamber about it
  - f. Everyone who has a car and wants to work is doing so; now they have to help those who do not have transportation
  - g. Need to require developers and new industry to put in transit infrastructure even if not serving with transit yet; then, it will be there when transit is ready to expand
    - i. The local codes lack this type of transit support
  - h. Concord Mills was built specifically to keep out large vehicles and keep deliveries in one place;
    - i. Even if have a bus stop on the main roadway, it is a long walk to get to the mall's front door; and there is no pedestrian infrastructure;

- i. Development is not taking into account mobility of any type - bike, pedestrian, transit, etc.

## How do we get there?

- 6. How do you think microtransit services can improve current transportation conditions in Cabarrus County?
  - a. Microtransit will work if you give the transit agencies the money
  - b. Maybe there is an opportunity with the Blue route – 10 stops provide 90% of riders;
    - i. There is an inefficient bubble at top of the Blue route, but there is also no road across the area;
    - ii. No density but people who need service
  - c. Maybe they can create microtransit zones between the routes to bring people to the bus routes
  - d. Bus routes are spokes in the bicycle wheel and perhaps microtransit could be the spiderweb between the spokes
    - i. Fill in key gaps and carry passengers to fixed route hubs
  - e. Maybe there would be a Kannapolis hub, Concord hub, the current hub and a Harrisburg hub
  - f. Maybe microtransit would work in Mt Pleasant, Midland
  - g. Need to help those who do not check the CCTS boxes for service
  - h. There will always be spots geographically where buses will not be able to run so microtransit could help
  - i. Can we move some paratransit folks to microtransit?
- 7. What areas of the county and/or region do you believe are currently not served or underserved by transit that should receive a higher priority?
  - a. Mt. Pleasant, Midland, Harrisburg
  - b. Some areas are labeled as urban so cannot get CCTS service but they need it
  - c. Kannapolis has some weird incorporation areas that are not contiguous, which creates odd service constraints
    - i. St. Andrews – could not turn a school bus around in the cul-de-sacs; met fire code, but not work for school bus
    - ii. Will never work for fixed route bus service
  - d. Skies the limit on how complex this could be in Cabarrus County
    - i. Get 2-3 trunk lines in the zones and then feed with microtransit because no one will walk to main roads
    - ii. Start around the fixed route core and serve the gaps in the middle
    - iii. Then expand fixed route trunk lines
    - iv. Start wiping out transit deserts



## Final Thoughts

8. Do you have any additional comments or thoughts to share?
  - a. Microtransit would be a dream solution in many ways
  - b. Cabarrus County could handle a few extra cars on the road right now as congestion is not a huge problem
  - c. If they keep adding lanes, then why would the state give Cabarrus County money for transit?
    - i. Widening roads never solves congestion
  - d. When RideCo made its pitch, it recommended putting two microtransit vehicles in the current microtransit service area; that is a much smaller area than what is served by a bus route which has only one vehicle; he estimated that it would take 36 zones to cover the current fixed route network so 72 vehicles
  - e. Current fixed route passenger per hour is 8 passengers/hour
  - f. Ride Co – with door-to-door service estimated it could serve 1-2 passengers/hour;
    - i. If they had passengers walk to meet the car, then they could serve 2-4 passengers/ hour;
    - ii. If passengers had to get to a big hub, then could do 4-6 passengers/hour
  - g. Excited because not staff tell the decision makers to explore this idea



## 8.4 Appendix D – Concord Kannapolis Area Transit Commission Meeting



# Cabarrus County Microtransit Feasibility Study

Concord Kannapolis Transit Commission

October 24, 2024



# Microtransit | Overview



“A shared, technology-enabled, public transportation system with flexible routing developed based on real-time trip demand and origin-destination patterns.” (NCDOT)



# Microtransit Service Opportunities



Add connections to fixed route service



Replace inefficient fixed route segments



New service in low-density areas



Provides service when other modes are unavailable



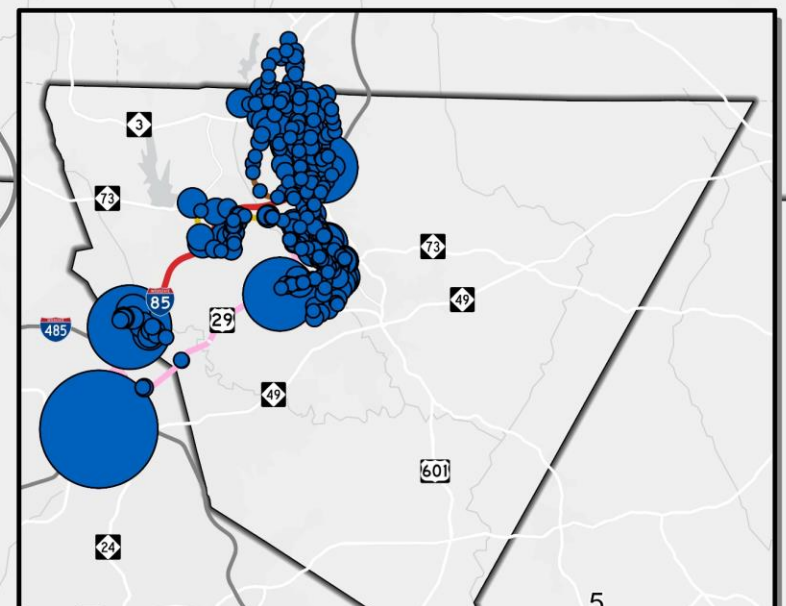
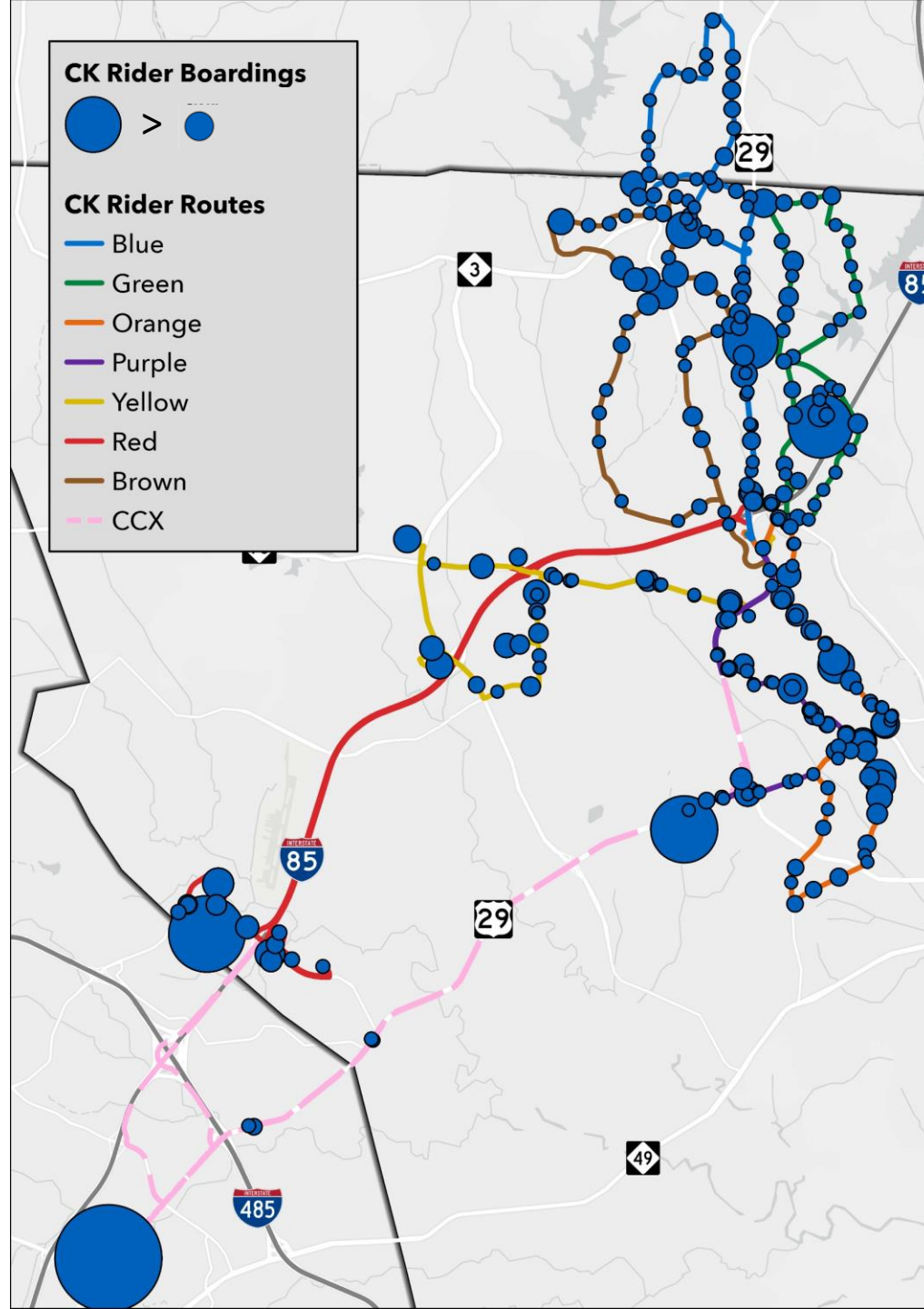
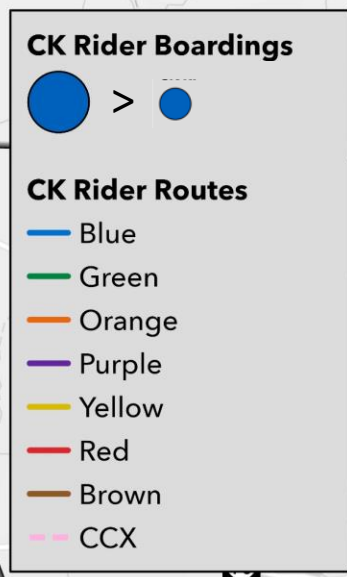
Convenience beyond demand response



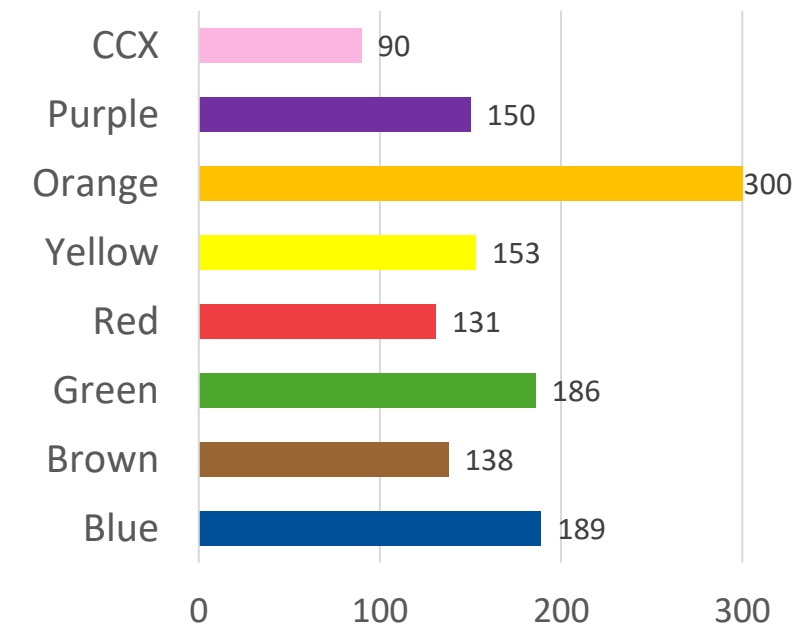


# Data Analysis

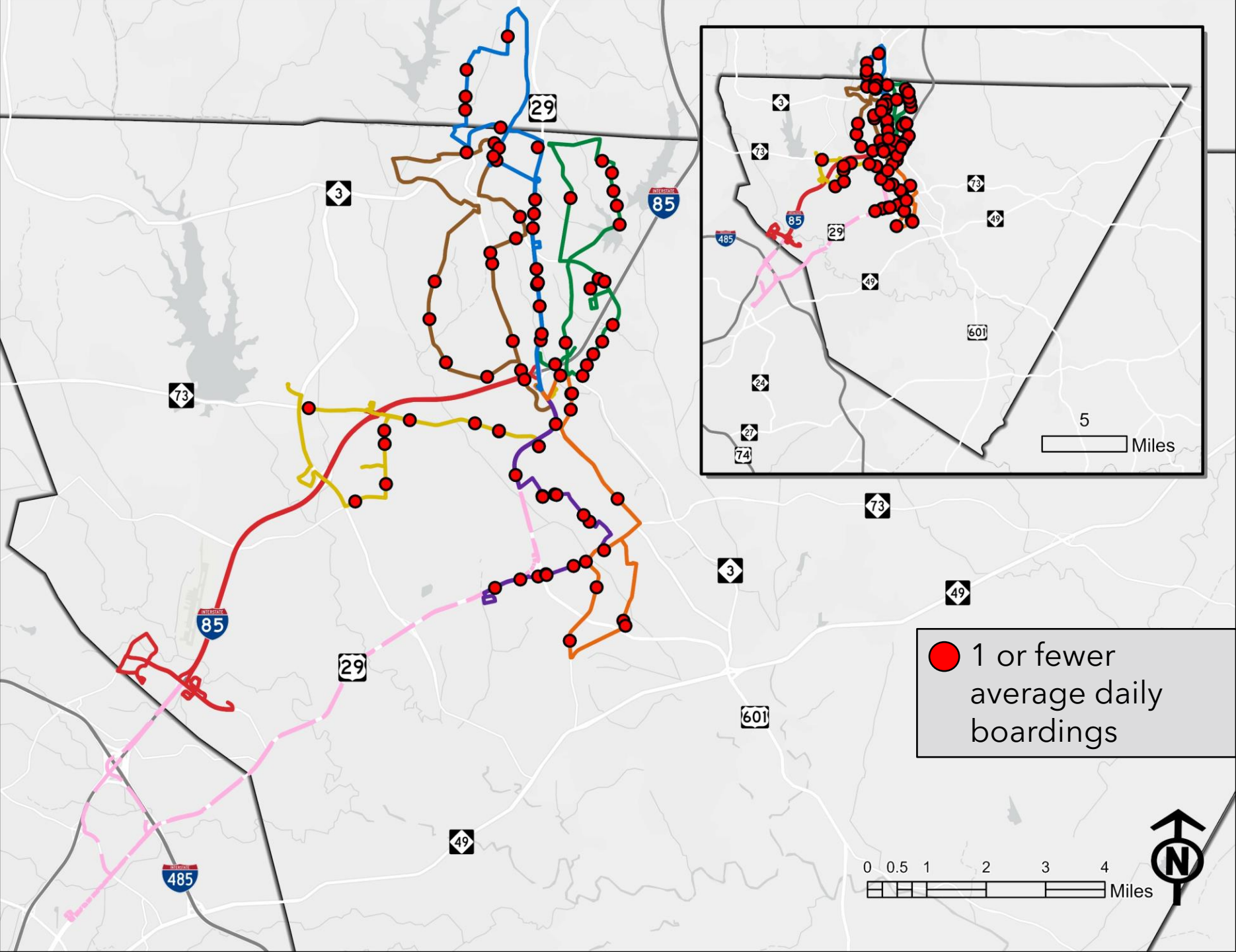
# Trip Analysis | Fixed Route Boardings



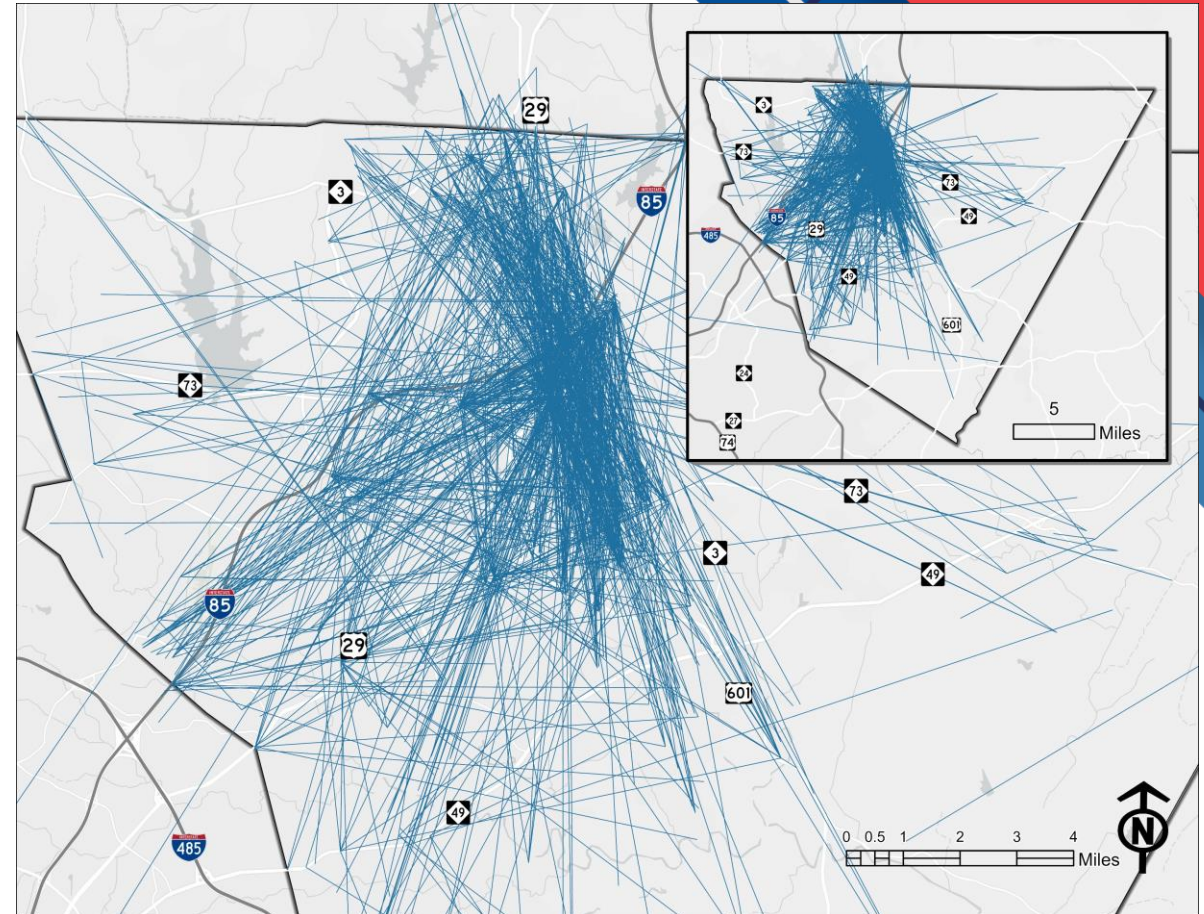
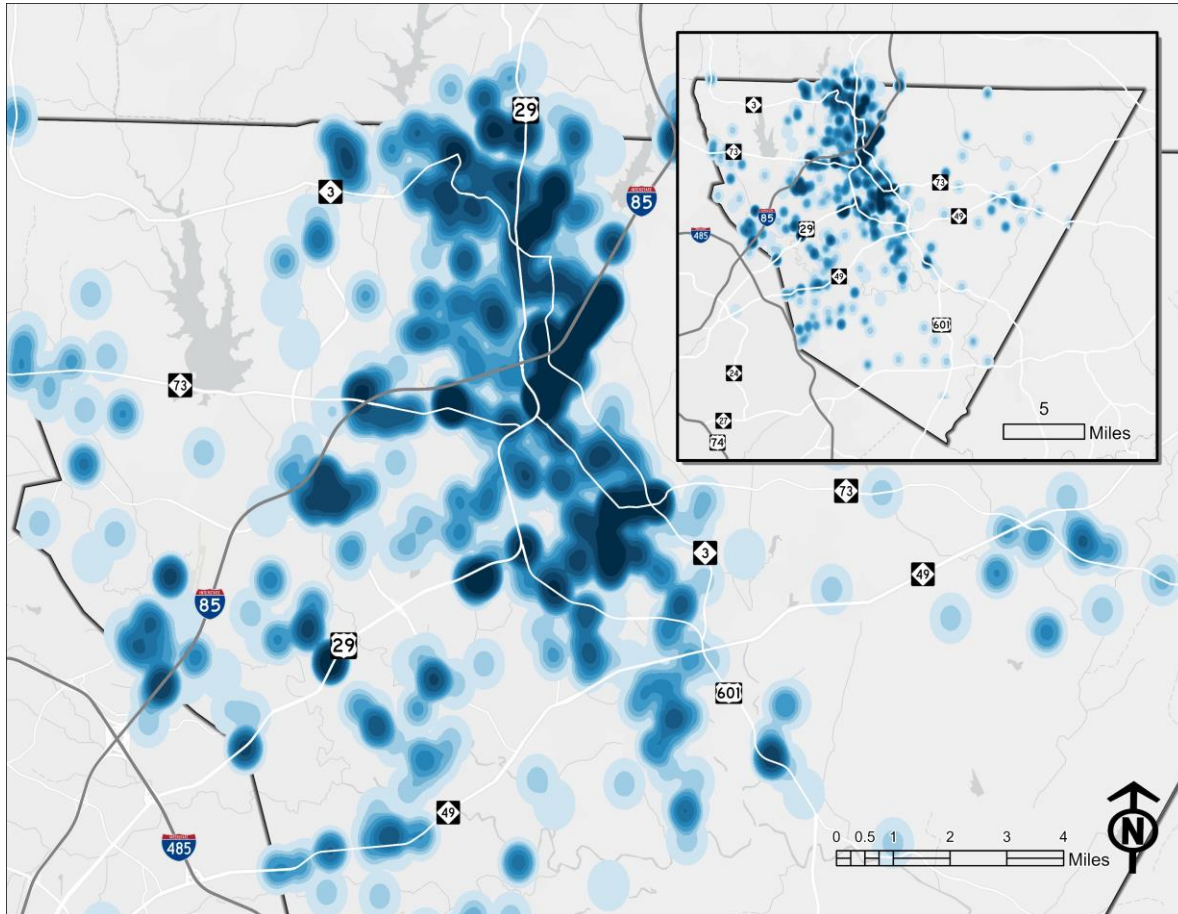
Average Daily Boardings (October 2023)



# Fixed-Route | Stops with One or Fewer Daily Boardings



# Trip Analysis | Demand Response & Paratransit





# Recommendations

# Identification of Service Concepts



Three microtransit zones feeding fixed route service



Eliminate large loops in Kannapolis routes, eliminate underutilized stops, improve efficiency of alignments



New service in Harrisburg, Liles/Kannapolis Pkwy, Poplar Tent Rd, Hwy 49, Coleman Blvd, Branchview

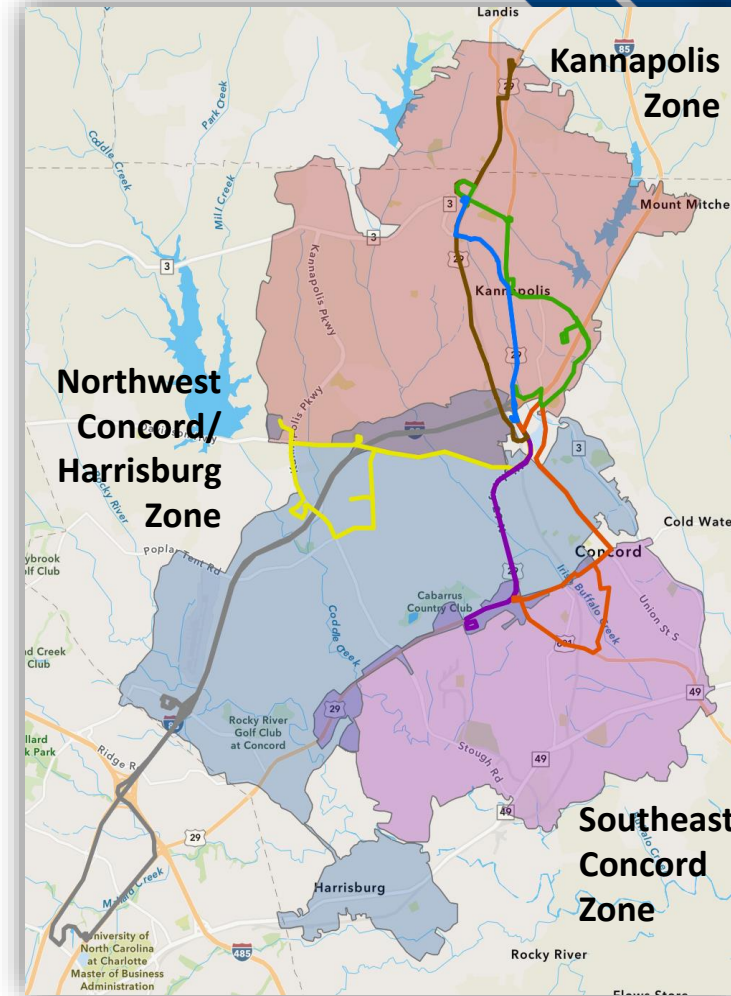
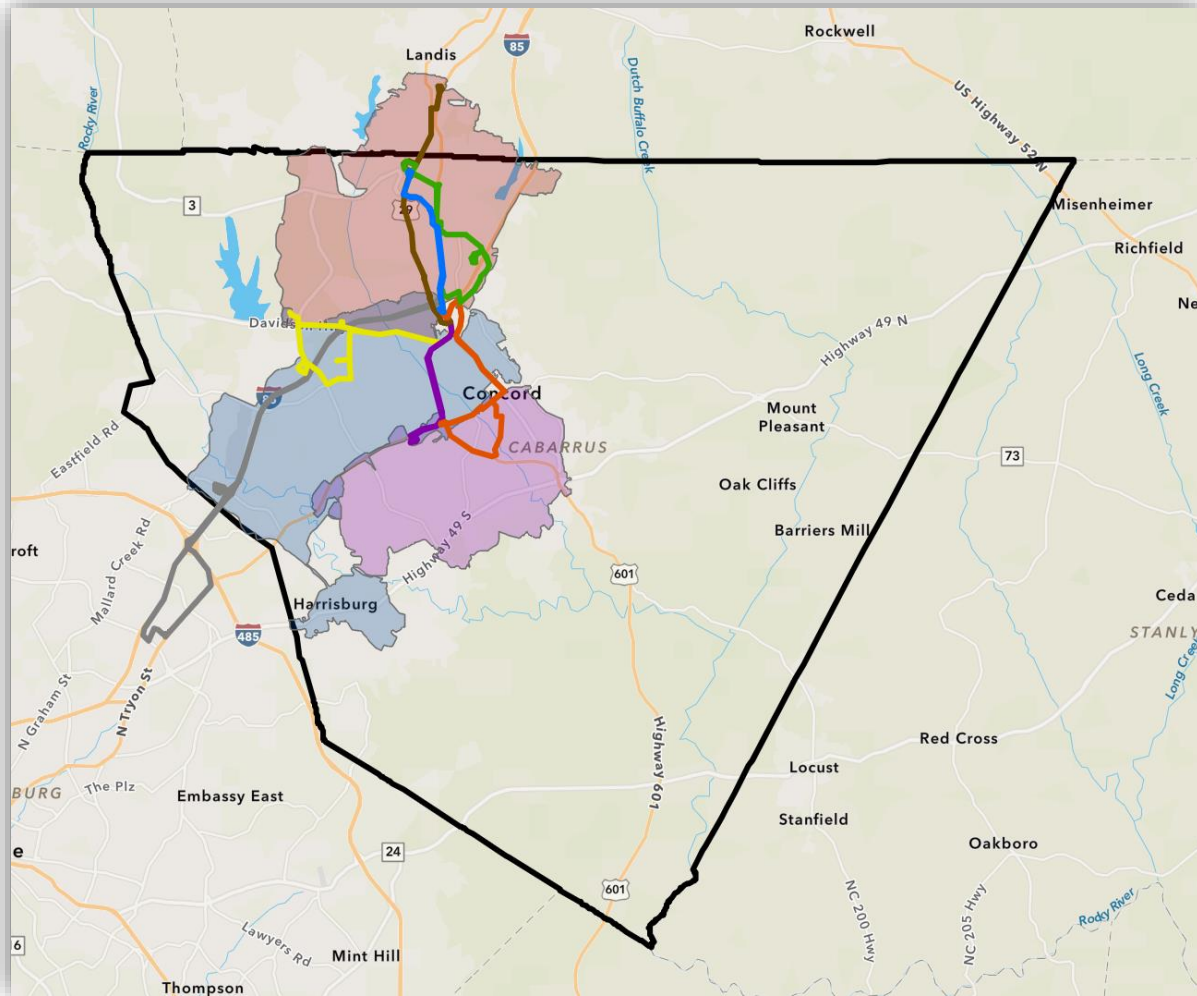


Microtransit service at night after fixed routes stop service



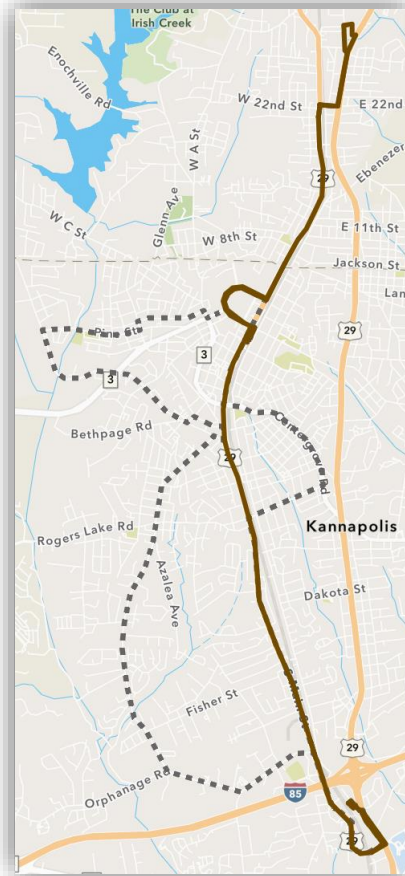
Convenience beyond demand response

# Microtransit System Concept

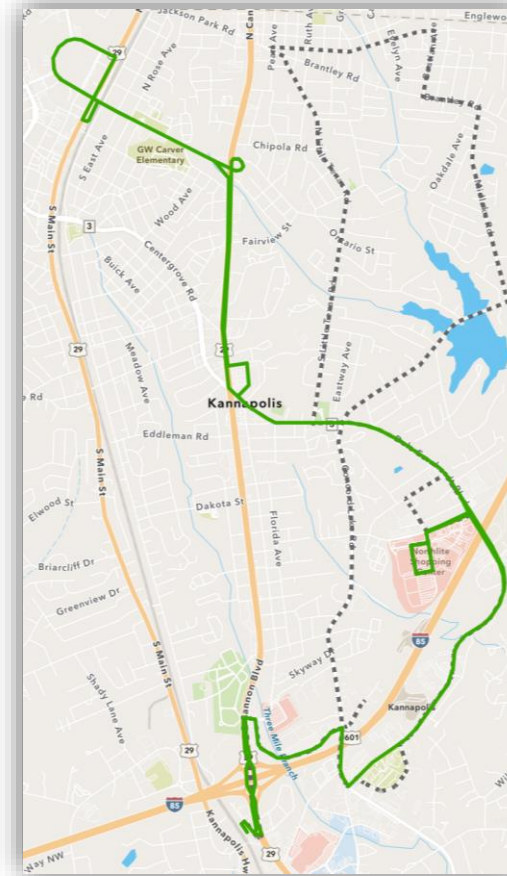


# Kannapolis

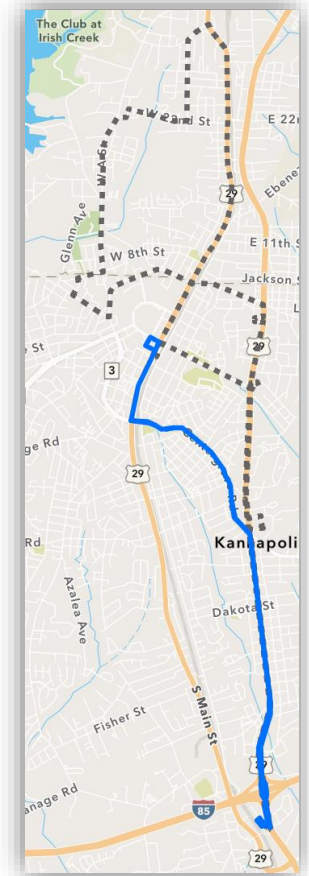
Brown



Green

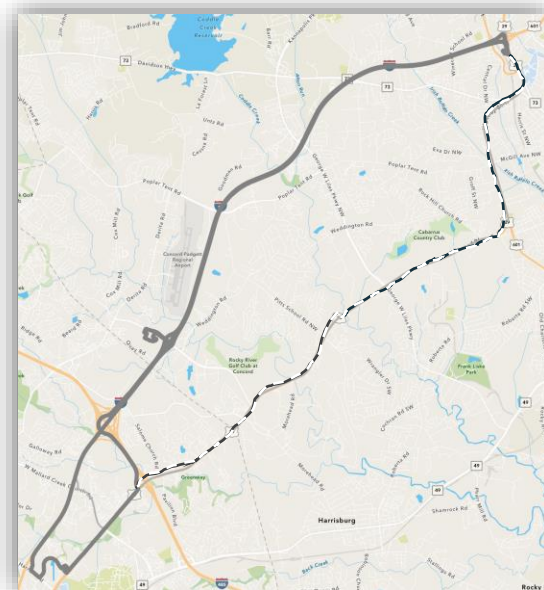
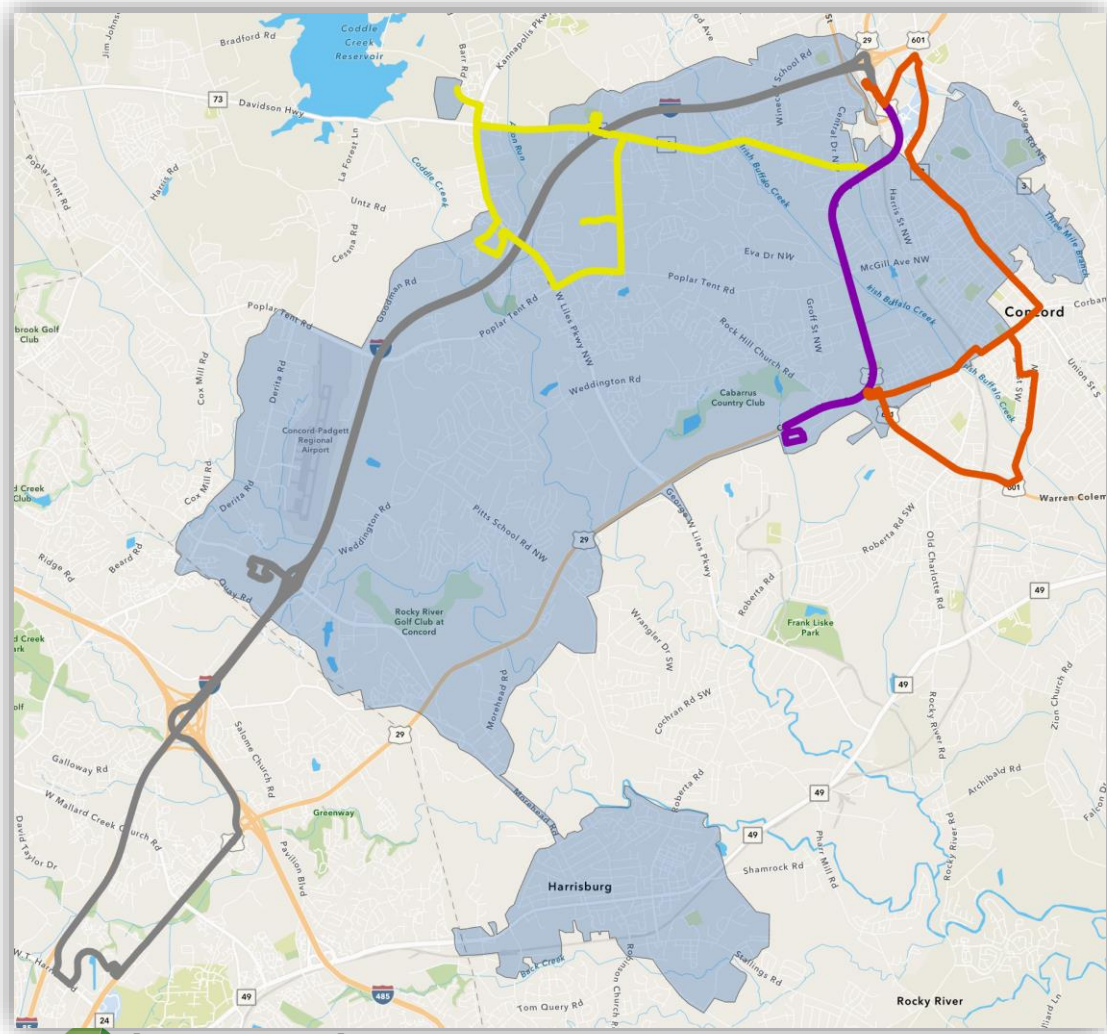


