



City of Salisbury Long Range Public Transportation Master Plan

Final Report
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AECOM

701 Corporate Center Drive
Suite 475
Raleigh, NC 27607
T: 919.854.6200





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<u>Name</u>	<u>Position</u>
Rodney Harrison	Salisbury Transit System Manager
Franklin Barnes	Rowan County Director of Transportation
Archie Reid	Transportation Advisory Board (TAB)
Kyle Harris	City Planner
Lydia Larios	Salisbury Housing Authority, Executive Director
Donna Fayko	Department of Social Services, Director
Fern Blair	Communications Department
Zack Kyle	Assistant City Manager
Levi Coldiron	GIS Coordinator
Jim Williams	Transit Planner / Operations Supervisor
Terry Simmons	Transit Dispatcher

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The **AECOM** team included the following members:

Kurt J. Neufang	—	Project Manager, AECOM
Adam Migliore Meyer	—	Transit Planning Task Lead, AECOM
James McAteer	—	Survey Coordinator, Transit Insight
Matt Meservy	—	Quality Assurance/Quality Control, AECOM
Hunter Moore	—	Transit Planning/GIS Support, AECOM
Hart Evans	—	Transit Planning/Public Outreach Support, AECOM



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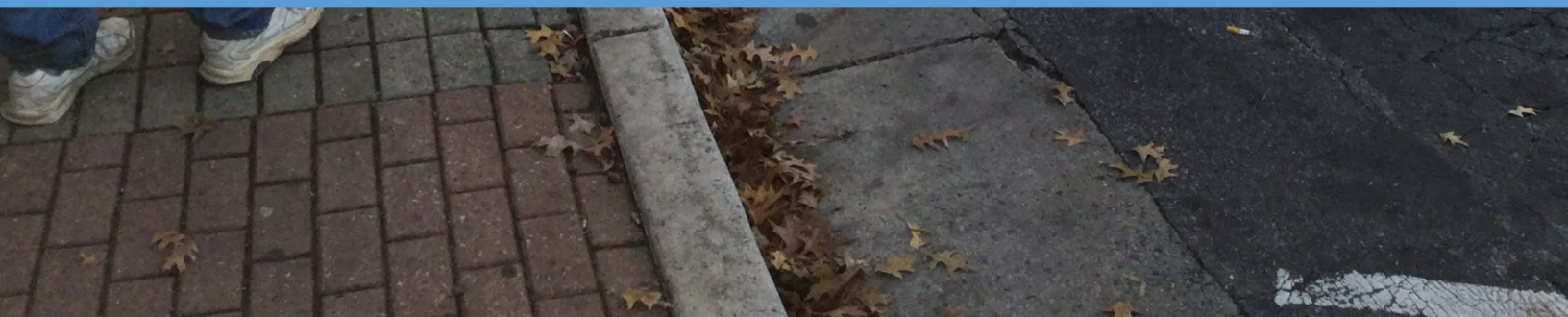
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Executive Summary





Executive Summary

The City of Salisbury, on behalf of the Salisbury Transit System (STS), contracted with AECOM to conduct a 20-year long-range public transportation master plan. The planning study was to provide analysis and recommendations to improve the STS service coordination, financial position, operational functionality and service delivery of both fixed route and complimentary ADA paratransit service operating within the City of Salisbury. Through the study process it was determined that a 20-year comprehensive plan would need to include some county and out-of-county service to address the growing regional population and need for improved connective mobility options.



STS provides excellent mobility alternatives to key populations and service to the City of Salisbury and the adjacent communities of Spencer and East Spencer. STS operates a three (3) bus fixed-route service and contracts with Rowan Transit System (RTS) for their demand responsive services for paratransit trips within the required areas of the system. With a population of over 34,000 residents, Salisbury is uniquely situated between two major metropolitan regions: Charlotte to the south and the Piedmont Triad (Greensboro, High Point and Winston-Salem) to the north. In addition to the interstate highway (I-85), the City is also served by two major rail lines, which intersect in town, and an airport on the outskirts of the community. Both passenger rail (Amtrak) and Greyhound (regional bus service) complement connective opportunities to Salisbury residents, and factor into the crafting of a 20-year mobility master planning process.

Population growth, travel demands, and service delivery options are important aspects of this study. This plan seeks to provide a creative approach to strategic planning, transit asset management, capital investments and financial considerations to best recommend future enhancements to the public transit services. The recommended implementation plan includes improvements to consider in the short-term (0-5 years), medium-term (5-10 years) and long-term (10-20 years).



STS operates fixed route transit service in Salisbury, Spencer, and East Spencer. Currently, all routes serve the major destination locations in the community, operating Monday through Friday from 6:00 am to 7:00 pm, with limited Saturday service from 9:30 am to 3:20 pm. The base fare is \$1.00, with a half fare (\$.50) for senior citizens, persons with disabilities, and Medicare card holders. Children under age 5 ride free and transfers to other routes, from a paid on-way trip, are also fare free. Additionally, the City of Salisbury offers an



ADA paratransit service which is available for eligible persons with functional disabilities. This service is contracted with the RTS and provides on-demand service with wheelchair lift equipped vehicles within the Salisbury, Spencer, and East Spencer communities. The fare for this service is \$2.00 per one-way trip. Trips must be scheduled in advance.

RTS provides express service between Salisbury, China Grove, Landis, and Kannapolis (which are joint funding partners to support this service) and connects STS and Rowan County passengers with Rider Transit in Kannapolis/Concord. Five morning and five afternoon trips are provided Monday through Friday that connect the Depot Transfer Site in Salisbury to the Amtrak station in Kannapolis. Some regional coordination is currently being provided, but this study will address additional recommended regional mobility alternatives within the 20-year horizon.

This study was scoped to focus on a robust public involvement and engagement process. Throughout the study, and in the following chapters, there is evidence of reaching out for diverse public comments and input into the service analysis and recommended alternatives. The study also addressed the potential for a varied approach to service deliveries, smaller vehicles, zonal approaches for underserved areas outside of the fixed-route service area, and engaging with potential partners. Partnerships can foster improved coordination and potentially offer positive economic impacts that can positively affect the public transit services.

The AECOM team has developed a methodology to address existing conditions and crafted sound recommendations based on a phased-in approach to meet future 20-year needs. A main focus of this document is the fixed-route service metrics, analyzing categories that include routing, operational elements necessary to meet on-time performance, addressing route productivity, reviewing demographic data and evaluating the strengths, weaknesses, opportunities, and challenges to meet the public demands. This process included making infrastructure recommendations such as administrative support needs, maintenance needs, capital investments such as vehicles, fareboxes, scheduling software and on-going support, in order to improve the transit service operation.

Rider Surveys

As part of the LRPT master planning process, the AECOM team conducted passenger surveys on-board the buses to gain valuable insight into STS operations, travel patterns, and rider demographics. Interviews with STS riders and drivers occurred on November 30th, December 1st, 3rd and 4th, 2018. The objective of the surveys was to receive specific operational feedback from the rider perspectives in order to document effective practices and to address scheduling, routing, and any safety concerns. The overall number of responses to the survey process was outstanding. Our team catalogued 241 rider surveys during the survey period. Participation in the survey was voluntary and anonymous.



The rider survey was made available in both English and Spanish. STS provided ride pass incentives for those who completed the surveys. This greatly enhanced the rider participation. The survey methodology and results are explained further in Chapter 4.0.



Driver Interviews and Community Surveys

As part of an extensive community outreach effort, the AECOM team coordinated with the City of Salisbury to conduct online surveys through the city website. This was coordinated with a scheduled on-site meeting location for the general public to come and ask questions about the transit service and complete a survey regarding future community transit needs. Additionally, each driver of the STS transit service was interviewed to receive their respective input as to service delivery needs and potential improvements that should be considered. The cumulative results are noted in Chapter 4.0.

Land Use and Demographics

The AECOM team reviewed existing conditions of land use development and the latest demographic data to determine both unmet needs and future expansion possibilities for public transit service. As a result, it was recommended that STS provide more frequent service to the Salisbury community, to include innovative delivery options such as microtransit zones, regional routes, and improved connective transfer locations throughout the STS service area. The population density growth in the region would support new services to and from the local colleges, the Veterans Administration Hospital, and retail establishments within the service area.

Current Service

Each route was analyzed individually to address its productivity, on-time performance, route lengths, connectivity, schedule convenience, and ridership. Bus equipment and the scheduling of ADA paratransit services were also reviewed. The AECOM team rode all the bus routes multiple times and interviewed riders and drivers to assess operational needs and gaps in service expectations. Through this process our team was able to create data summaries and trend analytics to assist with providing baseline projections and future forecasting.

Service Related Issues

Some of the STS service issues that were identified included:

- The need to provide more frequent and service schedules
- The need to create new schedules to connect with other routes other than at the Depot Transfer Site location
- Expand connective service to areas within the city limits
- Technology challenges
- Implement a mobile ride tracker system
- Update the fare collection process
- Serve the local colleges with an Uber/Lyft-type service delivery model
- Address new vehicle types and how these vehicles could be deployed to provide zonal, microtransit service
- Improve the existing transfer location and work with both Greyhound and Amtrak for improved coordination
- Create local partnerships and seek to achieve a dedicated local funding source





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Peer Analysis

A peer analysis was performed to analyze the general performance indicators, effectiveness measures, and efficiency measures of the STS in relation to its peer transit agencies. The five systems chosen were located in Virginia, North Carolina, and Georgia and include: Danville Transit (Danville, VA), Hall Area Transit (Gainesville, GA), Liberty Transit (Hinesville and Liberty County, GA), Apple Country Transit (Henderson County, NC), and Jacksonville Transit (Jacksonville, NC).

The fixed route services included an analysis of systems with similar numbers of vehicles and vehicle types, a small urban location, and trip generators that are similar to the service area in Salisbury (including colleges, a large medical facility and population densities that are comparable). The following information contained in Table ES-1 on the next page provides some highlights of the fixed route service comparisons:

- Provides the second most number of passenger trips
- Ranks below average for revenue miles, due to the density of the service area
- Ranks above average compared to its peers for costs per hour

Table ES-1: Summary of Peer System Metrics

Performance Indicator	Danville	Hall Area	Liberty	Apple Country	Jacksonville	Salisbury
Annual Trips	285,127	145,706	19,912	74,571	133,086	148,897
Annual Vehicle Revenue Miles	280,766	264,426	87,617	171,175	344,451	158,491
Annual Vehicle Revenue Hours	18,717	18,024	8,648	8,928	21,776	12,230
Total Annual Operating Expenses	\$975,157	\$815,592	\$795,275*	\$502,208	\$969,757	\$679,815*

*Does not include all costs eligible for reimbursement
Source: AECOM, 2019.

Recommendations

There are several recommendations for improving the fixed-route system in Salisbury. The recommended fixed routes are summarized in Table ES-2.

Table ES-2: Summary of Recommended Fixed Routes

Route Name	Cycle Time (Roundtrip)	Major Destinations Served
Route 1 (Tinseltown)	30 mins	ALDI, Food Lion, Lincoln Park, Rowan County Social Services, Tinseltown, Walmart
Route 2 (RCCC)	30 mins	Rowan Cabarrus Community College (RCCC), Ruffy-Holmes Senior Center, Salisbury Civic Center, Salisbury Customer Service Center, Trinity Living Center, US Post Office
Route 3 (Main Street)	30 mins	Courtyard Apartments, Salisbury High School, Southgate Shopping Center, State Employees Credit Union
Route 4 (Livingstone)	30 mins	Brenner Crossing Apartments, Harris Teeter, Livingstone College, YMCA
Route 5 (VA Hospital)	60 mins	Catawba College, Holly Leaf Apartments, Lash Drive, Meadowbrook Drive,



Route Name	Cycle Time (Roundtrip)	Major Destinations Served
		Salisbury Marketplace Shopping Center, Social Security Administration, VA Hospital, West End Plaza
Route 6 (Spencer)	60 mins	Food Lion, Greyhound, Headstart, North Rowan High School, Novant Health Rowan Medical Center, Senior Housing (East Spencer), Walmart
Route 7 (East Spencer)	60 mins	Food Lion, Greyhound, Headstart, North Rowan High School, Novant Health Rowan Medical Center, Senior Housing (East Spencer), Walmart
Route 8 (Jake Alexander)	60 mins	Dick’s Sporting Goods, Harris Teeter, Kohls, Novant Health Rowan Family Physicians, RCCC, Social Security Administration, West End Plaza

Microtransit Service

There are several service gaps that were identified through the public engagement process that would be challenging to serve with traditional fixed-route transit service. To creatively address these service gaps, microtransit zones, which would serve as dial-a-ride zones, would be established to provide transit service within these zones—and connect passengers to the STS fixed-route system at designated feeder points. This service could be provided with smaller vehicles and operate on an Uber/Lyft-type operational model. The infrastructure to support this service would be significant. New vehicles, a new software system, dispatchers, a scheduler, and the maintenance impacts of the additional equipment would have to be addressed. This alternative is not a cost-effective service option, as more vehicles and drivers are required to transport the same number of riders as a transit bus. This is due, in part to the dial-a-ride format and the capacity constraints with smaller vehicles. However, we have studied how to implement this service and the potential costs with providing this as a mobility option to consider. This service alternative is highlighted in Section 5.3.

Infrastructure Investments

There are some specific operational, administrative, maintenance, and capital needs that have been identified for funding over the short-term, medium-term and long-term timeframes. In working with the STS staff, we have included the following information on financial commitments needed to improve the transit operation:

- Procurement of additional vehicles for recommended fixed routes
- Procurement of additional vehicles to support microtransit services
- Procurement of a new scheduling and dispatching software system
- Purchase for an on-site, above ground fueling system
- Purchase of new fareboxes
- Revise maps and schedules to reflect the route changes
- Address administrative, maintenance and operational position needs and functions

Ridesharing Program

A comprehensive Rideshare Program, also referred to as vanpools, would enhance the transit mobility in the Salisbury community and the region. The specific recommendation would be to partner with the Food Lion Corporation Distribution Center (DC 10), located at 2085 Harrison Road. This center operates Monday through Sunday.



This location takes in deliveries and distributes produce throughout the southeast. The workers who are employed at this site commute from throughout the local region. As a valued partner in the community, Food Lion would be an excellent choice to work with in the development of a regional ridesharing program to accommodate their employees.

It is recommended that STS create a partnership with the Food Lion Distribution Center to promote a ridesharing initiative for work-related trips. Employees at the Salisbury facility travel to work from throughout a multi-county area. Work commuters would enter into agreements with STS to utilize passenger vans to commute to and from the Salisbury facility. Key elements to a successful ridesharing program would be: get support for this initiative from corporate leaders in Food Lion management, and conduct a survey as to origins and times of current daily work trips. The ridesharing coordination could be managed by the STS transit planner in conjunction with Food Lion human resources staff.

Staffing Recommendations

The LRPT Master Plan study recommends an implementation of a new organizational structure to address the added functions and responsibilities of the recommended service improvements. These staffing recommendations are summarized in Table ES-3.

Table ES-3: Summary of Staffing Recommendations

Administrative	Operations	Maintenance
One Transportation Planner (grants and training)	Additional full-time fixed route drivers depending on number of fixed-routes operated	One Mechanic to work from 2:00 PM to 11:00 PM
Two Transportation Route Supervisors (customer service and driver supervision)	Four microtransit part-time drivers if STS operates the college microtransit services directly	One part-time Mechanic to work on Saturday (vehicle repairs and electronic repairs)
One Dispatcher (to coordinate with fixed route and paratransit drivers)	One full-time Scheduler to work during the week.	

The AECOM team analyzed the staffing levels of the STS operation, and determined that as the service expands, a re-structuring of duties and positions would be recommended for future consideration. It is recommended that the three new administrative positions be phased in to accommodate the service growth. Additional full-time drivers will be needed in order to meet the new staffing levels for the expanded fixed routes. The specific number of full-time drivers needed will depend on the number of fixed routes that STS chooses to operate. Service enhancements related to extended service hours and increased frequencies during peak periods will require additional drivers as well. Four part-time microtransit drivers would be required to operate the Safe Ride Salisbury microtransit service option and the RCCC evening service if STS chooses to operate



these services directly. These drivers could also serve as “fill-ins” for other additional fixed route needs. A scheduler would be needed to coordinate microtransit trips and be trained on the new scheduler software that would need to be procured.

A new mechanic position is an urgent need for the service. Having the hours in the afternoon and evening would provide the necessary coverage for maintenance repairs and road calls. Finally, a part-time mechanic would need to be hired for work on Saturday, during the operating hours. This would allow for additional vehicle and electronic repairs to be conducted and reduce the deadline time for buses to be ready for pull-out service on Monday morning.

Technology

Integrating STS’s existing automatic vehicle locator (AVL) system with software to communicate where STS buses are in real time would greatly enhance riders’ ability to access the service and conveniently determine when the next bus will be at their bus stop. This “ride tracker” technology would improve the rider experience and would positively impact and enhance rider expectations for service delivery. Noting that this would require the purchase and on-going technical support, this would involve the purchase and implementation of new software and on-going maintenance support from new, dedicated positions that would focus on public outreach.

In addition, improved ridership data collection through electronic fareboxes integrated with the AVL system would provide quantitative data regarding vehicle loads and the optimal locations for bus shelters and benches. Electronic fareboxes would enable STS to expand fare payment options to mobile ticketing and credit cards. Through the rider survey, access to WiFi and phone chargers were also noted as technology requests.

Paratransit Recommendations

It is recommended that STS continue to contract out the paratransit service trips to RTS. As Rowan County will utilize updated scheduling software, the drivers need to provide STS with specific ridership data monthly, to include rider address, pick-up and drop off locations and times.

Paratransit trips are inherently more expensive to provide than are fixed-route trips. It is recommended that STS review their paratransit eligibility process and seek to adhere to the ADA guidelines for paratransit riders, reviewing rider eligibility on an annual basis. A formalized rider orientation should be conducted for eligible riders, with specific emphasis on service expectations and rider responsibilities. Scheduling trips, no-shows, personal care attendants, and other system policy guidelines should all be covered in this orientation.

Local College Coordination



There is a need to provide timely, responsive transit service to Catawba College, Livingstone College, and RCCC students. Recommendations from this study would engage the students at these locations and implement a dedicated transit alternative to provide safe ride mobility trips that would meet the needs of the campus riders. Specific evening service on Friday and Saturday would provide students with ability to travel from campus to the Tinseltown and Walmart area from 9:00 pm to 1:00 am. An

additional option to consider is a microtransit approach for taking passengers from the RCCC campus to destinations in a 2, 4, and 6-mile area, achieving a safe ride approach for students who have late evening classes. The intent on supporting this service would come through a financial partnership investment with the local colleges to offset operational costs.

Regional Coordination

The North Carolina Department of Transportation, Public Transportation Division (NCDOT-PTD) has encouraged small urban systems to expand operations in supporting regional passenger connectivity. The Federal Transit Administration (FTA) has identified specific funding available to help support this effort. NCDOT-PTD recently produced a Strategic Plan (dated December 2018) that outlines efforts to consolidate and coordinate for regional travel opportunities. Included in the recommended actions of the plan, it has been recommended to:

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



STS has a unique opportunity to assist with facilitating regional public transportation travel to specific destinations noted in this report. They include: Granite Quarry and Rockwell in Rowan County; Statesville in Iredell County; Lexington in Davidson County; and Kannapolis, located in Cabarrus County. The operational costs associated with these future regional trips would be partnered with the local municipalities, so that there would be a sharing of resources and investments for these services.

Financial

This LRPT Master Plan has an estimated projection for the funding required to fully implement the recommendations for the various service alternatives and corresponding capital program initiatives. Potential funding sources are identified at the federal, state, and local levels. Further investments will be needed to expand the current fixed-route system to allow expanded hours for future years.



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Increased frequency (from 60 minutes to 30 minutes) on some routes will involve additional resources and investments to meet projected service demands in future years.

Recognizing the existing funding limitations, the LRPT Master Plan includes five funding scenarios in order to provide the City of Salisbury with different transit options and levels of investment. The first scenario, Scenario A, is a cost neutral alternative that would allow Salisbury to implement some of the LRPT Master Plan improvements within the constraints of the existing budget. For example, STS would be able to operate Routes 1, 2, 3, 4, 5, and 8 but not implement microtransit.

The remaining four scenarios (B, C, D, and E) are considered full funding alternatives because they would require an additional investment in transit in order to implement them. The scenarios vary in terms of the level of transit service, coverage, and modes. They are summarized below and are intended to provide Salisbury with multiple options for improving transit over the next 20 years:

- **Scenario A** would be cost neutral and would include Routes 1, 2, 3, 4, 5, and 8 with limited service. Microtransit, college transit services, and regional routes in addition to Regional Route 100 would not be included.
- **Scenario B** would include Routes 1, 2, 3, 4, 5, and 8 with Microtransit Zones 1 and 2.
- **Scenario C** would include Routes 1 through 8 with Microtransit Zones 1 and 2.
- **Scenario D** would include Routes 1 through 4 with Microtransit Zone 3.
- **Scenario E** would include Routes 1 through 4 and 6 with Microtransit Zone 3.

The estimated costs of the five scenarios are summarized in the following tables by phase. The investment required is color coded to quickly identify the most and least expensive scenarios. Green indicates the lowest cost scenario while red shows the highest cost scenario. Please refer to Chapter 6.0 for an in-depth funding analysis.

Table ES-4: Summary of Estimated Costs in the Short-Term Phase (FY 2020)

Budget Item	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Fixed-Route Service	\$619,000	\$806,000	\$1,208,000	\$403,000	\$604,000
Microtransit Service	\$0	\$223,000	\$223,000	\$334,000	\$334,000
ADA Paratransit	\$272,000	\$263,000	\$302,000	\$242,000	\$275,000
Regional Service	\$106,000	\$106,000	\$106,000	\$106,000	\$106,000
Administration	\$348,000	\$708,000	\$708,000	\$708,000	\$708,000
Capital	\$244,000	\$698,000	\$1,404,000	\$663,000	\$680,000
Total Expenses	\$1,589,000	\$2,804,000	\$3,951,000	\$2,456,000	\$2,707,000
Estimated Revenue	\$1,599,000	\$1,667,000	\$1,710,000	\$1,648,000	\$1,670,000
<i>STS Base Budget</i>	<i>\$1,598,000</i>	<i>\$1,598,000</i>	<i>\$1,598,000</i>	<i>\$1,598,000</i>	<i>\$1,598,000</i>
Investment Required*	\$0	\$1,137,000	\$2,241,000	\$808,000	\$1,037,000

* Federal, state, and alternative local funding sources may be available to supplement the local contribution towards the additional investment required.



Table ES-5: Summary of Estimated Costs in the Medium-Term Phase (FY 2025)

Budget Item	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Fixed-Route Service	\$681,000	\$1,071,000	\$1,699,000	\$566,000	\$850,000
Microtransit Service	\$0	\$424,000	\$424,000	\$580,000	\$580,000
ADA Paratransit	\$299,000	\$308,000	\$351,000	\$285,000	\$321,000
Regional Service	\$116,000	\$155,000	\$155,000	\$155,000	\$155,000
Administration	\$382,000	\$804,000	\$804,000	\$804,000	\$804,000
Capital	\$268,000	\$406,000	\$406,000	\$406,000	\$406,000
Total Expenses	\$1,746,000	\$3,168,000	\$3,839,000	\$2,796,000	\$3,116,000
Estimated Revenue	\$1,757,000	\$1,890,000	\$1,958,000	\$1,870,000	\$1,901,000
<i>STS Base Budget</i>	<i>\$1,755,000</i>	<i>\$1,755,000</i>	<i>\$1,755,000</i>	<i>\$1,755,000</i>	<i>\$1,755,000</i>
Investment Required*	\$0	\$1,278,000	\$1,881,000	\$926,000	\$1,215,000

* Federal, state, and alternative local funding sources may be available to supplement the local contribution towards the additional investment required.

Table ES-6: Summary of Estimated Costs in the Long-Term Phase (FY 2030)

Budget Item	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Fixed-Route Service	\$748,000	\$1,380,000	\$2,276,000	\$758,000	\$1,137,000
Microtransit Service	\$0	\$464,000	\$464,000	\$637,000	\$637,000
ADA Paratransit	\$329,000	\$339,000	\$386,000	\$314,000	\$353,000
Regional Service	\$128,000	\$273,000	\$273,000	\$273,000	\$273,000
Administration	\$420,000	\$884,000	\$884,000	\$884,000	\$884,000
Capital	\$295,000	\$2,206,000	\$3,212,000	\$563,000	\$1,395,000
Total Expenses	\$1,920,000	\$5,546,000	\$7,495,000	\$3,429,000	\$4,679,000
Estimated Revenue	\$1,931,000	\$2,098,000	\$2,194,000	\$2,070,000	\$2,110,000
<i>STS Base Budget</i>	<i>\$1,929,000</i>	<i>\$1,929,000</i>	<i>\$1,929,000</i>	<i>\$1,929,000</i>	<i>\$1,929,000</i>
Investment Required*	\$0	\$3,448,000	\$5,301,000	\$1,359,000	\$2,569,000

* Federal, state, and alternative local funding sources may be available to supplement the local contribution towards the additional investment required.

Implementation Plan

Implementing the LRPT Master Plan over the next 20 years will require continual investment on the part of STS staff, City Council, and the greater community. The success of regional connections will depend on the participation of the municipalities and counties that would be served by the regional routes. However, that investment has the potential to translate into real benefits for Salisbury residents in terms mobility and access to opportunities.

The LRPT is intended to serve as a guide for Salisbury as it continues to grow and address its mobility challenges in the future. Therefore, the LRPT presents a wide array of transit options in the form of scenarios for the community to choose based on available funding and capacity. An initial step will be to determine which of the five scenarios Salisbury would like to pursue. Salisbury may also tailor the scenarios further in response to changing conditions in the community during the planning horizon. Budgetary, administrative, and capital decisions will follow based on the chosen scenario. A general plan for LRPT implementation is presented in Figure ES-1. Color-coded icons denote applicable implementation steps for each scenario.



Figure ES-1: Implementation Plan



City Fixed-Route Service

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	Introduce Routes 1, 2, 3, 4, 5 and 8	Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	
B	Introduce Routes 1, 2, 3, 4, 5 and 8	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	Increase frequencies on fixed-routes to 30 minutes during the weekday peaks: 7 am to 9 am / 4 pm to 6 pm
C	Introduce Routes 1, 2, 3, 4, 5, 6, 7, and 8	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	Increase frequencies on fixed-routes to 30 minutes during the weekday peaks: 7 am to 9 am / 4 pm to 6 pm
D	Introduce Routes 1, 2, 3, and 4	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	Increase frequencies on fixed-routes to 30 minutes during the weekday peaks: 7 am to 9 am / 4 pm to 6 pm
E	Introduce Routes 1, 2, 3, 4, and 6	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	Increase frequencies on fixed-routes to 30 minutes during the weekday peaks: 7 am to 9 am / 4 pm to 6 pm

Microtransit Service

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	Microtransit service not included in Scenario A		
B C	Implement Zones 1 & 2 (Country Club Hills, Food Lion Warehouse, Westcliff)	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	Reevaluate land use and development patterns to identify new microtransit service needs



	<p>Implement Zone 3 (Catawba College, Food Lion Warehouse, Meadowbrook Drive, VA Hospital, Westcliff)</p>	<p>Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm</p>	
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College Transit Service

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
	<p>College transit service not included in Scenario A</p>		
	<p>Form partnerships with Catawba College, Livingstone College, and RCCC to operate and fund the college transit services</p>	<p>Launch Safe Ride Salisbury and RCCC Evening Service</p>	<p>Evaluate the college transit services and determine if modifications are necessary</p>

Regional Service

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
	<p>Continue regional service to China Grove, Landis, and Kannapolis (Route 100)</p>		
	<p>Continue regional service to China Grove, Landis, and Kannapolis (Route 100)</p>	<p>Add regional service to Lexington (Route 200)</p>	<p>Add regional service to Granite Quarry and Rockwell (Route 300) Add regional service to Statesville (Route 400)</p>

Vanpool/Rideshare Program

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
	<p>Vanpool/Rideshare program not included in Scenario A</p>		
	<p>Begin coordinating with area employers in anticipation of a Rideshare/Vanpool Program</p>	<p>Start a Rideshare/Vanpool Program</p>	<p>Identify additional potential partners and expand the vanpool/rideshare program</p>



Administration and Operations

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	No additional positions created under Scenario A		
B C D E	Increase capacity by creating the following positions: <ul style="list-style-type: none"> • Transportation Planner (1) • Transportation Route Supervisors (2) • Mobility Manager (1) • Mechanic (1) If STS operates the microtransit service directly, hire two dispatchers and one scheduler	Hire part-time mechanic to support extended operating hours on fixed-routes	

Capital

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	Replace vehicles meeting useful life criteria Add additional amenities at bus stops as feasible within existing budget	Replace vehicles meeting useful life criteria Add additional amenities at bus stops as feasible within existing budget	Replace vehicles meeting useful life criteria Add additional amenities at bus stops as feasible within existing budget
B C D E	Procure additional fixed-route vehicles for Scenario C Procure three vans for the vanpool/rideshare program If STS operates the microtransit service directly, procure microtransit vehicles Add bus tracking software and rider application capabilities Upgrade to electronic fareboxes and integrate with existing automatic vehicle locator (AVL) technology to improve data	Construct an on-site fueling facility Add additional amenities at fixed-route bus stops and microtransit feeder points	Procure additional fixed-route vehicles in order to provide peak frequency service, except Scenario D which does not require additional vehicles Equip additional vehicles with electronic fareboxes and integrate with AVL Add additional amenities at fixed-route bus stops and microtransit feeder points



Short-Term 0-5 years	Medium-Term 5-10 years	Long-Term 10-20 years
collection Add additional amenities at fixed-route bus stops and microtransit feeder points		



Chapter 1.0
Introduction





1.0 Introduction

The City of Salisbury requested an analysis of the current and future needs of public transit services in and around Salisbury community. The scope of the work for this project was to develop a long-range transit system planning, transit operational analysis for the next 20-years. This analysis would include a comprehensive public engagement process, a review of demographic indicators, land uses, employment, financial, and multimodal transportation system considerations in transit planning. This project was to develop a long-range public transportation masterplan that would serve as guidance for the City of Salisbury transit services—and address the current existing conditions and analyze recommendations that would enhance and build upon these services. The goal is to improve coordination, connectivity and efficiency while recommending a 20-year plan for future transit infrastructure, funding and operational needs to support these recommendations.

1.1 Overview of Salisbury Transit

The Salisbury Transit System (STS) operates three (3) fixed routes and Americans with Disabilities Act (ADA) Paratransit services in Salisbury, Spencer, and East Spencer. A map showing the existing system and ADA service area is included as Figure 1-1 on page 1-4. The City operates a fleet of six Federal Transit Administration (FTA) funded vehicles for its fixed route service. All of these vehicles were obtained with Section 5311 funds through the North Carolina Department of Transportation, Public Transportation Division (NCDOT-PTD). The ADA complementary paratransit service is operated with county funded vans and cut-a-way vehicles.

STS, a City Department, operates at an administration and maintenance facility located at 300 West Franklin Street. This facility was funded with FTA assistance through a grant from NCDOT. The downtown bus transfer site consists of three bus shelters with amenities that were also funded with FTA Section 5311 funding.

Transit Services

STS operates fixed route transit service within Salisbury, Spencer, and East Spencer. The three fixed routes serve major destinations within the urbanized portion of the county. All routes currently connect at a central transfer point in downtown Salisbury, located on Depot Street. Some routes operate limited weekday or weekend service. The base fare is \$1.00, with a half fare of \$0.50 for senior citizens, persons with disabilities, and Medicare card holders. Children under the age of five (5) ride free. Transfers are also free.

- Route 1 (Green) extends along Main Street from downtown Salisbury to the Employment Security Commission near Jake Alexander Boulevard, and service Rowan Cabarrus Community College, Wallace Commons Shopping Center, and Rufty Holmes Senior Center. Route 1 (Green) operates during weekdays from 6:00 a.m. to 7:04 p.m., and 9:30 a.m. to 3:20 p.m. on weekends.
- Route 2 (Red) extends from the Salisbury Mall to the County Health Department and serves Innes Street Market, Walmart, and the area surrounding Livingstone College. Route 2 (Red) operates 6:00 a.m. to 7:02 p.m. during weekdays and 9:30 a.m. to 3:20 p.m. on weekends.



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- Route 3 (Blue) extends from the VA Medical Center and Rowan Regional Medical Center to Spencer, and the Greyhound bus station in East Spencer. Route 3 (Blue) operates 6:00 a.m. to 7:08 p.m. during weekdays and 9:30 a.m. to 3:20 p.m. on weekends.

As noted, the STS also provides an ADA Paratransit service which is available to transport functionally disabled individuals to many different destinations within the cities of Salisbury, Spencer and East Spencer. This service is conducted on an advance scheduling basis and the vehicles to support this service include wheelchair lift-equipped vans. The City of Salisbury currently contracts with the Rowan County Transit Service to operate the City’s ADA complementary paratransit service within the ¾ mile of the fixed routes. The one-way fare for the ADA complimentary service is \$2.00.

Limited regional transit connections are available for public transit riders. The Rowan Transit System provides the Rowan Express service between Salisbury, China Grove, Landis, and Kannapolis (which are joint funding partners). This express service connects STS and Rowan County with Rider Transit in Kannapolis/Concord. The Rowan Express operates peak work commuting times, five morning trips and five afternoon/evening trips, Monday-Friday. These trips provide linkage to both Cabarrus and Rowan county communities at the Kannapolis Amtrak train station and the Salisbury Depot.

Departmental Performance Goals

STS has established the following departmental performance goals:

1. Consistently provide exceptional service to all customers.
2. Evaluate fixed routes for efficiency and effectiveness as well as the feasibility to expand routes and services.
3. Better marketing and spreading the word about public transit by “telling the story through a benefits campaign” to local elected bodies and the community at large.
4. Improve transit connectivity inside and outside the City of Salisbury by focusing on connecting customers to places.
5. Maintain transit infrastructure at a high level and improve the aesthetic appeal of shelters, bus stops, benches, and signs.

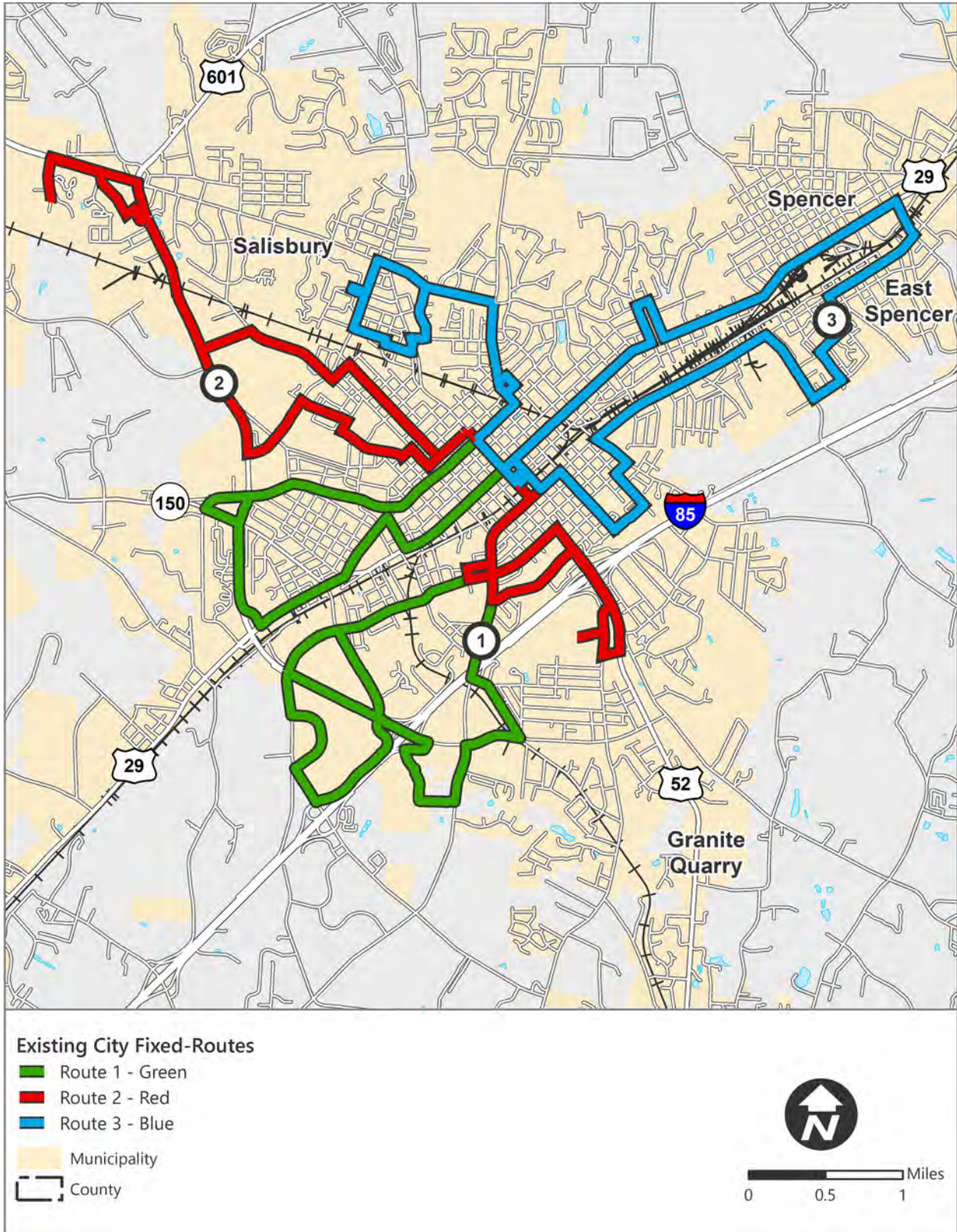
Performance measures are tracked by workload, efficiency, and effectiveness measures listed in Table 1-1. Progress on these performance measures are included in the City of Salisbury’s annual budget.

Table 1-1: STS Performance Measures

Workload	Efficiency	Effectiveness
<ul style="list-style-type: none"> • Number of passengers (fixed route) • Number of passengers (ADA) • Number of full-sized buses • Number of routes • Revenue miles driven • Gallons of fuel used • Fares collected • State matching funds collected 	<ul style="list-style-type: none"> • Average cost per mile • Average cost per passenger (fixed route) • Average cost per passenger (ADA) 	<ul style="list-style-type: none"> • Complaints received • Number of breakdowns • Number of driver vacancies • Accidents • Injuries

Source: STS, 2019.

Figure 1-1: STS Existing Route Map



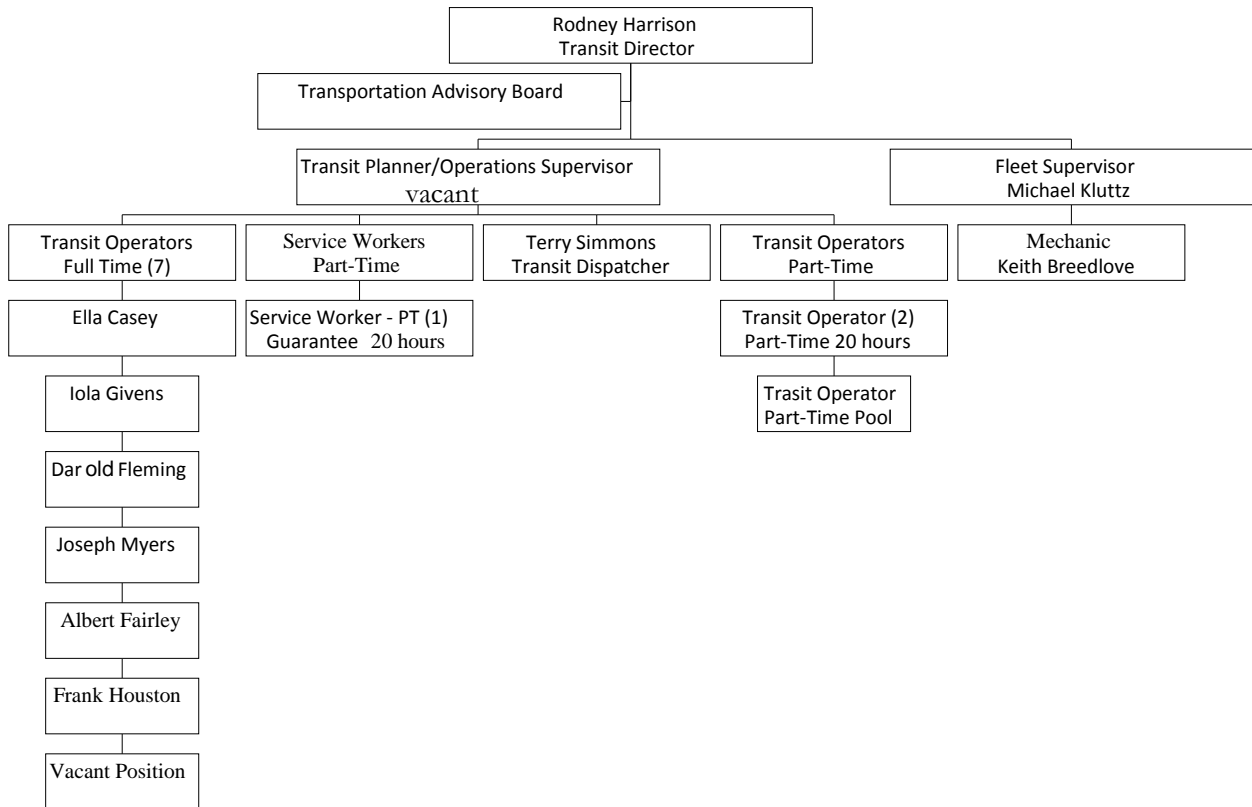


Organization and Administration

STS is a department within the City of Salisbury with a mission to “provide a safe, efficient, and affordable transportation alternative to the general public in the cities of Salisbury, Spencer, and East Spencer; thus permitting greater accessibility to employment, social, recreational, educational, and medical facilities.” The department of 12 full-time and 3 regular part-time staff is overseen by the Transit Director. A Transportation Advisory Board (TAB), composed of interested citizens, serves as a liaison between the transportation department, the transit director, the city council and residents of the community.

STS is organized into operations and maintenance sections. Operations is overseen by a transit planner/operations supervisor and includes a transit dispatcher, a part-time service worker, 7 full-time transit operators, and 2 part-time operators. Maintenance is led by a fleet supervisor and includes one additional mechanic. Figure 1-2 shows STS’s current organizational chart.

Figure 1-2: STS Organizational Chart



Source: STS, 2019.



1.2 Past Planning Efforts

The need for improving bus service and the overall bus system in Salisbury is documented in several local plans. These plans were created by the Cities of Salisbury, Spencer, and East Spencer and the Cabarrus-Rowan MPO.

Rowan County/City of Salisbury Community Transportation Services Plan (CTSP)

The CTSP was adopted in February of 2011 through a joint effort between the city and county. The focus of the plan was to identify strategies and action items throughout the county. The plan aimed to create a more collaborative environment between Rowan County and the City of Salisbury in order to facilitate more efficient transit services and enhance mobility options for Rowan County residents. Recommendations for STS included the following:

- Establish a staffing succession plan to prevent employee turnover gaps
- Utilize marketing plan and meet with local stakeholders and colleges in order to increase participation when implementing the new marketing plan
- Update fixed route service to remove low ridership areas, add underserved areas, and reflect public suggestions for better service.
- Negotiate a formal memorandum of understanding with Rowan Transit System (RTS) outlining fare structure, bill procedures, cancellation policies, and service standards for ADA complementary services.
- Contract an independent third-party to function as a certifier of riders of ADA service.
- Identify opportunities to service human service agencies' transit needs with existing fixed route service.
- Recommendations for increased collaboration between STS and RTS are as follows:
 - Establish joint service promotion activities, including a shared marketing staff person
 - Enhance coordination of rides with transportation providers in bordering counties
 - Fully document operational service areas showing where each system offers connectivity
 - Hold a joint goal setting meeting every two years and assess previously established goals

Salisbury Comprehensive Bicycle Plan

The Salisbury Comprehensive Bicycle Plan was adopted in 2009 to address bicycle needs throughout Salisbury. The Plan made several recommendations that relate bicycle travel to transit and help close gaps to make these modes of transportation more viable options. Recommendations included:

- Provide sheltered, secure bicycle parking facilities at all transit centers and any future park and ride lots
- Include bicycle amenities in any new transit project
- Provide bicycle access to and from transit facilities
- Greater cohesion between transit and bicycle transportation
- Implement a bike share program that places bike stations near top transit stops
- Allow advertising on transit stop benches in order to fund transit and bike projects
- Add wayfinding stations that provide bike maps, transit maps, and tourist information throughout town



Towns of Spencer and East Spencer Comprehensive Bicycle and Pedestrian Plan

This plan was created in a joint effort between the towns of Spencer and East Spencer with the goal to improve connectivity between walking, biking, and transit. The plan was adopted in 2014. The plan calls for creating better access to transit through bicycling and walking. These communities have large numbers of no-vehicle households and therefore, it is essential that the communities are walkable, transit friendly, and biker friendly. The plan also calls for detectable warning features near transit stops for people with vision impairments.

West End Transformation Plan

The West End Transformation Plan was created by Salisbury through a planning grant through the Department of Housing and Urban Development. The goal of the grant was to help distressed neighborhood plan for revitalization efforts that help improve the community. The plan addressed how to better connect the area with transit with the following recommendations:

- Increase investment in transit
- All new development supports transit
- Increase bus service to the West End
- Rehabilitate Duncan School and make it a neighborhood transit hub that includes real time route information, a call box
- Embrace transit as a critical link to education and employment for this area
- Install more bus shelters in the West End
- Increase transit frequency throughout the West End
- Extend service hours so that second shift workers can utilize public transportation

East Innes Street and Long Street Complete Streets Study

The East Innes Street and Long Street Complete Streets Study was completed in January of 2015. The Study was commissioned by the City of Salisbury in cooperation with the Cabarrus-Rowan MPO and NCDOT. The goal of the study was to investigate how to improve safety on East Innes and Long Streets, and to take into consideration all modes of transportation. The following goals were identified in the study that relates to public transit:

- Accommodate pedestrians, bike, and transit riders of all ages and abilities to move about in this section
- Add additional frequency of bus service and more quality shelters along bus routes to provide a better rider experience and to improve ridership

Salisbury Vision 2020 Plan

The Salisbury Vision 2020 Plan was adopted by the City of Salisbury in 2001 and is still a relevant planning document today. The purpose of the plan was to continue successful community planning and to address pressing issues that the city would face in years to come. Recommendations pertaining to transit are as follows:

- Public transit should be encouraged within the development and redevelopment of all residential, shopping, gathering and work places
- Full Service streets that accommodate transit, bikes, pedestrians and not just cars



- Service expansions to transit beyond the three routes
- All new neighborhoods need to be designed to incorporate transit and transit stops
- New high density development should be located near transit
- New large-scale commercial should provide transit stops
- Promote development patterns that correlate with transit routes to make transit more effective

Cabarrus Rowan Urban Area MPO 2040 Metropolitan Transportation Plan (MTP)

The Cabarrus-Rowan MPO adopted the 2040 MTP in April of 2014 and amended the plan in August of 2015. The plan is a comprehensive transportation plan and makes several suggestions for transit systems in the region. More specifically, the plan makes the following recommendations for STS:

- Enhance public transportation system
- Improve mobility through public transportation
- Combat traffic congestion through increased public transportation funding- adding bus routes and park and ride spaces to increase ridership
- Evaluate connection between Salisbury and Concord/Kannapolis Area Transit Systems
- Evaluate more regional connections to Charlotte specifically to the Light Rail Blue Line Extension
- Expansion of STS to reach underserved areas

1.3 Background and Purpose of the Plan

This study was initiated to assist the decision-making in the City so that scarce resources may be allocated in the most efficient and effective manner in delivering transit services. This study seeks to develop additional resources which would be needed to properly plan for and manage future demand and growth of public transit both within Salisbury, as well as in the region. Parameters that were analyzed included: service delivery, fiscal constraints, staffing, capital resources, facilities (including facility alternate fuels), vehicles (including vehicles size, alternative fuel recommendation), technology enhancements, customer service, future service expansion, (including microtransit alternatives), on demand transit and potential new modes such as fixed guideway (commuter rail/light rail/bus rapid transit), express bus routes and ridesharing. The work elements for this study involved extensive technical analysis and industry best practices that would be implementable for the STS service. Throughout this process, coordination with the local Steering Committee and staff was essential in providing ongoing feedback and direction.





1.4 Organization of the Plan

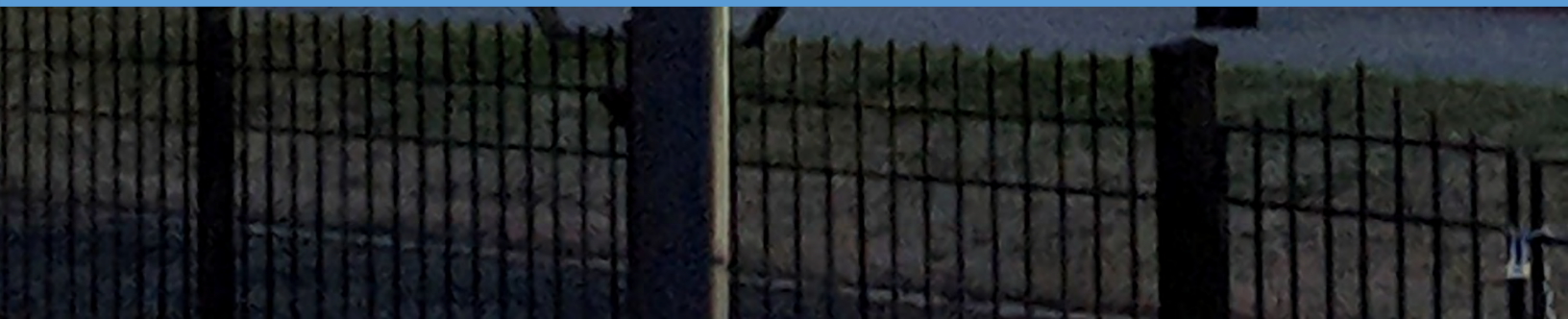
The LRPT Master Plan final report is a culmination of a five-month planning process that involved extensive public engagement with the Steering Committee, TAB, community stakeholders, STS riders, and Salisbury residents. The report documents the public engagement efforts, analysis of existing conditions, recommendations for future transit service, funding plan, and implementation plan. The LRPT Master Plan is organized into seven chapters:

- Chapter 1: Introduction
- Chapter 2: Understanding Existing Conditions
- Chapter 3: Assessing Current Transit Service
- Chapter 4: Collaborating with Stakeholders and the Community
- Chapter 5: Identifying Future Transit Needs
- Chapter 6: Funding the Plan
- Chapter 7: Implementing the Plan



Chapter 2.0

Understanding Existing Conditions





2.0 Understanding Existing Conditions

The existing demographic, land use, and employment conditions were researched and assessed in order to better understand Salisbury’s transit needs. A peer case study including five transit systems was conducted in order to provide context for STS’s current services.

2.1 Demographic Profile

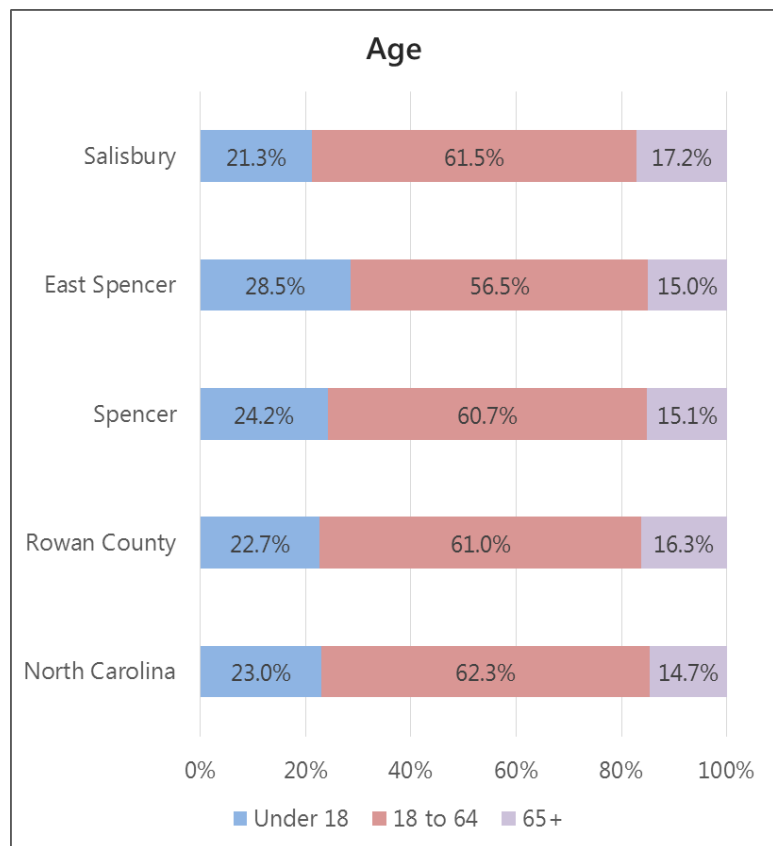
A demographic profile was prepared in order to gain a better understanding of the residents and transportation needs within the City of Salisbury and towns of East Spencer and Spencer. Understanding where concentrations of population, individuals living below poverty, and households without access to vehicles are located is critical to planning a successful transit service for the community. The profile compares the demographics of Salisbury to East Spencer, Spencer, Rowan County, and North Carolina in order to provide both local and regional perspectives. This demographic profile was prepared using American Community Survey (ACS) 2012-2016 five-year estimates from the US Census Bureau at the block group, place, county, and state levels.

Population and Age

The population of Salisbury is 33,674. The population of East Spencer is 1,465, while the population of Spencer is 3,290. The population of Rowan County is 138,694. North Carolina’s population exceeds 10 million according to 2017 population estimates.

Population density within the area is greatest in Spencer, East Spencer, southern Salisbury, and western Salisbury, notably near greater concentrations of activity centers as shown in Figure 2-1 on page 2-6.

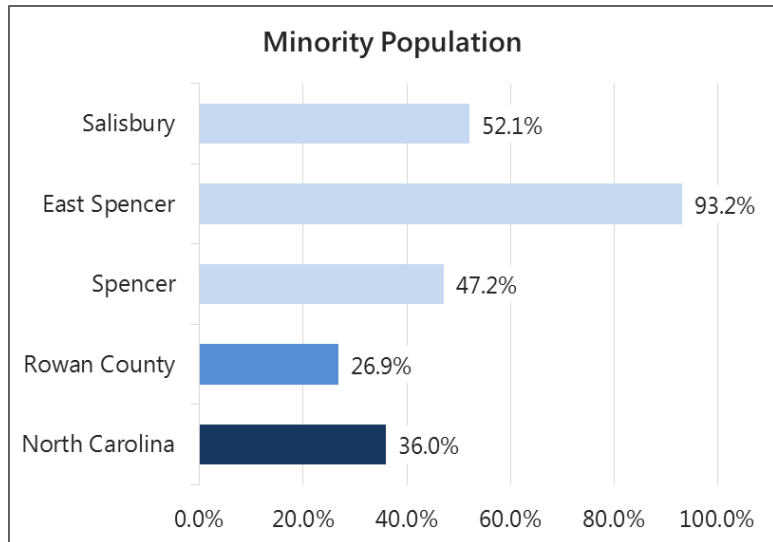
The age distribution is similar in the cities, county, and state. The Under 18 age group varies between 21 and 29 percent of the total population. East Spencer has the largest percentage of residents under 18. The 18 to 64 age group varies between 57 and 62 percent. The state has the greatest percentage of residents 18 to 64 years old. The 65 or older age group varies between 15 and 17 percent with Salisbury having the largest percentage of residents age 65 or older.





Race and Ethnicity

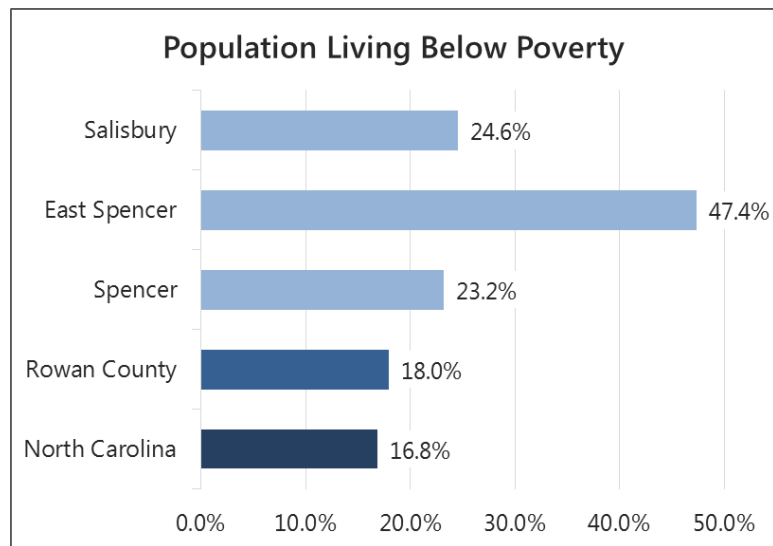
Salisbury, East Spencer, and Spencer have larger percentages of minorities compared to the county and state. The minority population in Salisbury is 52.1 percent and 47.2 percent in Spencer. The minority population of East Spencer is 93.2 percent, which more than triples Rowan County at 26.9 percent. The minority population of East Spencer is over 2.5 times greater than the state average at 36.0 percent.



Minority populations are mostly concentrated in western Salisbury, between NC 150 and US 70, Spencer, and East Spencer. Concentrations are also present along I-85 from Webb Road to East Spencer (Figure 2-2, page 2-7). The Hispanic/Latino population of Salisbury is 9.8 percent, while Spencer and East Spencer are slightly higher with 11.0 percent and 14.1 percent, respectively. Rowan County has a Hispanic/Latino population that is lower than all three towns at 8.1 percent while the North Carolina Hispanic/Latino population constitutes 8.9 percent.

Low-Income Populations

The percentage of individuals living below the poverty level in Salisbury is 24.6 percent, which is comparable to Spencer (23.2 percent). East Spencer has a significantly higher percentage of individuals below the poverty level at 47.4 percent. Rowan County has a lower percentage at 18.0 percent, but is still higher than the state at 16.8 percent.



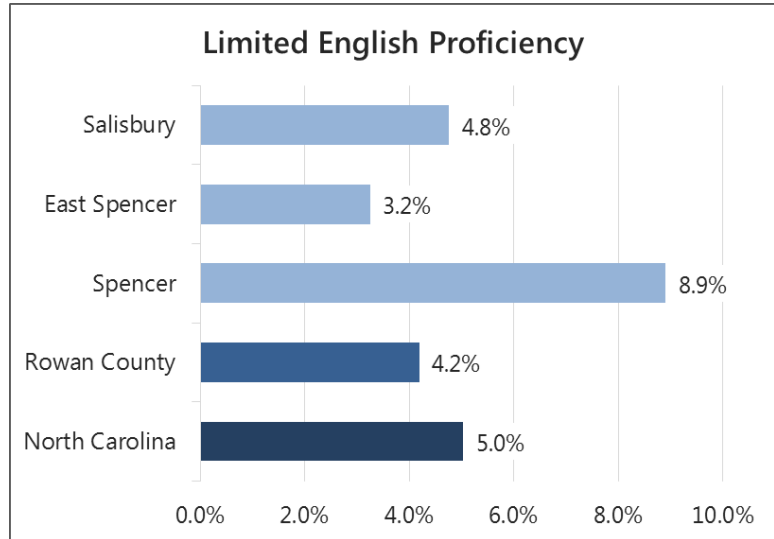
Concentrations of individuals living below the poverty level within the region are highest within the centermost areas of Salisbury and East Spencer, and northern Spencer.

There is a greater concentration in the Lash Drive neighborhood. There is also a block group southwest of Salisbury between Webb Road and I-85 Exit 74 that has a large concentration as well. Figure 2-3 on page 2-8 shows the concentrations of individuals living below poverty. The median household income in Salisbury is \$36,649. The median household income of Spencer is slightly higher at \$39,167 while East Spencer is significantly lower at \$19,286. All three towns have lower median household incomes than the county (\$44,494) and state (\$48,256).



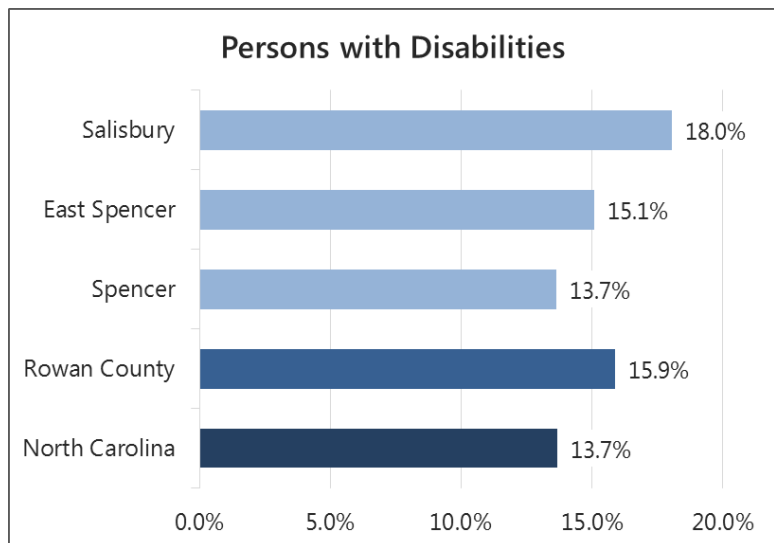
Limited English Proficiency

Limited English Proficiency (LEP) is defined by the ACS as individuals that speak English less than very well. In Salisbury, adults that speak English less than very well are 4.8 percent while in East Spencer they are 3.2 percent and in Spencer they are 8.9 percent. LEP populations are 4.2 percent in Rowan County and 5.0 percent in North Carolina. LEP populations are lower in Salisbury compared to the state average, but are higher than county averages. Spencer exceeds all local and regional averages by at least 4 percentage points. The LEP population in East Spencer is less than the county and state averages. The majority language group for LEP populations is Spanish. LEP populations are most concentrated in western Salisbury, between NC 150 and US 70 and in the block group between Webb Road and I-85 Exit 74. There are also concentrations in East Spencer and in a block group northeast of Spencer (Figure 2-4, page 2-9).



Persons with Disabilities

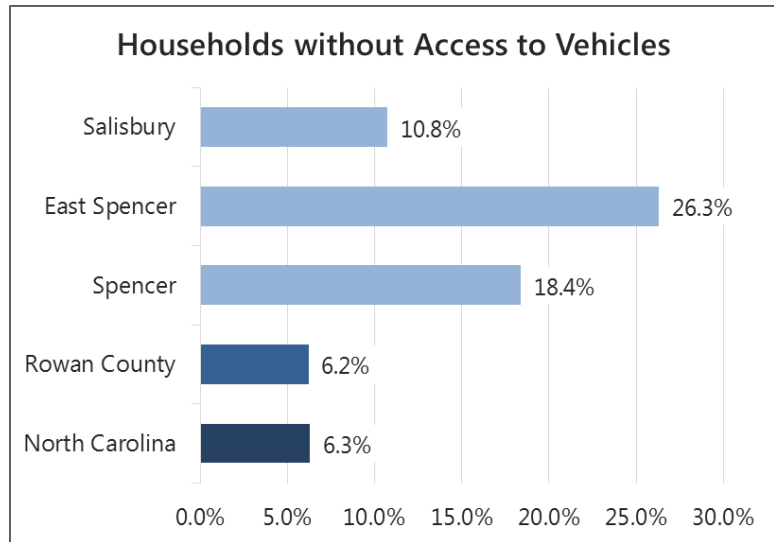
Salisbury has the highest percentage of persons with disabilities compared to the other towns and regions with a total of 18 percent. East Spencer and Spencer both rank below the county's average of 15.9 percent with 15.1 percent and 13.7 percent respectively. North Carolina has 13.7 percent of persons with disabilities, which is lower than any of the towns or county. The largest concentrations of persons with disabilities are in block groups east of East Spencer and around Rockwell as shown on Figure 2-5 (page 2-10).





Access to Vehicles

The percentage of households without access to a vehicle is higher in Salisbury, East Spencer, and Spencer compared to the county and state averages. Approximately 10.8 percent of households in Salisbury do not have access to a vehicle while this percentage is higher in Spencer with 18.4 percent, and even higher in East Spencer at 26.3 percent. In comparison, the percentages are 6.2 percent in Rowan County and 6.3 percent in North Carolina.



Areas that have the greatest concentrations of households without access to vehicles include East Spencer, the northern portion of Spencer, the center of Salisbury, western Salisbury, and southern Salisbury (Figure 2-6, page 2-11).

Means of Transportation to Work

The means of transportation to work statistics for Salisbury, East Spencer, and Spencer differ slightly by mode from the statistics for the county and state. There is a slightly greater percentage of the population that commutes to work by carpool or by bike in Salisbury compared to the county and state. Most notably, the percentage of workers that carpool to work in East Spencer is 26.3 percent, compared to 10.7 percent in the county and 10.3 percent in the state. In addition, a greater percentage of workers commute alone by auto in the communities.