Blue

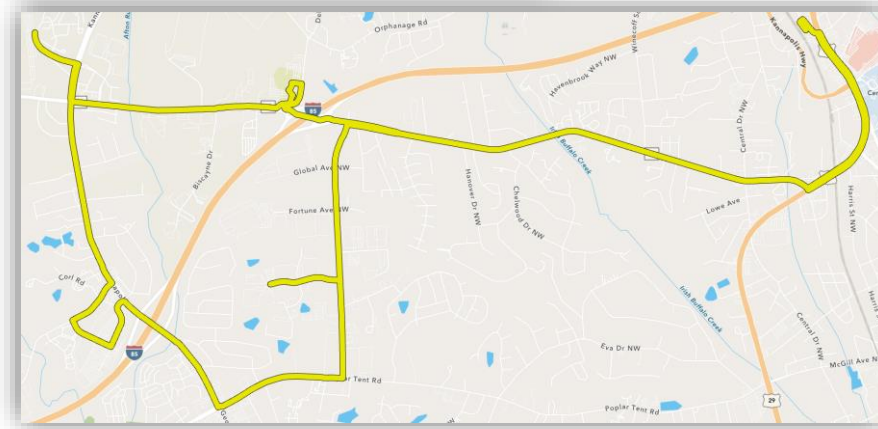


**\*30-min  
headways**

# Northwest Concord & Harrisburg



CCX



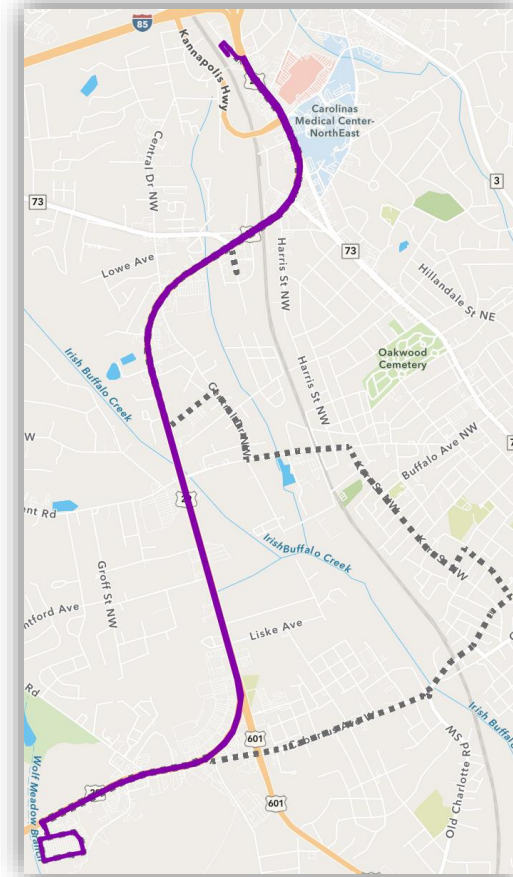
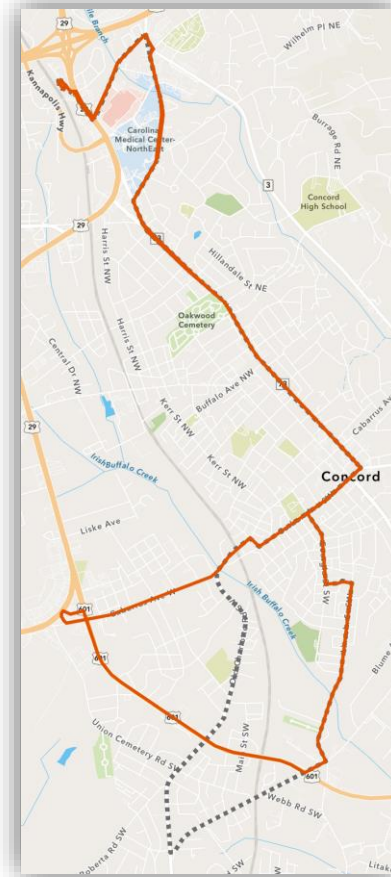
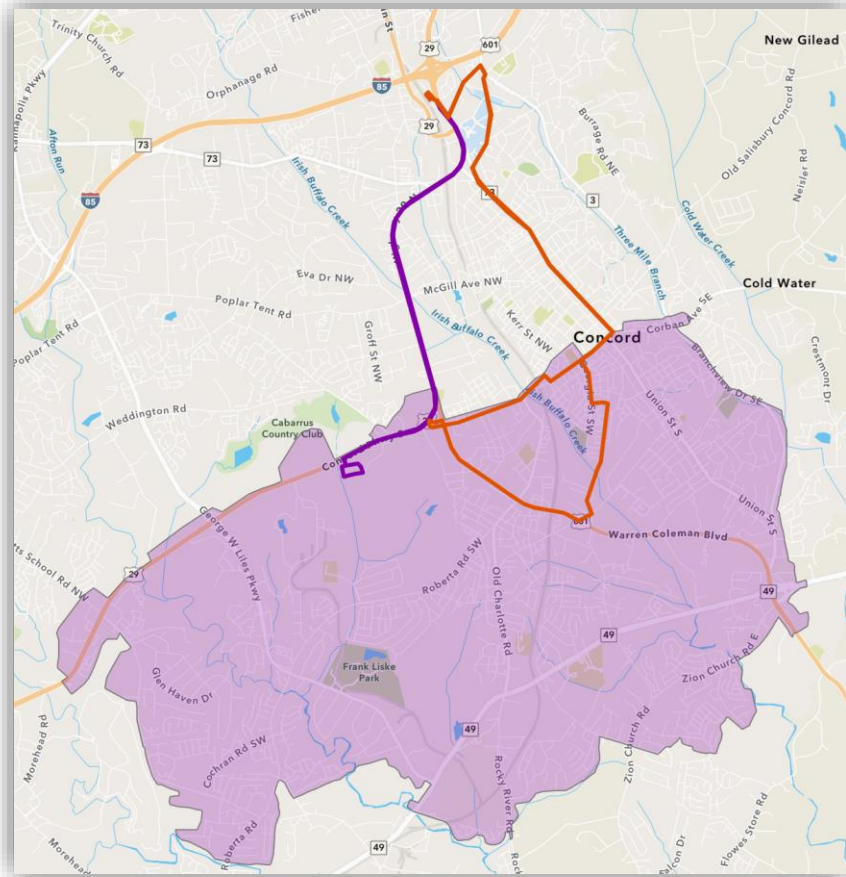
Yellow

# Southeast Concord



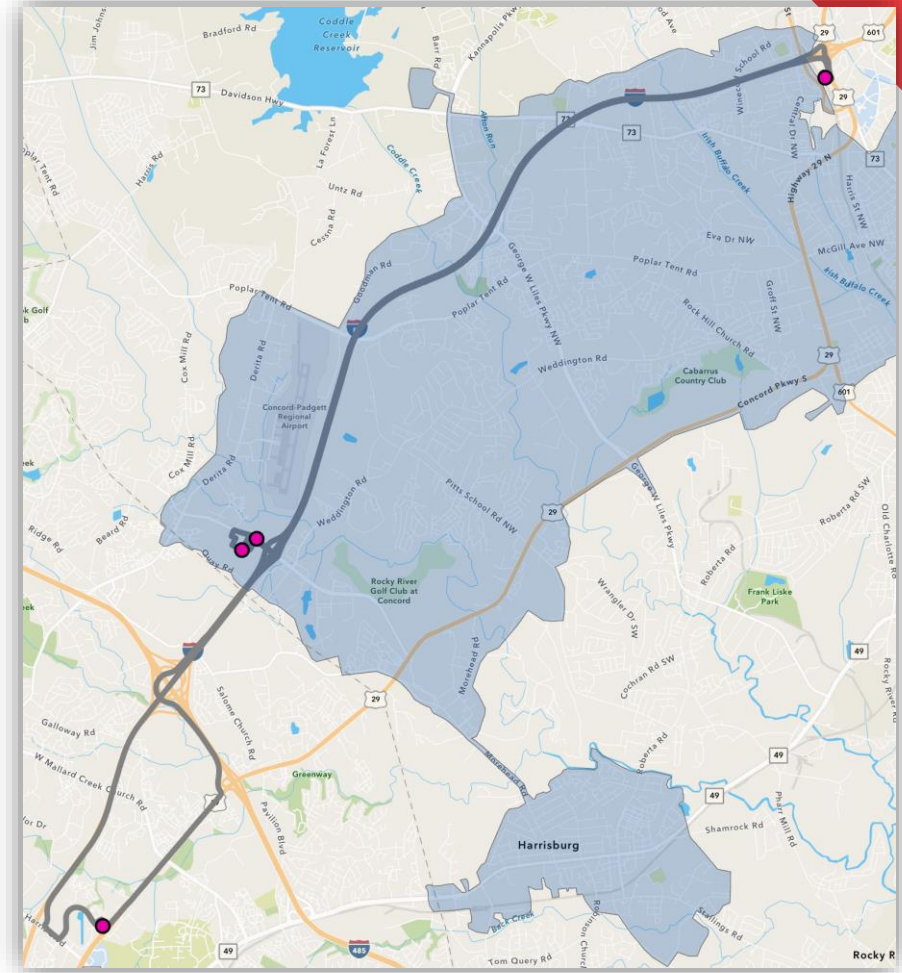
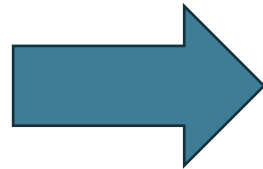
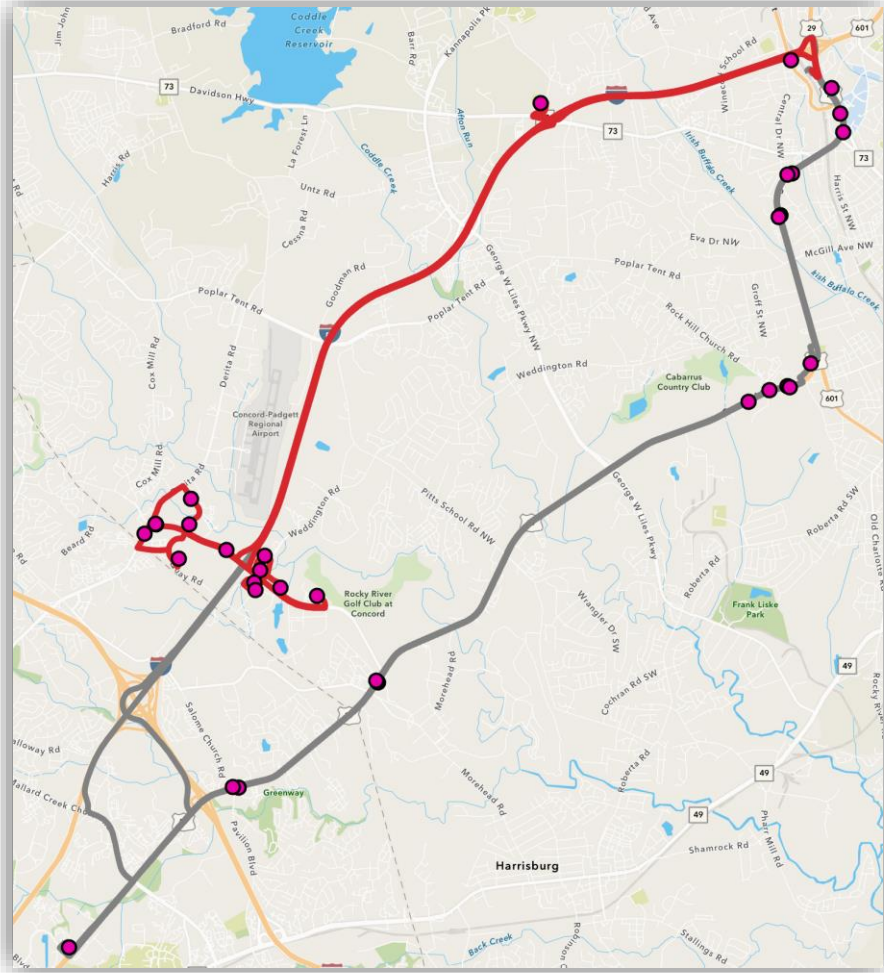
Orange

Purple

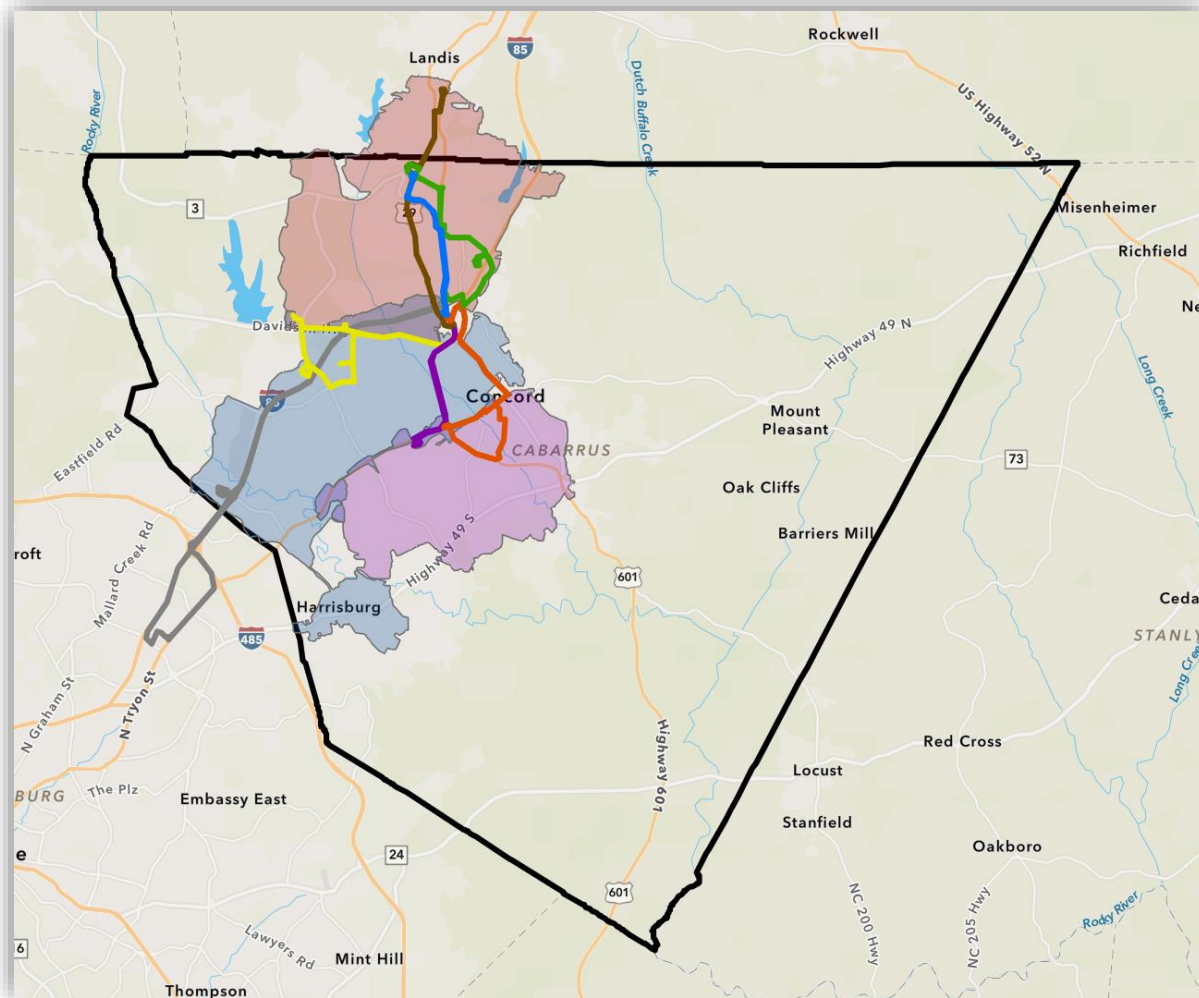


**\*30-min  
headways**

# Streamlined Red & CCX Routes



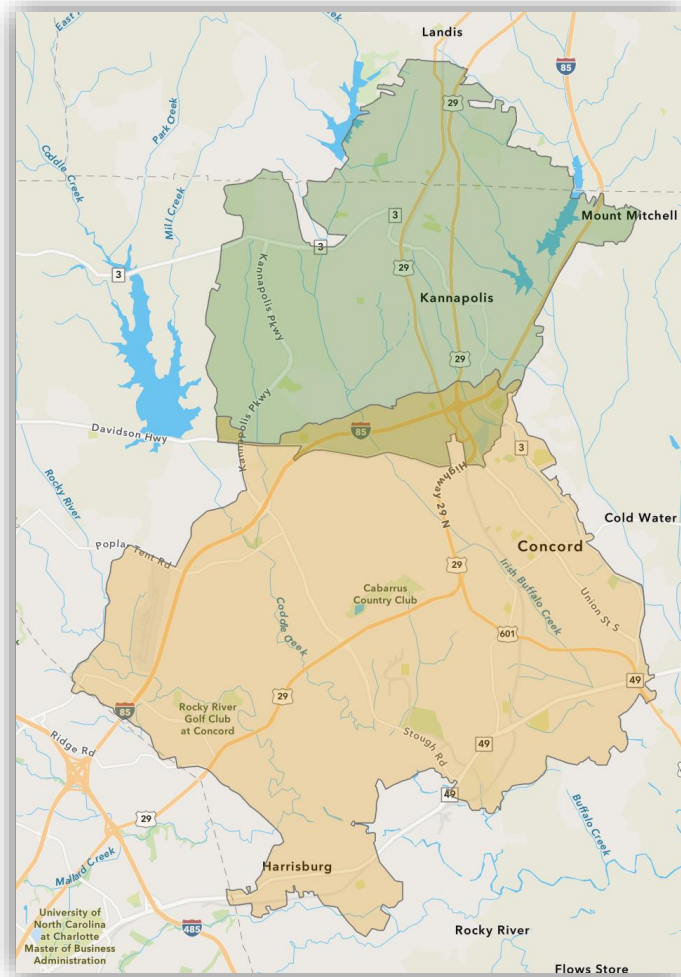
# Overall Microtransit + Fixed Route Service



## Proposed Routes Served

Kannapolis Zone	Southeast Concord Zone	Northwest Concord/Harrisburg Zone
Blue		
Green		
Orange	Orange	Orange
	Purple	Purple
Yellow		Yellow
Brown		Brown
		Grey

# Night Coverage



1. Daytime microtransit zones transition to nighttime microtransit zones at 7:30 PM
2. Fixed route service continues until 8:30 PM
3. Microtransit service continues until 11:30 PM



# Implementation Plan

# Microtransit Implementation Plan



## Phase 1A:

### Add Daytime Microtransit Zones

- Operationalize three microtransit zones during fixed route service hours
- Educate riders
- Address operational issues

## Phase 1B:

### Realign Fixed Routes

- Realign Blue, Brown, Green, Orange, Purple, and Yellow routes
- Address operational issues
- Determine if there is a need for virtual microtransit stops

## Phase 2:

### Add Nighttime Microtransit Zones

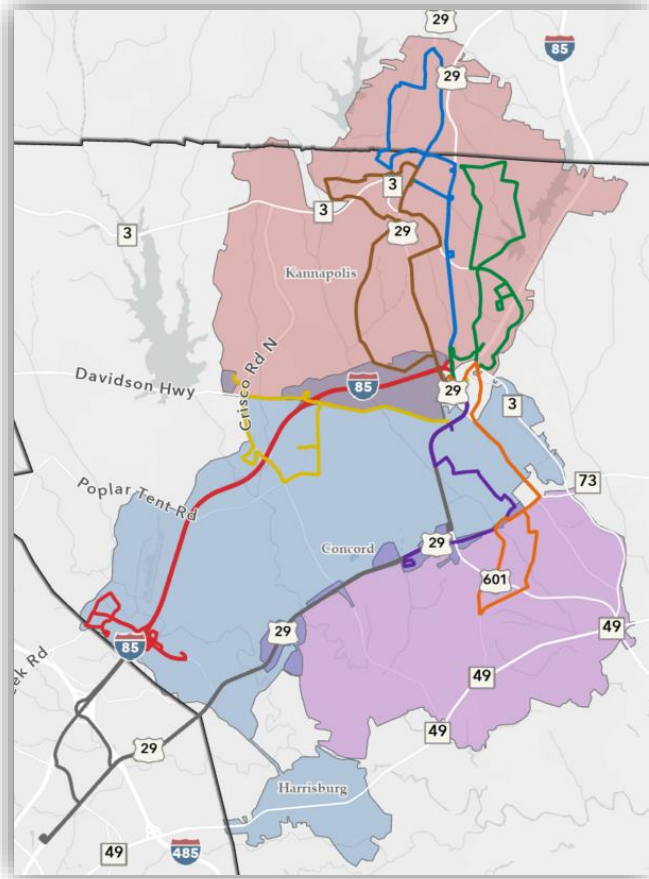
- Operationalize two nighttime microtransit zones, extending microtransit service until 11:30pm

## Phase 3:

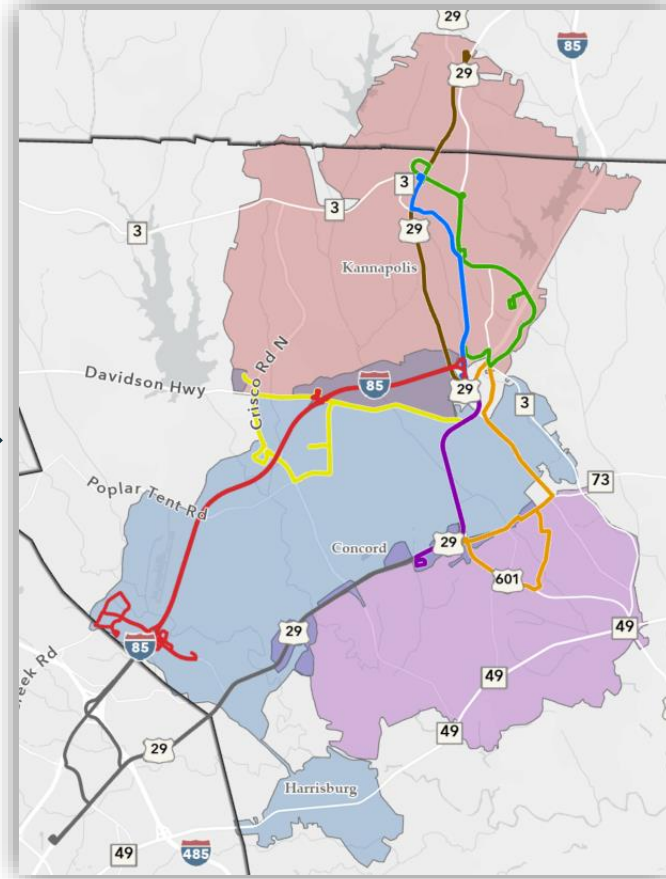
### Address Boulevards of Concord

- Triggered by the addition of a circulator serving the Concord Mills/Bruton Smith Boulevard corridor
- Realign/streamline the Red and CCX routes

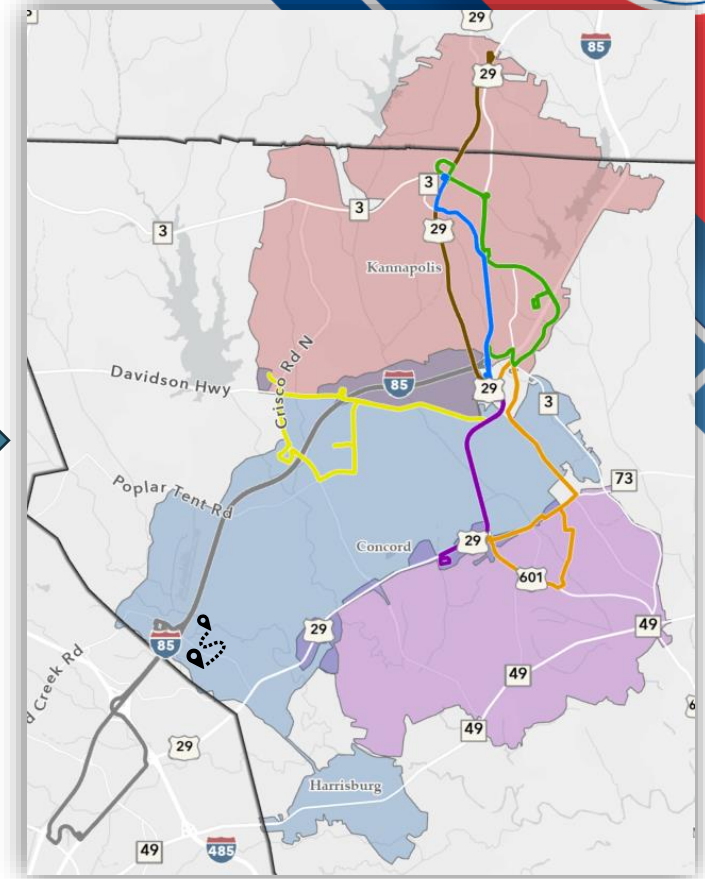
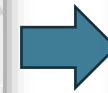
# Phases of Implementation



**1A: Add Daytime Zones**



**1B: Realign six routes  
2: Add Night Zones**



**3A: Add Concord Mills Circulator  
3B: Streamline Red and CCX**



# Benefits

# Bottom Line



**83,000 More  
People Have  
Access to  
Transit**



**98,000 More  
Trips on  
Transit\***

\*Does not include  
fixed route ridership



**\$4.3M  
Budget  
Increase\***

\*Includes Concord  
Mills Circulator



**+33%  
Increase in  
Revenue  
Hours**



**+20%  
Increase in  
Revenue  
Miles**



**+36%  
Increase in  
Trips per  
Hour**



**\$12.53  
Decrease in  
Cost per On-  
demand Trip**



# Financial Impact

# Financial Analysis



## Existing Services in Cabarrus County

System	Annual Ridership	Peak Vehicles	Annual Operating Expense	Revenue Miles	Revenue Hours	Expense per Trip	Population Served
Existing Fixed Route	355,856	8	\$2,882,428	705,945	35,511	\$8.10	50,900
Existing Rider Paratransit*	19,167	4	\$1,077,987	157,404	11,595	\$56.24	N/A*
Existing CCTS*	55,676	22	\$2,365,392	481,022	28,854	\$42.48	N/A*
<b>Existing Total</b>	<b>430,699</b>	<b>34</b>	<b>\$6,325,807</b>	<b>1,344,371</b>	<b>75,960</b>	<b>\$14.69</b>	<b>50,900</b>

## Proposed Service Concept

System	Annual Ridership	Peak Vehicles	Annual Operating Expense	Revenue Miles	Revenue Hours	Expense per Trip	Population Served
Proposed Fixed Route <sup>^</sup>	343,239	7	\$2,522,124	632,663	31,072	\$7.35	30,300
Daytime Microtransit <sup>**</sup>	134,840	12	\$3,920,000	704,868	48,978	\$29.07	130,200
Nighttime Microtransit <sup>**</sup>	14,476	6	\$632,300	85,100	7,910	\$43.68	132,100
Potential Rider Paratransit*	9,008	2	\$506,687	73,980	5,450	\$56.25	N/A*
Potential CCTS*	16,703	6	\$709,543	116,587	6,994	\$42.48	N/A*
Circulator <sup>^^</sup>	50,000	5	\$2,363,740	201,548	24,975	\$47.27	N/A
<b>Proposed Daytime Total</b>	<b>553,790</b>	<b>32</b>	<b>\$10,022,094</b>	<b>1,729,646</b>	<b>117,469</b>	<b>\$18.10</b>	<b>130,200</b>
<b>Proposed Total</b>	<b>568,266</b>	<b>32</b>	<b>\$10,654,394</b>	<b>1,814,746</b>	<b>125,379</b>	<b>\$18.75</b>	<b>134,100</b>

\*These services have restrictions on rider eligibility

\*\*Microtransit operating expense per hour is assumed \$80

<sup>^</sup>Assumes 20% growth on Purple and Blue routes, no growth on all other routes

<sup>^^</sup>Assumes a \$472,748 expense per peak vehicle, a low-end ridership of 50,000 trips, and a high number of peak vehicles (5)

# Thank You & Questions





## 8.5 Appendix E – PRC Meetings



# Cabarrus County Microtransit Feasibility Study

Project Review Committee Kickoff

March 12, 2024



# Meeting Agenda



## Project Overview

- Team Introductions
- Scope and Schedule
- Project Goals

## On-board Survey Results

- 2024 CCTS/  
Rider On-Board Survey

## Introduction to Microtransit

- Overview
- Implementation
- Benefits and Challenges
- Examples

## Project Management

- Data Needs
- Meetings and Communication
- Deliverables



# Project Overview

# Project Team and Introductions



## Local Team Leads

Bob Bushey	Cabarrus County Transportation Services
LJ Weslowski	Concord Kannapolis Area Transit

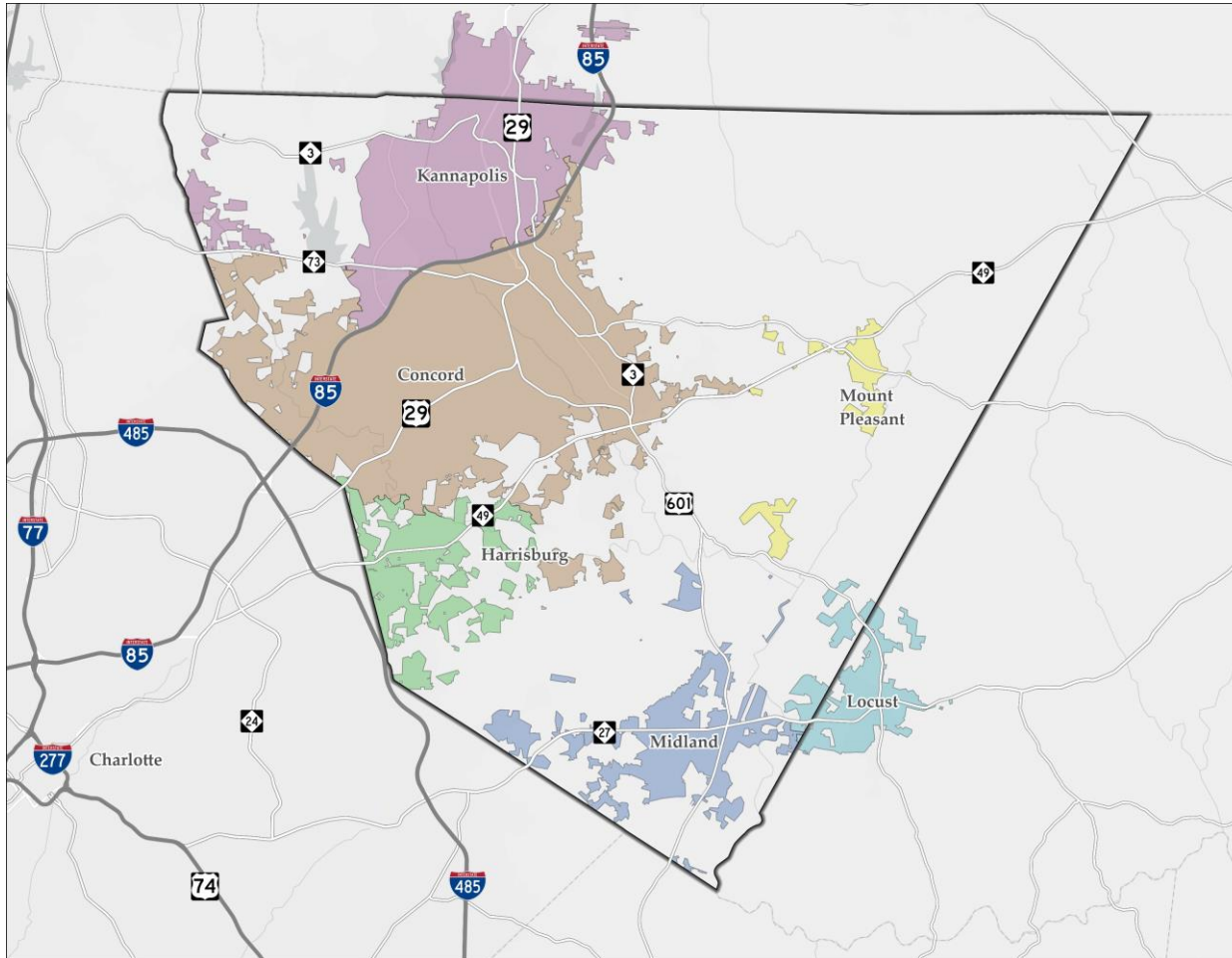
## NCDOT Team

Bryan Lopez  
Alexius Farris

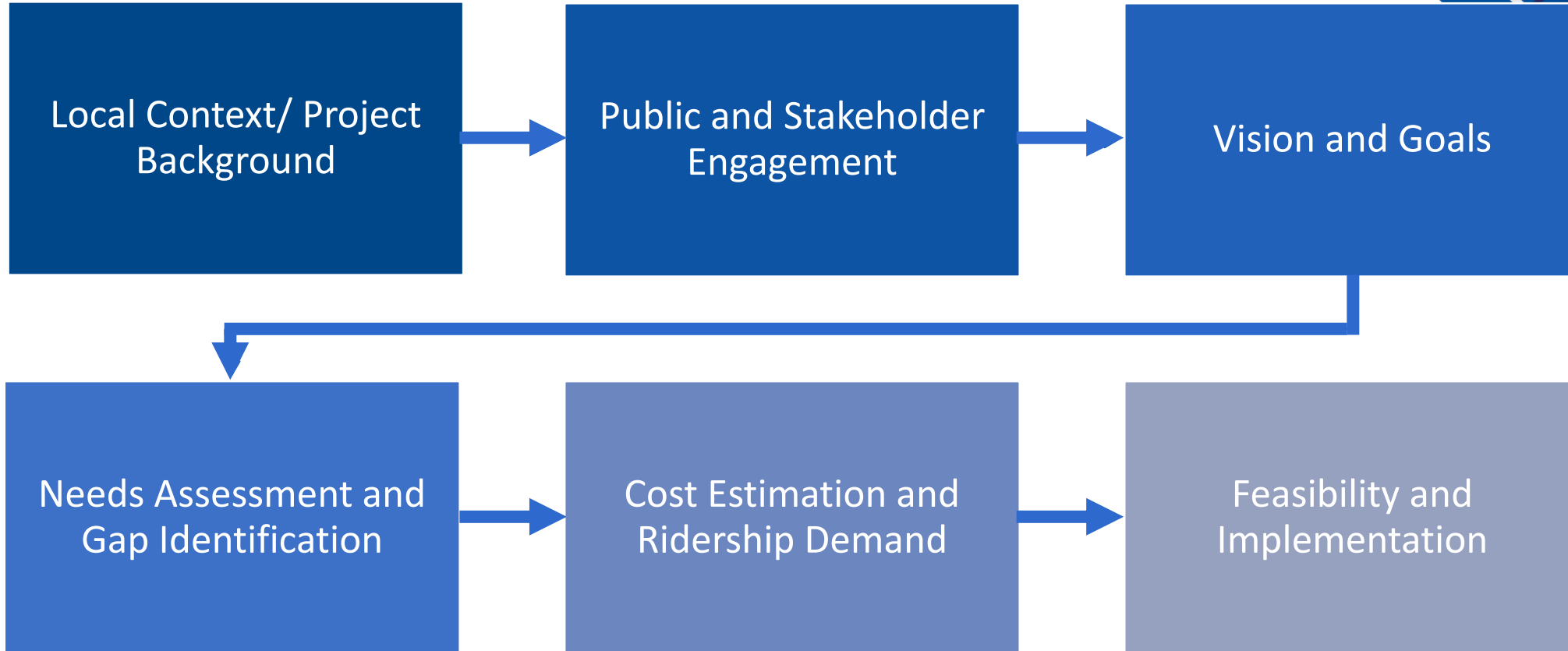
## Consultant Team (Benesch)

Laura Everitt  
Randy Farwell  
Taylor Cox  
Chris Wolf

# Study Area



# Scope



# Schedule



Task Description		2024							
		Mar	Apr	May	Jun	Jul	Aug	Sept	Oct
1	Project Management & Coordination	★		★			★	★	
2	Local Conditions & Service Area Profile								
3	Public Engagement								
4	Goals, Objectives & Indicators								
5	Needs Assessment & Gap Identification								
6	Microtransit Service & Operating Concept Evaluation								

# Project Goals Discussion

- Connecting people to places
- Driving economic growth
- Expanding quality of life choices
- Make more effective use of resources
- Address growth & demographic shifts



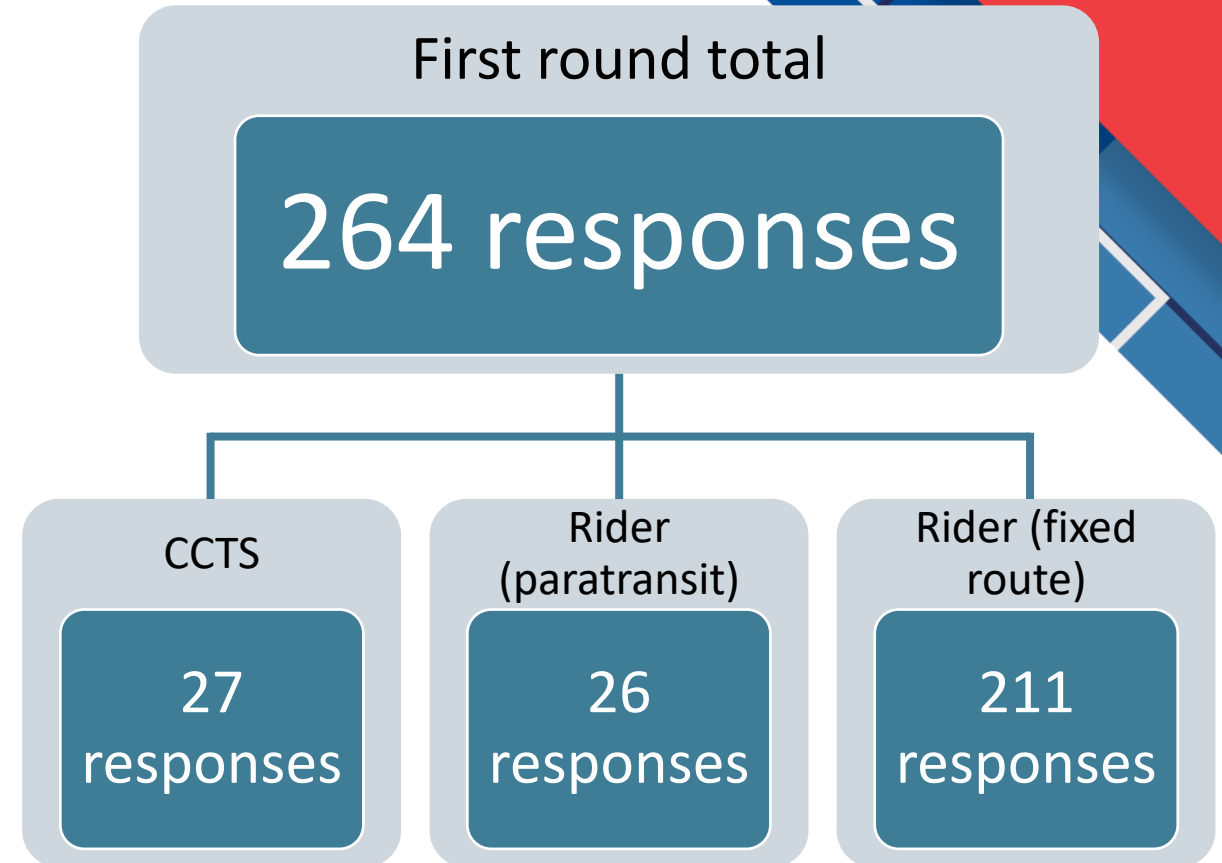


# 2024 On-board Survey

# Onboard Survey



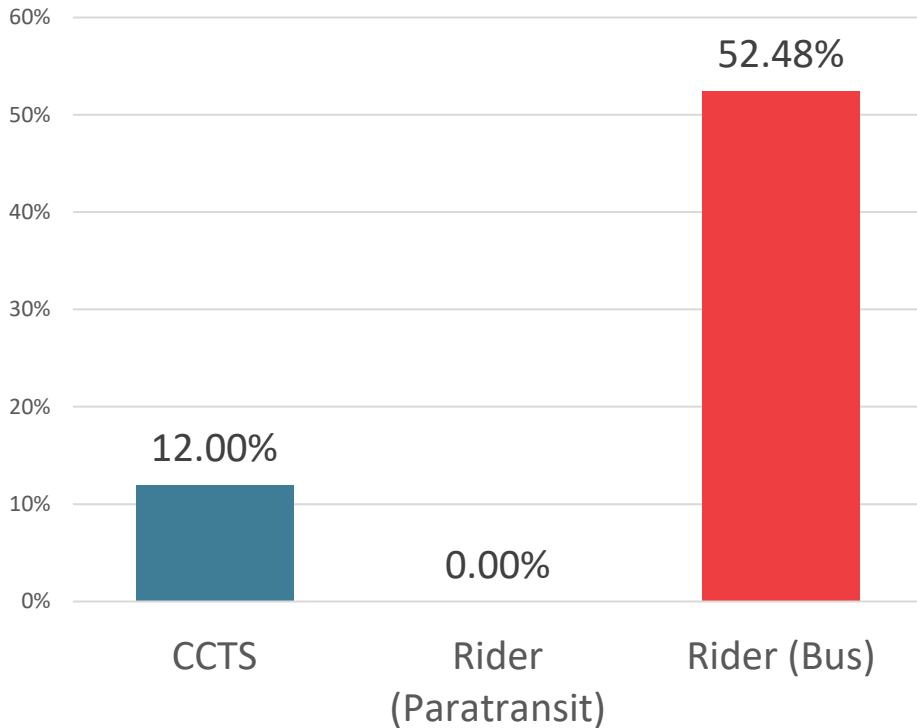
- On-board customer satisfaction survey
- Surveyed users of Cabarrus County's three primary transit services
- Two rounds of surveys administered in early 2024
- First round (preliminary data) yielded 264 responses



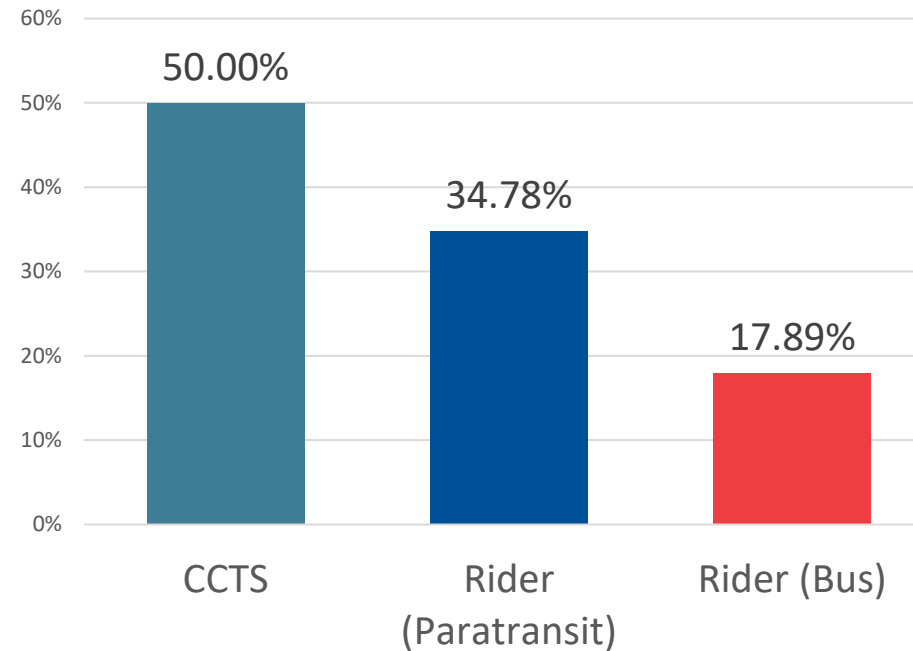
# Onboard Survey | Preliminary Results



### Users who ride every day



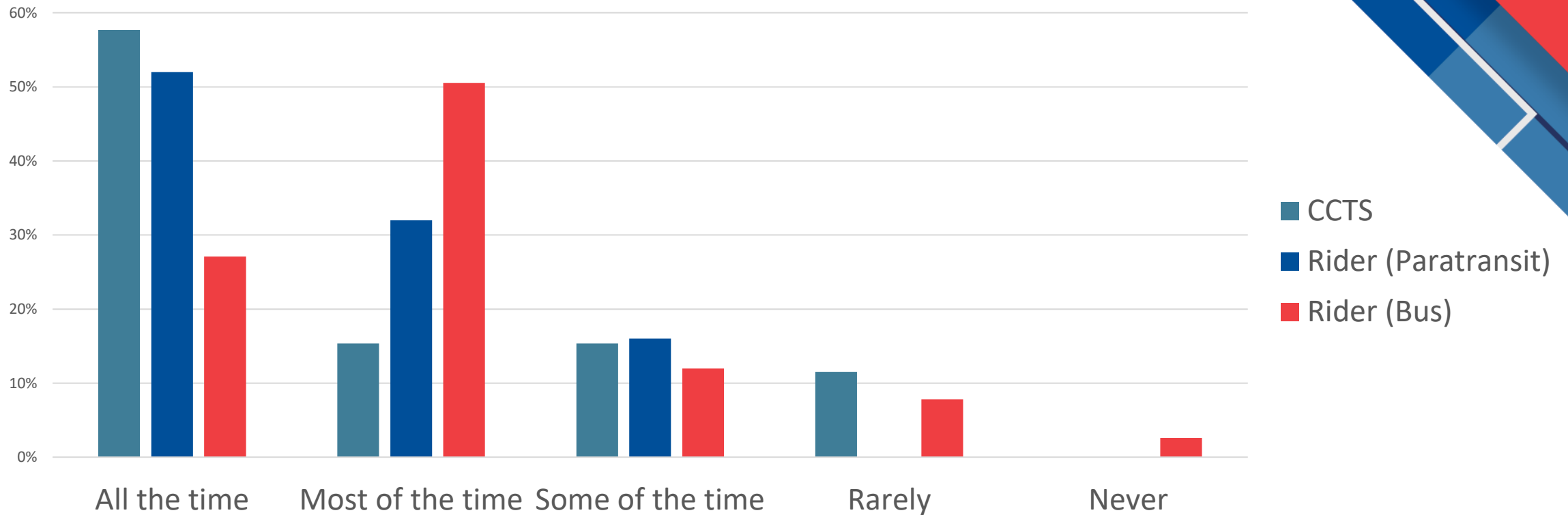
### Would not make trip without transit



# Onboard Survey | Preliminary Results



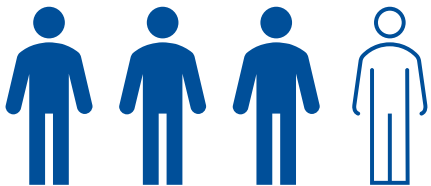
## On-time perception



# Onboard Survey | Preliminary Results



“Transit is critical in my ability to get around”



75% of respondents

“I am likely to recommend this service to friends and family”



90% of respondents



# Introduction to Microtransit

# Microtransit | Overview



“A shared, technology-enabled, public transportation system with flexible routing developed based on real-time trip demand and origin-destination patterns.” (NCDOT)



# Microtransit | Overview



Service Element	Public On-Demand Microtransit	Demand Response	Fixed-Route	Transportation Network Companies
Curb-to-curb service	X	X*		X
Operates within defined service zone	X	X	N/A	
Trips may be shared with other riders	X	X	X	
Trips must be booked	X	X		X
Reservations needed 24 hours or more in advance		X		
Booking options for riders without access to internet and/or banking	X	X	N/A	
Accessible vehicle mandated	X	X	X	

\*Demand response service provides door-to-door assisted mobility for eligible ADA customers who need assistance. *Source: NCDOT*

# Microtransit | Context



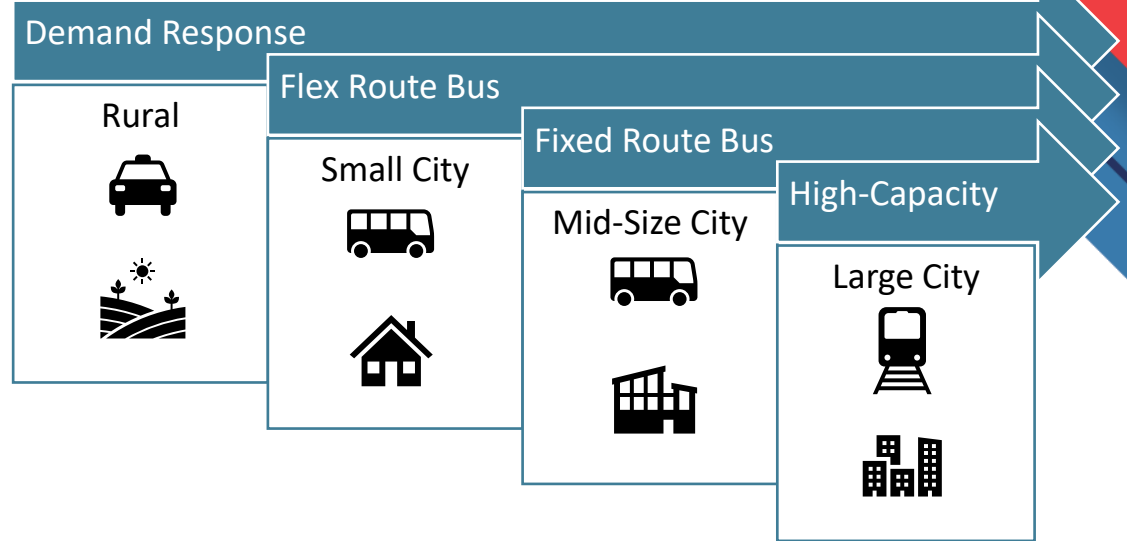
**Suburban areas:**  
Where access to mobility is limited

Low-income, minority, senior, youth, and disabled populations

Large gaps in jobs and housing

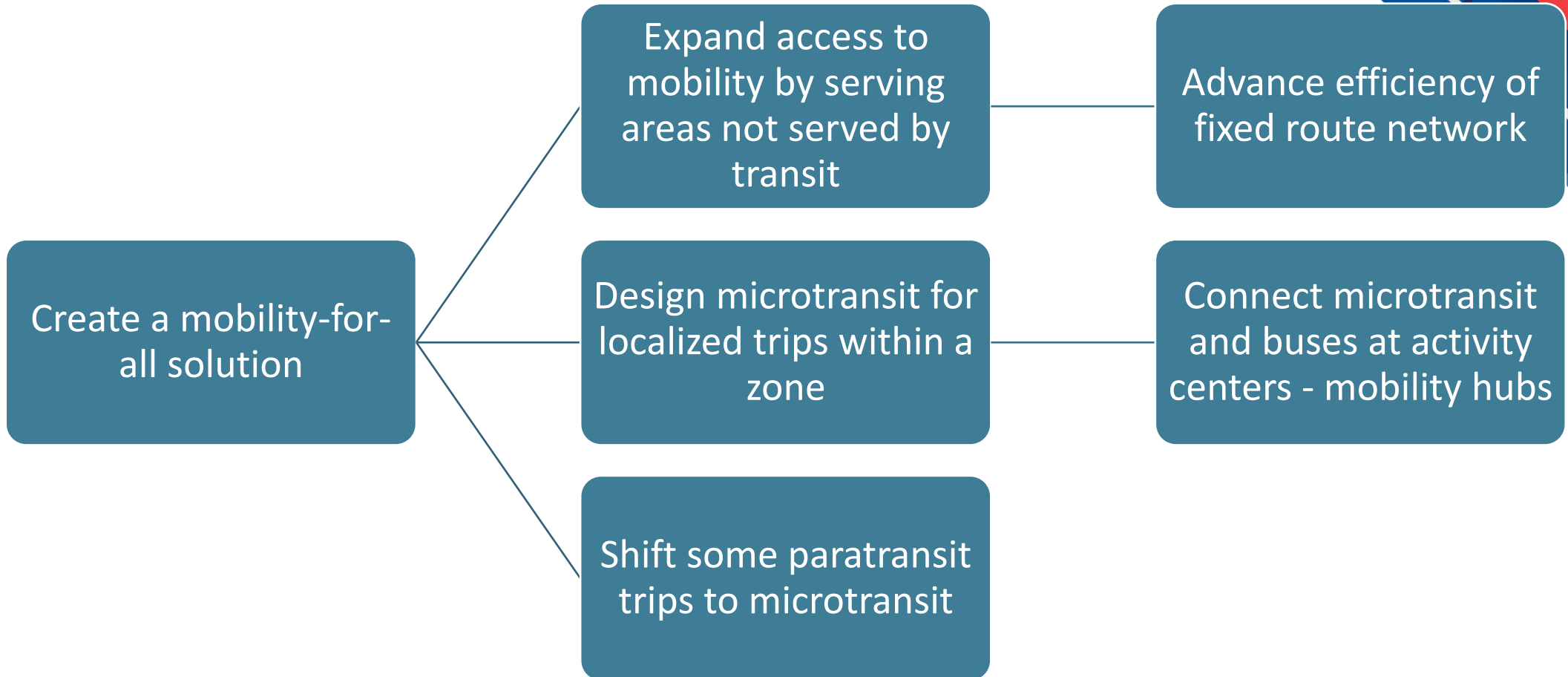
Autocentric, mass transit has minimal effectiveness

Mobility = *access to opportunity*



Source: NCDOT

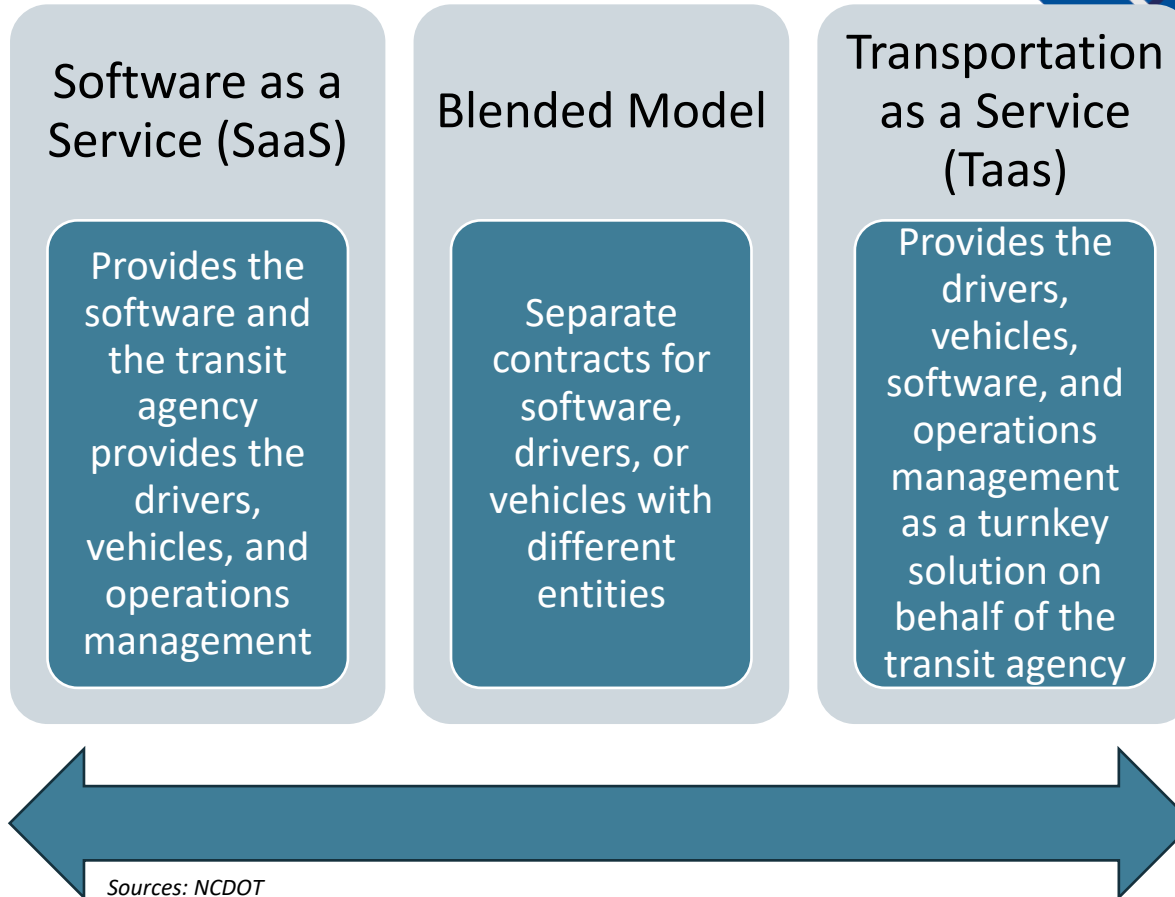
# Microtransit | Opportunities



# Microtransit | Framework



-  Add connections to fixed-route service
-  Replace inefficient fixed-routes
-  New service in low-density areas
-  Provides service when other modes are unavailable
-  Convenience beyond demand response



Sources: NCDOT

# Microtransit | Benefits and Challenges



## Benefits



More efficient and responsive service to rider demands with shorter wait times



Provides transit to rural, low density, hilly or otherwise difficult to serve areas



Does not require advance reservations



Flexible for serving late-shift workers and those with unpredictable schedules



Generates robust data and insights on trip behavior



Assists with providing paratransit services



Improves customer service experience through scheduling apps and payment technology

## Challenges



Implementing changes to transit agency staff and vehicle fleets



Data gatekeeping by on-demand microtransit vendors



Less control over cost increases



More responsive service may require additional resources due to increased demand



Equitable access for unbanked riders and those without mobile app access



Rising costs of software vendor contracts

Source: NCDOT



# Microtransit Examples

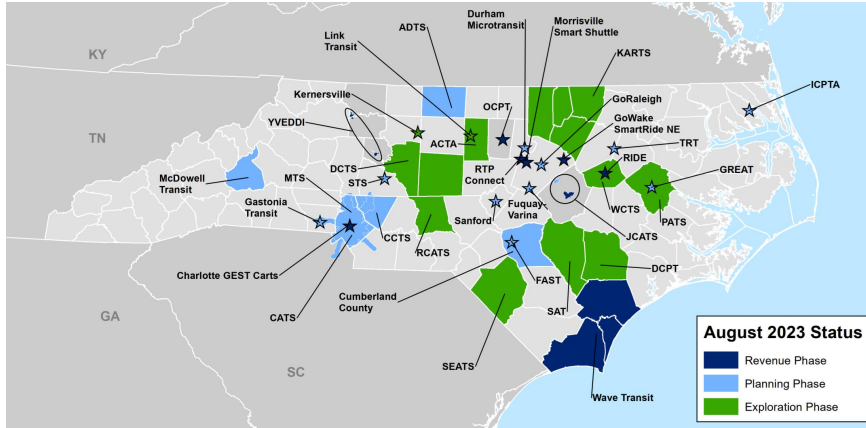
# Microtransit Examples

- North Carolina
- Florida
  - Palm Beach County
  - Sarasota County
  - Volusia County (Daytona Beach)





# Microtransit | NC Examples



Microtransit Service	Type	Primary Purpose					Fleet Size	Wait Time Target
		Connection	Replacement	Low-Density	Temporal	Convenience		
Orange County Mobility On-Demand	SaaS				✓	✓	5	<15 minutes
RideMICRO (Wave Transit)	TaaS	✓	✓				5	<30 minutes
RIDE (City of Wilson)	TaaS		✓				26	<15 minutes
Morrisville Smart Shuttle	Blended	✓		✓			2	<15 minutes
GoWake SmartRide NE	Blended	✓		✓		✓	3	<30 minutes
GoDurham Connect	TaaS	✓					Dynamic	No target set
RTP Connect (GoTriangle)	TaaS	✓					Dynamic	No target set
YVEDDI (Elkin and Mocksville Microtransit)	SaaS		✓				4 (2 per town)	<15 minutes
Charlotte GEST Carts	TaaS				✓		10	No target set
Johnston QuickRIDE (JCATS)	SaaS			✓			5	No target set

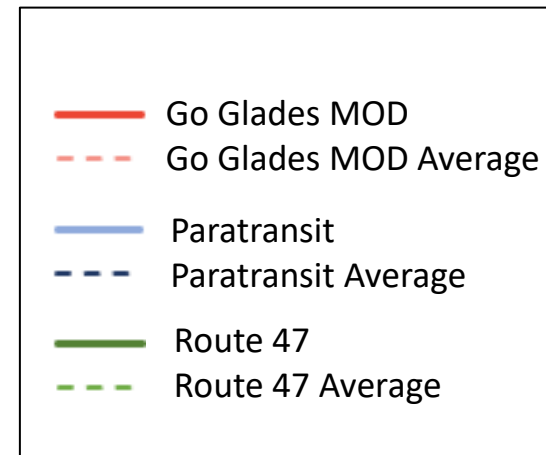
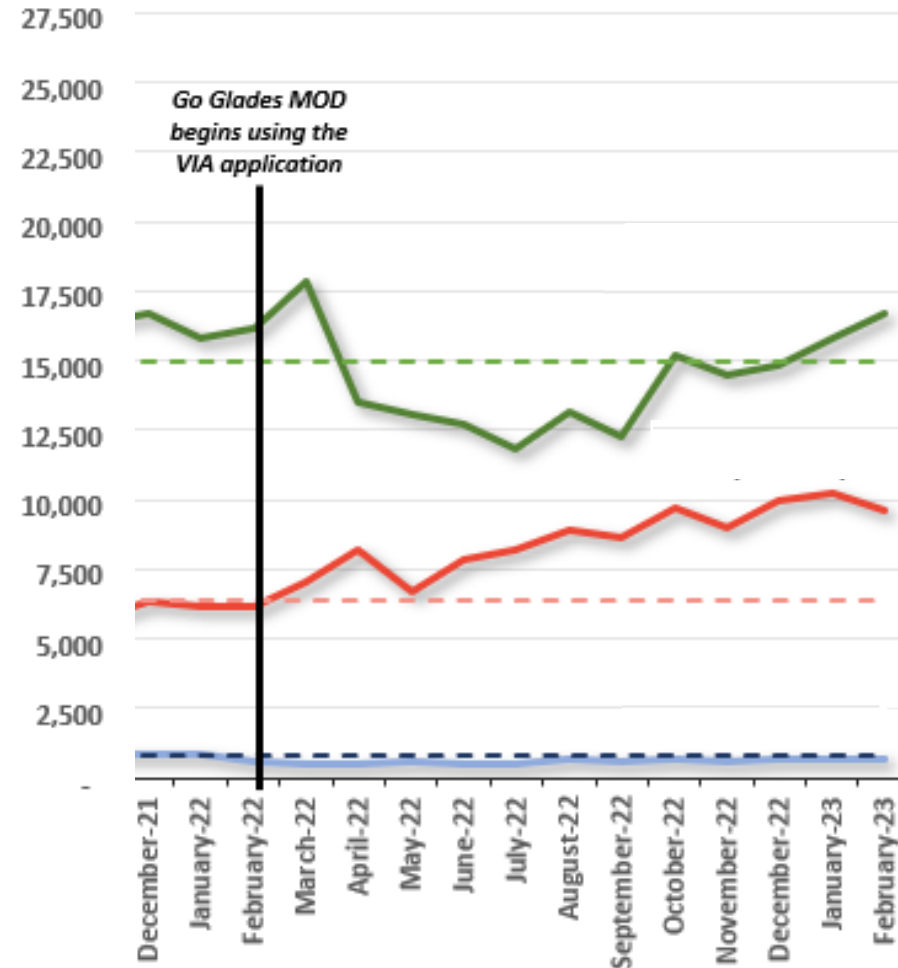
Source: NCDOT

# Case Study | Palm Beach, FL

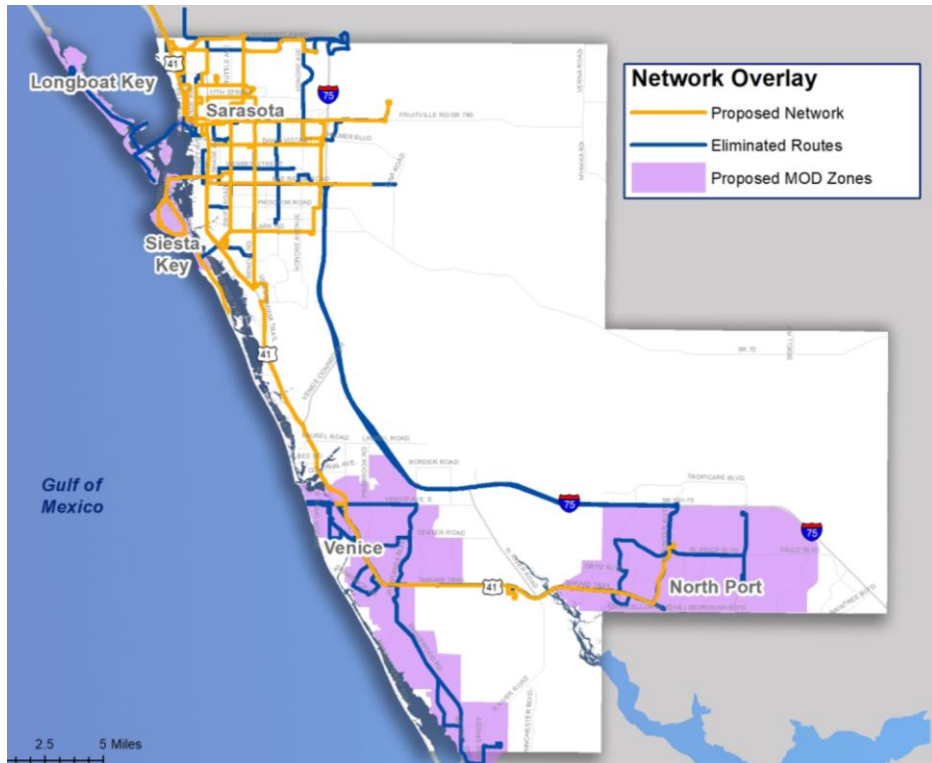


- Fixed Route | Initial decline followed by increase in ridership
- MOD | Steady increase in ridership
- Paratransit | Slow decline in ridership

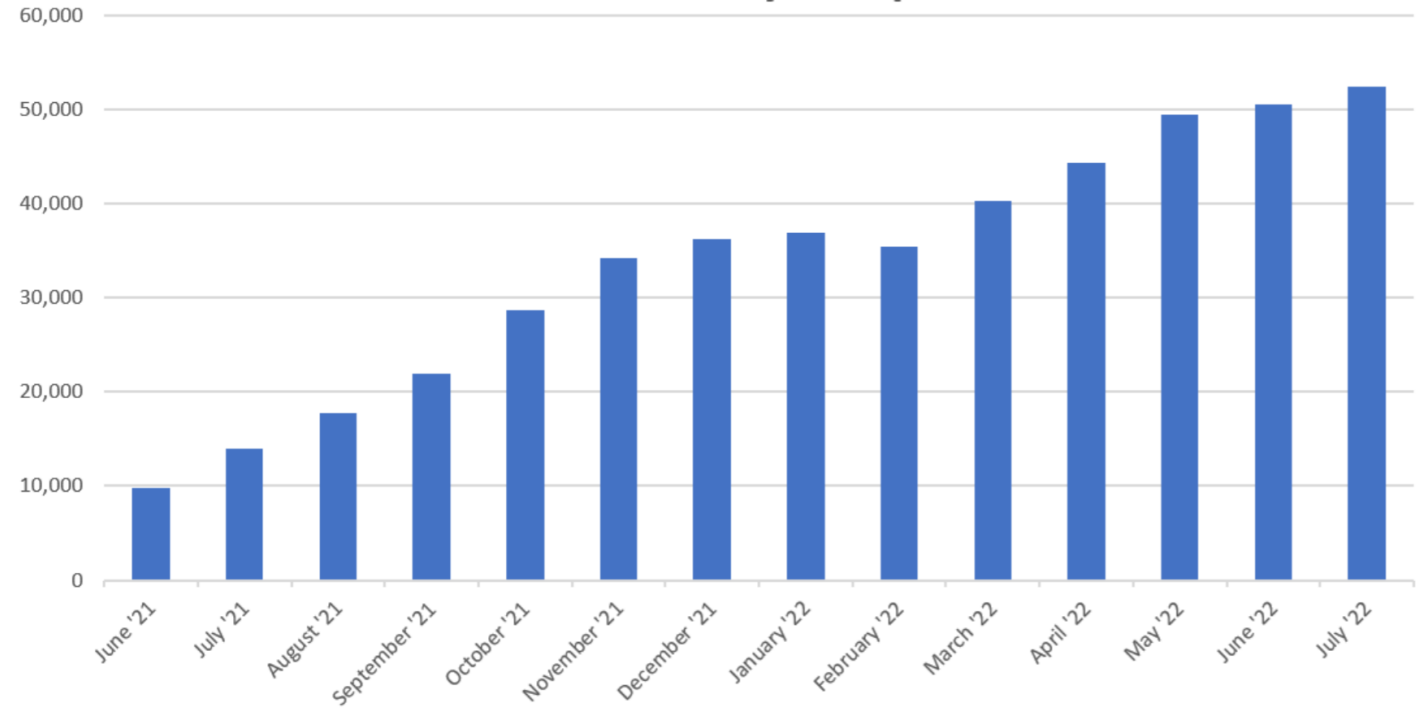
Monthly Ridership



# Case Study | Sarasota, FL



## OnDemand Monthly Completed Rides



# Case Study | Sarasota, FL



## 2023 Stats

- Trips
  - MOD | 300,000+ (Up ~20%)
  - System | 2.18M+ (Up ~ 5%)
- Vehicles = 39 vans
- Fare = \$2
- Average cost per trip = \$12 - \$14

## First Year Stats

- Average ETA = 13 minutes
- Average rating = 4.8 out of 5
- Unique riders = 11,700+
- Riders 65+ = 40%
- Riders earning >\$50,000 = 48%
- Riders with no vehicle = 65%

# Case Study | Volusia, FL

- TBD





# Project Management

# Discussion

- Review project goals
  - Any new thoughts?
- Connecting people to places
- Driving economic growth
- Expanding quality of life choices
- Make more effective use of resources
- Address growth & demographic shifts



# Data Needs



- CCTS
  - Demand response trip data (origin/destination)
  - Information on funding structure
- CK Rider
  - System, route-level, and stop-level ridership data
  - Paratransit trip data (origin/destination)
  - Information on funding structure
- Fixed route on-time performance
- List of Cabarrus County major activity centers (trip generators)
  - And any proposed developments or activity centers
- Cabarrus County (and municipal) zoning and land use maps (or shapefiles)

# Deliverables



Local  
Conditions  
Report

Goals and  
Performance  
Evaluation  
Report

Microtransit  
Service and  
Operating  
Concept  
Evaluation  
Report

Public  
Engagement  
Report

Needs  
Assessment  
and Gap  
Analysis  
Report

Implementation  
Plan and Final  
Report

# Next Steps & Homework

- Draft Local Conditions Report delivery
- Stakeholder interviews (12)
  - Who should we interview?
- Next Project Review Committee meeting:
  - Tuesday May 14 OR
  - Tuesday May 21



# Thank You

**Bryan Lopez**

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**Alexius Farris**

[aafarris@ncdot.gov](mailto:aafarris@ncdot.gov)

**Laura Everitt**

[leveritt@benesch.com](mailto:leveritt@benesch.com)





# Cabarrus County Microtransit Feasibility Study

Project Review Committee Meeting #2

May 21, 2024

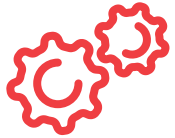
# Agenda



**Stakeholder Input, Data Analysis & Plan Review**



**Microtransit Service Opportunities**

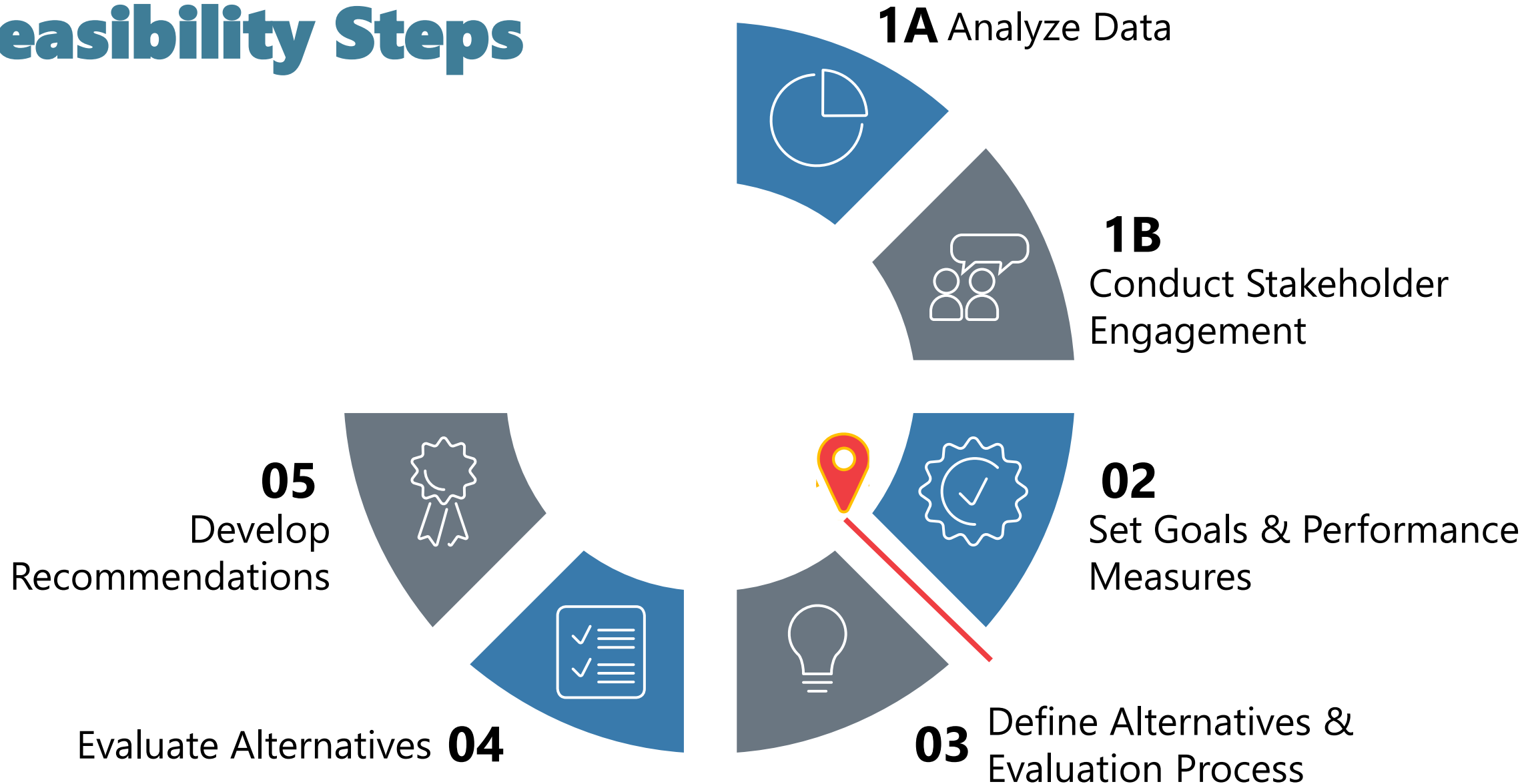


**Alternatives Evaluation Process**



**Next Steps**

# Feasibility Steps





# Stakeholder Input

What did we learn?