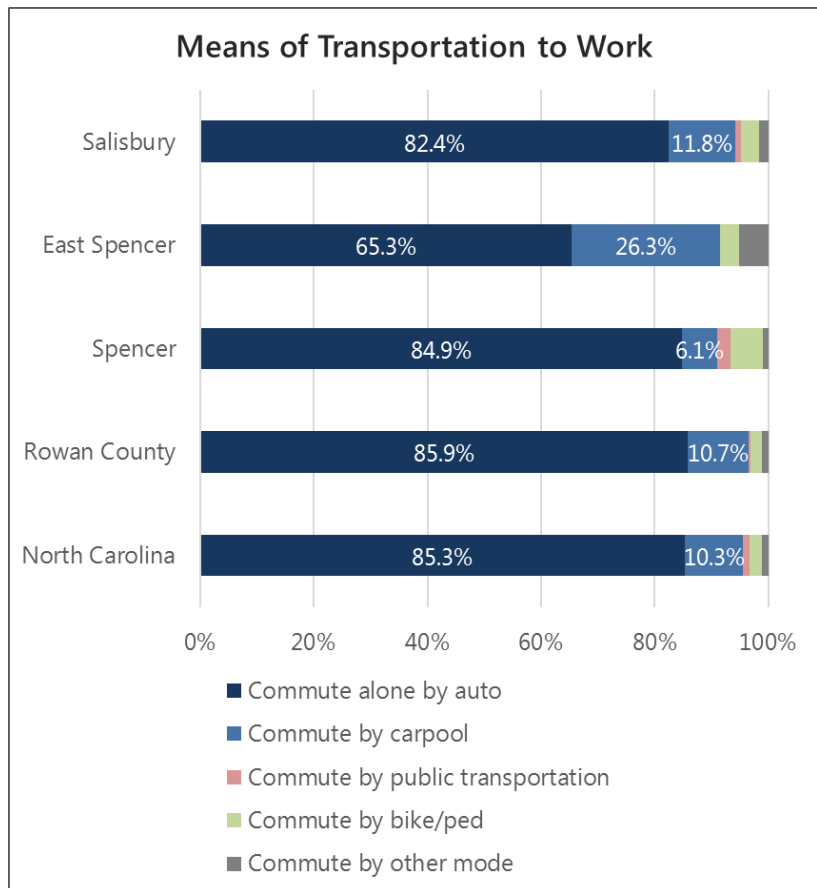


Figure 2-1: Population Density

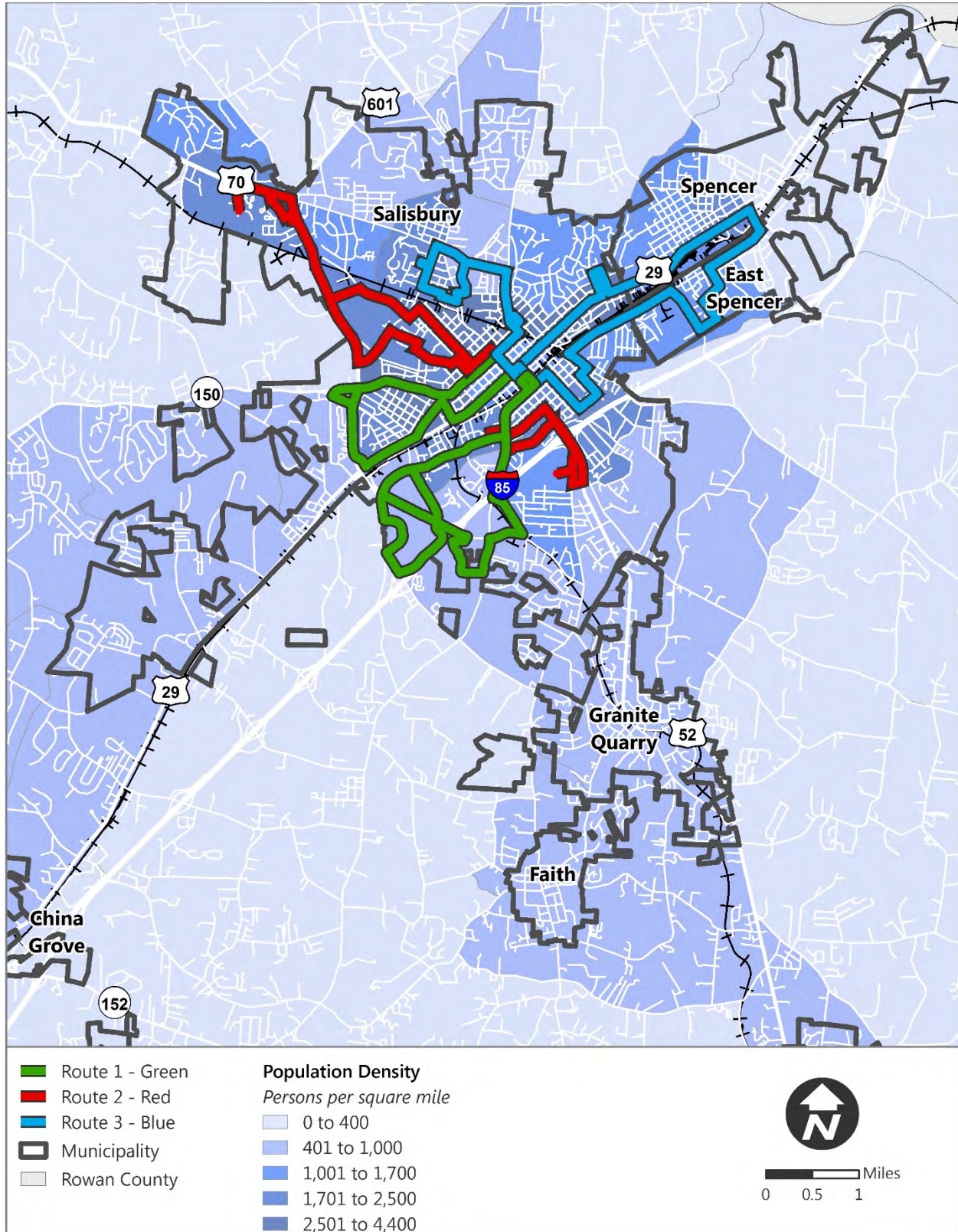


Figure 2-2: Minority Population

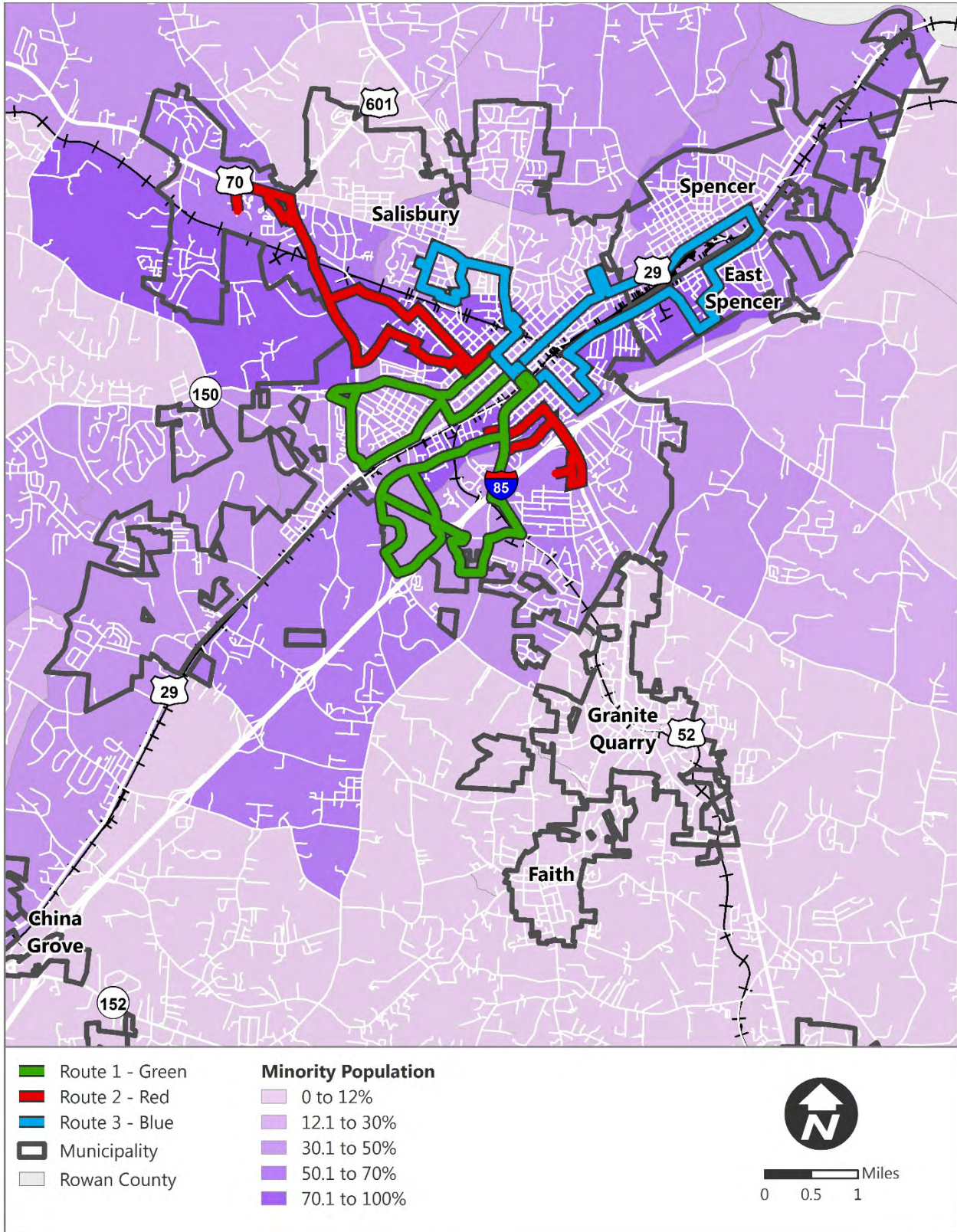


Figure 2-3: Population Living Below Poverty

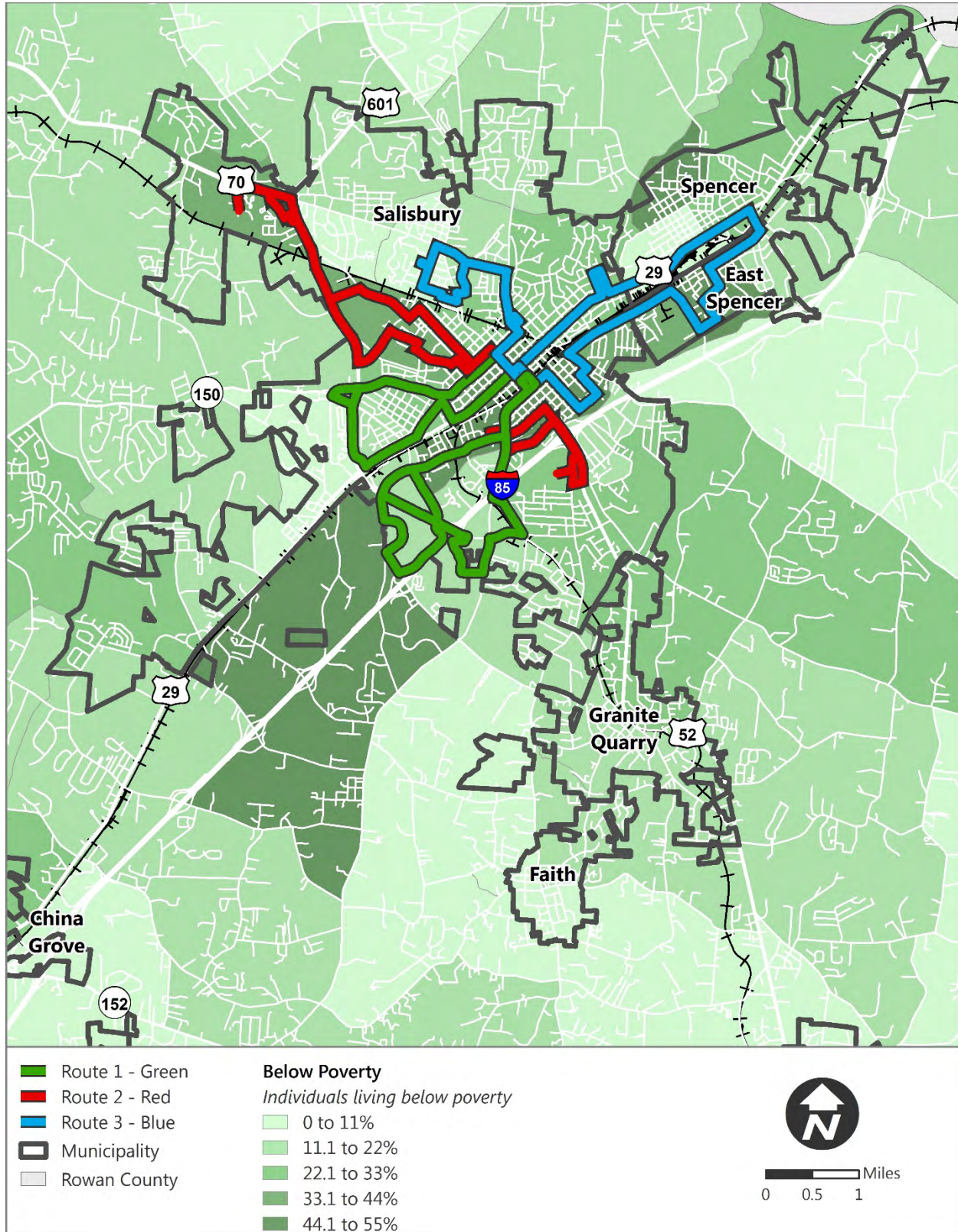


Figure 2-4: Population with Limited English Proficiency

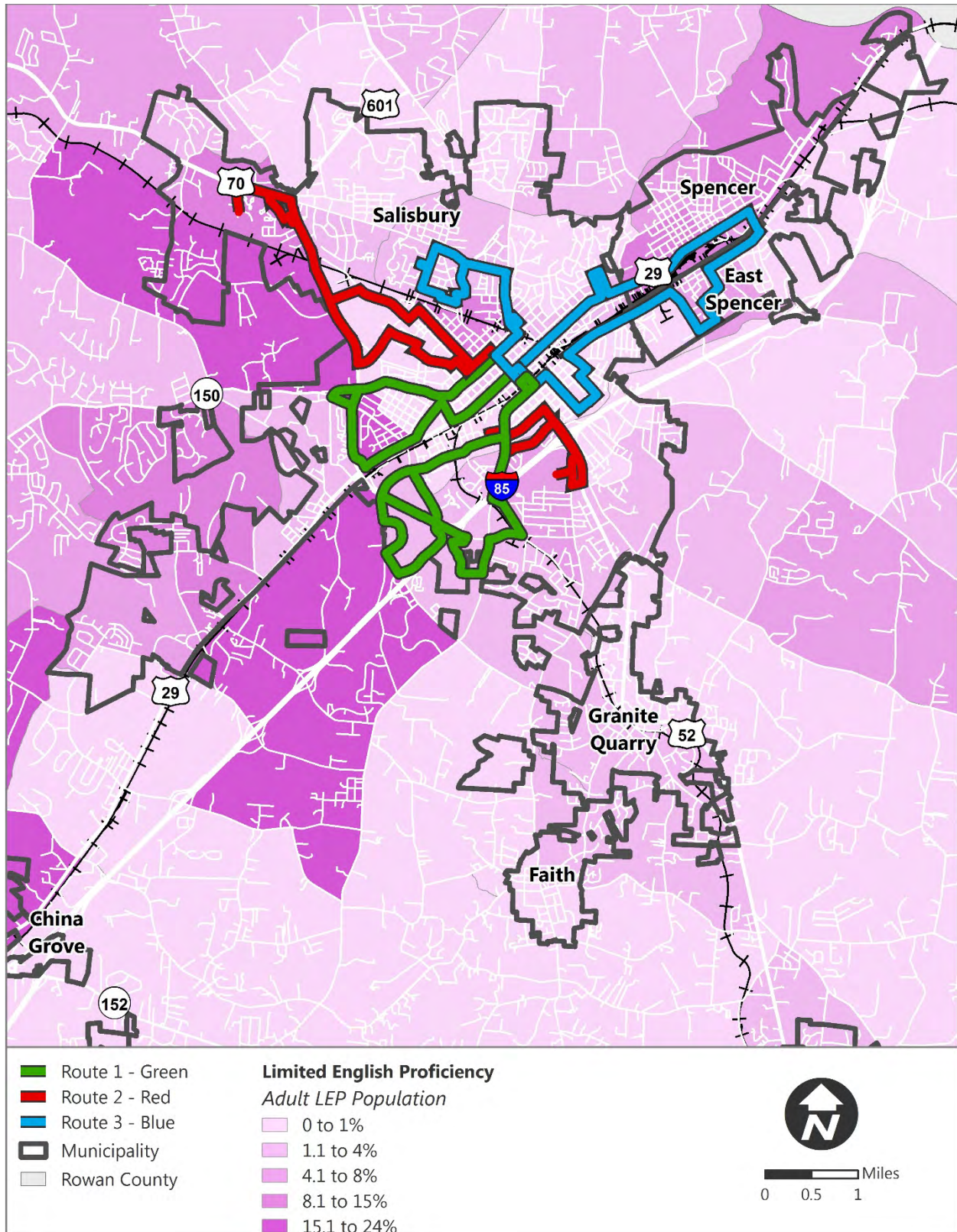


Figure 2-5: Persons with Disabilities

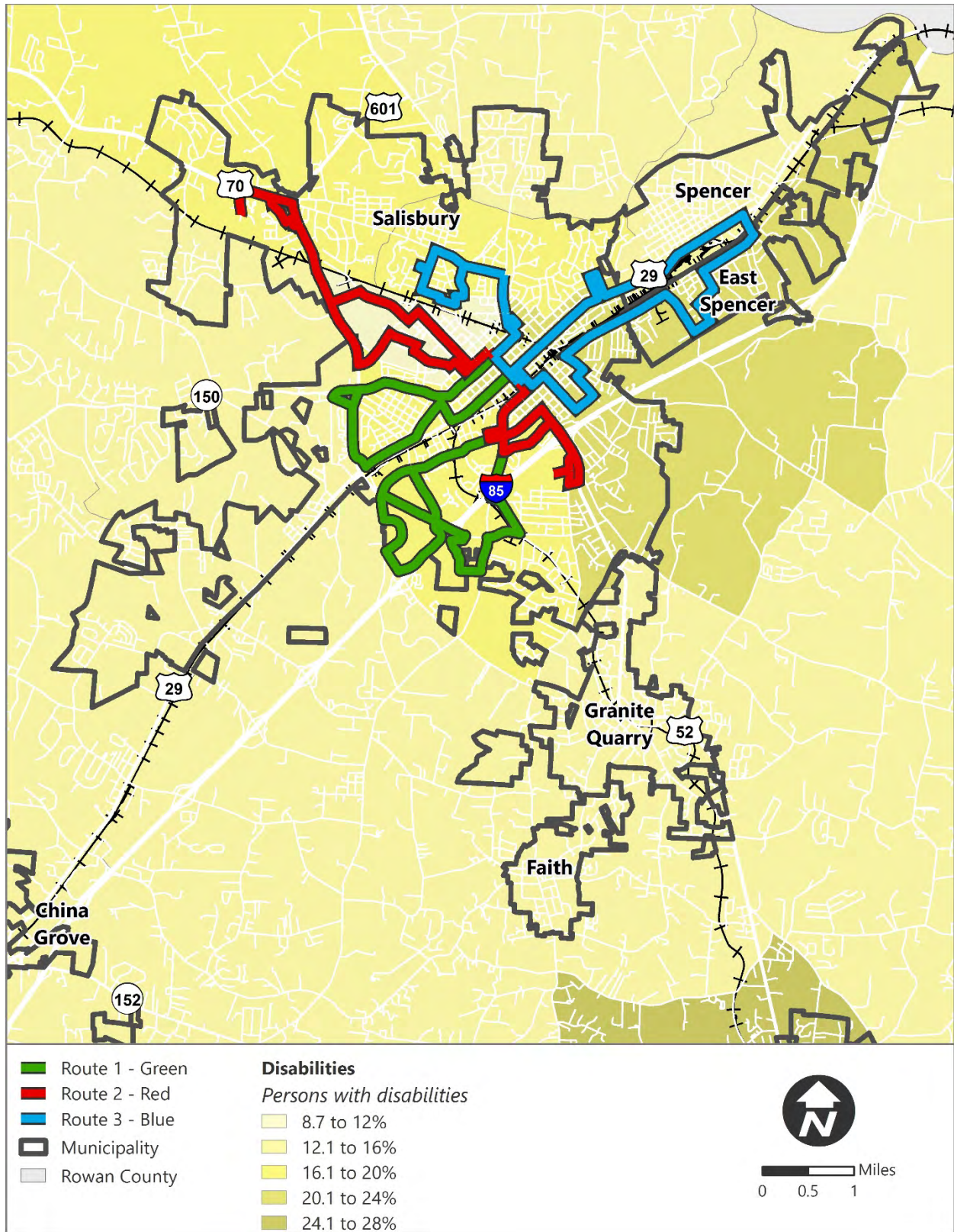
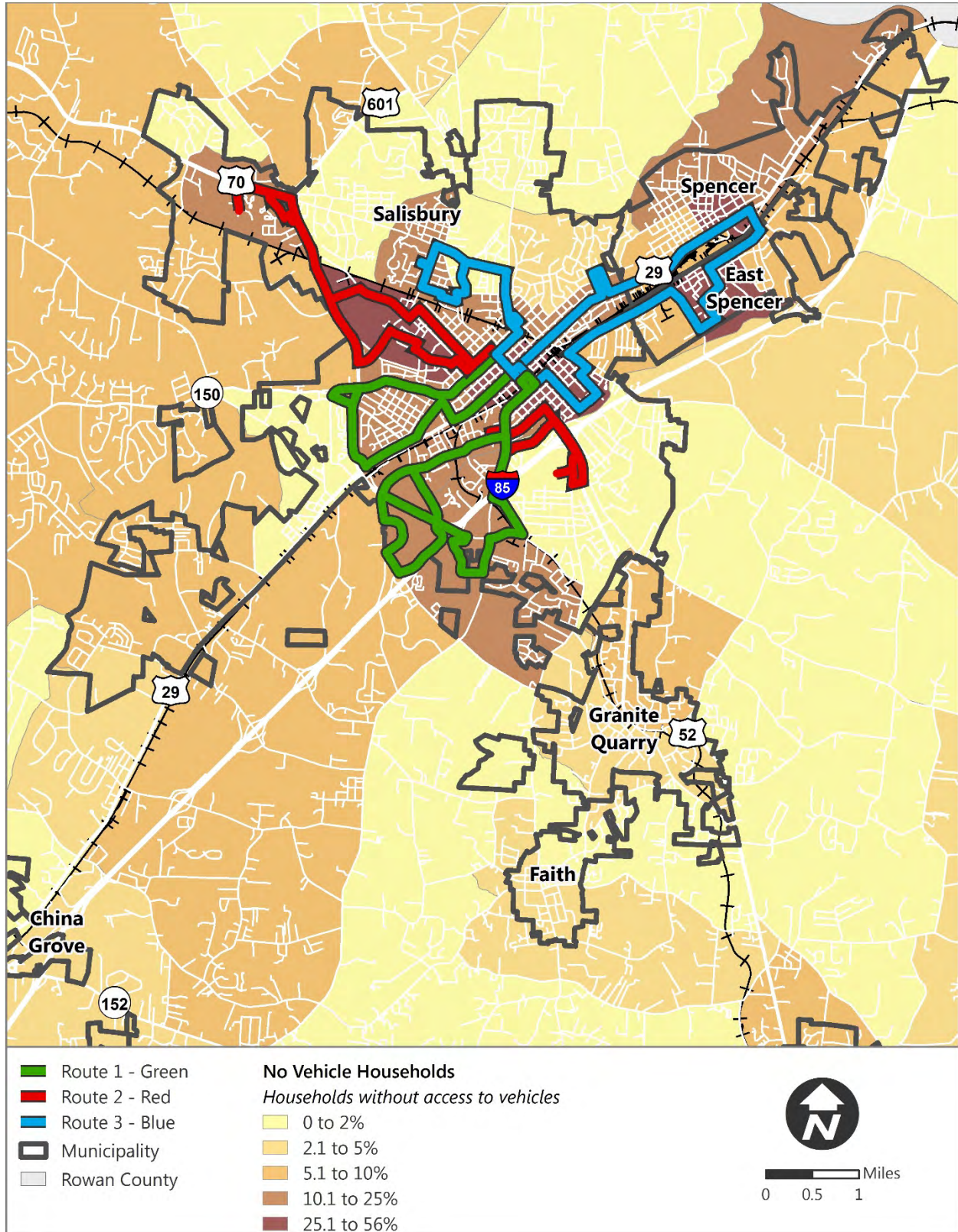


Figure 2-6: Households without Access to Vehicles



2.2 Major Corridors and Activity Centers

The major travel nodes in Salisbury include Main Street (Highway 29), Jake Alexander Boulevard, Statesville Boulevard (Highway 70), Innes Street, and Interstate 85. Activity centers were identified and mapped within Salisbury in order to understand potential origins and destinations for fixed-route transit. As noted in Table 2-1 and Figure 2-7 (page 2-14), Salisbury has multiple activity centers that can be described according to several categories: civic, education, grocery, health, recreation, residential, shopping, social service, and transit. These activity centers are geographically distributed throughout the city, and are most concentrated in the downtown region and off of Jake Alexander Boulevard.



Proximity to current transit was analyzed for each activity center. The three current bus routes were buffered one-half mile to see which activity centers were within the buffer. The last three columns in Table 2-1 show which bus routes each activity center is within. The majority of all activity centers were within walking distance to at least one bus route. There are eight total activity centers that are not located with one-half mile of any bus route.

Table 2-1: Activity Centers

Map ID	Activity Center	Category	Route 1 (Green)	Route 2 (Red)	Route 3 (Blue)
1	Westside Manor Apartments	Residential		●	
2	Laurel Point	Residential		●	
3	Lakewood Apartment Homes	Residential		●	
4	Gordon P. Hurley Soccer Complex	Civic			
5	Salisbury Marketplace Shopping Center	Shopping		●	
6	Holly Leaf Apartments	Residential		●	
7	West End Plaza	Shopping		●	
8	American Red Cross	Social Service		●	
9	Social Security Administration	Civic		●	
10	Foil Tatum Park	Civic		●	
11	Carillon Assisted Living	Residential			
12	Catawba College	Education			●
13	VA Medical Center	Health			●
14	Kelsey Scott Park	Civic		●	●
15	ALDI	Grocery	●	●	
16	Harris Teeter	Grocery	●	●	
17	Hurley Family YMCA	Civic	●	●	
18	Food Lion (Jake Alexander Blvd)	Grocery	●	●	
19	Westland Shopping Center	Shopping	●		
20	Salisbury Village at Castlewood	Residential	●		
21	La Alcancia	Grocery			
22	Farm Fresh Marketplace	Grocery			
23	Food Lion (Mahaley Ave)	Grocery			●

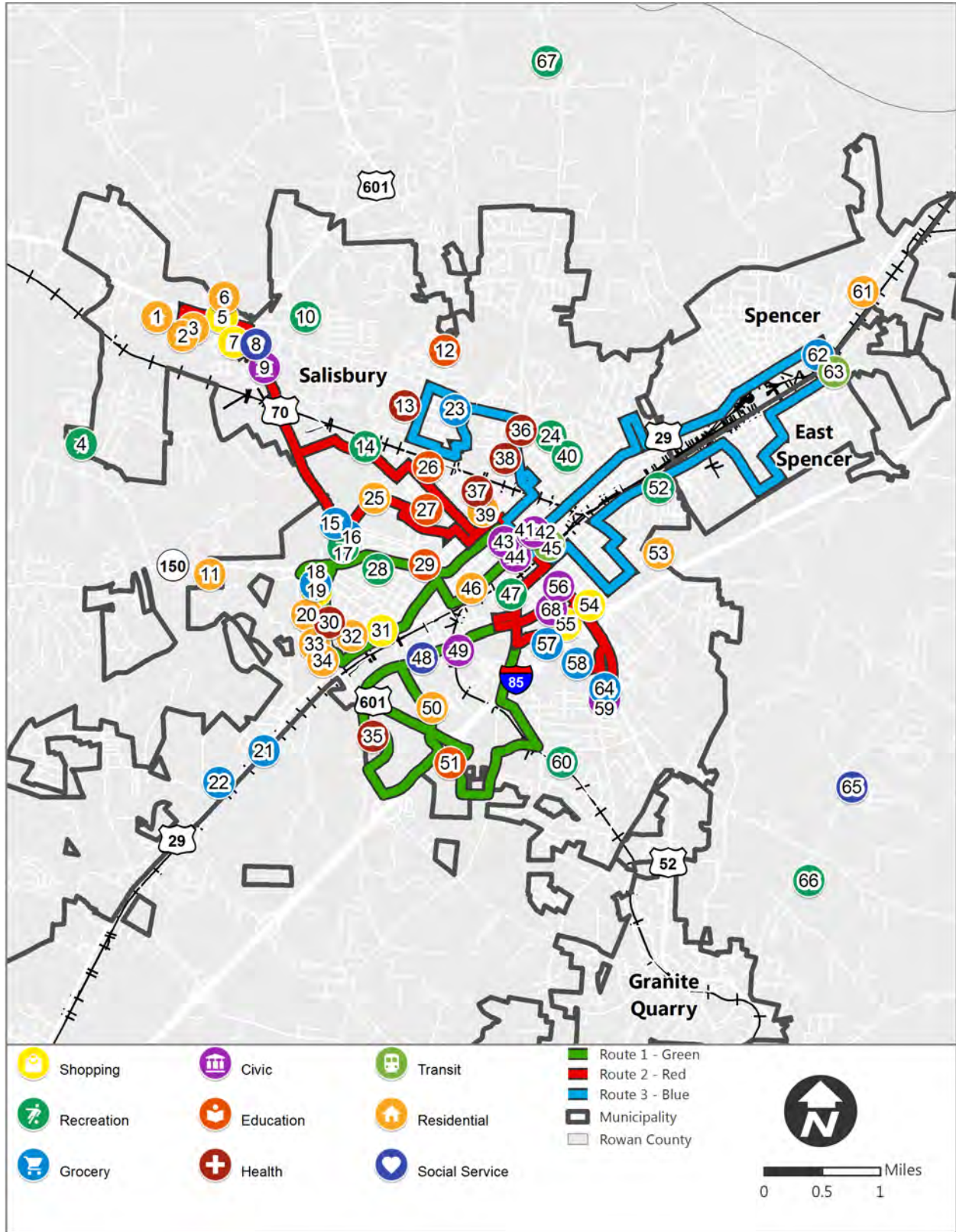


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Map ID	Activity Center	Category	Route 1 (Green)	Route 2 (Red)	Route 3 (Blue)
24	Hurley Park	Civic			●
25	Brenner Crossing Apartments	Residential	●	●	
26	J.C. Price High School	Education		●	●
27	Livingstone College	Education	●	●	
28	Centennial Park	Civic	●	●	
29	Salisbury High School	Education	●	●	
30	Carolinas Healthcare Urgent Care	Health	●		
31	Southgate Shopping Center	Shopping	●		
32	Colonial Village Apartments	Residential	●		
33	Alexander Station	Residential	●		
34	Crown Point Luxury Apartments	Residential	●		
35	Novant Health Rowan Family Physicians	Health	●		
36	Novant Health Rowan Medical Center	Health			●
37	First Care Medical Clinic	Health	●	●	●
38	Novant Health	Health		●	●
39	Brightmoor Nursing Home	Residential	●	●	●
40	Salisbury City Park	Civic			●
41	Rowan Museum	Civic	●	●	●
42	Rowan County Courthouse	Civic	●	●	●
43	Rowan Public Library	Civic	●	●	●
44	Salisbury City Hall	Civic	●	●	●
45	Amtrak Station	Transit	●	●	●
46	The Courtyard Apartments	Residential	●	●	
47	Fred M. Evans Pool (Lincoln Park)	Civic	●	●	●
48	Trinity Living Center	Social Service	●		
49	Jaycee Optimist Sports Complex	Civic	●	●	
50	Trinity Road Rehabilitation Center	Health	●		
51	Rowan-Cabarrus Community College	Education	●		
52	Long Street Park	Civic			●
53	Ashton Woods Apartments	Residential			●
54	Towne Creek Commons	Shopping		●	●
55	Salisbury Shopping Center	Shopping	●	●	●
56	United States Postal Service	Civic	●	●	●
57	Walmart Supercenter	Grocery	●	●	
58	Food Lion (Faith Road)	Grocery		●	
59	Rowan County Social Services	Civic		●	
60	Morlan Park	Civic	●		
61	Bethamy Retirement Center	Residential			
62	Food Lion (Salisbury Ave)	Grocery			●
63	Greyhound Bus Station	Transit			●
64	ALDI (Avalon Drive)	Grocery		●	
65	Working For Innocent Children	Social Service			
66	Dunn's Mountain Park	Civic			
67	Ellis Park	Civic			
68	Salisbury Civic Center	Civic	●	●	●

Source: AECOM, 2019.

Figure 2-7: Activity Centers





2.3 Land Use and Future Growth

Figure 2-8 on page 2-16 displays the development footprint in relation to Salisbury and the study area. This figure shows the year the structure on each parcel was built. Data for structures built before 2013 is not available. This figure highlights where older development is located and where new development is taking place. According to this data, new development is not centralized in one portion of the study area but more scattered throughout. Since the majority of this development occurs throughout the entire the study area, the majority will be served by one of the three bus routes. New development that is happening south along US 29 would not be served by the existing routes and may be considered a service gap.

Zoning districts in relation to the study area are shown in Figure 2-9 on page 2-17. The zoning map shows generalized land use. Commercial land uses are found along US 29, I-85, and US 70. Industrial zones are found in the southwest portion of Salisbury and south of US 70 along the railroad. The remainder of the land in Salisbury is mostly residential. Specific zoning data was not available for the municipalities of China Grove, East Spencer, Faith, Granit Quarry, and Spencer. Instead, the extraterritorial jurisdictions (ETJ) are shown.

Figure 2-10 on page 2-18 shows expected population growth in Salisbury and in the study area. The growth shown represents the projected increase in population based on the Cabarrus Rowan Metropolitan Planning Organization (CRMPO) forecast by Transportation Analysis Zone (TAZ). The majority of population growth happening within the study area is anticipated to be located in the southern and southwestern portions. Based on this data, Rowan County is expected to grow by 72 percent, or approximately 241,000 residents, by year 2045. Most of the population growth is happening in TAZs along Routes 1 and 2. Population growth expected to occur in Granite Quarry, Faith, and along NC 150 west of Salisbury, would not be served by existing STS routes.

Expected employment growth in Salisbury and in the study area is shown on page 2-19 in Figure 2-11. Similar to population growth projections, the values shown represent the estimated increase in employment based on CRMPO's forecasts by TAZs. Based on this information, Rowan County is expected to grow by 63 percent, or approximately 82,000 new jobs, by year 2045. Some of the TAZs with greater employment growth fall inside the city limits and are located in the northern and southwestern portion of the study area. Most of the employment growth is happening in TAZs along Routes 1, 2, and 3. There is an area of denser employment in southwest Salisbury along US 29 that is not currently served by transit.

Figure 2-8: Development Trends

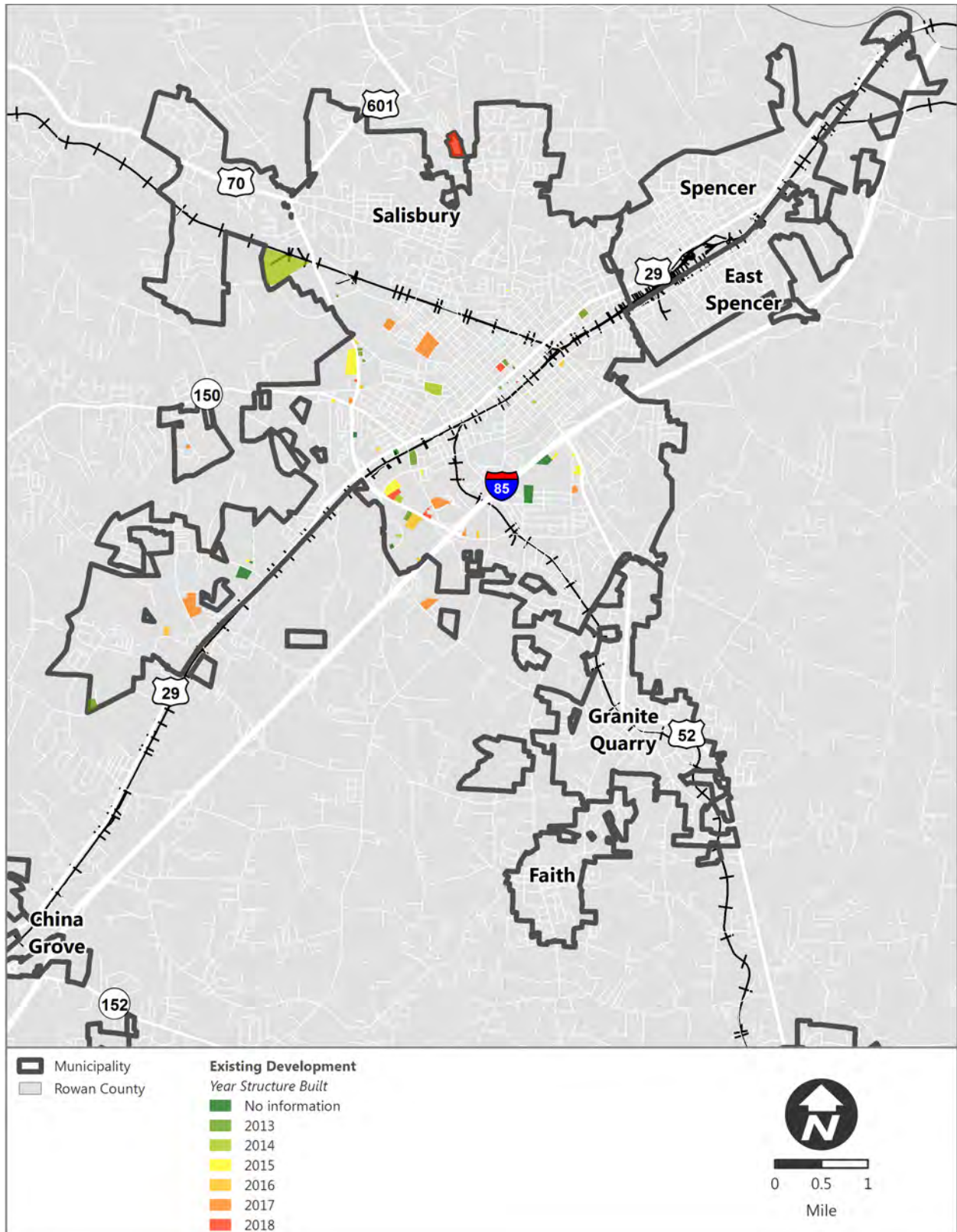


Figure 2-9: Zoning Districts

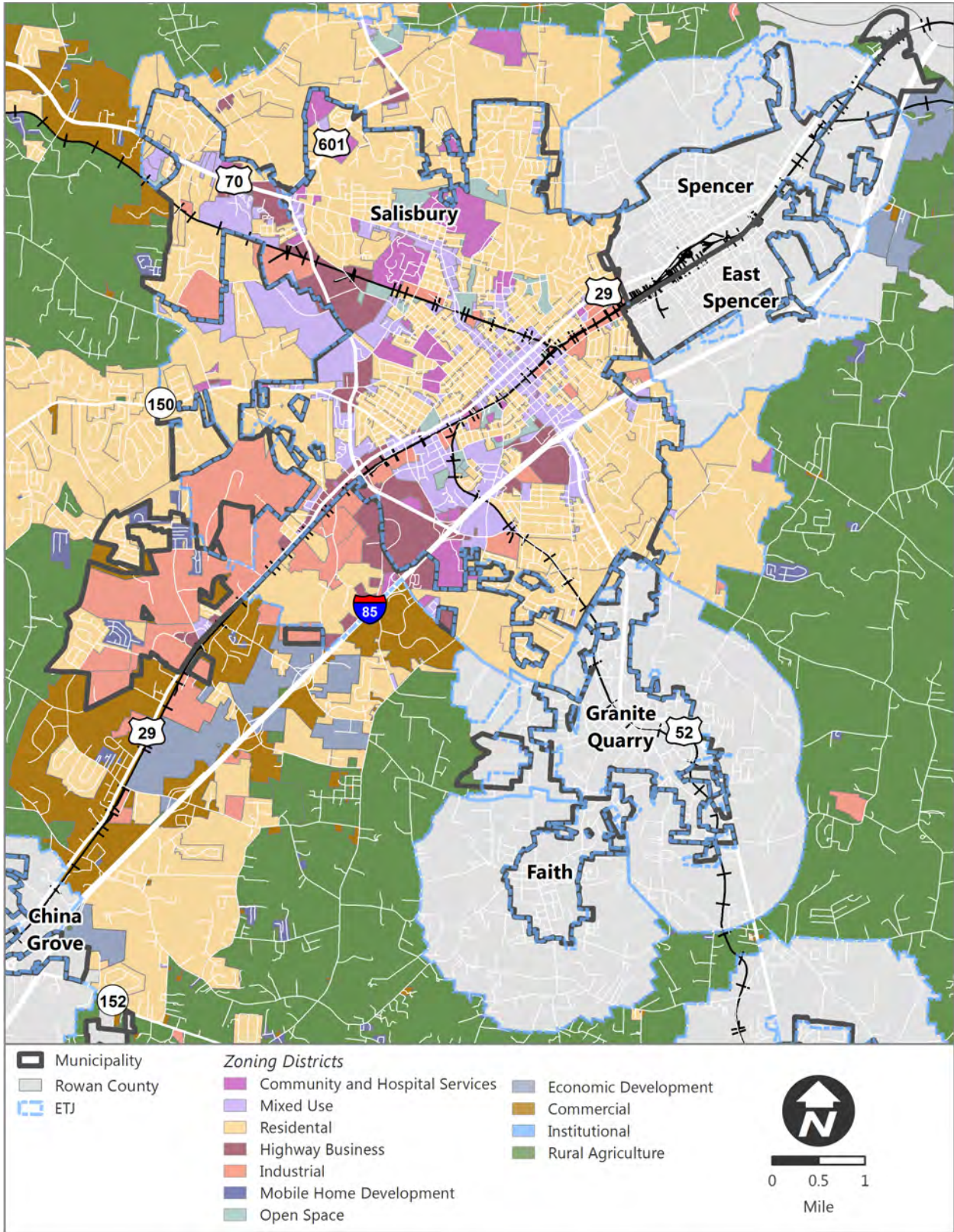


Figure 2-10: Population Growth

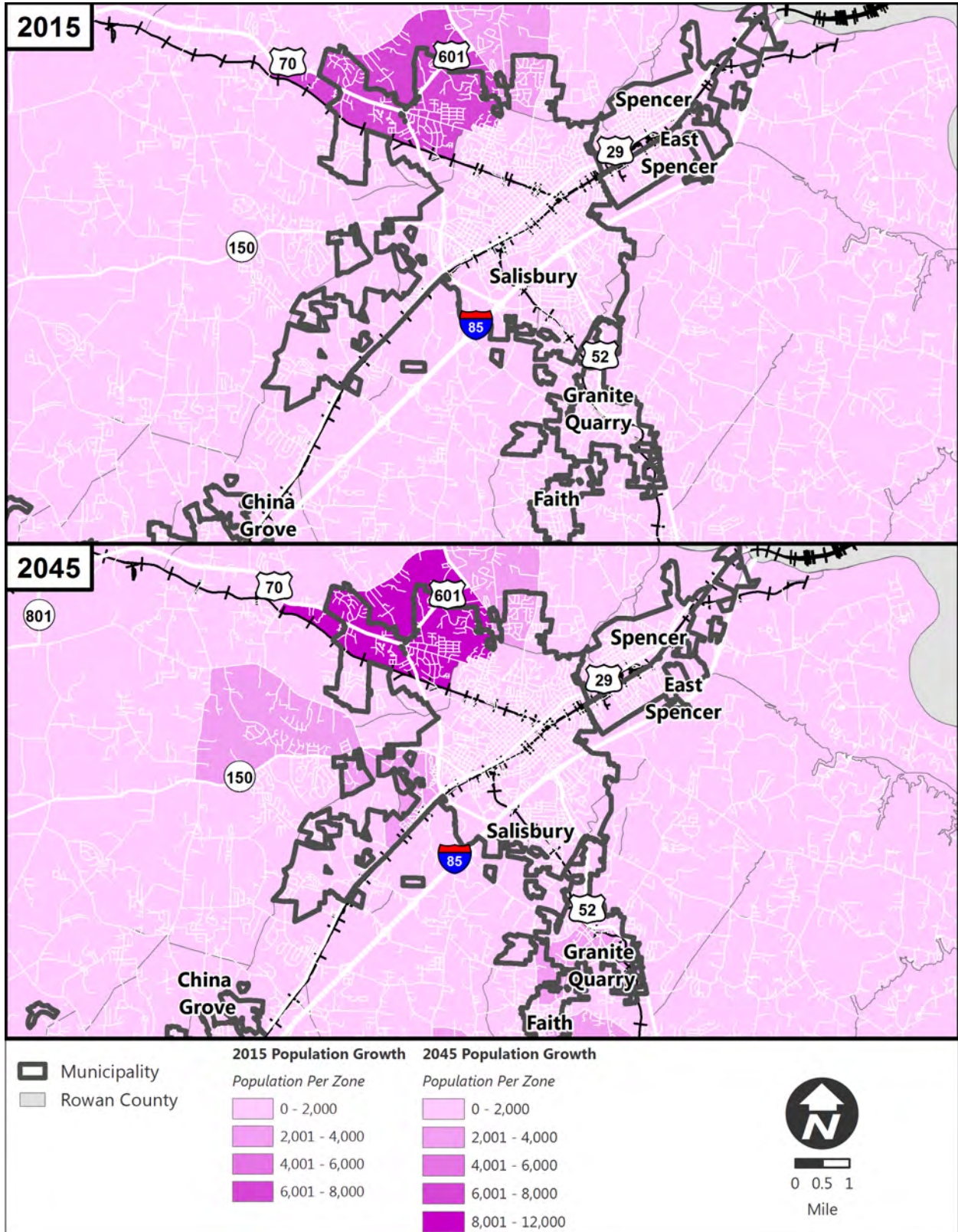
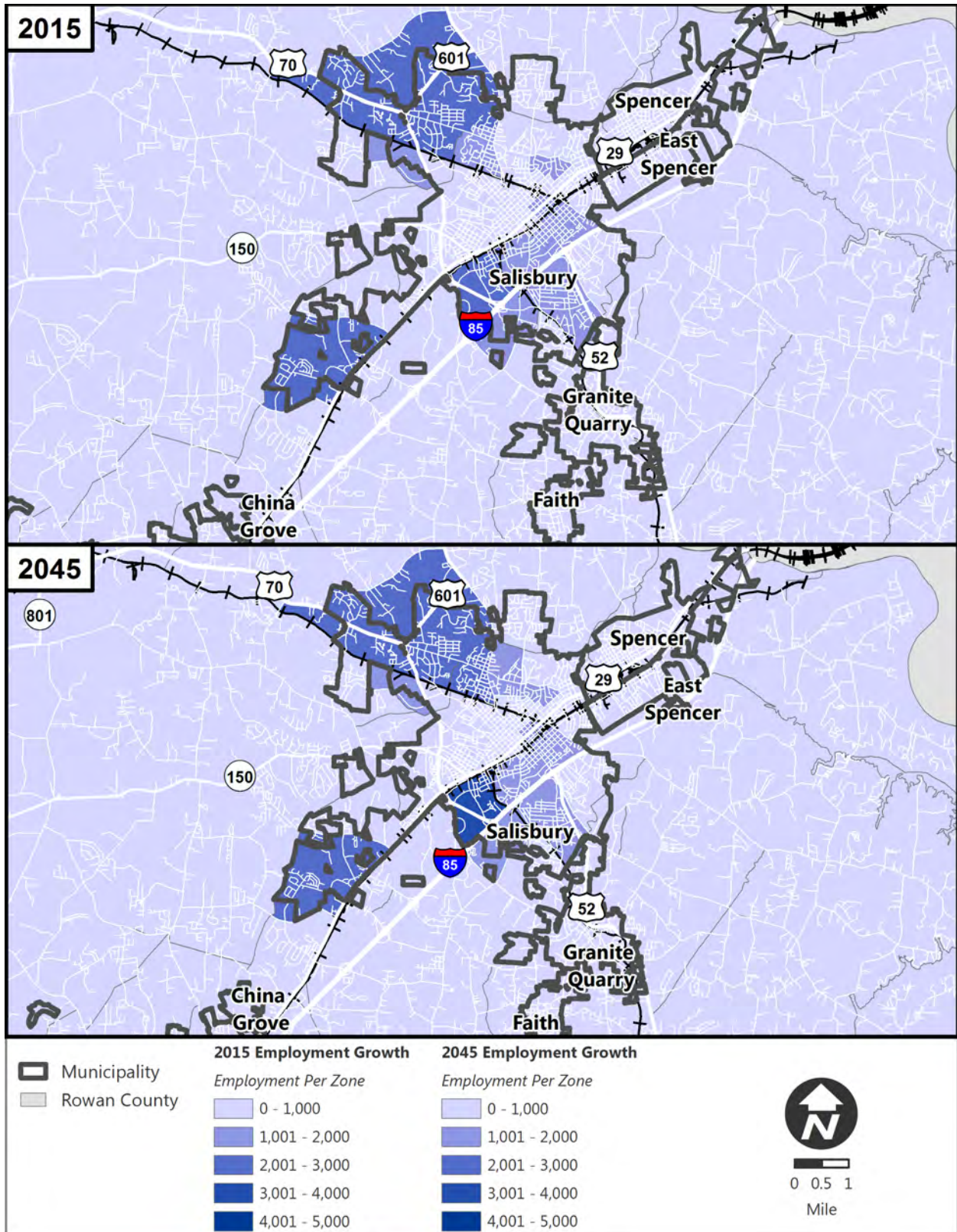


Figure 2-11: Employment Growth

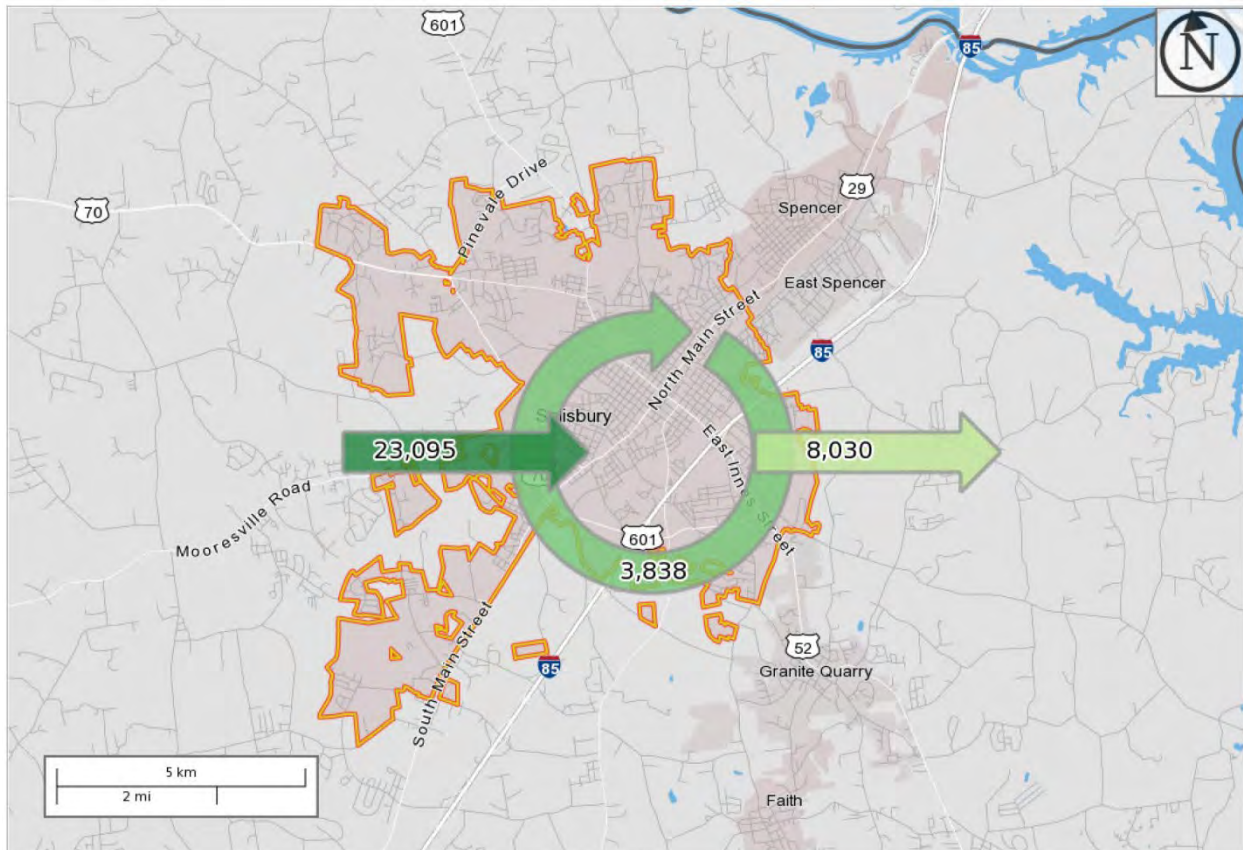


2.4 Employment and Commuting Patterns

Figure 2-12 and Table 2-2 show employment flows within the region according to the most recent Longitudinal Employer Household Dynamics (LEHD) information produced by the US Census Bureau. Based on this data from 2015, approximately 23,100 workers travel from outside Salisbury to work in the city. An estimated 3,900 people both reside and work in Salisbury, and approximately 8,000 workers who live in Salisbury travel outside the city limits to their primary employment location. The main location that residents living in Salisbury commute to for work is Charlotte. With 1,334 employees commuting to Charlotte, this makes up approximately 11 percent of total Salisbury employed residents. Contrarily, the locations from which workers commute to Salisbury are more distributed. The greatest number of workers commuting to Salisbury are coming from Charlotte, constituting only 5 percent.

Table 2-3 summarizes the top ten employers within Rowan County. Two of the top ten employers are Medical Centers and make up 3,652 employees. The top employer in Rowan County is Food Lion, the remained of the top ten employers are education, manufacturing or transportation-related. Three of the top ten employers are currently served by STS fixed-routes, with the majority of top employers located outside of Salisbury city limits. Figure 2-13 shows the relationship between major employers and existing STS fixed routes.

Figure 2-12: Regional Employment Flow





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Table 2-2: Employee Travel Flows

Employee Travel Flows from Salisbury City Limits		
From (WHERE SALISBURY RESIDENTS ARE EMPLOYEED)	Employees	Percentage
Salisbury	3,838	32.3%
Charlotte	1,334	11.2%
Concord	360	3.0%
Cleveland	298	2.5%
Raleigh	255	2.1%
Winston-Salem	250	2.1%
Greensboro	226	1.9%
Statesville	208	1.8%
Kannapolis	207	1.7%
Mooresville	173	1.5%
All Other Locations	4,719	39.8%

Source: LEHD, 2018.

Employee Travel Flows to Salisbury City Limits		
To (WHERE SALISBURY WORKERS LIVE)	Employees	Percentage
Salisbury	3,838	14.3%
Charlotte	1,337	5.0%
Kannapolis	927	3.4%
Concord	821	3.0%
Winston-Salem	508	1.9%
Greensboro	368	1.4%
Mooresville	363	1.3%
Spencer	360	1.3%
Granite Quarry	307	1.1%
China Grove	292	1.1%
All Other Locations	17,812	66.1%

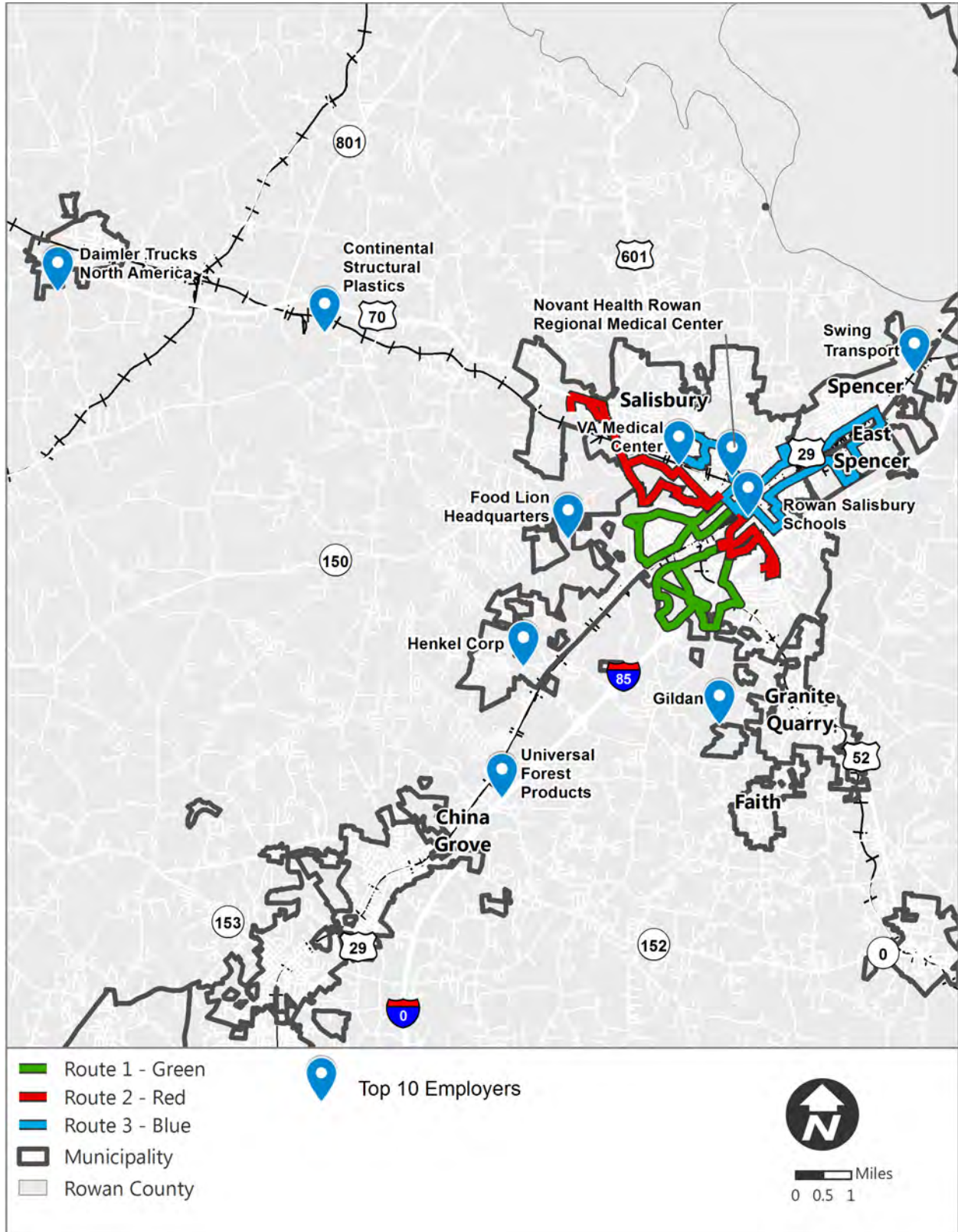
Source: LEHD, 2018.

Table 2-3: Top Employers in Rowan County

Rank	Employer	Number of Employees
1	Food Lion	3,200
2	Rowan Salisbury Schools	3,000
3	VA Medical Center	2,100
4	Daimler Trucks North America	1,600
5	Novant Health Rowan Medical Center and Clinics	1,552
6	Gildan	706
7	Continental Structural Plastics	563
8	Universal Forest Products	285
9	Swing Transport	250
10	Henkel Corp	207

Sources: Rowan County Annual Report, 2018; Rowan County Economic Development Office <https://rowanecd.com/major-employers/>

Figure 2-13: Major Employers





2.5 Peer Case Studies

In order to analyze the effectiveness of the current STS system, a peer analysis was conducted. Five peer systems were chosen based on relative system size, service area population, as well as overall operating expenses. The five systems chosen were located in Virginia, North Carolina, and Georgia and include: Danville Transit (Danville, VA), Hall Area Transit (Gainesville, GA), Liberty Transit (Hinesville and Liberty County, GA), Apple Country Transit (Henderson County, NC), and Jacksonville Transit (Jacksonville, NC). All systems face similar challenges and have employed different strategies to address them. All systems participated in a telephone interview and provided information about system operations, system priorities, and future projections and issues.

Overall, Salisbury ranked comparably with its peers in many performance indicators. The primary indicators analyzed are as follows: annual trips, annual vehicle revenue miles, annual vehicle revenue hours, annual operating expenses, cost per vehicle revenue mile, cost per vehicle revenue hour, cost per trip, passenger trips per revenue mile, passenger trips per revenue hour, and the farebox recovery ratio. Table 2-4 summarizes the peer analysis indicators by peer.

Table 2-4: Summary of Peer Analysis Indicators

Performance Indicator	Danville	Hall Area	Liberty	Apple Country	Jacksonville	Salisbury
Annual Trips	285,127	145,706	19,912	74,571	133,086	148,897
Annual Vehicle Revenue Miles	280,766	264,426	87,617	171,175	344,451	158,491
Annual Vehicle Revenue Hours	18,717	18,024	8,648	8,928	21,776	12,230
Total Annual Operating Expenses	\$975,157	\$815,592	\$795,275*	\$502,208	\$969,757	\$679,815**
Vehicles Operated in Max Service	6	6	3	3	11	3
Operating cost per revenue mile	\$3.47	\$3.08	\$9.08	\$2.93	\$2.82	\$4.29
Operating cost per revenue hour	\$52.10	\$45.25	\$91.96	\$56.25	\$44.53	\$55.59
Operating cost per trip	\$3.42	\$5.60	\$39.94	\$6.73	\$7.29	\$4.57
Trips per revenue mile	1.02	0.55	0.23	0.44	0.39	0.94
Trips per revenue hour	15.23	8.08	2.30	8.35	6.11	12.17
Fare Revenues	\$175,439	\$90,110	\$16,319	\$33,613	\$150,580	\$72,830
Farebox Recovery Ratio	17.99%	11.05%	2.05%	6.69%	15.53%	10.71%

*Includes capital expenses

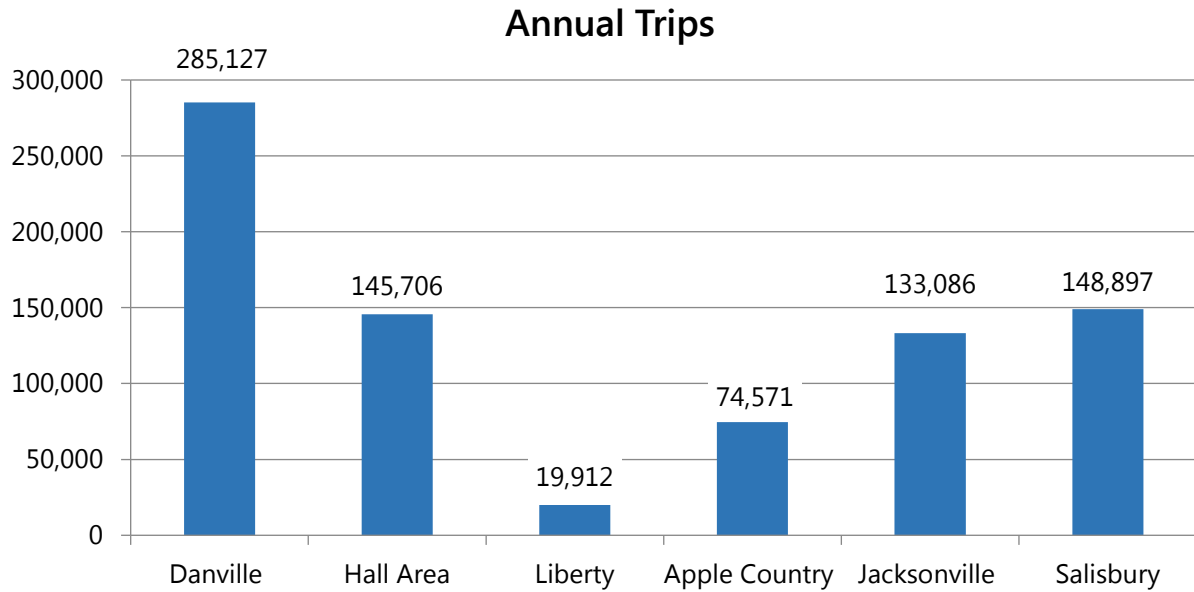
**Does not include all costs eligible for reimbursement

Source: AECOM, 2019.



Annual Trips

Ridership is an important metric when determining the effectiveness of a transit system. Danville Transit ranked highest in the peer group for annual passenger trips with 285,127 trips provided in 2018. Salisbury ranked second with 148,897 while Hall Area Transit and Jacksonville ranked slightly lower. Liberty Transit had the lowest passenger trip count with only 19,912 trips. Overall, with passenger trips, Salisbury is slightly above average in annual ridership. Danville Transit however, operates 6 vehicles in maximum service and offers more routes. Salisbury only operates 3 vehicles in maximum service, which would explain Salisbury ranking behind Danville Transit.



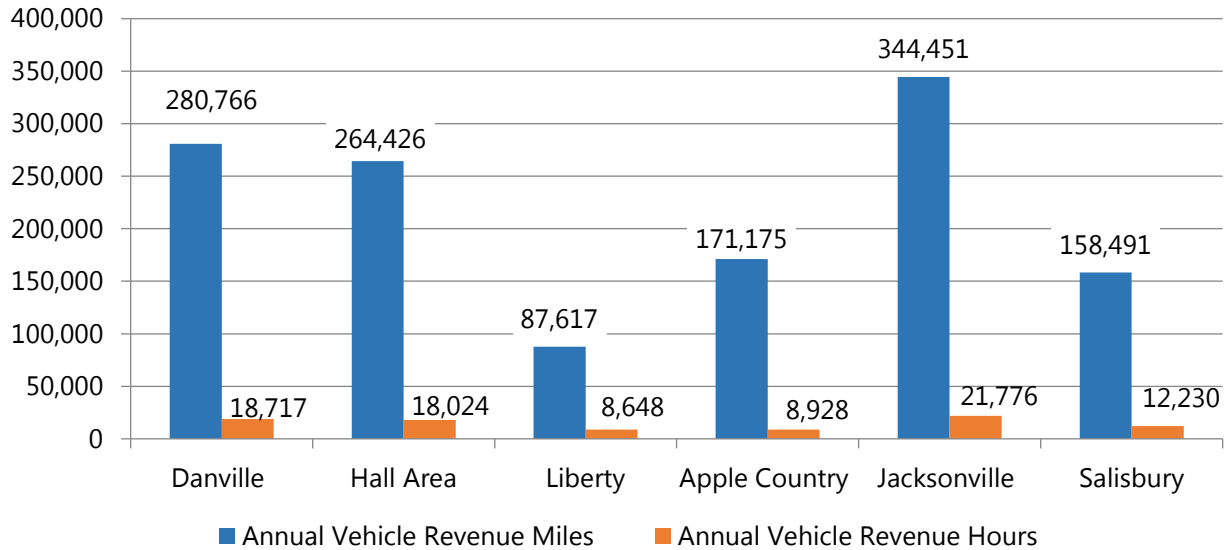
Revenue Miles and Hours

In terms of annual vehicle revenue miles, Jacksonville Transit logs the most miles with 344,451 miles annually. All other peer systems log more revenue miles annually than Salisbury (158,491) with the exception of Liberty Transit (87,617). Salisbury would need to increase revenue miles annually in order to provide levels of service that effectively compete with peers.

In terms of annual system revenue hours, Salisbury comes in fourth among peers with 12,230 service hours provided annually. Jacksonville provides the most service hours with 21,776 hours followed by Danville with 18,717 hours and Hall Area Transit with 18,024 hours. With Salisbury’s passenger trips ranking second among peers, and service miles the second lowest, Salisbury is able to carry more passengers per revenue mile than most peers. As mentioned, Salisbury would need to consider offering longer service hours in order to reach more riders and provide levels of service that are comparable to peers.



Revenue Miles and Hours

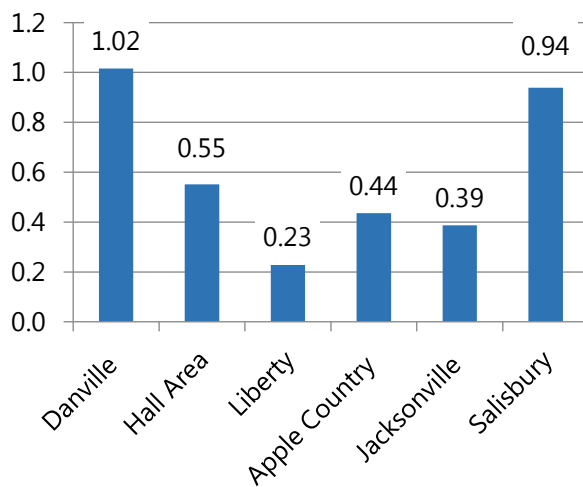


Trips per mile and hour

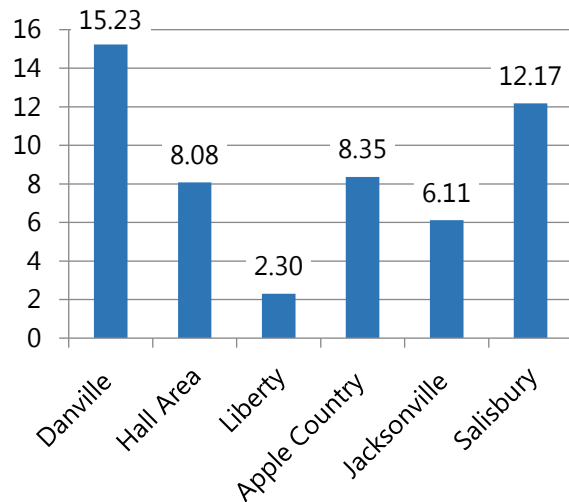
Salisbury also ranks second in the number of passenger trips provided per revenue mile and passenger trips per revenue hour. Salisbury provides 0.94 trips per mile, while Danville ranks first with 1.02 trips per mile. All other systems provide less than half of these trips per mile.

Salisbury provides 12.17 trips per revenue hour. Danville provides the most trips per hour compared to all peers with 15.23 trips. Apple Country provides 8.35; Hall Area Transit, 8.08; Jacksonville Transit, 2.82; and Liberty Transit, 2.30. If Salisbury were to expand service to match peers, the system would want ridership to increase proportionally so that these indicators remain at current levels or increase.