# Stakeholder Interviews



- ✓ CCTS
- ✓ CK Rider
- ✓ City of Kannapolis
- ✓ City of Concord
- ✓ Cabarrus County
- ✓ Atrium Health
- ✓ Cabarrus Chamber of Commerce
- ✓ Cabarrus Economic Development Corporation
- ✓ Cabarrus Health Alliance
- ✓ Cooperative Christian Ministries
- ✓ Rowan Cabarrus Community College
  
- Cabarrus County Department of Human Services

# Stakeholder Themes



Doing the best they can with limited resources (funding & drivers)

Today, primarily serving those who have no other option

Future, desire to broaden transit use to residents with options

Underserved: Mt. Pleasant, Midland, Harrisburg, & all rural areas

Transit is essential for getting folks to jobs, medical facilities, & school

# Stakeholder Themes



Concern over microtransit service replacing fixed route bus service

Desire to improve connections within & outside of Cabarrus County

Certain residents are left out of current system

Rapid growth, both industrial & residential, creates challenges for transit



# Thoughts?

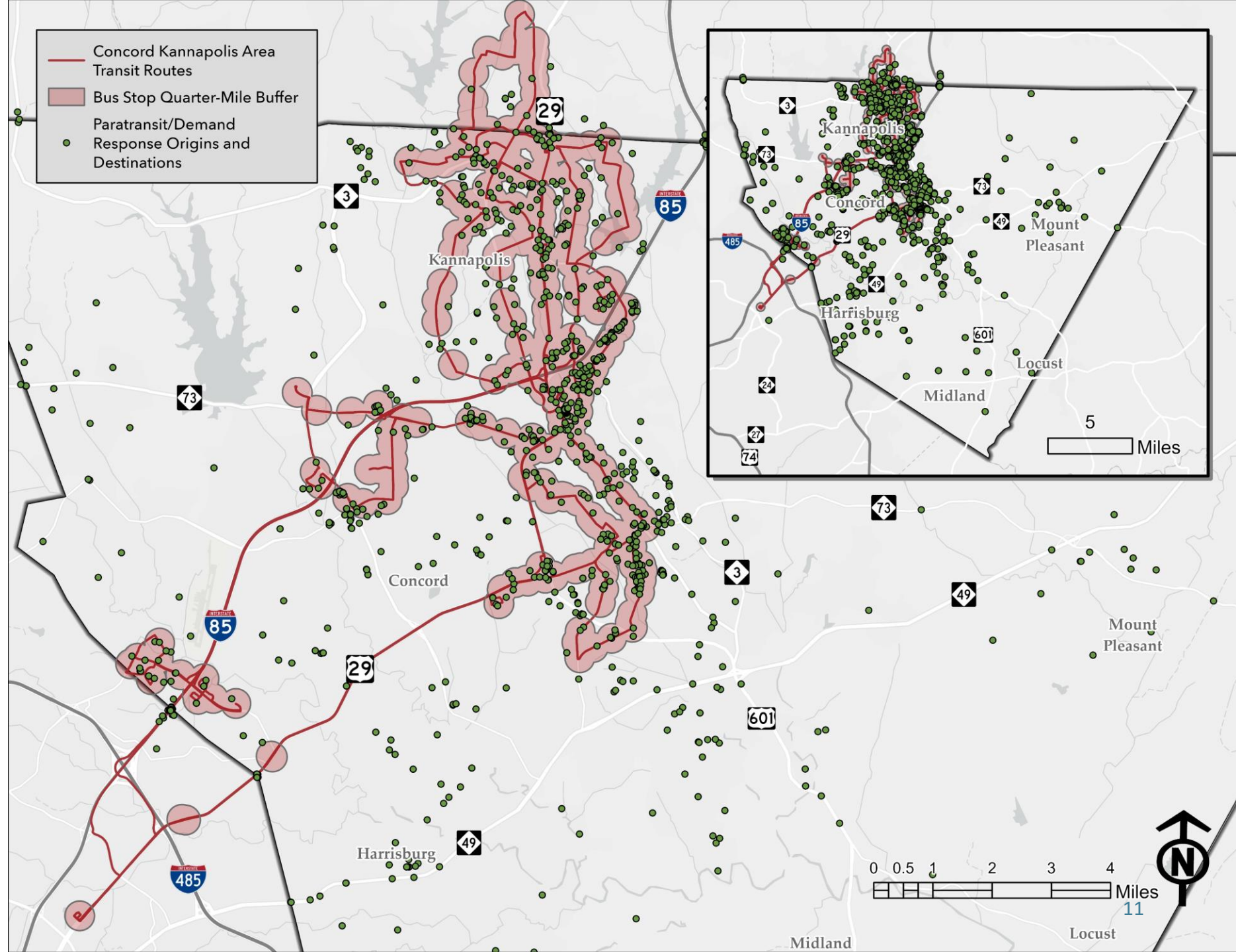


# Data Analysis

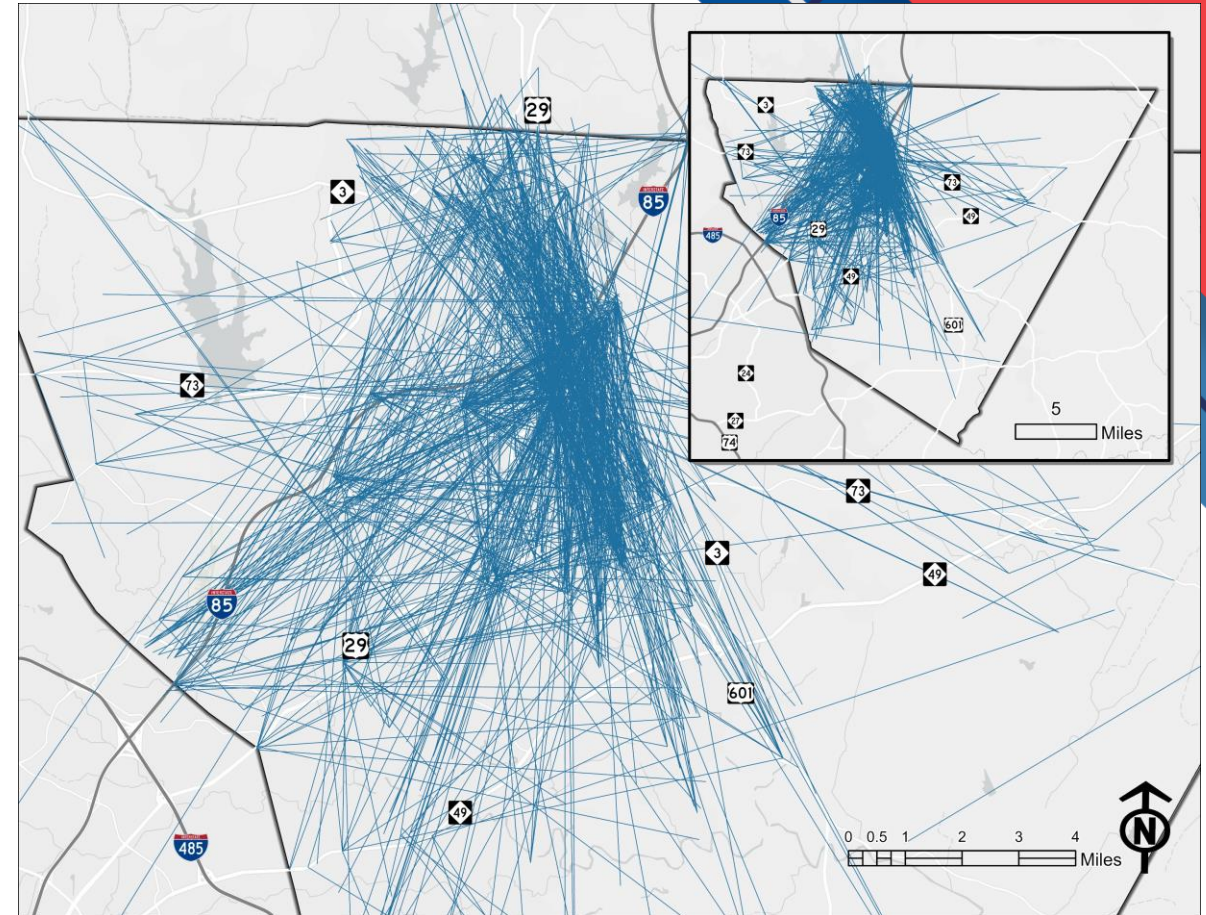
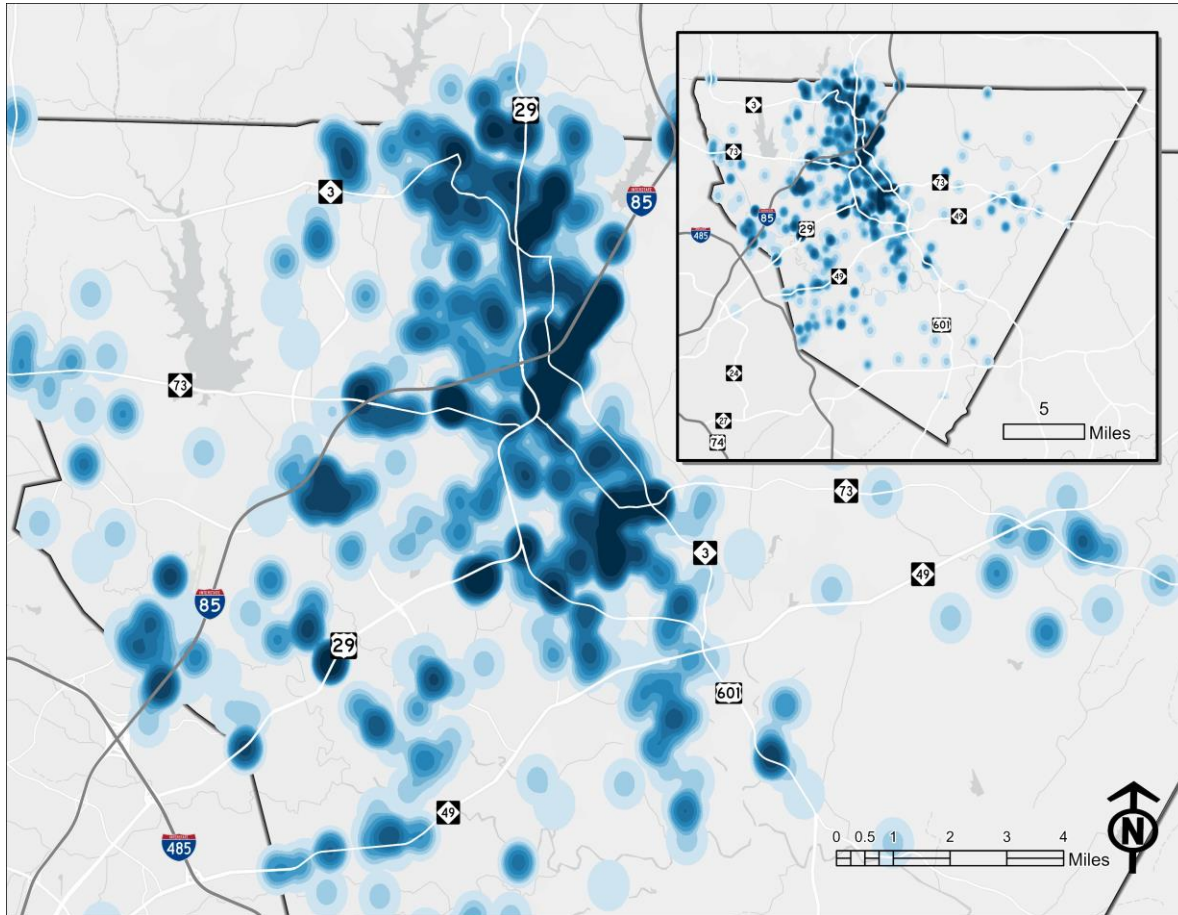
What did we learn?

# Service Area

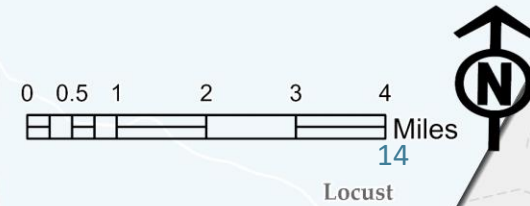
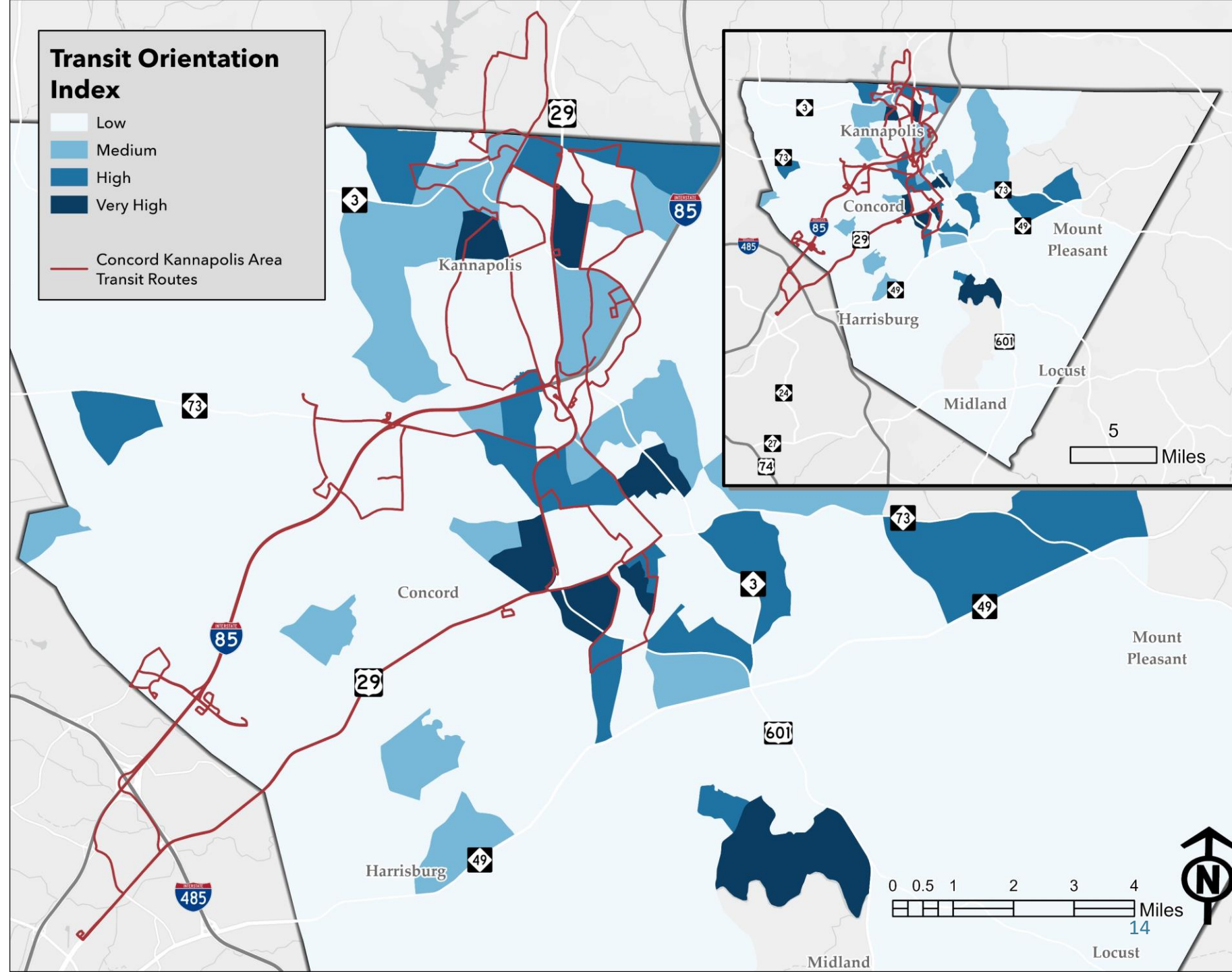
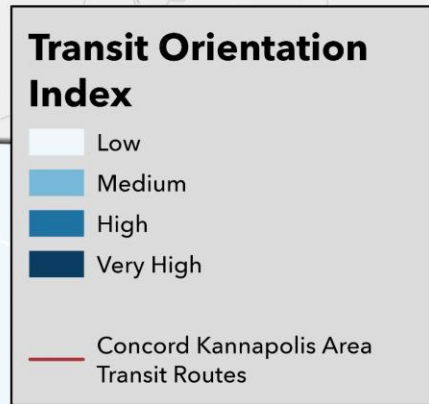
- ¼-mile buffer around fixed route bus stops
- Origin-destination for demand response & paratransit



# Trip Analysis | Demand Response & Paratransit



# Transit Orientation Index (TOI)



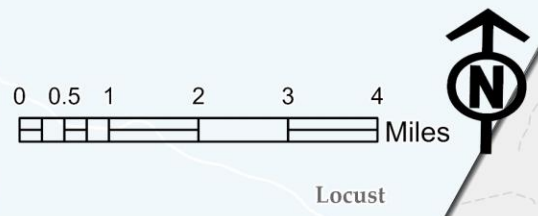
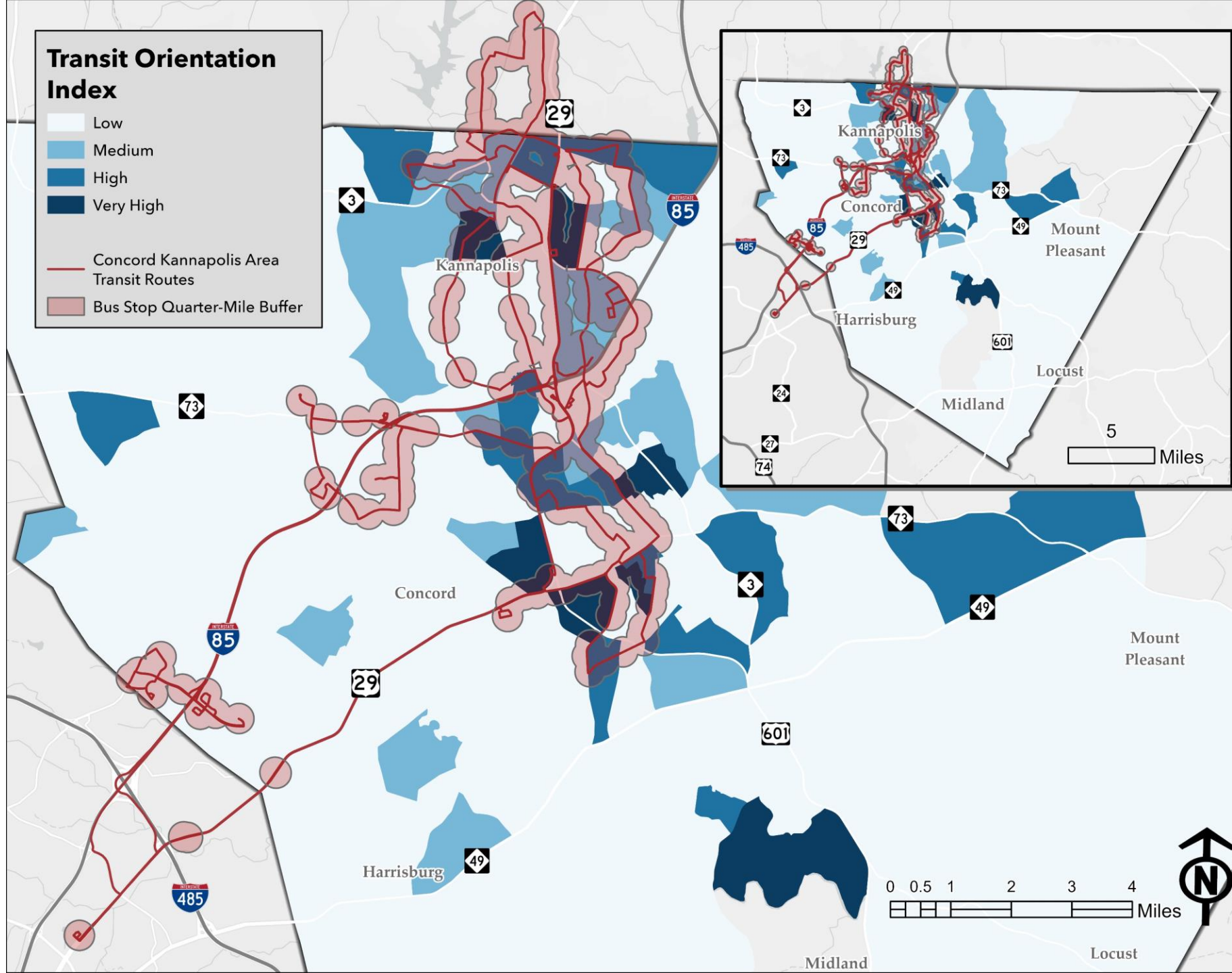
# TOI Gap Analysis

**Transit Orientation Index**

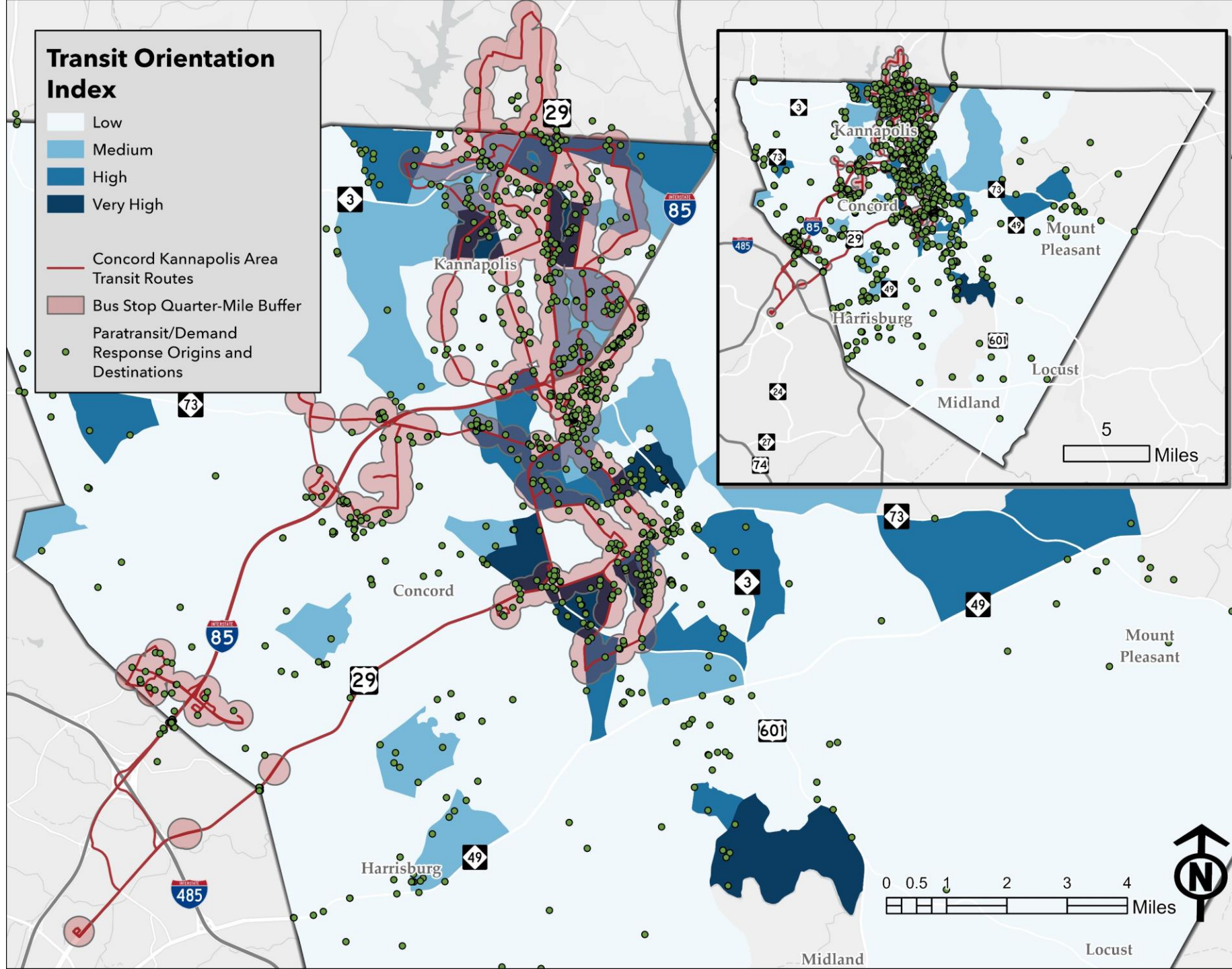
- Low
- Medium
- High
- Very High

— Concord Kannapolis Area Transit Routes

■ Bus Stop Quarter-Mile Buffer



# TOI Gap Analysis



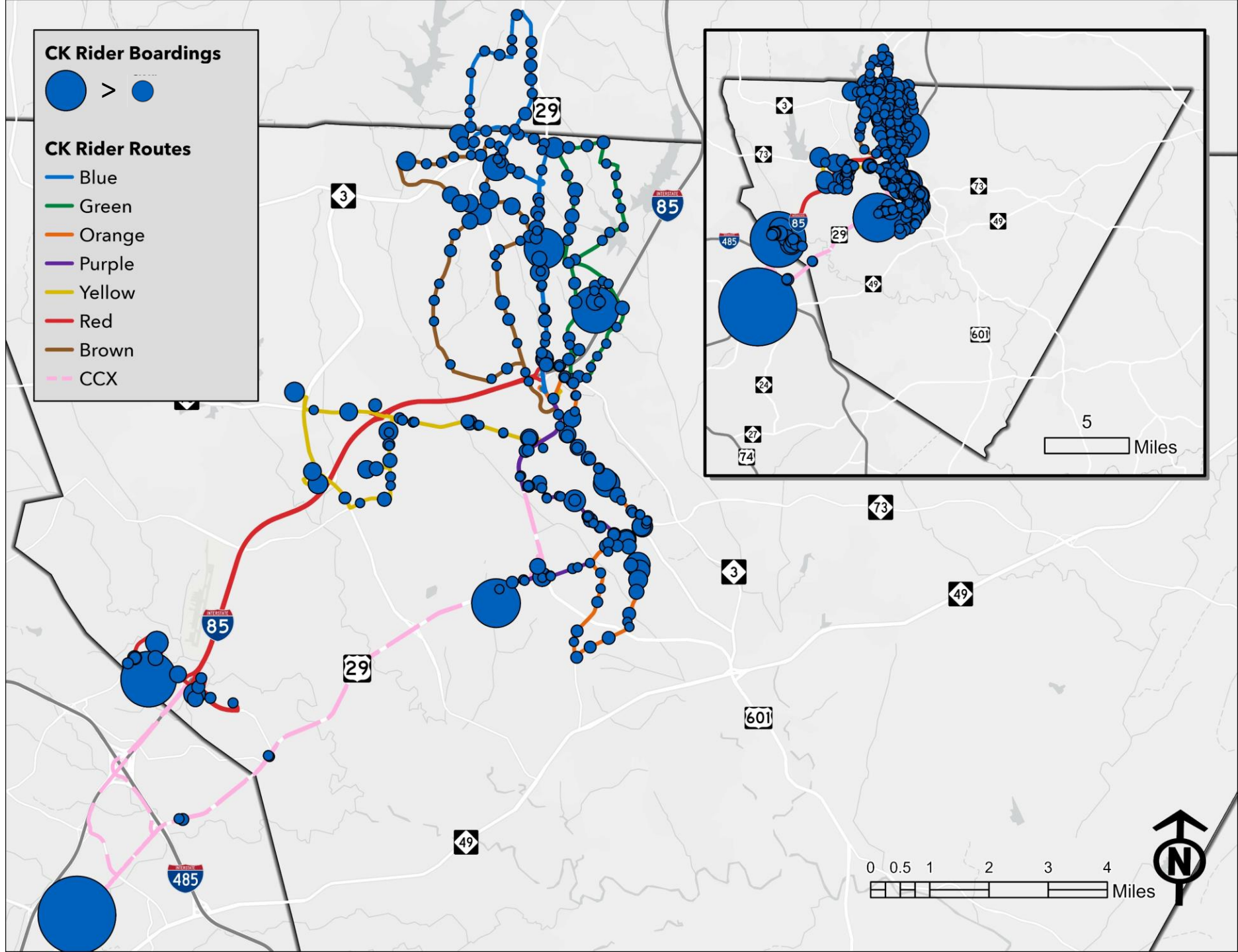
# Trip Analysis | Fixed Route Boardings

**CK Rider Boardings**

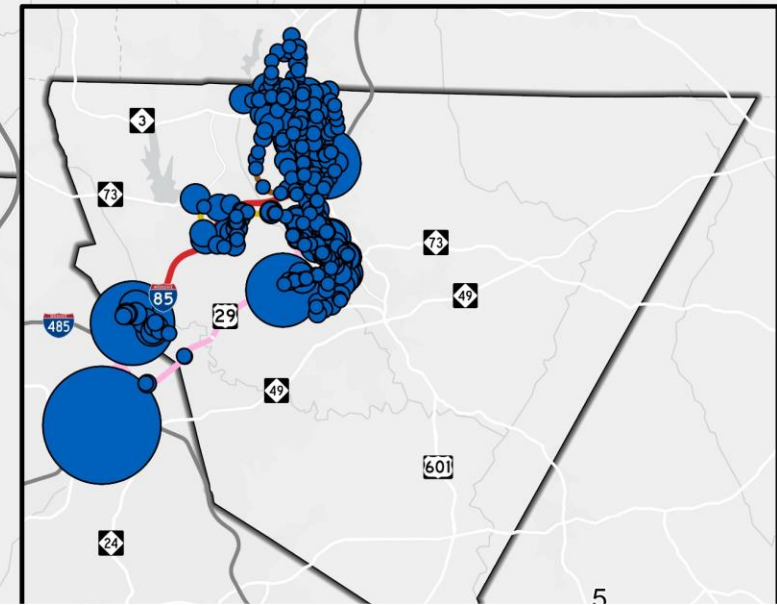
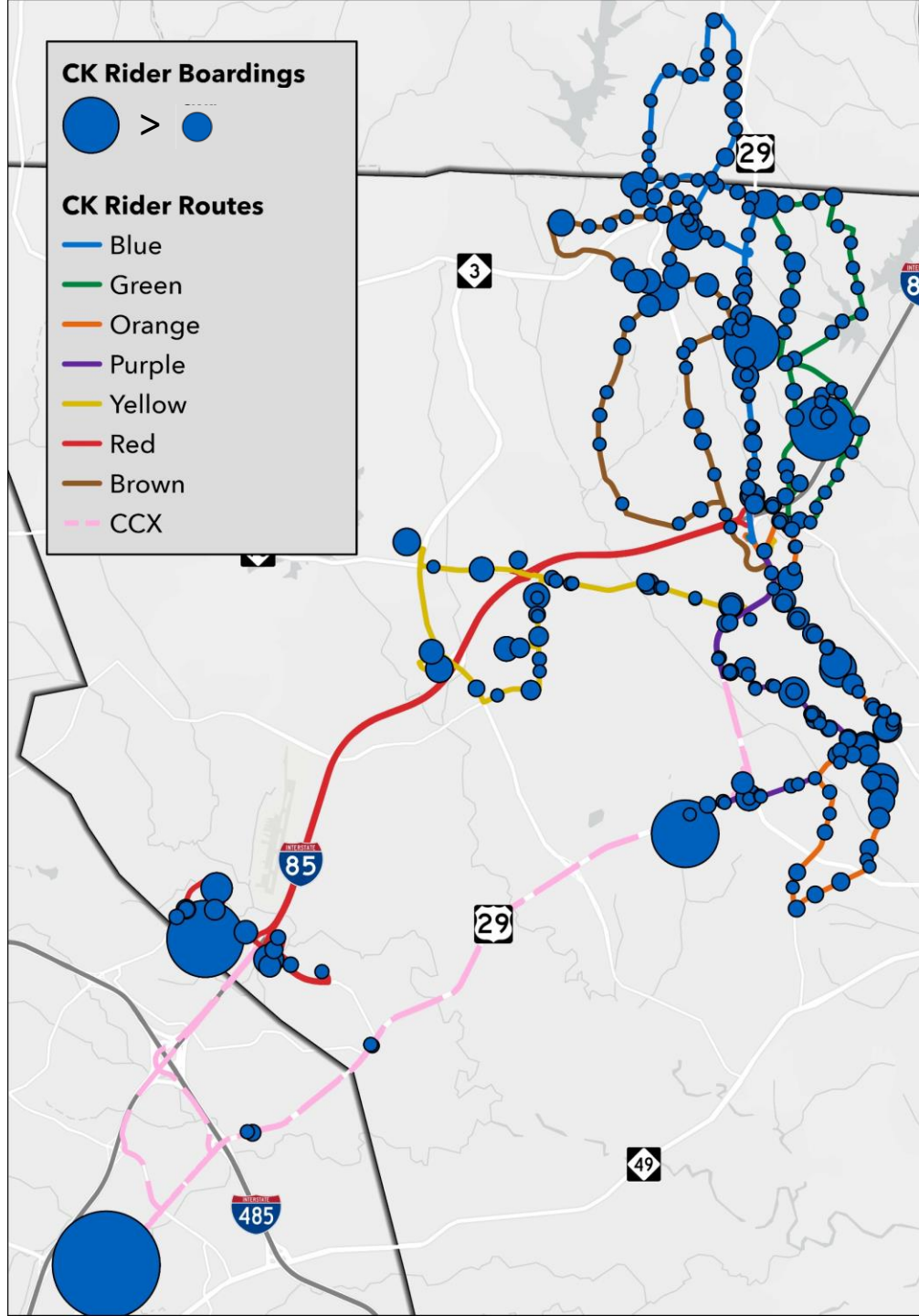
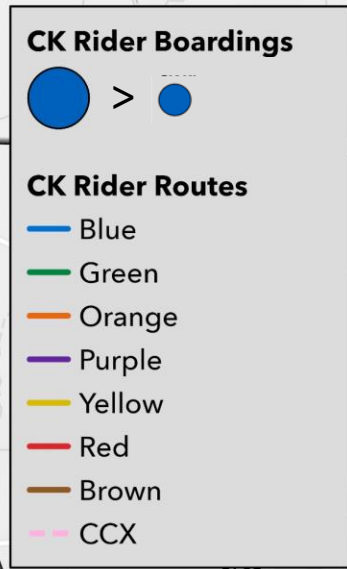
● > ●

**CK Rider Routes**

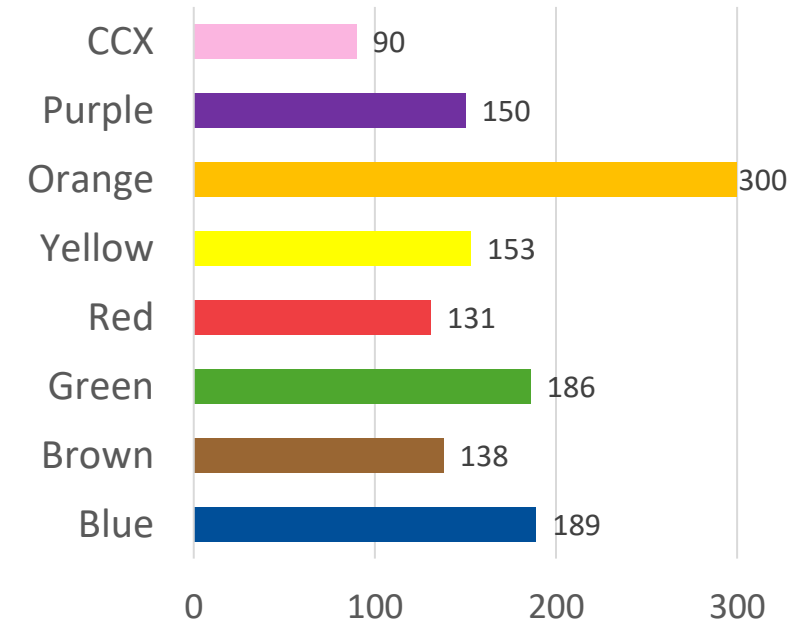
- Blue
- Green
- Orange
- Purple
- Yellow
- Red
- Brown
- CCX



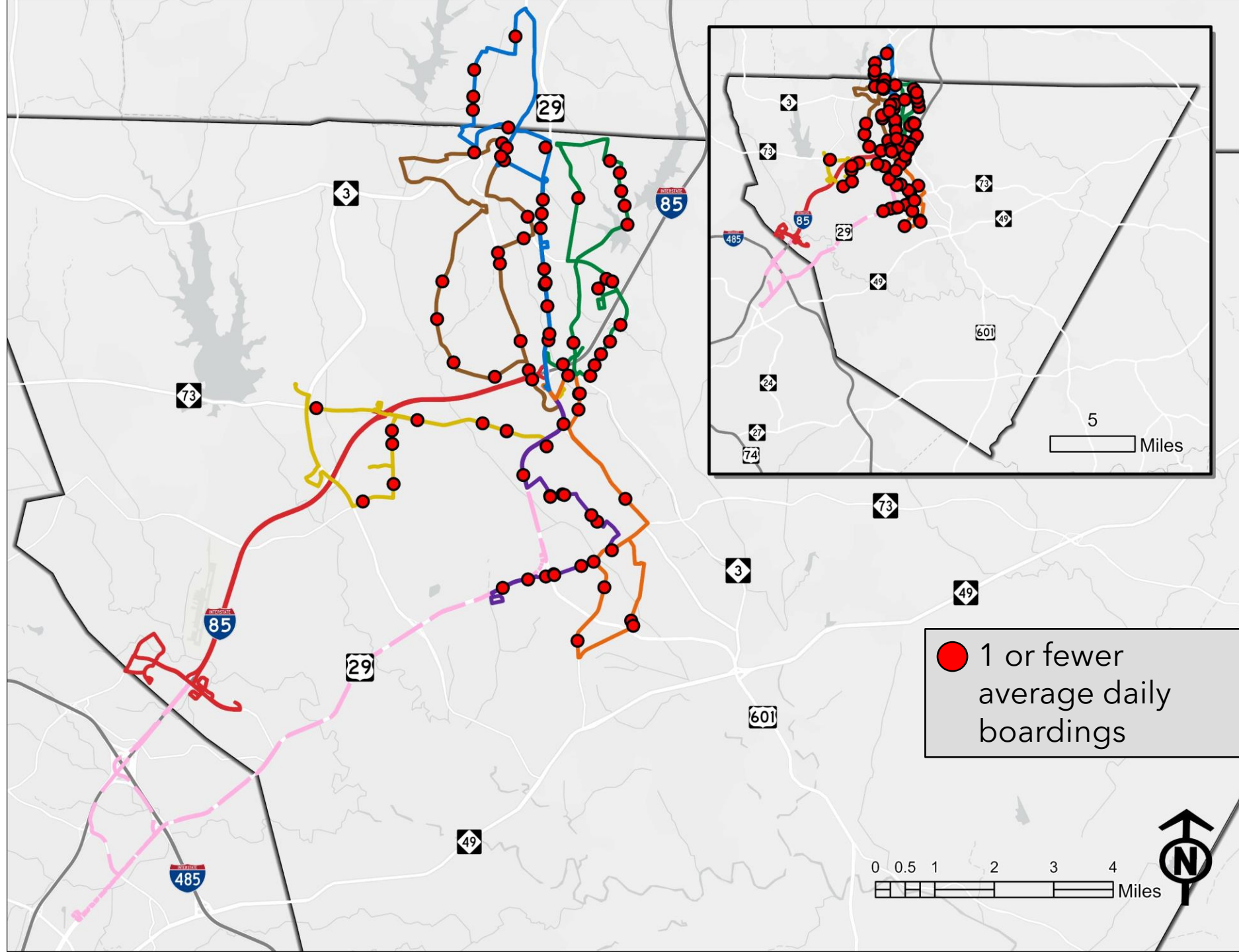
# Trip Analysis | Fixed Route Boardings



Average Daily Boardings (October 2023)



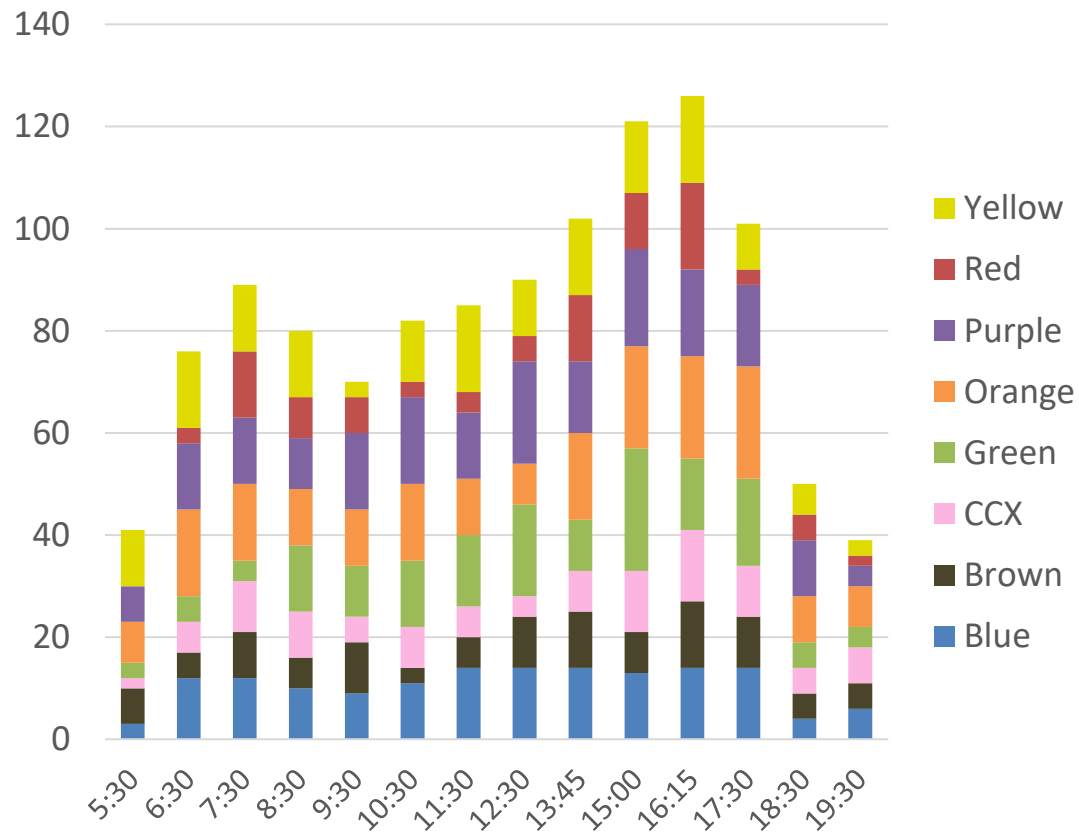
# Fixed-Route | Stops with One or Fewer Daily Boardings



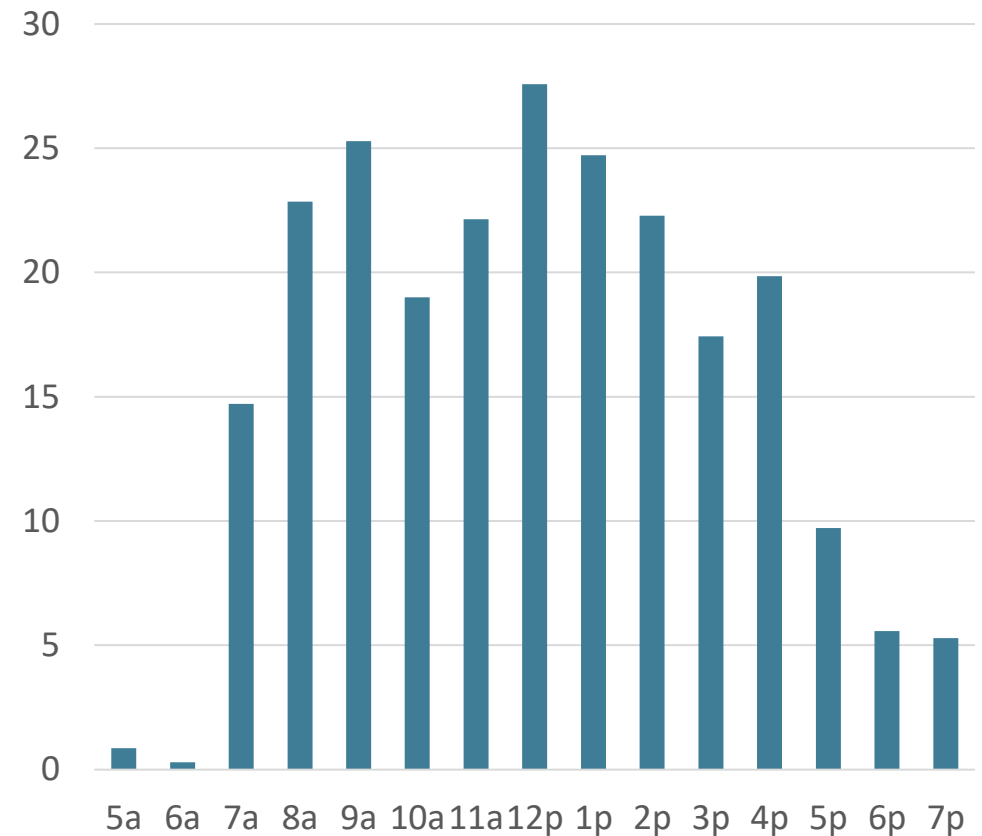
# Transit Use by Time of Day



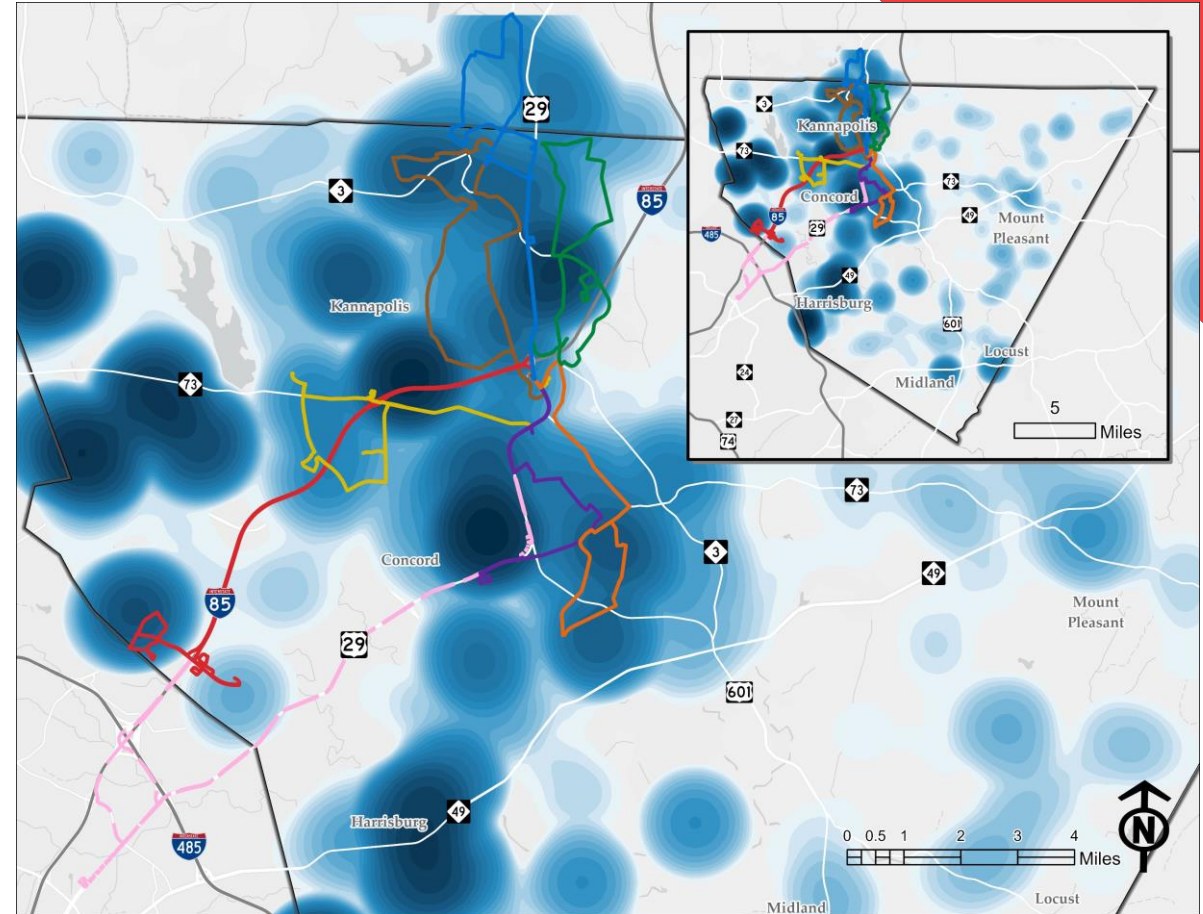
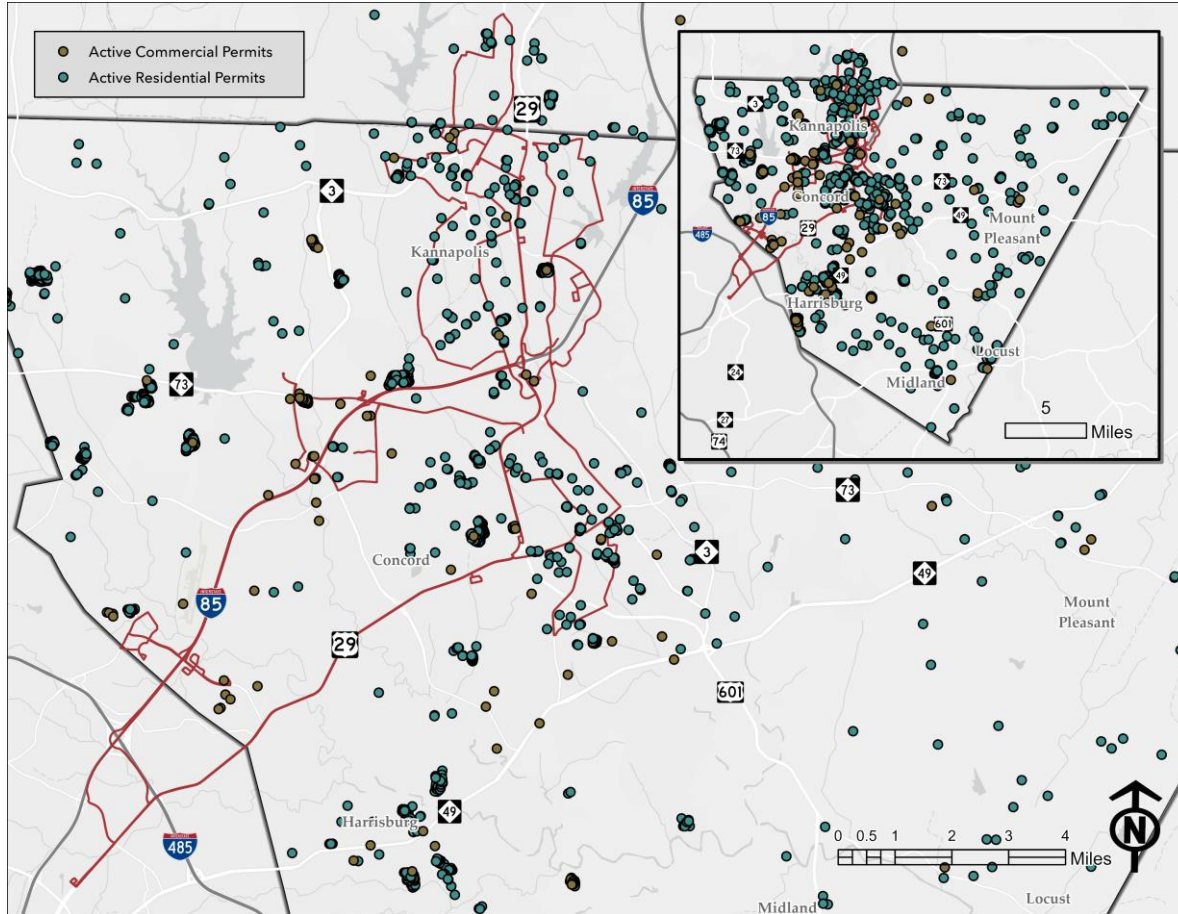
CK Rider Fixed Route Boarding



CK Rider Paratransit Boardings



# Data Analysis | Upcoming Development



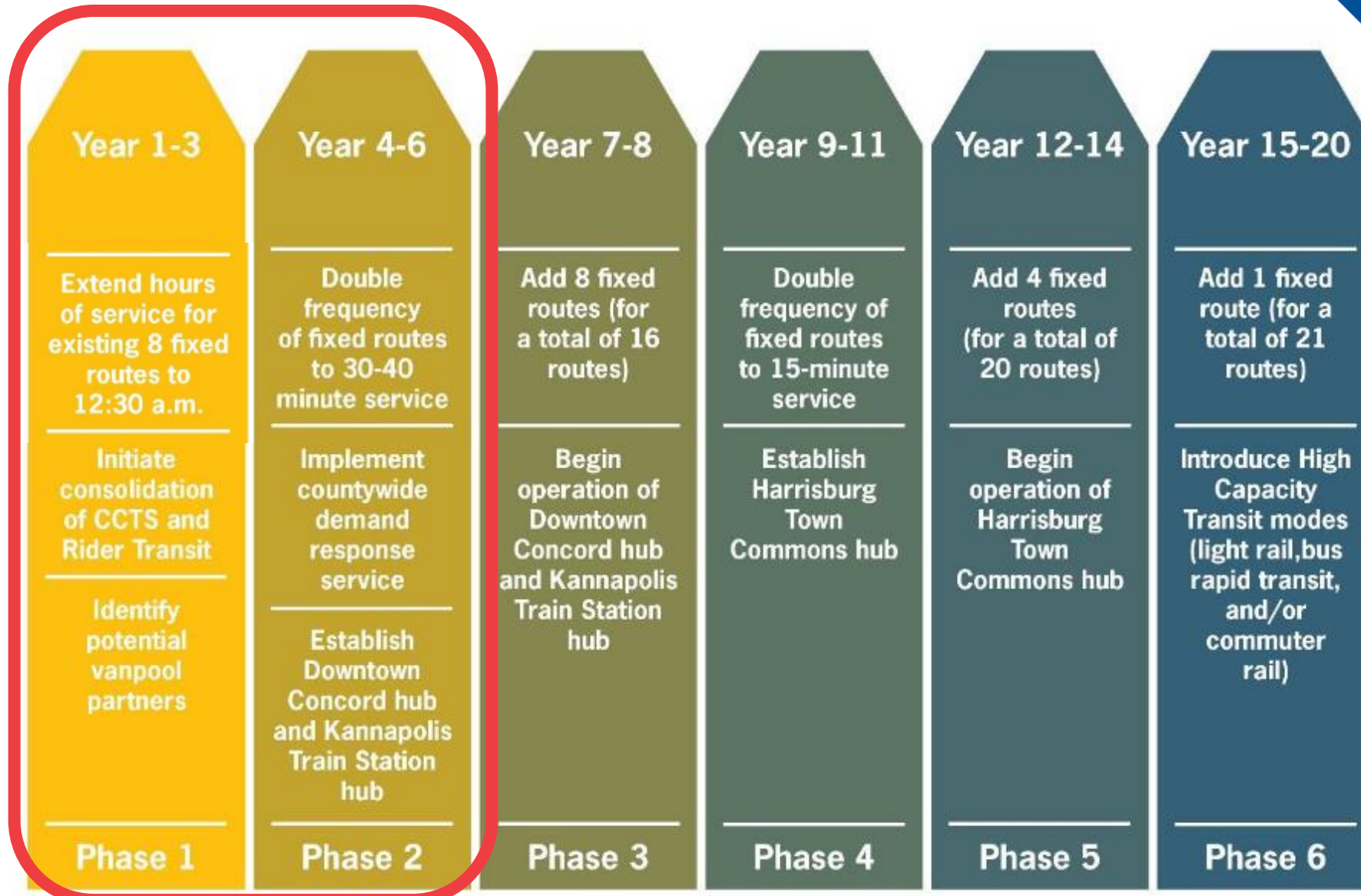


# Thoughts?

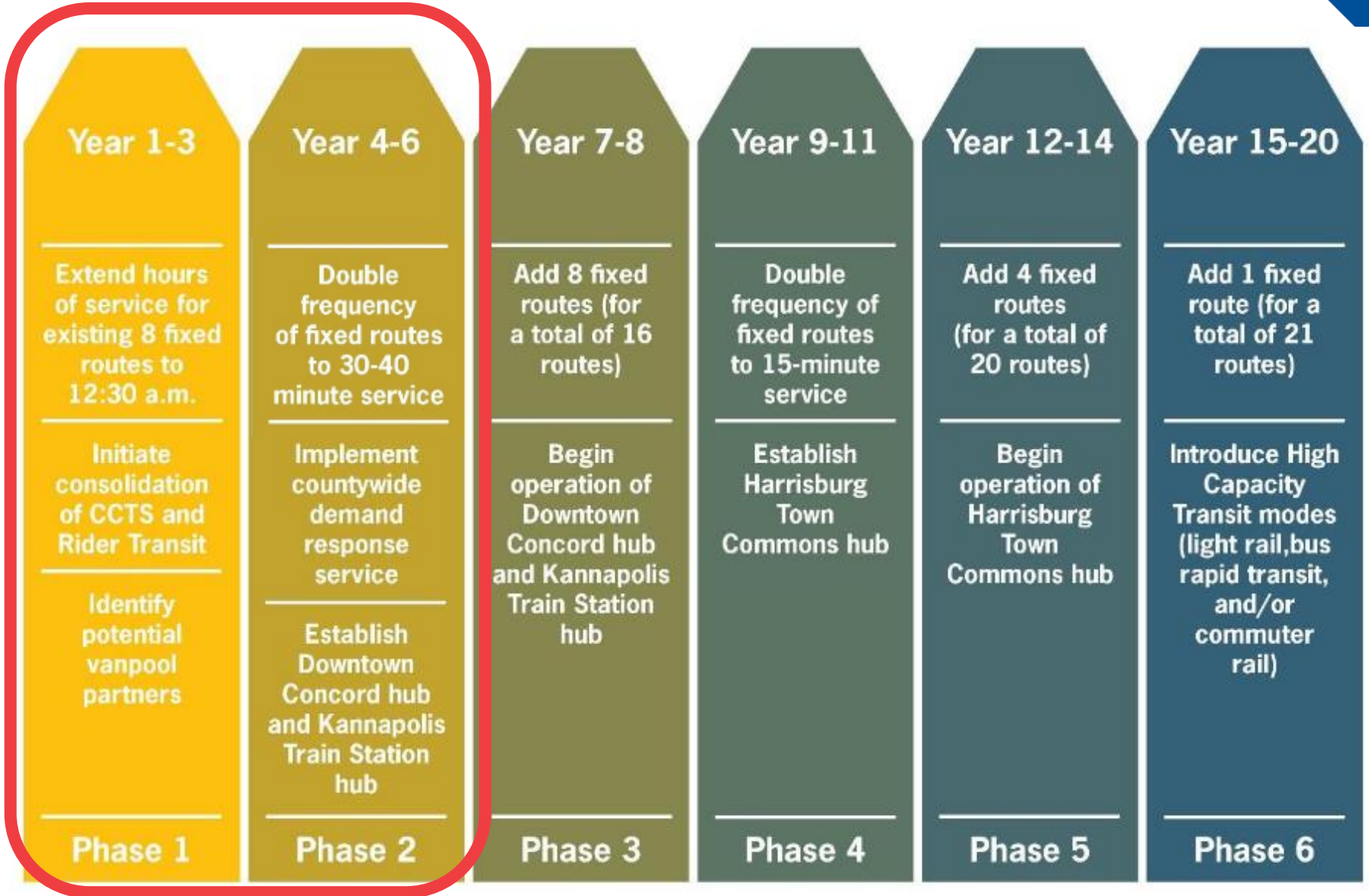


# Plan Review

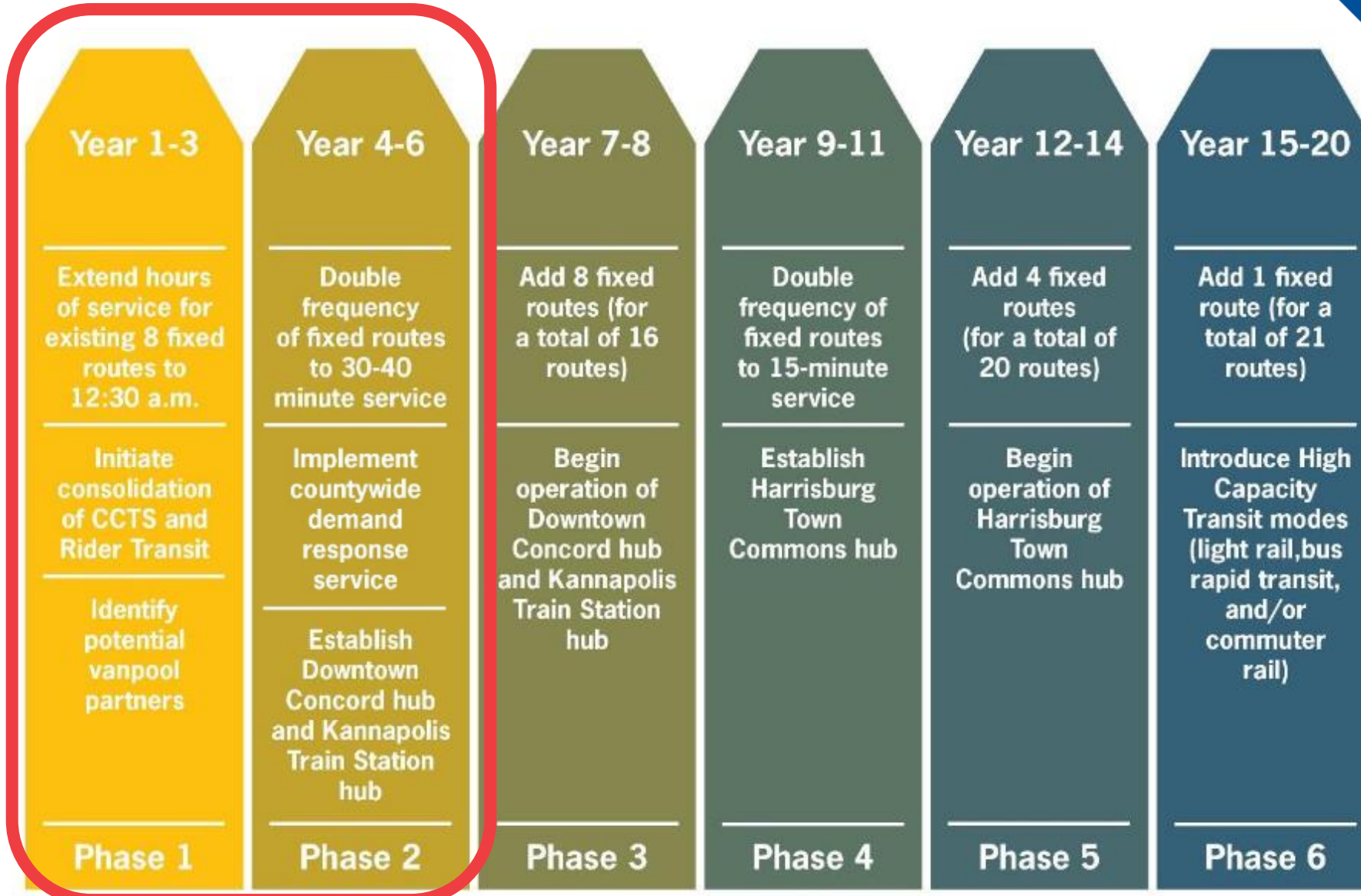
# LRPTMP 20-Year Plan



# LRPTMP 20-Year Plan



# LRPTMP 20-Year Plan





# Microtransit Service Opportunities

# Microtransit Opportunities



Add connections to fixed-route service



Replace inefficient fixed route segments



New service in low-density areas



Provides service when other modes are unavailable



Convenience beyond demand response



# Connecting to Fixed Route

- First mile/last mile connection to bus stop
  - Beyond the ¼-mile service area
  - Feeding in to fixed route service

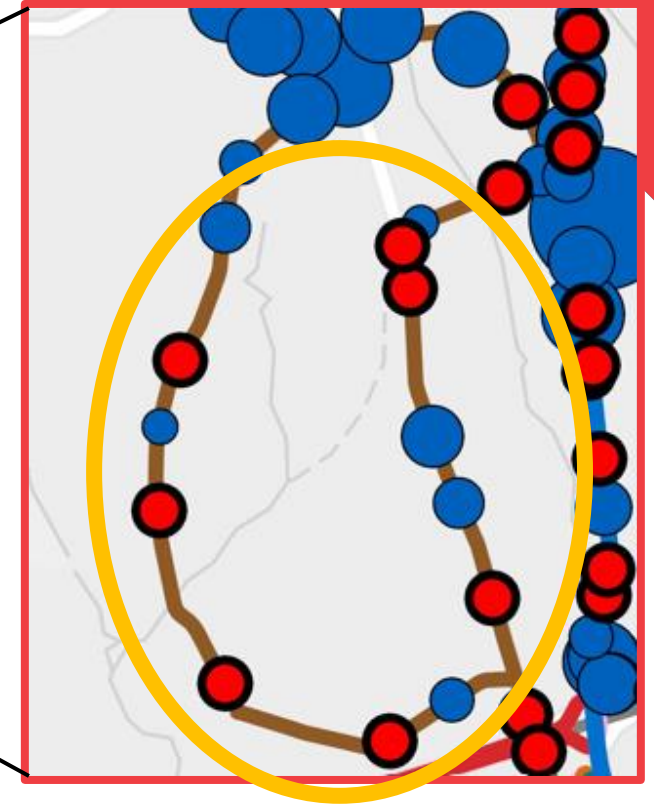
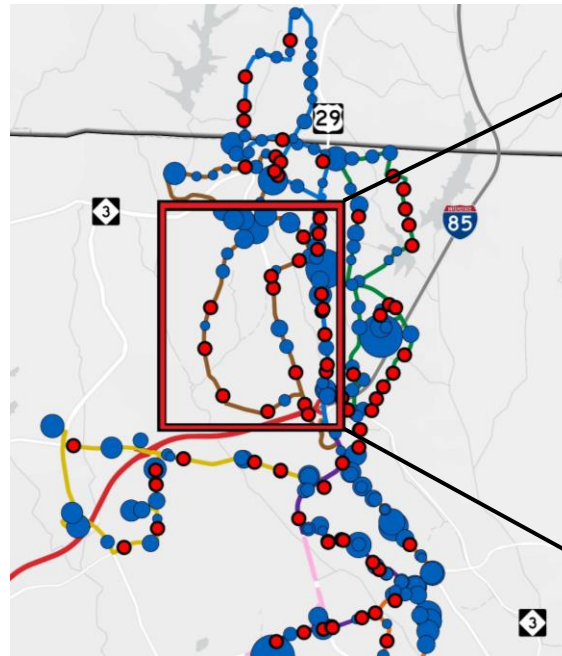




# Replacing Inefficient Fixed Route Segments



- Replacing routes or route segments that exhibit low ridership
- Southern segments of Brown Route

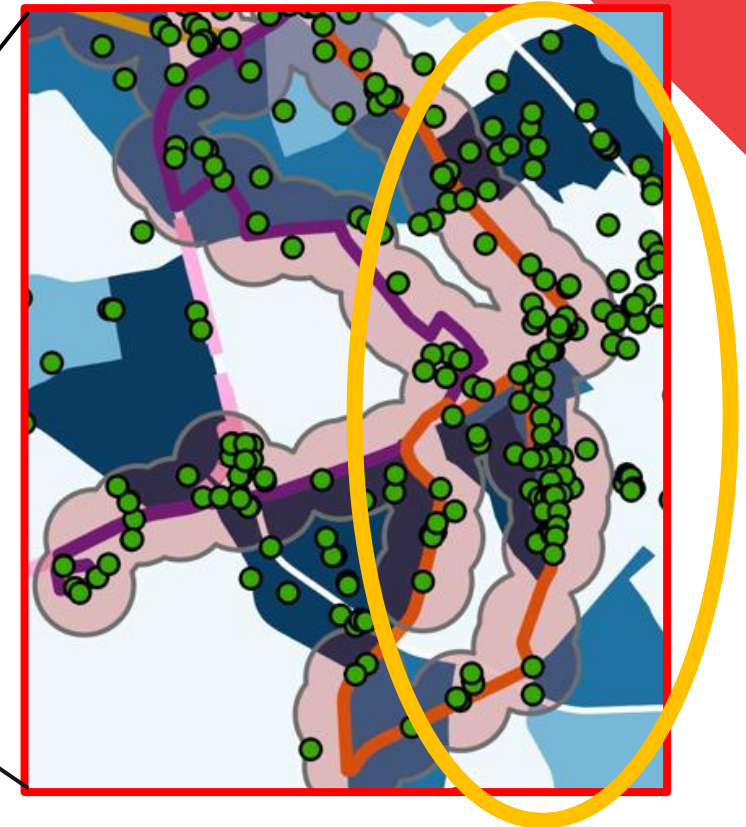
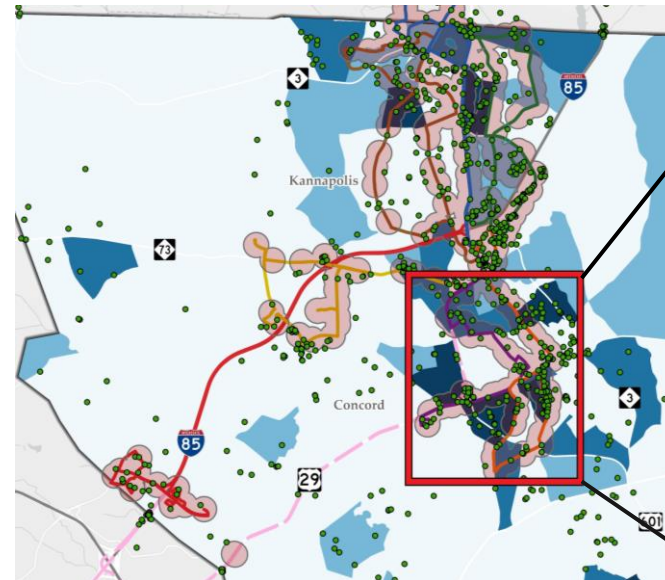




# New Service in Lower Density Areas



- Providing service to areas currently not served by transit
- Branchview Drive area
  - Area exhibits elevated numbers of demand response trips and overall transit propensity



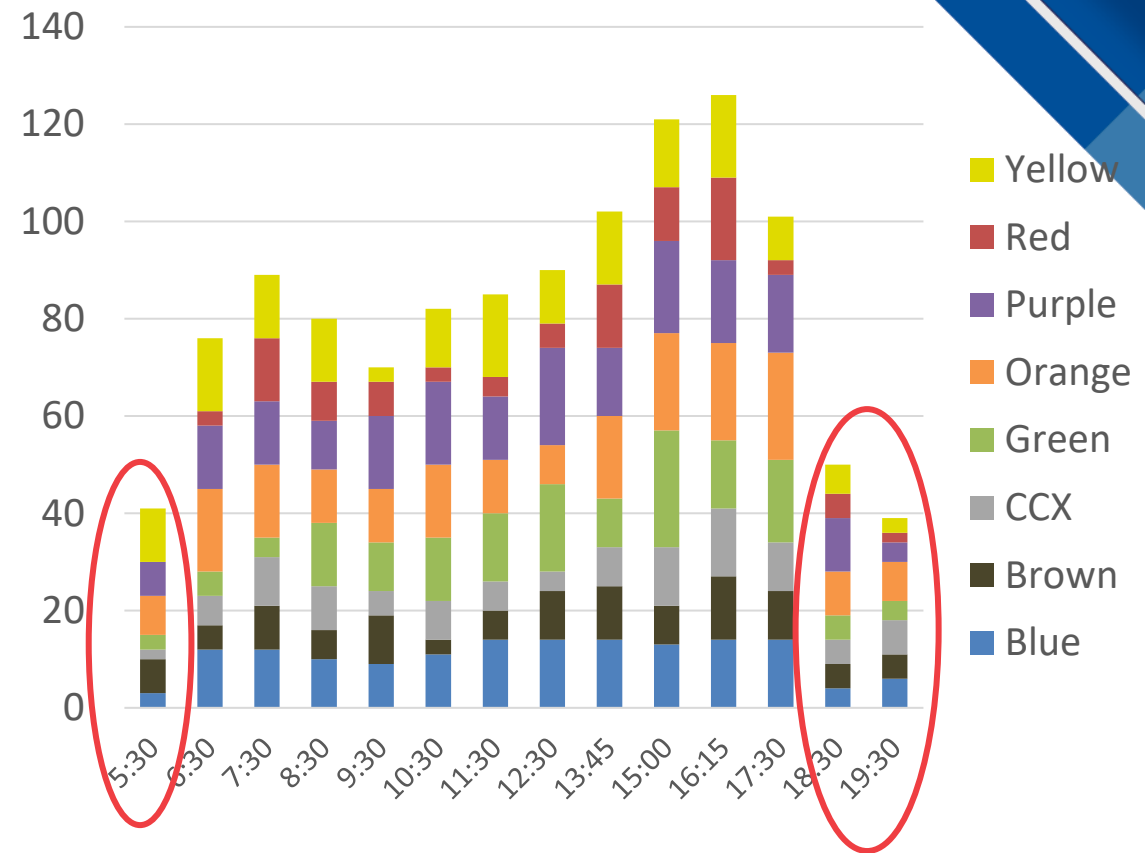


# Providing Service at Certain Times



- LRPTMP Top Request: Extended hours
- 2024 Customer Satisfaction Survey: 1/3 of respondents want extended hours of service

CK Rider Fixed Route Boarding





# Convenience Beyond Demand Response

- Microtransit serves passengers in real time
- Shifting passengers away from paratransit or demand response services where possible





# Thoughts?



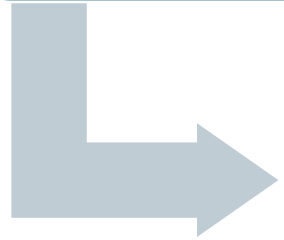
# **Alternatives Evaluation Process**

# Evaluation Process



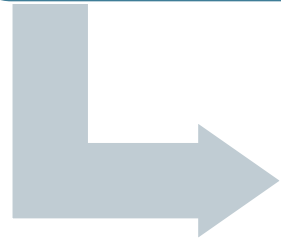
Step 1

Confirm Goals



Step 2

Establish Performance Measures



Step 3

Approve Evaluation Criteria

# PRC Project Goals Recap

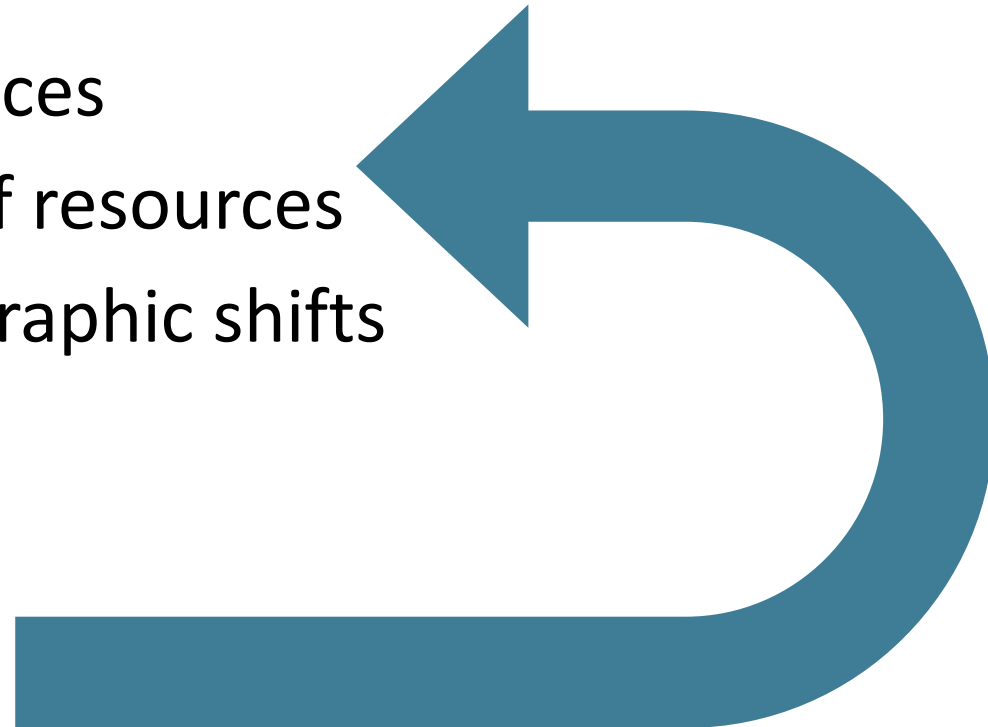


## Top Tier

- Connecting people to places
- Expanding quality of life choices
- Making more effective use of resources
- Addressing growth & demographic shifts

## Second Tier

- Driving economic growth



# Goal 1 | Connecting People to Places

## Performance Measures



Number of people served



Number of large activity centers served

# Goal 2 | Expanding Quality of Life Choices

## Performance Measures



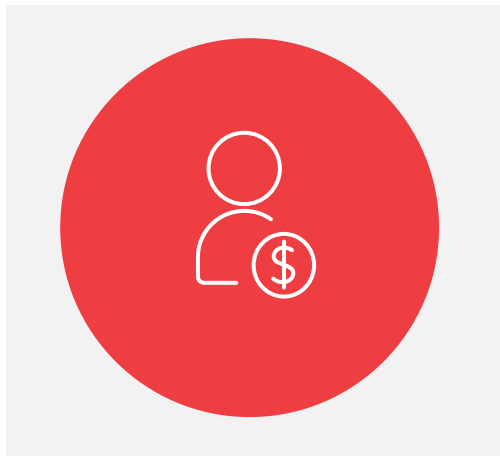
Number of people served beyond ¼-mile of fixed route



Number of people served who are older adults, youth, low-income or live in zero-car household