Trips per revenue mile



Trips per revenue hour

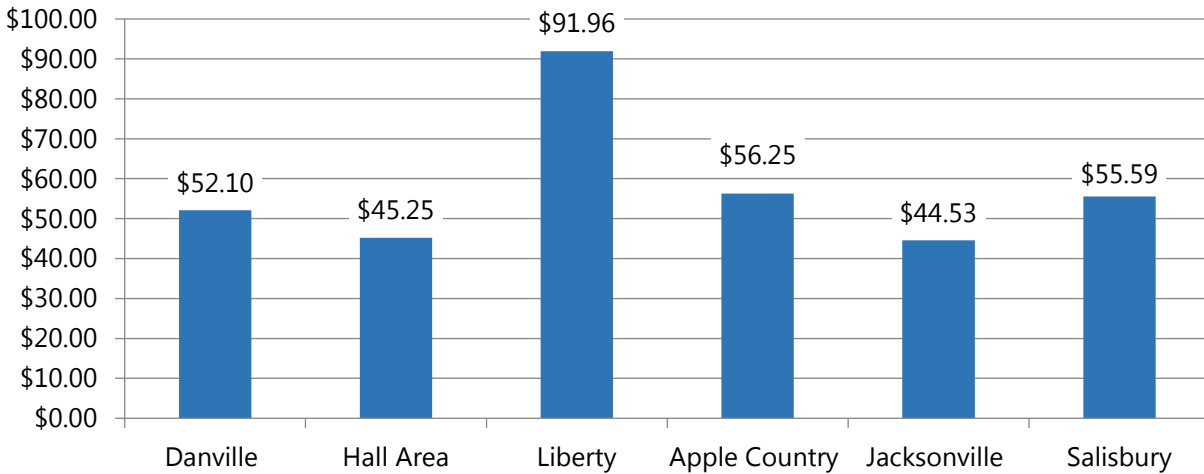




Operating Costs

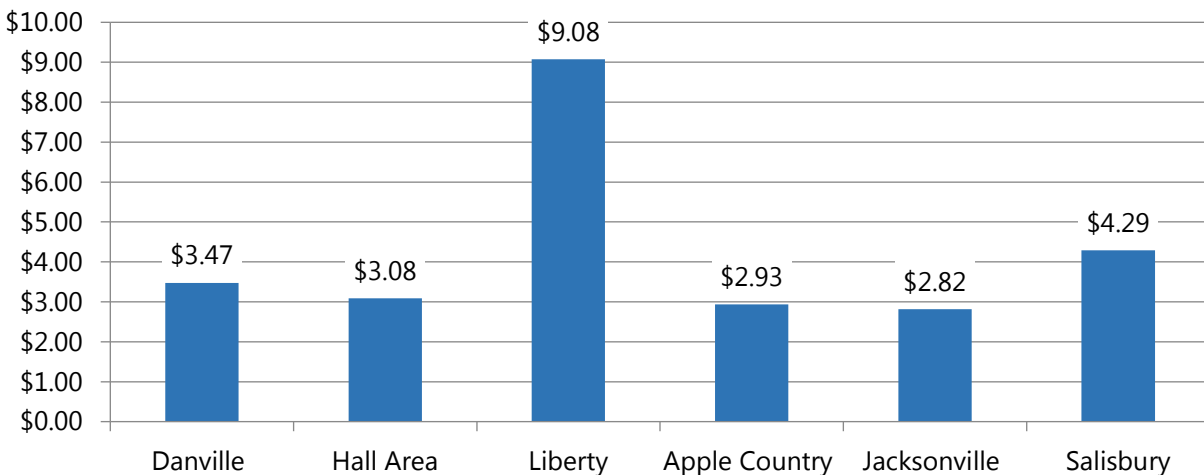
Salisbury has the largest operating expenditures for FY 2018 with \$679,815 spent. Danville Transit ranks first with \$975,157 spent followed by Jacksonville (\$969,757), Hall Area Transit (\$815,592), Liberty Transit (\$795,275), and Apple Country (\$502,208). Salisbury has the third highest operating cost per vehicle revenue hour at \$55.59. Liberty Transit has the highest per hour operating cost at \$91.96. Apple Country spends \$56.25 per revenue hour; Danville Transit, \$52.10; and Jacksonville Transit, \$44.53.

Operating cost per revenue hour



Given this trend, Salisbury also has the second most expensive operating cost per mile at \$4.29 per mile. Liberty Transit spends \$9.08 per mile, while all other systems spend between \$2.54 per mile to \$3.47 per mile. When expanding service hours, mileage would also increase, but as mentioned above, Salisbury would need to expand hours and mileage while maintaining the current budget in order to bring these two indicators down to levels comparable with its peers.

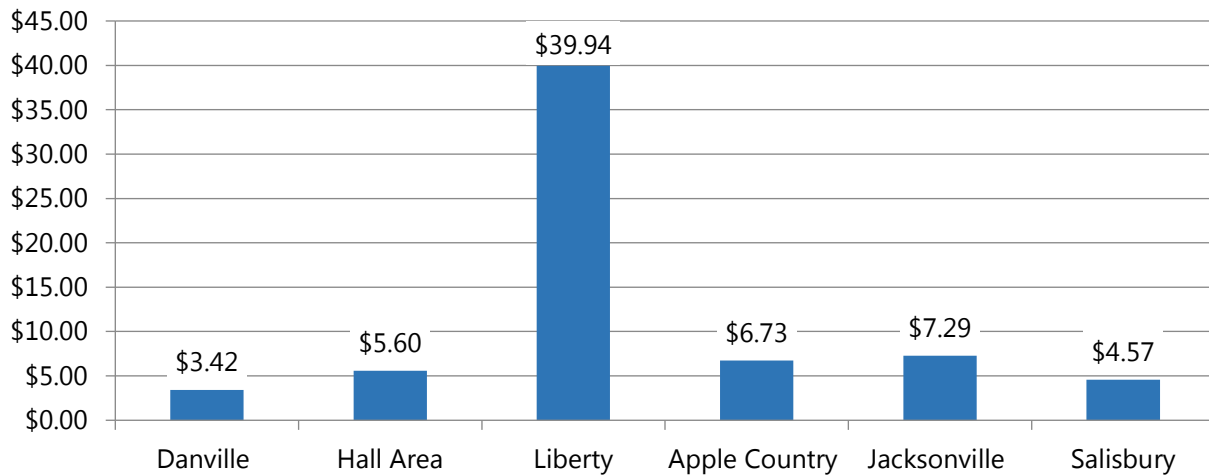
Operating cost per revenue mile





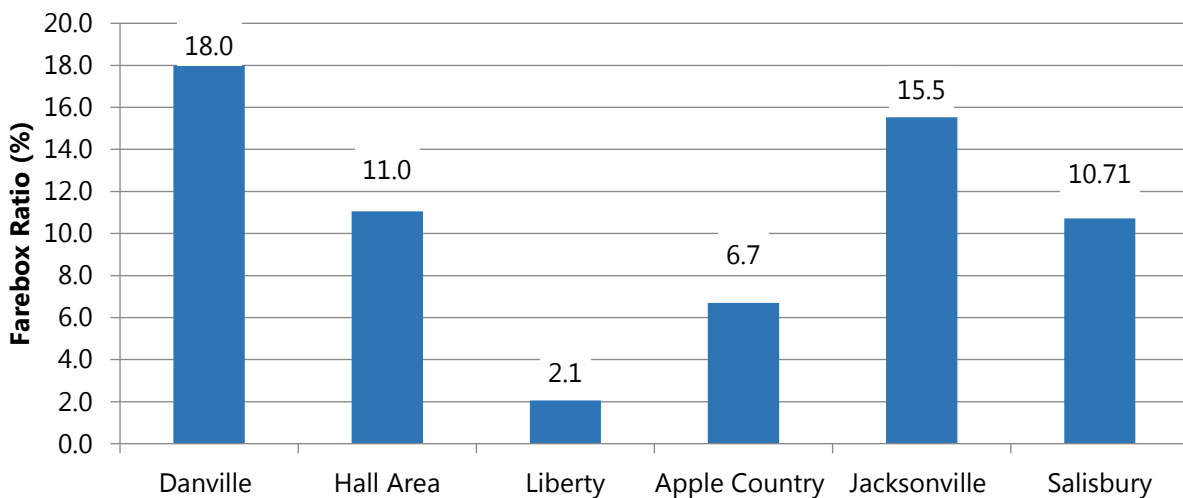
Salisbury has the second lowest cost per trip figure at \$4.57 per trip. Liberty Transit spends approximately \$39.94 per trip while all other peer systems spend between \$3.42 and \$7.16 per trip. Salisbury would either need to cut costs while maintaining ridership levels or increase service to increase ridership while maintaining current costs in order to decrease this cost further and be lower than the national average. All peer systems have higher cost per trip compared to the national average besides Danville Transit with \$3.42. The national average is \$4.43 per trip, which is based on the 2016 NTD National Transit Summary Report.

Operating cost per trip



A system's farebox recovery ratio is also an important element to consider when assessing efficiency. Ideally, a system wants to have as high a recovery ratio as possible. With all peers in the group being smaller systems, it is more difficult to recover larger percentages of an operating budget with fare revenues. Danville Transit leads its peers in this statistic with an 18.0 percent recovery rate. Jacksonville has a 15.5 percent recovery rate followed by Hall Area Transit with 11.1 percent, Salisbury with 10.7 percent, Apple Country with 6.7 percent, and Liberty Transit with 2.1 percent.

Farebox Recovery Ratio





Hall Area Transit

About

Hall Area Transit began in 1983 and provides service to the city of Gainesville and Hall County. The system is operated by the city and county and operates out of the community services division. The service currently provides 6 routes that operate from 6 am to 8 pm Monday through Friday. The system employs 17 full-time positions, two of which are the director and deputy director, who work out of the community services department. Approximately 15 to 20 part-time positions are filled at any given time. The system operates ten 27-foot Goshen Coaches for fixed-route service.

Priorities

The current priorities of the system are to increase coverage throughout the system, increase operating hours, decrease headway times on fixed-routes, and expand ridership. Currently, microtransit is being investigated in order to see if it is feasible for meeting the future priorities of the system. In July of 2018, the population of Gainesville reached 200,000 people. Because of this, Hall Area Transit will have to shift from a small urban transit system to a large urban transit system, which means that Section 5307 funds are no longer available for operating expenses. This puts a greater strain on local funding in order to bridge this new funding gap. Securing more funds or figuring out a way to provide service on a smaller budget is a top priority for the system currently.

With Gainesville growing, the system anticipates improving overall service and expanding service where possible. With the funding issue, the system is strategically planning for an increase in population as well as a decrease in Section 5307 funding. New funding will need to be secured in order to provide service to a growing population. Currently, future funding sources are unknown.

Technologies/Alternative Modes Considerations

The system does not use alternative fuel vehicles and does not plan to investigate any types of alternative fuel systems in the near future. No new technology is planned to be introduced into the system. As mentioned, microtransit is being studied to see if it can help the system meet future goals, while reducing costs from reduced Section 5307 funding.



Liberty Transit

About

Liberty Transit is a transit system located in Georgia that serves the City of Hinesville, Flemington, Walthourville, and Fort Stewart. The system began service in 2010 with the help of stimulus funding and operates as a department of the City of Hinesville. The system is contracted out to TransDev, a third-party contractor. The system operates three routes Monday through Friday from 6 am to 8 pm. Currently, the system accepts cash payments, and also accepts credit card payments to prepay for rides at the Town Hall.

Priorities

In November 2018, Liberty Transit realigned its fixed routes. The system wants to monitor these changes and the new paratransit service in order to ensure success. The system will also have to begin purchasing new vehicles in the next few years to replace its coaches that are from 2010. The system is hoping that by modifying routes and adding paratransit service, ridership will increase and become more dependable.

Technologies/Alternative Modes Considerations

In late 2018, Liberty Transit started a paratransit service and updated the three fixed routes in the system. This was one of the goals in the last transit development plan adopted in May 2018 with a planning horizon of 2021. Liberty Transit plans to improve service in other parts of Liberty County and looks to provide regional service connection points to Chatham Area Transit. Currently, the system provides no regional connections. There is currently one transfer point in Flemington, but with the restructuring of routes, Liberty plans to make the medical center a new transfer hub for all three routes.

Liberty Transit plans to investigate alternative fuel vehicles; however, this plan is long-term and would not be implemented in the near future due to the age of the current rolling stock. Liberty Transit operates eight 30-foot Glaval Apollo buses that are scheduled for replacement in 2020 and plans to purchase more diesel buses to replace these.



Danville Transit

About

Danville Transit began service in 1977 and is located in Danville, Virginia. The system operates 11 routes Monday through Saturday from 6 am to 6 pm with 30 vehicles. Additionally, Danville Transit offers a Dial-a-Ride service that runs 21 hours a day from 4 am to 1 am. Fixed route service provides service on 1 hour and 20-minute headways.

Priorities

Danville Transit wants to maintain its service levels on the Dial-a-Ride service but wants to increase fixed route ridership. This year, the system plans to add regional bus service to Halifax and Pittsylvania counties. The system has secured a grant that will fund the regional service for three years and has acquired three buses to run the routes. Danville Transit faces driver shortages, which has made them cap the dial-a-ride service to 300 requests per day. New drivers are needed in order to remove this cap and allow for expanded service and increase Dial-a-Ride ridership numbers.

Danville Transit anticipates that the region will continue to grow and hopes to improve service and expand the dial-a-ride service. The system has found that the service is more effective in reaching businesses and communities that are located further outside the downtown area instead of expanding fixed-route bus service. The regional transit piece anticipates that there will be higher demand for regional routes in the near future. The city is also anticipating a new commercial site that will bring additional jobs to the area. The site will likely be located away from fixed route service so Danville Transit plans to provide service to this area through Dial-a-Ride.

Technologies/Alternative Modes Considerations

Danville Transit is not investigating alternative modes of transit. It looks to improve the dial-a-ride service so that it is not capped. Approximately 64 percent of all rides are reservation based.

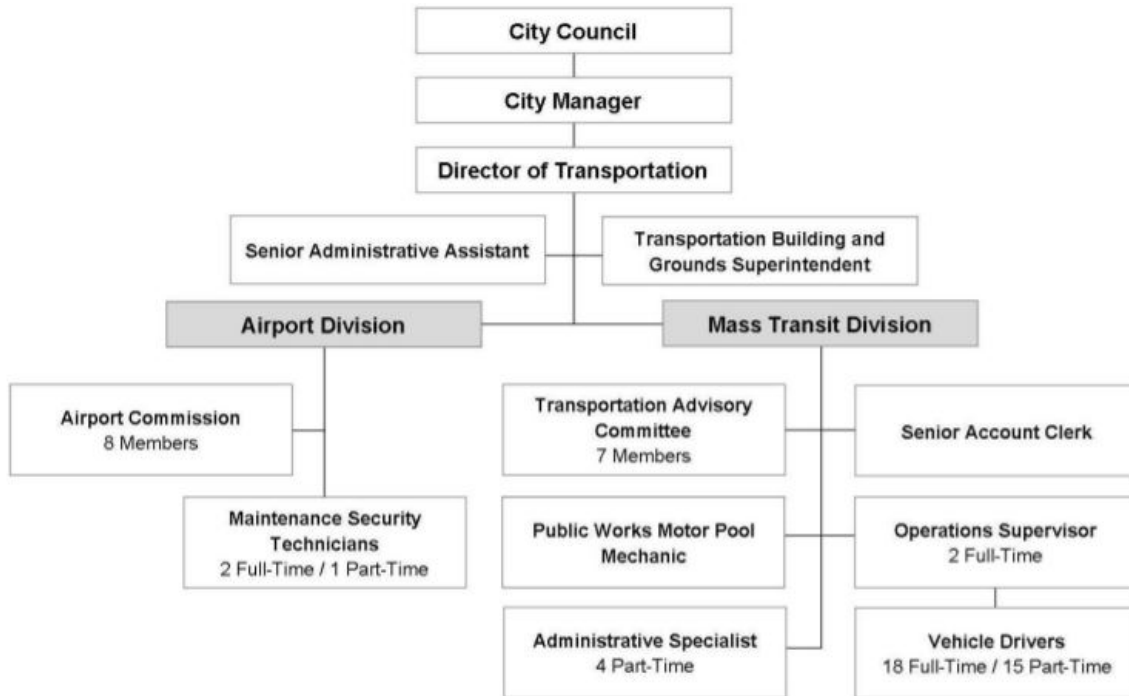
Danville Transit has implemented several new technologies to help the system stay up-to-date. The system has installed tablets for the dial-a-ride service, which has allowed mobile dispatching. The system also has an automatic vehicle locator system for all fixed route vehicles. Vehicles have all been equipped with digital radios as well. The system anticipates implementing an automatic phone system in FY 2020, in order to help properly direct calls.

In 2018, the City of Danville installed a propane filling station. Danville Transit currently has four vehicles that run entirely on propane and will have eight vehicles that will have the option to run on either propane or gas. By the end of this year, half (15) of the fleet will be able to run on propane fuel. The goal in switching to propane is to provide more reliable service. The system has had trouble with diesel fuels in the past and believes that propane is a more efficient fuel that will improve vehicle dependability and service in the long run. The system currently uses city mechanics to make necessary vehicle repairs, which can sometimes take additional time. Transit vehicles are not usually a priority for city mechanics.



CITY OF SALISBURY
LONG RANGE PUBLIC TRANSPORTATION MASTER PLAN

Danville Transit Organizational Chart





Apple Country Transit

About

Apple Country Transit is located in Henderson County, North Carolina and provides fixed-route service on three routes throughout Hendersonville, Fletcher Park, Laurel, and Blue Ridge Community College. Apple Country Transit is a subsidiary of Western Carolina Community Action (WCCA), a non-profit organization. WCCA is responsible for all vehicle maintenance and furnishes its own office space and bus lot. Fixed-route service runs from 6:30 am to 6:30 pm Monday through Friday and all routes have approximately one-hour headways. The system has a central transfer location and offers service to the Asheville Airport as well as connection to Asheville Regional Transit. The system receives FTA funds indirectly through Asheville Regional Transit.

Priorities

The system wants to maintain its current system over the next five years. However, 25 percent of the population is over 65. With this number growing, more paratransit service will be needed in the coming years to meet demand. The system will look into the feasibility of expanding the service in order to serve the older population.

The Asheville region is experiencing tremendous growth. Over the next five years, Apple Country Transit plans to maintain the status quo of the system. For future growth, the region is looking into providing a regional bus service that would replace county-based systems. Another transit mode that is being considered for future growth in the region is commuter bus service. Commuter bus service would require additional park and ride lots and other infrastructure and would be incorporated into the regional bus system.

Technologies/Alternative Modes Considerations

Apple Country Transit added tablets to their vehicles for more efficient tracking and scheduling. All 6 of the 28-foot LTV buses use Compressed Natural Gas for fuel. As for other technology, per the current contract, WCCA is responsible for any technology upgrades. When the current contract expires, new language is planned to be written so that the county would be responsible for technology upgrades.



Jacksonville Transit

About

Jacksonville Transit is provided by the City of Jacksonville, North Carolina. Fixed-route transit operations are managed by a contracted service provider while paratransit service is contracted with Onslow United Transit System (OUTS), the rural county service provider. The system currently operates 16 buses on 5 routes. The system operates three city routes, which run from 5:54 am to 7:55 pm Monday through Friday, and from 9:54 am to 7:55 pm Saturdays, Sundays, and holidays. The system also offers two express routes that cost \$3 per ride, but only operate on Fridays, Saturdays, Sundays, and holidays.

Priorities

Jacksonville Transit is investigating the potential to merge with OUTS. By consolidating operations, both systems can save money and provide better customer service. Another priority the system has is to modify their fixed routes in order to enhance ridership and connect all routes to the new transit center that should be built in the next few years. The system additionally plans to increase service with extended operating hours and increased frequency on most routes. A route analysis was done for service to the Camp LeJeune community, as there is a desire to increase participation in public transit and improve connectivity to the sailors and their dependents. The construction of a new transit center is exciting for this community. The City of Jacksonville hopes to increase local connectivity, address regional transportation initiatives and enhance the general operation of services. This multimodal center would be constructed to include administrative offices for city and county transit services, serve the Greyhound passengers and provide a sales location for ride passes. The City of Jacksonville regards high value in customer service and hopes to provide an improved rider experience with the new route configurations.

Technologies/Alternative Modes Considerations

Jacksonville Transit's latest Transit System Development Plan Update included a recommendation to investigate a vanpool program. This program would focus on commuters traveling to employers not located on fixed-route service. Jacksonville is considering upgrading fareboxes to take passes and other forms of payment. Automated passenger counters, and announcement technology are other considerations that the system is investigating.



Peer Case Study Summary

In summary, peer systems are planning for future growth and are willing to explore new funding, service models, and technology in order to remain effective and increase ridership. Salisbury would need to plan to expand service and technology in the coming years in order to sustain ridership and account for growth in the area. Almost all peer groups are investigating regional connections and are considering multiple transfer locations for buses. Salisbury may investigate connections to Charlotte and other larger metropolitan areas in order to offer residents more commuting options in the future. Table 2-5 summarizes key metrics for each peer.

Table 2-5: Summary of Peer Metrics

	Salisbury	Danville	Hall Area Transit	Liberty Transit	Jacksonville	Apple Country Transit
Service Area Population	35,416	42,360	31,782	31,923	68,467	71,227
Service Area Size (Square Miles)	23	43.9	38	32	47	39
Fare Price*	\$1.00	\$1.00	\$1.00	\$1.00	\$1.25	\$0.75
Reduced Fare* Price	\$0.50	\$0.50	\$0.50	\$0.50	\$0.60	\$0.35
Alternative Fuel Vehicles	No	Yes-Propane	No	No	No	Yes-CNG
Regional Connections	No	Yes- FY 2019	No	No	No	Yes
Transfer Locations	Yes	Yes	No	Yes	Yes	Yes
3 rd Party Contractor	No	No	No	Yes-TransDev	Yes- MV Transit	Yes- Western Carolina Community Action
Fleet Size*	6	30	10	8	18	6
Employees	14	48	37-42	12	14	15

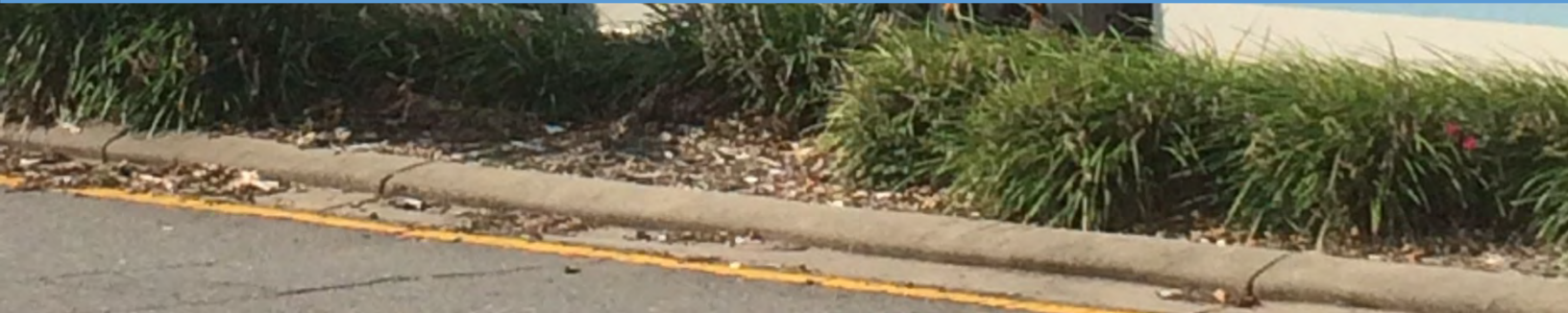
*For fixed route service only

Source: NTD 2017 Transit Agency Profiles



Chapter 3.0

Assessing Current Transit Service



3.0 Assessing Current Transit Service

A critical first step in preparing the LRPT Master Plan was to assess the current transit service, including facilities, vehicle fleet, and transit system performance. Current performance was assessed through a “route fact book” presented in Section 3.3.

3.1 Transit Facilities

The STS administrative offices are located at 300 West Franklin Street, across the street from the Salisbury City Garage. Maintenance is co-located with administration at the transit operations facility. The STS buses depart from the Depot Transfer Site located on Depot Street in downtown Salisbury, approximately one mile away from the administrative offices. The Depot Transfer Site has three bus shelters with amenities for the comfort and safety of STS riders. There are additional shelters and benches placed throughout the STS system.



Depot Transfer Site

The City of Salisbury is currently working with NCDOT on future improvements to the Salisbury Amtrak Station. The improvements would include a covered bus connection adjacent to the station, thereby providing it a true multimodal hub. This improvement would improve connections between Amtrak and STS. There may also be an opportunity for Greyhound to be located at the train station.

3.2 Vehicle Fleet and Maintenance

STS operates a current vehicle fleet of six buses and has one support vehicle, a 2006 Ford F-350. Four of the six buses are 2004 Orion VII models and have been in service for approximately 15 years. The two remaining buses are 2008 Gillig models and have been in service for 11 years. The buses are maintained at the STS offices located at 300 West Franklin Street where three maintenance bays are available for the servicing of vehicles. Table 3-1 on page 3-3 lists the revenue vehicles in the STS fleet and the 2018 mileage for each vehicle. The average fleet age is 13.7 years.

STS participates in the NCDOT Transit Asset Management (TAM) Plan, which is a planning tool for predicting when assets should be replaced to maintain safety and reliability through a state of good repair. The NCDOT TAM Plan establishes the useful life for buses at 14 years (NCDOT, 2018). The FTA requires every transit system to have a TAM Plan or participate in a group plan if they operate 100 or fewer vehicles. Group plans are compiled by a sponsor, which in this case is NCDOT Public Transportation Division (PTD). NCDOT set a target goal that only 20 percent of all revenue transit vehicles will have met or exceeded their useful lives.



Table 3-1: Current STS Vehicle Fleet

Asset Number	Model	Years in Service	2018 Mileage
TR80401 - 851	2004 Orion VII (30 foot)	15	174,680
TR80402 - 858	2004 Orion VII (30 foot)	15	229,525
TR80403 - 853	2004 Orion VII (30 foot)	15	234,293
TR80404 - 855	2004 Orion VII (30 foot)	15	332,576
TR80802 - 852	2008 Gillig (35 foot)	11	221,766
TR80804 - 854	2008 Gillig (35 foot)	11	205,181

Source: STS, 2019.

3.3 Route Fact Book

As part of the assessment of current transit service, a route fact book was prepared to evaluate the operational, performance, and demographic indicators of the three current STS fixed routes. In addition, a qualitative review of the route’s strengths, challenges, and opportunities was included in each route profile. The purpose of the route fact book is to quantitatively and qualitatively assess the transit system at the route level in order to highlight areas of effective transit service and where needed, identify potential service improvements.

Each profile in the route fact book contains a table presenting the operational, performance, and demographic indicators in relation to the system averages along with the review of strengths, challenges, and opportunities. The indicators are visualized in a series of charts and graphs following each table.

The operational and performance indicators are based on the most recent data available from STS related to ridership, revenue miles, and operating expenses. Demographic indicators are from ACS 2012-2016 five-year estimates at the block group and census tract levels. The estimated operating costs for each route are calculated by multiplying the average system operating cost per revenue hour by the annual vehicle revenue hours for each route. System operating costs were estimated using the 2018 audited budget for STS and the FTA methodology for estimating operating costs. The system operating costs do not include all costs eligible for reimbursement. The operational and performance indicators are summarized in Table 3-2 for easier comparison in addition to being presented in each route profile.

Table 3-2: Summary of Operational and Performance Indicators

Indicator	Route 1 (Green)	Route 2 (Red)	Route 3 (Blue)
Annual Unlinked Passenger Trips:	30,050	57,500	57,850
Annual Vehicle Revenue Miles:	47,550	49,900	50,050
Annual Vehicle Revenue Hours:	3,550	3,550	3,550
Annual Estimated Operating Cost:	\$196,150	\$196,150	\$196,150
Operating expenses per revenue mile:	\$4.13	\$3.93	\$3.92
Operating expenses per revenue hour:	\$55.59	\$55.59	\$55.59
Operating expenses per unlinked passenger trip:	\$6.53	\$3.41	\$3.39
Passengers per revenue hour:	8.5	16.3	16.4
Passengers per revenue mile:	0.6	1.2	1.2

Source: STS, 2019.



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Route 1 (Green)

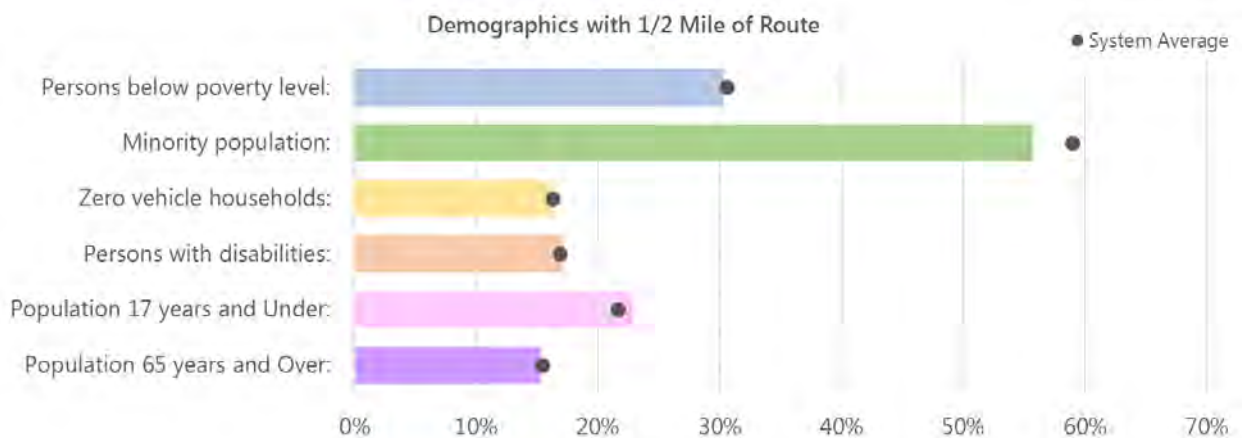
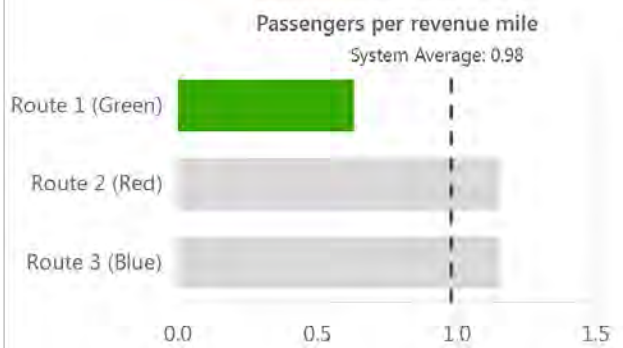
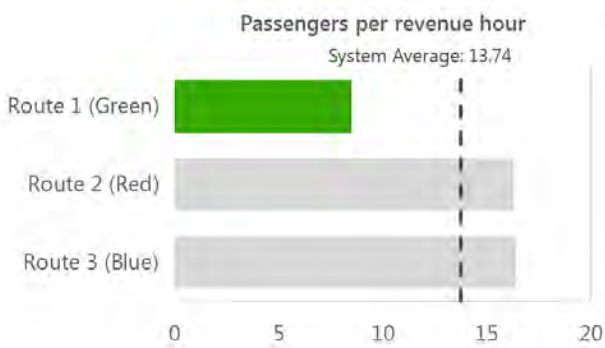
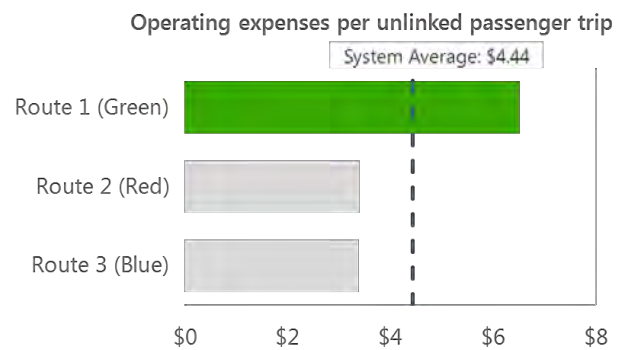
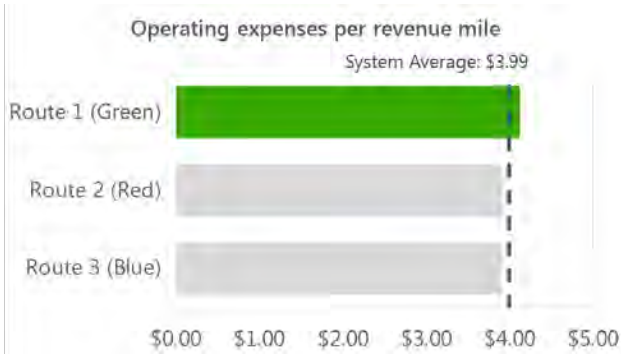
	Route 1 (Green)	System Average	System Rank
Operational			
Length (round-trip):	17.2	16.2	#1 out of 3
Frequency:	60 minutes	60 minutes	--
Hours of Operation:	M-F: 6:00 am - 7:04 pm Sat: 9:30 am - 3:20 pm	M-F: 6:00 am - 7:04 pm Sat: 9:30 am - 3:20 pm	
Days of Operation:	Monday-Saturday	Monday-Saturday	--
Annual Unlinked Passenger Trips:	30,050	48,450	#3 out of 3
Annual Vehicle Revenue Miles:	47,550	49,150	#3 out of 3
Annual Vehicle Revenue Hours:	3,550	3,550	--
Annual Estimated Operating Cost:	\$196,100	\$196,100	--
Performance			
Operating expenses per revenue mile:	\$4.13	\$3.99	#3 out of 3
Operating expenses per revenue hour:	\$55.59	\$55.59	--
Operating expenses per unlinked pax. trip:	\$6.53	\$4.44	#3 out of 3
Passengers per revenue hour:	8.5	13.7	#3 out of 3
Passengers per revenue mile:	0.6	1.0	#3 out of 3
Demographics			
Population Density (people per square mile):	1,438	1,597	#3 out of 3
Persons below poverty level:	30%	31%	#3 out of 3
Minority Population:	56%	59%	#3 out of 3
Zero Vehicle Households:	16%	16%	#2 out of 3
Persons with disabilities:	17%	17%	#2 out of 3
Population 17 years and Under:	23%	22%	#1 out of 3
Population 65 years and Over:	15%	15%	#2 out of 3
Strengths, Challenges, and Opportunities			

There are several opportunities to improve service and ridership on Route 1. The first opportunity is to provide more service that aligns with class times at RCCC. The on-board rider survey suggests that transit demand to the community college is greatest from 7 am to 9 am. The second most popular time is from 9 am to 11 am. STS could provide more peak service in the mornings to get students and staff to the community college. This improvement would only need to be provided on weekdays. In addition to the peak service, the schedule for Route 1 should also take into consideration class times in order to maximize service to the college when students are trying to arrive for class and leave from class. This would attract consistent riders to and from the college.

An additional opportunity to improve service on Route 1 is to add stops at all Novant Health Center buildings. Currently, there is one stop for these buildings. While the buildings are in close proximity to each other, elderly riders could be burdened by the walk from the stop to one of the buildings located further from the stop. Adding a stop in front of each building would allow patients to select the stop that is closest to their building and would not require them to walk further.



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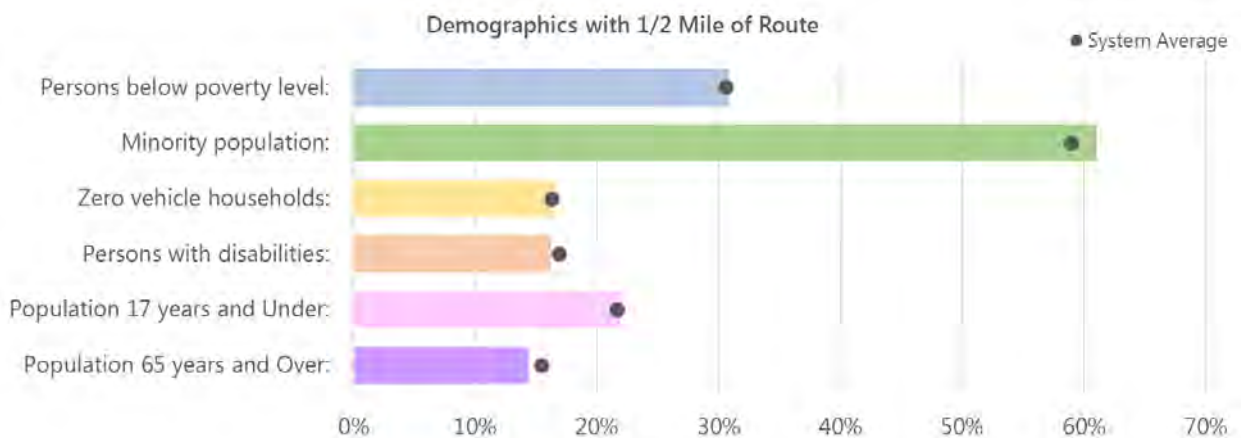
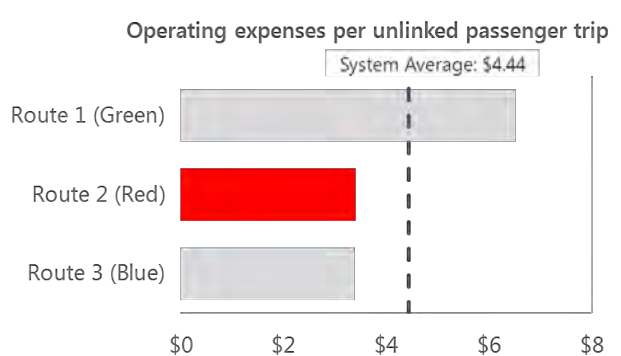
Route 2 (Red)

	Route 2 (Red)	System Average	System Rank
Operational			
Length (round-trip):	16.2	16.2	#2 out of 3
Frequency:	60 minutes	60 minutes	--
Hours of Operation:	M-F: 6:00 am - 7:04 pm Sat: 9:30 am - 3:20 pm	M-F: 6:00 am - 7:04 pm Sat: 9:30 am - 3:20 pm	
Days of Operation:	Monday-Saturday	Monday-Saturday	--
Annual Unlinked Passenger Trips:	57,500	48,450	#2 out of 3
Annual Vehicle Revenue Miles:	49,900	49,150	#2 out of 3
Annual Vehicle Revenue Hours:	3,550	3,550	--
Annual Estimated Operating Cost:	\$196,100	\$196,100	--
Performance			
Operating expenses per revenue mile:	\$3.93	\$3.99	#2 out of 3
Operating expenses per revenue hour:	\$55.59	\$55.59	--
Operating expenses per unlinked pax. trip:	\$3.41	\$4.44	#2 out of 3
Passengers per revenue hour:	16.3	13.7	#2 out of 3
Passengers per revenue mile:	1.2	1.0	#2 out of 3
Demographics			
Population Density (people per square mile):	1,776	1,597	#1 out of 3
Persons below poverty level:	31%	31%	#1 out of 3
Minority Population:	61%	59%	#1 out of 3
Zero Vehicle Households:	16%	16%	#1 out of 3
Persons with disabilities:	16%	17%	#3 out of 3
Population 17 years and Under:	22%	22%	#2 out of 3
Population 65 years and Over:	14%	15%	#3 out of 3
Strengths, Challenges, and Opportunities			

A challenge for Route 2 is the amount of layover time at the transfer center. A 15 minute wait time at the center is time that is lost for providing service. The route is comprised of two segments. The longer segment can sometimes take additional time and make it difficult for drivers to finish the trip in the allotted time. Route 2 is the only route currently that serves Walmart. Riders expressed frustration that if they board on the west side of Route 2, it can take over an hour to get to Walmart. Adding more frequent service to Walmart, improving the walkability from the bus shelter to the Walmart entrance - and reducing the commute time to get to the Walmart bus stop should be a high priority.



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Route 3 (Blue)

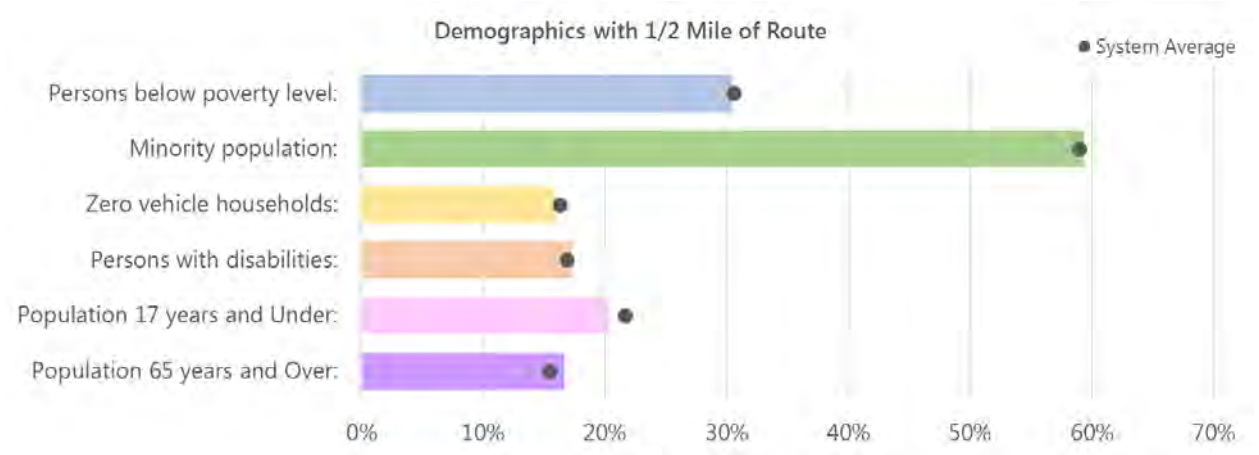
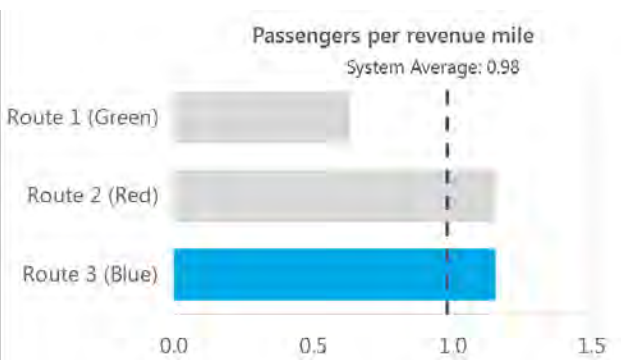
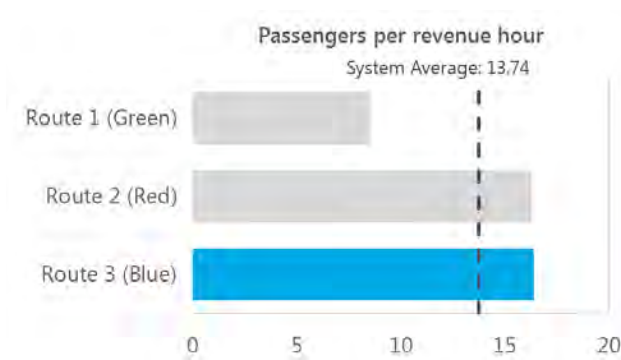
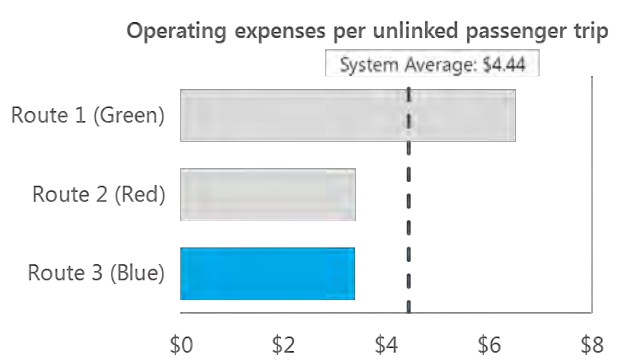
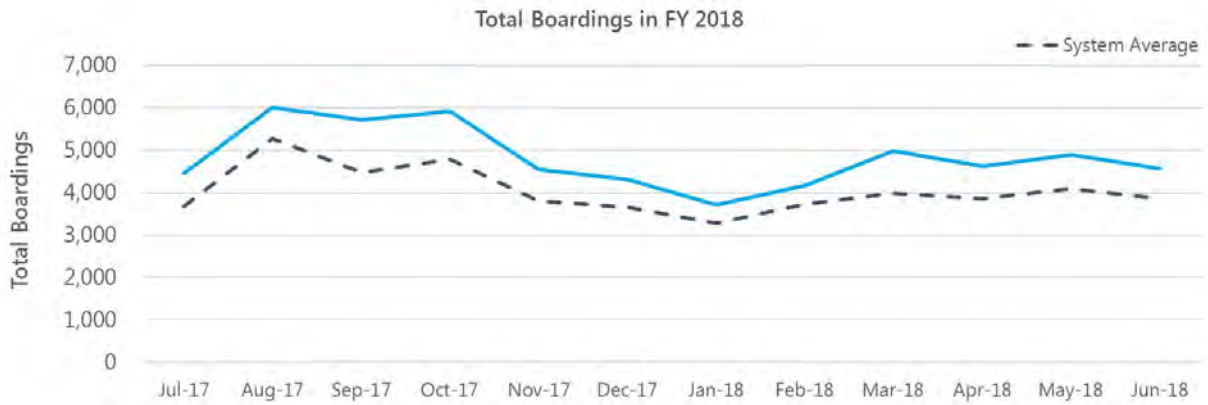
	Route 3 (Blue)	System Average	System Rank
Operational			
Length (round-trip):	15.2	16.2	#3 out of 3
Frequency:	60 minutes	60 minutes	--
Hours of Operation:	M-F: 6:00 am - 7:04 pm Sat: 9:30 am - 3:20 pm	M-F: 6:00 am - 7:04 pm Sat: 9:30 am - 3:20 pm	
Days of Operation:	Monday-Saturday	Monday-Saturday	--
Annual Unlinked Passenger Trips:	57,850	48,450	#1 out of 3
Annual Vehicle Revenue Miles:	50,050	49,150	#1 out of 3
Annual Vehicle Revenue Hours:	3,550	3,550	--
Annual Estimated Operating Cost:	\$196,100	\$196,100	--
Performance			
Operating expenses per revenue mile:	\$3.92	\$3.99	#1 out of 3
Operating expenses per revenue hour:	\$55.59	\$55.59	--
Operating expenses per unlinked pax. trip:	\$3.39	\$4.44	#1 out of 3
Passengers per revenue hour:	16.4	13.7	#1 out of 3
Passengers per revenue mile:	1.2	1.0	#1 out of 3
Demographics			
Population Density (people per square mile):	1,574	1,597	#2 out of 3
Persons below poverty level:	30%	31%	#2 out of 3
Minority Population:	59%	59%	#2 out of 3
Zero Vehicle Households:	16%	16%	#3 out of 3
Persons with disabilities:	17%	17%	#1 out of 3
Population 17 years and Under:	20%	22%	#3 out of 3
Population 65 years and Over:	17%	15%	#1 out of 3
Strengths, Challenges, and Opportunities			

An opportunity on Route 3 would be to relocate the Rowan Family Medical stop. The stop is located on steep terrain and is difficult to maneuver for some riders. Relocating this stop a few hundred feet would allow the stop to be on more level terrain and would allow for the bus ramp to be used if needed. Currently, the way the stop is positioned, if a rider needed to use the ramp, they would not be able to without coming down a steep driveway to get to the road level.

Route 3 operates in a loop, serving East Spencer and then continuing to Spencer before arriving at the Depot Transfer Site. While this route design maximizes service coverage, some trips experience longer travel times as a result. For example, a rider that boards the bus at the Lafayette Apartments would have an approximate travel time of 50 minutes to the Depot Transfer Site because she must first go through Spencer. Similarly, a rider in Spencer going to East Spencer must ride nearly the entire route to reach his destination. Riders identified this as being a challenge during the rider survey. An opportunity to improve Route 3 would be to introduce bi-directional service where one bus would operate clockwise around the loop while a second bus would operate counterclockwise. This type of service would reduce travel times for riders and make transit trips between Spencer and East Spencer more dependable.



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Comparative Analysis

A comparative analysis of the STS fixed-routes was performed in order to provide a system-wide analytical perspective. The analysis was based on the five performance indicators reported for each route in the fact book:

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

Routes were compared to one another by assigning points equivalent to the respective route ranking for each performance indicator. The total points were converted to a composite score out of 100 points as shown in Table 3-3. For example, in the operating expenses per revenue mile indicator, Route 3 received the most points (3) because it had the lowest operating expenses per revenue mile compared to the other fixed routes. Conversely, Route 1 received the fewest points (1) because it had the highest operating expenses per revenue mile. Since operating expenses were not available at the route level, they were derived by multiplying the average system operating cost per revenue hour by the annual vehicle revenue hours for each route. Therefore, the operating expense per revenue hour was the same for all eight routes.

Based on this methodology, Route 3 is the highest-ranking route while Route 1 is the lowest-ranking route. The primary difference between the three routes is annual ridership. Route 1 had approximately 30,000 annual unlinked trips in FY 2018 compared to 58,000 trips on Routes 2 and 3. The large difference in annual ridership (93 percent difference) directly affects the five performance indicators used in the comparative route analysis. The ridership difference may be explained by the trip generators served by each route. Trip generators located on Route 1 include the Employment Security Commission, RCCC, and Kohls/Belk. These locations may not generate as much ridership as other places such as DSS, Livingstone College, Salisbury Mall, and Walmart on Route 2, or East Spencer, Novant Health Rowan Medical Center, VA Medical Center, and Spencer on Route 3. It should also be noted that Route 3 serves East Spencer and Spencer, which have 26.3 percent and 18.4 percent of households that do not have access to a vehicle, respectively. Stop-level ridership data is required in order to better understand the relationship between trip generators and route productivity. STS may consider collecting stop-level boardings and alightings.

Table 3-3: Comparative Route Analysis

	Route 1 (Green)	Route 2 (Red)	Route 3 (Blue)
Points equivalent to the respective route ranking			
Operating expenses per revenue mile	1	2	3
Operating expenses per revenue hour	1	1	1
Operating expenses per unlinked pax. trip	1	2	3
Passengers per revenue hour	1	2	3
Passengers per revenue mile	1	2	3
Composite Score and Overall Ranking			
Composite Score	92	96	100
Overall Rank	#3	#2	#1

Source: AECOM, 2019.

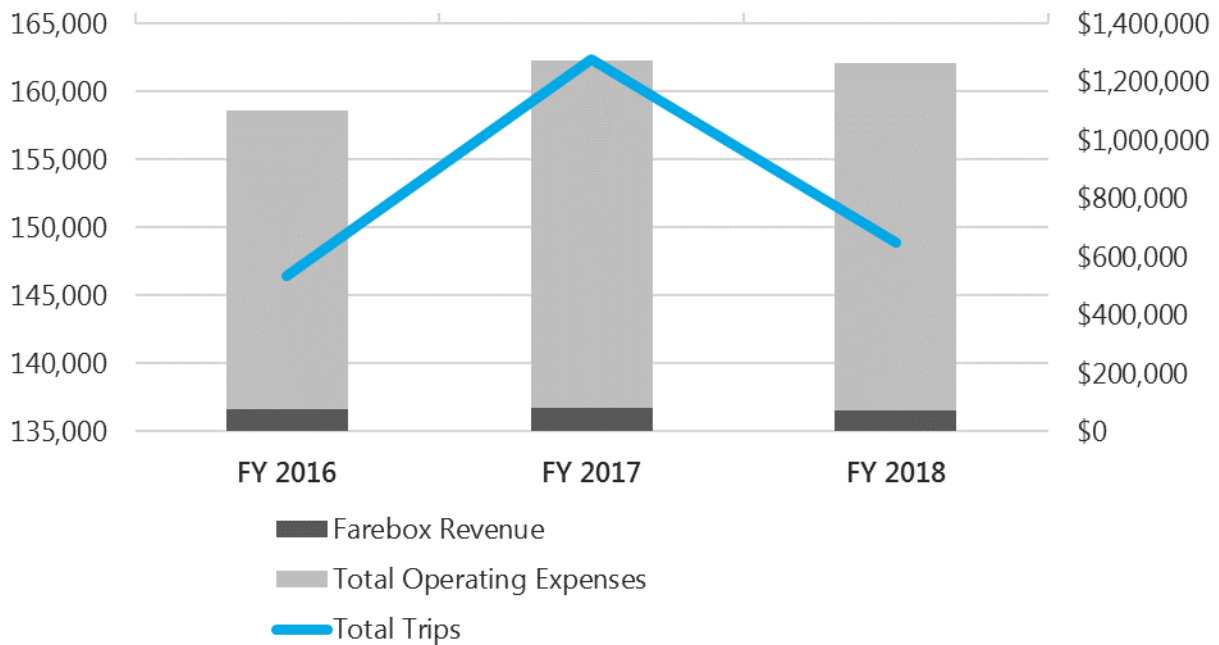


3.4 Historical Performance

The historical performance of STS fixed-route and paratransit services was assessed for the past three fiscal years by looking at annual unlinked trips, operating expenses, and farebox revenues. STS has experienced growth in both fixed-route and paratransit trips during this time period, which is significant given that there has been a declining trend in ridership nationwide during this same time period.¹ Fixed-route ridership grew by 1.7 percent between FY 2016 and FY 2018. As shown in Figure 3-1, ridership peaked in FY 2017 at nearly 163,000 riders before returning to previous year levels in FY 2018. Part of the ridership decrease may be explained by the discontinuation of Routes 4 and 5 in FY 2018. During this same time period, total fixed-route operating expenses increased by approximately 16 percent while farebox revenues decreased by nearly 7 percent.

Paratransit service has seen a larger increase in ridership both in terms of percent change. Between FY 2016 and FY 2018, ridership increased by 18.8 percent, or 1,326 riders. During the same period, paratransit operating expenses increased by 51.5 percent and farebox revenues by 25.7 percent. Figure 3-2 illustrates the growth in ridership, operating expenses, and farebox revenues.

Figure 3-1: Fixed-Route Trips, Expenses, and Revenue (FY 2016-2018)

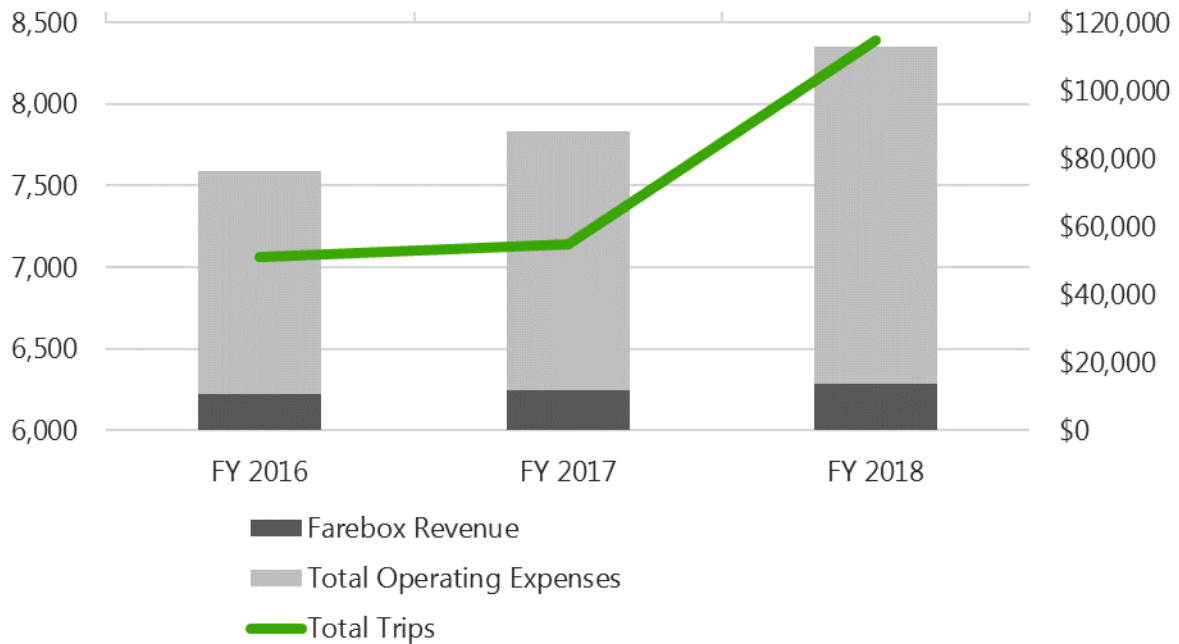


Source: NCDOT OpStats Reports FY 2016-2018, 2018.

¹ Understanding Recent Ridership Changes, American Public Transportation Association, April 2018.



Figure 3-2: Paratransit Trips, Expenses, and Revenue (FY 2016-2018)

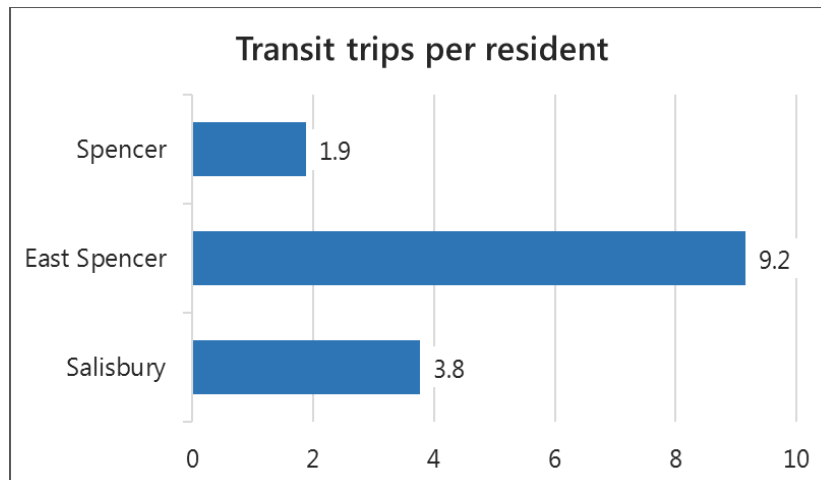


Source: NCDOT OpStats Reports FY 2016-2018, 2018.

3.5 Spencer and East Spencer Transit Service

STS provides Spencer and East Spencer with fixed-route and ADA complementary paratransit service. Route 3, which is STS’s most productive route, serves both communities. In FY 2016, there were 6,203 total trips in Spencer and 13,419 trips in East Spencer. In comparison, STS provided a total of 146,418 trips systemwide in FY 2016. Although East Spencer trips constitute only 9 percent of total STS trips, East Spencer has the highest transit trips per resident of the three municipalities. As shown in Figure 3-3, East Spencer has 9.2 trips per resident compared to 1.9 in Spencer and 3.8 in Salisbury.

Figure 3-3: Transit Trips per Resident



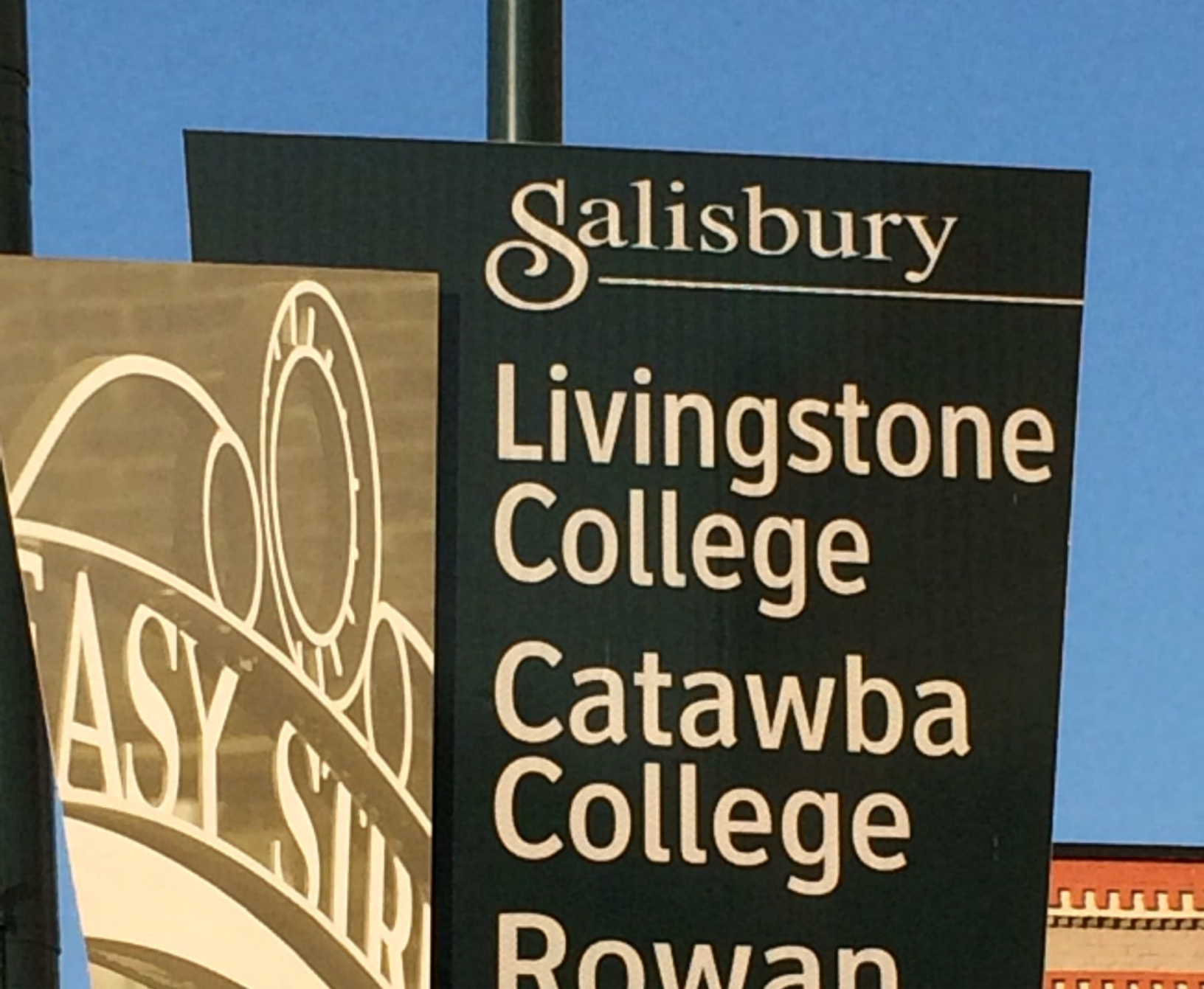


The current costs associated with providing service to were estimated to be \$47,000 annually for Spencer and \$58,000 annually for East Spencer, for a total of \$105,000. Costs were estimated by multiplying the annual operating costs for fixed-route and ADA complementary paratransit by the percentages of service provided to Spencer and East Spencer. Fixed-route service was allocated to municipality by the percentage of time spent in each municipality while the paratransit service was allocated based on the percentage of service area located within the municipality. The methodology and calculations are shown in Table 3-4.

Table 3-4: Spencer and East Spencer Estimated Transit Costs

Fixed-Route Costs		ADA Complementary Paratransit Costs			Total
Annual Route 3 operating costs:	\$196,149	Annual operating costs:		\$99,325	
Route 3 cycle time (min):	60	Total service area size (sq. mi.):		24.0	
Route 3 time in Spencer (min):	12 20%	Spencer service area (sq. mi.):		1.9 8%	
Route 3 time in East Spencer (min):	16 27%	East Spencer service area (sq. mi.):		1.5 6%	
Route 3 Spencer Annual Cost:	\$39,000	Spencer ADA Annual Cost:		\$8,000	\$47,000
Route 3 East Spencer Annual Cost:	\$52,000	East Spencer ADA Annual Cost:		\$6,000	\$58,000
Total Annual Operating Cost:	\$91,000	Total Annual Operating Cost:		\$14,000	\$105,000

Source: AECOM and STS, 2019.



Chapter 4.0

Collaborating with Stakeholders and the Community





4.0 Collaborating with Stakeholders and the Community

Collaboration with stakeholders and the community was critical to the LRPT Master Plan. The community was engaged for their input and feedback at various stages of the planning process, most notably in the rider and community surveys. A Stakeholder Committee guided the planning efforts.

4.1 Vision, Goals, and Objectives

The vision, goals and objectives for this study were to analyze current transit needs, gaps and areas of potential improvement and enhancement; analyze the projected future population growth and service needs; determine the transit options required to effectively serve that need within Salisbury as well as how to best connect with regional systems over a 20-year horizon.

The City of Salisbury contracted AECOM to develop a plan that helps educate, inform, and support the development of a cohesive, long-term vision for investment in public transit in the City of Salisbury; identifies opportunities, advantages, disadvantages, and barriers to enhancing services and/or expanding services provided now through 2038. As part of this process, AECOM was to examine opportunities for enhanced regional coordination with neighboring public and private transit systems and providers.

The analysis process was to address the future of service delivery, financial, staffing, real property and other capital, including rolling stock, infrastructure, technology, customer service, and any expansion (including additional modes) to enhance the mobility within the community and the region. Existing funding mechanisms were to be analyzed, to include current and long-term funding needs, providing a shortfall analysis, and determining potential new sources of funding necessary to meet projected needs.

AECOM was to prepare a plan for short (0-5 years), medium (5-10 years), and long-term (10-20 years) with specific steps to guide implementation and service delivery enhancements. This plan was to review funding alternatives that could be considered to support the recommended local investments. Throughout this study process, there was a strong focus on local community coordination in order to seek concurrence in each step of the project with the project Steering Committee.

4.2 Steering Committee

The project Steering Committee was made up of local volunteers from throughout the Salisbury community. Members included:

Rodney Harrison	Salisbury Transit System Manager
Franklin Barnes	Rowan County Director of Transportation
Archie Reid	Transportation Advisory Board (TAB)
Kyle Harris	City Planner
Lydia Larios	Salisbury Housing Authority, Executive Director
Donna Fayko	Department of Social Services, Director
Fern Blair	Communications Department
Zack Kyle	Assistant City Manager



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Levi Coldiron GIS Coordinator
Jim Williams Transit Planner / Operations Supervisor
Terry Simmons Transit Dispatcher

The Steering Committee convened for three meetings during the study process. The first meeting was a project “kick-off” meeting that was held on November 14, 2018. The agenda for this meeting included: highlighting the AECOM project team, welcoming committee members, local feedback that would take place throughout the study process, an overview of STS, the scope of work, project timeline and public outreach activities.

4.3 Stakeholder Workshops

Stakeholder workshops were conducted on January 30, 2019 and on March 4, 2019. Additionally, a workshop was conducted with the Salisbury City Council on March 19th, prior to the final presentation of the Final Report.

The agenda for the January 30th meeting included a presentation of: the route fact book, the peer analysis, results from the Rider survey and community surveys, and driver interview information.

The STS “Transit Advisory Board” participated in the workshop on March 4th to review the project analysis and provide comment on the recommended alternatives for future transit services. The March 4th presentation agenda included: proposed new fixed routes, funding analytics and financial impacts of the proposed new services, potential coordination impacts, an updated service design to include microtransit zones, and the necessary infrastructure to support the short-term, medium-term and long-term initiatives for the next 20 years.



4.4 Driver Interviews

Interviews with STS drivers were conducted on January 23rd and 24th, 2019. The interview format was one-on-one, and each driver completed a questionnaire that provided detailed information to be considered in structuring/improving new services. Drivers responded in the interviews with very insightful, constructive suggestions to improve the transit services. Their respective input was invaluable in the study process and they helped to shape the context of future ideas to be considered for implementation. The following were the interview questions:

Salisbury Transit LRPT – Bus Driver Survey Questions

- 1) What route do you currently operate most?
 - a. Route 1 (Green)
 - b. Route 2 (Red)



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- c. Route 3 (Blue)
 - d. Paratransit
- 2) How long have you been working at Salisbury Transit?
 - 3) What is your current schedule?
 - 4) What is working well with this route?
 - 5) What would you like to suggest to improve this route?
 - 6) Are there any locations that should be added or left off of the schedule? (please be specific)
 - 7) Are there any safety concerns that you observe on a frequent basis?
 - 8) What are some frequent questions you receive from bus passengers?
 - 9) Is there any additional training that you would like to receive, to help you in performing your duties?
 - 10) Are there any further comments that you would like to add?

The findings from these interviews included a number of new/suggested bus stop locations. They were: Food Lion warehouse, RCCC at their South Campus, Connection to Lexington, service to Rockwell and Granite Quarry, Westcliff, Freightliner, Cleveland Senior Center, China Grove, Landis, additional service to Walmart and the Veterans Hospital.

Some of the observations provided by the drivers included:

- Need for a restroom facility at the Depot Transfer site
- Shorter route times (30-minute headways for fixed route service)
- Update the passenger pay system to become automated
- Review stop placements on Horah Street
- Improving lighting at bus stops
- Install emergency call boxes at the Depot Transfer site
- Improve the signalization to assist buses at intersections
- Improve the community image of the transit service
- Improve the route schedules to address on-time performance issues
- Need for more buses
- Need for newer buses
- Additional locations to sell bus passes
- Need for a vanpool program to provide better access for commuter work trips
- Improve transportation coordination with local/regional colleges
- Refurbish the Depot Transfer site and include a Greyhound bus stop
- CPR training for all drivers
- Later evening routes
- Increase the maintenance staff
- Provide on-site refueling

4.5 Rider Survey

An “Origin and Destination” survey of STS riders was conducted by Transit Insight in partnership with AECOM. The survey began on Friday November 30th, 2019, and included Saturday, December 1st, as well as Monday December 3rd. These dates were targeted in consultation with STS staff, to maximize the ability of the survey to reach the greatest number of riders during the fall/winter riding season as paychecks and income checks are generally distributed at the beginning of the month.

We collected a total of 241 fixed-route responses over the three-day survey period, which well exceeds the targeted survey amount. More information about the survey methodology is described in the following sections; however, the primary goals of the survey were to gather information from riders about their travel patterns, identify demographic characteristics, and gain customer service feedback. The combination of this information allows STS to better understand their riders as well as their transportation needs and perceptions of the service.