# Goal 3 | Making More Effective Use of Resources

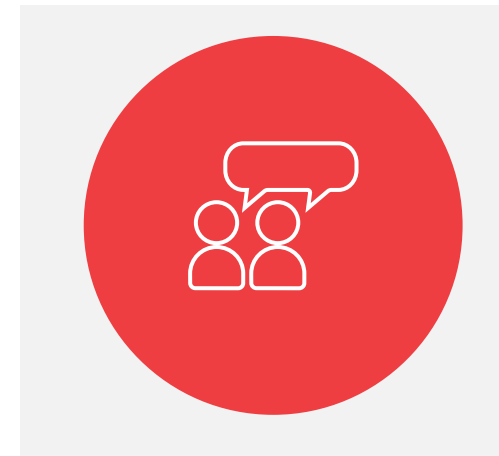
## Performance Measures



Average cost per rider



Percent of Opportunity Zones served



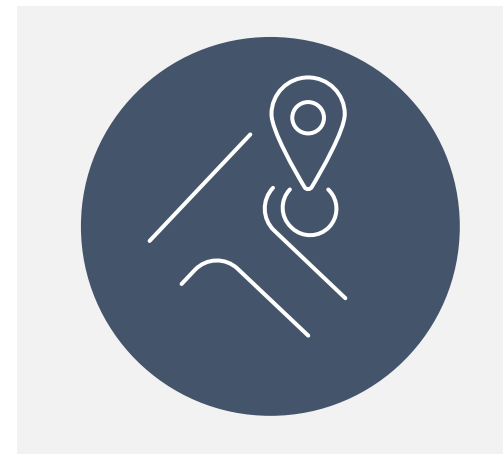
Aligns with stakeholder input

# Goal 4 | Addressing Growth & Demographic Shifts

## Performance Measures



Percent of study area  
land served



Number of permit pulls

# Goal 5 | Driving Economic Growth

## Performance Measures



Percent of employees served



Hours of service per week

# Performance Measures



1

Number of people served



2

Number of large activity centers served



3

Number of people served beyond ¼-mile of fixed route



4

Number of transit-oriented people served



5

Average cost per rider



6

Percent of Opportunity Zones served



7

Aligns with stakeholder input



8

Percent of study area land served



9

Number of permit pulls



10















Percent of employees served



11

Hours of service per week

# Alternatives Evaluation

	1. Connecting People to Places		2. Expanding Quality of Life Choices		3. Making More Effective Use of Resources			4. Addressing Growth & Demographic Shifts		5. Driving Economic Growth	
											
Alt #1											
Alt #2											
Alt #3											
Alt #4											

 High
  Medium
  Low

# Next Steps & Homework

- Next PRC Meeting
  - Tuesday, August 6 or 13, 3 pm – 5 pm



# Thank You

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# Cabarrus County Microtransit Feasibility Study

Preliminary Microtransit Service Concepts

August 6, 2024



# Agenda



Service  
Concepts  
Development  
Process

Comparison of  
Existing and  
Conceptual  
Services

Operational &  
Financial  
Impacts

Additional  
Considerations

# Feasibility Steps



**1A** Analyze Data



**1B**  
Conduct  
Stakeholder  
Engagement



**02**  
Set Goals & Performance  
Measures



**03** Define Concepts



Evaluate Concepts **04**



**05**  
Finalize Recommendations  
& Implementation Plan





# Service Concepts Development Process

# Microtransit Service Opportunities



Add connections to fixed route service



Replace inefficient fixed route segments



New service in low-density areas



Provides service when other modes are unavailable



Convenience beyond demand response

# Identification of Service Concepts



Three microtransit zones feeding fixed route service



Eliminate large loops in Kannapolis routes, eliminate underutilized stops, improve efficiency of alignments



New service in Harrisburg, Liles/Kannapolis Pkwy, Poplar Tent Rd, Hwy 49, Coleman Blvd, Branchview

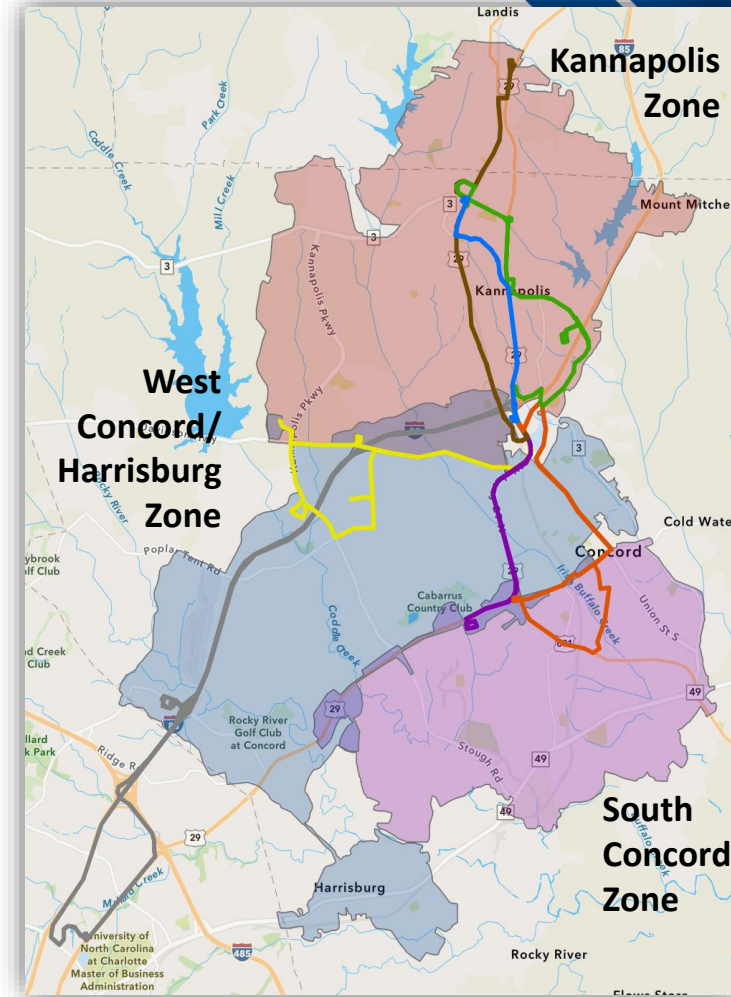
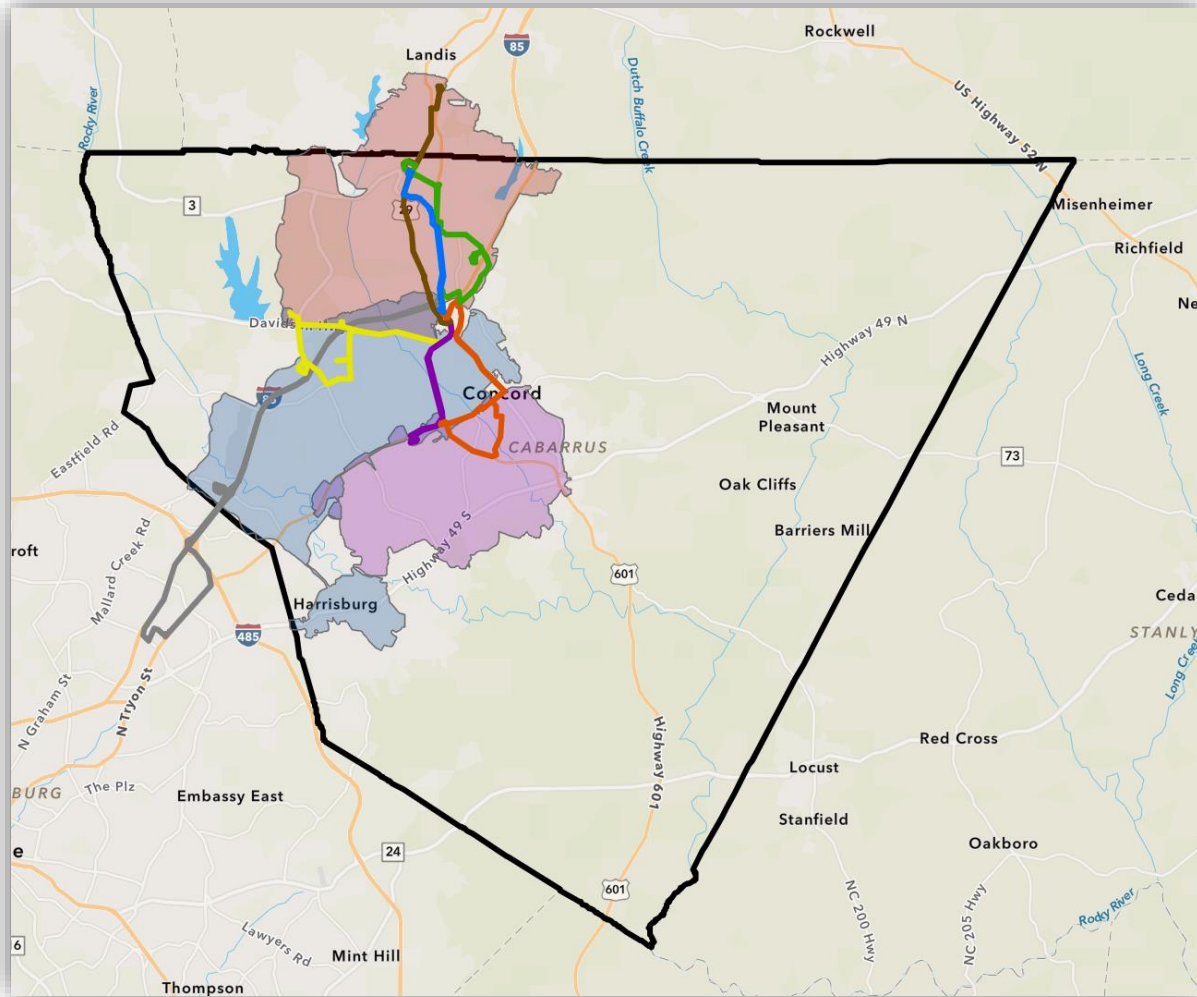


Microtransit service at night after fixed routes stop service

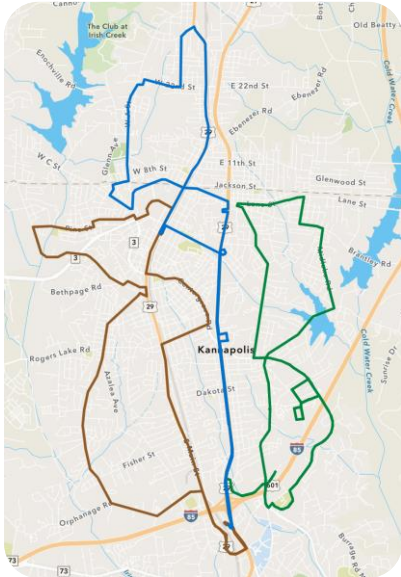


Convenience beyond demand response

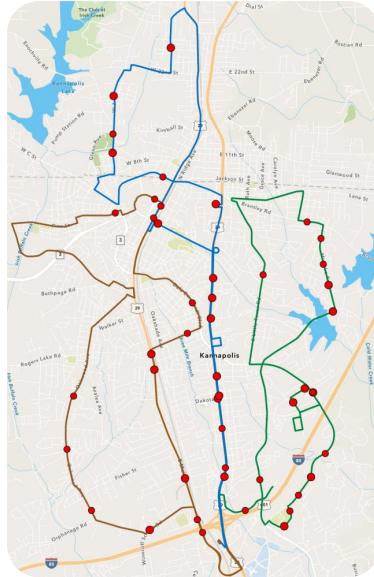
# Microtransit System Concept



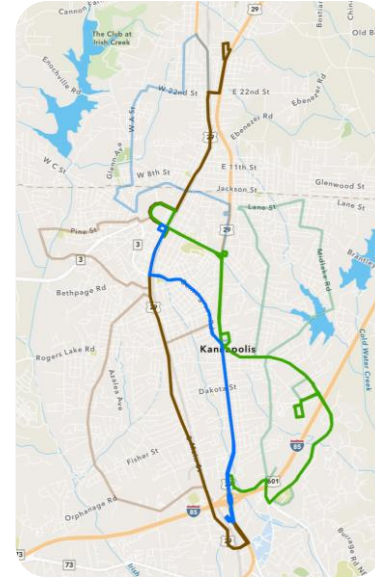
# Kannapolis Zone



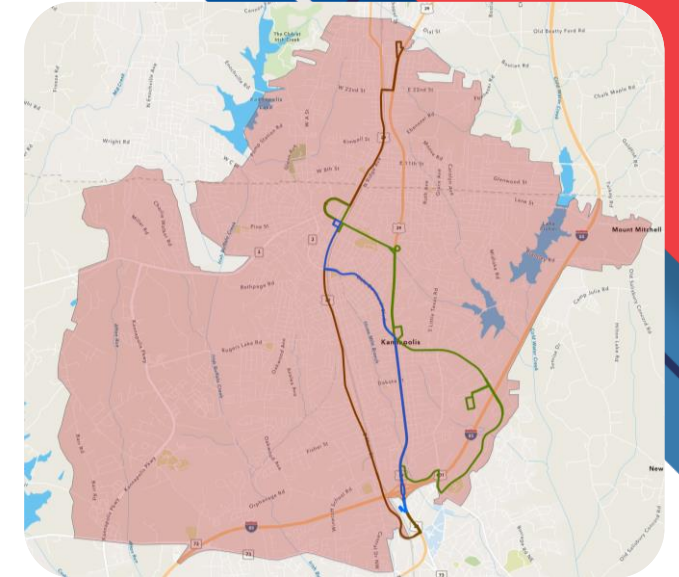
1. Examine existing conditions



2. Identify inefficient segments

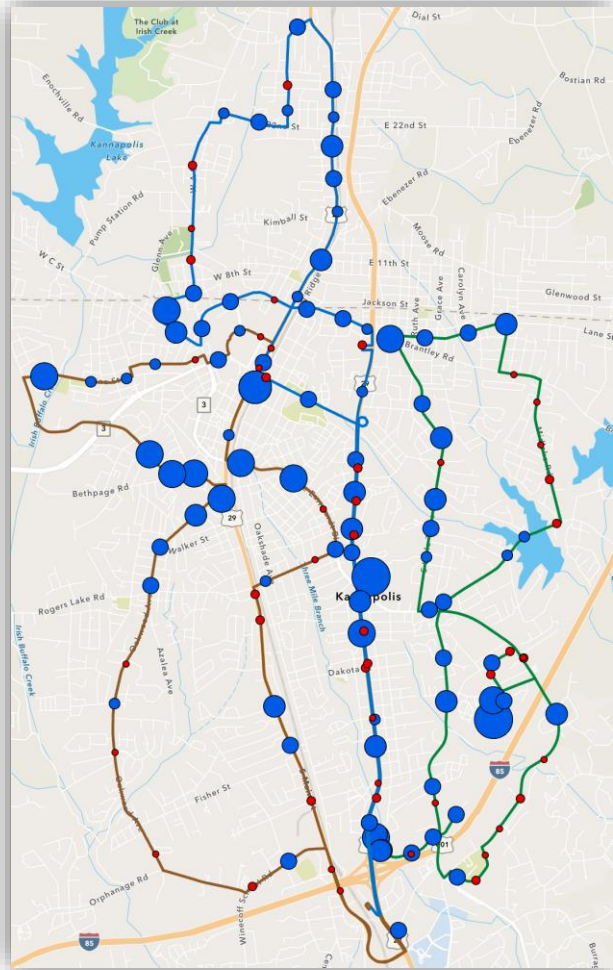


3. Enhance fixed route service

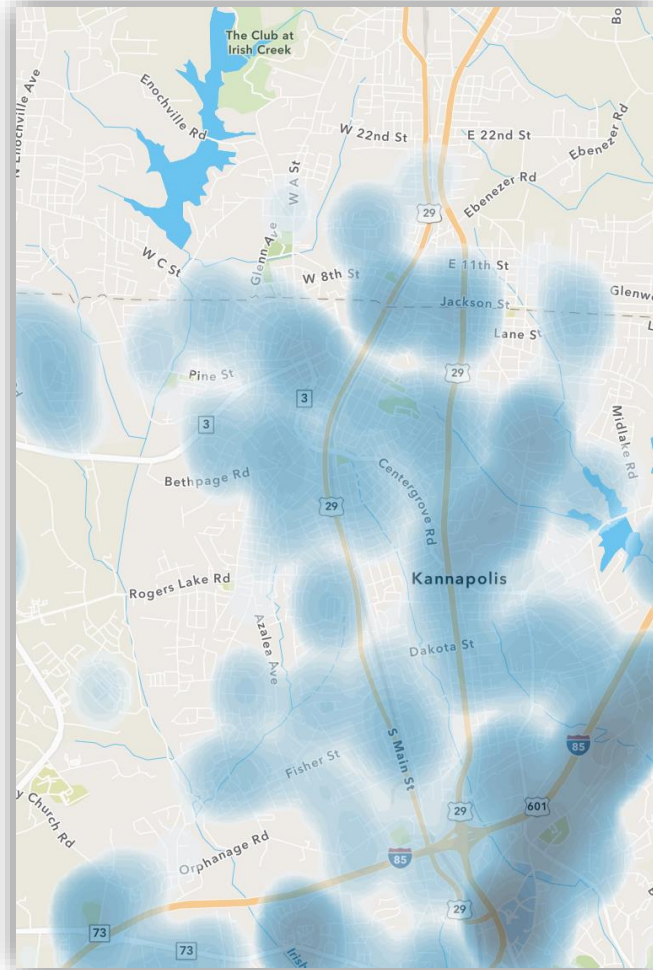


4. Define microtransit zone for unserved areas and fixed route connections

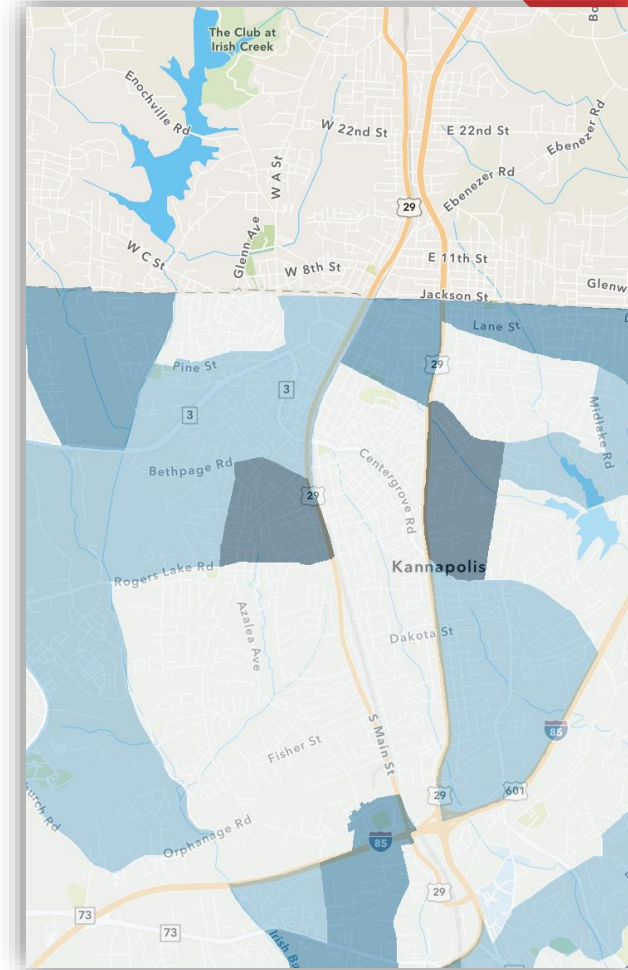
# 1. Examine Existing Conditions



Fixed Route Ridership

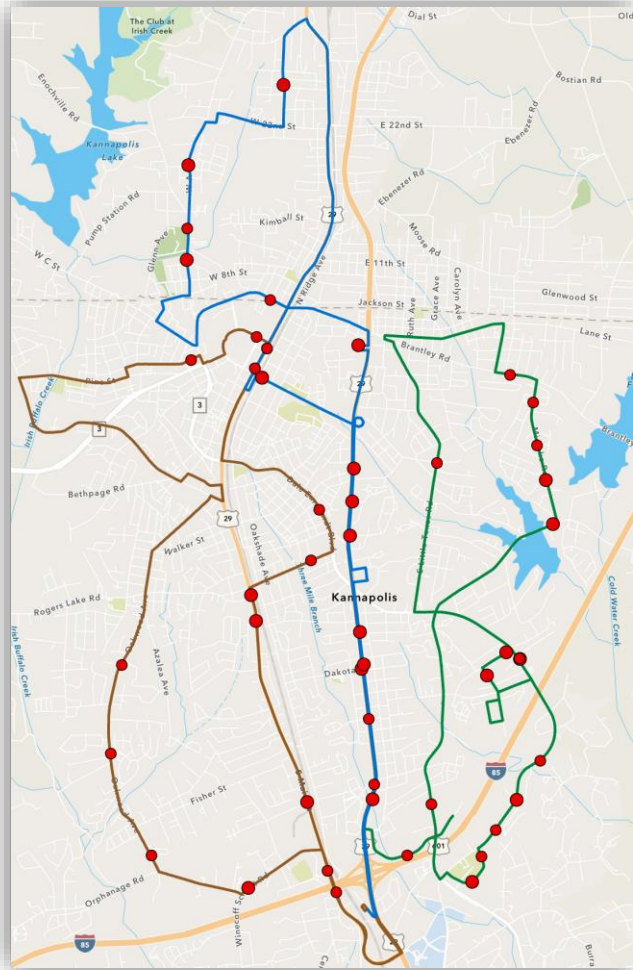


DR/Para Origins and Destinations



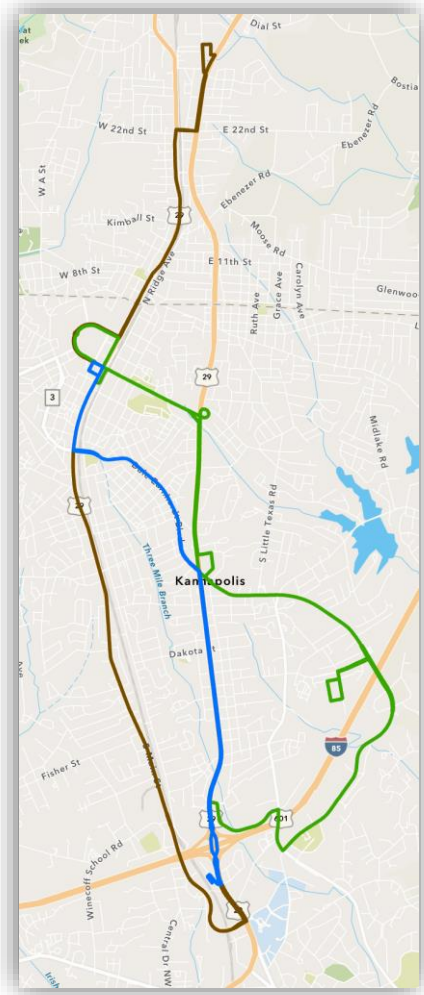
Transit Orientation Index

# 2. Identify Inefficient Segments



Bus stops with fewer than two average daily boardings

# 3. Enhance Fixed Route Service

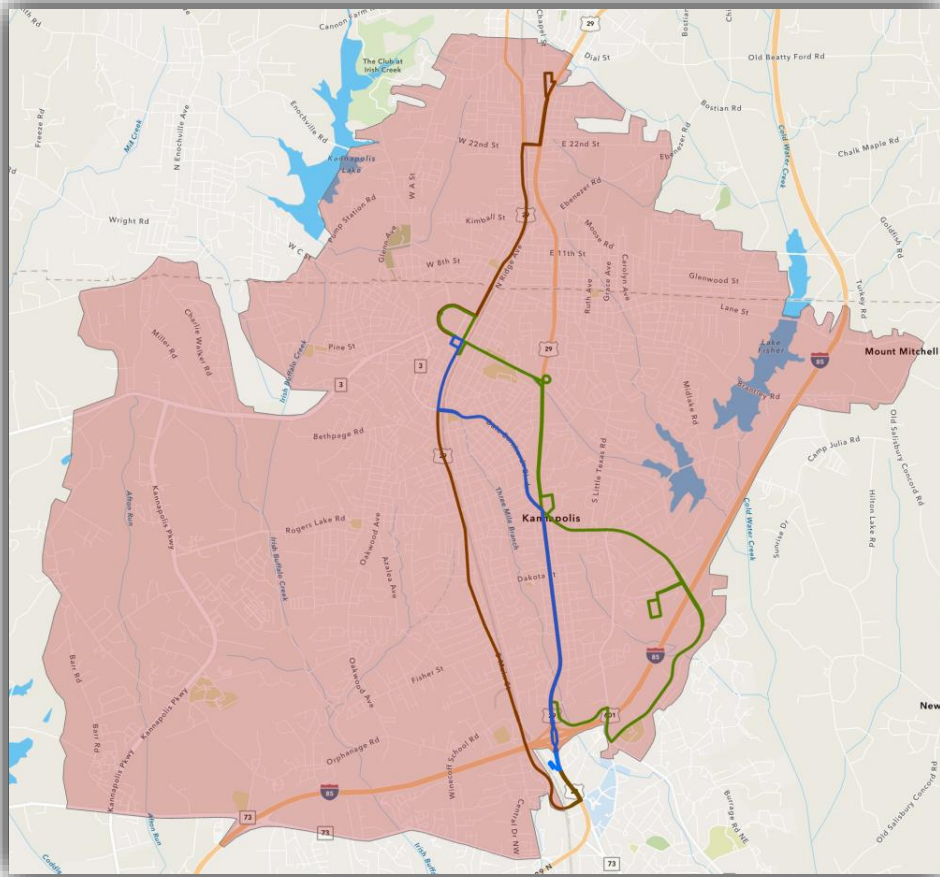


## Streamlined alignments

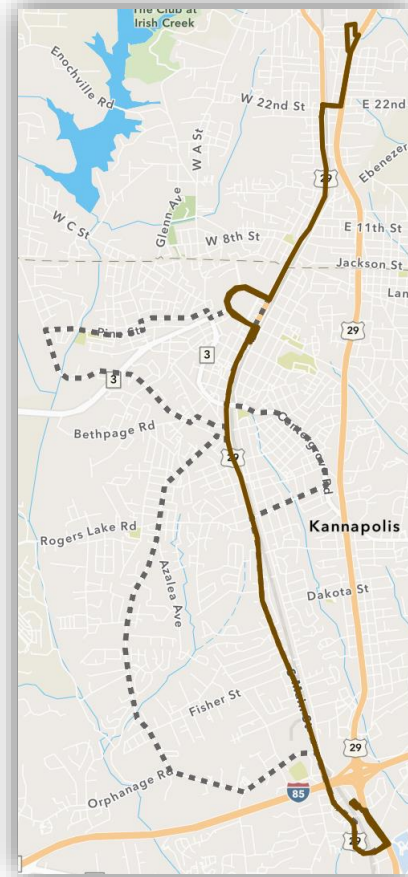
- More direct and efficient
- Serves main corridors
- Funnel Kannapolis microtransit trips to and from Rider Transit Center, Downtown Kannapolis, and other major activity centers

# 4. Define Microtransit Service Zone (Kannapolis)

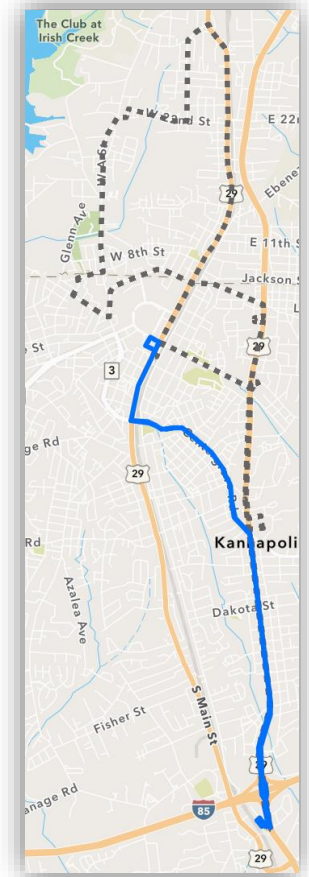
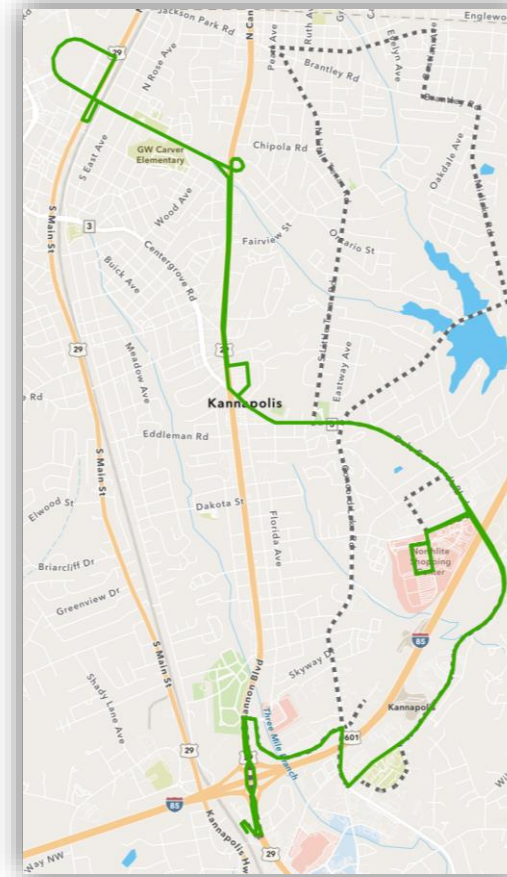
Brown



Green

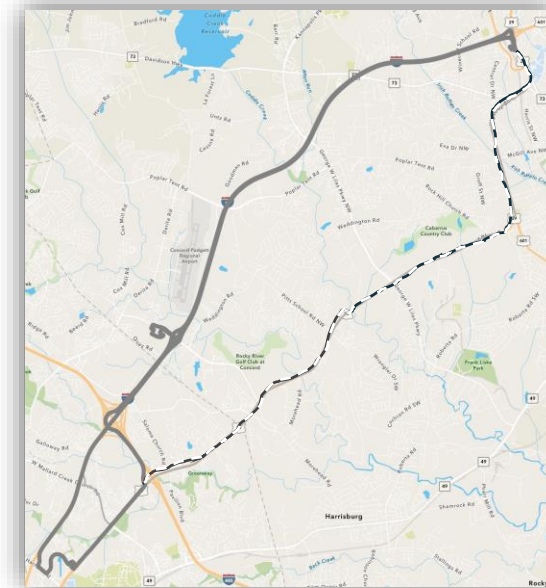
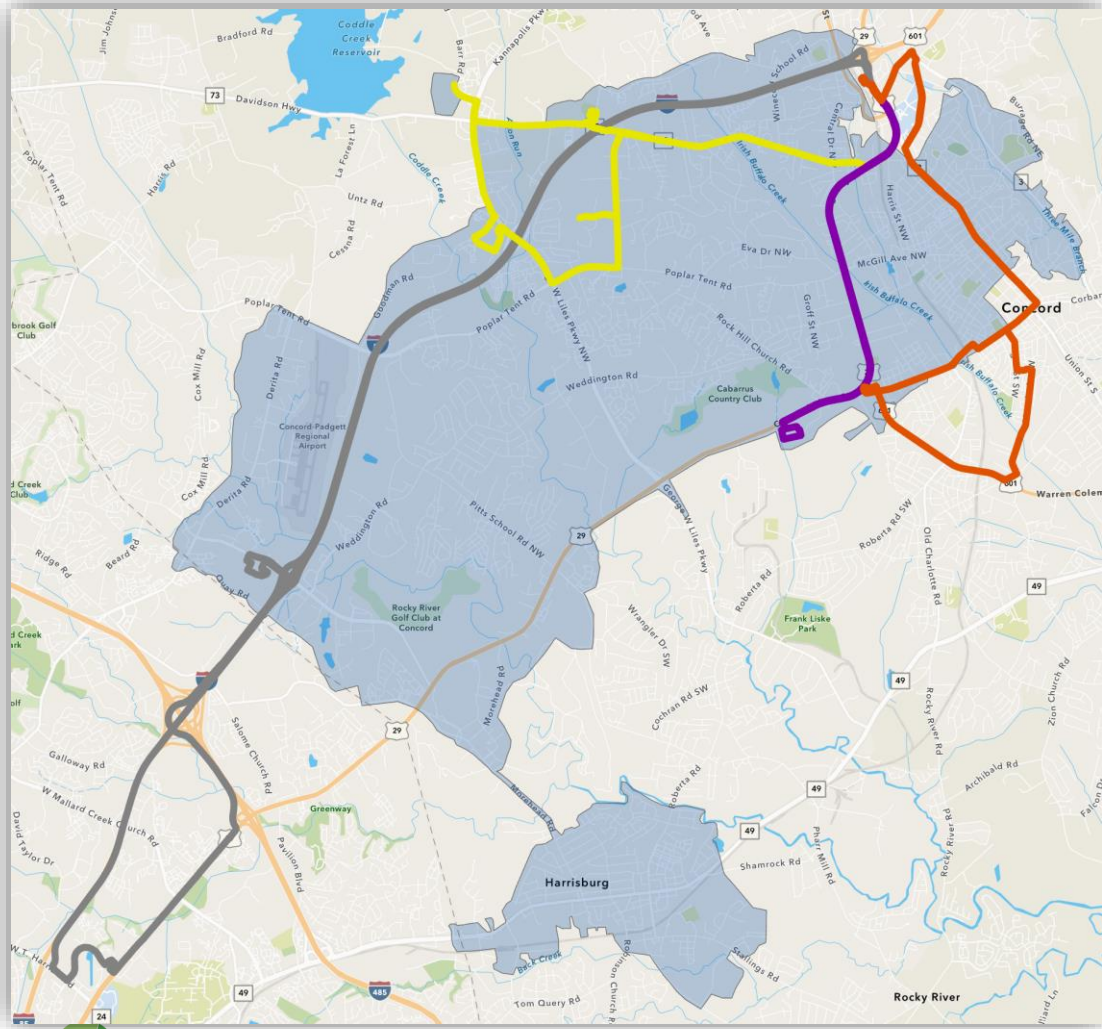


Blue

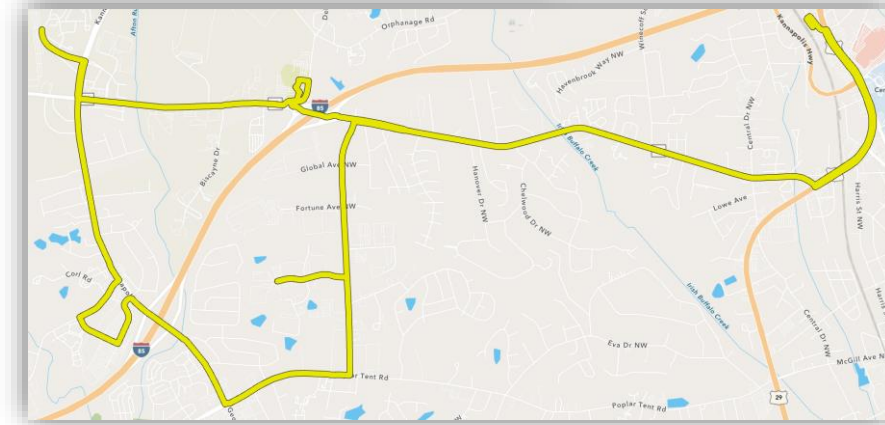


**\*30-min  
headways**

# West Concord & Harrisburg



CCX



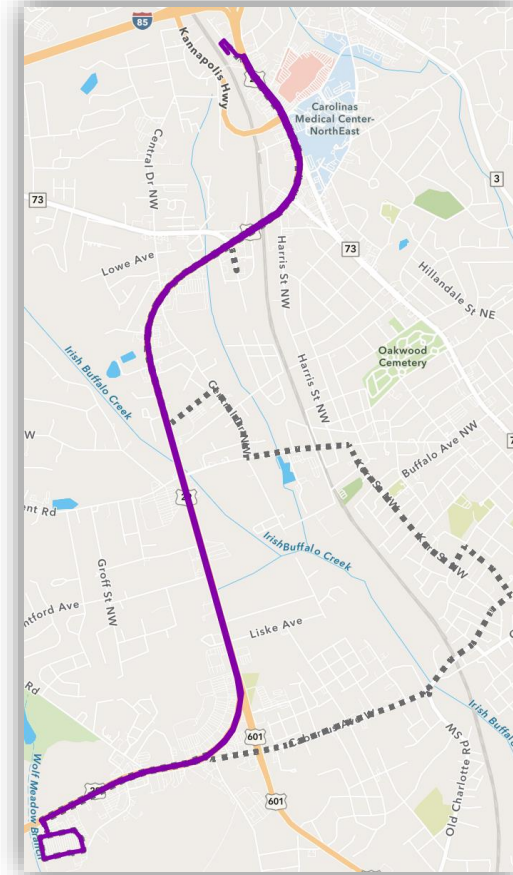
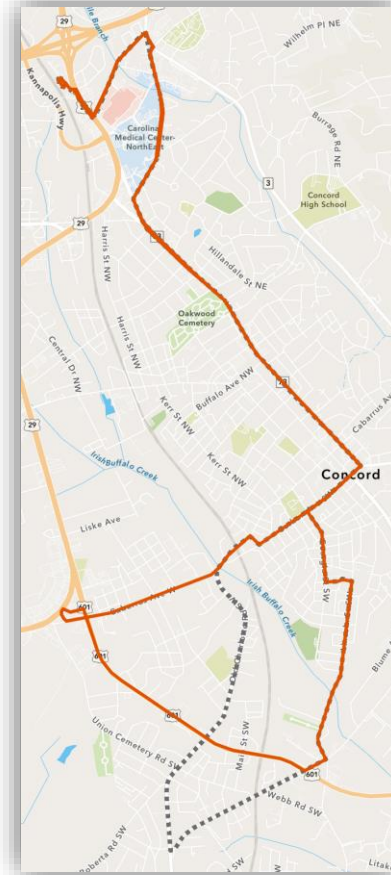
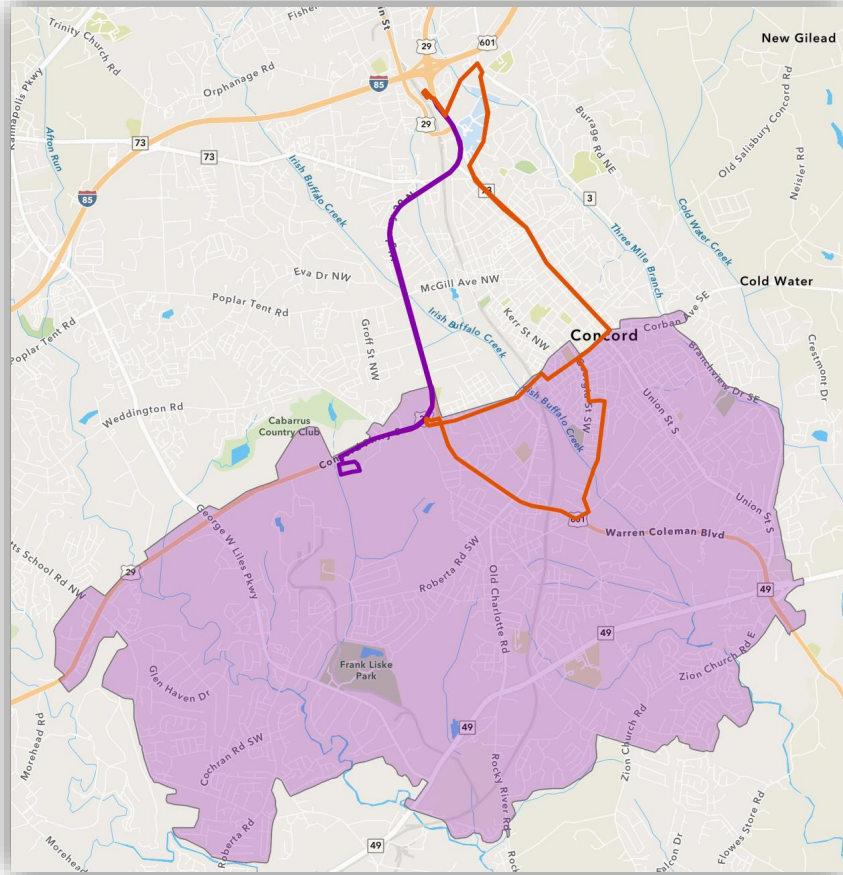
Yellow