Surveyor on STS Bus

At the time of the survey, STS operated three bus routes, Route 1 – Green, Route 2 – Red, and Route 3 – Blue, which run throughout the Salisbury community. Each route operates two loops, effectively serving a north-south or east-west area that begin and end at the Transfer Site. All routes operate on a pulse-style schedule. Weekday service begins at 6:00 a.m. and operates until a little after 7:00 p.m. Saturday service begins at 9:30 a.m. and runs until about 3:30 p.m.

Surveys were conducted on all STS routes and spread throughout the day to ensure both geographic and time-based coverage. The survey data analysis is broken into the following four sections:

Section 1: Overview – contains information about the data collected, survey methodology, and quality control procedures

Section 2: General Rider Characteristics – provides a short summary of notable findings related to rider demographics and travel behaviors

Section 3: Comprehensive Charts and Graphs – shows results from additional survey questions, including customer service questions.

Section 4: Paper Survey Instrument – provides a copy of the paper survey instrument used to collect responses from those unable to complete the in-person interview while on the bus.

Section 1: Overview

AECOM worked closely with STS staff to develop the survey questions. Some key data points covered in the survey include:

- The origin and destination type (starting and ending place) of the rider's trip
- How the rider traveled from the origin to the boarding bus stop
- An estimate of how far the rider traveled from the origin to the bus stop
- The fare type used
- An estimate of the travel time for the one-way trip
- General information (customer satisfaction, quality of service, ranking of future needs)

Survey Methodology

Transit Insight and AECOM fielded a team of trained interviewers through a local temporary agency to perform the data collection and interviews. The in-person interviews were conducted on the bus and at the downtown transfer shelters. Surveyors rode buses throughout the service day to ensure coverage during all available times of service. The survey was administered as a face-to-face interview using android tablets. Paper surveys were available for distribution and collection until Friday, December 7th, 2018. All surveyors were supplied with paper survey instruments in the event that riders did not have time to complete the survey while riding the bus. These paper surveys could be returned to any surveyor or driver. Over the course of the survey, 10 fixed-route paper surveys and 12 paper ADA paratransit surveys were returned.

As an incentive to participate, STS provided a pack of four bus tickets to those who completed the survey. These were given out by the surveyors at the completion of the interview.

A sampling plan was developed to ensure that the results would be statistically appropriate for the amount of overall ridership on the STS system. Because transit systems track individual trips, not individuals, the sampling plan was based on average daily unlinked passenger trips (UPT). STS averages approximately 500 UPT per day, which was calculated based on an average daily system ridership of all three routes in FY 2018 (July 2017 through June 2018). In order to determine the appropriate level of individual riders to sample, a rule of thumb for small urban systems is to divide the UPT by 2, which estimates that individuals ride at least two times per day. This is a broad estimation, as individual riders may ride more or less than two times per day; however, this approach allows for development of a target sample size.



Interview in Process on STS Bus

Based on 500 UPT per day, the estimated population size is 250 (500/2). To achieve statistical validity at a confidence level of 95 percent and a precision level of ± 5 percent for a population of

250, 154 surveys were required to be completed, which is approximately 60 percent of the estimated average daily rider population. Our goal was to interact with 175 riders, or 70 percent of estimated daily riders. Based on the incentive provided by STS, we well exceeded our goal, netting a total just over 240 completed surveys. This number is nearly equal to the number of estimated daily individual riders, which bears out in the interactions with riders by the third day of the survey. On the last day of the survey, our surveyors reported that a significant portion of riders they spoke with had already participated. Details of the survey counts by route are provided in Table 4-1.

Table 4-1: Completed Surveys by Route

Route Name	Actual Surveys Collected per Route
Route 1 - Green	51
Route 2 - Red	117
Route 3 - Blue	70
Not on a Route at time of interview	3
Total	241

Summary of Survey Approach and Procedures

Survey software on the android tablets assisted in the clarity and accuracy of collected data. The survey questionnaire was built in such a manner as to minimize the interaction time required with riders, focusing first on travel patterns, then moving on to demographics. Where possible, “skip-questions” were built that, depending upon the answer, automatically bypassed unnecessary questions to speed up the overall interview time. Depending on the rider and the surveyor, the interview process ranged between 6 and 8 minutes.

Use of these tablets and the specifically designed interview format provides a much higher response rate than self-administered paper surveys. The tablet also provides a “connection” between the rider and interviewer. Interviewers were encouraged to sit next to the rider during the interview and allow the interviewee to look at the tablet and survey responses together. In addition, sensitive questions such as age can be shown to the rider where they then select the appropriate response while the interviewer looks away. Based on this interview approach, we were able to achieve a very high response rate to the survey.



Transit Insight and AECOM staff provided on-sight training sessions to all surveyors about the interview process and technology. Areas of training included a strong focus on customer-service, how to approach riders, as well as techniques for getting riders to answer some of the more sensitive questions. A thorough understanding of the use of the tablet and survey software was also conducted.

Prior to full implementation of the survey, a pilot test was completed on Thursday, November 29th, 2018. A total of 23 interviews were conducted. After a review of the results, no major issues were identified.

Some of the more specific administration and quality control procedures are listed below:

- All interviewers wore STS branded vests that included a nametag to identify them as official transit surveyors
- Each interviewer was trained to understand the reason and importance of the survey so this could be relayed to riders as needed or to answer survey related questions
- Interviewers boarded and alighted buses at the downtown transfer point where interviews could be conducted with riders waiting on the bus, as well as those riding the bus
- A team leader managed the data collection at all times and was available for questions, tablet distribution and collection, and to ensure that data was immediately uploaded as surveyors returned from their rides



Based on the small (in statistical terms) population of interview candidates, and the hours of operation for STS service, surveyor schedules were targeted to cover the highest ridership times; however, surveys were conducted at all times during the day, including early morning and evening to ensure that a majority of riders had an opportunity to participate in the survey.

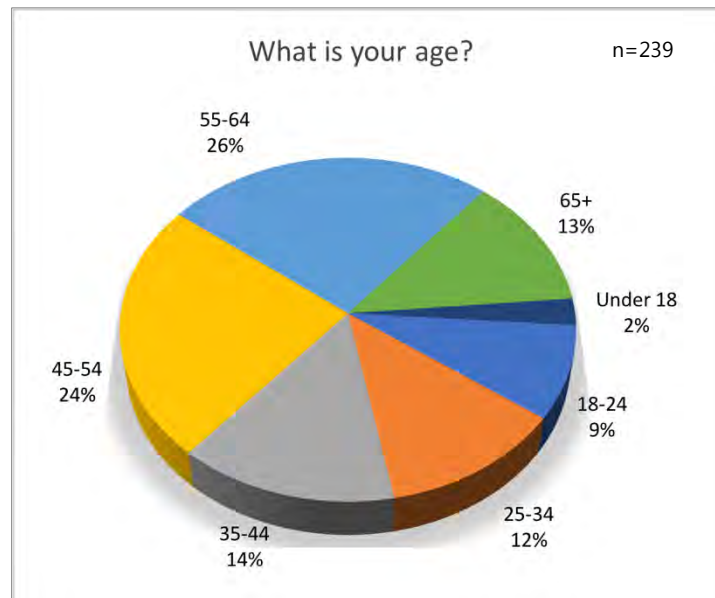
Very little data entry was required due to the electronic nature of data collection; however, the data was cleaned and reviewed twice to ensure accuracy. Transit Insight conducted a 100 percent review of all of the digitally collected data. Where possible, any errors that were easily identified and verified were corrected. Most of the information collected was rider reported and therefore not subject to modification.

Section 2: General Ridership Characteristics

The following section provides general ridership and demographic information about STS riders. Taken together, these can provide insight to develop an average rider profile.

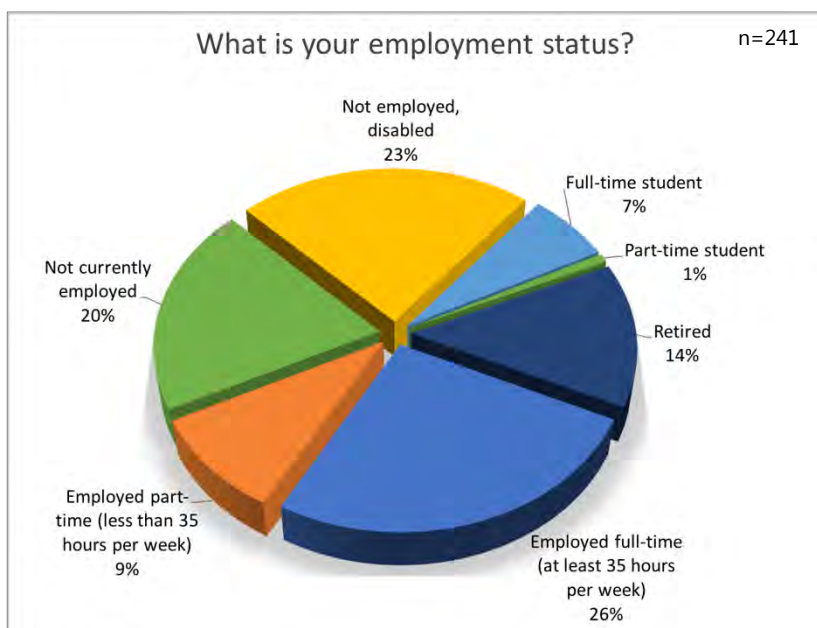
Age

The two largest cohorts are between ages 45-54 at 24 percent and 55-64 at 26 percent. There is a wide age diversity of riders with a significant portion, approximately 35 percent, between the ages of 18-44. It should be noted that although the survey shows only 2 percent of riders under 18, this does not represent all riders under 18. This number specifically represents riders that were interviewed, and children were not targeted as part of the interview design.



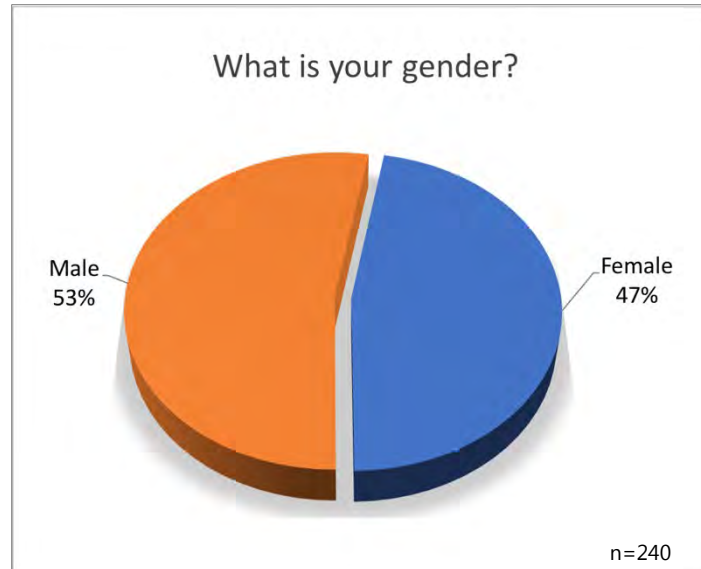
Employment

The largest portion of riders indicated that they were not employed at 43 percent, and of them, 23 percent were disabled. The next highest grouping of riders was employed full time at 26 percent, followed by retired at 14 percent. Overall, 57 percent of transit riders are either not employed or retired which indicates a significant portion of riders are likely on a fixed income and rely on transit for their transportation needs.



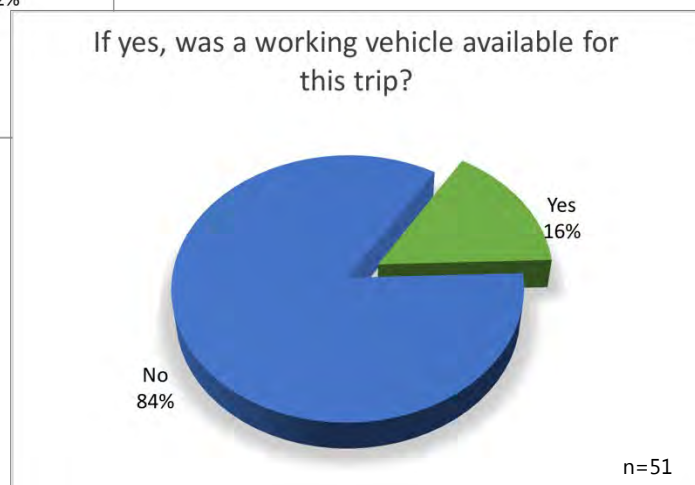
Gender

Across the United States, the largest portion of transit riders are generally women at about 55 percent. STS riders are unique in that the largest portion of riders are men at 53 percent, with women representing the smaller portion at 47 percent. There may be opportunities for STS to target some marketing efforts at women to boost ridership.



Valid Driver's License

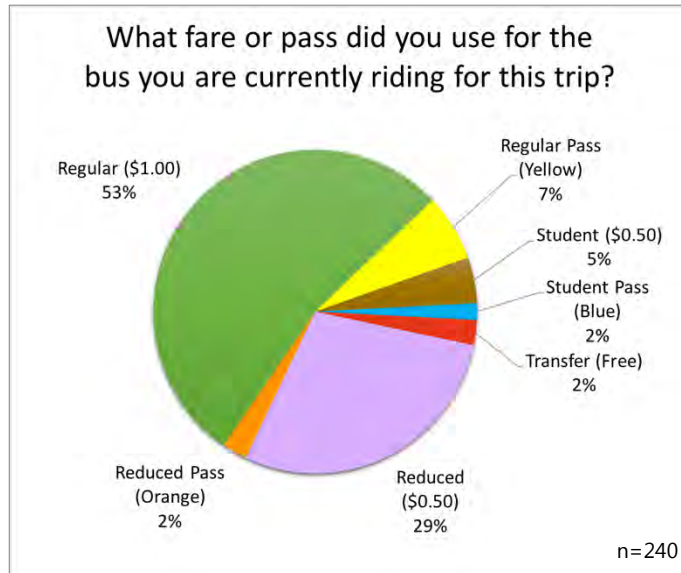
The great majority (78 percent) of riders do not have a valid driver's license, and of those that do, only 16 percent have a working vehicle available. This indicates that nearly all riders rely on STS for their transportation.





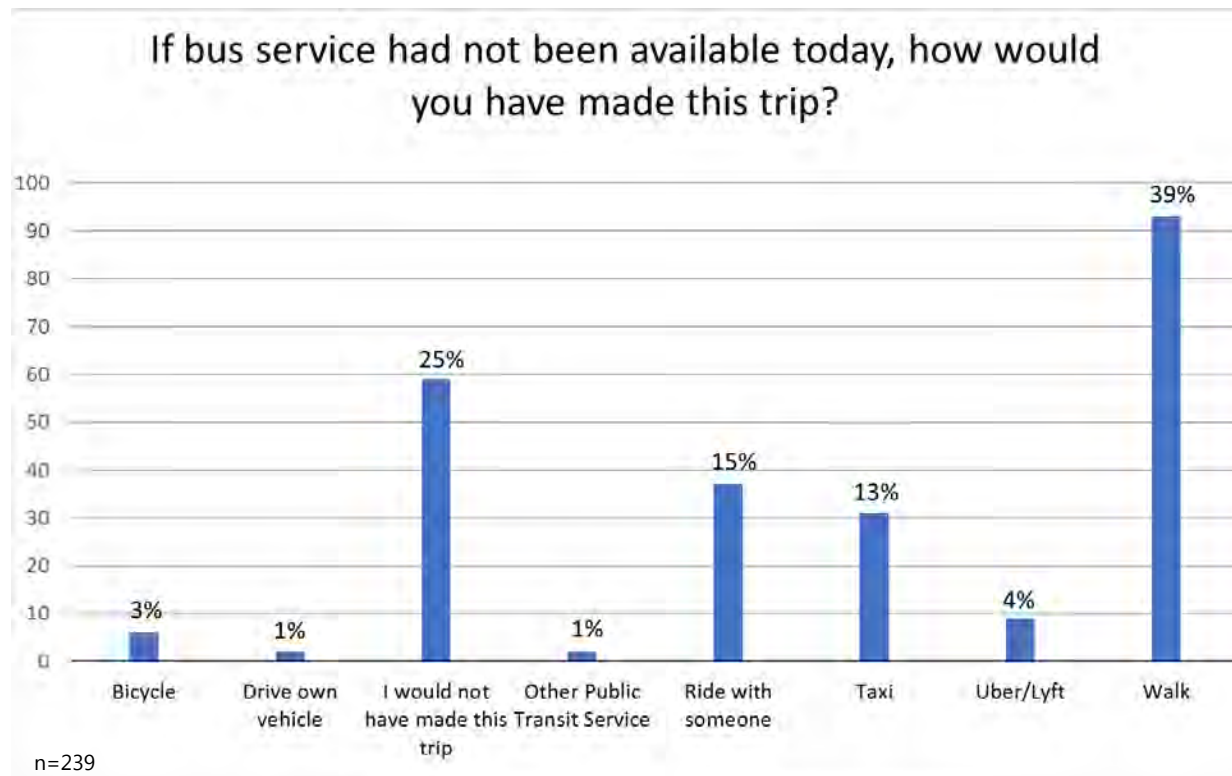
Fare Type

The largest majority of riders pay regular fare at 53 percent. The second highest grouping of riders (29 percent) pays the reduced fare. This matches well with employment status which showed that 37 percent of riders were either disabled or retired.



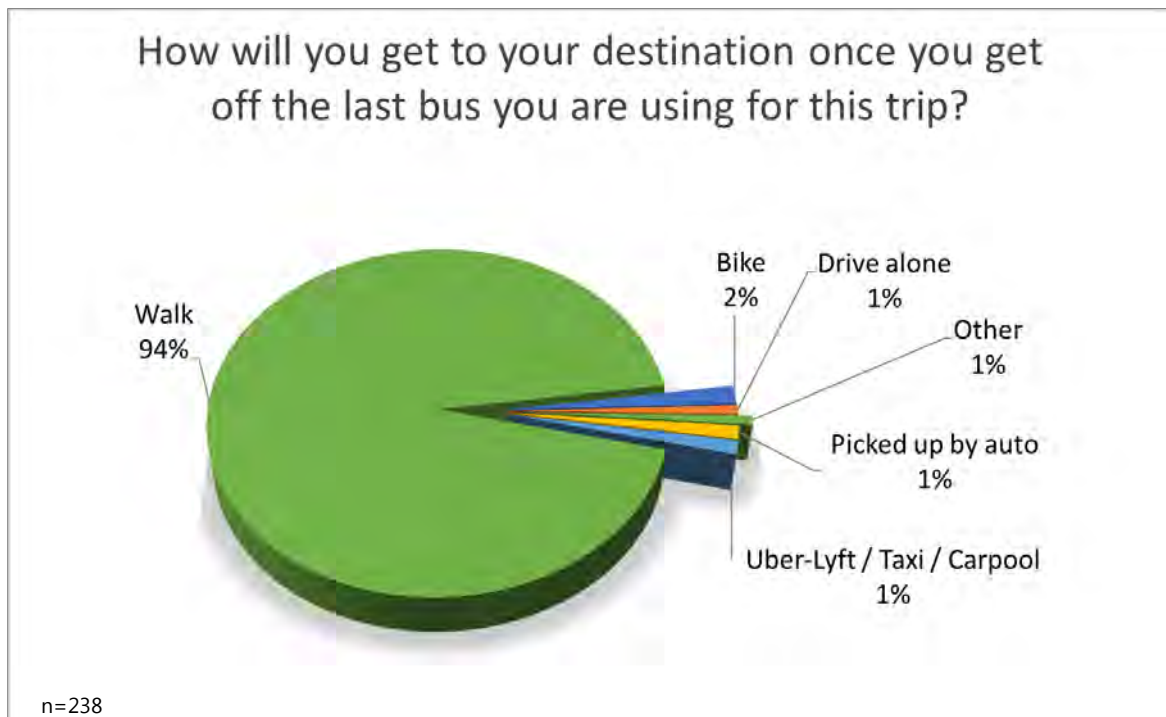
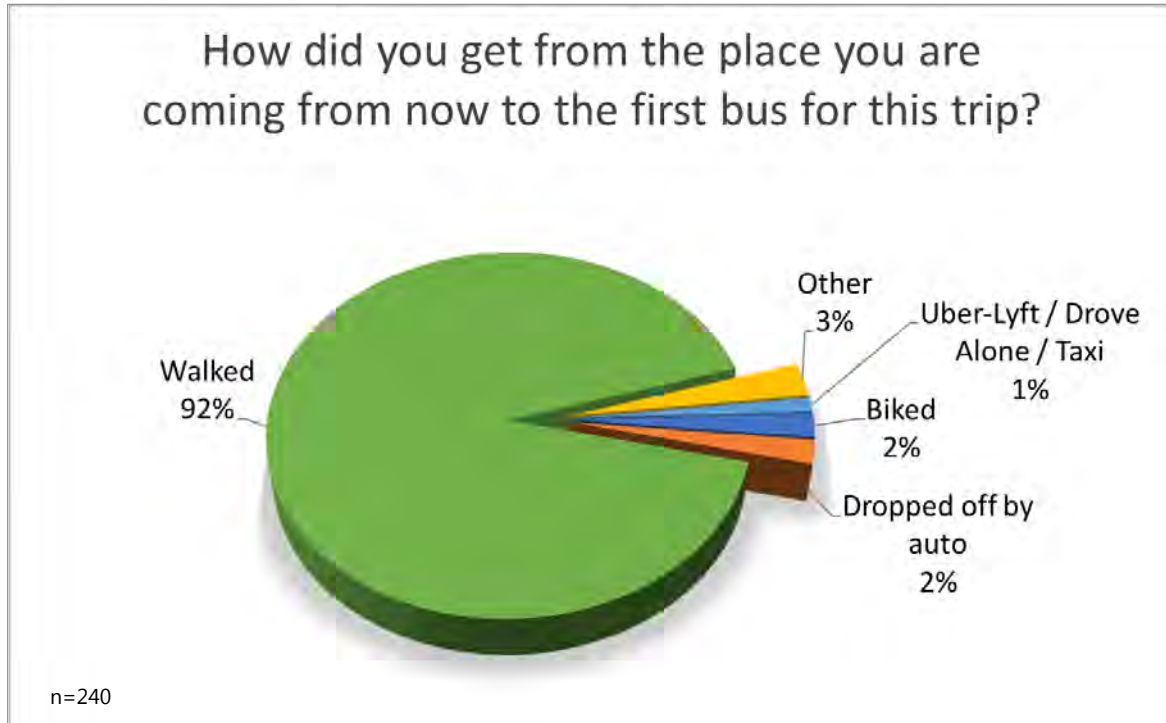
Transportation Without Bus Service

If bus service were not available, only 25 percent of riders indicated they would not have made the trip. The largest cohort, 39 percent, advised that they would walk. This might indicate that overall rider trip distances are relatively short. The remainder indicated that they would have made the trip through alternate means such as riding with someone or taking a taxi/Uber/Lyft.



How Riders Got to and from the Bus

The majority of riders walk to and from the bus at 92 percent and 94 percent respectively. This indicates that STS does a good job of providing geographic coverage with their routes being located close to rider origins and destinations.





Estimated Distance to and from Bus Stop

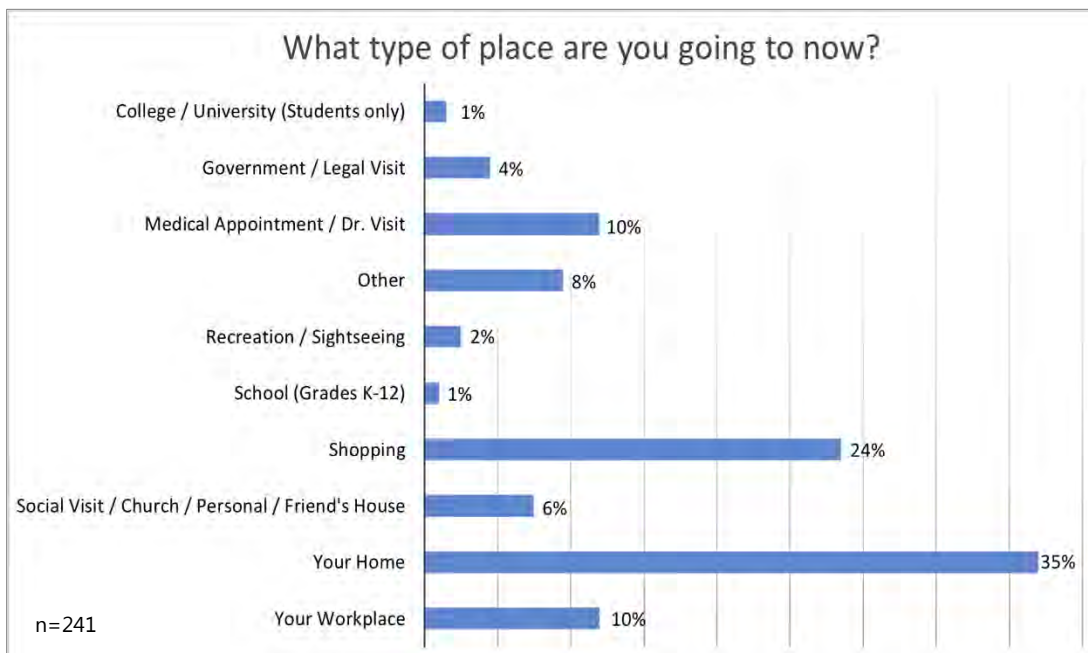
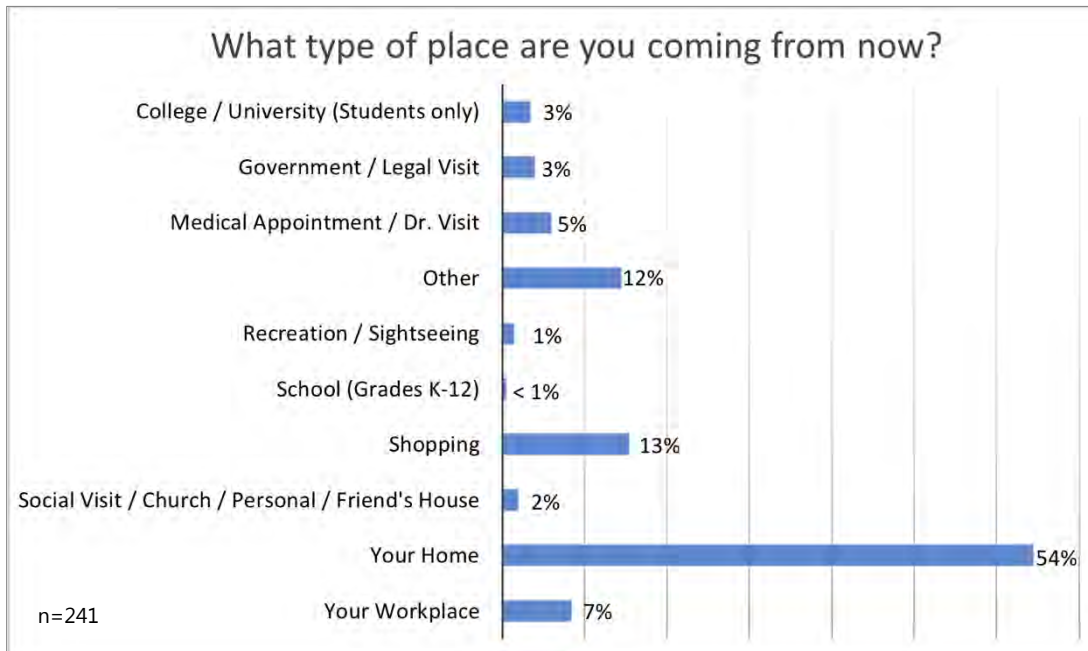
The largest majority of riders indicated that their origins and destinations are within ¼ mile of the bus stop at 76 percent and 78 percent, respectively. Overall, all trip origins and destinations are within ¾ of a mile at 90 percent and 94 percent respectively. This coincides with the earlier results that indicate the great majority of riders have walk access to and from their bus stops, and that STS is meeting rider needs for the location of bus stops throughout the community.





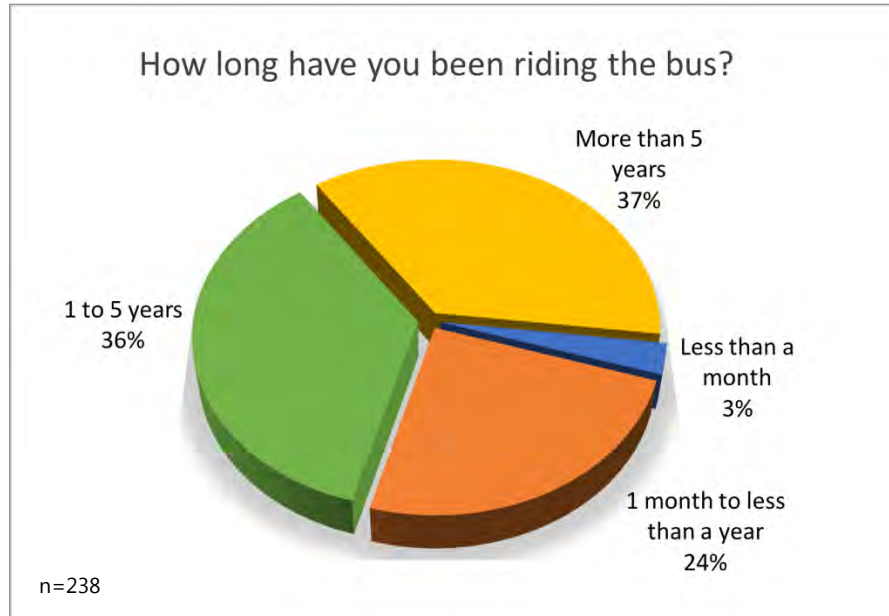
Where Transit Riders Were Coming From and Going To

Over half of the riders surveyed were coming from home at 54 percent, while the next highest groups were coming from shopping or other. The other category includes places such as the post office, library, banks, and dining facilities. The highest focus of rider destinations were home and shopping trips at 35 percent and 24 percent respectively. Work trips came in at 7 percent and 10 percent, which is quite low compared to the national average of 49 percent. This supports the earlier analysis that a high number of riders are not working and/or retired. There may be some opportunities for STS to coordinate with large employers in the service area to further increase ridership.



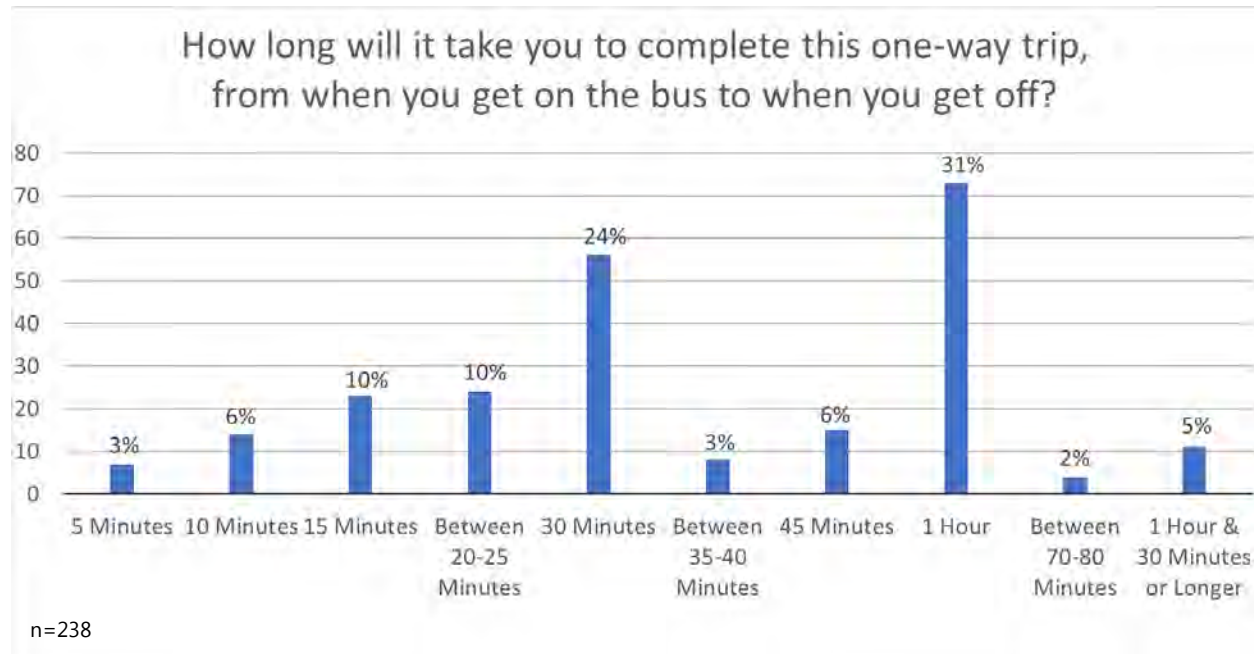
Years Riding

A majority of riders (73 percent) have been riding over 1 year, with 37 percent having ridden for more than 5 years. However, a significant portion, 27 percent, have been riding for less than a year. This indicates that STS is reaching new customer and riders that may be new to the area.



Travel Time

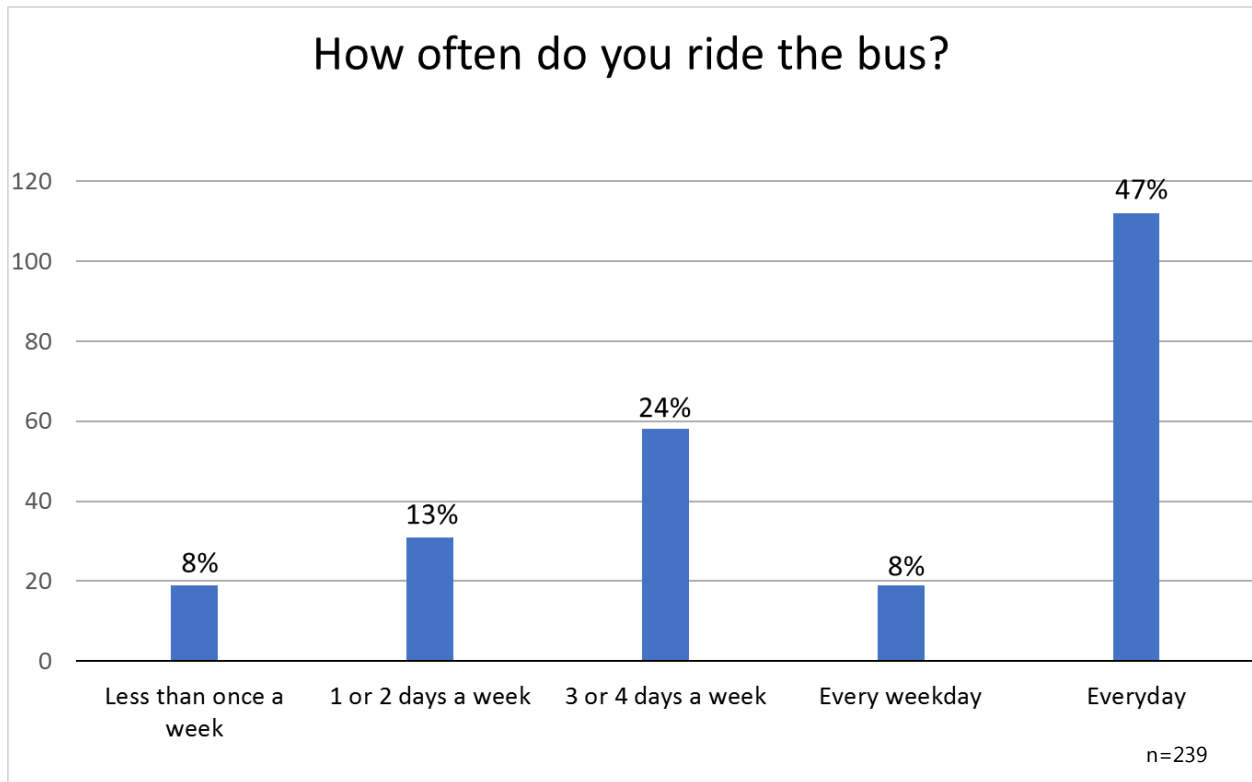
Over 50 percent of riders estimated their travel time to be 30 minutes or less, with the largest cohort of that group having a travel time of 30 minutes (24 percent). This suggests that a large portion of trips are relatively short distances. The second highest result was for trips that take 1 hour (31 percent), indicating that there is also a significant segment of riders that go greater distances, or have more transfers.





Ridership Frequency

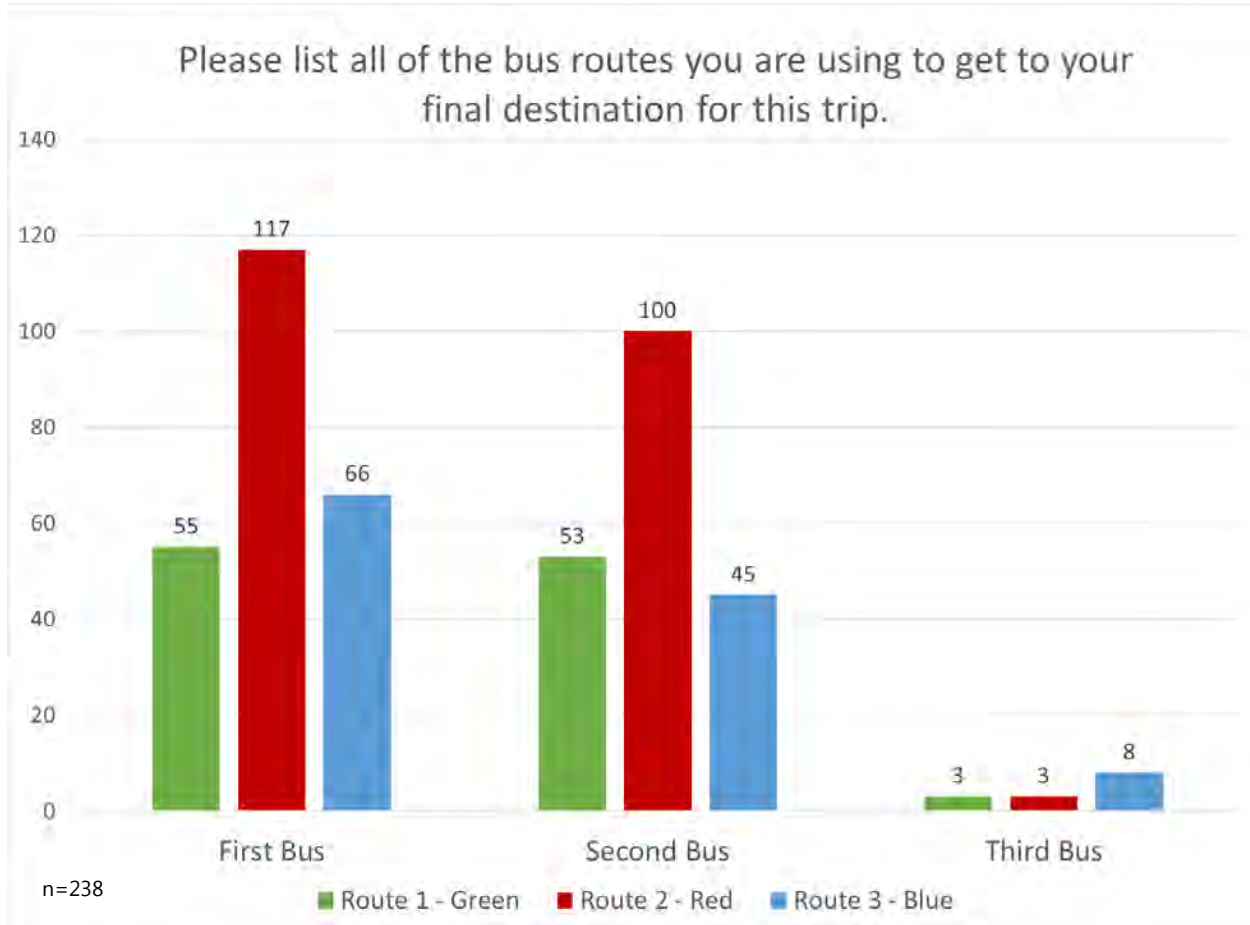
STS has a high ratio of regular riders with nearly half, 47 percent, indicating that they ride every day. Additionally, 24 percent of riders ride 3 or 4 days a week, and 8 percent of riders ride every weekday. This indicates a high service utilization rate by existing riders and ties with the earlier analysis suggesting STS riders rely on transit for their transportation needs.





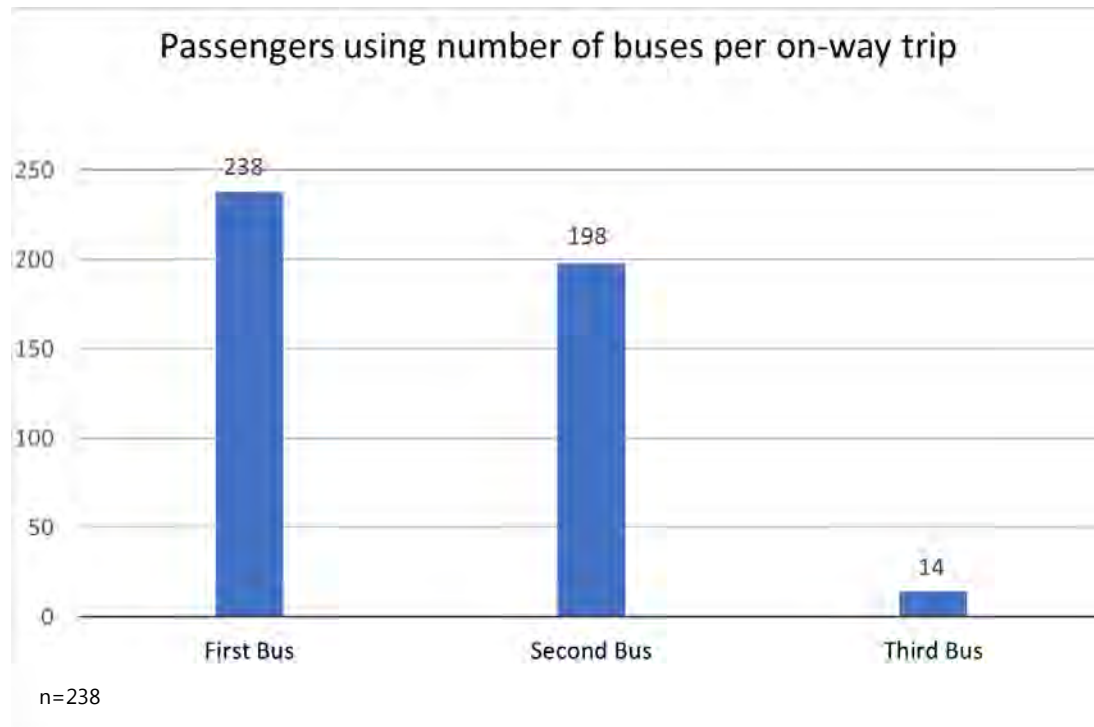
Listing of All Buses Used During One-Way Trip

Riders were asked to list all of the buses used for this one-way trip, starting with the first bus. The chart below provides a count of which buses were used first, second, and third.





The following chart indicates the number of buses used per trip. All riders must use at least one bus during their trip; however, the number remains very high, at 198, who use two buses for their trip. This equates to 83 percent of riders using two buses for their trip. A very small number of riders indicated using three buses for their trip; however, this seems an unlikely scenario based on how STS routes operate. Riders using more than three buses may be transferring to or from other services.



Limitations of the Data

Although the sampling goals for this survey were far exceeded, and the data derived herein can assist STS in understanding riders and their needs, there are some limitations to the use of this data. The limitations listed below are intended to provide guidance to persons who will use data from this survey to conduct analysis in the future. The following list is not all inclusive, and anyone using the database should consider other limitations that are common to survey-acquired data.

Possible under-representation of very short-trips

The survey took most riders about 5-8 minutes to complete. Although alternative methods of responding to the survey were provided (paper surveys), it is possible that riders who made very short trips were less likely to complete the survey or return a completed survey. This could mean that short trips are under-represented in the collected data.

Due to relatively low volume on a route by route basis, data is not statistically representative for each individual route.

The survey was designed to ensure statistical accuracy for the entire STS system; however, due to the relatively small population of survey candidates on a route by route basis, it should be understood that low volume routes have unique characteristics. Therefore, the data for individual routes may not be fully representative.



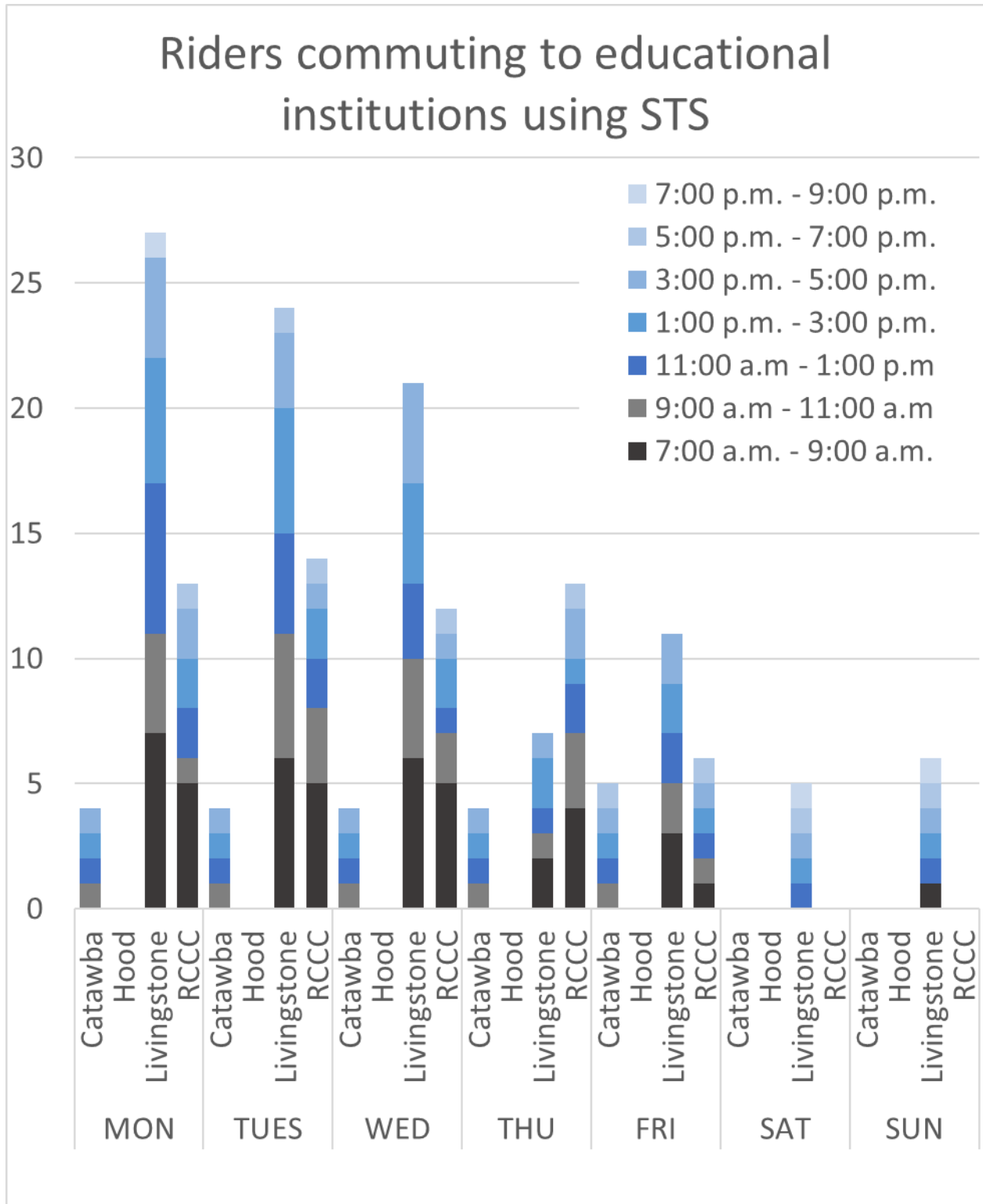
Section 3: Comprehensive Charts and Graphs

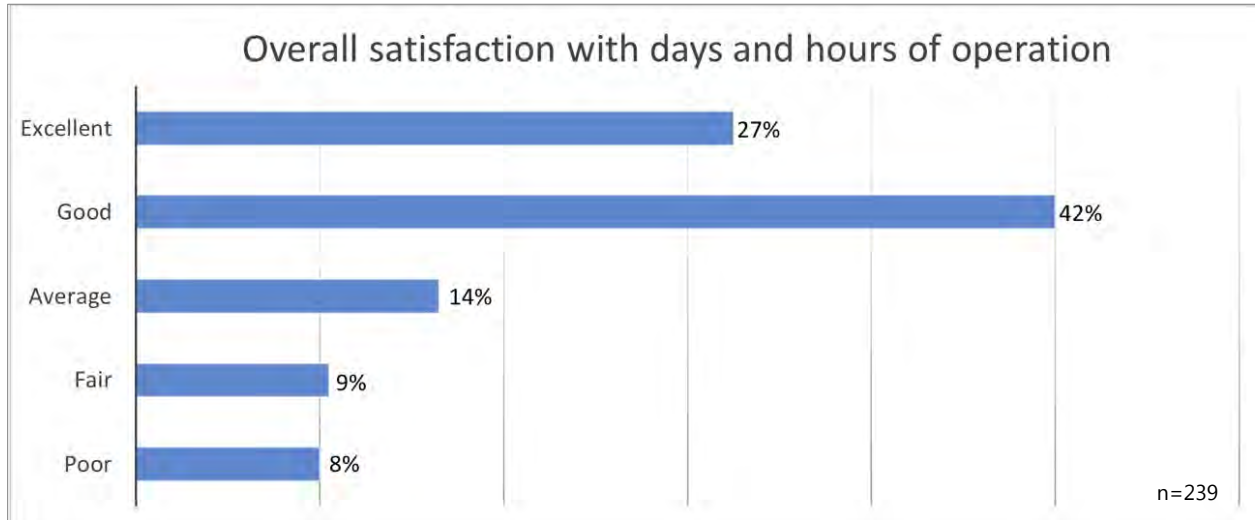
The following section provides the results for the remaining questions on the survey. These questions were supplemental to the core information collected about demographics and travel behaviors and provide useful information for planning and analysis purposes.

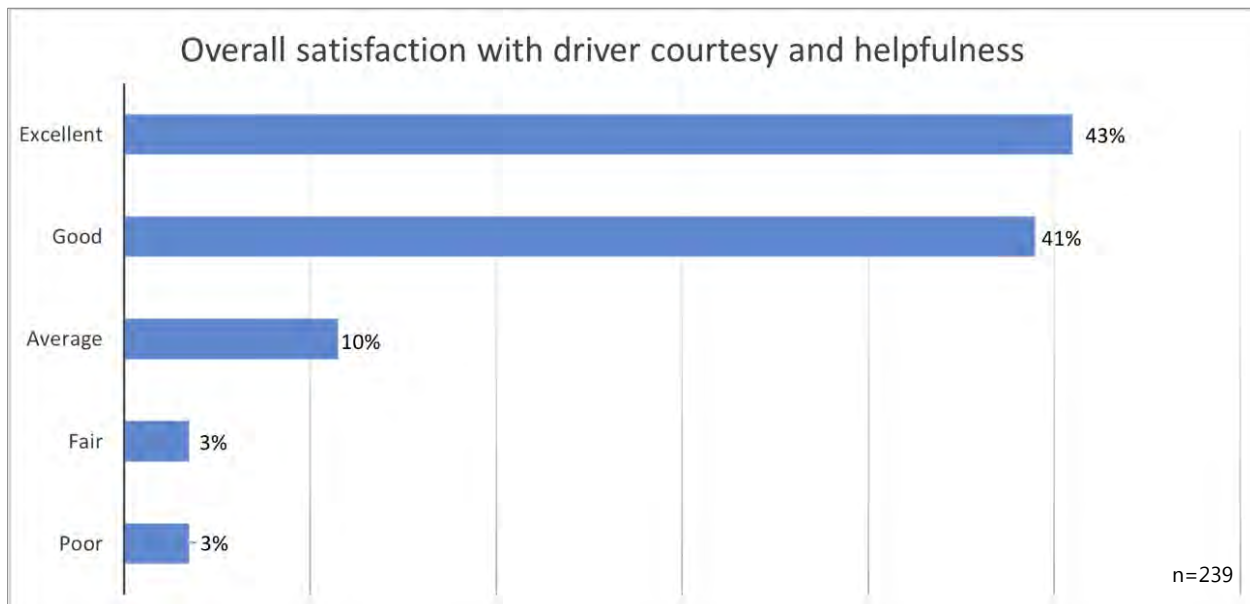
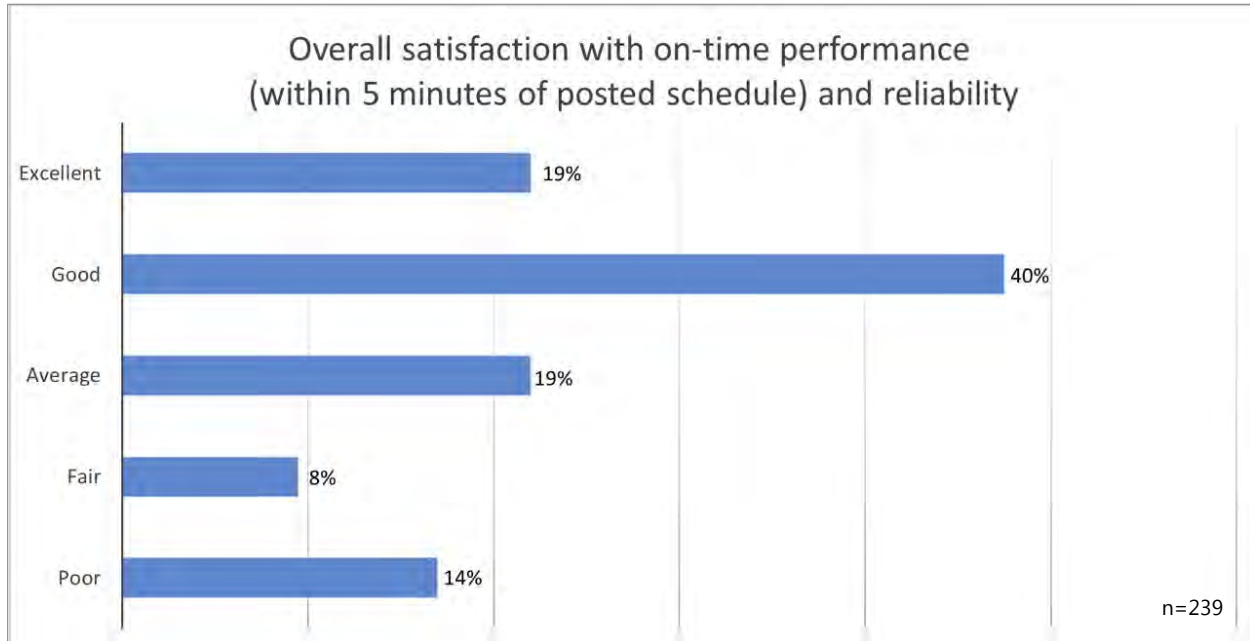
Number of surveyed riders who take classes at local educational institutions and/or utilize STS for transportation to classes:

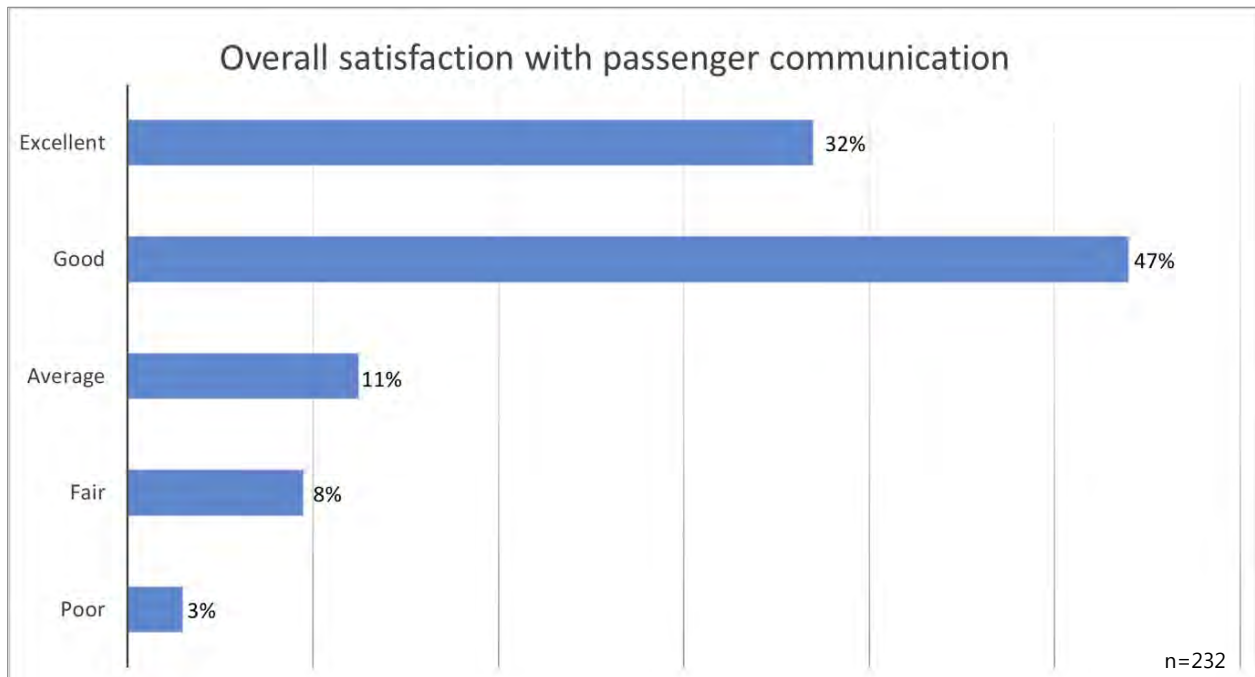
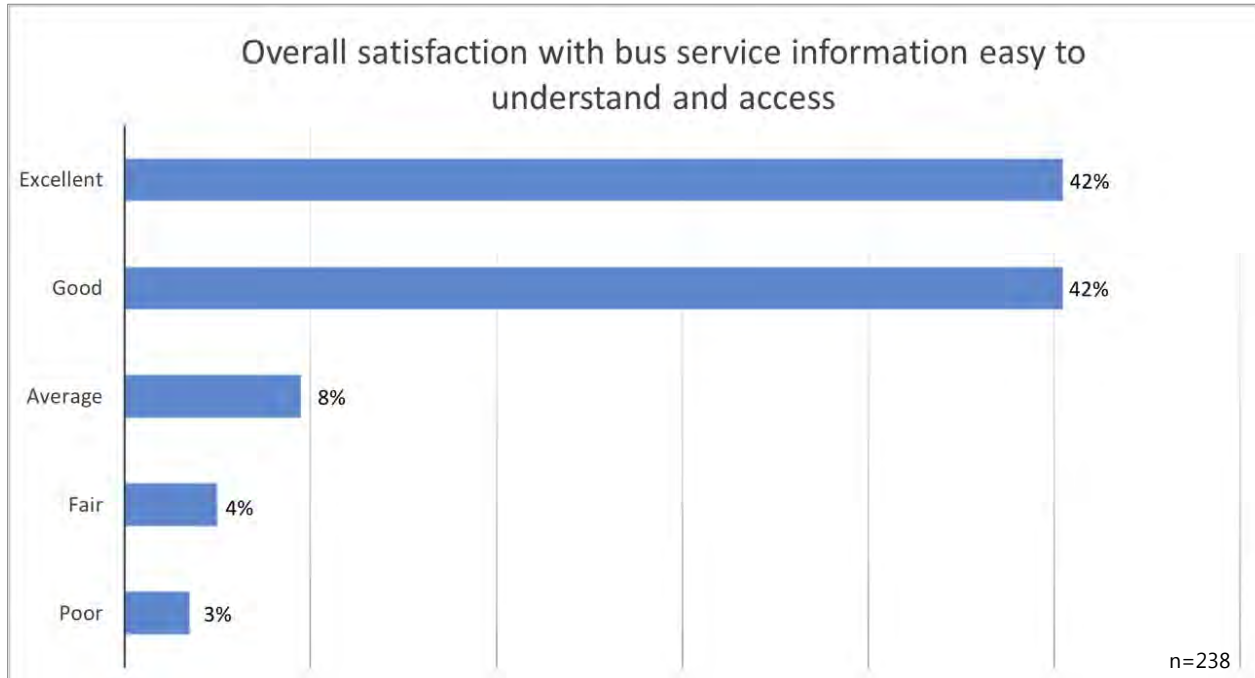
	Catawba College	Hood Theological Seminary	Livingstone College	Rowan-Cabarrus Community College
Taking classes at:	1	0	9	7
Use STS to travel to/from class	1	0	6	7

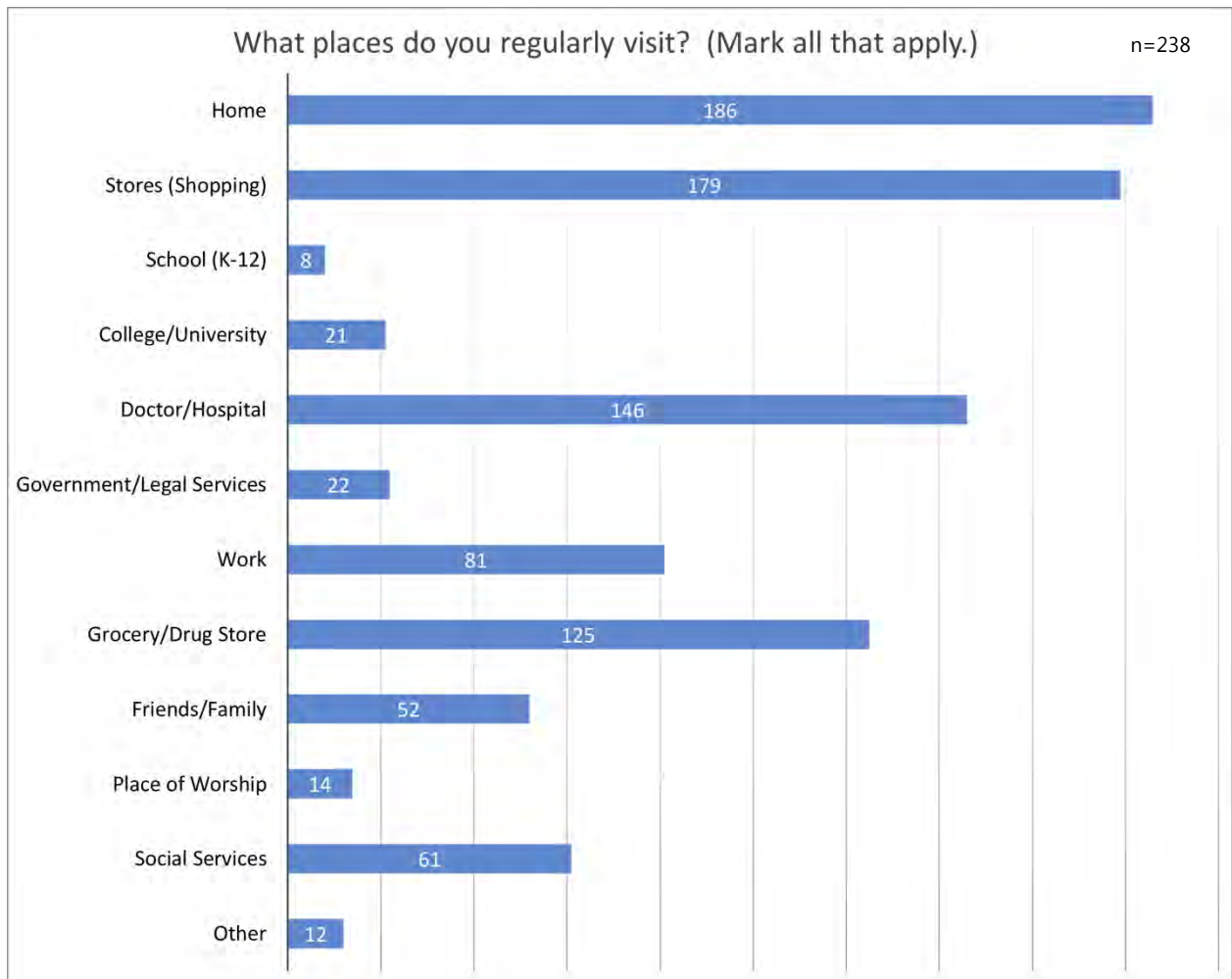
The chart on the next page illustrates the number of responses, broken out by educational institution, day of the week, and time of day, for those riders that indicated they take classes *and* use STS to travel to and from school. According to the rider survey, Livingstone College has the most riders using STS to get to/from class followed by RCCC. Mondays, Tuesdays, and Wednesdays are the most popular days of the week that riders attend class and use STS. Most riders (45) attend classes and use STS between 7:00 am and 9:00 am. Between 9:00 am and 5:00 pm, 28 to 33 riders attend classes and use STS. After 5:00 pm, the number of students attending classes and using STS significantly declines.

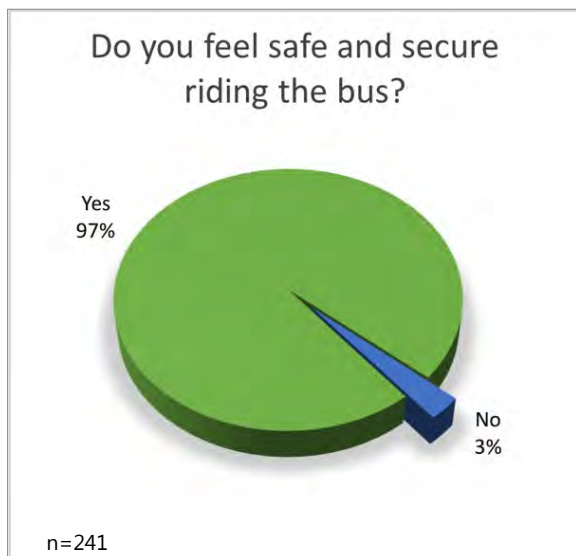
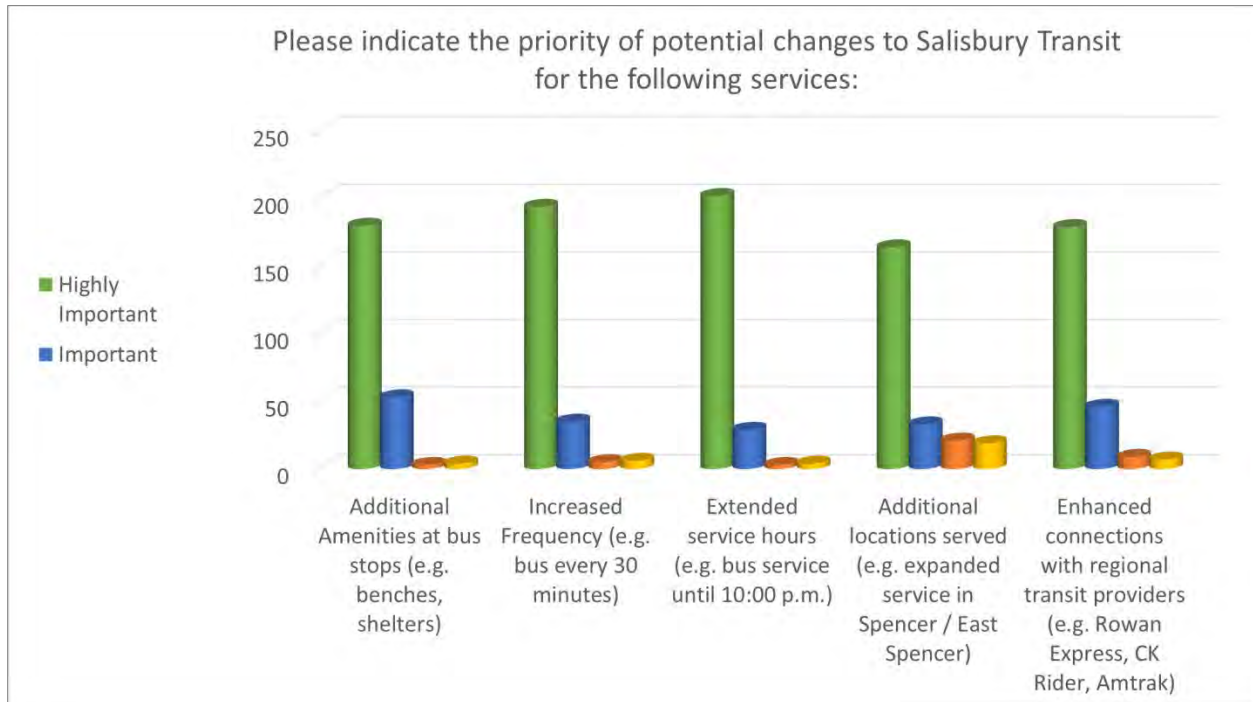














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Section 4: Paper Survey Instrument

Figure 4-1: Rider Survey Paper Instrument (English)



Please take a few moments to complete this important survey for making improvements to transit in Salisbury.