# South Concord



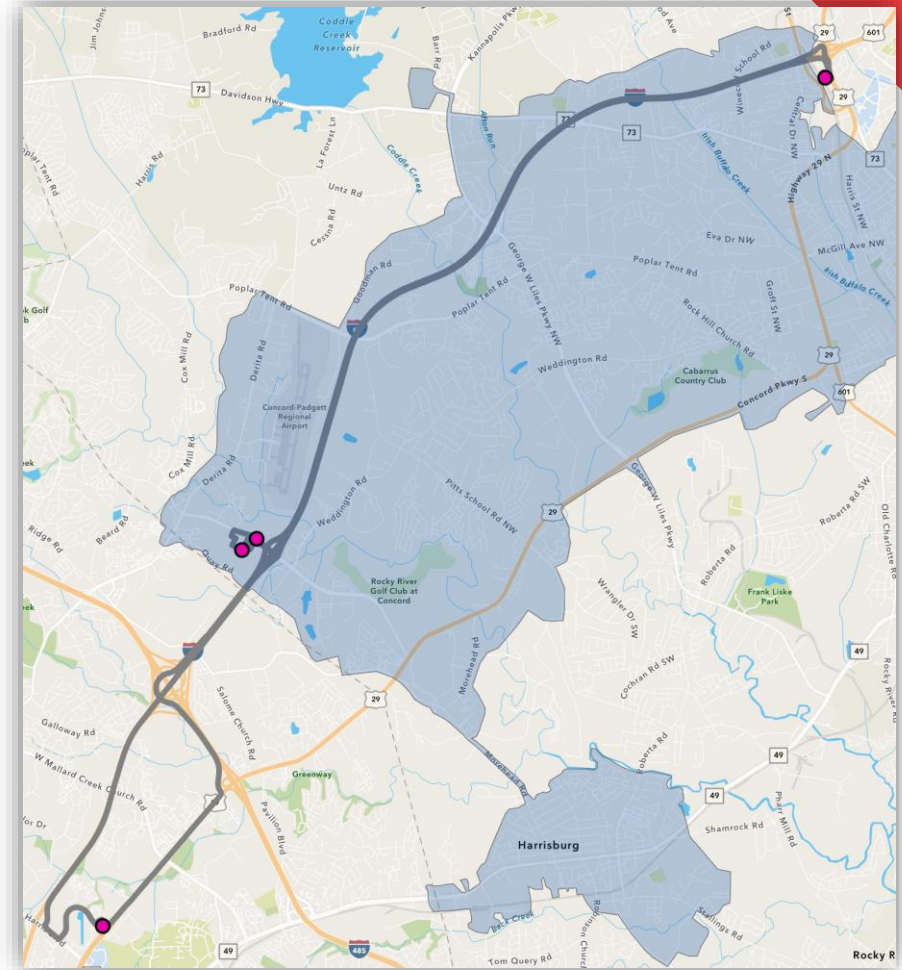
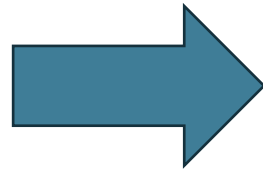
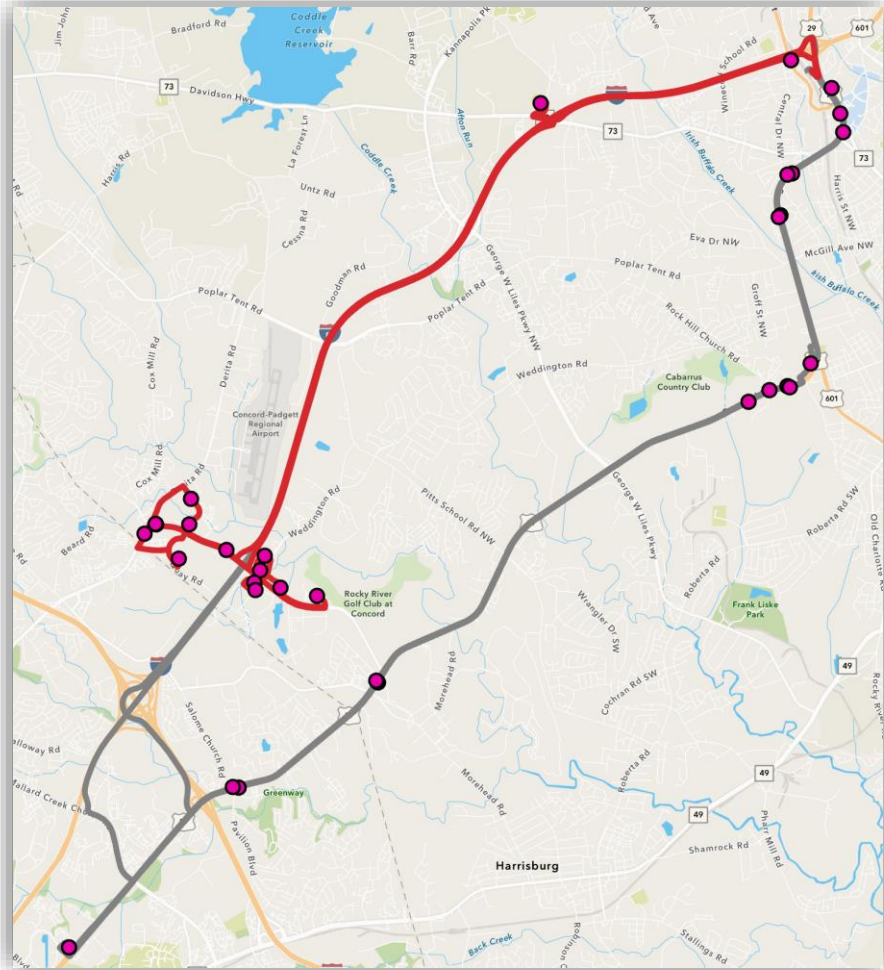
Orange

Purple

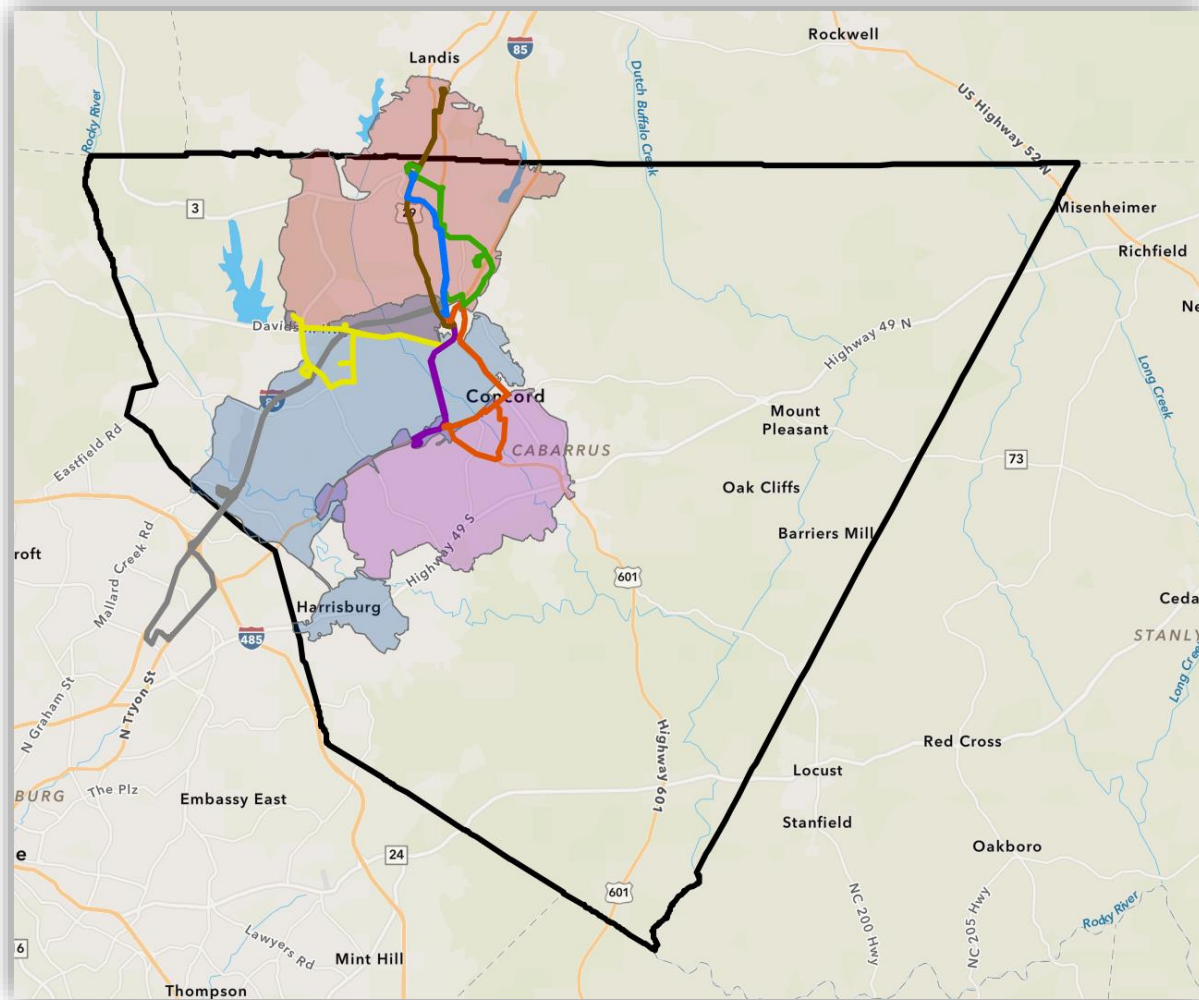


**\*30-min  
headways**

# Streamlined Red & CCX Routes



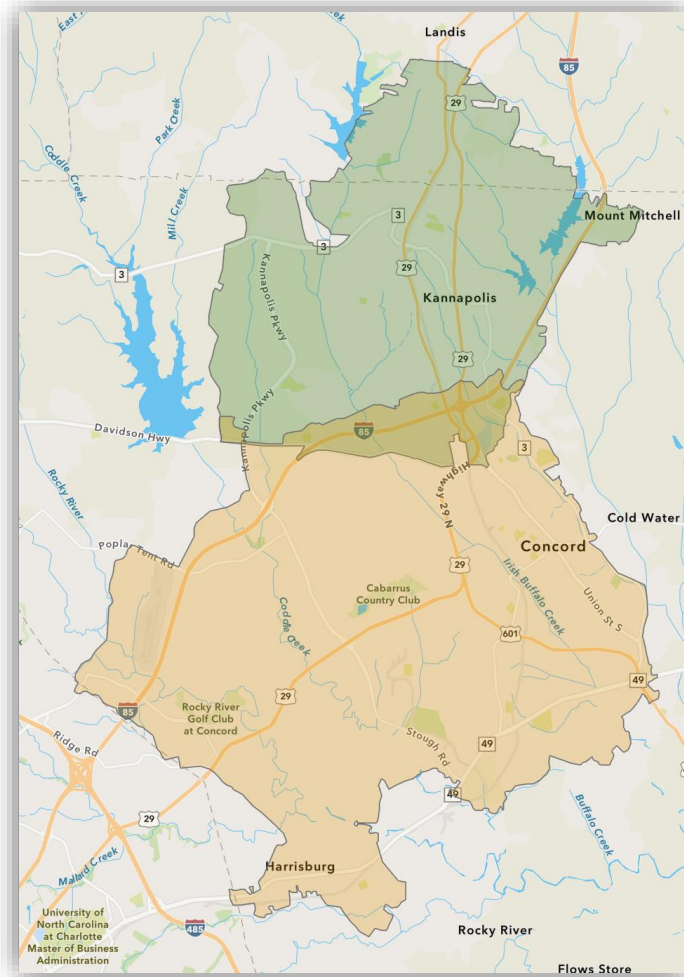
# Overall Microtransit + Fixed Route Service



## Proposed Routes Served

Kannapolis Zone	South Concord Zone	West Concord/Harrisburg Zone
Blue		
Green		
Orange	Orange	Orange
	Purple	Purple
Yellow		Yellow
Brown		Brown
		Grey

# Night Coverage



1. Daytime microtransit zones transition to nighttime microtransit zones at 7:30 PM
2. Fixed route service continues until 8:30 PM
3. Microtransit service continues until 11:30 PM



# Operational and Financial Impacts

# Fixed Route Summary

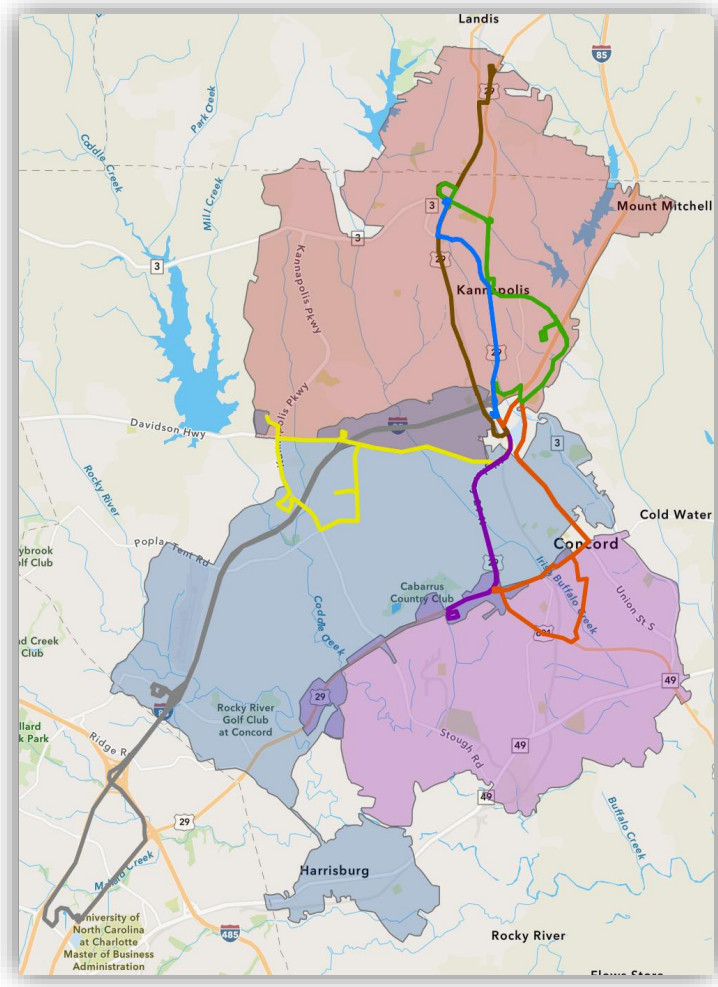


Route	Change in length (miles)	Proposed Service Span	Proposed Headway
<b>Blue*</b>	-7.8	5:30 to 20:30	<b>30*</b>
Green	3.2		60
Orange	0.1		60
<b>Purple*</b>	-4.8		<b>30*</b>
Yellow	-2.1		60
CCX	1.8		60
Brown	-0.8		60
Red	N/A	NIS	NIS

\*Denotes change in headway

System	Routes/ Zones	Peak Vehicles	Annual Operating Expense	Revenue Miles	Revenue Hours	Expense per Revenue Mile	Expense per Peak Vehicle	Population Served
Existing Fixed Route	8	8	\$3,931,553	730,473	34,161	\$5.38	\$491,444	50,900
Proposed Fixed Route	7	7	\$3,507,649	654,125	28,700	\$5.36	\$501,093	30,300

# Daytime Microtransit

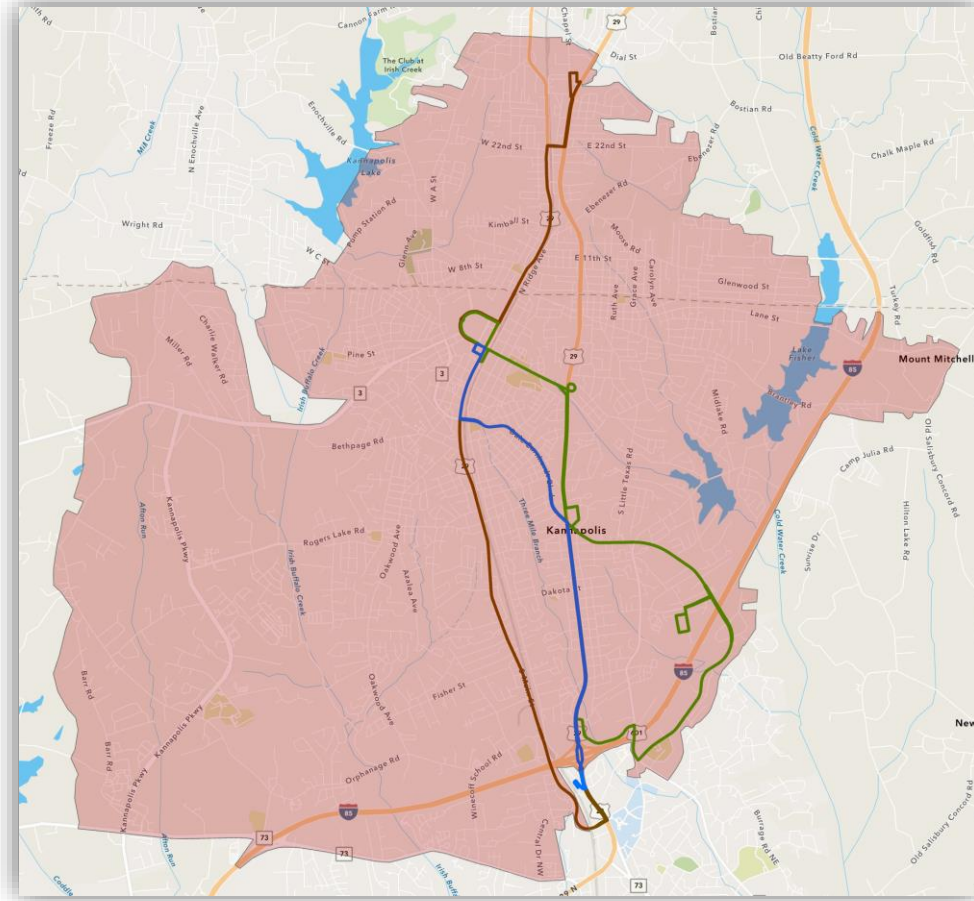


## Three Microtransit Zones (5:30-19:30) Annual Stats\*

Annual Ridership	134,840
Average Trip Distance	4.6
Peak Vehicles	12
Annual Operating Expense	\$3,920,000
Expense per Trip	\$29.07
Revenue Hours	49,000
Trips per Revenue Hour	2.75

\*Assumes medium-high ridership, 30-minute target wait times, and an \$80 operating cost per hour

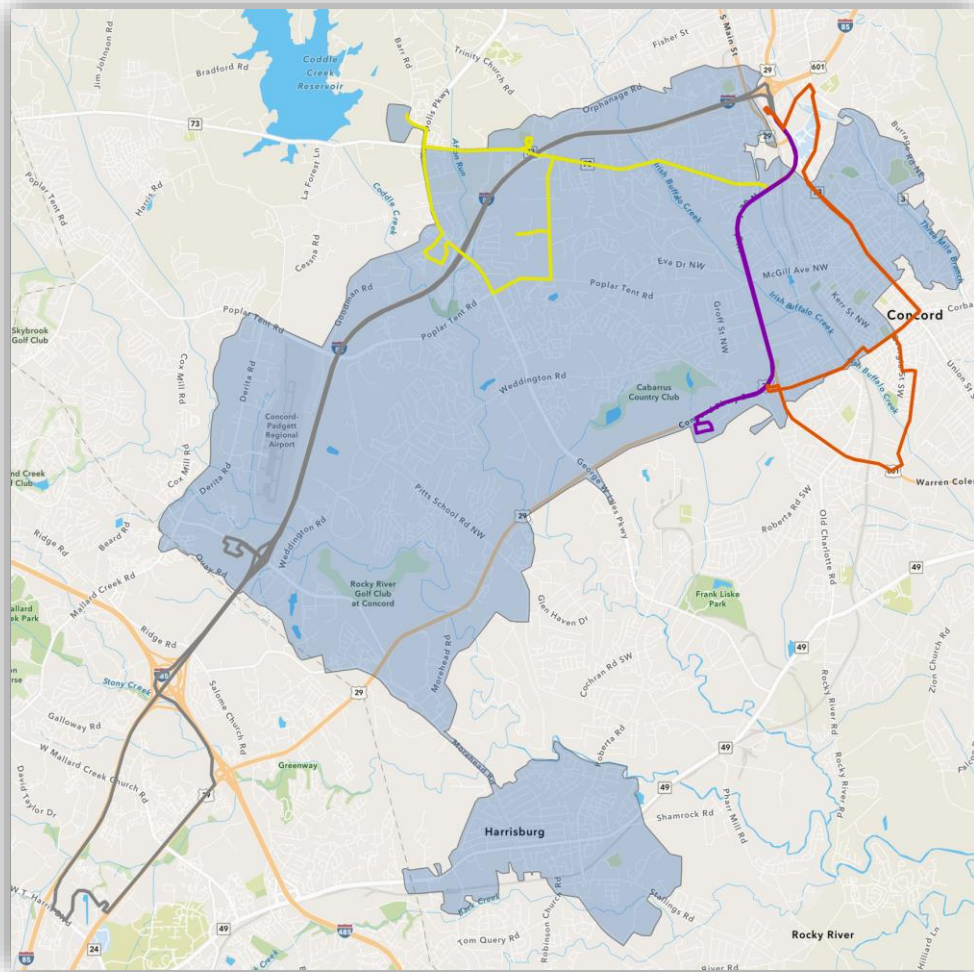
# Kannapolis Zone



Kannapolis Zone Annual Stats*	
Annual Ridership	62,618
Average Trip Distance	4.4
Peak Vehicles	5
Annual Operating Expense	\$1,450,000
Expense per Trip	\$23.16
Revenue Hours	18,125
Trips per Revenue Hour	3.46

\*Assumes medium-high ridership, 30-minute target wait times, and an \$80 operating cost per hour

# West Concord & Harrisburg

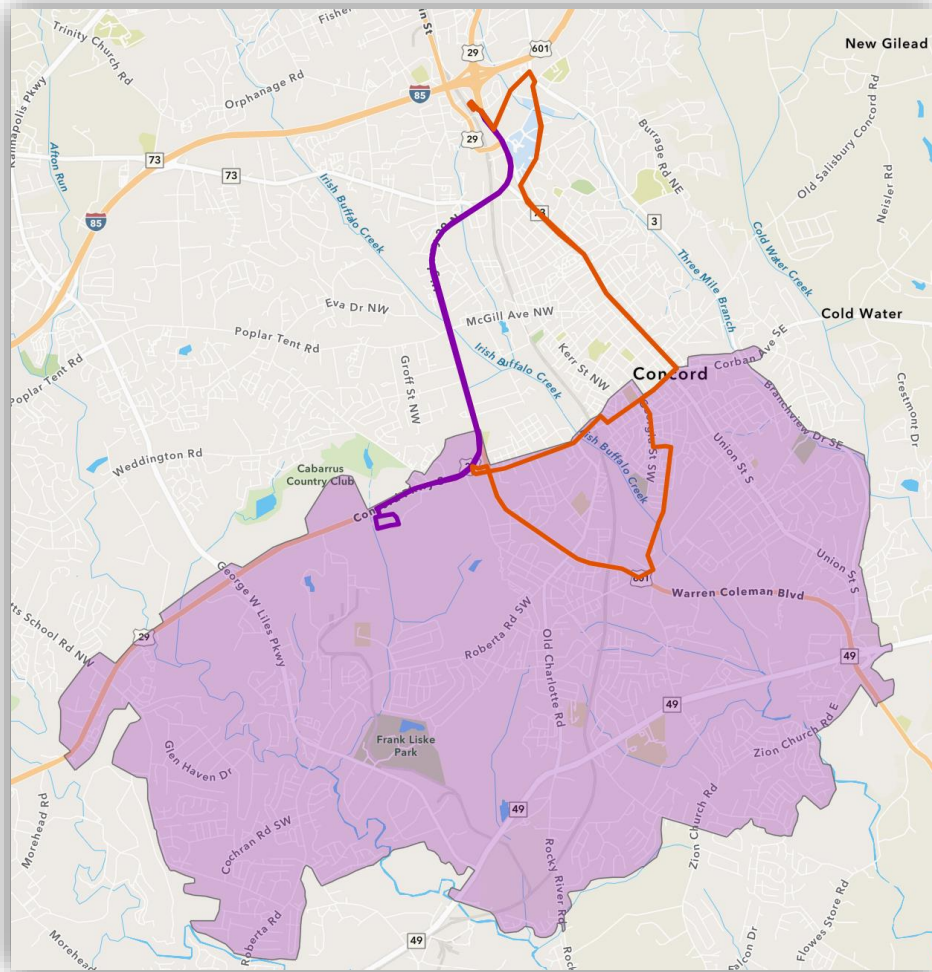


## West Concord/Harrisburg Zone Annual Stats\*

Annual Ridership	40,081
Average Trip Distance	5.3
Peak Vehicles	4
Annual Operating Expense	\$1,410,000
Expense per Trip	\$35.18
Revenue Hours	17,625
Trips per Revenue Hour	2.27

\*Assumes medium-high ridership, 30-minute target wait times, and an \$80 operating cost per hour

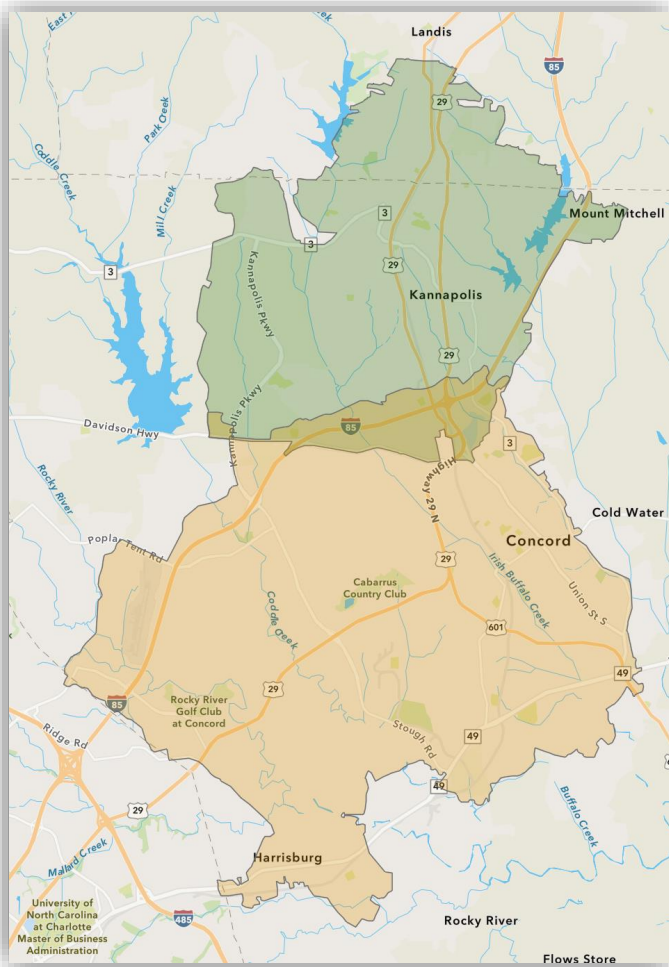
# South Concord



South Concord Zone Annual Stats*	
Annual Ridership	32,141
Average Trip Distance	4.1
Peak Vehicles	3
Annual Operating Expense	\$1,060,000
Expense per Trip	\$32.98
Revenue Hours	13,250
Trips per Revenue Hour	2.43

\*Assumes medium-high ridership, 30-minute target wait times, and an \$80 operating cost per hour

# Night Coverage

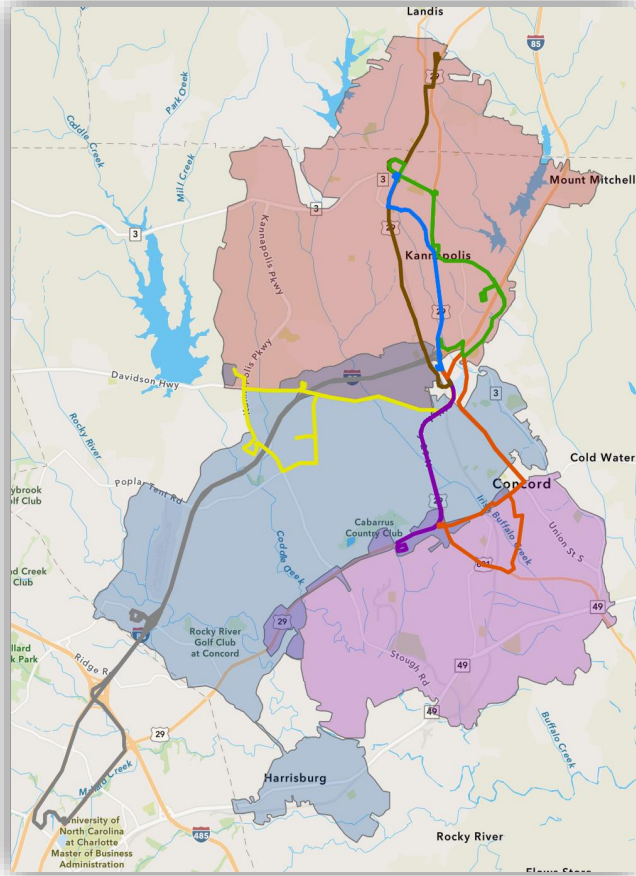


## Two Microtransit Zones 19:30-23:30 Annual Stats\*

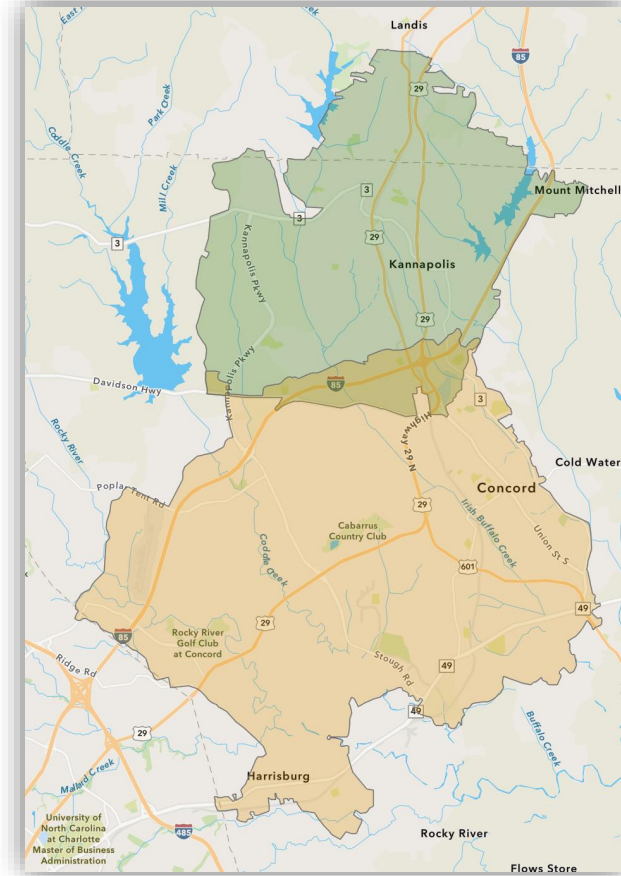
Annual Ridership	14,476
Average Trip Distance	5.9
Peak Vehicles	6
Annual Operating Expense	\$632,300
Expense per Trip	\$43.68
Revenue Hours	7,904
Trips per Revenue Hour	1.83

\*Assumes medium-high ridership, 30-minute target wait times, and an \$80 operating cost per hour

# Summary of Microtransit Services



5:30 AM to 7:30 PM  
(8:30 AM start on weekends)



7:30 PM to 11:30 PM

## All Microtransit Zones 5:30-23:30 Annual Stats\*

Annual Ridership	149,316
Average Trip Distance	4.7
Peak Vehicles	12
Annual Operating Expense	\$4,552,300
Expense per Trip	\$30.49
Revenue Hours	56,904
Trips per Revenue Hour	2.62

\* Assumes medium-high ridership, 30-minute target wait times, and an \$80 operating cost per hour



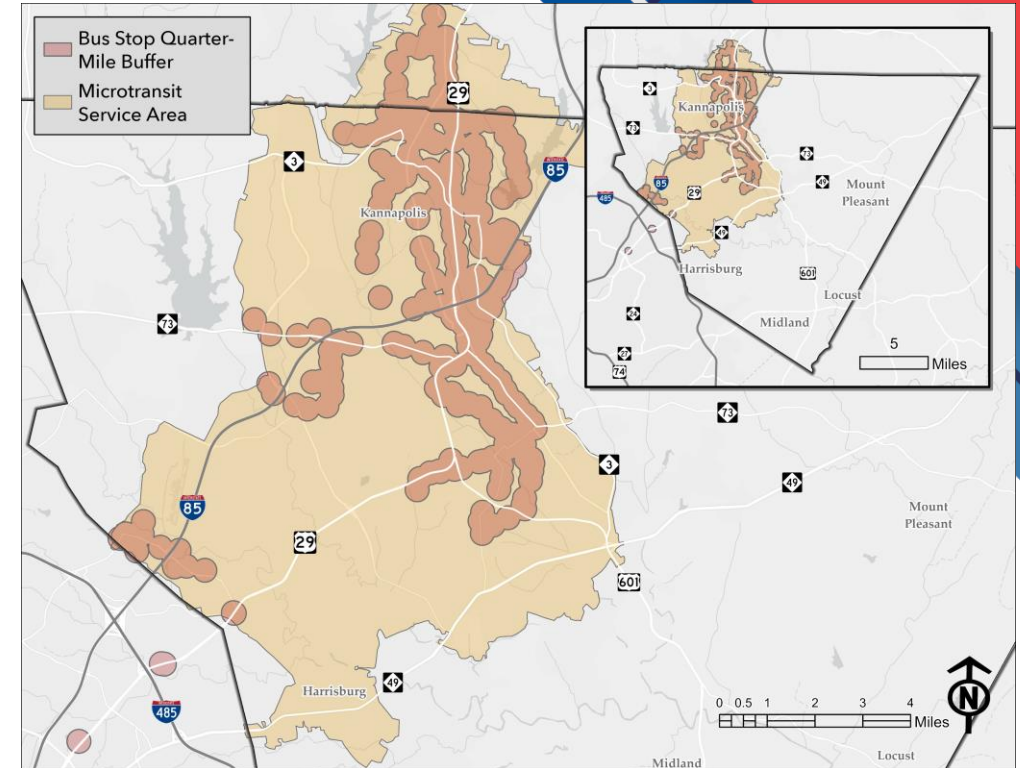
# Comparison of Existing & Conceptual Services

# All Services: Population Served

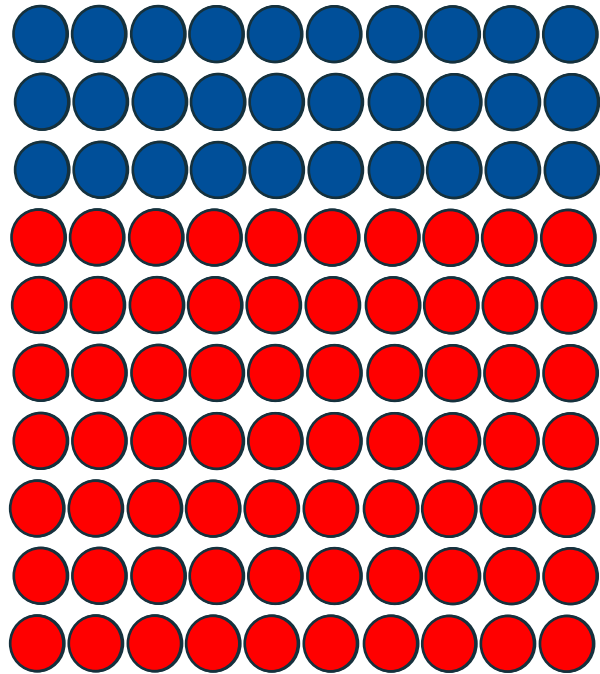


$$50,900 + 83,200 = 134,100$$

Conceptual



# Serving Paratransit Demand



**LONGER BOARDING  
TIME**

**REDUCED BOARDING  
TIME**

# Bottom Line



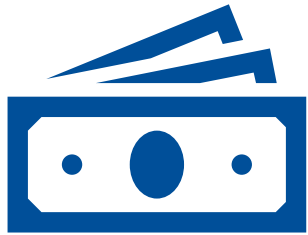
**83,000 More  
People Have  
Access to  
Transit**



**98,000 More  
Trips on  
Transit\***

\*Does not include  
fixed route ridership

# Bottom Line



**\$1.8M**  
**Budget**  
**Increase**



**\$12.89**  
**Decrease**  
**in Cost per**  
**Trip**



# Bottom Line



**+19%**

**Increase in  
Revenue  
Miles**



**+31%**

**Increase in  
Revenue  
Hours**



**+23%**

**Increase in  
Trips per  
Hour**



# Additional Considerations

# Operational Optimization



- Software operational rules
  - Optimize shared rides, fixed route rides, and multimodal rides
  - Example | Cannot book a trip on microtransit from a bus stop
- Stores trip request and trip completed data
  - Predict future demand

# Long Range Public Transportation Master Plan



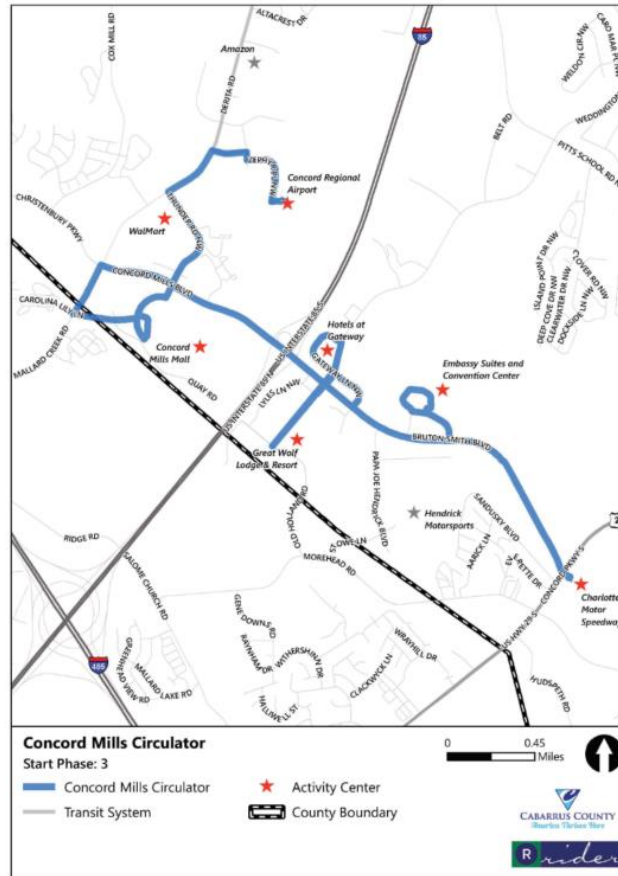
- Microtransit to address:
  - Increased service span
  - Increased frequency
  - Expanded on-demand coverage
- Completed in 2020



# Boulevards of Concord Corridor Study (DRAFT)



- Studying Concord Mills/ Bruton Smith Blvd challenges
- Recommends Red Route be split into a circulator route and a more direct route to the Rider Transit Center
- August 8, 2024, Council agenda



Left: Concord Mills Circulator (LRPTMP)

Below: Proposed Red Route (Boulevards of Concord)



# Next Steps & Homework

- Final PRC Meeting
- Contemplate concepts presented today
- Review report chapters



# Thank You

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**Laura Everitt**

[leveritt@benesch.com](mailto:leveritt@benesch.com)



# Alternative Comparisons

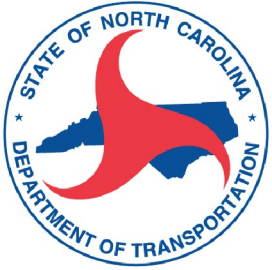


## Existing Services in Cabarrus County

System	Annual Ridership	Peak Vehicles	Annual Operating Expense	Revenue Miles	Revenue Hours	Expense per Revenue Mile	Population Served
Existing Fixed Route	293,613	8	\$3,931,553	730,473	34,161	\$5.38	50,900
Existing Rider Paratransit	16,819	4	\$916,060	138,122	10,175	\$6.63	N/A**
Existing CCTS	55,676	22	\$2,365,392	481,022	28,854	\$4.92	N/A**
<b>Existing Total</b>	<b>366,108</b>	<b>34</b>	<b>\$7,213,005</b>	<b>1,349,617</b>	<b>73,190</b>	<b>\$5.34</b>	<b>50,900</b>

## Proposed Service Concept\*

System	Annual Ridership	Peak Vehicles	Annual Operating Expense	Revenue Miles	Revenue Hours	Expense per Revenue Mile	Population Served
Proposed Fixed Route		7	\$3,507,649	654,125	28,780	\$5.52	30,300
Daytime Microtransit	134,840	12	\$3,920,000	704,868	48,978	\$5.56	130,200
Nighttime Microtransit	14,476	6	\$632,300	85,100	7,910	\$7.43	132,100
Potential Rider Paratransit*	5,046	2	\$274,856	41,437	3,053	\$5.26	N/A**
Potential CCTS*	16,703	6	\$709,543	116,587	6,994	\$6.09	N/A**
<b>Proposed Daytime Total</b>		<b>27</b>	<b>\$8,412,048</b>	<b>1,516,717</b>	<b>87,805</b>	<b>\$5.55</b>	<b>130,200</b>
<b>Proposed Total</b>		<b>27</b>	<b>\$9,044,348</b>	<b>1,601,817</b>	<b>95,715</b>	<b>\$5.65</b>	<b>134,100</b>

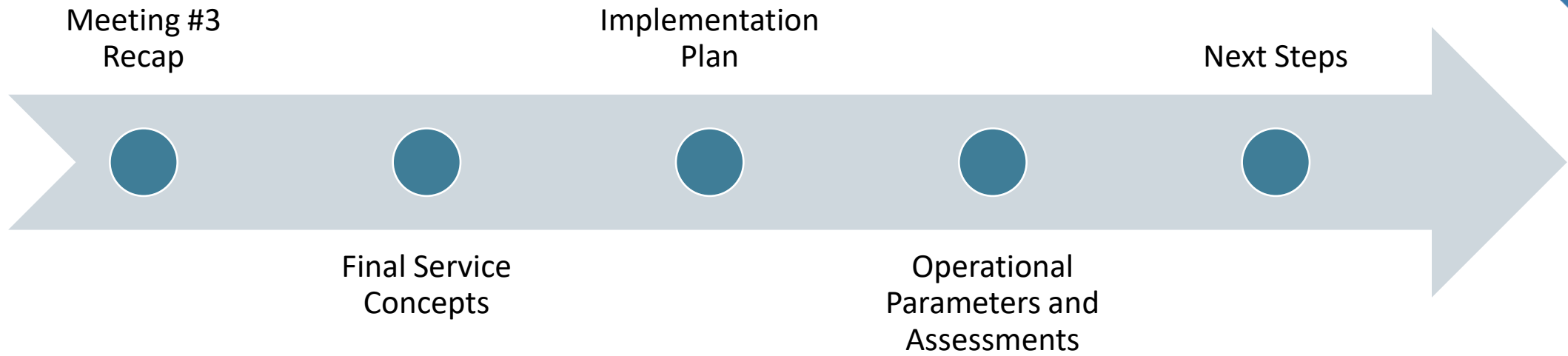


# Cabarrus County Microtransit Feasibility Study

Project Review Committee Meeting #4

September 10, 2024

# Agenda



# Feasibility Steps



**1A** Analyze Data



**1B**  
Conduct  
Stakeholder  
Engagement



**02**  
Set Goals & Performance  
Measures



**03** Define Concepts



Evaluate Concepts **04**



**05**  
Finalize Recommendations  
& Implementation Plan





# Recap of Preliminary Concepts and Service Characteristics



## HIGHLIGHTS OF MICROTRANSIT SERVICE

- ✓ Add connections to fixed route service
- ✓ Replace inefficient fixed route segments
- ✓ New service in low-density areas
- ✓ Provides service when other modes are unavailable
- ✓ Provides localized mobility

## BENEFITS OF MICROTRANSIT SERVICE



**83,000**

More people have access to transit



**98,000**

More trips on transit\*

*\*Does not include fixed route ridership*



**\$12.53**

Decrease in cost per trip



**+20%**

Increase in revenue miles



**+33%**

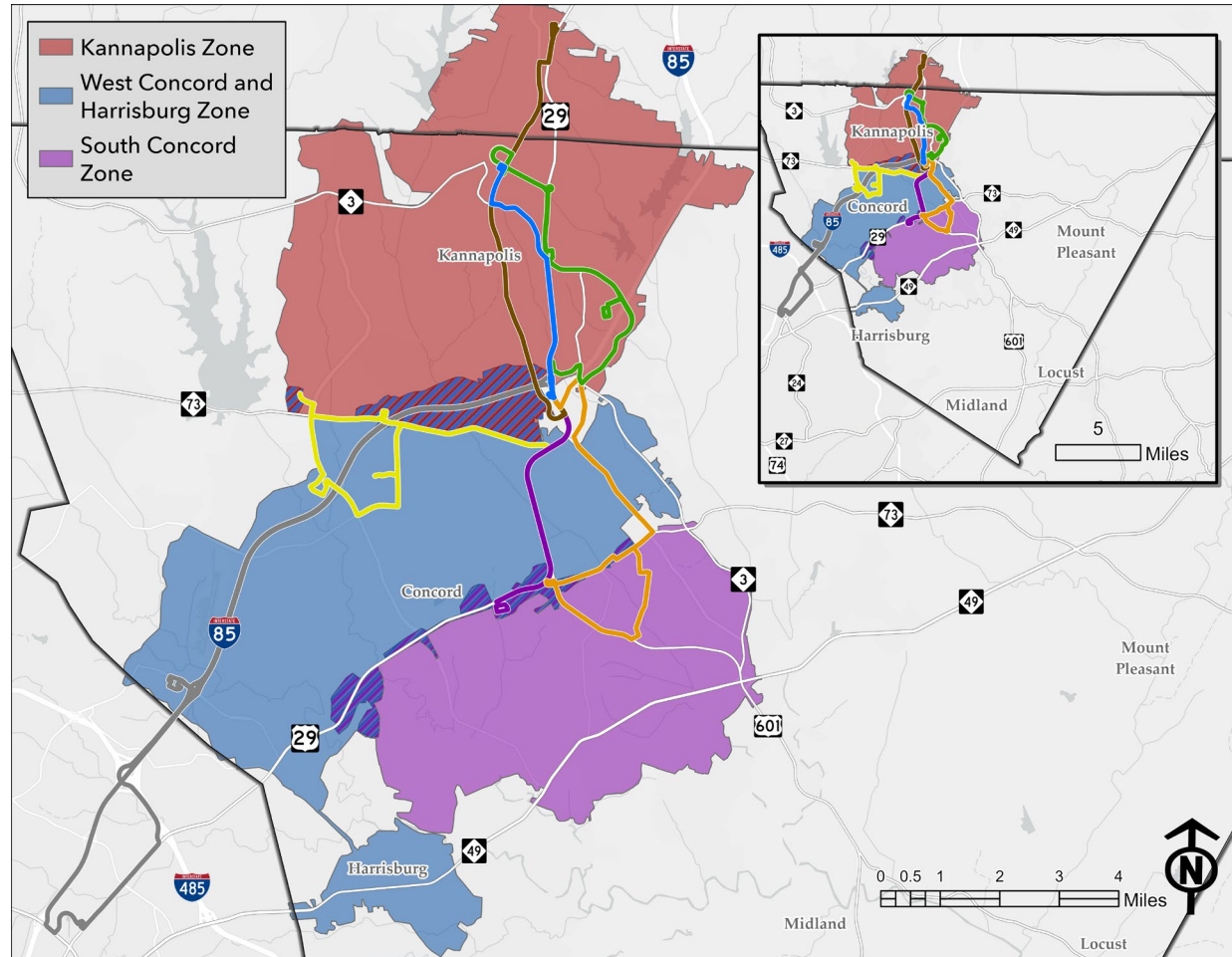
Increase in revenue hours



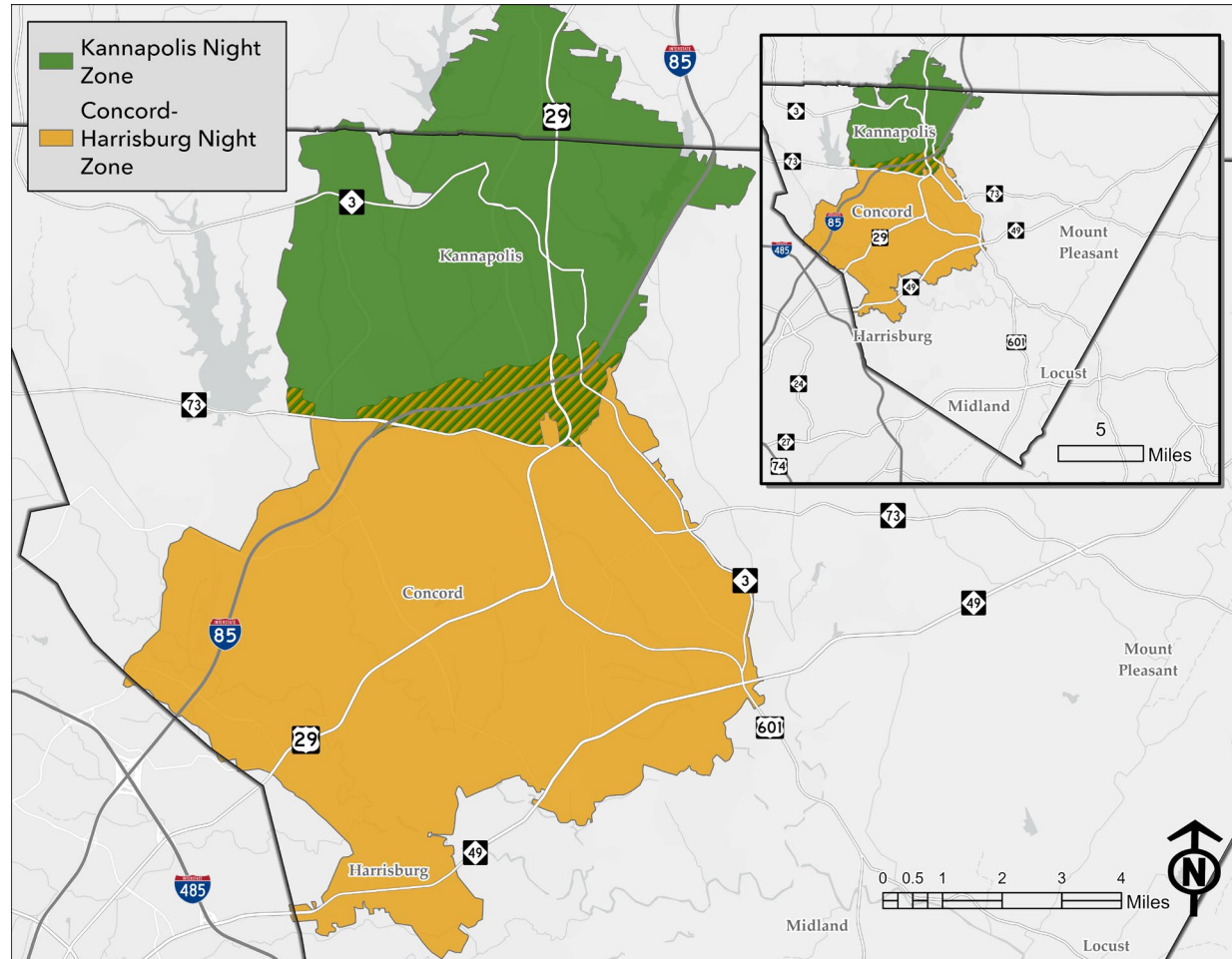
**+36%**

Increase in trips per hour

# Proposed Daytime Concept



# Proposed Nighttime Concept





# Final Service Concepts

# Areas to Address



## Concord Mills/Bruton Smith Boulevards

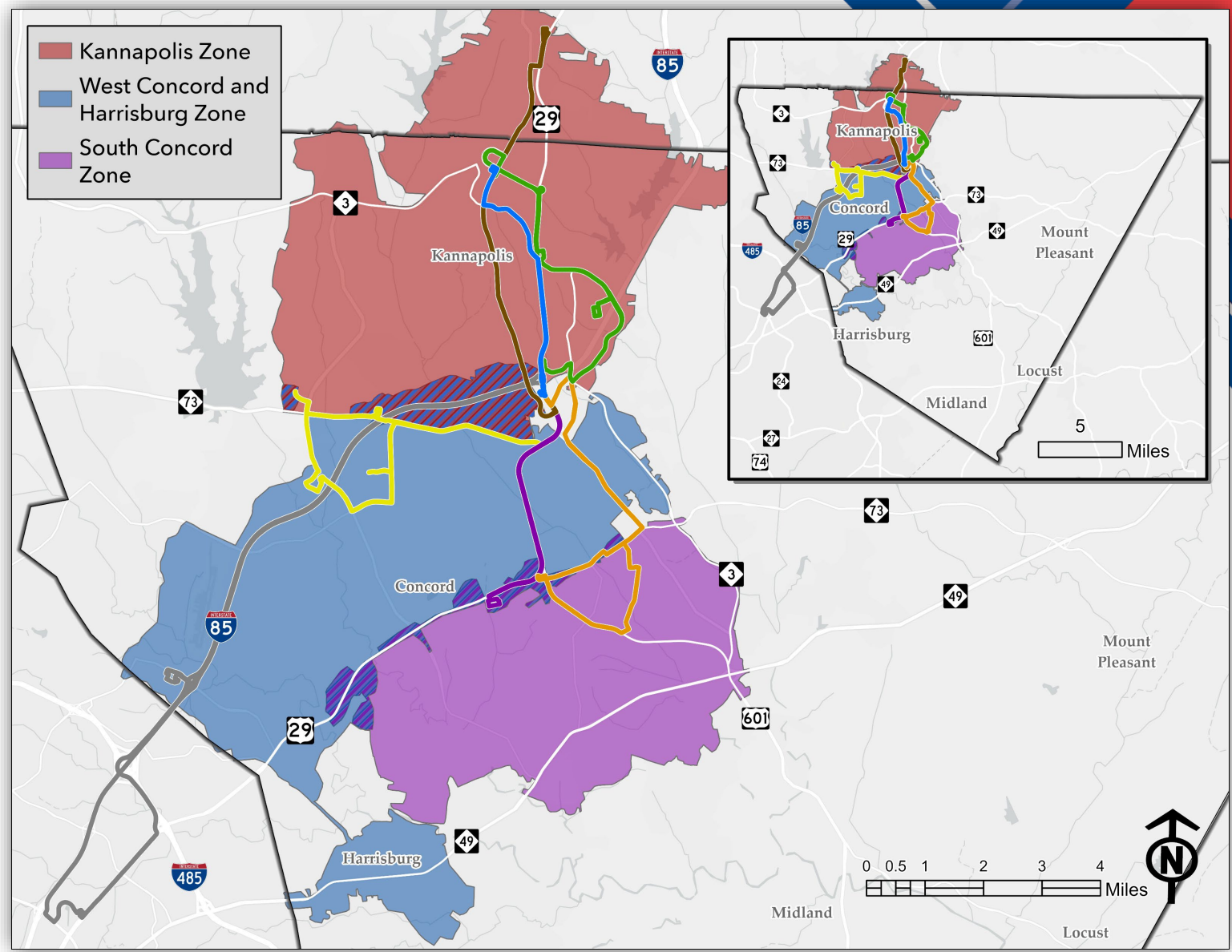
- Red and CCX Routes, Circulator



Percentage of on-demand trips able to be navigated curb-to-curb

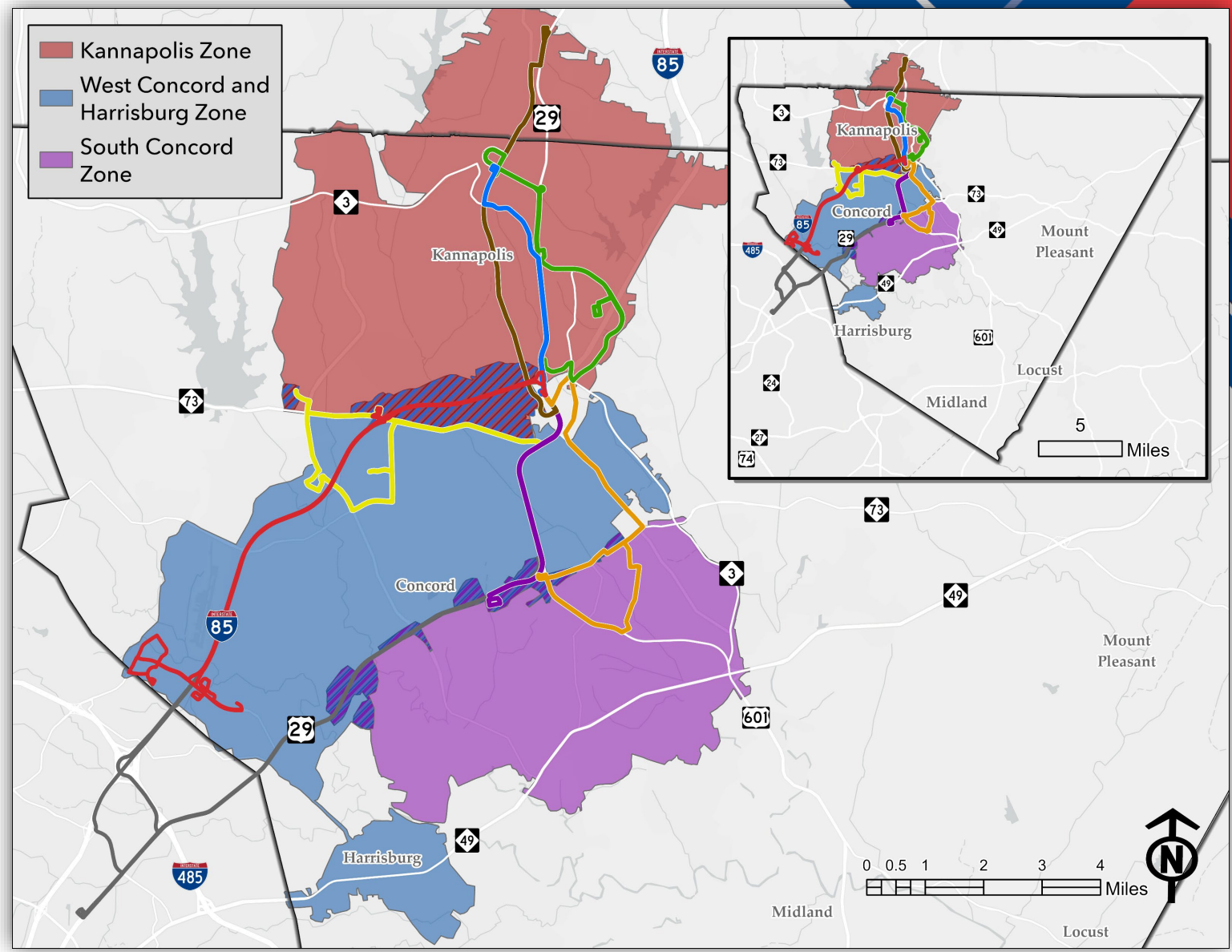


# Microtransit System Concept: Original

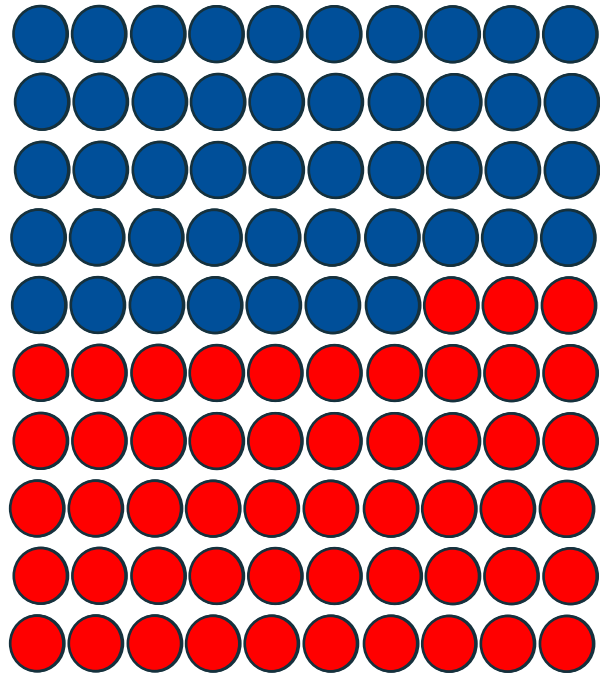




# Microtransit System Concept: Revised Phase 1B



# Serving Paratransit Demand



**LONGER BOARDING  
TIME**

**REDUCED BOARDING  
TIME**

# Updated Financial Analysis



## Existing Services in Cabarrus County

System	Annual Ridership	Peak Vehicles	Annual Operating Expense	Revenue Miles	Revenue Hours	Expense per Trip	Population Served
Existing Fixed Route	293,613	8	\$3,931,553	730,473	34,161	\$13.39	50,900
Existing Rider Paratransit	16,819	4	\$916,060	138,122	10,175	\$54.47	N/A*
Existing CCTS	55,676	22	\$2,365,392	481,022	28,854	\$42.48	N/A*
<b>Existing Total</b>	<b>366,108</b>	<b>34</b>	<b>\$7,213,005</b>	<b>1,349,617</b>	<b>73,190</b>	<b>\$19.70</b>	<b>50,900</b>

## Proposed Service Concept

System	Annual Ridership	Peak Vehicles	Annual Operating Expense	Revenue Miles	Revenue Hours	Expense per Trip	Population Served
Proposed Fixed Route	284,238^	7	\$3,507,649	654,125	28,780	\$12.34	30,300
Daytime Microtransit	134,840	12	\$3,920,000	704,868	48,978	\$29.07	130,200
Nighttime Microtransit	14,476	6	\$632,300	85,100	7,910	\$43.68	132,100
Potential Rider Paratransit*	7,905	2	\$430,548	64,917	4,782	\$54.47	N/A*
Potential CCTS*	16,703	6	\$709,543	116,587	6,994	\$42.48	N/A*
<b>Proposed Daytime Total</b>	<b>443,686</b>	<b>27</b>	<b>\$8,567,740</b>	<b>1,540,497</b>	<b>89,534</b>	<b>\$19.31</b>	<b>130,200</b>
<b>Proposed Total</b>	<b>458,162</b>	<b>27</b>	<b>\$9,200,040</b>	<b>1,625,597</b>	<b>97,444</b>	<b>\$20.08</b>	<b>134,100</b>

\*These services have restrictions on rider eligibility

\*\*Microtransit operating expense per hour is assumed \$80

^Assumes 20% growth on Purple and Blue routes, no growth on all other routes



# Implementation Plan

# Evaluation



Alternatives	Evaluation Criteria												Score
	Number of People Served	Number of Large Activity Centers Served	Number of People Served Beyond 1/4-mile of Fixed Route	Percent of People Served Who Are Transit Oriented	Operating Expense per Passenger Trip	Opportunity Zones as a Percentage of Total Service Area	Aligns with Stakeholder Input	Percent of Cabarrus County Land Served	Number of Active Development Permits	Percent of Employees Served	Hours of Service per Week		
Weight	0.5	1.0	0.5	0.5	1.0	0.5	2.0	1.0	1.0	1.0	1.0	1.0	
<b>Daytime Microtransit Zones</b>													
Kannapolis Zone	● 3	● 3	○ 1	● 5	● 5	● 5	● 5	● 3	● 3	○ 1	● 3	● 35	
West Concord/Harrisburg Zone	○ 1	● 3	○ 1	● 3	● 3	● 3	● 3	● 3	● 3	● 3	○ 3	○ 28	
South Concord Zone	○ 1	○ 1	○ 1	● 3	● 3	○ 1	● 5	● 3	○ 1	○ 1	● 3	○ 25	
<b>Nighttime Microtransit Zones</b>													
Kannapolis Night Zone	● 3	● 3	● 3	● 5	● 3	● 5	● 5	● 3	● 3	● 3	○ 1	● 34	
Concord Night Zone	● 3	● 5	● 3	● 3	○ 1	● 3	● 5	● 5	● 3	● 5	○ 1	● 36	
<b>Combined Microtransit Zones</b>													
All day zones	● 5	● 5	● 5	● 3	● 5	● 3	● 5	● 5	● 5	● 5	● 3	● 46	
All night zones	● 5	● 5	● 5	● 3	○ 1	● 3	● 5	● 5	● 5	● 5	○ 1	● 40	
All day and night zones and routes	● 5	● 5	● 5	● 3	● 3	● 3	● 5	● 5	● 5	● 5	● 5	● 46	

# Evaluation

All microtransit zones

All nighttime microtransit zones

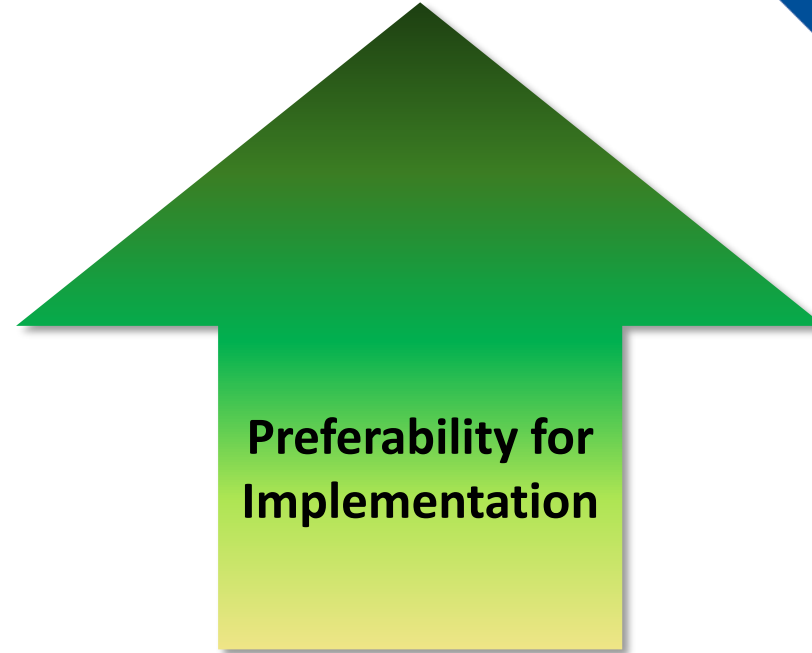
Concord Night Zone

Kannapolis Day Zone

Kannapolis Night Zone

West Concord/Harrisburg Zone

South Concord Zone



# Microtransit Implementation Plan



## Phase 1A:

### Add Daytime Microtransit Zones

- Operationalize three microtransit zones during fixed route service hours
- Educate riders
- Address operational issues

## Phase 1B:

### Realign Fixed Routes

- Realign Blue, Brown, Green, Orange, Purple, and Yellow routes
- Address operational issues
- Determine if there is a need for virtual microtransit stops

## Phase 2:

### Add Nighttime Microtransit Zones

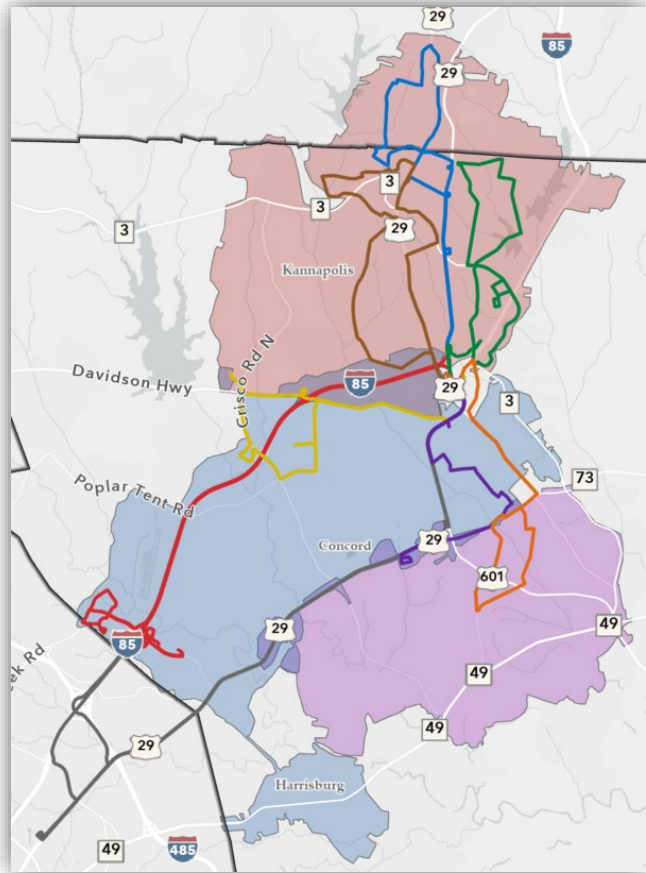
- Operationalize two nighttime microtransit zones, extending microtransit service until 11:30pm

## Phase 3:

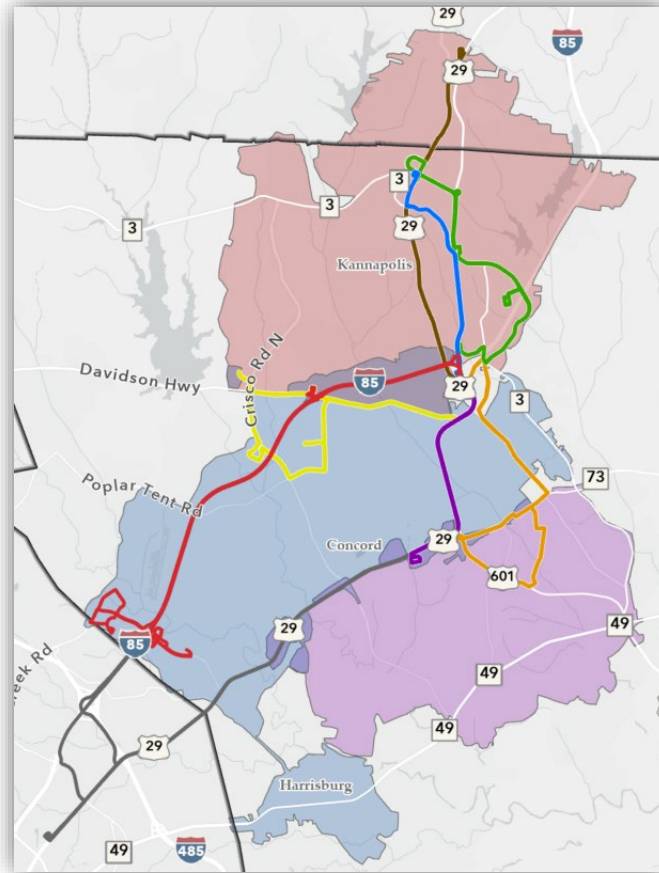
### Address Boulevards of Concord

- Triggered by the addition of a circulator serving the Concord Mills/Bruton Smith Boulevard corridor
- Realign/streamline the Red and CCX routes

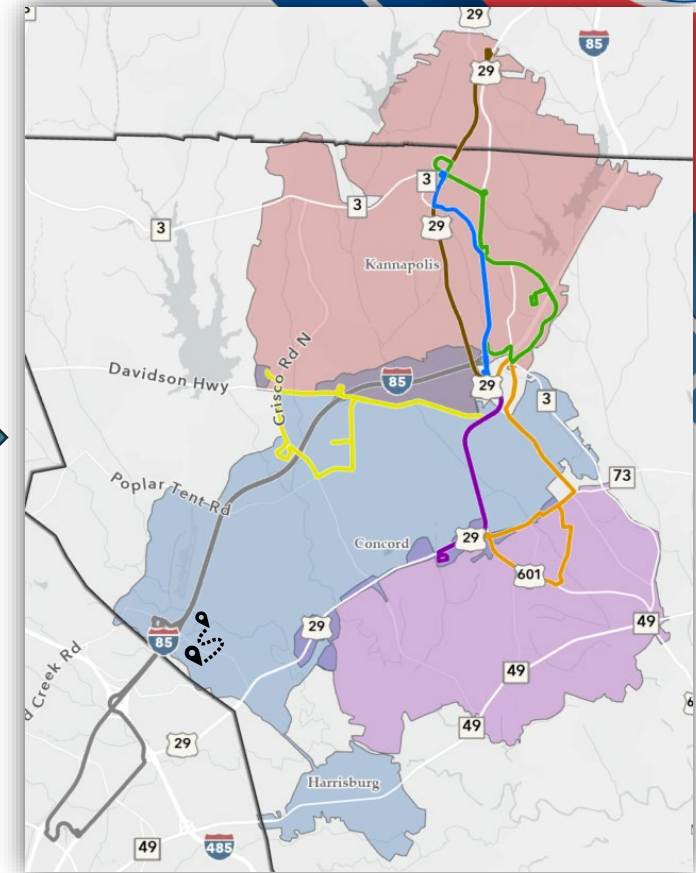
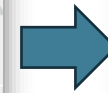
# Phases of Implementation



**1A: Add Daytime Zones**



**1B: Realign six routes  
2: Add Night Zones**



**3A: Add Concord Mills Circulator  
3B: Streamline Red and CCX**



# Operational Parameters and Assessments

# Operational Parameters

- Set parameters for operation to maximize efficiency and provide a high quality and level of service
  - Prioritize fixed route use
  - Prioritize shared rides
  - Minimize transfers



# Key Performance Indicators



- Total Ridership
- Passenger Wait Times
- Vehicles Operated in Maximum Service (VOMS)
- Trip Completion Rate

Level of Service



- Cost per Trip
- Trips per Hour

Efficiency



- Customer Ride Rating
- Retention Rate
- Trip Rejection Rate

Customer Satisfaction





# Next Steps

# Next Steps



- Finish documentation
  - Service Concepts and Implementation Plan chapters will be sent out following this meeting
  - Final report will be sent out after all chapters are reviewed



# Thank You

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