Date: _____ Time: _____

What bus route are you riding now? Route 1 Route 2 Route 3 N/A

YOUR TRIP	
<p>COMING FROM?</p> <p>1. What type of place are you COMING FROM now?</p> <p><input type="checkbox"/> Your Home <input type="checkbox"/> Your Workplace <input type="checkbox"/> School (Grades K-12) <input type="checkbox"/> Shopping <input type="checkbox"/> College/University (students only) <input type="checkbox"/> Medical Appointment / Dr. Visit <input type="checkbox"/> Social Visit / Church / Personal / Friend's House <input type="checkbox"/> Recreation / Sightseeing <input type="checkbox"/> Government / Legal Visit <input type="checkbox"/> Other</p> <p>2. What is the NAME of the place you are coming from now?</p> <p>_____</p> <p>3. How did you get from the place you are coming from now to the FIRST bus for this trip?</p> <p><input type="checkbox"/> Walked <input type="checkbox"/> Carpool with another rider <input type="checkbox"/> Biked <input type="checkbox"/> Drove alone <input type="checkbox"/> Taxi <input type="checkbox"/> Dropped off by auto <input type="checkbox"/> Uber / Lyft <input type="checkbox"/> Other</p> <p>4. About how far is it from the place you are coming from to the bus stop for this trip?</p> <p><input type="checkbox"/> ¼ mile <input type="checkbox"/> 1 Mile <input type="checkbox"/> ½ mile <input type="checkbox"/> Over 1 Mile <input type="checkbox"/> ¾ mile</p>	<p>GOING TO?</p> <p>5. What type of place are you GOING TO now?</p> <p><input type="checkbox"/> Your Home <input type="checkbox"/> Your Workplace <input type="checkbox"/> School (Grades K-12) <input type="checkbox"/> Shopping <input type="checkbox"/> College/University (students only) <input type="checkbox"/> Medical Appointment / Dr. Visit <input type="checkbox"/> Social Visit / Church / Personal / Friend's House <input type="checkbox"/> Recreation / Sightseeing <input type="checkbox"/> Government / Legal Visit <input type="checkbox"/> Other</p> <p>6. What is the NAME of the place you are going to now?</p> <p>_____</p> <p>7. How will you get to your destination once you get off the LAST bus you are using for this trip?</p> <p><input type="checkbox"/> Walk <input type="checkbox"/> Carpool with another rider <input type="checkbox"/> Bike <input type="checkbox"/> Drive alone <input type="checkbox"/> Taxi <input type="checkbox"/> Pick up by auto <input type="checkbox"/> Uber / Lyft <input type="checkbox"/> Other</p> <p>8. About how far is it from where you get off the last bus to your final destination for this trip?</p> <p><input type="checkbox"/> ¼ mile <input type="checkbox"/> 1 Mile <input type="checkbox"/> ½ mile <input type="checkbox"/> Over 1 Mile <input type="checkbox"/> ¾ mile</p>

9. What fare or pass did you use for the bus you are currently riding for this trip?

Fares

Regular (\$1.00) Reduced (\$0.50) Student (\$0.50) Transfer (Free)

Passes

Regular Pass (Yellow) Reduced Pass (Orange) Student Pass (Blue)

10. Please list all of the bus routes you are using to get to your final destination FOR THIS TRIP, in order below.

ORIGIN → _____ → _____ → _____ → DESTINATION
1st Bus Route 2nd Bus Route 3rd Bus Route

11. How long will it take you to complete this one-way trip, from when you get on the bus to when you get off? _____

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

Drive own vehicle Uber/Lyft Walk Taxi Bicycle Other Public Transit Service
 Ride with someone I would not have made this trip

Please complete the questions on the back.



CITY OF SALISBURY LONG RANGE PUBLIC TRANSPORTATION MASTER PLAN

DEMOGRAPHICS AND TRIP PATTERNS

13. How often do you ride the bus?
 Everyday Every weekday 3 or 4 days a week 1 or 2 days a week Less than once a week
14. How long have you been riding the bus?
 First time Less than a month 1 month to less than a year 1 to 5 years More than 5 years
15. What places do you regularly visit using Salisbury Transit? (Mark all that apply.)
 Home Stores (Shopping) School (K-12) College/University Doctor/Hospital Government/Legal Services
 Work Grocery/Drug Store Friends/Family Place of Worship Social Services Other: _____
16. Do you have a valid driver's license? Yes No
 16a. If YES, was a working vehicle available for this trip? Yes No
17. What is your age? Under 18 18-24 25-34 35-44 45-54 55-64 65+
18. What is your gender? Male Female
19. What is your employment status? (Check the one response that BEST describes you)
 Employed full-time (at least 35 hours per week) Not employed, disabled Retired
 Employed part-time (less than 35 hours per week) Full-time student
 Not currently employed Part-time student
20. Do you currently take courses at any of the following institutions?

	Do you attend?	What days and times are you typically on campus? (Circle all that apply. Write in times.)	Do you use Salisbury Transit to travel to/from class?
Catawba College	<input type="checkbox"/> Yes <input type="checkbox"/> No	M T W Th F Sa Su / Times: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Hood Theological Seminary	<input type="checkbox"/> Yes <input type="checkbox"/> No	M T W Th F Sa Su / Times: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Livingstone College	<input type="checkbox"/> Yes <input type="checkbox"/> No	M T W Th F Sa Su / Times: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Rowan-Cabarrus Community College	<input type="checkbox"/> Yes <input type="checkbox"/> No	M T W Th F Sa Su / Times: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

SATISFACTION

21. Please indicate your satisfaction with Salisbury Transit by checking the appropriate box:

	Excellent	Good	Average	Fair	Poor	N/A
Days and hours of operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Locations served	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-time performance and reliability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comfort of vehicles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Courtesy and helpfulness of drivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service information easy to understand and access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communications with passengers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. Do you feel safe and secure riding the bus? Yes No

22a. If NOT, please describe why: _____

23. Would you recommend Salisbury Transit to your friends and family? Yes No

FUTURE NEEDS

24. Please indicate the priority of potential changes to Salisbury Transit by checking the appropriate box:

	Highly Important	Important	Less Important	Not Important
Additional amenities at bus stops (e.g. benches, shelters)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased frequency (e.g. bus every 30 minutes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extended service hours (e.g. bus service until 10:00 pm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional locations served (e.g. expanded service in Spencer/East Spencer)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enhanced connections with regional transit providers (e.g. Rowan Express, CK Rider, Amtrak)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

25. Please list additional locations that you would like Salisbury Transit to serve:

26. Please provide any additional information that you would like to share:

Thank you for your participation!

Please RETURN THIS SURVEY to any survey staff person or Salisbury Transit Driver by Friday, December 7.

Survey Version: 2018-11-19



CITY OF SALISBURY
LONG RANGE PUBLIC TRANSPORTATION MASTER PLAN

Figure 4-2: Rider Survey Paper Instrument (Spanish)



Por favor tome unos momentos para completar esta importante encuesta y ayúdenos a planificar mejoras de transporte en Salisbury.

Fecha: _____ Hora: _____
¿En cuál ruta de bus está ahora? Ruta 1 Ruta 2 Ruta 3 N/A

SU VIAJE

¿DE DÓNDE VIENE?	¿HACIA DÓNDE VA?
<p>1. ¿De qué tipo de lugar VIENE usted ahora?</p> <p><input type="checkbox"/> Su Casa <input type="checkbox"/> Su Lugar de Trabajo <input type="checkbox"/> Escuela (Grados K-12) <input type="checkbox"/> Compras <input type="checkbox"/> Universidad (estudiantes solamente) <input type="checkbox"/> Cita Médica / Visita al Doctor <input type="checkbox"/> Visita Social / Iglesia / Asunto Personal / Casa de un Amigo <input type="checkbox"/> Recreación / Turismo <input type="checkbox"/> Oficina de Gobierno / Visita Legal <input type="checkbox"/> Otro</p>	<p>5. ¿Hacia qué tipo de lugar SE DIRIGE ahora?</p> <p><input type="checkbox"/> Su Casa <input type="checkbox"/> Su Lugar de Trabajo <input type="checkbox"/> Escuela (Grados K-12) <input type="checkbox"/> Compras <input type="checkbox"/> Universidad (estudiantes solamente) <input type="checkbox"/> Cita Médica / Visita al Doctor <input type="checkbox"/> Visita Social / Iglesia / Asunto Personal / Casa de un Amigo <input type="checkbox"/> Recreación / Turismo <input type="checkbox"/> Oficina de Gobierno / Visita Legal <input type="checkbox"/> Otro</p>
<p>2. ¿Cuál es el NOMBRE del lugar de donde viene usted ahora?</p> <p>_____</p>	<p>6. ¿Cuál es el NOMBRE del lugar a donde se dirige ahora?</p> <p>_____</p>
<p>3. ¿Cómo llegó desde el lugar de donde viene ahora hasta el PRIMER autobús para este viaje?</p> <p><input type="checkbox"/> Caminé <input type="checkbox"/> Viajé con otro pasajero <input type="checkbox"/> En bicicleta <input type="checkbox"/> Manejé solo(a) <input type="checkbox"/> Taxi <input type="checkbox"/> Alguien me trajo en su auto <input type="checkbox"/> Uber / Lyft <input type="checkbox"/> Otro</p>	<p>7. ¿Cómo llegará hasta su destino final cuando se baje del ÚLTIMO autobús que use para este viaje?</p> <p><input type="checkbox"/> Caminaré <input type="checkbox"/> Viajaré con otro pasajero <input type="checkbox"/> En bicicleta <input type="checkbox"/> Manejaré solo(a) <input type="checkbox"/> Taxi <input type="checkbox"/> Alguien me llevará en su auto <input type="checkbox"/> Uber / Lyft <input type="checkbox"/> Otro</p>
<p>4. ¿Qué tan lejos está el lugar de donde viene de la parada de autobús para este viaje?</p> <p><input type="checkbox"/> ¼ milla (0,4 km) <input type="checkbox"/> 1 milla (1,6 km) <input type="checkbox"/> ½ milla (0,8 km) <input type="checkbox"/> Más de 1 milla <input type="checkbox"/> ¾ milla (1,2 km)</p>	<p>8. ¿Qué tan lejos queda su destino final de donde se baja de su último autobús?</p> <p><input type="checkbox"/> ¼ milla (0,4 km) <input type="checkbox"/> 1 milla (1,6 km) <input type="checkbox"/> ½ milla (0,8 km) <input type="checkbox"/> Más de 1 milla <input type="checkbox"/> ¾ milla (1,2 km)</p>

9. ¿Cuál tarifa o pase pagó usted para el bus que está utilizando ahora?

Tarifas
 Regular (\$1.00) Reducida (\$0.50) Estudiante (\$0.50) Conexión (Gratuita)

Pases
 Pase Regular (Amarillo) Pase Reducido (Anaranjado) Pase Estudiantil (Azul)

10. Por favor escriba en orden todas las rutas de autobús que está utilizando para llegar a su destino final para este viaje.

ORIGEN → _____ → _____ → _____ → DESTINO
1ra Ruta de Autobús 2da Ruta de Autobús 3ra Ruta de Autobús

11. ¿Cuánto tiempo durará para completar este viaje de ida, desde que abordó el autobús hasta que vaya a bajar? _____

12. ¿Si el autobús no estuviera disponible, como habría hecho este viaje hoy?

Manejaría mi propio auto Uber/Lyft Caminaría Taxi Otro Servicio de Transporte Público
 Viajaría con alguien No hubiera hecho este viaje Bicicleta

Por favor complete las preguntas de atrás.



CITY OF SALISBURY LONG RANGE PUBLIC TRANSPORTATION MASTER PLAN

DEMOGRAFÍA Y PATRONES DE VIAJAR

13. ¿Con qué frecuencia viaja en autobús?
 Todos los días Cada día laboral 3 o 4 días a la semana 1 o 2 días a la semana Menos de una vez a la semana
14. ¿Cuánto tiempo lleva viajando en autobús?
 Primera vez Menos de un mes Un mes – menos de un año 1 a 5 años Más de un año
15. ¿Qué lugares visita usted con regularidad usando Salisbury Transit? (Marque todos los que apliquen)
 Casa Tiendas (Compras) Escuela (K-12) Universidad Doctor/Hospital Gobierno/Servicios Legales
 Trabajo Mercado/Farmacia Amigos/Familia Servicios Sociales Iglesia Otro: _____
16. ¿Posee usted un permiso de conducir vigente? Sí No
- 16a. Si contestó SÍ, ¿había un vehículo en buen estado disponible para este viaje? Sí No
17. ¿Cuál es su edad? Menos de 18 18-24 25-34 35-44 45-54 55-64 65+
18. ¿Cuál es su género? Masculino Femenino
19. ¿Cuál es su situación laboral? (Marque la respuesta que MEJOR lo describa a usted.)
 Empleado a tiempo completo (al menos 35 horas a la semana) No empleado, discapacitado Jubilado(a)
 Empleado a medio tiempo (menos de 35 horas a la semana) Estudiante a tiempo completo
 No empleado actualmente Estudiante a medio tiempo
20. ¿Usted toma cursos en algunas de las siguientes instituciones actualmente?

	¿Asiste usted?	¿Cuáles días y horas está usted en el campus usualmente? (Encierre todos los que aplican. Escriba las horas.)	¿Utiliza Salisbury Transit para viajar a / de las clases?
Catawba College	<input type="checkbox"/> Sí <input type="checkbox"/> No	L Mar Mie J V S D / Horas: _____	<input type="checkbox"/> Sí <input type="checkbox"/> No <input type="checkbox"/> N/A
Hood Theological Seminary	<input type="checkbox"/> Sí <input type="checkbox"/> No	L Mar Mie J V S D / Horas: _____	<input type="checkbox"/> Sí <input type="checkbox"/> No <input type="checkbox"/> N/A
Livingstone College	<input type="checkbox"/> Sí <input type="checkbox"/> No	L Mar Mie J V S D / Horas: _____	<input type="checkbox"/> Sí <input type="checkbox"/> No <input type="checkbox"/> N/A
Rowan-Cabarrus Community College	<input type="checkbox"/> Sí <input type="checkbox"/> No	L Mar Mie J V S D / Horas: _____	<input type="checkbox"/> Sí <input type="checkbox"/> No <input type="checkbox"/> N/A

SATISFACCIÓN

21. Por favor indique su satisfacción con Salisbury Transit marcando la casilla que corresponda:

	Excelente	Bueno	Regular	Bajo	Muy Bajo	N/A
Días y horas de operación	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lugares servidos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rendimiento y confiabilidad a tiempo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Confort de los vehículos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choferes corteses y serviciales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Información de servicio fácil para entender y encontrar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comunicación con pasajeros	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. ¿Se siente usted seguro usando los autobuses? Sí No
 22a. Si contestó NO, por favor escriba por qué: _____
23. ¿Recomendaría Salisbury Transit a sus amigos y familiares? Sí No

NECESIDADES EN EL FUTURO

24. Por favor indique la prioridad de mejoras potenciales a Salisbury Transit marcando la casilla que corresponda:

	Muy importante	Importante	Menos importante	No importante
Comodidades adicionales en las paradas de bus (por ej. bancos)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frecuencia aumentada (por ej. un bus cada 30 minutos)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Horas de servicio extendidas (por ej. servicio de bus hasta 10:00 pm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lugares adicionales servidos (por ej. servicio aumentado en Spencer/East Spencer)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conexiones mejoradas con agencias regionales de tránsito (por ej. Rowan Express, CK Rider, Amtrak)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

25. Por favor escriba lugares adicionales donde usted preferiría servicio de Salisbury Transit:

26. Por favor proporcione información adicional que usted le gustaría compartir:

¡Gracias por su participación!

Por favor DEVUELVAN ESTA ENCUESTA a cualquier personal de la encuesta o chofer de Salisbury Transit para viernes, el 7 de diciembre.

Version de Encuesta: 2018-11-19



4.6 Community Survey

To expand the footprint of the LRPT Master Plan outreach efforts, AECOM partnered with the City of Salisbury to initiate a community, web-based survey with the intent to capture input from a much larger population of Salisbury residents—including current non-riders of the transit system. The link to this electronic survey was posted on Salisbury’s website and also provided in utility bill envelopes. In total, 31 respondents provided information on a variety of topics related to the current transit system; and also shared their opinion on how the system could be improved. The following section provides some possible insights obtained from the survey responses, which are summarized in Figure 4-3 on page 4-32.

Age Ranges of Respondents

The majority of respondents (97 percent) that completed the survey were at least 25 years old with the largest age range (35 percent) between ages 55 to 64. The suggestion to include a link to the survey in “snail-mail” utility bills was viewed as a way to make contact with a particular age demographic that may not regularly use popular social media outlets like Facebook and Twitter; however, there were no survey responses from persons age 75 and older.

Driver’s License Availability and Reliable Forms of Transportation

Over 77 percent of survey respondents identified having a valid driver’s license. The majority of those respondents (18 out of 31) listed their personal vehicle as a reliable form of transportation. Other reliable options identified included STS, walking, and relying on friends and family members. Smaller percentages of respondents listed biking, taxis, and Uber/Lyft services.

Over a third of the respondents (12 out of 31) stated they do not currently have a reliable form of transportation; although, based on responses to other questions in the survey, it may appear the respondents did not perceive STS as a “reliable” form of transportation. Of the 12 respondents, only one identified they have never used the bus before. The other 11 respondents indicated they often use the bus at least 1 to 2 times per week.

Frequency of Bus Use

Survey responses indicate about 45 percent use the bus at least 1 to 2 times per week. However, almost 55 percent of the community survey respondents stated they have never used the bus before. One of the reasons for not using the bus is heavily connected to the respondent having access to a personal vehicle. Other reasons mentioned included bus schedules not matching user schedules, buses not serving desired locations, and a personal anxiety of traveling by bus.

Rider Satisfaction and Safety

Overall, survey respondents rated the satisfaction of STS as “Above Average”—especially in the categories of ‘Courtesy of Drivers’, and ‘Service Information Easy to Understand’. Lower ratings were received in the ‘Days and Hours of Operation’, and ‘On-time Performance’ categories. However, 100 percent of current riders surveyed indicated they feel safe riding the bus and 13 out of 14 respondents stated they would recommend STS to friends and family.



Suggested Improvements

The survey provided a list of service improvement categories that were rated based on the respondent's opinion of perceived need. All five categories were rated as 'Highly Important' future needs – especially related to additional locations served, amenities, and increased bus frequency.

Technology

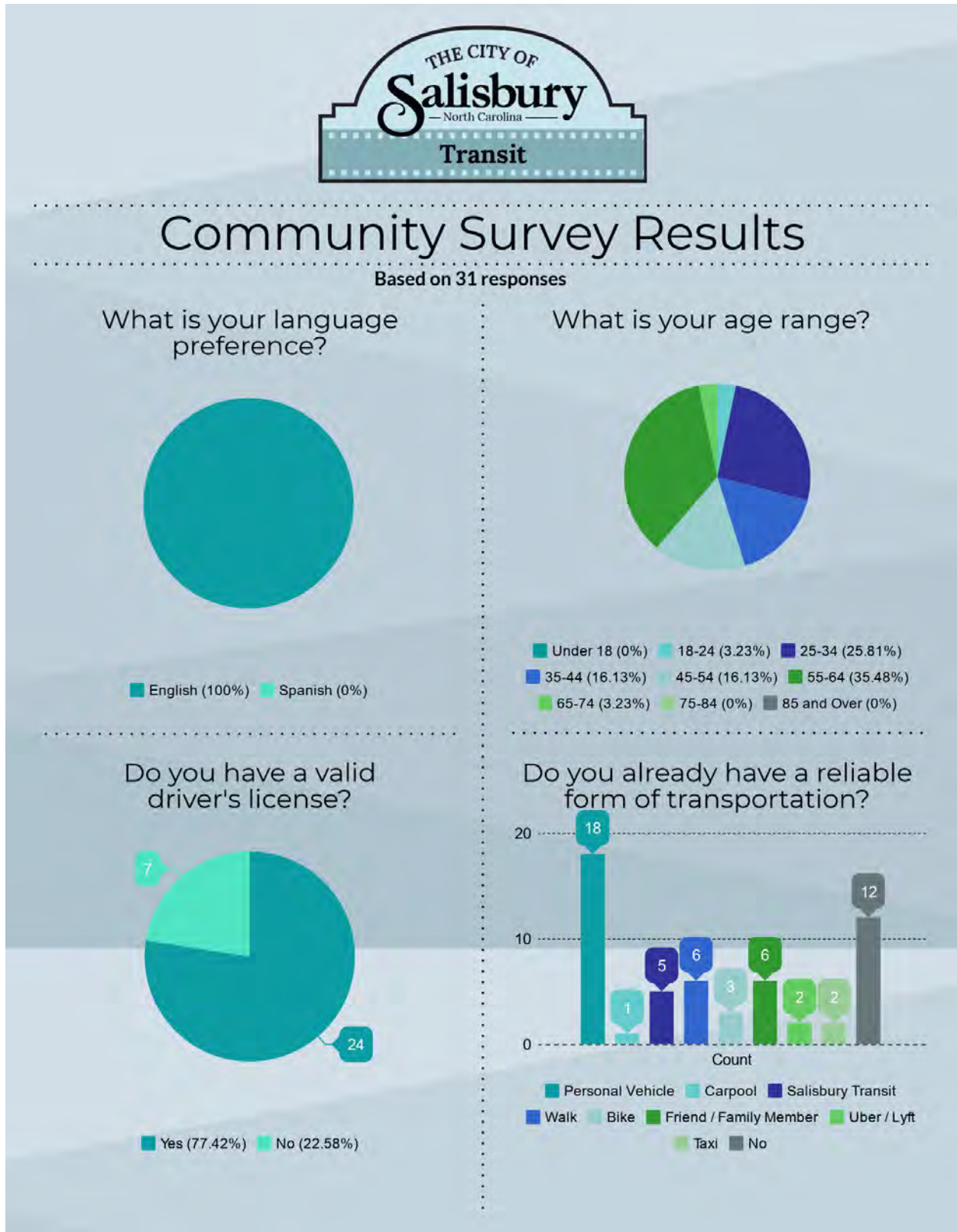
Similar to the Suggested Improvements section, a list of potential technology improvements was provided. Each respondent was allowed to select the types of improvements that were important to keeping STS relevant in the future. Based on the responses, a large majority (87 percent) felt real-time notifications were important. Other popular improvements included WiFi access (61 percent), and Mobile/Smartphone access (42 percent). Of the respondents that stated they have never used STS before, Real-time notifications (71 percent), WiFi access (53 percent), and Mobile/Smartphone access (47 percent), were identified as important.

Future Transit Use

Most respondents (24 out of 31, 77 percent) listed 'Convenience' as the primary reason they would take the bus in the future. 'Cost Savings', (58 percent), and 'Connections to Other Transit Services' (48 percent), were also listed as primary reasons. These reasons topped the list for both current riders and non-riders. Respondents indicated several additional locations where they would like to see future transit service, as summarized below. It should be noted that STS already provides service to some of these locations such as RCCC and RTS provides service to Kannapolis.

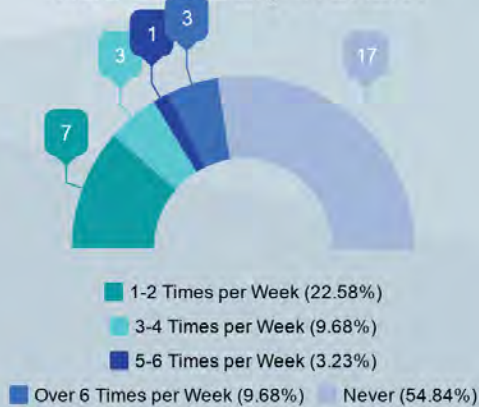
- American Drive/Nesbitt Drive Areas
- China Grove
- Cleveland
- DMV
- Enochville
- Flea Market
- Harris Teeter
- Kannapolis
- Meadowbrook/Statesville Road
- Old Mocksville Road
- RCCC
- Rowan Mill Road
- Salvation Army

Figure 4-3: Summary of Community Survey Results



Community Survey Results (cont.)

How often do you ride Salisbury Transit?



Top reasons for not using Salisbury Transit



Average Satisfaction Scores

(5= Excellent, 4=Above Average, 3=Average, 2=Below Average, 1=Poor)



Do you feel safe riding the bus?

Yes
100%

Would you recommend Salisbury Transit?

Yes
93%

Average Future Needs Assessment

(4= Highly Important, 3=Important, 2=Somewhat Important, 1=Not Important)



Additional Locations:

Salvation Army
DMV
Flea Market
Rowan Mill Road

Enochville
Kannapolis
Old Mocksville Rd
Rowan-Cabarrus Community College
American Drive / Nesbitt Drive Areas

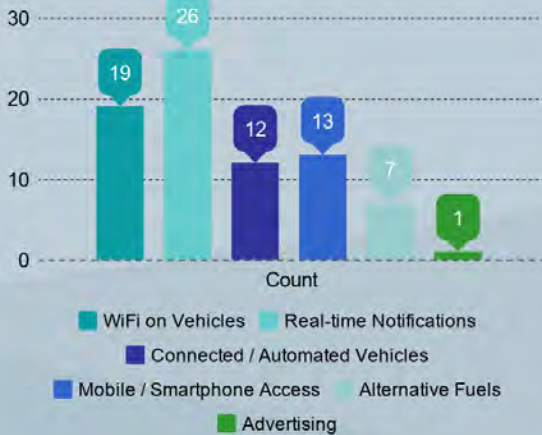
Cleveland
China Grove
Meadowbrook / Statesville Road
Harris Teeter

Community Survey Results (cont.)

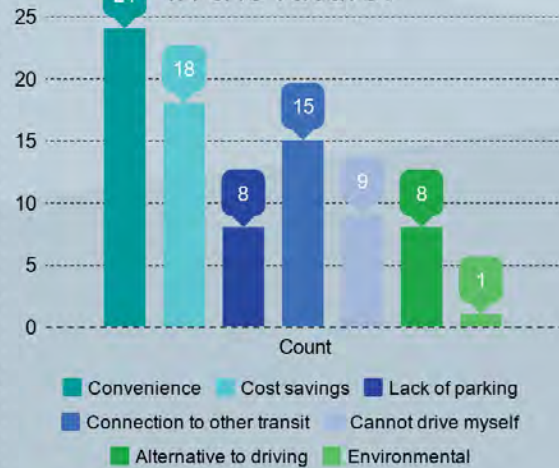
Top Destinations in Salisbury

- Train Station
- Food Lion
- Walmart
- Downtown Salisbury
- Hospital
- Rowan-Cabarrus Community College

What type(s) of technology is/are important to you?



What is/are the primary reason(s) you would use a bus in the future?



Additional Comments

"Just want the bus to run a bit more often and be better about being on time. Also something more needs to be done for passengers who are being made late when the buses run exceptionally late, such as pick ups by van when buses are 20 plus minutes late. Supervisors can run the routes for some while the bus can go on if it doesn't have to make the rest of its stops. Thank you."

"Please remove buses from W. 14th St. Speed limit 25, buses FLY up street. Both 15th and 14th are completely residential; many children and senior adults. Several of us have complained many times with no resolution. Thank you for listening and responding now."

"Please provide extended hours, weekends to VA Medical Center. Many employees and Vets need this service. When you are not running we are forced to use cabs at a very high cost. You could be getting these fares yourself."

"Being independent as an older person is important, I want to be able to live somewhere with good mass transit so I can go without a car. And it's better for the environment too."

"Drivers need to lower buses more for people that can't hardly walk and closer to curb for easier to get on. Not everybody has long legs or can get in bus easier than others"

"Blue Line #3 route to Spencer is too long. Bus is late getting back to depot almost all the time. Shorten that route."



CITY OF SALISBURY
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Figure 4-4: Community Survey Instrument (English)



DEMOGRAPHICS

1. What is your home address? _____
2. What is your age range?
 Under 18 18-24 25-34 35-44 45-54 55-64 65-74 75-84 85 and Over
3. Do you have a valid driver's license? Yes No
4. Do you already have a reliable form of transportation? Yes No
5. If yes to Question #4, please identify your available modes of transportation:
 Personal vehicle Carpool Salisbury Transit Walk Bike Friend/Family Member Uber/Lyft Taxi
 Other: _____

CURRENT RIDING PRACTICES

6. How often do you ride Salisbury Transit?
 I have never used it before. 1-2 times per week 3-4 times per week 5-6 times per week
 Over 6 times per week
7. If you do not ride Salisbury Transit, please indicate the reason(s) why:
 The buses don't fit my schedule. I have mobility issues that prevent me from riding the bus.
 I have access to a car, so I don't need to ride the bus. I am nervous about riding the bus.
 The buses don't go where I need to go. I didn't know the service was available.
 I don't want to ride the bus. Too expensive. I can't afford to ride the bus.

SATISFACTION

8. Please indicate your satisfaction with Salisbury Transit by checking the appropriate box:

	Excellent	Good	Average	Fair	Poor	N/A
Days and hours of operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Locations served	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-time performance and reliability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comfort of vehicles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Courtesy and helpfulness of drivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service information easy to understand and access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communications with passengers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Do you feel safe and secure riding the bus? Yes No
10. Would you recommend Salisbury Transit to your friends and family? Yes No

Community Survey Version: 2019



CITY OF SALISBURY
LONG RANGE PUBLIC TRANSPORTATION MASTER PLAN

FUTURE NEEDS

11. Please indicate your level of importance of the following potential changes to Salisbury Transit by checking the appropriate box:

	Highly Important	Important	Less Important	Not Important
Additional amenities at bus stops (e.g. benches, shelters)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased frequency (e.g. bus every 30 minutes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extended service hours (e.g. bus service until 10:00 pm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional locations served	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enhanced connections with regional transit providers (e.g. Rowan Express, CK Rider, Amtrak)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Any additional locations you would like to see served by Salisbury Transit?

FUTURE RIDING PRACTICES

13. Please provide your top 3 Destinations within Salisbury's City Limits.

14. When thinking about the future of public transportation in Salisbury, what type(s) of technology is/are important to you?

- WiFi on vehicles
- Real-time arrival information at major stops
- Connected and/or Autonomous vehicles
- Mobile fare payments / smartphone access/apps
- Use of alternative fuels
- Other: _____

15. What is/are the primary reason(s) you would use a bus in the future?

- Convenience
- Cost savings
- Lack of parking spaces
- Connection to other transit services
- I can't drive myself
- I want to do something other than drive when I travel.
- I will not use a bus no matter what improvements / expansions are made.
- Other: _____

16. Any additional information you would like to share with us?

Thank you for your participation!

Community Survey Version 2019



Figure 4-5: Community Survey Instrument (Spanish)



DEMOGRAFÍA

- ¿Cuál es la dirección de su casa? _____
- ¿Cuál es el rango de su edad?
 Menor de 18 18-24 25-34 35-44 45-54 55-64 65-74 75-84 85 o Mayor
- ¿Posee usted un permiso de conducir vigente? Sí No
- ¿Usted tiene una forma confiable de transporte actualmente? Sí No
- Si contestó SÍ, por favor indique sus formas disponibles de transporte:
 Vehículo personal Compartir coche Salisbury Transit Caminar Bicicleta Amigo / Miembro familiar Uber/Lyft
 Taxi Otro: _____

UTILIZACIÓN ACTUAL DE SALISBURY TRANSIT

- ¿Con qué frecuencia utiliza Salisbury Transit usted?
 Nunca he usado Salisbury Transit. 1-2 veces a la semana 3-4 veces a la semana 5-6 veces a la semana
 Más de 6 veces a la semana
- Si no usted no utiliza Salisbury Transit, por favor indique las razones por las cuales:
 Los buses no acomodan mi horario. Tengo problemas de movilidad que me impiden tomar el autobús.
 Tengo acceso a un carro, entonces no necesito tomar el bus. Estoy nervioso por tomar el bus.
 Los buses no van a donde necesito ir. No sabía que existía el servicio de bus.
 No quiero tomar el bus. Demasiada cara. No puedo pagar la tarifa de bus.

SATISFACCIÓN

8. Por favor indique su satisfacción con Salisbury Transit marcando la casilla que corresponda:

	Excelente	Bueno	Regular	Bajo	Muy Bajo	N/A
Días y horas de operación	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lugares servidos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rendimiento y confiabilidad a tiempo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Confort de los vehículos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choferes corteses y serviciales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Información de servicio fácil para entender y encontrar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comunicación con pasajeros	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- ¿Se siente usted seguro usando los autobuses? Sí No
- ¿Recomendaría Salisbury Transit a sus amigos y familiares? Sí No



NECESIDADES EN EL FUTURO

11. Por favor indique el nivel de importancia de las siguientes mejoras potenciales a Salisbury Transit marcando la casilla que corresponda:

	Muy importante	Importante	Menos importante	No importante
Comodidades adicionales en las paradas de bus (por ej. bancos)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frecuencia aumentada (por ej. un bus cada 30 minutos)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Horas de servicio extendidas (por ej. servicio de bus hasta 10:00 pm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lugares adicionales servidos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conexiones mejoradas con agencias regionales de tránsito (por ej. Rowan Express, CK Rider, Amtrak)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. ¿Hay lugares adicionales donde usted preferiría servicio de Salisbury Transit?

UTILIZACIÓN FUTURA DE SALISBURY TRANSIT

13. Por favor escriba sus 3 destinos de prioridad adentro de los límites de Salisbury.

14. ¿Cuándo se piensa en el futuro del transporte público en Salisbury, qué tipo de tecnología es importante para usted?

- WiFi en los vehículos
- Información de llegada en tiempo real en las paradas principales
- Conectados y/o vehículos autónomos
- Pagos móviles de tarifas / acceso de smartphone/apps
- Uso de combustible alternativo
- Otro: _____

15. ¿Cuál(es) son las razones principales por las que usted tomaría un bus en el futuro?

- Comodidad
- Ahorro de costes
- Falta de espacios para estacionar
- Conexión a otros servicios de transporte público
- No puedo manejar yo mismo.
- Quiero hacer algo más que conducir cuando viajo.
- No usaré un bus sin importar qué mejoras / expansiones se realicen.
- Otro: _____

16. ¿Información adicional que le gustaría compartir con nosotros?

¡Gracias por su participación!

4.7 Community Meetings

Community meetings were held throughout the study process in order to gain insight and input from diverse community groups. The first steering committee meeting was held on November 14th, 2018. During this two-hour meeting, the agenda included an introduction to the AECOM team, a review of the scope of work, the value of community feedback, the project timeline and the emphasis on public outreach and the survey process. The meeting was held in the Plaza conference room at 100 West Innes Street, and representation on the committee included the City of Salisbury staff (from various departments), Senior Center staff, the Department of Social Services, and Rowan County Transportation.

Community meetings were held on January 23rd and 24th, 2019 in the Plaza conference room. During this time, community advocates were invited to come and complete a survey questionnaire and provide further information on future service needs and ideas to improve the STS operation. Two examples of valuable feedback during this event was the information received from the Mayor of East Spencer, and the representative from Catawba College. The feedback received helped identify some unmet needs and potential route connectivity that would be supportive from their respective communities. The information factored in to the future service recommendations.

The second steering committee meeting was held on January 30, 2019, again at the Plaza conferenced room location. At this meeting the agenda focused on: providing current route analysis, the results of the on-board rider survey, results of a peer analysis and the community on-line survey, driver interview information and demographic analytics that will affect future service enhancements.

The third steering committee meeting was held on March 4, 2019 at the Utility Department conference room at 1 Water Street. This meeting included members of the STS Transportation Advisory Board (TAB). The attendees were presented with the final recommendations of the LRPT Master Plan and included a budget model and an implementation plan. Feedback from this meeting helped to clarify the information that was presented to the Salisbury City Council, at their work session on March 19, 2019. The City Council provided valuable feedback on some specific transit issues that they would like to see addressed for future services.





Chapter 5.0

Identifying Future Transit Needs



5.0 Identifying Future Transit Needs

Future transit needs were identified through the analysis of existing conditions and an extensive public engagement process that included the Steering Committee, rider survey, community survey, and community meetings. Identified transit needs related to multiple categories from serving additional origins and destinations to implementing new technologies. Table 5-1 provides a summary of future transit needs in Salisbury.

Table 5-1: Summary of Future Transit Needs

Category	Future Transit Need
Administration	<ul style="list-style-type: none"> • Improve the community image of the transit service • Improve transportation coordination with local/regional colleges • Increase the maintenance staff • Partner with additional locations to sell bus passes • Provide CPR training for all drivers
Transit Service	<ul style="list-style-type: none"> • Enhance connections with regional transit providers • Extend operating hours later into the evening • Improve the route schedules to address on-time performance issues • Need for a vanpool program to provide better access for commuter work trips • Provide a direct connection to the VA Hospital • Review stop placements on Horah Street • Serve additional locations (Refer to Chapter 4.0 for a comprehensive list) • Serve transit markets difficult to reach with traditional fixed-route service • Shorter route times (30-minute headways for fixed route service)
Capital Needs and Amenities	<ul style="list-style-type: none"> • Acquire additional buses • Add a restroom facility at the Depot Transfer site • Improve lighting at bus stops • Improve the signalization to assist buses at intersections • Install additional amenities at bus stops (e.g. benches and shelters) • Install emergency call boxes at the Depot Transfer site • Replace older buses with newer ones • Provide on-site refueling • Refurbish the Depot Transfer site and include a Greyhound bus stop
Technology	<ul style="list-style-type: none"> • Add Mobile/Smartphone access • Enable real-time notifications • Offer WiFi • Update the passenger pay system to become automated

In response to the community’s transit needs, recommendations related to administration, alternative fuels, transit service, emerging transit technologies, and amenities are proposed in this LRPT Master Plan over the course of the 20-year planning horizon. Recommendations are grouped into three phases: short-term (0-5 years), medium-term (5-10 years), and long-term (10-20 years). The recommendations are intended to expand mobility options and increase opportunities for the residents of Salisbury and surrounding communities, making transit both affordable and efficient.

Expand mobility options and increase opportunities for the residents of Salisbury and surrounding communities, making transit both affordable and efficient

5.1 Transit Service Types

Several transit service types were considered when formulating recommendations for the LRPT Master Plan:



Fixed Route

Fixed Route

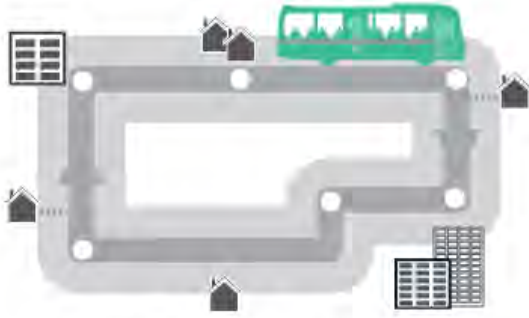
Operation of transit service along a set route with scheduled stops at various common collection points. Operation of fixed route service requires the operation of Americans with Disabilities Act (ADA) complementary demand response service for individuals unable to ride the fixed route vehicle.



Commuter Service

Commuter Service

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



Deviated Fixed Route



Demand Response



Microtransit

Deviated Fixed Route

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

Demand Response

Service operated on an on-demand basis. Also known as paratransit or dial-a-ride service. Demand response service requires that patrons call ahead to schedule trips. Service can be door-to-door or curb-to-curb. Demand responsive service does not operate along a set route; service on any given day depends on the trips scheduled.

However, standing reservations, or subscription services are often allowed that give patrons who make the same trip on a recurring basis to schedule multiple trips within a specific time period. Also, where possible, the dispatcher tries to group, or batch trips to serve multiple passengers during a single trip between common origins and destinations.

Microtransit

A form of demand response service, microtransit takes advantage of advances in technology to allow for on-demand transit trips. Riders have the availability to request a trip directly from their smartphone or computer. Microtransit can be operated by smaller transit vehicles or by automobiles, particularly when provided by a private Transportation Network Company such as Uber or Lyft. Transit agencies may offer microtransit throughout the service area or define specific zones. The zonal approach is particularly useful for augmenting fixed-route service in areas harder to reach with traditional bus service due to geographic, road network, or density constraints.



Carpooling

Carpooling

When two or more people take turns driving their personal vehicles from a common meeting point to a common destination.



Vanpool/Rideshare

Vanpool/Rideshare

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



Park and Ride

Park and Ride

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

5.2 City Fixed-Route Transit Service

The LRPT Master Plan aims to address the current challenges of on-time performance and regional connections associated with the existing STS fixed-route system through a redesign of the existing routes and addition of new routes. The new system design responds to the future transit needs identified at the beginning of this chapter. STS would be able to implement some of these fixed-route recommendations in a cost neutral manner while implementing all recommendations would require additional community investment in transit. The recommendations' financial implications are discussed in Chapter 6.0.

Refer to pages 5-11 to 5-19 for maps of the recommended routes

STS currently operates three fixed-routes out of the Depot Transfer Site in downtown Salisbury, providing transit service between origins and destinations within Salisbury, Spencer, and East Spencer. The three routes are color coded and operate in a “figure eight” pattern in which they 1) depart from the Depot Transfer Site, 2) complete a loop, 3) return to the Depot Transfer Site, 3) complete an additional loop, and 4) end the run at the Depot Transfer Site.

New Route Nomenclature



The LRPT Master Plan would improve clarity through use of a numerical-based route nomenclature that considers the Depot Transfer Site as the start and end point of each route instead of the current “figure eight” system in which the Depot Transfer Site is the start, middle, and end point. As an example, the existing Route 1 (Red) would be split into two separate routes under the proposed nomenclature system and named Route 1 and Route 2. Route 1 would be the first half of the existing Route 1, serving the Employment Security Commission, whereas Route 2 would be the second half that serves RCCC. This nomenclature system would give STS more flexibility in accommodating additional fixed-routes because STS would no longer be limited by then number of colors. It would also allow STS to more easily operate routes on frequencies and hours that are appropriate of the transit market they serve.

New Routes



The recommended fixed-route system includes eight city routes. While this may appear to be a large increase, there is a net gain of only two routes since the existing three STS routes are essentially six routes under the new nomenclature system. One of the additional routes, Route 8, would be a crosstown route enabling riders to make connections at West End Plaza, Harris Teeter, and RCCC without having to transfer at the Depot Transfer Site. Route 8 would add service to Dick's Sporting Goods and surrounding stores at I-85 Exit 74. The second additional route, Route 7, would provide bi-directional service to Spencer and East Spencer, thereby making trips between communities more efficient. All routes would be implemented in the short-term phase.

Route Timing



Estimating the time required for a transit vehicle to complete a round trip, referred to as the cycle time, was an essential component of the LRPT Master Plan. While congestion and travel times will certainly change over the next 20 years, it was important to design a fixed-route system based on the best available information that would function on a 30- or 60-minute cycle. Cycle time was estimated for each



fixed-route based on ratio of current STS fixed routes travel times to auto travel times in the service area. The number of required vehicles for each fixed-route was calculated by dividing the cycle time by the frequency, which is how often a transit vehicle serves a single bus stop. Table 5-2 provides a summary of the eight recommended city fixed-routes, major destinations served, and their cycle times. The recommended routes are shown on Figure 5-1 through Figure 5-9 on pages 5-11 to 5-19. The relationship between the recommended routes and service area demographics are illustrated through maps contained in Appendix D.

Table 5-2: Summary of Recommended City Fixed-Routes

Route Name	Cycle Time	Major Destinations Served
Route 1 (Tinseltown)	30 mins	ALDI, Food Lion, Lincoln Park, Rowan County Social Services, Tinseltown, Walmart
Route 2 (RCCC)	30 mins	RCCC, Ruffy-Holmes Senior Center, Salisbury Civic Center, Salisbury Customer Service Center, Trinity Living Center, US Post Office
Route 3 (Main Street)	30 mins	Courtyard Apartments, Salisbury High School, Southgate Shopping Center, State Employees Credit Union
Route 4 (Livingstone)	30 mins	Brenner Crossing Apartments, Harris Teeter, Livingstone College, YMCA
Route 5 (VA Hospital)	60 mins	Catawba College, Holly Leaf Apartments, Lash Drive, Meadowbrook Drive, Salisbury Marketplace Shopping Center, Social Security Administration, VA Hospital, West End Plaza
Route 6 (Spencer)	60 mins	Food Lion, Greyhound, Headstart, North Rowan High School, Novant Health Rowan Medical Center, Senior Housing (East Spencer), Walmart
Route 7 (East Spencer)	60 mins	Food Lion, Greyhound, Headstart, North Rowan High School, Novant Health Rowan Medical Center, Senior Housing (East Spencer), Walmart
Route 8 (Jake Alexander)	60 mins	Dick’s Sporting Goods, Harris Teeter, Kohls, Novant Health Rowan Family Physicians, RCCC, Social Security Administration, West End Plaza

Coordination with Regional Connections



STS connects with RTS at the Depot Transfer Site in order to provide regional connections to China Grove, Landis, and Kannapolis. However, the current connection is not efficient as the STS route and Rowan Express arrivals and departures are not coordinated. Since STS routes operate on 70- to 80-minute cycles, the departure and arrival times at the Depot Transfer Site vary throughout the day. The Rowan Express departs 19 minutes after the hour and arrives 15 minutes before the hour. The recommended city fixed-routes have been designed to operate on 30- or 60- minute cycles so that they can be better coordinated with regional transit connections.

Direct Connection to VA Hospital



Route 5 would improve connectivity by providing a direct connection between the Depot Transfer Site, Amtrak Station, and the VA Hospital via Innes Street. Currently, a significant number of riders going to the VA Hospital arrive by Amtrak and then connect to the current Route 3. This current trip of approximately 14 minutes is not direct as Route 3 serves Novant Hospital before the VA. The recommended Route 5 would reduce the travel time to approximately

Route 5 would reduce the travel time to the VA Hospital by approximately 36 percent



9 minutes and avoid an at-grade railroad crossing, which improves reliability.

Improved On-Time Performance and Reliability

Currently, STS operates the three fixed-routes out of the Depot Transfer Site where buses depart every 70 to 80 minutes, depending on the time of day. There are several challenges associated with continuing to operate a pulse system in which all routes arrive and depart at the same time from a single transit location in the future. Increasing growth and congestion within the service area will continue to make operating the routes on the same cycle time difficult. For example, the existing Route 3 has a 15-minute layover at the Depot Transfer Site in order to pulse with Routes 1 and 2. This is a long

layover of significant time spent waiting on the other routes that with a route redesign, could be used for providing additional transit service.

Furthermore, operating out of a single transit location makes it increasingly challenging to expand fixed-routes to other parts of the city. In order to reach regions that are further away from the Depot Transfer Site, fixed routes would have to be operated on longer cycle times which would not be as efficient in terms of time and operational costs for the coordination of these passenger trips, based on their specific origins and destinations. Lastly, the Depot Transfer Site is not a focus destination but rather a means to transfer to desired destinations.

In order to address these challenges and improve on-time performance and reliability, Route 8 is recommended to provide crosstown connectivity so that all routes do not have to serve the Depot Transfer Site. Route 8 would operate along Jake Alexander Boulevard between West End Plaza and RCCC. Recommended Routes 1, 2, 3, 4, and 5 would connect to Route 8 at several locations including West End Plaza, Harris Teeter, and RCCC to facilitate crosstown trips without having to necessarily connect at the Depot Transfer Site. Implementing Route 8 allows routes that connect with it to be shortened to a 30- or 60-minute cycle since the routes no longer would have to provide service from the Depot Transfer Site to destinations further away such as West End Plaza.



Enhanced Service to Origins and Destinations



The recommended city fixed-routes would enhance service to origins and destinations. Transit service would be added to the following trip generators that are currently not served by STS:

- Dick’s Sporting Goods and surrounding stores at I-85 Exit 74 (Route 8)
- Holly Leaf Apartments (Route 5)
- Meadowbrook Road (Route 5)
- North Rowan High School (Routes 6 and 7)
- Salisbury Marketplace Shopping Center (Route 5)
- Spencer Public Library (Routes 6 and 7)

In addition to serving new origins and destinations, service to existing trip generators would be improved by adding bi-directional service or multiple route options as summarized in Table 5-3. Depending on route schedules, trip generators served by additional routes may also be served more frequently.

Table 5-3: Enhanced Service to Origins and Destinations

Trip Generator	Service Enhancement		Route Connections
	Bi-directional Service	Multiple Route Connections	
Catawba College	●		5
Food Lion (Spencer)	●		6 7
Greyhound	●		6 7
Harris Teeter	●	●	4 8
Headstart	●		6 7
Kohls	●		8
Novant Health Rowan Family Physicians	●		
Novant Health Rowan Medical Center	●		6 7
RCCC		●	2 8
Social Security Administration	●	●	5 8
VA Hospital	●		5
Walmart	●	●	1 6 7
West End Plaza		●	5 8

Extended Operating Hours and Increased Frequencies



Riders indicated through the rider survey that extending operating hours and increasing frequencies were top priorities for STS. Approximately 97 percent of survey respondents said that extending service hours was either “highly important” or “important” and approximately 95 percent noted that increasing frequency was “highly important” or “important.”



In response to these service needs identified by riders, the LRPT Master Plan proposes extending operating hours and increasing service frequencies on city fixed-routes through a phased approach. During the medium-term phase, operating hours would be extended on weekdays from 7 pm to 11 pm. During the long-term phase, service frequencies would be increased from 60 minutes to 30 minutes on weekdays during the peak (7 am to 9 am and 4 pm to 6 pm). Ultimately the timing of these service improvements would depend on funding availability as they would require additional investment. STS may implement these improvements earlier if funding is available. There are several benefits associated with extending operating hours and increasing frequencies:

- Increase employment opportunities by accommodating later shifts
- Increase competitiveness with automobile transportation
- Attract more choice riders
- Increase ridership

Table 5-4 summarizes the proposed operating hours and increased frequencies for city fixed-routes:

Table 5-4: Proposed City Fixed-Route Operating Hours and Increased Frequencies

Phase	Operating Hours		Peak Frequency	
	Weekday	Saturday	Weekday	Saturday
Short-Term (0 to 5 years)	6:00 am to 7:00 pm	9:30 am to 3:30 pm	60 min.	60 min.
Medium-Term (5 to 10 years)	6:00 am to 11:00 pm	8:00 am to 11:00 am 1:00 pm to 4:00 pm	60 min.	60 min.
Long-Term (10 to 20 years)	6:00 am to 11:00 pm	8:00 am to 11:00 am 1:00 pm to 4:00 pm	30 min.	60 min.

Weekend Transit Service

The LRPT Master Plan proposes operating reduced Saturday service from 8:00 am to 11:00 am and 1:00 pm to 4:00 pm on a 60-minute frequency. Weekend transit trips are more likely to be shopping and recreation-related as government services are closed. There are also shift workers on the weekend; however, these trips require extended operating hours in order to accommodate them, which can be significantly expensive. In the interest of providing a more financially realistic scenario, the LRPT Master Plan does not include extended operating hours on Saturdays. However, depending upon funding availability, STS may extend Saturday operating hours in the future.

STS does not currently provide transit service on Sundays. Some riders noted through the rider survey that they would like Sunday service. The LRPT Master Plan recommends conducting a rider and community survey at the end of the short-term phase to gauge the demand and type of transit service needed on Sundays. Depending on the survey results and available funding, STS may introduce Sunday service in the medium-term or long-term phases. The transit service would not necessarily need to be fixed-route service. Riders may be better served through a zonal demand response or microtransit approach.

Figure 5-1: Recommended Fixed-Route System Map

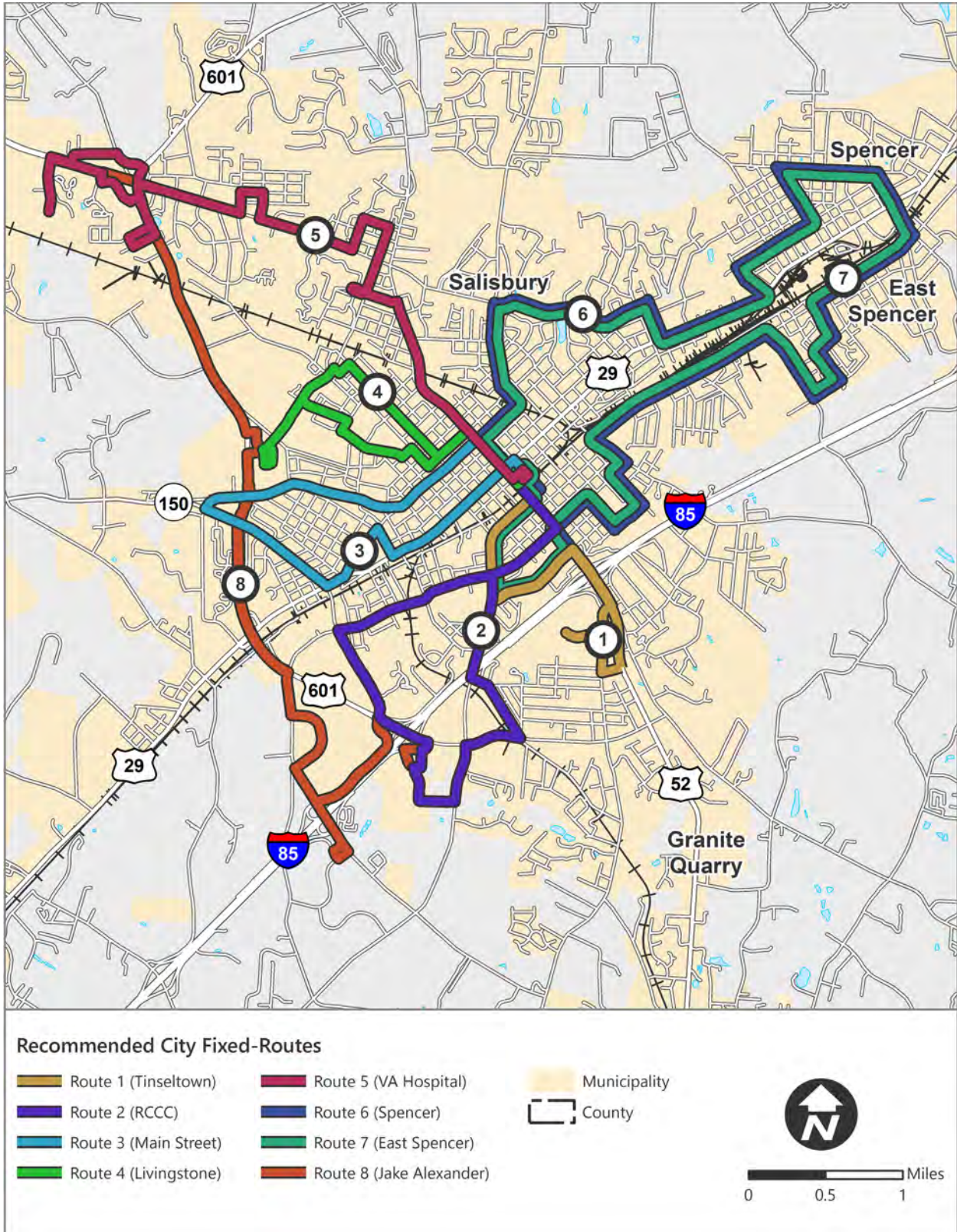
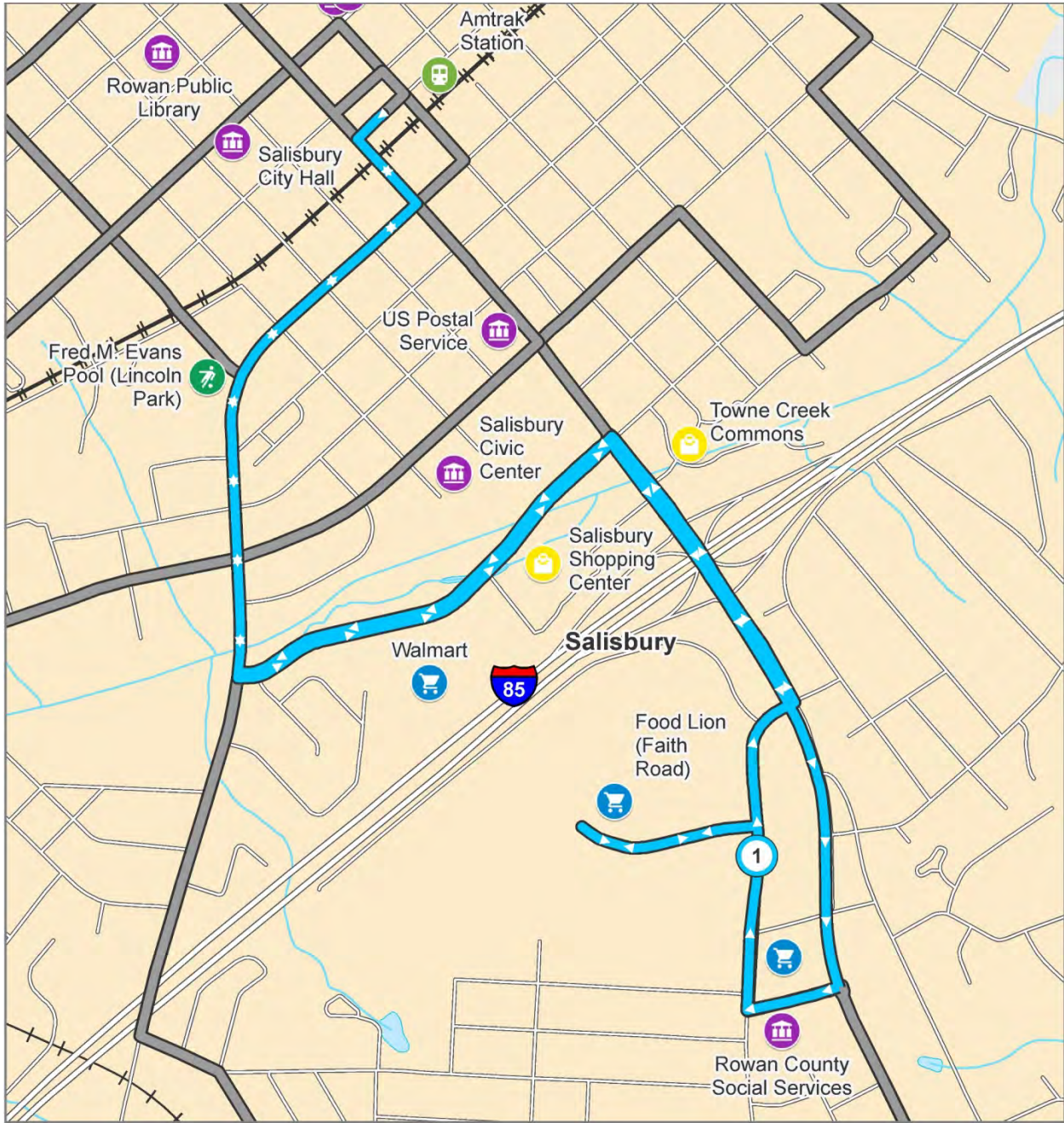


Figure 5-2: Recommended Route 1 (Tinseltown)



Route 1 (Tinseltown)

Start Phase: Short-Term Service Type: Local Fixed-Route

- | | | | |
|--------------------|------------|-----------|----------------|
| Local Fixed-Route | Shopping | Civic | Transit |
| Other Fixed-Routes | Recreation | Education | Residential |
| Municipality | Grocery | Health | Social Service |
| County | | | |

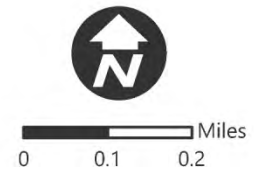
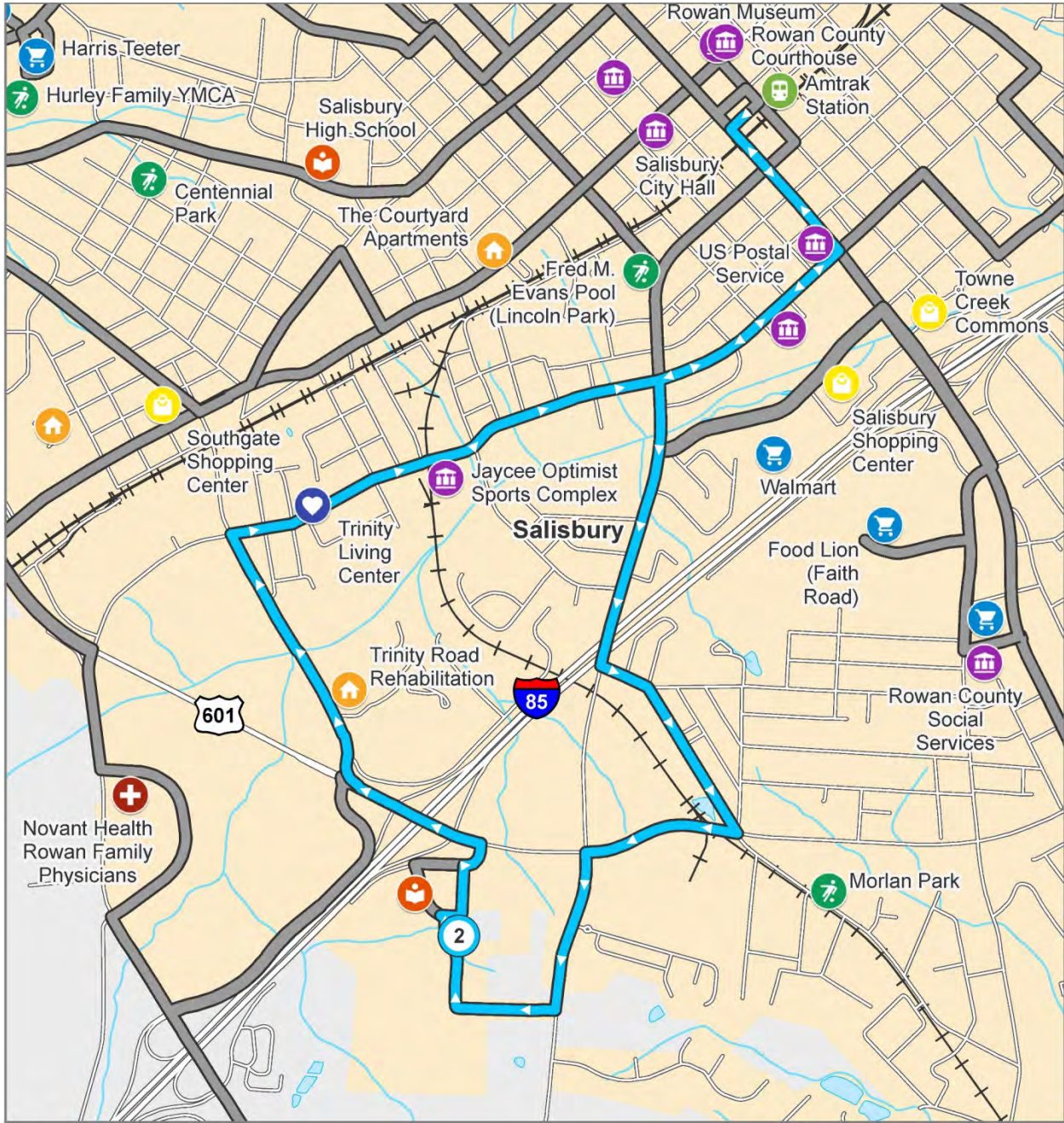


Figure 5-3: Recommended Route 2 (RCCC)



Route 2 (RCCC)

Start Phase: Short-Term Service Type: Local Fixed-Route

- | | | | |
|--------------------|------------|-----------|----------------|
| Local Fixed-Route | Shopping | Civic | Transit |
| Other Fixed-Routes | Recreation | Education | Residential |
| Municipality | Grocery | Health | Social Service |
| County | | | |

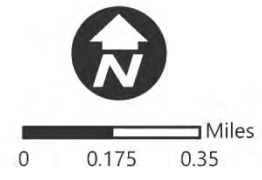
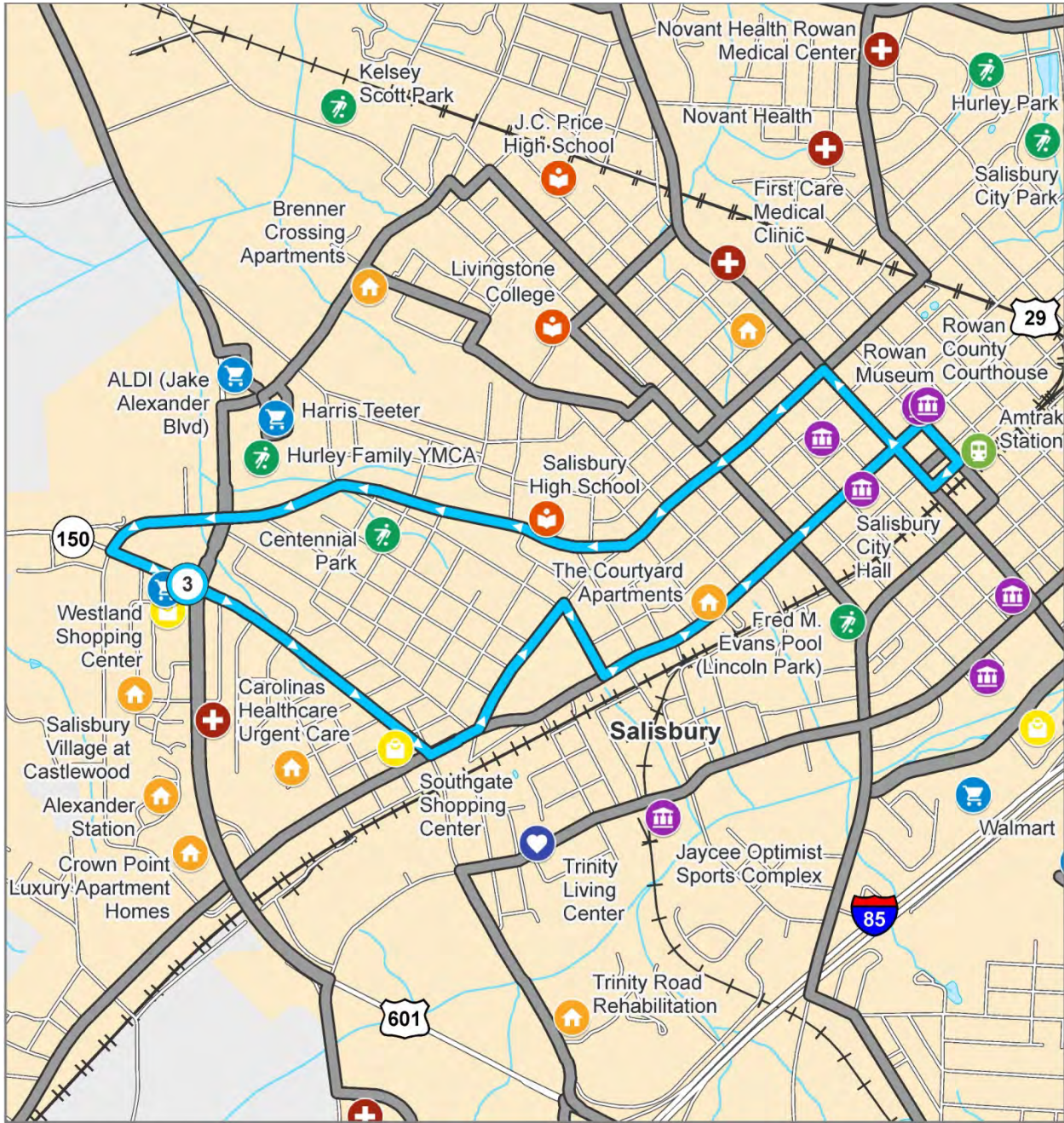


Figure 5-4: Recommended Route 3 (Main Street)



Route 3 (Main Street)

Start Phase: Short-Term Service Type: Local Fixed-Route

- | | | | |
|--------------------|------------|-----------|----------------|
| Local Fixed-Route | Shopping | Civic | Transit |
| Other Fixed-Routes | Recreation | Education | Residential |
| Municipality | Grocery | Health | Social Service |
| County | | | |

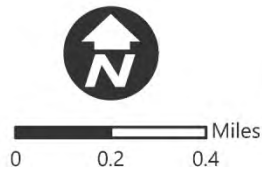
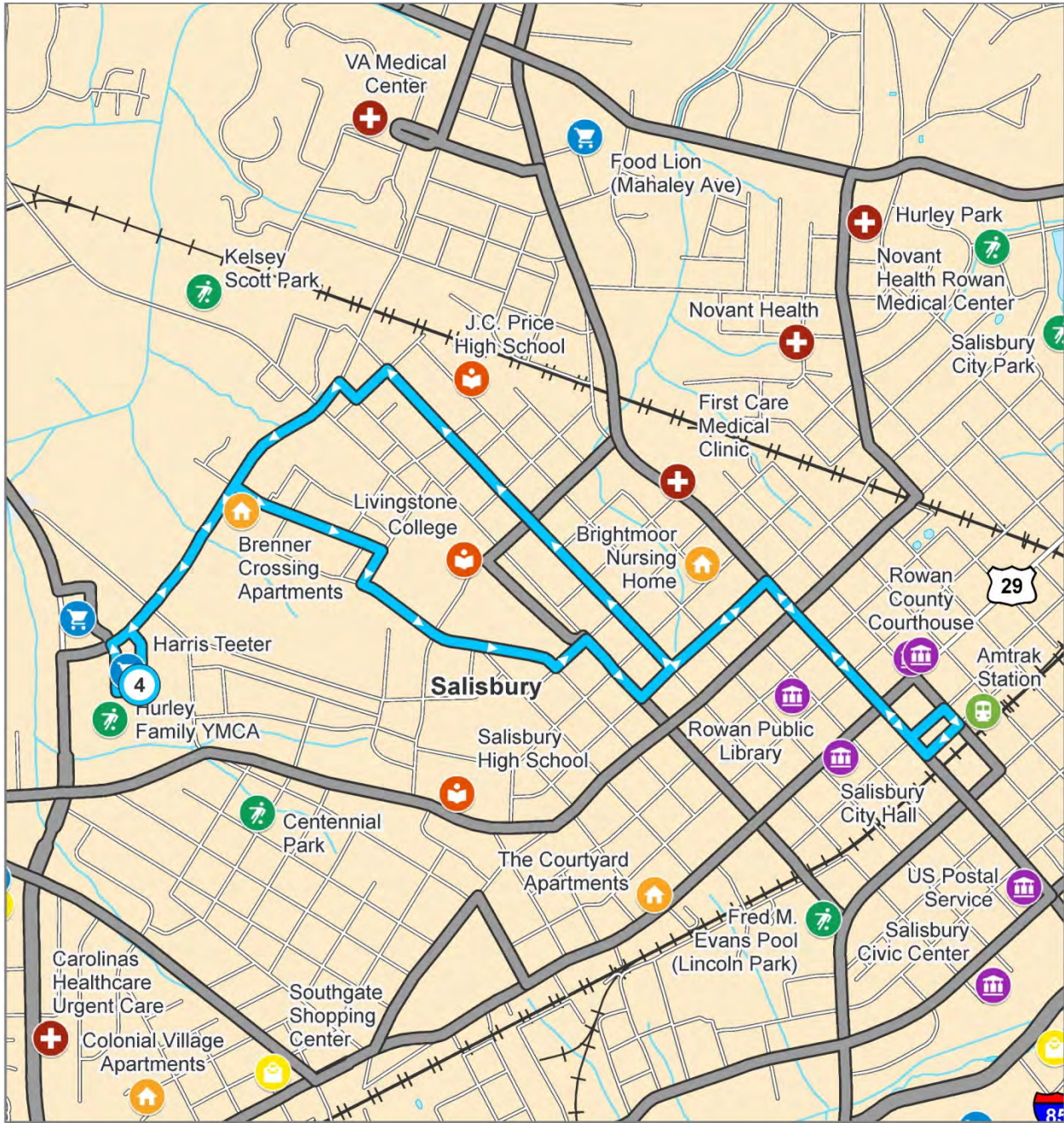


Figure 5-5: Recommended Route 4 (Livingstone)



Route 4 (Livingstone)

Start Phase: Short-Term Service Type: Local Fixed-Route

Local Fixed-Route	Shopping	Civic	Transit
Other Fixed-Routes	Recreation	Education	Residential
Municipality	Grocery	Health	Social Service
County			

0 0.15 0.3 Miles

Figure 5-6: Recommended Route 5 (VA Medical Center)

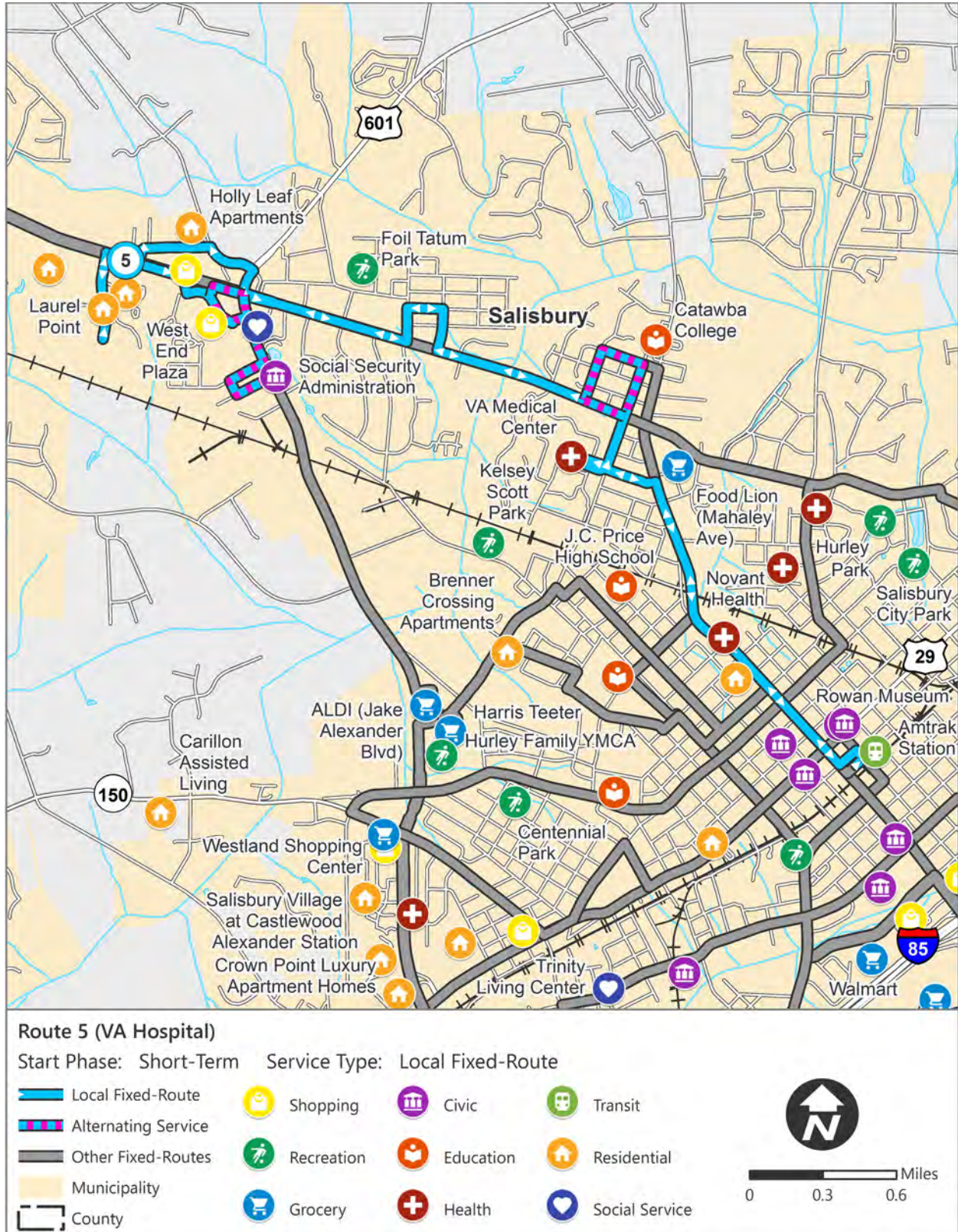


Figure 5-7: Recommended Route 6 (Spencer)

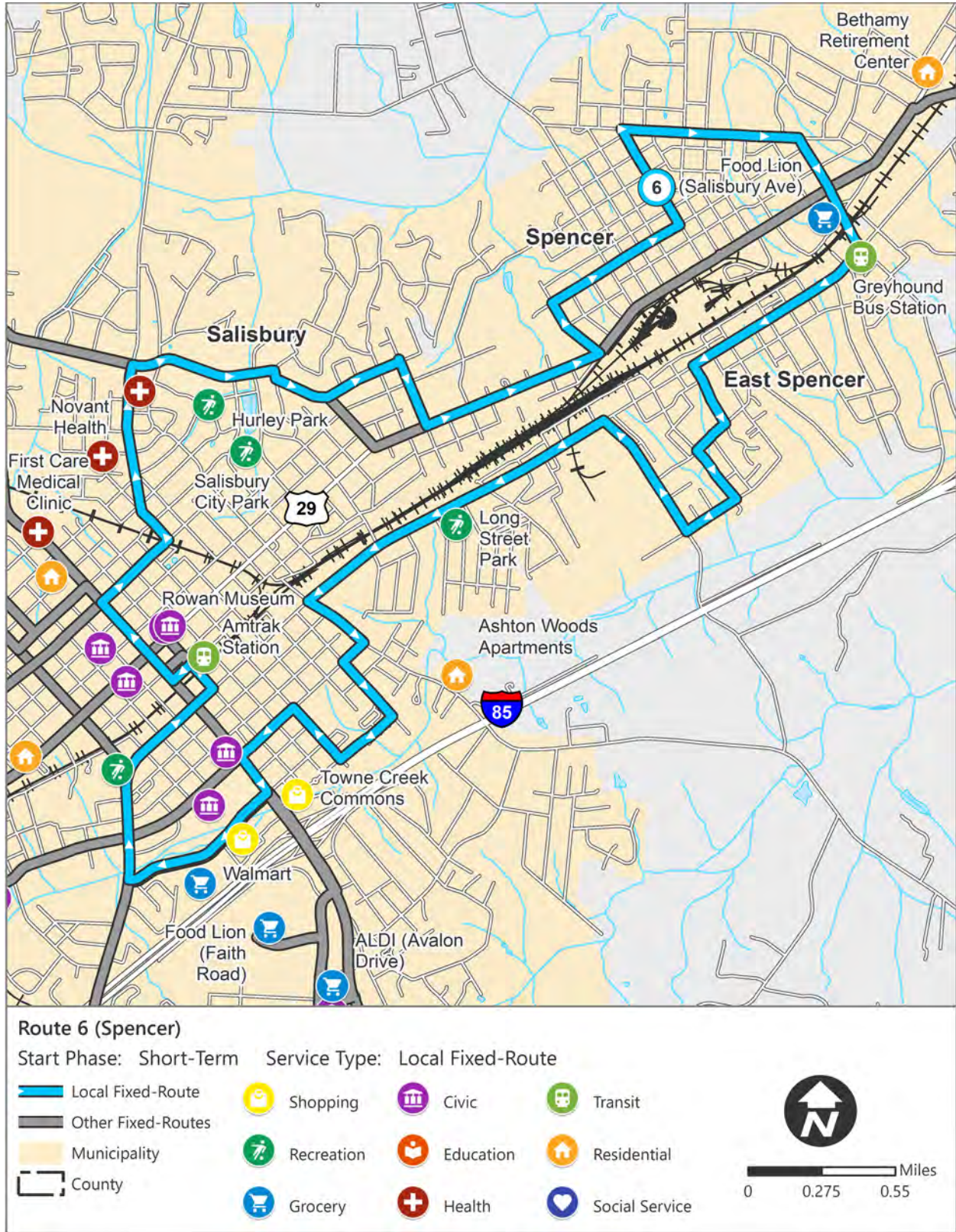
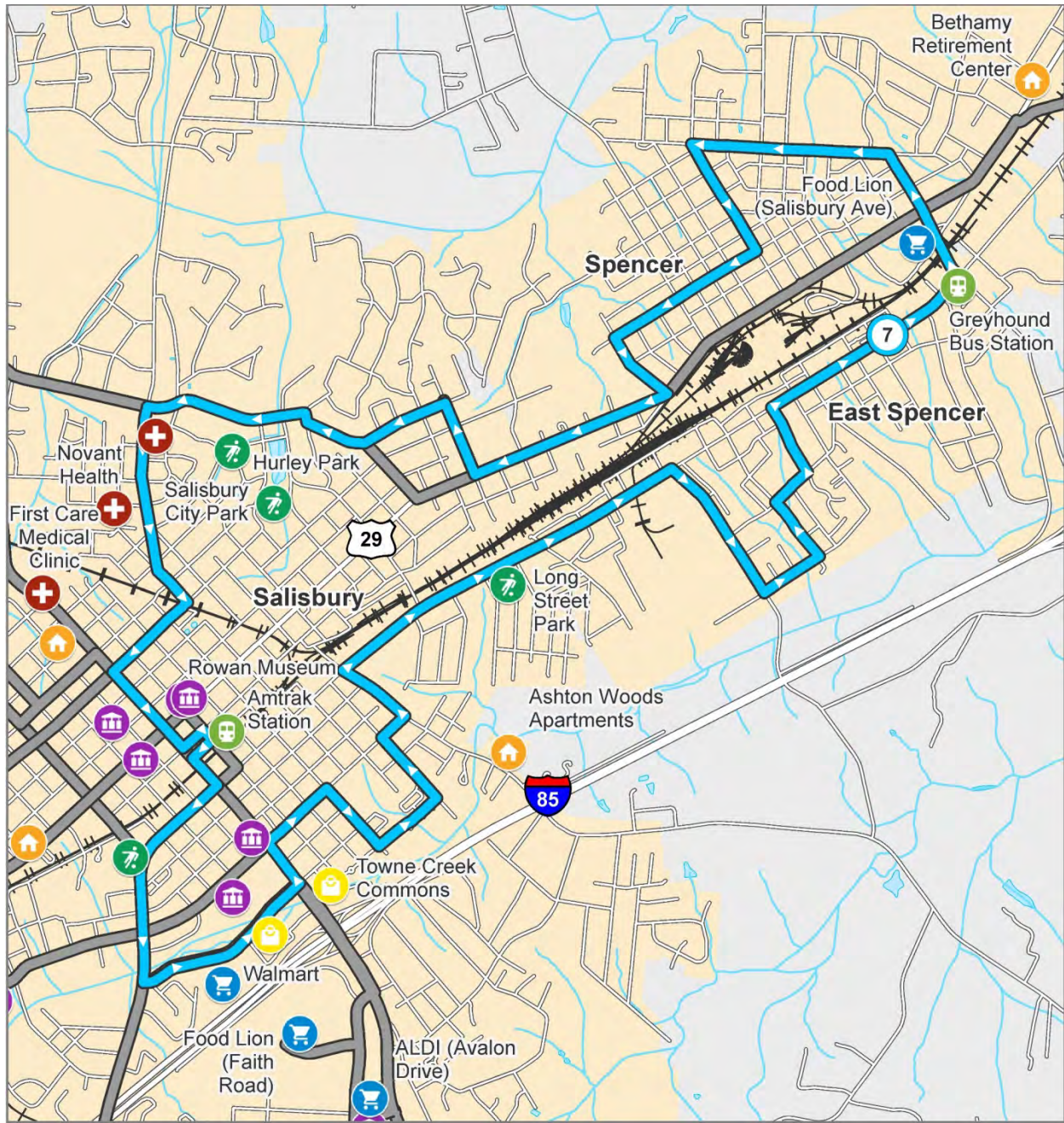


Figure 5-8: Recommended Route 7 (East Spencer)



Route 7 (East Spencer)

Start Phase: Short-Term Service Type: Local Fixed-Route

- | | | | |
|--------------------|------------|-----------|----------------|
| Local Fixed-Route | Shopping | Civic | Transit |
| Other Fixed-Routes | Recreation | Education | Residential |
| Municipality | Grocery | Health | Social Service |
| County | | | |

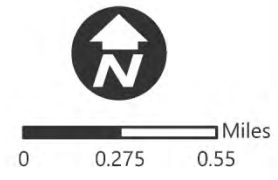
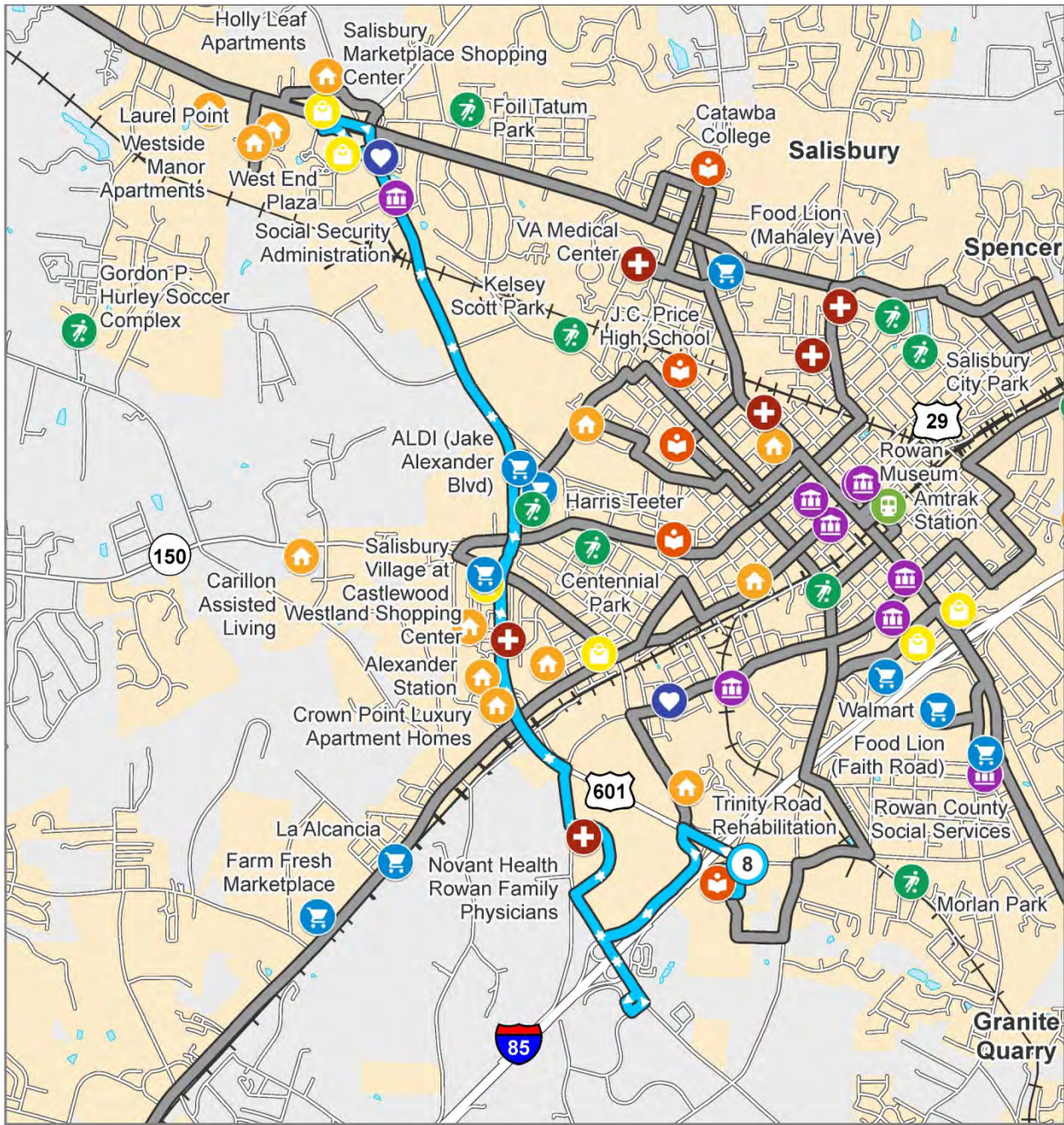


Figure 5-9: Recommended Route 8 (Jake Alexander)



Route 8 (Jake Alexander)

Start Phase: Short-Term Service Type: Local Fixed-Route

- | | | | |
|--------------------|------------|-----------|----------------|
| Local Fixed-Route | Shopping | Civic | Transit |
| Other Fixed-Routes | Recreation | Education | Residential |
| Municipality | Grocery | Health | Social Service |
| County | | | |



5.3 Microtransit Service

There are several service gap areas that were identified through the public engagement process that would be challenging to serve with traditional fixed-route transit service due to their distance away from the Depot Transfer Site and development pattern. Microtransit may be an effective strategy to address these service gaps. As a form of demand response service, microtransit is relatively new thanks to the advancements in technology that enable real-time, on-demand trip requests. Transit systems across the country are currently experimenting with microtransit in diverse applications. In order to better understand how microtransit may be successfully implemented in Salisbury, three transit systems were surveyed. These three systems in Arlington, Texas, Orange County, California, and Research Triangle Park (RTP), North Carolina represent three types of microtransit operations: contracted service, agency-owned vehicles with contracted service, and directly operated.

Arlington, Texas

The City of Arlington, Texas replaced its commuter bus service with microtransit in December 2017. The bus service was initiated in 2013 and daily ridership plateaued at approximately 300 trips per day. In order to grow ridership, increase flexibility, and reduce operating costs, Arlington partnered with Via Transportation, Inc. (Via) to pilot a microtransit service program. From the beginning, Arlington pursued a turn-key service to ensure the appropriate expertise and resources to run the service efficiently and effectively.

Arlington's microtransit is currently provided with a defined service area of 25 square miles, which is approximately the same size as STS's service area. Given the popularity of the service, Arlington is working to expand the current service area, which is 25 percent of the city, to serve more residents. Riders request trips through a smartphone application provided by the service contractor, Via. In compliance with ADA regulations, trips may also be booked by calling Via directly.



Rendering of an Arlington microtransit vehicle.

Once a trip is requested, a microtransit van picks up riders within a few blocks of their origin. Wait times vary depending on nearby driver availability but generally do not exceed 10 to 12 minutes. Via operates a fleet of 10 Mercedes Metris six-passenger vans and a limited number of wheelchair accessible vehicles. Due to high demand, privately-owned vehicles have been added to augment the fleet. The service is provided between 6 am and 9 pm Monday through Friday and between 9 am and 9 pm on Saturday. Each trip costs \$3.00 with the city subsidizing a portion of the trip. Riders pay fares with a credit card through the application.

The pilot program has been successful with ridership steadily growing to 600 daily trips on weekdays and 400 daily trips on Saturdays. The average microtransit operating cost per hour for the system is \$400, or approximately \$30.77 per microtransit vehicle. Customers have been pleased with the service, with a 97 percent customer approval rating. Specifically, riders have appreciated the flexibility of booking rides when they are needed, rather than following a set bus schedule. The

multiple microtransit pick up and drop off locations have greatly expanded the opportunities for transit trips compared to the more limited number of fixed-route bus stops.

For Arlington, one of the most challenging aspects of starting a rideshare service in a completely new environment has been anticipating demand and planning for that demand. There have been larger than expected increases in demand following service area expansions, which has threatened to impact wait times and vehicle availability. In hindsight, the city would have liked to allocate more funds and managed expectations regarding service area expansions to allow for growth and demand.

Orange County, California

Orange County Transportation Authority (OCTA) launched OC Flex, an on-demand, curb-to-curb shuttle service serving two zones in Orange County. The pilot program began in 2018 using agency-owned vehicles and software with the microtransit service contracted to a third-party provider. The goal of the program is to: "...provide service in low demand areas which would provide connections to the OC Bus network and Metrolink commuter rail stations. This effort will aim to improve bus ridership while meeting the changing mobility demands within the County."

OC Flex operates seven days a week, Monday through Thursday 6 am to 9 pm, Friday from 6 am to 11 pm, Saturday from 9 am to 11 pm, and Sunday 9 am to 9 pm. Instead of charging per trip, day passes are sold for \$4.50 through the OC Flex Mobile application or \$5.00 with cash onboard the vehicle. Each day pass allows for an unlimited number of trips. OCTA periodically offers discounts for multiple riders traveling together. Rides are booked through the application or by calling a toll-free number. The average wait time is 15 to 30 minutes, and riders are picked up at the nearest street corner.



Rendering of an OC Flex microtransit vehicle.

The Orange County example differs from the Arlington microtransit service in that OCTA purchased microtransit vans and software to operate the service whereas Arlington's service contractor provided vehicles and software. The OCTA vans were estimated to cost \$55,000 each or \$220,000 for the four-van fleet. The contractor is required to provide up to two additional vehicles if needed. The annual software cost was estimated to be \$25,000. OCTA chose the TransLoc OnDemand software to run the pilot program. Additional costs were estimated for tablets (\$1,000 each) and marketing materials (\$100,000). The estimated operating cost per hour per microtransit vehicle is \$52.37.

The OC Flex Pilot Program established the following key metrics to evaluate the success of the pilot program. Depending on the results of these metrics, OCTA may make the pilot program permanent.

Productivity

The key metric for ridership will be boardings per revenue hour. This is consistent with how productivity is measured on the bus and rail services. Data to calculate this measure will come from reports in the TransLoc software. The target at the end of the first year of service will be 6 or more boardings per revenue hour.



Cost-Effectiveness

The key metric for cost-effectiveness will be subsidy per boarding. This will be measured using actual costs and revenues received. The target at the end of the first year of service will be \$9.00 or less subsidy per boarding.

Shared Rides

The key metric for vehicle occupancy will be percent shared rides. Data to calculate this measure will come from reports in the TransLoc software. The target at the end of the first year of service will be 25 percent shared rides.

Connecting transit trips

The key metric for connecting transit trips will be percentage of trips to/from transit hubs. Data to calculate this measure will come from reports in the TransLoc software. The target at the end of the first year of service will be more than 25 percent of trips to/from transit hubs.

Customer satisfaction

The key metric for customer satisfaction will be percent of passengers satisfied with the service. Data will be collected using a statistically valid survey conducted by the driver. The target at the end of the first year of service will be more than 85 percent of passengers will indicate that they are very or somewhat satisfied with the OC Flex service.

RTP, North Carolina

The RTP, located between Raleigh and Durham, North Carolina, is a challenging area to serve with transit. The low-density development pattern combined with the lack of roadway connectivity is not ideal for transit.



In the past, GoTriangle has operated fixed-route shuttle service in the RTP, connecting employers with the Regional Transit Center. From 2013 to 2016, ridership on the fixed-route shuttle services remained at approximately 180 boardings per day. After this time period, boardings markedly decreased and were approximately 110 boardings per day in 2017. This is less than six boardings per hour and made the RTP fixed-route shuttles the most expensive service to operate per customer in the GoTriangle system. With additional grant funding available for a microtransit pilot project, GoTriangle looked for alternatives to service within RTP, launching the Go OnDemand pilot in January 2018. GoTriangle chose to operate the microtransit service directly since contracting out the service to a private provider would have compromised the grant funding.

GoTriangle operates the pilot program using its existing demand response vans that are ADA accessible, drivers, and dispatch. The agency uses TransLoc software and smartphone application. Riders request rides through the mobile application or by calling GoTriangle. Microtransit service is offered Monday through Friday, 6 am to 6 pm. Each trip costs \$2.25 and transfers are free to non-express routes, which is identical to the agency’s general fare structure. Riders are picked up from designated stops within the microtransit service area.

The On-Demand Pilot had two primary goals: increase ridership from 110 boardings per day to 200, or to serve the same number of boardings (110) with 25 percent or fewer revenue hours. In January 2018, the On-Demand pilot started with an average of 120 trips per weekday using 28 revenue hours



per weekday. One year later, daily trips decreased to approximately 80 per day, still using about 22 revenue hours. Productivity for the On-Demand shuttles for the second half of FY 2018 was around 5 customers per hour. For the first half of FY 2019, customers per hour dropped to 4.3. For comparison, the GoTriangle system average boardings per hour is 12. Therefore, the pilot program did not meet either of the two goals. This summer GoTriangle will be transitioning to a restructured fixed-route service to capture a higher ridership destination within the RTP while also deploying a one-year program for subsidized trips through Uber, Lyft, and other transportation network companies. The pros and cons of the three microtransit implementation options (directly operated, agency-owned vehicles with contracted service, and contracted service) are summarized in Table 5-5.

Table 5-5: Microtransit Implementation Options

	Directly Operated	Agency Vehicles and Software, Service Contracted	Third-Party Vehicles, Software, Service Contracted
Pros	<ul style="list-style-type: none"> • Agency has greatest control over service • Most experienced with ADA regulations • Low-cost technology available 	<ul style="list-style-type: none"> • Technology is relatively inexpensive • Likely does not require additional staff positions 	<ul style="list-style-type: none"> • Easiest to implement • Likely does not require additional staff positions
Cons	<ul style="list-style-type: none"> • Requires initial capital investment for vehicles • Requires additional dispatcher and scheduler positions 	<ul style="list-style-type: none"> • Requires initial capital investment for vehicles • Contractor may or may not be equipped to provide ADA accessible trips 	<ul style="list-style-type: none"> • Not all private contractors are equipped to provide ADA accessible trips • Less control over costs and customer service

Microtransit Recommendations for STS

Based on the insights learned from these case studies, microtransit zones are recommended in order to provide residents with transit services in areas harder to reach with fixed-route service. It is envisioned that the microtransit service would begin in the short-term phase. Microtransit would connect riders with the STS fixed-route system at designated feeder points. Alternatively, STS could allow microtransit trips to serve any destination within the service area instead of restricting them to feeder points. However, depending on the popularity of the service, unrestricted trips could be significantly more expensive. Riders would request a ride by phone, website, or smartphone application. Trips would be grouped using route scheduling software to maximize efficiency. STS may choose any of the three implementation options for providing service. If STS chooses to operate the microtransit service directly then it would need to acquire microtransit vehicles, software, drivers, dispatchers, and a scheduler.

There are three potential microtransit zones for Salisbury to consider. Deciding which zones to implement is contingent on the fixed-routes that are operated. If Route 5 is operated, then microtransit zones 1 and 2 are recommended (Figure 5-10, page 5-24). Zone 1 would include the Westcliff neighborhood and Food Lion Warehouse on the west side of Salisbury. There are additional residential neighborhoods and industrial employers located within the zone. The Rolling Hills Town Homes in the Westcliff neighborhood and the Food Lion Warehouse were specifically identified as service gaps during the public engagement process. Zone 2 would serve the Country Club Hills area of Salisbury, which is currently not served by transit. If Route 5 is not operated, then Zone 3 is recommended (Figure 5-11, page 5-25). This zone would encompass destinations such as Catawba College, VA Hospital, and West End Plaza that would have been served by Route 5.

Figure 5-10: Recommended Microtransit Service Zones 1 and 2

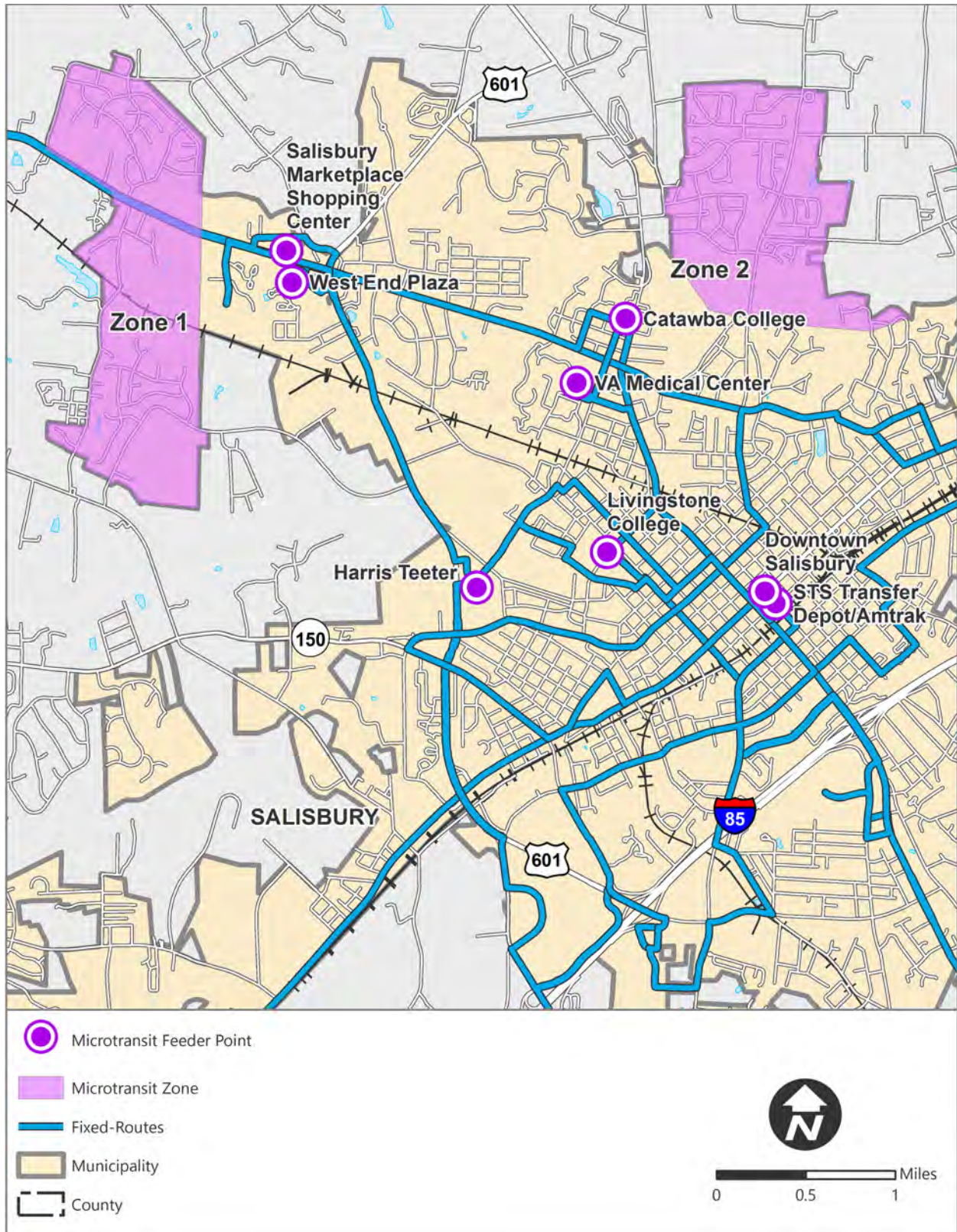
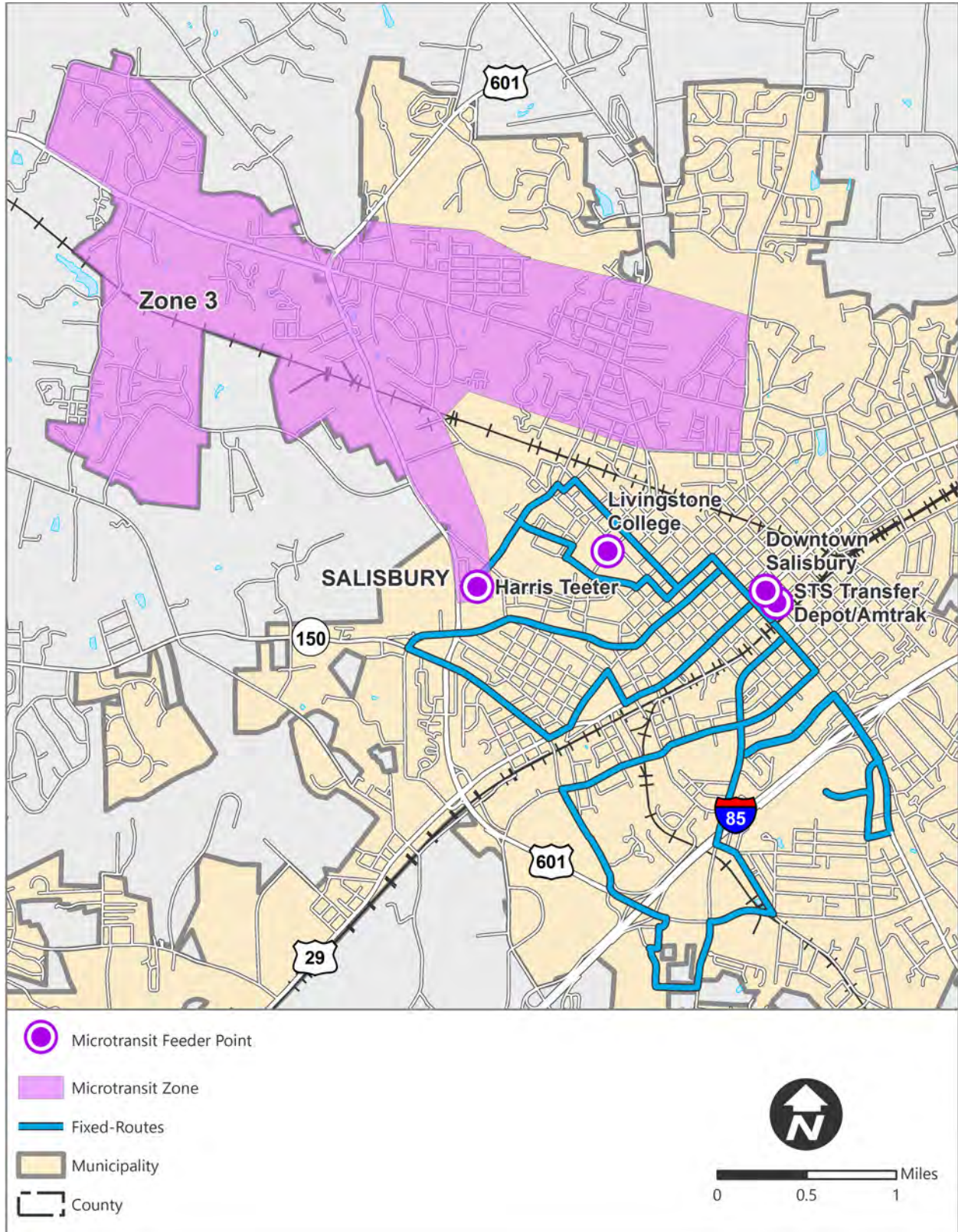


Figure 5-11: Recommended Microtransit Service Zone 3



5.4 College Transit Service



Salisbury is home to several colleges that each have unique transit needs. The LRPT Master Plan proposes a Safe Ride Salisbury (SRS) transit service to serve students at Catawba College and Livingstone College on Friday and Saturday evenings. The purpose of SRS is to provide a safe and affordable alternative for students to access restaurants and bars, entertainment, and shopping destinations. Approximately 25 percent of Catawba students do not have access to personal transportation. The success of this service depends on the promotion of it by the two colleges and STS. The service should be promoted during student orientations at the beginning of each semester and summer sessions. The SRS service is envisioned to be fare-free with the operating costs funded through funding partnerships with Catawba College and Livingstone College. Student fees may help cover the operating expenses of this service. The SRS would be restricted to students who would show a valid college ID when boarding the bus.

There are two options for the SRS: a fixed-route option or microtransit option. The fixed-route option would involve two smaller transit vehicles operating along a designated route between Catawba College, Innes Street, Livingstone College, Walmart, and Tinseltown. A map of the proposed route is provided in Figure 5-12 on page 5-27. The cycle time is estimated to be 60 minutes meaning that operating the route with two vehicles would provide 30-minute frequency. The service would begin the medium-term phase and run on Fridays and Saturdays from 9 pm to 1 am.



The second SRS option is a microtransit zone instead of a fixed-route that would also operate Fridays and Saturdays, 9 pm to 1 am. Students would request rides through a smartphone application or by calling the service provider. A microtransit van would pick up students within a couple blocks of their location and transport them to destinations within the SRS microtransit zone. In the interest of efficiency, trips would be grouped together using routing software so that trips are shared amongst several students. The SRS microtransit zone would encompass Catawba College, Harris Teeter, Innes Street, Livingstone College, Southgate Shopping Center, Walmart, and Tinseltown. A map of the proposed zone is shown in Figure 5-13 on page 5-28.

College-specific transit service is also recommended to serve students at RCCC in the evenings, particularly when regular STS city fixed-route service has ended. The RCCC evening service would focus on providing transportation for students to return home after evening classes. This would be an on-demand service where students would request rides through a smartphone app or by calling the service operator. This transit need would be addressed most effectively through a zonal demand response approach. Figure 5-14 on page 5-29 illustrates the RCCC evening service concept in which three zones would be established based on the road network distance from the college. The road network distance was used to prepare the three zones instead of a straight-line distance as it more accurately captures the time and fuel costs associated with operating the service. Fares would be charged accordingly where a trip within Zone 1 (0 to 2 miles from campus) would be less expensive than a trip to Zone 2 (2 to 4 miles) or Zone 3 (4 to 6 miles). Similar to the microtransit zones, there are several options for operating this service: direct operation by STS, a service contractor, or ridesharing company.



Figure 5-12: Recommended Safe Ride Salisbury Fixed-Route Option



Figure 5-13: Recommended Safe Ride Salisbury Microtransit Option

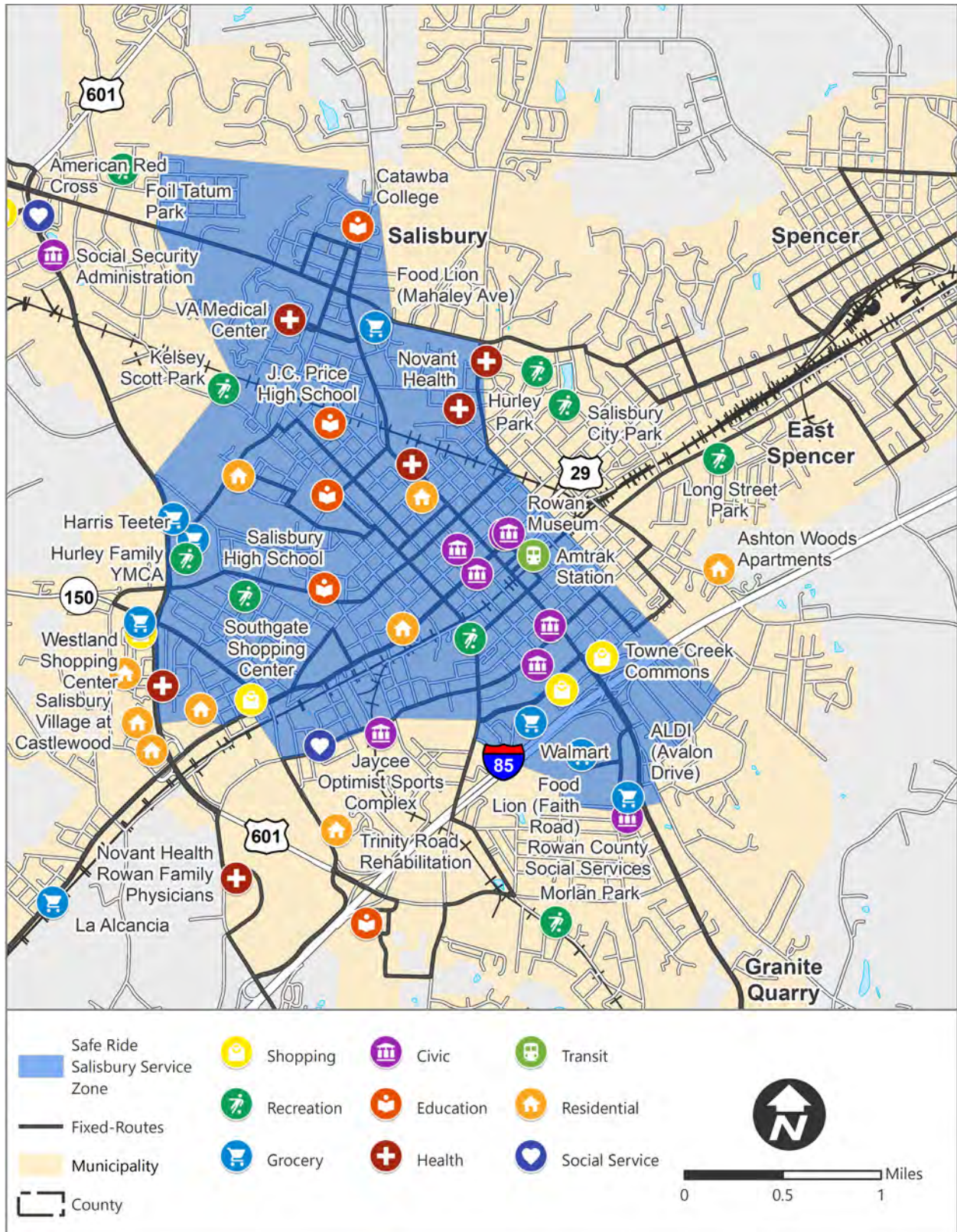
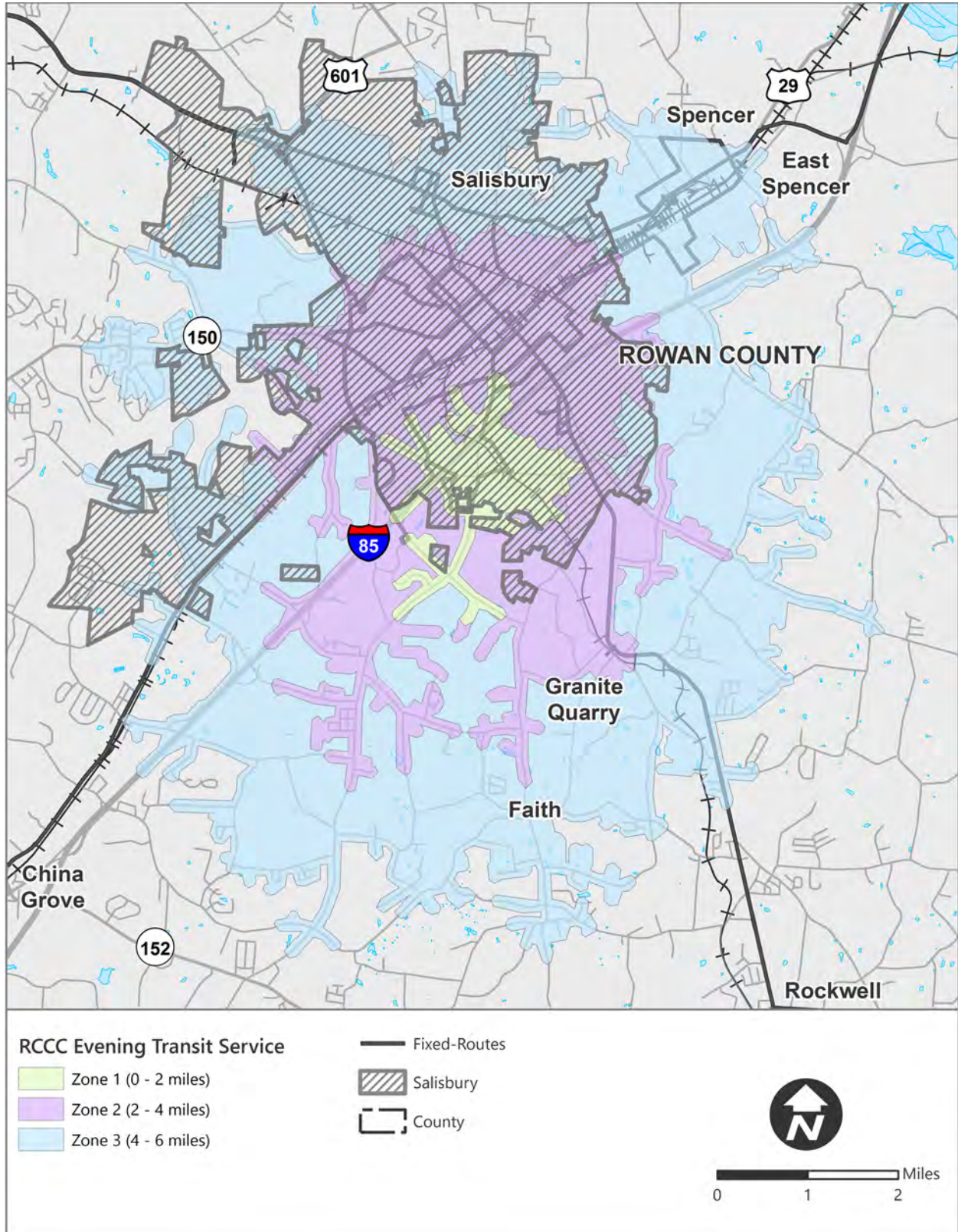


Figure 5-14: Recommended RCCC Evening Service



5.5 Regional Transit Service

STS already plays an important role in providing regional mobility, particularly with the existing transit service between Salisbury, Spencer, and East Spencer. The public engagement process underscored the importance of regional mobility to existing riders and the greater Salisbury community. The following locations were identified as regional service gaps: Cleveland, Enochville, Granite Quarry, Mocksville and Rockwell. The rider and community surveys also demonstrated the need for existing transit service to China Grove, Kannapolis, and Landis. The LRPT Master Plan includes recommendations for regional fixed-routes and a rideshare program in order to address regional service gaps and continue STS's role in connecting riders with opportunities across the region. It would not be the responsibility for the City of Salisbury to provide all the operations costs for these proposed services, rather, it would be a partnered approach for funding in conjunction with respective municipalities or counties that are served as part of the regional initiative.



Each of these proposed routes would be recommended to be jointly funded through coordinated efforts with the local communities served by the routes. STS would take the lead in promoting the discussion but paying for the service and coordinating the connections to the various stop locations would be seen as a cooperative effort to ensure a sense of local ownership of the services.

5.5.1 Regional Fixed-Routes

Four regional fixed-routes are recommended, which would address the majority of the regional service gaps. Regional routes may be operated through partnerships between STS and regional transit providers. For example, the existing Rowan Express is operated by RTS. In addition, the Piedmont Authority for Regional Transportation (PART) is currently working with several transit agencies, including STS, to plan a regional route between Lexington, Salisbury, and Kannapolis. Each of these proposed routes would be recommended to be jointly funded through coordinated efforts with the local communities served by the routes. STS would take the lead in promoting the discussion but paying for the service and coordinating the connections to the various stop locations would be seen as a cooperative effort to ensure a sense of local ownership of the services.

The first regional route, Regional 100, is identical to the existing Rowan Express and would provide connections between Salisbury, China Grove, Landis, and Kannapolis. The route timetable should be modified to better facilitate efficient connections with the recommended STS city fixed-routes. Regional 100 would offer the same level of service as the Rowan Express with five daily morning trips and five daily afternoon trips. Two vehicles would be required to operate this route on a 60-minute frequency. Regional 100 is recommended to be implemented in the short-term phase.

Regional 200 would add transit service between downtown Salisbury, the VA Hospital, Spencer, and the South Lexington Park & Ride located by the Fly High Lexington airport. PART is currently working with several stakeholders to design this route, which would connect with several transit services: Davidson County, PART, Regional Coordinated Area Transportation System, Rider, and STS. Regional 200 is recommended to be implemented in the medium-term phase with one vehicle providing two morning and two afternoon weekday trips on a 75-minute frequency.

Regional routes would serve major employers outside of Salisbury such as the Freightliner truck plan



The remaining two routes, Regional 300 and 400, are recommended for the long-term phase. Regional 300 would connect Salisbury, Granite Quarry, and Rockwell. The route would provide a direct connection to Rowan County Social Services and Tinseltown. It would serve the Clayton Rockwell manufacturing plant in Rockwell. Regional 400 would provide service between Salisbury and Statesville with stops at the VA Hospital, Cleveland, Freightliner truck plant, and other employers along US 70. Both routes would offer two morning and two afternoon weekday trips. Regional 300 would require one vehicle and Regional 400 would require two vehicles for 60-minute frequencies.

Table 5-6 summarizes the recommended regional fixed-routes on page 5-31. Maps showing the recommended routes are shown on Figure 5-15 through Figure 5-18, starting on page 5-32.

Table 5-6: Summary of Recommended Regional Fixed-Routes

Route Name	Weekday Trips	Frequency	Required Vehicles	Implementation Phase
Regional 100 – Kannapolis	10	60 min.	2	Short-Term
Regional 200 – Lexington	4	75 min.	1	Medium-Term
Regional 300 – Rockwell	4	60 min.	1	Long-Term
Regional 400 – Statesville	4	60 min.	2	Long-Term

Figure 5-15: Recommended Route 100 (Kannapolis)

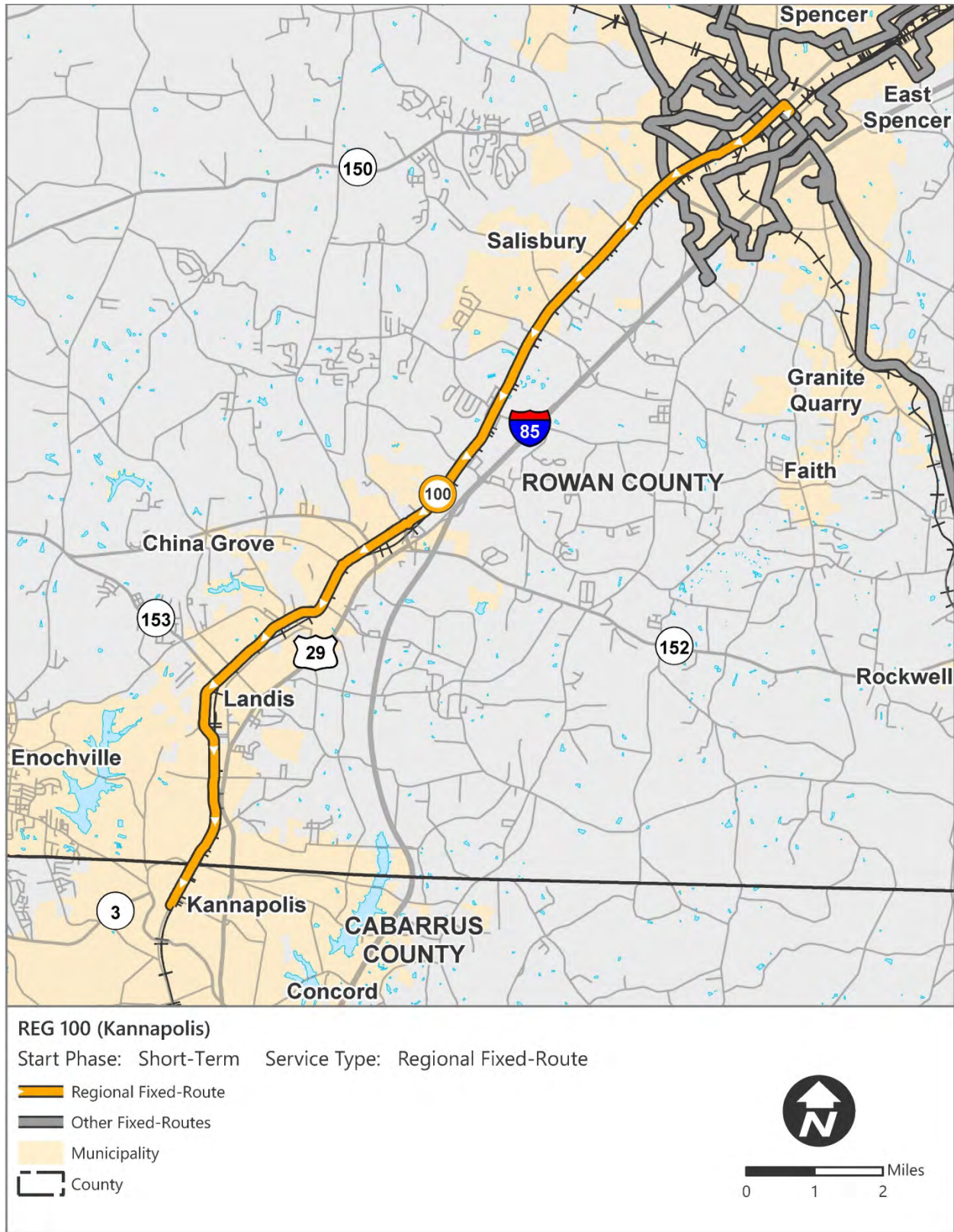


Figure 5-16: Recommended Route 200 (Lexington)

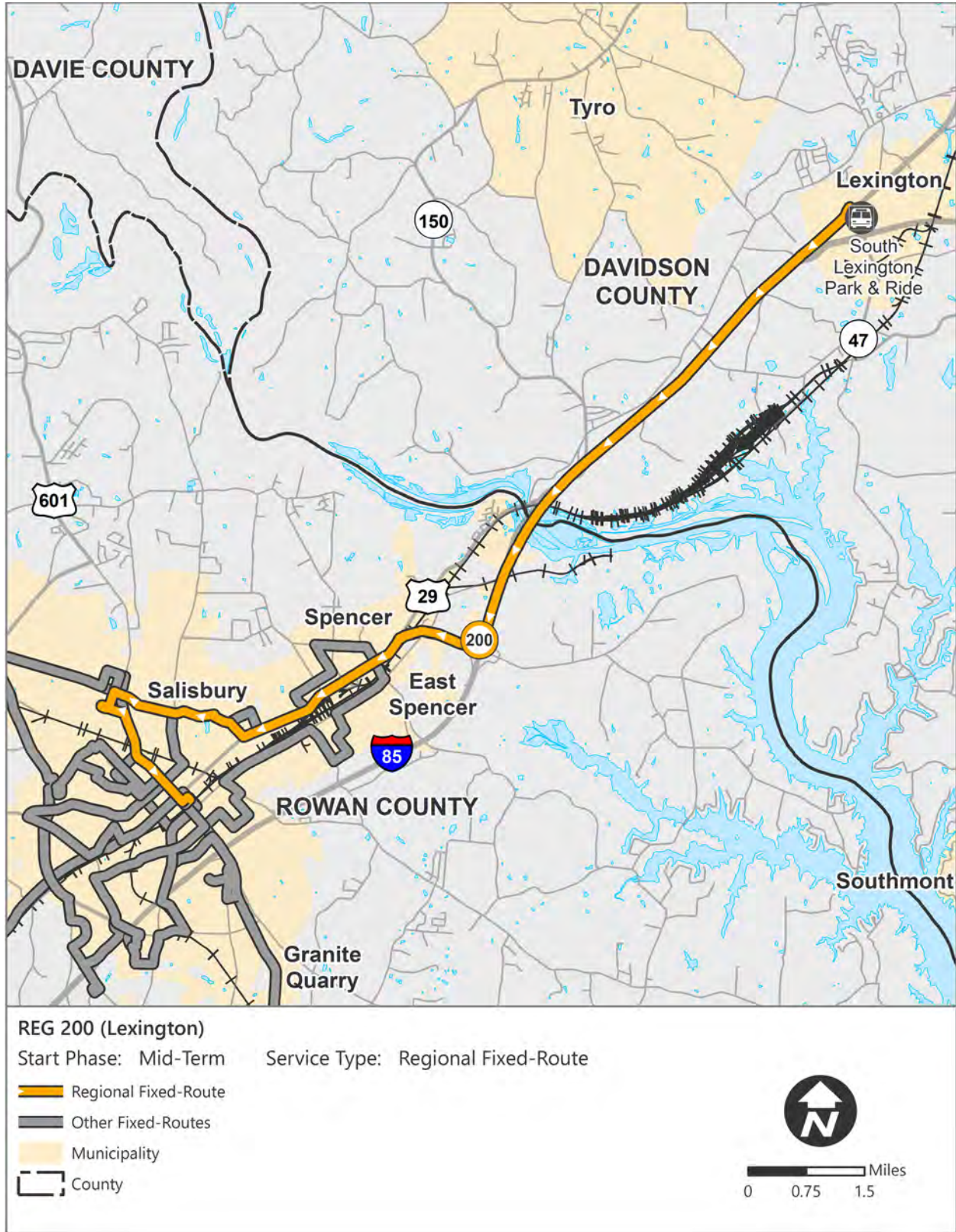
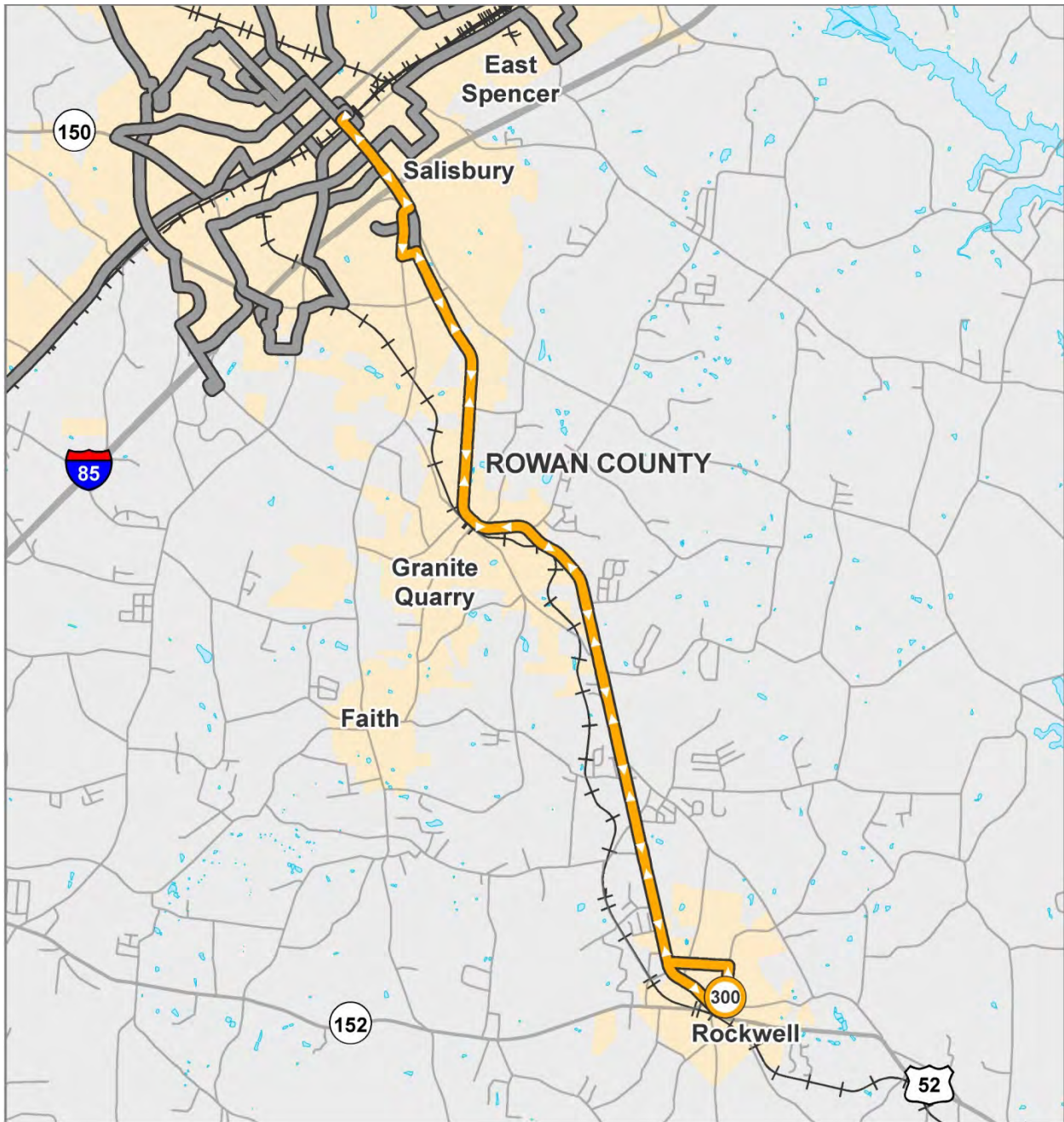


Figure 5-17: Recommended Route 300 (Rockwell)

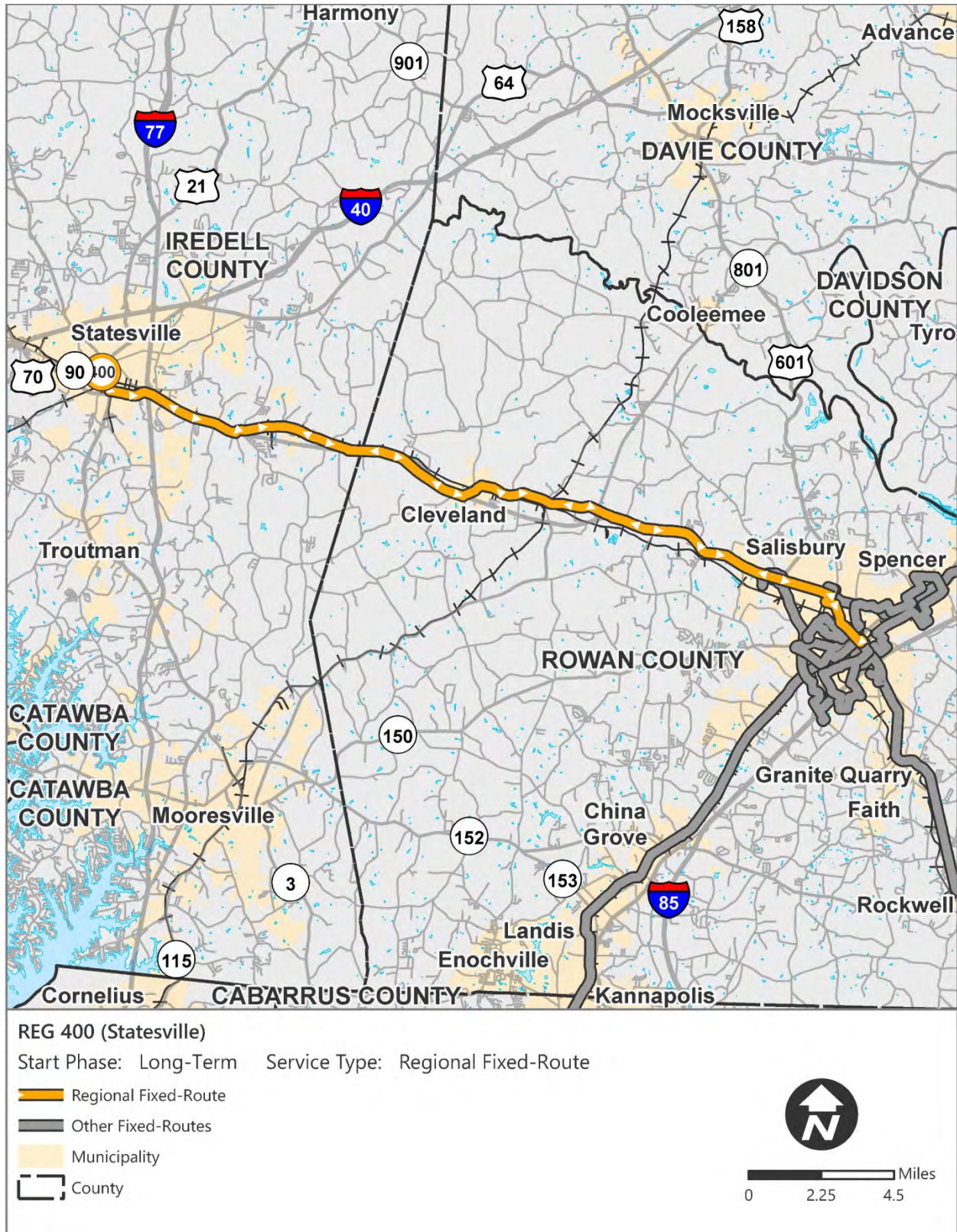


REG 300 (Rockwell)

Start Phase: Long-Term Service Type: Regional Fixed-Route

- Regional Fixed-Route
- Other Fixed-Routes
- Municipality
- County

Figure 5-18: Recommended Route 400 (Statesville)



5.5.2 Rideshare Program

Recognizing that all transit needs cannot be met with a fixed-route service, a rideshare program is recommended to serve the employee and employer work-related transit needs throughout Rowan County. STS can take the lead role in promoting and implementing a rideshare program that would strive to achieve the initiatives of energy conservation, reducing congestion, improving air quality, reducing vehicle miles and provide an improved and enhanced regional connectivity. The rideshare program would be more flexible and would allow for more long-distance work commute travel that fixed-route services cannot efficiently accommodate.

Rideshare Benefits

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



Rideshare routes are usually designed to begin at a meeting/pick up location and travel to the worksite. Rideshare meeting locations can be shopping centers, churches, businesses, or designated park and ride lots. In Salisbury, partnerships could be formed with business and organizations that have additional parking capacity to allow rideshare participants to park their cars. Several potential meeting locations could include, but are not limited to, Dick's Sporting Goods, Kohl's, Harris Teeter, RCCC, North Carolina Transportation Museum, and West End Plaza. These locations are specifically called out as they provide geographic coverage throughout the service area and are co-located with fixed-route stops and microtransit feeder points.

Each van would have the seating capacity of 5 to 14 passengers, depending on the size configuration of the vehicle. Minivans are very popular and require fewer passengers, though some agencies deploy 14-passenger vans that can carry many more people. An important distinction between a rideshare program and other transit modes is that the vans are not directly operated by the transit agency. Instead, a rideshare participant would lease the van from STS and be responsible for driving and fueling. The rideshare driver would be allowed to park the vehicle at his or her residence, which is particularly convenient for the driver when the rideshare route is far from a transit hub. STS would be responsible for maintenance of the rideshare vehicles.

Short-Term Phase Steps

During the short-term phase, it is recommended that STS identify potentially interested local employers and conduct internal employee surveys with these employers to assess employee interest and to note the trip patterns made to the workplaces. Food Lion may be an initial rideshare partner given its large and concentrated workforce. Additional interested local employers may be identified through several means: North Carolina Department of Commerce, Rowan County Chamber of



Commerce, the Salisbury Chamber of Commerce. STS may also receive direct requests from employers for transit services. In addition, the US Census Bureau's LEHD dataset provides quantitative information on commute patterns as well as concentrations of jobs and workers. STS may use this dataset to identify likely rideshare partners by focusing on employers that have higher job concentrations paired with higher concentrations of worker origins. This type of analysis was conducted for the LRPT Master Plan using the most recent LEHD data and is included in Section 2.4.

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

Rideshare Forms and Materials

As part of this LRPT Master Plan, sample forms and materials are included in Appendix A, Appendix B, and Appendix C that could help facilitate the implementation of a rideshare service. It is recommended that a Mobility Manager position be created to both coordinate and manage the rideshare efforts and work directly with the advertising and marketing of STS transit services.

Rideshare Initiatives



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



5.6 ADA Complementary Paratransit Service

STS currently provides ADA complementary paratransit service within 3/4 mile of its fixed-routes as required by law. With the implementation of Routes 6, 7, and 8, the paratransit service area would be expanded by approximately 8 percent as shown on Figure 5-19 (page 5-40). ADA complementary paratransit service would not be required for the regional routes as they would be considered commuter bus routes as defined in *FTA Circular 4710.1 Americans with Disabilities Act (ADA) Guidance*:

Commuter bus service means fixed route bus service, characterized by service predominantly in one direction during peak periods, limited stops, use of multi-ride tickets, and routes of extended length, usually between the central business district and outlying suburbs. Commuter bus service may also include other service, characterized by a limited route structure, limited stops, and a coordinated relationship to another mode of transportation.

ADA complementary paratransit service must be provided during the same hours and days as the STS city fixed-routes. Therefore, extending operating hours for fixed-route service would require paratransit service to be extended as well to match the same hours of operation.

In general, ADA complementary paratransit service requirements would apply to the proposed microtransit service and RCCC evening service. These requirements would apply regardless of whether STS operates the transit services directly or contracts them out to a private provider. They would also apply regardless of whether the microtransit service or RCCC evening service uses federal funding. The FTA has published responses to several frequently asked questions (FAQ) regarding ADA and microtransit. Selected FAQs are included in Table 5-7. Note that the FTA refers to microtransit as “shared mobility” and microtransit providers as “ridesourcing entities.” These responses were current as of the writing of this report. Please consult the following FTA webpage for an up-to-date complete list of FAQs: <https://www.transit.dot.gov/regulations-and-guidance/shared-mobility-frequently-asked-questions>.

ADA regulations would also apply to microtransit services regardless of who operates the service

Table 5-7: Selected FTA FAQs for Microtransit and ADA

Question	Response
If a shared mobility project doesn't use federal funding, does it still have to comply with Americans with Disabilities Act (ADA) requirements?	Yes. The ADA applies regardless of whether there is federal funding involved. The applicable requirements may depend upon the nature of the project and the service that will result, such as fixed route, general public demand responsive, or ADA paratransit. A transit operator entering an arrangement with a ridesourcing entity to provide fixed-route service using only local funds would be required to ensure that any vehicle used on the system is accessible to and usable by persons with disabilities, including wheelchair users, and ensure that paratransit is provided as a complement to such routes.
Aren't private companies like ride-sourcing entities exempt from US Department of Transportation (DOT) ADA requirements?	No. The DOT ADA regulations cover transportation provided by both public and private entities, whether or not they are primarily engaged in the provision of

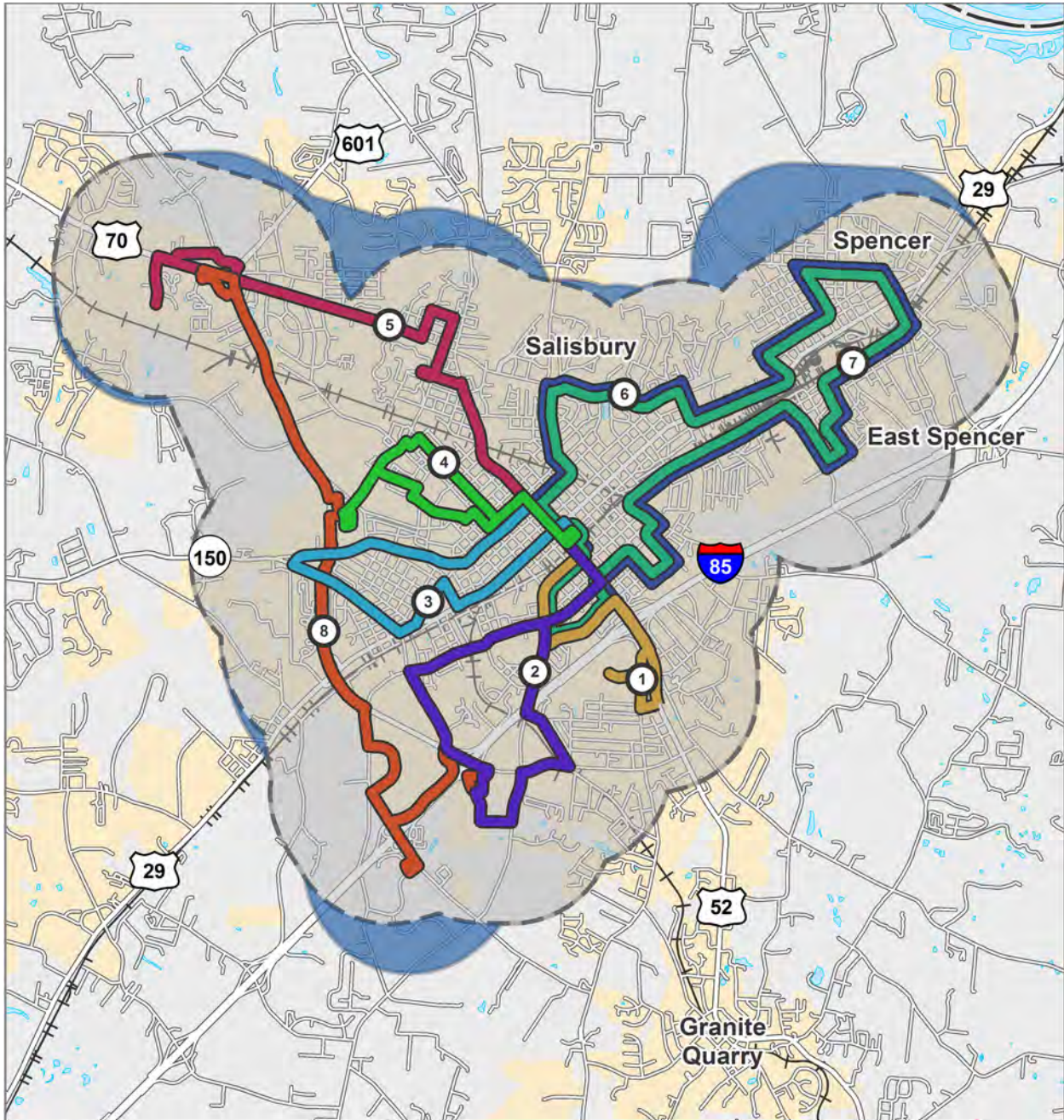


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	<p>transportation service.</p> <p>For example, if a hotel wants to provide shuttle service to its guests along a fixed route serving local attractions, because hotels are not primarily engaged in transportation, the vehicles used may not need to be accessible as long as equivalent service is provided for persons with disabilities, including wheelchair users.</p>
<p>Who would be responsible for providing equivalent service, the transit system or the ridesourcing entity?</p>	<p>In general, the public entity that enters into the partnership with the ridesourcing entity would be responsible for ensuring that equivalent service is provided. In an instance where the fare structure for the provider of accessible vehicles differs from (is greater than) that used by the ridesourcing entity, the transit operator must offset those costs to ensure that they are not borne by the passenger.</p>
<p>If a transit operator contracts out its shared mobility service to a ride-sourcing entity; would that make it subject to the requirements for public or private transportation?</p>	<p>The requirements for public entities would apply.</p> <p>The public entity remains responsible for ensuring that the service provided is in compliance with DOT ADA regulations. This can be accomplished by ensuring that the private entity has sufficient accessible vehicles in its own fleet to provide equivalent service; by contracting with a separate entity to provide equivalent service, or by employing accessible vehicles from its own fleet.</p>
<p>If a transit system offers real-time service to its paratransit passengers using ride-sourcing, can it provide real-time service to eligible passengers? Wheelchair users would still have access to next-day paratransit service.</p>	<p>If real-time service is provided to eligible ADA paratransit passengers, it must be provided to all eligible ADA paratransit riders, including wheelchair users. This can be accomplished by ensuring that the ridesourcing entity has sufficient accessible vehicles available to provide equivalent service; by contracting with a separate entity to provide accessible vehicles; or most easily by simply incorporating your own accessible paratransit vehicles into the service to be provided by the ridesourcing entity.</p>
<p>If a ride-sourcing entity plans to acquire a fleet of vans to provide fixed-route service under contract to a local transit system, do those vehicles have to be accessible?</p>	<p>For fixed route service, vehicles must be accessible.</p> <p>A private entity that purchases or leases new, used, or remanufactured vehicles for use, or in contemplation of use, in fixed route or demand responsive service under contract or other arrangement or relationship with a public entity must acquire accessible vehicles in all situations in which the public entity itself would be required to do so (49 CFR 37.23(b)).</p> <p>If a transit agency contracts with a ridesourcing entity to provide demand-responsive service, and the ridesourcing entity acquires a fleet of vans to provide that service, the vans must be accessible to wheelchair users unless the system, when viewed in its entirety, meets the standard for equivalent service</p>

Source: FTA, 2016.

Figure 5-19: Recommended ADA Paratransit Service Area



ADA Paratransit Service Area for Recommended City Fixed-Routes

- | | | |
|-----------------------------|-----------------------|--------------------------|
| Additional ADA Service Area | Route 1 (Tinseltown) | Route 5 (VA Hospital) |
| Existing ADA Service Area | Route 2 (RCCC) | Route 6 (Spencer) |
| Municipality | Route 3 (Main Street) | Route 7 (East Spencer) |
| County | Route 4 (Livingstone) | Route 8 (Jake Alexander) |





5.7 Administrative Needs

The LRPT Master Plan examined administrative needs required to support the transit service recommendations. The primary administrative needs are additional staffing recommendations. Additionally, an updated transit amenities policy would guide STS in prioritizing future bus stops and shelters.

5.7.1 Staffing Recommendations

The LRPT Master Plan recommends an implementation of a new organizational structure to address the added functions and responsibilities of the recommended service improvements. These staffing recommendations are summarized in Table 5-8.

Table 5-8: Summary of Staffing Recommendations

Administrative	Operations	Maintenance
One Transportation Planner (grants and training)	Additional full-time fixed route drivers depending on number of fixed-routes operated	One Mechanic to work from 2:00 PM to 11:00 PM
Two Transportation Route Supervisors (customer service and driver supervision)	Four microtransit part-time drivers if STS operates the college microtransit services directly	One part-time Mechanic to work on Saturday (vehicle repairs and electronic repairs)
One Dispatcher (to coordinate with fixed route and paratransit drivers)	One full-time Scheduler to work during the week.	

The AECOM team analyzed the staffing levels of the STS operation, and determined that as the service expands, a re-structuring of duties and positions would be recommended for future consideration. It is recommended that the three new administrative positions be phased in to accommodate the service growth. Additional full-time drivers will be needed in order to meet the new staffing levels for the expanded fixed routes. The specific number of full-time drivers needed will depend on the number of fixed routes that STS chooses to operate. Service enhancements related to extended service hours and increased frequencies during peak periods will require additional drivers as well. Four part-time microtransit drivers would be required to operate the Safe Ride Salisbury microtransit service option and the RCCC evening service if STS chooses to operate these services directly. These drivers could also serve as “fill-ins” for other additional fixed route needs. A scheduler would be needed to coordinate microtransit trips and be trained on the new scheduler software that would need to be procured.

A new mechanic position is an urgent need for the service. Having the hours in the afternoon and evening would provide the necessary coverage for maintenance repairs and road calls. Finally, a part-time mechanic would need to be hired for work on Saturday, during the operating hours. This would allow for additional vehicle and electronic repairs to be conducted and reduce the deadline time for buses to be ready for pull-out service on Monday morning.

5.7.2 Transit Amenities Policy

Amenities at bus stops are important for providing a high-quality transit service that is comfortable, safe, and visible in the community. STS places a high priority on bus stop amenities by investing annually in benches and shelters, particularly at stops with higher ridership or in close proximity to activity centers. STS may formalize its amenities efforts by adopting a transit amenities policy. An



amenities policy would assist the department in establishing objective criteria and methodology for installing amenities at bus stops within the system. Such policies are particularly useful when limited resources must be prioritized. Furthermore, they put in place an objective process for evaluating the need and feasibility of amenity requests from the community.

Amenities policies often use daily boardings at bus stops as an objective, quantifiable method for determining and prioritizing which amenities to locate at stops. STS does not currently have boarding data at the stop level. As discussed further in Section 5.8, equipping buses with technologies to count riders would provide STS with the data needed for amenities prioritization.

5.8 Capital and Infrastructure Needs

Several capital and infrastructure needs were identified over the 20-year planning horizon. Additional transit vehicles will be required in order to operate the additional fixed-routes and provide increased frequency during the peak periods. The specific number of vehicles required depends on the fixed routes that STS chooses to operate. Given the myriad combinations, several scenarios were created to illustrate potential options for STS. These same scenarios were also used to develop the capital and operating plans presented in Chapter 6.0. Table 5-9 summarizes the *additional* transit vehicles required to operate each scenario. These vehicles are in addition to the current STS fleet of six vehicles and include the necessary spares in case of breakdowns and downtime for maintenance.

Table 5-9: Vehicle Requirements by Scenario

	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Routes Served:	1 - 5 and 8	1 - 5 and 8	1 - 8	1 - 4	1 - 4 and 6
Base Service: Additional vehicles required	+ 0	+ 0	+ 2	+ 0	+ 0
Increased Frequency: Additional vehicles required	Increased frequency not included	+ 4	+ 7	+ 0	+ 2

Source: AECOM, 2019.

In addition to vehicle requirements, an on-site fueling facility, bus tracking software and rider application, improved data collection, and electronic fareboxes were identified as capital and infrastructure needs. This section explains these needs in detail, and in considering future technologies, summarizes the current state of autonomous vehicle technology.

5.8.1 On-Site Fueling Facility

One recommended element to support future transit services would be to install two above ground fueling tanks at the transit facility property. The convenience of being able to provide on-site fueling would be a great benefit to both drivers and maintenance personnel. The features of these above ground fueling tanks (5,000 capacity each) would include:

- Steel construction and allow for recycling
- Built to nationally recognized Steel Tank Institute standards with ability for a third-party quality control inspection program
- Meeting tightness tested procedures



- Primary storage tank and secondary containment are compatible with a wide range of fuels and chemicals
- Engineered for all seismic requirements and equipped with hurricane tie-downs
- Monitoring for leak detection

The estimated investment for the purchase and installation of these fuel tanks would be \$85,000.

5.8.2 Transit Technologies

In addition to service and administrative recommendations, the LRPT Master Plan also considered technology recommendations that would assist STS in providing effective and efficient service over the next 20-years. The community survey asked riders and residents about future technology needs. Riders indicated that the following technologies were important:

- Real-time notifications: 87 percent
- WiFi access: 61 percent
- Mobile/Smartphone access: 42 percent

Similarly, residents who have never used STS before indicated that the following technologies were important:

- Real-time notifications: 87 percent
- WiFi access: 61 percent
- Mobile/Smartphone access: 42 percent

Phone chargers onboard buses were requested during the rider survey. In response to these survey results, STS should work towards implementing these technologies. With the proper software, STS's existing automated vehicle locator (AVL) system could provide real-time notifications to riders. Onboard WiFi access is recommended to be prioritized for regional routes first. In general, riders have longer travel times on regional routes than they do on city fixed-routes. Furthermore, regional routes tend to cater towards commuters who may opt to take the bus if WiFi access will allow them to work during their commute.

Bus Tracking Software and Rider Application

Bus tracking software would allow STS to communicate the position of its vehicle fleet in real-time to both STS staff and riders. Combined with a mobile application, riders would be able to tell when the next bus is coming. With this information, riders would be able to better plan their trips by transit. STS already has its fleet equipped with AVLs, which are required for the tracking software and rider application. Recent cost estimates from a software vendor suggest that the annual cost associated with this technology would be approximately \$18,000 a year for the existing STS fleet. There would be an initial set up fee of approximately \$7,000. If newer AVL equipment is required, then there would be an additional one-time cost of \$700 per vehicle, or \$4,200 for the six-bus fleet.

Ridership Data Collection

STS currently collects ridership data by route manually using paper forms. While this ridership data provides important insights into the productivity of the system, it is limited because it is only



available at the day and route levels. Therefore, it is not possible to quantify and assess vehicle passenger loads or the popularity of bus stops. On the other hand, stop-level ridership is timestamped with the exact time that the rider boarded or alighted the bus. Stop-level ridership data would assist STS in matching appropriate vehicle sizes with transit demand. It would also allow STS to prioritize bus stop amenities according to the number of boardings at a given stop. Some transit systems, such as Ben Franklin Transit in Washington state, are able to link stop-level boarding data to their online bus tracker websites and applications, thereby allowing riders to see if the next bus is at capacity.

There are a few technologies for STS to consider in order to have the ability to collect stop-level ridership data in the future. STS vehicles are already equipped with AVLs, which provide real-time location information. STS could leverage its existing AVL technology by linking it to electronic fareboxes. By integrating these two systems, electronic fareboxes would capture the exact location where a rider boarded the bus and which type of fare she or he paid (e.g. full fare, reduced fare, pass). This would be a prudent option for STS if the department intends to install electronic fareboxes. The estimated costs to integrate electronic fareboxes with AVL is \$18,000 for the entire system, which is less expensive than adding automated passenger counters (APC) as discussed later in this section.

A second option would be to utilize tablets coupled with ridership software to record stop-level boardings and alightings. This would be the lowest cost option if STS does not intend to install electronic fareboxes in the future. Tablets can range from as low as \$150 to \$2,000 per unit for a transit-specific mobile data terminal. STS would also need to pay for data plans in order for dispatch to receive data in real time. Although this would be a low-cost option, it would require drivers to manually count riders which can increase dwell times at stops.

The third option, and the most expensive, would be to equip the fixed-route fleet with APCs. APCs are used by large transit systems to count riders particularly when manual counting would be impractical given the large number of riders. APCs must be calibrated periodically to ensure accuracy and can sometimes differ from manual counts. After calibration, APCs can provide accurate to-the-minute data on boardings. Aside from calibrating the technology, APCs do not have any major routine associated maintenance besides cleaning the sensors weekly to ensure that they are accurate. APCs are a long-term option, particularly if ridership increases over the coming years. An added benefit of APCs is removing the counting responsibility from the drivers, so they can focus on other aspects of their job. According to the US Department of Transportation's Intelligent Transportation Systems Joint Program Office, each APC costs approximately \$8,000.

Should STS be interested in utilizing APCs, it is recommended that STS work with the Institute for Transportation Research and Education (ITRE) through their Urban Advanced Technology program. ITRE assists transit systems with identifying, procuring, and implementing appropriate technologies for APCs. When the APCs are procured through ITRE, their staff is onsite at the implementation setups and act as a translator between the technology provider and STS in order to offer advice on how to set up the technology to be the most successful for the system. ITRE can also continue to be involved after the implementation of the APCs and offer guidance on how to adjust settings and analyze the data.

In summary, stop-level ridership data would be of great value to STS in the future. This detailed data is useful for route planning and determining the appropriate vehicle type and size to deploy, which

can help reduce operating costs. STS can use stop-level data to make informed decisions about where to locate bus stop amenities based on the number of boardings. STS has a few technologies to choose from in order to realize these benefits.

Electronic Fareboxes



Example of a validator, Genfare Fast Fare-e

STS currently accepts cash and cashes using manual fareboxes. If STS continues to charge fares in the future, electronic fareboxes are recommended in order to improve efficiency, customer service, and the collection of ridership data required for making informed decisions on service changes. As discussed previously, electronic fareboxes may be coupled with AVLs to provide stop-level ridership data. Electronic fareboxes would reduce the staff burden of counting fares. Another important consideration is the ability to expand fare payment options for riders. Recent advancements in farebox technology allow riders to pay with cash, magnetic strip cards, smart cards, and smartphone applications.

There are several options for electronic fareboxes. One option would be to install a cashless farebox, or validator, which accepts magnetic stripe cards, smart cards, and smartphone applications.

The cards and electronic tickets offer an easy way to pay for a ride and speed up boarding times. The cards are reloaded with funds and can store value. Electronic tickets are typically purchased through the transit agency’s website or mobile application. This type of farebox is compact and does not require much space to install. However, this farebox would not accept cash or coins, limiting riders to non-cash fare options. At the same time, maintenance and associated costs are greatly reduced since the mechanical parts used to accept cash and coins are not required.



Example of a full featured farebox, Genfare Fast Fare

The second option is to select an electronic farebox that accepts new fare technologies while also continuing to accept cash and coins. While the most expensive option, the full featured farebox would offer the most flexibility to riders and not exclude riders who only pay with cash. An additional benefit of this option is that it counts and sorts the cash for the system, which reduces administrative expenses. This technology also provides an option to set up ride purchases online. If a rider has acquired a card, they can go online and use a credit or debit card to load funds onto their existing card. Electronic fareboxes require regular maintenance, which is typically performed when preventative maintenance is done on the transit vehicle. Electronic farebox vendors would train the service provider’s maintenance technicians on how to maintain the boxes properly. The indirect costs after installation would include maintenance and an optional software support plan.

ITRE can assist with the installation and maintenance of these fareboxes by training STS staff on how to operate and maintain them. Additionally, the fareboxes can be moved to other buses when



an old bus is retired. Some administrative time would be needed to keep track of new transit cards, to coordinate with local businesses, and to administer third party online payment system. However, additional staff time would be offset by not having to count fares manually.

Autonomous Vehicle Technology

Automated technology applications vary and are currently in different stages of development and deployment. Automated Driver Assist Systems (ADAS) are readily available technologies now that have been deployed by a handful of agencies that assist drivers with safety and operations. These are items such as lane departure warnings, camera mirrors, and heads up displays for drivers. Then there are automated shuttle systems, which are in pilot testing stages, and use technology to automate smaller feeder vehicles to transit stops. Lastly, with automated BRT systems, there is no development currently, and this stage of technology is extremely early. This is an area that should be noted for future accelerated development.

While the automated technologies may be on-vehicle, infrastructure improvements are anticipated to be needed as well to accommodate and enhance the vehicle technology. Connected technology at intersections, enhanced signing and striping, improve operations and maintenance facilities, and communications equipment are examples of infrastructure needs that are anticipated to support automated technologies in the future.

The benefits we anticipate with automated technologies in transit are focused primarily around improving safety, rider experience and operations. It is anticipated that automated technologies will in the future provide better safety for riders and the public, improve travel reliability of bus transit systems and provide more efficient and cheaper operations of bus services. The cons of the technology development are understanding how the technology can be deployed efficiently and safely, the cost of the technology, and new systems and how to work closely with stakeholders like labor unions to feel comfortable with the new technology applications.

Automated systems vary in cost, and through a consortium of research partners, hopefully the costs can be better defined related to the different automated applications as supplements to bus procurements. Currently there is not enough information to provide estimated costs of future buses, but researchers believe that there could be a potential for different procurement methods that might ease cost for transit operators to implement this technology.

5.9 Alternative Fuels

Over the last decade, transit systems across the world have started diversifying their fleets to include more alternative fuel vehicles. Diesel fuel, once the only fuel option for transit systems, has slowly been replaced because of advancements in alternative fuel technologies and growing concerns over climate change. The major alternative fuel options to replace diesel currently are compressed natural gas (CNG), diesel hybrid, battery-electric, liquefied natural gas (LNG), and propane. As part of the 20-year planning process, it is essential to investigate alternative fuel options for Salisbury's fleet replacement cycle in the coming years in order to decrease expenses and its carbon footprint. There are a number of barriers to entry that can discourage systems from making the switch to an alternative fuel. While there are higher upfront capital costs associated with alternative fuels, the cost savings that occur over the life of the bus can save the system a substantial amount of money.



Hybrid Electric

In 2015, diesel hybrid buses made up 11.6 percent of the national bus share with 7,303 units in service. Hybrid diesel buses get approximately one mile more per gallon than a traditional diesel bus. Diesel buses average 3 to 3.5 mpg compared to 4 to 4.5 mpg for hybrids. This amount may seem insignificant but equates to a 25 percent reduction in fuel consumption. Hybrid diesel buses require no infrastructure upgrades and are an easy switch. The downside to hybrid buses are the additional upfront costs when purchasing the bus. The higher purchase price can often decrease fuel savings potential (APTA, 2017). Hybrid-electric buses do have higher upfront purchase prices, however federal grants can sometimes offset this cost. In a report by Iowa State, hybrid-electric bus prices can be 40 percent higher than conventional diesel buses (Hallmark, 2012).

A case study conducted on the King County Metro fleet found that hybrid diesels had higher associated maintenance costs compared to traditional diesel buses. This is because there are higher costs associated with hybrid system repairs as the bus ages. In some cases, the hybrid system has to be replaced completely, which can be a costly repair (California EPA, 2016).

Electric

Battery electric buses (BEB) are gaining momentum in the transit industry as technology improves. Electric buses do not emit any tailpipe emissions, are quiet, and have fewer moving parts. Federal grants have allowed many transit agencies across the country to purchase electric buses at subsidized rates. In North Carolina, three systems have secured federal funding for the acquisition of BEBs. There are high upfront costs when implementing electric buses into a system. BEBs have a limited range and when used throughout the day, need periodic charging. Charging stations have to be installed on routes so that buses can rapidly charge while in service. Bus garages also have to be outfitted with charging equipment so that the electric fleet can completely recharge while not in service. Currently, there are two charging technologies: rapid charging and slow charging. Rapid charging uses smaller batteries that charge quickly and would need to be charged while the bus is in service. BEBs with rapid charging have an average range of 41 miles before needing to recharge. Slow-charging buses have larger batteries that have a range that can potentially power the bus throughout an entire service day. This method, however, requires long charging periods that are usually done when the bus is not in service. The typical range on a 40-foot slow-charging bus is 130 miles (Carnegie Mellon University, 2017).

As the market share grows and technology continues to improve, the BEB industry will continue to grow and become a more viable option that requires less upfront investment. In addition to lower operating costs, BEBs also have lower associated maintenance costs because there are fewer moving parts on the vehicle. With no combustible engine, there are less chances of mechanical failures and breakdowns. Battery life is another factor to consider with BEBs. Currently, battery life is unknown; however, many manufacturers like Proterra have 12-year battery warranties. Proterra, one of the largest electric bus manufacturers in the world, advertises that their buses have a useful life of 18 years compared to the FTA standard of 12. Proterra is the manufacturer that was chosen by several North Carolina systems including GoTriangle, Asheville Redefines Transit, and Greensboro Transit Authority (Proterra, 2016).

A study conducted by Carnegie Mellon found that BEBs can almost quadruple the fuel economy of a bus. Additionally, in North Carolina, a diesel bus would need to get 14.7 miles per gallon to compete with a BEB. While there are still global warming emissions associated with a BEB (due to electricity



generation), in North Carolina, three BEBs emit the same emissions as one diesel bus (Carnegie Mellon University, 2017). In another study conducted on BEB fuel economy related to diesel buses, BEBs get 2.02 kWh per mile. In terms of electricity cost, this kWh measurement equates to fueling a diesel bus that gets approximately 18.8 miles per gallon. This means that fuel costs are also reduced to a third of what they would be if operating on diesel (O'Dea, 2018).

CNG and LNG

The American Public Transportation Association reported in 2015 that 18.1 percent of the US bus inventory utilized CNG fuels and 0.9 percent utilized LNG. From 2010 to 2015, natural gas transit vehicles increased 25.1 percent (APTA, 2017). Natural gas is a relatively stable fuel that has a low cost and lower price volatility. Natural gas is 98 percent domestic, which helps drive this stability and low fuel costs. There are infrastructure upgrades associated with converting to natural gas. A fueling station would have to be installed in order to accommodate the new fuel. In Salisbury, there is an existing natural gas line in the vicinity of the STS maintenance facility. The natural gas line is on the opposite side of the railroad tracks (south side) along West Kerr Street. A CNG fueling facility could be located on the south side of the railroad tracks to avoid the costs and complexity of routing a natural gas line under the railroad.

There are two types of fueling stations that can be constructed: time-fill and fast-fill. Time-fill stations are designed for vehicles that have a longer fueling window. Vehicles are filled directly from the compressor and not a storage tank. Because the vehicles are directly filled from the compressor, no storage tanks are needed, and a smaller compressor can be used, which translates to a cost savings. Fast-fill stations fuel vehicles from high-pressure storage tanks or from a high-pressure compressor. Based on the STS current fleet size and taking into consideration future fleet size, a small time-fill station would be best suited for the system. According to the department of energy, constructing a small time-fill station that can fill between 10 and 20 buses would cost between \$250,000 and \$500,000 (US Department of Energy, 2014).

Natural gas buses have lower nitrous oxide emissions and higher carbon monoxide emissions compared to diesel buses. Natural gas buses tend to get lower fuel economy compared to diesel buses, which causes higher carbon emissions generally. In terms of fueling spills, natural gas does not spill, but instead dissipates in the air, which is beneficial for soil and groundwater. In a study conducted by MJ Bradley and Associates, in terms of greenhouse gas emissions (GHG), hybrid buses were more efficient than both natural gas options and diesel (MJ Bradley and Associates, 2013).

Propane

Propane fuel is one of the less common fuel options for large transit vehicles. In 2015, propane vehicles comprised 0.4 percent of all US transit vehicles (APTA, 2017). There are several benefits to using propane. There are lower tailpipe emissions compared to diesel fuel and less environmentally damaging costs associated with burning propane fuel. Converting to propane fuel would require new fueling infrastructure, but propane fueling stations are less costly to install compared to natural gas fueling stations. Because propane is not as popular of an alternative fuel for transit vehicles, there are fewer studies that have been conducted.

Danville Transit, a system identified in the peer analysis in Section 2.5, is in the process of converting its entire fleet to propane. Their goal is to have half of the fleet converted to propane by



the end of this fiscal year. The director, Mark Adelman, stated that there are lower maintenance costs with propane fueled vehicles and therefore, there were fewer breakdowns and road calls.

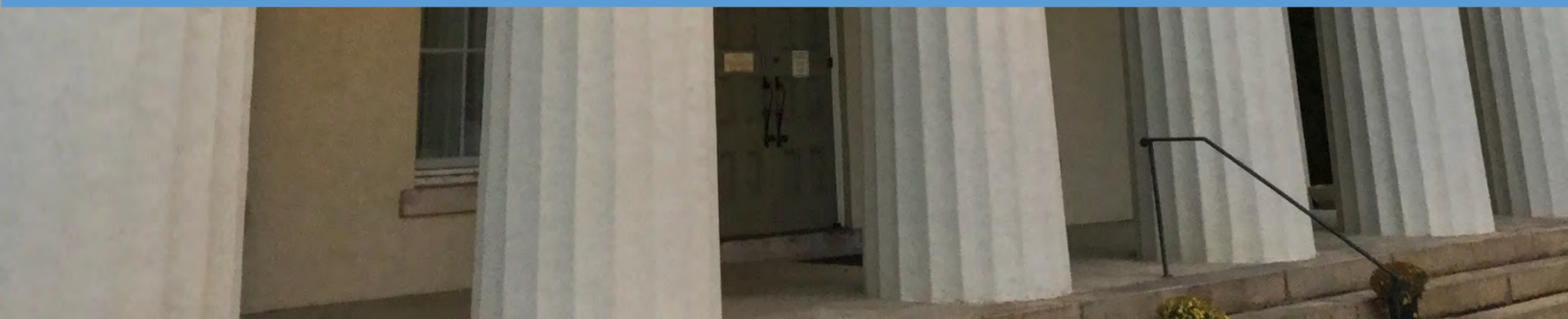
It is recommended that STS investigate the implementation of electric buses. While there are higher upfront costs associated with BEBs, the long-term savings could be used to bolster other aspects of the service. Additionally, as technology rapidly changes, BEBs will continue to decrease in cost, which would equate to a quicker breakeven point on the purchase. Table 5-10 provides a comparison of pros and cons related to the four fuel technologies.

Table 5-10: Comparison of Fuel Technologies

Fuel Technology	Pros	Cons
Diesel	<ul style="list-style-type: none"> Existing technology Lowest purchase price 	<ul style="list-style-type: none"> High GHG emissions Fluctuating diesel prices
Hybrid-Electric	<ul style="list-style-type: none"> Better fuel economy No new infrastructure needed 	<ul style="list-style-type: none"> High bus purchase cost
Battery Electric	<ul style="list-style-type: none"> Low electricity cost No tailpipe emissions Lower maintenance costs 	<ul style="list-style-type: none"> High bus purchase cost Major infrastructure needed Low vehicle range
CNG/LNG	<ul style="list-style-type: none"> Low fuel costs that generally remain steady Bus prices are reasonable No fueling spills 	<ul style="list-style-type: none"> Major infrastructure needed High GHG emissions Lower per gallon fuel economy than diesel



Chapter 6.0
Funding the Plan





6.0 Funding the Plan

Chapter 6.0 discusses how the LRPT Master Plan could be funded through traditional and alternative funding sources. The estimated costs associated with the recommendations are presented in five scenarios, which provide Salisbury with different transit options and levels of investment.

6.1 Fare Analysis

The current STS base one-way fare is \$1.00, with a half fare of \$0.50 for senior citizens, persons with disabilities and Medicare card holders. The ADA paratransit system fare is \$2.00. Children under the age of five ride free and transfers are free. In crafting this LRPT Master Plan to guide future transit service over the next 20 years, a fare analysis was conducted. As discussed in Section 2.5, the fares of peer transit systems vary from \$0.75 (Apple Country Transit) to \$1.25 (Jacksonville Transit). Most systems charge a regular fare of \$1.00 per trip like STS does. The fare analysis considers the benefits and challenges of a fare-free system and also considers the implications of a fare increase.

Fare-Free System Alternative

Nearly 40 public transit agencies provide fare-free service across the United States according to *Transit Cooperative Research Program (TCRP) Synthesis 101: Implementation and Outcomes of Fare-Free Transit Systems* published in 2012. The largest fare-free system in the world is Chapel Hill Transit with an annual ridership of 7.5 million. However, many fare-free systems can be described as small urban systems like STS. Overall, fare-free systems tend to fit into three categories according to the TCRP study: small urban, resort communities, and university communities. Transit systems in large urban areas are not typically fare-free, due in large part to the significant revenue that higher ridership generates. Fare-free systems are easier to implement in cases where a system's total farebox revenue is relatively small and makes up a small portion of total operating expenses. In these cases, the farebox revenue may actually be equal to or close to the costs associated with producing fare media and collecting fares.

There are numerous benefits and challenges associated with implementing a fare-free system. One of the primary benefits is increased ridership due to the elimination of fares. Based on case studies contained in the TCRP study, ridership may increase by 20 to 60 percent. This is especially important to transit systems that have established ridership and operating subsidy goals. As ridership increases, the operating subsidy per rider decreases, which can result in a more effective and efficient transit system. By eliminating fares, transit agencies also save staff and financial resources related to producing fare media, distributing and selling the media, collecting fares, and accounting for fares. This savings is also realized during the vehicle procurement process as fare collection equipment is no longer needed. Riders' travel times can be reduced as buses do not need to dwell as long at bus stops in order for riders to pay fares. Reduced travel times can, in turn, further increase ridership.

However, transit systems can also become victims of their own success. In systems with transit vehicles that are approaching capacity, even modest increases in ridership can cause overcrowding issues that necessitate more vehicles and drivers. Additional vehicles and drivers can dramatically increase the costs associated with becoming fare-free. For these reasons, many fare-free systems are small urban ones that have the vehicle capacity to handle increased ridership. In order to better understand vehicle capacity, it is recommended that STS collect boarding and alighting data at the



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stop level. This data can be used to build vehicle load profiles, which quantitatively show the number of riders on a bus at any given time. This type of analysis can provide STS with insights as to whether the existing vehicle fleet can sustain additional ridership or whether more vehicles and drivers may be necessary. According to ADA regulations, if the fixed-route system is fare-free then complementary paratransit fares must also be free. *FTA Circular 4710.1 Americans with Disabilities Act Guidance* provides the following guidance on this topic:

In cases where complementary paratransit riders are traveling between origins and destinations that are both within ¾ mile of a zero-fare route, and the typical fixed route user would make use of this zero-fare route to make a comparable trip, applying the § 37.131(c) maximum fare provisions means the complementary paratransit fare for this trip is also zero.

This is an important consideration for implementing a fare-free system as complementary ADA paratransit trips are more typically much more expensive than fixed-route trips. However, in the case of STS, the annual paratransit revenue of \$14,000 is not significant.

In the TCRP study, some transit providers reported that eliminating fares led to disruptive riders and loitering. However, many transit system managers said in interviews that this was not a significant problem and noted that bus drivers prefer to deal with a few more disruptive riders as a tradeoff to collecting fares. The TCRP study recommends that transit agencies work with municipalities to develop local ordinances giving them the authority to deal with disruptive riders. Lastly, the political will of the local community is another important consideration for fare-free systems. As a city department, the support of the Salisbury City Council would be necessary for implementing this change as would the support of the TAB. It is important to demonstrate to local leaders and elected officials the benefits of a fare-free system, particularly in providing mobility to all residents as a critical service for accessing employment and services. In turn, fare-free systems help communities in attracting new residents, businesses, and designations such as “best places to live.” Table 6-1 summarizes the benefits and challenges associated with fare-free systems.

Table 6-1: Fare-Free Benefits and Challenges

Benefits	Challenges
<ul style="list-style-type: none"> Increased ridership: case studies indicate increases between 20 and 60 percent 	<ul style="list-style-type: none"> Increased ridership may lead to overcrowding necessitating additional vehicles and drivers
<ul style="list-style-type: none"> Eliminates staff and financial costs associated with producing fare media, distributing and selling the media, collecting fares, and accounting for fares 	<ul style="list-style-type: none"> Transit agency must secure additional funds to make up for fare revenue unless the cost savings from not collecting fares is equal to fare revenue
<ul style="list-style-type: none"> Reduces barriers to mobility in the community 	<ul style="list-style-type: none"> ADA trips, which are more expensive to provide, must also be fare-free as required by law
<ul style="list-style-type: none"> Reduces the operating subsidy per rider 	<ul style="list-style-type: none"> May increase the number of disruptive riders and loitering
<ul style="list-style-type: none"> Shortens dwell time at bus stops leading to reduced travel times 	<ul style="list-style-type: none"> Requires political and stakeholder support
<ul style="list-style-type: none"> Helps achieve transit system goals of increased ridership and lower operating subsidies 	
<ul style="list-style-type: none"> May increase federal and state funding allocations if funding formulas are based on ridership 	

Source: TCRP Synthesis 101, 2012.



The financial impact associated with STS transitioning to a fare-free system was estimated by considering recent trends in farebox revenues and ridership. STS farebox revenues as a percentage of operating expenses, referred to as the farebox recovery ratio, have decreased over the past three fiscal years. According to NCDOT OpStats reports, the fixed-route farebox recovery ratio decreased from 7.6 percent to 6.1 percent while the paratransit farebox recovery ratio decreased from 16.5 percent to 13.7 percent. The paratransit farebox recovery ratio is larger because the paratransit fare is \$2.00 whereas the regular fixed-route fare is \$1.00. The declining trend in farebox recovery ratios suggests that the financial impact of forgone farebox revenue in a fare-free system would not be as great, compared to STS's current fare structure.

Estimating potential changes in ridership under a fare-free scenario is not an exact science and is difficult due to limited data on the subject. However, *TCRP Report 95: Transit Pricing and Fares*, reviewed the ridership data of 12 fare-free demonstration projects, which was applied to STS fare-free ridership scenarios. Riders are sensitive to changes in fare prices, which is measured by the concept of "elasticity." Elasticity is defined as "the percentage change in consumption resulting from a one-percent change in price, all else held constant" (Littman, 2018). *TCRP Report 95* reports that the average fare elasticity for fare-free transit systems during off-peak hours is 0.28 and 0.36 during all hours of operation. These two fare elasticities provided a low and high range for the STS fare-free ridership scenarios. In the low scenario, fixed-route ridership may increase from approximately 150,000 annual trips to 191,000 trips, and in the high scenario to 244,000 trips. Applying the same elasticities to paratransit, ridership may grow from approximately 8,400 annual trips to 11,000 under the low scenario and to 14,000 under the high scenario.

Increase Fare Prices

STS has been able to maintain its fare structure for a number of years. The general fare is \$1.00 and reduced rides are \$0.50. STS could increase fares by \$0.50, however, it would not provide a significant source of revenue. Approximately \$36,000 a year could be earned through increased fare options given current ridership numbers. However, with fare increases, ridership usually decreases by about 6 percent. With lower ridership numbers the increased revenue could be lower at approximately \$29,800 annually. This loss in ridership would take away from the benefit of raising fare prices.

Currently, there are a few similar systems that follow a similar fare system. Cabarrus County Transit charges \$1.25 for local routes and reduced fares are \$0.60. Tar River Transit of Rocky Mount, NC also charges \$1.25 a ride with reduced fares being \$0.60. There are several comparable systems in North Carolina that charge the same as STS currently on a per ride basis. Winston Salem Transit, Greenville Area Transit, and Wilson Transit charge \$1.00 a ride and \$0.50 for a reduced fare ride. All five systems mentioned above offer discount pricing when rides are bought in bulk. If STS wants to increase fares, it is recommended that the system not raise fares more than \$0.50 and that they try to stay in line with other system's fare structure. Additionally, when fares are increased for public transportation, most systems try to increase fares at a time that service is being increased. For example, if fares need to be increased by \$0.50 sometime in the next few years, it is suggested that the increase coincide an improvement in service such as longer service hours, or increased frequency.



6.2 Funding Scenarios

Recognizing the existing funding limitations, the LRPT Master Plan includes five funding scenarios in order to provide the City of Salisbury with different transit options and levels of investment. The first scenario, Scenario A, is a cost neutral alternative that would allow Salisbury to implement some of the LRPT Master Plan improvements within the constraints of the existing budget. For example, STS would be able to operate Routes 1, 2, 3, 4, 5, and 8 but not implement microtransit.

The remaining four scenarios (B, C, D, and E) are considered full funding alternatives because they would require an additional investment in transit in order to implement them. The scenarios vary in terms of the level of transit service, coverage, and modes. They are intended to provide Salisbury with multiple options for improving transit over the next 20 years. The LRPT Master Plan estimates the additional investment required in the short, medium, and long-term phases for each scenario. It is important to note that federal, state, and alternative local funding sources may be available to supplement the local contribution towards the additional investment required. For example, partnerships with Catawba College, Livingstone College, and RCCC may generate contract revenue that could support the college transit services. Additionally, regional routes may be funded in partnerships with the municipalities and counties they serve so that Salisbury is not unfairly burdened with funding regional services alone. As discussed in Section 3.5, Spencer and East Spencer could contribute towards the operating expenses associated with the specific routes and ADA complementary paratransit service that serve these two municipalities. The cost share may be based on the percentage of fixed-route revenue hours and paratransit service area within Spencer and East Spencer. Specific sources of potential funding are detailed later in this chapter.

All scenarios are based on the *City of Salisbury Adopted Budget FY 2018 to FY 2019* to determine the base costs and revenues for STS. An annual inflation rate of 1.9 percent is used in each scenario, and is applied to base costs, base revenues, and estimated costs of recommendations. Estimated costs for transit service recommendations are predicated on the operating costs per hour of fixed-route (\$55.59) and demand response service (\$16.74), adjusted for inflation. A brief summary of each scenario is provided below while Table 6-2 on the next page compares the five scenarios in detail.

- **Scenario A** would be cost neutral and would include Routes 1, 2, 3, 4, 5, and 8 with limited service. Microtransit, college transit services, and regional routes in addition to Regional Route 100 would not be included. Estimated costs for Scenario A are presented in Table 6-6 (page 6-9) and a system map is shown on Figure 6-1 (page 6-10).
- **Scenario B** would include Routes 1, 2, 3, 4, 5, and 8 with Microtransit Zones 1 and 2. Estimated costs for Scenario B are presented in Table 6-7 (page 6-11) and a system map is shown on Figure 6-2 (page 6-12).
- **Scenario C** would include Routes 1 through 8 with Microtransit Zones 1 and 2. Estimated costs for Scenario C are presented in Table 6-8 (page 6-13) and a system map is shown on Figure 6-3 (page 6-14).
- **Scenario D** would include Routes 1 through 4 with Microtransit Zone 3. Estimated costs for Scenario D are presented in Table 6-9 (page 6-15) and a system map is shown on Figure 6-4 (page 6-16).
- **Scenario E** would include Routes 1 through 4 and 6 with Microtransit Zone 3. Estimated costs for Scenario E are presented in Table 6-10 (page 6-17) and a system map is shown on Figure 6-5 (page 6-18).



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Table 6-2: Summary of Scenarios

	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Fixed-Route Service	Routes 1-5, 8	Routes 1-5, 8	Routes 1-8	Routes 1-4	Routes 1-4, 6
Microtransit Zones	Not Included	Zones 1 & 2	Zones 1 & 2	Zone 3	Zone 3
Microtransit Operator	Not Included	Full funding scenarios are based on contracted service provider			
Municipalities Served	Salisbury	Salisbury	Salisbury Spencer East Spencer	Salisbury	Salisbury Spencer East Spencer
Regional Service	Route 100 – Kannapolis (Rowan Express)	Full funding scenarios include regional routes: <ul style="list-style-type: none"> • Route 100 – Kannapolis (begins in Short-Term phase) • Route 200 – Lexington (begins in Medium-Term phase) • Route 300 – Rockwell (begins in Long-Term phase) • Route 400 – Statesville (begins in Long-Term phase) 			
Administration	No additional positions	Full funding scenarios include additional positions: <ul style="list-style-type: none"> • Transportation Planner (1) • Transportation Route Supervisors (2) • Mobility Manager (1) • Mechanics (1 full-time, 1 part-time) • Bus Drivers (dependent on scenario) • Dispatchers (2) and Scheduler (1) if STS operates microtransit services directly 			
Capital	Only replacement vehicles	Full funding scenarios include: <ul style="list-style-type: none"> • Annual amenities budget • Bus Tracking Software & Rider Application • On-site fueling facility (Medium-Term) • Electronic fareboxes and improved data collection • Necessary expansion vehicles • Three vans for the Rideshare Program 			
Service Enhancements	Not Included	Full funding scenarios include phased-in service enhancements: <ul style="list-style-type: none"> • Extended operating hours to 11 pm on weekdays (begins in Medium-Term phase) • Increased peak frequency on weekdays from 7 am to 9 am and 4 pm to 6 pm (begins in Long-Term phase) 			
College Services	Not Included	Full funding scenarios include Safe Ride Salisbury and RCCC Evening Service (beginning in the medium-term)			
Vanpool/ Rideshare	Not Included	Full funding scenarios include the mobility manager position and three vans in the short-term phase to support a vanpool/rideshare program.			



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The estimated costs of the five scenarios are summarized in the following tables by phase. The investment required is color coded to quickly identify the most and least expensive scenarios. Green indicates the lowest cost scenario while red shows the highest cost scenario.

Table 6-3: Summary of Estimated Costs in the Short-Term Phase (FY 2020)

Budget Item	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Fixed-Route Service	\$619,000	\$806,000	\$1,208,000	\$403,000	\$604,000
Microtransit Service	\$0	\$223,000	\$223,000	\$334,000	\$334,000
ADA Paratransit	\$272,000	\$263,000	\$302,000	\$242,000	\$275,000
Regional Service	\$106,000	\$106,000	\$106,000	\$106,000	\$106,000
Administration	\$348,000	\$708,000	\$708,000	\$708,000	\$708,000
Capital	\$244,000	\$698,000	\$1,404,000	\$663,000	\$680,000
Total Expenses	\$1,589,000	\$2,804,000	\$3,951,000	\$2,456,000	\$2,707,000
Estimated Revenue	\$1,599,000	\$1,667,000	\$1,710,000	\$1,648,000	\$1,670,000
<i>STS Base Budget</i>	<i>\$1,598,000</i>	<i>\$1,598,000</i>	<i>\$1,598,000</i>	<i>\$1,598,000</i>	<i>\$1,598,000</i>
Investment Required*	\$0	\$1,137,000	\$2,241,000	\$808,000	\$1,037,000

Table 6-4: Summary of Estimated Costs in the Medium-Term Phase (FY 2025)

Budget Item	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Fixed-Route Service	\$681,000	\$1,071,000	\$1,699,000	\$566,000	\$850,000
Microtransit Service	\$0	\$424,000	\$424,000	\$580,000	\$580,000
ADA Paratransit	\$299,000	\$308,000	\$351,000	\$285,000	\$321,000
Regional Service	\$116,000	\$155,000	\$155,000	\$155,000	\$155,000
Administration	\$382,000	\$804,000	\$804,000	\$804,000	\$804,000
Capital	\$268,000	\$406,000	\$406,000	\$406,000	\$406,000
Total Expenses	\$1,746,000	\$3,168,000	\$3,839,000	\$2,796,000	\$3,116,000
Estimated Revenue	\$1,757,000	\$1,890,000	\$1,958,000	\$1,870,000	\$1,901,000
<i>STS Base Budget</i>	<i>\$1,755,000</i>	<i>\$1,755,000</i>	<i>\$1,755,000</i>	<i>\$1,755,000</i>	<i>\$1,755,000</i>
Investment Required*	\$0	\$1,278,000	\$1,881,000	\$926,000	\$1,215,000

Table 6-5: Summary of Estimated Costs in the Long-Term Phase (FY 2030)

Budget Item	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Fixed-Route Service	\$748,000	\$1,380,000	\$2,276,000	\$758,000	\$1,137,000
Microtransit Service	\$0	\$464,000	\$464,000	\$637,000	\$637,000
ADA Paratransit	\$329,000	\$339,000	\$386,000	\$314,000	\$353,000
Regional Service	\$128,000	\$273,000	\$273,000	\$273,000	\$273,000
Administration	\$420,000	\$884,000	\$884,000	\$884,000	\$884,000
Capital	\$295,000	\$2,206,000	\$3,212,000	\$563,000	\$1,395,000
Total Expenses	\$1,920,000	\$5,546,000	\$7,495,000	\$3,429,000	\$4,679,000
Estimated Revenue	\$1,931,000	\$2,098,000	\$2,194,000	\$2,070,000	\$2,110,000
<i>STS Base Budget</i>	<i>\$1,929,000</i>	<i>\$1,929,000</i>	<i>\$1,929,000</i>	<i>\$1,929,000</i>	<i>\$1,929,000</i>
Investment Required*	\$0	\$3,448,000	\$5,301,000	\$1,359,000	\$2,569,000

* Federal, state, and alternative local funding sources may be available to supplement the local contribution towards the additional investment required.



Scenario A (Cost Neutral)

Scenario A identifies service improvements that could be implemented in a cost-neutral manner. The scenario maintains the current STS budget and adjusting future base costs and revenues for inflation. There are two options for maintaining a cost neutral budget. The first option would be to continue operating the three fixed-routes and providing the required ADA complementary paratransit service as is done today. However, this option would not address the future transit needs identified through the public engagement process such as serving additional origins and destinations, enhancing connections with regional services, or providing employees with a rideshare program. The second option is to implement Routes 1 through 5 and 8 which would achieve the following objectives:

- Add transit service to Holly Leaf Apartments, Meadowbrook Drive, and Salisbury Marketplace Shopping Center
- Better serve Catawba College with a bus stop on campus (Summit Avenue)
- Enable connections between routes at Harris Teeter, RCCC, and West End Plaza without having to connect at the Depot Transfer Site
- Improve route schedules where all routes pulse on the hour
- Provide a direct connection to the VA Hospital
- Reduce layover times for connections with the regional route to Kannapolis
- Serve the Social Security Administration with two route options

However, it is important to understand that Scenario A would not provide transit service to Spencer or East Spencer. The current Route 3, which serves Spencer and East Spencer, is the highest performing STS route (refer to the route fact book in Section 3.3). Unfortunately, the transit service objectives within Salisbury listed above cannot be achieved while also serving Spencer and East Spencer unless there is an additional investment made in transit.

Routes 1, 2, 3, and 4 would operate from 6 am to 7 am on weekdays once an hour and from 9:30 am to 3:30 pm on Saturdays every two hours. In order to remain cost neutral, Scenario A would have Route 5 operating from 6 am to 6 pm on weekdays, once an hour. Route 8 would introduce new service to Jake Alexander Boulevard and provide an important crosstown connector. It would operate twice in the morning and twice in the afternoon from 7 am to 5 pm on weekdays. Route 8 would not operate on Saturdays. This level of service is less than ideal but remains cost neutral. The full funding scenarios would include hourly service and weekend service for Route 8. The ADA complementary paratransit service area would be reduced by approximately 22 percent in Scenario A as a result of discontinuing service to Spencer and East Spencer. The FTA requires that ADA complementary paratransit service be provided within $\frac{3}{4}$ mile of fixed-routes.

Under the cost neutral scenario, the number of staff positions would remain the same. The vehicle fleet would not be expanded, but transit vehicles would be replaced when useful life criteria has been met. Microtransit and college transit services would not be provided nor would additional regional routes. Regional Route 100 to Kannapolis would continue to be operated. The budget for installing amenities at bus stops and Depot Transfer Site would remain the same as past amenity budgets. A “snapshot” of estimated annual costs is provided for the beginning year of each phase in Table 6-6 on the following page. Figure 6-1 on page 6-10 shows the paratransit service area and system map for cost neutral scenario.



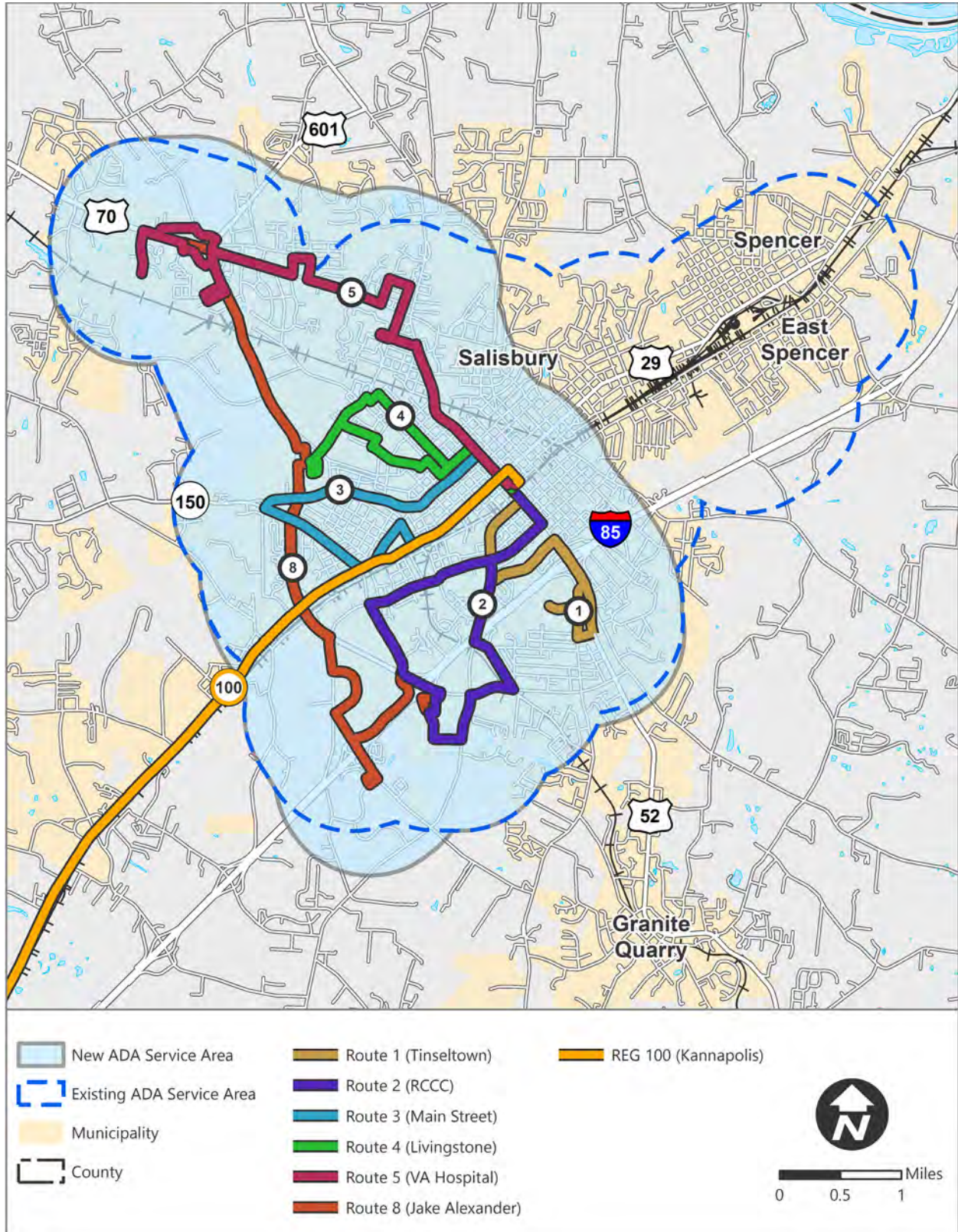
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Table 6-6: Estimated Costs for Scenario A

Budget Category	Short-Term FY 2020	Medium-Term FY 2025	Long-Term FY 2030
Total Revenue	\$1,599,000	\$1,757,000	\$1,931,000
Fixed-Route Additional Revenue	\$1,000	\$2,000	\$2,000
Microtransit Additional Revenue	\$0	\$0	\$0
Total Expenses	\$1,589,000	\$1,746,000	\$1,920,000
Fixed-Route Operations	\$619,000	\$681,000	\$748,000
Base Cost	\$606,000	\$666,000	\$731,000
Change in Fixed-Route Costs	\$13,000	\$15,000	\$17,000
Extended Weekday Operating Hours			
Frequent Peak Service			
Safe Ride Salisbury (fixed-route option)			
Microtransit Operations	\$0	\$0	\$0
Microtransit Service			
Extended Microtransit Operating Hours			
Safe Ride Salisbury (microtransit option)			
RCCC Evening Service			
ADA Complementary Paratransit	\$272,000	\$299,000	\$329,000
Base Cost	\$294,000	\$323,000	\$355,000
Change in Service Area	-\$22,000	-\$24,000	-\$26,000
Extended Evening Service			
Regional Service	\$106,000	\$116,000	\$128,000
Regional 100	\$106,000	\$116,000	\$128,000
Regional 200			
Regional 300			
Regional 400			
Administration	\$348,000	\$382,000	\$420,000
Base Cost	\$348,000	\$382,000	\$420,000
Transportation Planner			
Transportation Route Supervisor			
Mobility Manager			
Additional Mechanics			
Capital	\$244,000	\$268,000	\$295,000
Base Cost	\$244,000	\$268,000	\$295,000
Facilities			
Amenities			
Rideshare Vans			
Additional Fixed-Route Vehicles Required			
Bus Tracking Software & Rider Application			
Electronic Fareboxes/AVL Integration			
Investment Required*	\$0	\$0	\$0

* Federal, state, and alternative local funding sources may be available to supplement the local contribution towards the additional investment required.

Figure 6-1: Recommended System Map for Scenario A





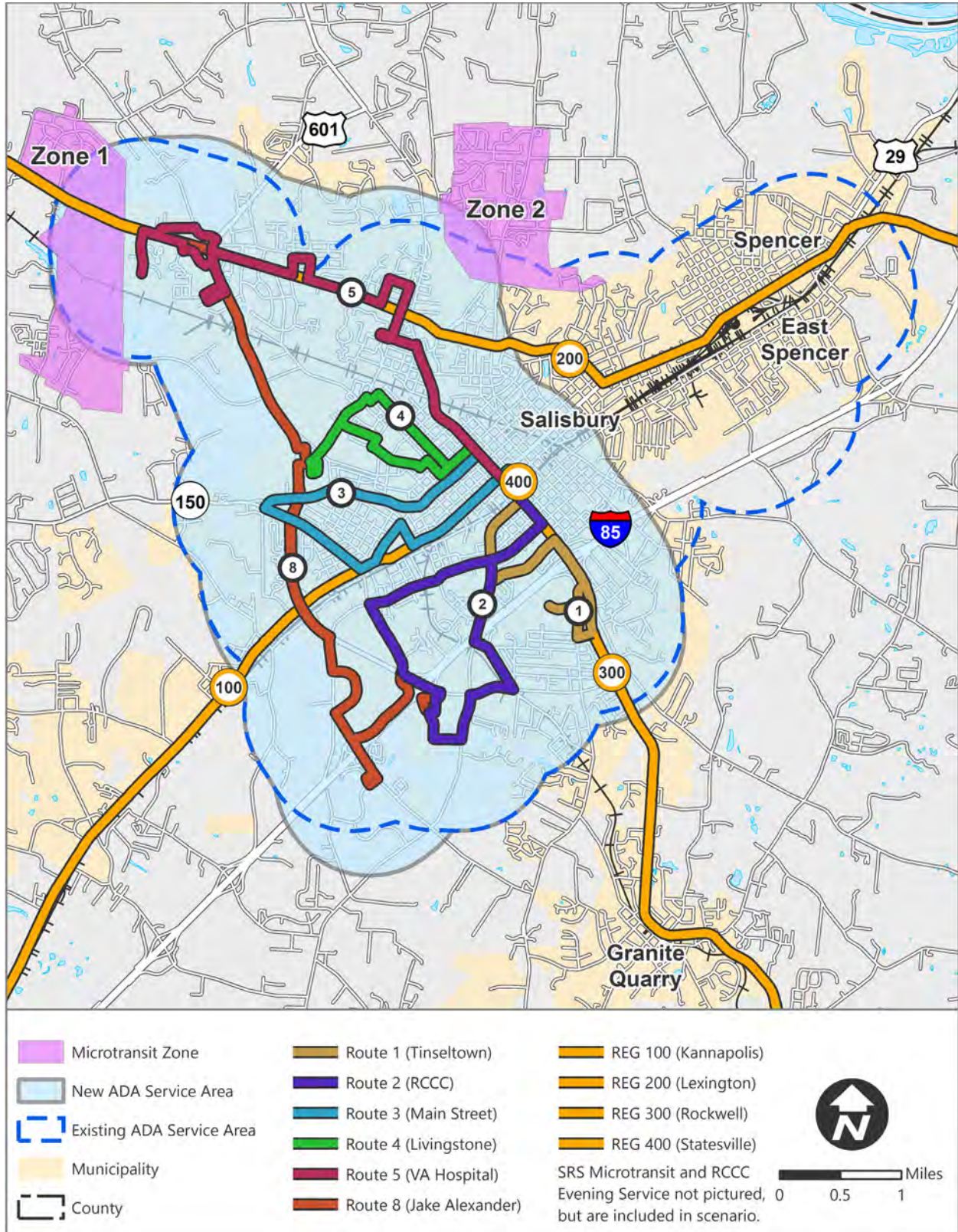
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Table 6-7: Estimated Costs for Scenario B

Budget Category	Short-Term FY 2020	Medium-Term FY 2025	Long-Term FY 2030
Total Revenue	\$1,667,000	\$1,890,000	\$2,098,000
Fixed-Route Additional Revenue	\$21,000	\$43,000	\$69,000
Microtransit Additional Revenue	\$48,000	\$92,000	\$100,000
Total Expenses	\$2,804,000	\$3,168,000	\$5,546,000
Fixed-Route Operations	\$806,000	\$1,071,000	\$1,380,000
Base Cost	\$606,000	\$666,000	\$731,000
Change in Fixed-Route Costs	\$200,000	\$219,000	\$241,000
Extended Weekday Operating Hours		\$186,000	\$204,000
Frequent Peak Service			\$204,000
Safe Ride Salisbury (fixed-route option)	See Microtransit	See Microtransit	See Microtransit
Microtransit Operations	\$223,000	\$424,000	\$464,000
Microtransit Service	\$223,000	\$245,000	\$269,000
Extended Microtransit Operating Hours		\$69,000	\$75,000
Safe Ride Salisbury (microtransit option)		\$41,000	\$45,000
RCCC Evening Service		\$69,000	\$75,000
ADA Complementary Paratransit	\$263,000	\$308,000	\$339,000
Base Cost	\$294,000	\$323,000	\$355,000
Change in Service Area	-\$31,000	-\$34,000	-\$37,000
Extended Evening Service		\$19,000	\$21,000
Regional Service	\$106,000	\$155,000	\$273,000
Regional 100	\$106,000	\$116,000	\$128,000
Regional 200	\$0	\$39,000	\$43,000
Regional 300	\$0	\$0	\$34,000
Regional 400	\$0	\$0	\$68,000
Administration	\$708,000	\$804,000	\$884,000
Base Cost	\$348,000	\$382,000	\$420,000
Transportation Planner	\$80,000	\$88,000	\$97,000
Transportation Route Supervisor	\$134,000	\$147,000	\$162,000
Mobility Manager	\$72,000	\$79,000	\$87,000
Additional Mechanics	\$74,000	\$108,000	\$118,000
Capital	\$698,000	\$406,000	\$2,206,000
Base Cost	\$244,000	\$268,000	\$295,000
Facilities		\$93,000	
Amenities	\$25,000	\$25,000	\$25,000
Rideshare Vans	\$165,000		
Additional Fixed-Route Vehicles Required	\$0		\$1,581,000
Bus Tracking Software & Rider Application	\$29,000	\$20,000	\$22,000
Electronic Fareboxes/AVL Integration	\$235,000		\$283,000
Investment Required*	\$1,137,000	\$1,278,000	\$3,448,000

* Federal, state, and alternative local funding sources may be available to supplement the local contribution towards the additional investment required.

Figure 6-2: Recommended System Map for Scenario B





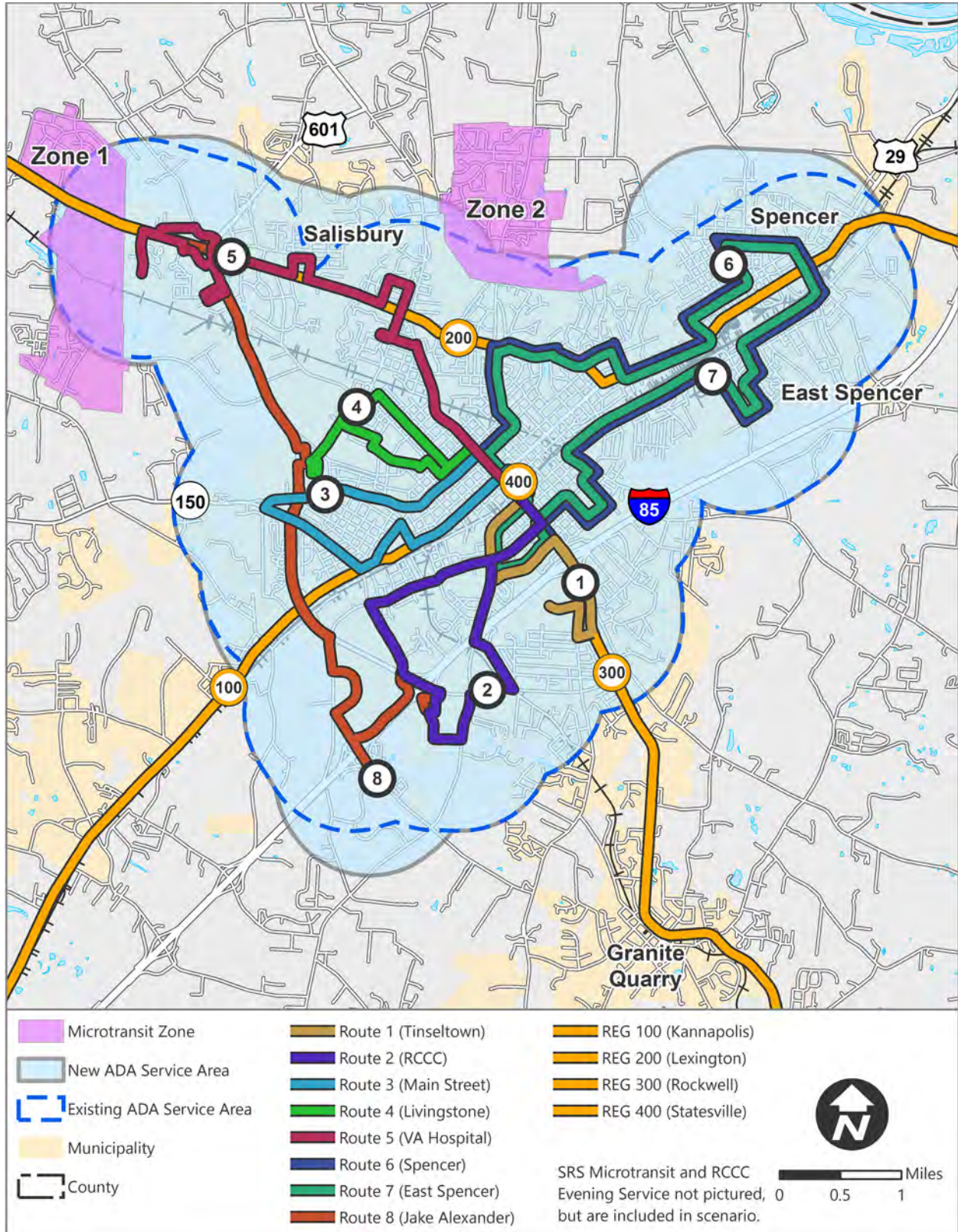
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Table 6-8: Estimated Costs for Scenario C

Budget Category	Short-Term FY 2020	Medium-Term FY 2025	Long-Term FY 2030
Total Revenue	\$1,710,000	\$1,958,000	\$2,194,000
Fixed-Route Additional Revenue	\$64,000	\$111,000	\$165,000
Microtransit Additional Revenue	\$48,000	\$92,000	\$100,000
Total Expenses	\$3,951,000	\$3,839,000	\$7,495,000
Fixed-Route Operations	\$1,208,000	\$1,699,000	\$2,276,000
Base Cost	\$606,000	\$666,000	\$731,000
Change in Fixed-Route Costs	\$602,000	\$661,000	\$727,000
Extended Weekday Operating Hours		\$372,000	\$409,000
Frequent Peak Service			\$409,000
Safe Ride Salisbury (fixed-route option)	See Microtransit	See Microtransit	See Microtransit
Microtransit Operations	\$223,000	\$424,000	\$464,000
Microtransit Service	\$223,000	\$245,000	\$269,000
Extended Microtransit Operating Hours		\$69,000	\$75,000
Safe Ride Salisbury (microtransit option)		\$41,000	\$45,000
RCCC Evening Service		\$69,000	\$75,000
ADA Complementary Paratransit	\$302,000	\$351,000	\$386,000
Base Cost	\$294,000	\$323,000	\$355,000
Change in Service Area	\$8,000	\$9,000	\$10,000
Extended Evening Service		\$19,000	\$21,000
Regional Service	\$106,000	\$155,000	\$273,000
Regional 100	\$106,000	\$116,000	\$128,000
Regional 200	\$0	\$39,000	\$43,000
Regional 300	\$0	\$0	\$34,000
Regional 400	\$0	\$0	\$68,000
Administration	\$708,000	\$804,000	\$884,000
Base Cost	\$348,000	\$382,000	\$420,000
Transportation Planner	\$80,000	\$88,000	\$97,000
Transportation Route Supervisor	\$134,000	\$147,000	\$162,000
Mobility Manager	\$72,000	\$79,000	\$87,000
Additional Mechanics	\$74,000	\$108,000	\$118,000
Capital	\$1,404,000	\$406,000	\$3,212,000
Base Cost	\$244,000	\$268,000	\$295,000
Facilities		\$93,000	
Amenities	\$25,000	\$25,000	\$25,000
Rideshare Vans	\$165,000		
Additional Fixed-Route Vehicles Required	\$655,000		\$2,545,000
Bus Tracking Software & Rider Application	\$29,000	\$20,000	\$22,000
Electronic Fareboxes/AVL Integration	\$286,000		\$325,000
Investment Required*	\$2,241,000	\$1,881,000	\$5,301,000

* Federal, state, and alternative local funding sources may be available to supplement the local contribution towards the additional investment required.

Figure 6-3: Recommended System Map for Scenario C





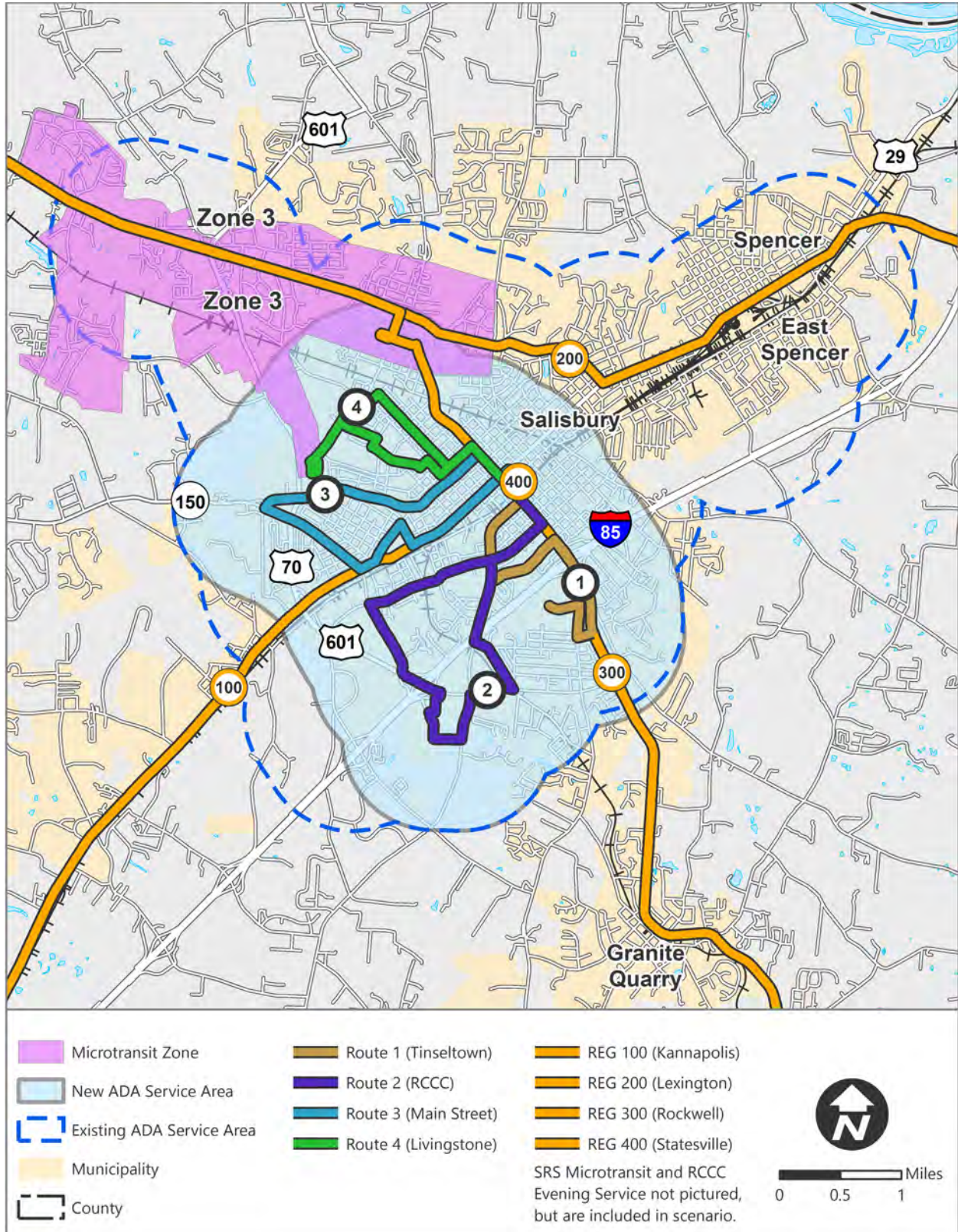
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Table 6-9: Estimated Costs for Scenario D

Budget Category	Short-Term FY 2020	Medium-Term FY 2025	Long-Term FY 2030
Total Revenue	\$1,648,000	\$1,870,000	\$2,070,000
Fixed-Route Additional Revenue	-\$22,000	-\$11,000	\$3,000
Microtransit Additional Revenue	\$72,000	\$126,000	\$138,000
Total Expenses	\$2,456,000	\$2,796,000	\$3,429,000
Fixed-Route Operations	\$403,000	\$566,000	\$758,000
Base Cost	\$606,000	\$666,000	\$731,000
Change in Fixed-Route Costs	-\$203,000	-\$224,000	-\$245,000
Extended Weekday Operating Hours		\$124,000	\$136,000
Frequent Peak Service			\$136,000
Safe Ride Salisbury (fixed-route option)	See Microtransit	See Microtransit	See Microtransit
Microtransit Operations	\$334,000	\$580,000	\$637,000
Microtransit Service	\$334,000	\$367,000	\$404,000
Extended Microtransit Operating Hours		\$103,000	\$113,000
Safe Ride Salisbury (microtransit option)		\$41,000	\$45,000
RCCC Evening Service		\$69,000	\$75,000
ADA Complementary Paratransit	\$242,000	\$285,000	\$314,000
Base Cost	\$294,000	\$323,000	\$355,000
Change in Service Area	-\$52,000	-\$57,000	-\$62,000
Extended Evening Service		\$19,000	\$21,000
Regional Service	\$106,000	\$155,000	\$273,000
Regional 100	\$106,000	\$116,000	\$128,000
Regional 200	\$0	\$39,000	\$43,000
Regional 300	\$0	\$0	\$34,000
Regional 400	\$0	\$0	\$68,000
Administration	\$708,000	\$804,000	\$884,000
Base Cost	\$348,000	\$382,000	\$420,000
Transportation Planner	\$80,000	\$88,000	\$97,000
Transportation Route Supervisor	\$134,000	\$147,000	\$162,000
Mobility Manager	\$72,000	\$79,000	\$87,000
Additional Mechanics	\$74,000	\$108,000	\$118,000
Capital	\$663,000	\$406,000	\$563,000
Base Cost	\$244,000	\$268,000	\$295,000
Facilities		\$93,000	
Amenities	\$25,000	\$25,000	\$25,000
Rideshare Vans	\$165,000		
Additional Fixed-Route Vehicles Required	\$0		\$0
Bus Tracking Software & Rider Application	\$29,000	\$20,000	\$22,000
Electronic Fareboxes/AVL Integration	\$200,000		\$221,000
Investment Required*	\$808,000	\$926,000	\$1,359,000

* Federal, state, and alternative local funding sources may be available to supplement the local contribution towards the additional investment required.

Figure 6-4: Recommended System Map for Scenario D





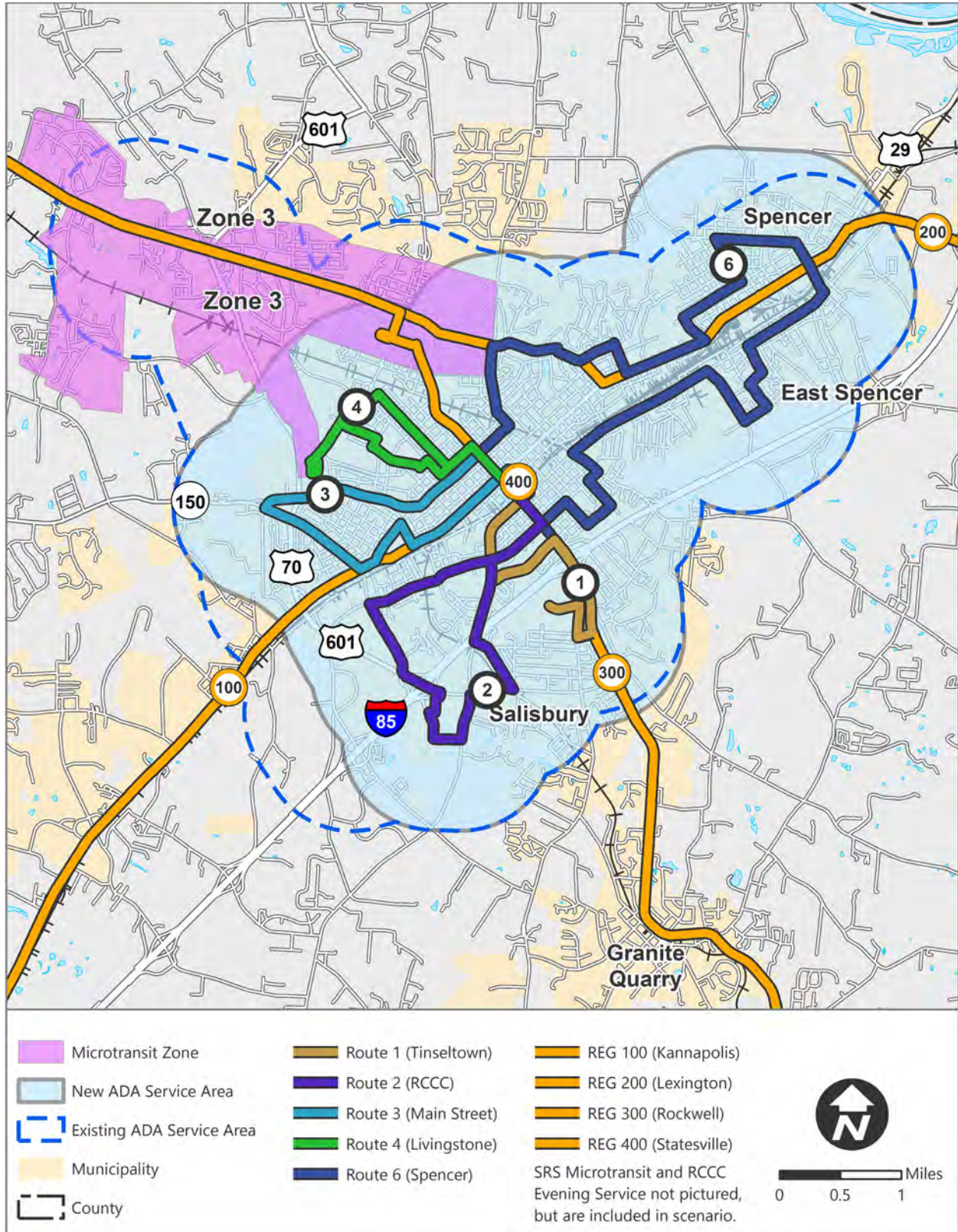
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Table 6-10: Estimated Costs for Scenario E

Budget Category	Short-Term FY 2020	Medium-Term FY 2025	Long-Term FY 2030
Total Revenue	\$1,670,000	\$1,901,000	\$2,110,000
Fixed-Route Additional Revenue	\$0	\$20,000	\$43,000
Microtransit Additional Revenue	\$72,000	\$126,000	\$138,000
Total Expenses	\$2,707,000	\$3,116,000	\$4,679,000
Fixed-Route Operations	\$604,000	\$850,000	\$1,137,000
Base Cost	\$606,000	\$666,000	\$731,000
Change in Fixed-Route Costs	-\$2,000	-\$2,000	-\$2,000
Extended Weekday Operating Hours		\$186,000	\$204,000
Frequent Peak Service			\$204,000
Safe Ride Salisbury (fixed-route option)	See Microtransit	See Microtransit	See Microtransit
Microtransit Operations	\$334,000	\$580,000	\$637,000
Microtransit Service	\$334,000	\$367,000	\$404,000
Extended Microtransit Operating Hours		\$103,000	\$113,000
Safe Ride Salisbury (microtransit option)		\$41,000	\$45,000
RCCC Evening Service		\$69,000	\$75,000
ADA Complementary Paratransit	\$275,000	\$321,000	\$353,000
Base Cost	\$294,000	\$323,000	\$355,000
Change in Service Area	-\$19,000	-\$21,000	-\$23,000
Extended Evening Service		\$19,000	\$21,000
Regional Service	\$106,000	\$155,000	\$273,000
Regional 100	\$106,000	\$116,000	\$128,000
Regional 200	\$0	\$39,000	\$43,000
Regional 300	\$0	\$0	\$34,000
Regional 400	\$0	\$0	\$68,000
Administration	\$708,000	\$804,000	\$884,000
Base Cost	\$348,000	\$382,000	\$420,000
Transportation Planner	\$80,000	\$88,000	\$97,000
Transportation Route Supervisor	\$134,000	\$147,000	\$162,000
Mobility Manager	\$72,000	\$79,000	\$87,000
Additional Mechanics	\$74,000	\$108,000	\$118,000
Capital	\$680,000	\$406,000	\$1,395,000
Base Cost	\$244,000	\$268,000	\$295,000
Facilities		\$93,000	
Amenities	\$25,000	\$25,000	\$25,000
Rideshare Vans	\$165,000		
Additional Fixed-Route Vehicles Required	\$0		\$791,000
Bus Tracking Software & Rider Application	\$29,000	\$20,000	\$22,000
Electronic Fareboxes/AVL Integration	\$217,000		\$262,000
Investment Required*	\$1,037,000	\$1,215,000	\$2,569,000

* Federal, state, and alternative local funding sources may be available to supplement the local contribution towards the additional investment required.

Figure 6-5: Recommended System Map for Scenario E





6.3 Traditional Funding Sources

In order to fund this LRPT Master Plan, the City of Salisbury will continue contributing local revenues in order to provide the necessary local match needed to acquire federal and state funding. NCDOT administers various Federal and State Aid Grant Programs to assist local public transportation systems. The City of Concord is the designated recipient of FTA funds for STS. Each FTA funding source requires a local match provided by the state or municipality.

Urbanized Area Formula Grant – FTA Section 5307 Program

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

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

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

FTA provides funding to eligible recipients for costs incurred in the *operation of public transportation service*. In general, operating expenses are those costs necessary to operate, maintain, and manage a public transportation system. Operating expenses usually include such costs as driver salaries, fuel, and items having a useful life of less than one year. Recipients in small UZAs, such as STS, may use Section 5307 funds for operating assistance. There is no limitation on the amount of their apportionment that recipients in these UZAs may use for operating assistance.

Established under MAP-21 and upheld by FAST Act legislation, the Section 5307 grant program also includes eligible activities from the Job Access and Reverse Commute (JARC) Program (formerly known as Section 5316), which focuses on providing services to low-income individuals to access jobs. These activities include operating assistance with a 50 percent local match for JARC



activities. In addition, the urbanized area formula for distributing funds now includes the number of low-income individuals as a factor. There is no minimum or maximum amount of funding that can be spent on JARC activities.

The local match required for the Section 5307 funding can vary from 10 percent to 50 percent depending on the type of project. The federal share for *planning and capital projects* that receive funding under the Section 5307 Program may not exceed 80 percent of the project cost. There are several notable exceptions in which the federal share may exceed 80 percent for certain projects related to ADA, Clean Air Act, and certain bicycle projects as follows:

1. Vehicles. The federal share is 85 percent for the acquisition of vehicles for purposes of complying with or maintaining compliance with the Americans with Disabilities Act of 1990 (ADA; 42 USC. 12101 et seq.) or the Clean Air Act (CAA; 42 USC. 7401 et seq.).
2. Vehicle-Related Equipment and Facilities. The federal share for project costs for acquiring vehicle-related equipment or facilities (including clean fuel or alternative fuel vehicle-related equipment or facilities) for purposes of complying or maintaining compliance with the CAA, or required by the ADA, is 90 percent.

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

Metropolitan Transportation Planning Program – FTA Section 5303 Program

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

Bus and Bus Facilities Program – FTA Section 5339

STS receives an annual FTA Section 5339 appropriation from the City of Concord, which can be used to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low or no emission vehicles or facilities. Section 5339 includes the Low and No Emissions Discretionary Program, which is a competitive grant to fund low or zero emission vehicles such as electric buses.

State Maintenance Assistance Program

SMAP Funds are a state funding source administered by the NCDOT PTD to provide operating assistance to urban, small-urban, and urban regional fixed route and commuter bus systems with low overhead and paperwork. Eligible uses of SMAP funds are limited to a system's operating costs as defined by the FTA C 9030.1E circular for the Federal Section 5307 program. Projects such as preventative maintenance and ADA which are defined as capital eligible expenses in federal grants are still eligible as operating expenses for SMAP.

SMAP has played a significant role in public transportation budgets throughout North Carolina and STS for several years. However, the state's budget bill for FY 2019 (House Bill 99) included a recurring reduction in the State Maintenance Assistance Program (SMAP) of approximately 26 percent between FY 2018 and FY 2019.

**NCDOT Combined Capital Program – Federal Section 5339 and others**

NCDOT acts as the designated recipient and administrator of the program funds for capital projects in the small urban and rural areas of North Carolina. This authority was established through legislative action as set forth in Article 2B of Chapter 136 of the North Carolina General Statutes. NCDOT PTD administers all applicable federal programs in accordance with the guidance published by the Federal Register and FTA circulars and in accordance with existing federal and state regulations pertaining to the administration of federal grants by NCDOT. PTD has established a Combined Capital program to allow small urban and rural systems the opportunity to apply for funding for capital projects on a single application. Through this combined program, PTD retains the flexibility to fund the approved projects with the type of funds which best suit the projects and manage the funds in the most efficient and effective manner. The Combined Capital application utilizes funds from the 5311, 5307, 5339 federal programs.

The Combined Capital Program is eligible for use towards replacement vehicles that have met their minimum useful life according to a schedule published by PTD. Expansion buses are not eligible for funding through this program.

Other Traditional Sources for Consideration

In addition to the federal and state funding sources outlined above, STS should consider applying for the following available competitive programs run by NCDOT to supplement transit activities.

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

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

Section 5310 funding is managed by NCDOT PTD. In accordance with federal rulemaking, PTD makes Section 5310 funding available to rural areas and small urban areas for operating projects through a specific Section 5310 Operating Program with its own application. Operating funds are available through this program only after Section 5310 Capital funding has been allocated, and are funded with a 50 percent local match requirement when available. Applications for this competitive program must demonstrate project value towards enhanced mobility for seniors and individuals with disabilities to include filling a gap in service to these populations or otherwise expanding their access through the service.

Urban Advanced Technology Grant Program

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



NCDOT PTD Mobility Management Program

NCDOT PTD considers applications for a competitive and limited mobility management grant program for regional systems. Applicants must complete a mobility management worksheet and budget sheet to submit with their application documents for consideration of funding. PTD only considers applications from multi-county or regional systems and will not fund a mobility management program that it determines duplicates efforts within the same geographic and/or service area. Although STS would not be eligible for this program at the current time, STS should monitor changes to this program eligibility or should apply if STS obtains eligibility in the future as a regional system.

NCDOT Urban State Match Program

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

6.4 Alternative Funding Sources

In order to supplement funding for STS, alternative sources of funding were investigated. Several sources would require county or municipal approval and would be generated through fees and taxes. It is recommended that STS choose one of these fee or taxing structures and create a campaign to implement it. Transportation bonds and a quarter cent sales tax would have to be approved by voter referendum while additional vehicle registration fees and rental car taxes would need approval from the local government. Depending on which source or sources are selected, the proposed funding source would need to be marketed to the public and show how the additional revenues would benefit the system. All four of these methods have a high administrative complexity because of the process required for approval. However, all four of these alternative sources have the potential to supplement the system revenues greatly and would benefit the system overall.

Two alternative funding sources are based on using existing infrastructure and facilities to earn additional income. Advertising on buses and bus shelters is a great way to generate revenues from infrastructure that is already in place. Another alternative funding source is contract revenue. This also would utilize the current system structure and would help boost fare revenues and ridership while also creating a community partnership.

Intercity Bus Program- Section 5311(f)

NCDOT PTD takes applications for grants that would provide daily intercity bus services. The program aims to develop an integrated statewide bus system and helps to fund intercity routes for up to two years. Full funding comes from federal Section 5311(f) as well as state and local funds to cover the net operating deficit of the intercity service. The net operating deficit is the operating cost after any fares, advertising revenues, and local funds have been deducted. The transit provider is responsible for staffing and vehicles. This program would allow Salisbury, or another transit agency in the area to create regional connections to areas such as Concord, Kannapolis, Charlotte,



Statesville, Lexington, and High Point. This funding would allow for two years of service and then the responsibility would fall on the local agencies.

Naming Rights/Advertising

There is great potential for advertising on STS buses. With buses constantly in transit throughout the service area, it is an effective way for businesses to gain visibility while supplementing STS revenues. Advertising can be outsourced to a transit advertising agency that specializes in finding transit sponsors. The agency would take care of all aspects of the advertising process and would coordinate with STS on what is acceptable to advertise on buses. STS would be responsible for creating an advertising policy that set parameters for the advertising agency to go by. If the system were to hire a marketing manager to run this program in house, the estimated salary for this position would be \$50,000 and would cut into the funds created through advertising. Therefore, it would be more cost effective to outsource. The most cost-effective means of advertising on STS would be exterior advertising. Banners on the sides of buses can bring in over \$300 a month. There is also space inside the bus that can be utilized for advertising. Currently, all advertisements inside Salisbury buses are public announcements from the city. Interior advertising space can bring in anywhere from \$75 to \$150 a month depending on size and interior location.

Another option for additional revenue would be for STS to sell bus shelter or bus route naming rights. A sponsor could pay a yearly fee to have its logo and name on a shelter or route. For example, if a business wanted to purchase rights to a stop and shelter, the stop would incorporate the business name and a sign would be placed there for advertising purposes. Naming rights and advertising could bring in \$500 a month depending on location and ridership at a stop or on a route. Many transit agencies focus these efforts on major employers and universities. In Salisbury, there are several colleges that could be reached out to as well as major employers like Food Lion. This could also be included in the bus advertising contract.

The advertising agency would pay STS on either an annual or monthly basis depending on the terms set forth in the contract. The expected revenue for this would be approximately \$30,000 to \$50,000 by going through an agency and would not require any administrative overhead on the part of STS other than the creation of the advertising policy. The amount of revenue generated is contingent on the number of sponsors secured. A reasonable goal for this program would be to secure ten sponsors for interior advertising, two sponsors for exterior advertising, and four sponsors for bus stops/bus routes.

Quarter Cent Sales Tax

In 2007, Tax Code Article 43 was amended to allow all counties in the State of North Carolina to levy a one quarter cent sales tax for public transportation purposes. The tax must go to the voters of the county to approve via an advisory referendum. In FY 2017, Rowan County collected \$24 million in sales tax revenues (Rowan County, 2018). This amount was collected through a 2.25 percent county-wide tax. It is anticipated that if the quarter cent sales tax passed voter approval, the tax could bring in over \$2.5 million annually. This is more than double the current budget of STS and having these funds would allow expansion into many parts of the county and improve overall service and operation. Through this tax, the system would also have the potential to be a fare-free system.

In order to get voter approval via the referendum, STS would need to communicate that some of the funds would be appropriated to projects throughout Rowan County that would not just benefit



existing transit users but would benefit everyone in the community. If 80 percent of the \$2.5 million went towards transit, it would double STS's budget and would allow for additional routes, longer service hours, and a more integrated system with regional connections. Additionally, another part of the revenues could be used for bike and pedestrian improvements that would enhance connectivity between transit and other modes of non-vehicular transportation. Another portion of the revenues from this sales tax could be used for corridor improvements. Road and signal improvements could help increase system efficiency and reduce wear and tear on transit vehicles.

Higher Vehicle Registration Fees

A vehicle registration fee for residents of Rowan County would be another alternative funding source that Rowan County may wish to consider, which could then be used to support STS services in the areas outside of the City of Salisbury jurisdiction. Currently in Wake, Orange, and Durham Counties, there is an additional vehicle registration fee of \$8, all of which goes to local transit agency within the county. In Randolph County, there is an additional \$1 registration fee for transit. The Randolph County model would be something that Rowan County could replicate. There are approximately 150,000 cars in Rowan County and by setting a transit fee at \$1, revenues would increase by \$150,000. Per the Rowan County Tax Office, approximately 10,000 to 15,000 vehicles are re-registered monthly. The annual \$1 fee would likely not be an undue burden. This revenue would be collected annually.

Rental Car Sales Tax

Several counties throughout North Carolina have a sales tax on all rental car transactions in the county, which is generally used for transit purposes. Wake County as well as Mecklenburg and Sampson Counties currently levy a 1.5 percent tax on all rented or leased vehicles. Additionally, GoTriangle levies a 5 percent tax on Wake, Orange, and Durham Counties. If Rowan County implemented a rental car tax of 1.5 percent, the projected revenues would be \$111,500 annually. This figure was derived from taking the tax revenue in each county for FY 2017 and dividing it by the total amount of dollars spent on tourism in each county for 2017. This percentage was then averaged between the three example counties. The percentage was then applied to the tourism dollars spent in Rowan County, which was \$174.79 million. In total, the averaged percentage multiplied by \$174.79 million equals approximately \$111,500.

Special User Transportation Contracts for STS Passes or Services

Special User Transportation Contracts are a way for local employers/institutions or entities to partner with transit agencies and buy passes in bulk at a reduced rate for its employees. Employers would have the option to either pay the entire cost of the fares or could subsidize the ride for employees in order to make transit a more competitive transportation option. Through these contracts, ridership would increase, and more fare revenues would be generated as more employees take advantage of the free or reduced rates. Businesses located close to routes would be targeted as natural partners at first, with the opportunity to expand to other businesses or entities within the service area that are interested. This program has the potential to be expanded each fiscal year and can start off with as small as one business in the first year. These types of arrangements have been very successful at community colleges, private housing facilities, and at corporate campuses.

Colleges may choose to create a specific student fee which would generate on-going revenue to provide an offset of operating expenses for transit services that specifically target their respective



student populations. Historically, some colleges support public transit through a “general fund” contribution, thus not utilizing the increased revenue needed through a student fee.

A dialogue with college administrators and student representatives should be convened to discuss levels of support and clarify expectations of the transit services. The common goal is to provide safe, efficient service to the college students, and generate a partnership approach with STS in a way that creates a sense of “community” around safe mobility options that can positively impact the students.

Transportation Bonds

Transportation bonds are an excellent way to generate extra revenues when there are specific capital projects in need of funding. In order to get approval, the bond has to be directed to a certain improvement or set of improvements and is a one-time revenue whereas the other fees and taxes would be received on an annual basis. Bonds can take time to implement due to needing voter approval and making sure that a campaign is established for the bond to educate the public on the benefits of the bond.

6.5 Cost-Benefit Analysis of Contracted Service Providers

With Salisbury being a small urban system, it is necessary to evaluate how a contracted service provider might benefit the entire system. Contracted service providers are becoming more common for public transit agencies across the country. While a contracted service is usually more expensive to operate, there is less agency involvement and the service provider can connect a transit system to resources that may have been previously unavailable. Contracted service providers can draw on technical expertise from their national experience, handle the day-to-day operations, and depending on costs, offer more staff hours.

As every system has different levels of service and resources, there are different contract options. The first option is the turnkey model in which the contractor provides the staff, management, and capital. The only responsibility of the transit agency is to oversee the contract, which is normally a role for one staff member. This option is beneficial if Salisbury decides that they no longer want to operate the system directly and prefer to be removed from day-to-day operations. The contractor would staff the system, bring its own vehicles, and provide management and mechanics. The second option is to contract out the management positions. The contractor manages the City of Salisbury drivers, assists with strategic planning for the system, and runs day-to-day operations. The transit agency would still be responsible for the capital and staffing of the system. This option would be beneficial for Salisbury if there is management turnover, or if there are no city staff to manage the system. Another model allows for the contracting company to employ staff at all levels while the transit agency owns the capital. Essentially, the contractor provides the management and staff and operates agency-owned vehicles and equipment. The contractor can be responsible for maintenance and fueling of vehicles as well.

In general, contracting out part or all of a service can be beneficial in some cases for transit systems depending on the current challenges that the system faces. If a system is having difficulties with staffing turnover, a contracted service can help alleviate this issue. Additionally, if a system has aging infrastructure and vehicles and cannot afford replacements, a contracted service can provide this new capital instead of the transit system having to make a large capital investment at one time. A small urban system can expect a 9 percent increase in the operating cost per hour after contracting



CITY OF SALISBURY

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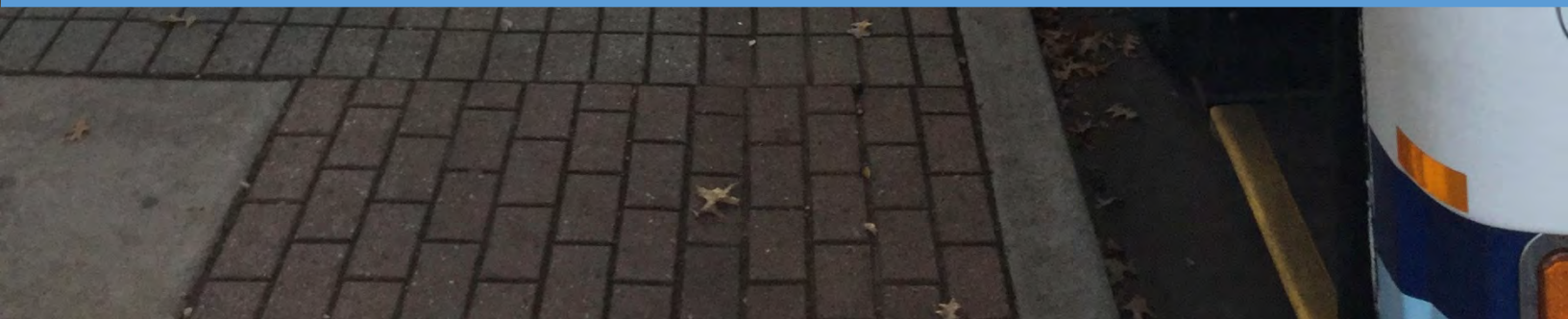
out the service, which is based on the experience of neighboring small urban system Rider in Cabarrus County.

There are some downsides to contracting out transit service. The most significant challenge depending on the level of contract, is having less control over complaints and level of service. Local transit agencies are invested in their communities and care about their riders and rider satisfaction. With a contractor, there is less connection to the community and therefore, issues such as complaints may not be handled in the same way as they would be with the transit system. Additionally, quality of service is not as directly controllable. The quality of the overall service, including customer service and on-time performance is dependent upon service provider. While many contracted service providers try to hire existing employees and employ people within the community, many contractors do not pay as well and do not have benefits that many local governments can provide. Contractors are not held to the same employment standards as a local transit agency would and therefore can hire and fire as they see fit.



Chapter 7.0

Implementing the Plan

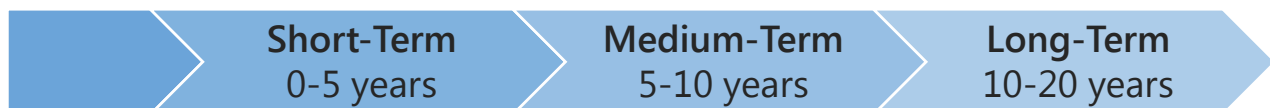


7.0 Implementing the Plan

Implementing the LRPT Master Plan over the next 20 years will require continual investment on the part of STS staff, City Council, and the greater community. The success of regional connections will depend on the participation of the municipalities and counties that would be served by the regional routes. However, that investment has the potential to translate into real benefits for Salisbury residents in terms mobility and access to opportunities.

The LRPT is intended to serve as a guide for Salisbury as it continues to grow and address its mobility challenges in the future. Therefore, the LRPT presents a wide array of transit options in the form of scenarios for the community to choose based on available funding and capacity. An initial step will be to determine which of the five scenarios Salisbury would like to pursue. Salisbury may also tailor the scenarios further in response to changing conditions in the community during the planning horizon. Budgetary, administrative, and capital decisions will follow based on the chosen scenario. A general plan for LRPT implementation is presented in Figure 7-1. Color-coded icons denote applicable implementation steps for each scenario.

Figure 7-1: Implementation Plan



City Fixed-Route Service

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	Introduce Routes 1, 2, 3, 4, 5 and 8	Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	
B	Introduce Routes 1, 2, 3, 4, 5 and 8	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	Increase frequencies on fixed-routes to 30 minutes during the weekday peaks: 7 am to 9 am / 4 pm to 6 pm
C	Introduce Routes 1, 2, 3, 4, 5, 6, 7, and 8	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	Increase frequencies on fixed-routes to 30 minutes during the weekday peaks: 7 am to 9 am / 4 pm to 6 pm
D	Introduce Routes 1, 2, 3, and 4	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	Increase frequencies on fixed-routes to 30 minutes during the weekday peaks: 7 am to 9 am / 4 pm to 6 pm



E	Introduce Routes 1, 2, 3, 4, and 6	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	Increase frequencies on fixed-routes to 30 minutes during the weekday peaks: 7 am to 9 am / 4 pm to 6 pm
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Microtransit Service

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	Microtransit service not included in Scenario A		
B C	Implement Zones 1 & 2 (Country Club Hills, Food Lion Warehouse, Westcliff)	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	Reevaluate land use and development patterns to identify new microtransit service needs
D E	Implement Zone 3 (Catawba College, Food Lion Warehouse, Meadowbrook Drive, VA Hospital, Westcliff)	Extend weekday operating hours to 11:00 pm Modify Saturday service to: 8 am to 11 am / 1 pm to 4 pm	

College Transit Service

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	College transit service not included in Scenario A		
B C D E	Form partnerships with Catawba College, Livingstone College, and RCCC to operate and fund the college transit services	Launch Safe Ride Salisbury and RCCC Evening Service	Evaluate the college transit services and determine if modifications are necessary



Regional Service

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	Continue regional service to China Grove, Landis, and Kannapolis (Route 100)		
B, C, D, E	Continue regional service to China Grove, Landis, and Kannapolis (Route 100)	Add regional service to Lexington (Route 200)	Add regional service to Granite Quarry and Rockwell (Route 300) Add regional service to Statesville (Route 400)

Vanpool/Rideshare Program

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	Vanpool/Rideshare program not included in Scenario A		
B, C, D, E	Begin coordinating with area employers in anticipation of a Rideshare/Vanpool Program	Start a Rideshare/Vanpool Program	Identify additional potential partners and expand the vanpool/rideshare program

Administration and Operations

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	No additional positions created under Scenario A		
B, C, D, E	Increase capacity by creating the following positions: <ul style="list-style-type: none"> • Transportation Planner (1) • Transportation Route Supervisors (2) • Mobility Manager (1) • Mechanic (1) If STS operates the microtransit service directly, hire two dispatchers and one scheduler	Hire part-time mechanic to support extended operating hours on fixed-routes	



Capital

<i>Scenarios</i>	<i>Short-Term</i>	<i>Medium-Term</i>	<i>Long-Term</i>
A	<p>Replace vehicles meeting useful life criteria</p> <p>Add additional amenities at bus stops as feasible within existing budget</p>	<p>Replace vehicles meeting useful life criteria</p> <p>Add additional amenities at bus stops as feasible within existing budget</p>	<p>Replace vehicles meeting useful life criteria</p> <p>Add additional amenities at bus stops as feasible within existing budget</p>
<div style="display: flex; flex-wrap: wrap; gap: 5px;"> <div style="background-color: #4a90e2; color: white; padding: 2px 5px; border-radius: 3px;">B</div> <div style="background-color: #f1c40f; color: white; padding: 2px 5px; border-radius: 3px;">C</div> <div style="background-color: #9b59b6; color: white; padding: 2px 5px; border-radius: 3px;">D</div> <div style="background-color: #27ae60; color: white; padding: 2px 5px; border-radius: 3px;">E</div> </div>	<p>Procure additional fixed-route vehicles for Scenario C</p> <p>Procure three vans for the vanpool/rideshare program</p> <p>If STS operates the microtransit service directly, procure microtransit vehicles</p> <p>Add bus tracking software and rider application capabilities</p> <p>Upgrade to electronic fareboxes and integrate with existing automatic vehicle locator (AVL) technology to improve data collection</p> <p>Add additional amenities at fixed-route bus stops and microtransit feeder points</p>	<p>Construct an on-site fueling facility</p> <p>Add additional amenities at fixed-route bus stops and microtransit feeder points</p>	<p>Procure additional fixed-route vehicles in order to provide peak frequency service, except Scenario D which does not require additional vehicles</p> <p>Equip additional vehicles with electronic fareboxes and integrate with AVL</p> <p>Add additional amenities at fixed-route bus stops and microtransit feeder points</p>



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Appendix A: Sample Rideshare Interest Form

- Most economical for groups traveling 15+ miles one way to work.
- Monthly fares are based on the average daily round-trip miles the van travels each day.
- Monthly cost is divided among the riders. The more riders, the lower the cost!
- At least two members of the group qualify to be the primary driver and back-up driver.
- Most vans meet at a central location like a Park & Ride lot.
- There must be a minimum of 5 individuals to start a rideshare.
- Rideshare participants are eligible for free taxi rides in the event of an emergency through the Emergency Ride Home program.

Simply complete the form below and a Salisbury Transit representative will contact you.

Name:

Email:

Phone:

Which best describes you?

- Looking for more information on ridesharing.
- Wondering if there is a rideshare group for me.
- Have a group and ready to get on the road.

What city are you starting in?

What city are you going to?

What hours do you normally work?

Comments:

- All STS rideshares must originate or conclude their trip in Rowan County
- The rideshare must travel 10+ round trip daily miles*



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- There must be at least one designated primary driver & one back-up driver
- Drivers must complete a Driver Authorization for Motor Vehicle Report and be approved
- The primary driver must sign the lease agreement on behalf of the rideshare group
- A \$300 refundable security deposit must be provided during registration
- Groups must submit a monthly mileage log

The rideshare fare is all-inclusive. It includes the vehicle, gas, insurance, maintenance, and a FREE emergency ride home (ERH).

- A group of individuals decide to share the ride to work.
- A primary driver and at least one backup driver are identified from the group. One individual can be the primary driver or all the individuals who qualify to drive can rotate – it's entirely up to your group.
- A gas card could be provided to each group to be used for fueling the vehicle.
- Each month, the primary driver is responsible for collecting the rideshare participants' monthly fare and submitting one payment to STS for the next month. (i.e. individuals are collected August 1st and sent to part by August 7th for September's fare.)
- Each month, the primary driver is required to complete and submit a Monthly Mileage & Expense Report including information about the rideshare group's monthly commute. The report is due by the 7th of the month reporting on the previous month's activities.
- Members of the rideshare group are responsible for making sure the van is properly maintained. The group is eligible to take the van to a local/convenient maintenance facility for routine maintenance such as car washes, oil changes, tire rotations, wiper replacements, etc. Any major maintenance issues should be conveyed to STS to be addressed.
- STS could lease 7-passenger Dodge Caravans & 15-passenger Ford Transit Vans.

In order to be a rideshare driver, you must:

- Be 25 years of age
- Have had a US Driver's License for at least 3 years
- Have no more than 3 points on your license
- Have no major driving infractions
- The daily operations of the van. This includes adhering to STS's basic rules of the road to ensure the safety of the rideshare group and other commuters.
- Basic maintenance of the van such as car washes, oil changes, and annual vehicle inspections. STS would cover the cost of any maintenance related items such as oil changes, tire rotations, etc. Should there be major maintenance issues, STS's Rideshare Coordinator will provide the group with a back-up vehicle to be used temporarily.
- Collecting monthly fares from riders and submitting payment to STS.



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- Completing and submitting Monthly Mileage & Expense Reports.
- Serving as the liaison with STS's Rideshare Coordinator
- STS would accept checks, credit cards, or money orders through possibly an [online payment system](#). A member of the rideshare group is responsible for collecting fares from all the riders and providing STS with one monthly payment for the group.
- Payments and mileage reports are due on the 1st of the month. Payments and reports received after the 7th will be assessed a \$25 late fee.
- STS rideshares could operate on a month to month basis. If at any time you would like to stop using the van all we require is 30-days advanced notice and we will come pick up the vehicle.
- Before a rideshare starts, the group is required to provide STS with a \$300 deposit. Assuming the van is returned in the same condition it is provided, the deposit will be returned to the rideshare group in about 10 business days.



Appendix B: Detailed Rideshare Information

Emergency Ride Home Program

From time to time a participant of the rideshare may be required to leave work early due to an emergency or illness. The participant should call the Salisbury Transit System (STS) and state the nature of the emergency or illness. Under an Emergency Ride Home (ERH) Program, one of the STS staff members would provide transportation by:

1. Authorizing an STS staff member to provide transportation
2. Contacting a taxi company to provide transportation

Restrictions

The driver shall operate the van in accordance with all applicable State of North Carolina laws, in a reasonable and safe manner, and in such places as to not expose it or its passengers to unsafe conditions. The van shall only be driven on hard public streets and highways and other normal access roads and driveways. The driver shall not pull trailers; attach carrying racks or trailer hitches. The driver shall not transport or operate the van after consuming alcohol, illegal drugs/substances, or medications which recommend refraining from driving after ingesting. Furthermore, the driver shall not take the van to any establishment whose business could negatively impact the image of STS (i.e. nightclubs, ABC stores, bars, sweepstakes facilities, etc.). While operating the van, the driver shall not use a cell phone, Bluetooth device, text messaging device or equipment that may distract the attention of the Driver. Smoking would be prohibited by all van occupants. STS would retain the right to immediately terminate any rideshare in violation of these restrictions.

Termination of the Rideshare

The driver may terminate the lease agreement at any time by giving a 30-day written notice. STS may terminate the lease agreement without cause, or for cause, including a failure to comply with any provision, at its discretion.

Rideshare Referral Payment

STS would want to reward drivers, backup drivers and rideshare passengers that refer potential drivers for newly created rideshares to the rideshare program. Once a referred STS driver has leased a van for six months, a referral payment will be sent to the person who referred the new rideshare to STS.

Driver Responsibilities/Incentives

Driver Qualifications

The driver of the rideshare must be at least 25 years old and have an excellent driving history. In order to qualify, drivers must have a valid Class C driver's license, no more than 3 points on their license, and no previous "DWI." (Driving While Impaired) convictions on their license. All drivers must submit a motor vehicle report (MVR) form and be approved by the STS staff.



Lease Agreement

The lease agreement between the van driver, backup driver, and STS operates on a month-to-month basis. The driver and backup driver must sign the lease. In certain situations, some businesses lease the van directly through their company. In these cases, the employer representatives and the qualified drivers sign the lease agreement.

Monthly Reports

One of the driver's responsibilities is to complete a monthly revenue and expense report. These reports would be turned in on the 1st of each month for the prior month.

Daily Operations

The driver is expected to operate the van in a safe manner, arrange for a backup driver as needed, collect monthly fares and keep the van clean. Each time the van is fueled, the water, oil, and transmission fluid should be checked by the driver.

Driver Training

All rideshare drivers must attend a driver orientation and training session. This consists of a comprehensive overview of all materials that would be provided by the STS staff. Upon completion of the training, each driver must successfully complete a STS rideshare driving test before being allowed to operate the vehicle.

Backup Driver

Each rideshare should have at least one backup driver in order to lease a van. This assures passengers continuous, reliable transportation in the case of personal sickness, emergency or vacation of the primary driver.

The rideshare backup driver must meet the same requirements and qualifications as the primary driver. The backup driver assumes the responsibility of operating the rideshare, including the monthly reports, in the absence of the rideshare driver.

Personal Use of the Van

STS would reward its drivers with special privileges and incentives for the service rideshare drivers provide. STS would allow up to 150 personal miles free of charge. This mileage can be used entirely by the driver or he/she may split the personal miles with the backup driver. The van can be used for a maximum of 300 personal miles at the amount specified in the lease agreement.

Driver/Rider Agreement

In order to avoid probable conflicts, STS will develop a driver/rider agreement, which should be read and signed by the passengers before joining the rideshare. This agreement assures that all participants are aware of the rideshare rules, regulations and operating procedures.

STS will encourage all rideshares to establish their own rideshare guidelines and set individual policies and procedures to help prevent disputes. Since the rideshare driver is primarily responsible for the rideshare, all disputes should initially be directed to the driver. If the dispute is not resolved, the STS staff can/will provide recommendations for all involved parties.



Risk Management/Insurance

Accidents

In the event you are involved in an accident before 8:00 a.m. or after 5:00 p.m., Monday through Friday or on the weekend, the STS staff would need to be contacted, as well as the police department or highway patrol. Should the accident occur during the workday between regular operating hours, the driver or backup driver should immediately call the STS office and the police department or highway patrol. If necessary, STS staff will come to the scene of the accident to conduct a preliminary accident investigation. The driver is responsible for reporting any accident, no matter how minor. Failure to report an accident could result in termination of the lease agreement with STS.

STS will provide liability coverage for bodily injury or property damage resulting from an accident. STS would not provide liability coverage for any non-accidental criminal act performed while using the van. The driver or backup driver will be responsible for the first \$100.00 deductible for any damages from accidents involving STS vans. This fee is due within 30 days of the date the accident occurred.

Procedures to Follow in the Event of an Accident

Collisions and accidents range from minor fender benders (without vehicle damage) to major and multiple vehicle collisions and possible injuries. It is important that drivers know how to handle emergencies to protect lives and to ensure that questions of liability are handled properly. If an accident occurs, it is important for drivers to do the following:

- If you or any of your passengers are injured, dial 911 for medical assistance
- Protect the accident scene
 - Turn on hazard flashers
 - Move the van out of traffic if directed by a police officer
 - Make sure passengers are in a safe location
- Notify the local, county or state police
 - If police are on the scene, obtain the officer's name and badge number
 - Call your STS representative at the provided emergency numbers
- Make no statement to anyone except:
 - A police officer on the scene
 - STS representative
- You are insured through STS. The name of the Salisbury Transit Rideshare Program insurance carrier would be provided to you on an insurance card, which should always be kept in your glove compartment.
- Fill out the STS Accident Report Form and give it to the STS representative who comes to the scene.



Revenues

Rideshare Fares

Rideshare fares are based on fixed, operational and depreciation expenses associated with the van's total monthly mileage. These expenses include fixed costs (insurance, contingency), operational costs (maintenance repair, gasoline, oil, tires and parts), and depreciation costs (monthly vehicle depreciation).

The monthly fares are payable to STS on or before the 1st of each month. Payments are made one month in advance and are good until the last day of the month.

One of the driver's responsibilities is to keep a monthly revenue and expense report. These reports are turned in on the 1st of each month for the prior month. It is recommended to send in the report with the monthly lease payment.

Rideshare Deposit Requirements

All van drivers or employer sponsors are required to submit a van security deposit to STS before a van can be leased. The deposit should be for the amount specified in the lease agreement and in the form of a certified check or a money order.

Upon the termination of the rideshare lease agreement, the driver can submit a request for a security deposit refund. The van will be inspected to determine if there is any unreported damage to the van. Upon the completion of the inspection and a check for any other outstanding expenses, the security deposit will be refunded to the van driver. It is the driver's responsibility to reimburse employer sponsors and/or rideshare riders as appropriate.

Prorations: New Rideshares, Vacations, Holidays, Breakdowns, Company Closings

New rideshares put into operation during the middle of a payment period are eligible to have their fares prorated for the first month of operation. The fare will be based on the actual number of days the van will be in operation for that month.

For employer vacations, the driver should notify the STS staff as soon as possible with the dates the van will not be in operation. This is necessary so that the STS staff can determine if the van qualifies for a prorated fee and the amount of the prorate.

Holidays are not prorated for rideshares. The van lease is based on a 21-day month in which holidays are averaged into the monthly fare. However, if a rideshare will not be in operation for more than three consecutive weekdays due to the employer observing holidays, the lease amount for that month will be prorated to the actual number of days operated.

If the rideshare does not operate due to a mechanical breakdown of the van, a proration may be considered under certain circumstances. If the number of days exceeds two consecutive days and no other STS transportation is made available for the passengers, then the fares will be prorated for that month to the actual number of days operated.

Extended company closings are also valid reasons for fare pro-rations. However, to qualify for this proration, the company must be closed for a minimum of three consecutive working days. This situation also requires the approval of the STS staff.



Vans Commuting More Than Five Days a Week

Fare calculations are based on an average 21-day month and a five-day workweek. Although most of the vans are leased for a five-day workweek, there are times and unusual circumstances in which the employees must report to work more than five days per week. When this situation occurs, the monthly fares will be adjusted according to the total mile traveled for that month. The STS staff will adjust the fare and inform the driver of the total amount due.

Emergency/Special Seat Subsidy

Seat subsidies are at the discretion of the STS Management.

Commuter Benefits

Federal law allows employers three ways to reduce the cost of commuting via public transportation (bus, train, ferry or registered rideshare) or qualified parking for employees. Companies can offer employees:

- a tax-free employer-paid subsidy
- a pre-tax employee-paid payroll deduction, or
- a combination of the above (shared employee- employer-paid)

Outside Fuel Purchases

In order to minimize costs, STS encourages all rideshare drivers to fuel at the approved STS fueling locations.

Please remember the following when using a fuel card:

1. Use only regular unleaded fuel (87 Octane)
2. Use only self-service gas pumps (No full service will be accepted)
3. Do not share or write down driver pin.
4. Fuel cards are to be used only for STS rideshare services.

Maintenance

Exchanging Vehicles for Maintenance

When service work is needed for the vans, drivers should contact the STS staff to schedule the repair. Once a backup van is assigned, the driver can drop the van off at the designated maintenance facility. STS staff will make arrangements to switch the van.

Outside Maintenance Repair

In some cases, temporary repairs may be necessary before the van can be taken to STS's designated maintenance facility. Upon the approval by STS staff, a pre-approved "Emergency Service Station" can make minor repairs. Some of these repairs may include jump-starting the van, replacing a light bulb, or fuse, etc. STS staff will call these emergency service stations to make arrangements for these quick, minor repairs. These service stations will bill STS for all repairs.



Appendix C: Sample Rideshare Forms

Rideshare Driver / Rider Agreement

The following rules are designed to promote the cooperation essential to successful rideshare operation. The driver and rider agree to honor these rules in good faith.

1. Pick up is limited to the agreed times and locations. The rideshare will wait a maximum of two minutes beyond the agreed time before departing from each stop. The rider is expected to be prompt so that others are not inconvenienced.
2. A reasonable effort will be made by the rideshare operator to provide a 30-day notice of a rate increase or termination.
3. The rider agrees to make full payments each month. During vacation or other periods of absence, rider may sublet his/her seat to a party who must adhere to the conditions of this agreement.
4. The rider agrees to pay the driver promptly, and in advance, understanding that fares are not refunded for any reason.
5. The rider is required to behave in a manner which promotes positive interaction with other rideshare participants.
6. The rider shall help maintain the cleanliness and appearance of the rideshare vehicle. Personal articles may be kept in the area of the rider's seat at the discretion of the rideshare operator.
7. The use of food and beverage aboard the rideshare vehicle is at the discretion of the rideshare operator.
8. The driver and rider agree to understand that the use or possession or transportation of any alcoholic beverage or any narcotic drug, chemical or other substance in violation of the law is prohibited in the van.
9. The driver agrees to immediately notify the rider and STS if the van breaks down.
10. The driver and rider agree the use, possession or transportation of any fire arms or weapons is prohibited.
11. No smoking is allowed in any STS vehicle at any time.

I understand and accept the conditions and rules of this agreement. The driver or rider may terminate this agreement by giving thirty (30) days written notice.

Name _____ Pick up time _____

Address _____ Pick up place _____

City _____ Drop off time _____

State & Zip Code _____ Drop off place _____



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Work Phone _____ Home Phone _____

Employer _____

Rider Signature _____ Date _____

Driver Signature _____ Date _____

STS # _____

Vehicle Identification Number _____



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STS Initial & Annual Motor Vehicle Report
Review Authorization and Rideshare Application

By your signature below, you hereby authorize the STS to obtain a Motor Vehicle Report to consider you to drive an STS vehicle.

Have you ever been convicted for Driving While Impaired (DUI)? _____

Applicant's Name: _____ Male: ____ Female: ____

Applicant's Address: _____

City: _____ State: _____ Zip Code: _____

Telephone, Home #: _____ Cell #: _____

Work #: _____

Date of Birth: _____

Driver's License Number: _____ State Issued: _____

Employer's Name: _____

Employer's Address / Location: _____

Applicant's Signature: _____

STS Office Only Below:

Motor Vehicle Report – States to be checked: _____

Date Requested: _____



Listed below are the requirements for starting a rideshare:

- (1) Drivers and backup drivers must be at least 25 years old and have a valid Class C driver's license. The drivers must have no more than three points on their driving record and no DWI (Driving While Impaired) convictions.
- (2) The driver is required to make a one-time security deposit for the van.
- (3) The van driver and backup driver must sign a rideshare lease agreement with STS Rideshare Program.
- (4) Rideshare drivers should collect the first month's payment from rideshare participants. This payment enables the participants to ride in the van for the calendar month.
- (5) Design the route and pickup points to determine the daily round trip mileage.

Rideshare routes are usually designed to go from the meeting/pickup point and to the worksite. In some cases, more than one pickup point may be necessary. Pickup points are usually located at shopping centers, churches, businesses or park and ride lots.

Designing the most direct route to your worksite is important since rideshare fares are based on the total miles the van travels. STS does not recommend picking up participants at their homes due to the extra mileage and time involved with door-to-door service. If a participant cannot drive or does not have any transportation at all, then a fellow rideshare member is encouraged to carpool with this participant to and from the pickup point.

Each van would have a maximum seating capacity for 7 or 15 people. Vans are filled on a first-come, first-serve basis. If there are more people interested in rideshare than there are seats available, their names are either placed on a waiting list or a new rideshare will be formed. In the event of a passenger decline, STS could provide assistance in recruiting new passengers by utilizing the waiting list and/or a free rideshare matching database. However, the rideshare will still be responsible for the total lease amount to keep the van in operation.

Combining rideshares is discussed when rideshares experience a severe decline in passengers. STS would do everything possible to maintain the same low cost for the passengers, and if necessary, develop the most convenient route.



Lease Agreement

WHEREAS, the Salisbury Transit System (hereinafter "STS") and **(Driver's Name)** (hereinafter "Driver") desire to enter into this Agreement by which STS will make available to Driver a van for use in carrying out this Agreement in accordance with the terms and conditions hereinafter specified; and

NOW, THEREFORE, the parties hereto do hereby contract and agree as follows:

1. This Agreement shall become effective on the date of its execution by STS, said date being set out on the signature page adjacent to the signature of the STS representative executing this document.
2. The term of this lease shall be on a month-to-month basis unless terminated upon a 30-day notice or according to the other terms specified herein.
3. The Driver agrees to pay to STS by the first (1st) day of each month, a total of \$_____ **(Fare)**. (hereinafter "Fare"). In addition, Driver will pay to STS a sum equal to \$0.55 per mile for each mile in excess of 150 (personal miles) that the said van is driven by Driver for reasons other than the transportation of Driver and passengers to and from employment, said mileage being referred to herein as personal mileage. If the Driver exceeds the 300 miles maximum, a per-mile charge of \$0.80 will be assessed. Further, Driver will pay to STS a sum of \$25.00 as a late fee for any payments due STS that are not made by the tenth (10th) day of each month, and a \$25.00 sum for any check given by Driver to STS and which is returned for insufficient funds or other reason. Still further, Driver will deposit with STS the sum of \$300.00 as a security deposit for the faithful performance by the Driver of this Agreement, said sum to be returned to Driver upon the termination of this Agreement if Driver is current with all payments to STS as of that date. It is also agreed that STS will review the Fare twice a year during January and July. In the sole discretion of STS, adjustments up or down may be made to reflect the cost of operating the van and supporting the rideshare program. If adjustments are made, an addendum may be signed by the Driver and attached to the original contract in lieu of signing a new contract. Adjustments will be effective on February 1 or August 1.
4. STS agrees to reimburse Driver for out-of-pocket costs in connection with the use of said van, said out-of-pocket costs to include gas and oil purchased by the Driver for use in said van, said expenses to be substantiated by receipt, and said payments to be an offset against amounts due to STS by the first (1st) of each month pursuant to this Agreement.
5. STS shall issue the driver a fuel card or other means to fuel the van. The fueling method provided by STS shall only be used to fuel the van and only for purposes authorized by this Agreement. STS shall be reimbursed by the Driver for any expenses related to the use of said fueling method for any purpose other than those authorized by this Agreement. If the fuel card is lost the Driver must inform STS staff immediately.
6. STS agrees to assist Driver in forming and maintaining a rideshare and to render other administrative assistance in connection with the program, but the extent of such assistance shall be determined by STS.
7. Driver agrees to authorize STS to obtain a certified copy of his/her driving record from an agency selected by STS, and must certify to STS that he/she does not have more than three points on his/her driving record, no Driving While Impaired (DWI) convictions, has not been convicted of more than one (1) moving violation under the motor vehicle laws of any state and has not been convicted of any criminal offense arising out of the operation of a



- motor vehicle in violation of the criminal laws of any state within the immediate past three (3) years and none in the last year.
8. Driver must have a valid Class C driver's license to drive the van. Driver shall complete a rideshare driver application and an in-house training session before being eligible to operate the van. Driver shall immediately notify STS staff upon receipt of any moving violation or criminal charge.
 9. The Driver must agree to operate the van for the purpose of transporting persons from their designated pickup point to their place of employment, and from their place of employment to their pick-up point and must operate in accordance with route and other regulations prescribed by the STS staff and must operate on a punctual schedule approved by said STS staff.
 10. The Driver shall be permitted to use the van for personal use (that is, other than transporting riders to and from employment), but such personal use shall be limited to a maximum of 300 miles per month, and the cost to the Driver for such personal use shall be as herein provided. The driver shall not take the van to any establishment whose business could negatively impact the image of STS (i.e. nightclubs, ABC stores, bars, sweepstakes facilities, etc.).
 11. Driver must notify the STS staff of any criminal charges or convictions arising out of the operation of the van or any other motor vehicle.
 12. The driver must obtain, and maintain throughout the existence of the Agreement, a reasonable number of paying passengers, determined for purposes of this Agreement to be 75% of the maximum capacity of the van. If the van falls below maximum capacity, the cost of the empty seats is then divided amongst the remaining paying passengers. Should the number of participants fall below 75% of maximum capacity, the STS staff must be immediately notified, and this Agreement shall be subject to cancellation.
 13. The Driver shall operate the van in accordance with reasonable and safe practices. The Driver shall present the van to STS for maintenance inspection upon each 6,000 miles of travel and must clear with STS any repair or corrective work with respect to the said van. Further, the Driver shall keep the van in a reasonably clean condition, inside and outside and shall see to it that all fluid levels and tire pressures are checked weekly.
 14. The Driver shall provide secure off-street parking for the van when it is not in use.
 15. The Driver shall maintain and furnish to STS such records as STS shall prescribe. All such records shall be maintained in the manner, and presented at the time, prescribed by the STS staff.
 16. The Driver is authorized to employ a Substitute Driver who shall be required to become a party to this Agreement, shall meet the same qualifications as those prescribed for a Driver, shall be responsible for carrying out the requirements of this Agreement on behalf of the Driver at such times as the Driver is not available, and in general shall stand in the place of the Driver when performing for the Driver pursuant to this Agreement. Any personal miles driven by a Substitute Driver shall be counted as a part of the 300 miles maximum provided for the Driver. All payments to and from the Driver and to and from STS, shall be made as if all miles during any given month were driven by the Driver, with the understanding that the Driver will collect from, and reimburse to, the Substitute Driver on the same basis as if the payments were being made to and from the Driver.
 17. Only the Driver or Substitute Driver is permitted to operate the van, except under emergency conditions or with the express approval of STS staff.



CITY OF SALISBURY

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18. The Driver is prohibited from transporting any organized groups or anyone for hire except the rideshare passengers.
19. In the case of a breakdown, STS will make an effort to provide an alternate van. If STS is not able to provide an alternate van pending repair or replacement, commuters will be responsible for arranging their own transportation to and from work. Pro-ration of fares for day(s) a van fails to operate due to maintenance break downs and other cases outlined in the Operations Manual must be calculated by and have prior approval of STS staff.
20. The Driver shall prohibit the use or possession or transportation of any weapon, firearm, alcoholic beverage or any drug or other substance in violation of law within the rideshare vehicle. No smoking is allowed in any STS vehicle.
21. The Driver will not permit the use of the vehicle to pull trailers, and no trailer hitches, temporary or permanent, are to be attached to the van.
22. The vehicle is to be driven only on hard-surfaced public streets and highways, and other normal access roads and driveways, and is not to be driven and such places or in such manner as to expose the vehicle to unsafe conditions.
23. The vehicle is not to be driven over bridges or roads posted for a maximum weight of 3 tons or less.
24. The Driver is responsible for promptly reporting any accident involving a bodily injury or property damage, the reporting to be in accordance with the procedures outlined in the Operations Manual to be kept in the van at all times. The Driver or Substitute Driver shall be responsible for any damage to the extent that said damage is not recoverable from insurance, up to a maximum of \$100.00, and shall be fully responsible for any criminal acts arising out of the use of the van.
25. STS may terminate this Agreement without cause, or for cause, including a failure to comply with any provision, at its discretion. Any failure of STS to require compliance with any provision of this Agreement shall not be interpreted as a waiver thereof and shall not prevent STS from enforcing or requiring compliance with such provision or requirement at any future date.
26. The Driver shall comply with the provisions of the Americans with Disabilities Act (ADA). The Driver hereby agrees to indemnify STS from and against all claims, suits, damages, costs, losses and expenses in any manner arising out of or connected with the failure of Driver, its subcontractors, agents, successors, assigns, officers or employees to comply with provisions of the ADA.
27. The Driver does hereby agree to indemnify and save harmless STS, its officers, agents and employees against all claims, actions, lawsuits and demands, including reasonable attorney fees, made by anyone for any damages, loss or injury of any kind, resulting from the negligent acts or omissions of the Driver.
28. All references herein to Driver shall be deemed to include Substitute Driver, but with the further understanding that the financial arrangement shall be between STS and the Driver with the financial arrangements between the Driver and the Substitute driver being a matter for settlement between those two parties.
29. While operating the van, the driver shall not use a cell phone, Bluetooth device, text messaging device or equipment that may distract the attention of the Driver.
30. Failure to abide by any of the conditions stated above shall be grounds for termination of the lease agreement by STS.



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IN WITNESS THEREOF, the parties hereto acknowledge the due execution of this Agreement by their signatures and on the dates indicated below.

DRIVER _____ DATE _____

SUBSTITUTE DRIVER _____ DATE _____

STS REPRESENTATIVE _____ DATE _____



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Rideshare Expense / Mileage Report

Rideshare # _____ Month / Year: _____

Rideshare Driver Name: _____

Typical Departure Time from Park & Ride: _____ (ex. 7:20A)

Typical Shift Time: _____ (ex. 8A-5P)

Primary Van Beginning Mileage: _____ Primary Van Ending Mileage: _____

of Days in the month that the van drove to work: _____

Did you exceed 150 free personal miles? _____

Did you have a back-up van during the month? _____

If yes, please answer the questions below:

If so, what was the Back-up van # _____

Dates Back-up van utilized _____ - _____

Back-up van beginning mileage: _____ and ending mileage: _____



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Passenger Manifest:

Name	Subsidy		Amount Paid
	Y or N	If yes how much?	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Drivers

Please return rideshare expense/mileage report with check made payable to STS no later than the 10th of the month as outlined by your lease agreement.

Salisbury Transit

300 W. Franklin St.

Salisbury, North Carolina 28144

\$

\$

\$



CITY OF SALISBURY
LONG RANGE PUBLIC TRANSPORTATION MASTER PLAN

Accident / Incident Report

Date: _____

Time: _____

Vehicle #: _____

Location: _____

Driver Name: _____

Names of Passengers

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Explain situation fully. Please be specific and concise.

Driver Signature _____



CITY OF SALISBURY LONG RANGE PUBLIC TRANSPORTATION MASTER PLAN

Rideshare Referral Form

Thank you for spreading the word about the STS Rideshare Program! As a token of our appreciation, we want to give you a referral payment. To ensure eligibility of the referral payment, please complete and forward this Rideshare Referral Form to STS within 10 days of the new rideshare's start date. The form can be emailed to 'Rodney Harrison' RLHar@salisburync.gov, or mailed to City of Salisbury, 300 W. Franklin Street, Salisbury, NC 28144. The standard referral payment amount is \$100 payable after the new rideshare is in operation for six months. At STS's discretion, the amount of the payment and the timeframe for payment is subject to change. Please refer to the Mobility Manager or the most current rideshare referral payment information.

Today's Date: _____

Your Name:

Your Van # / Driver Name:

Your Employer:

Your Mailing Address:

Your Phone Number:

Your Email Address:

Name of Driver / Group Referred:

Date New Rideshare Started:

Can we contact you to participate in surveys, radio or TV ads for continued promotion of STS's rideshare program? _____



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We certify that to our knowledge the above information is accurate and that STS should issue a Rideshare Referral Payment to the individual listed below as **Payee** after the new rideshare group remains in operation for the qualifying timeframe. We also acknowledge that it is the **Payee's** responsibility to notify STS should their mailing address change.

Name of **Payee** (Signature)

Name of **Payee** (Print)

Name of Person Referred (Signature)

Name of Person Referred (Print)

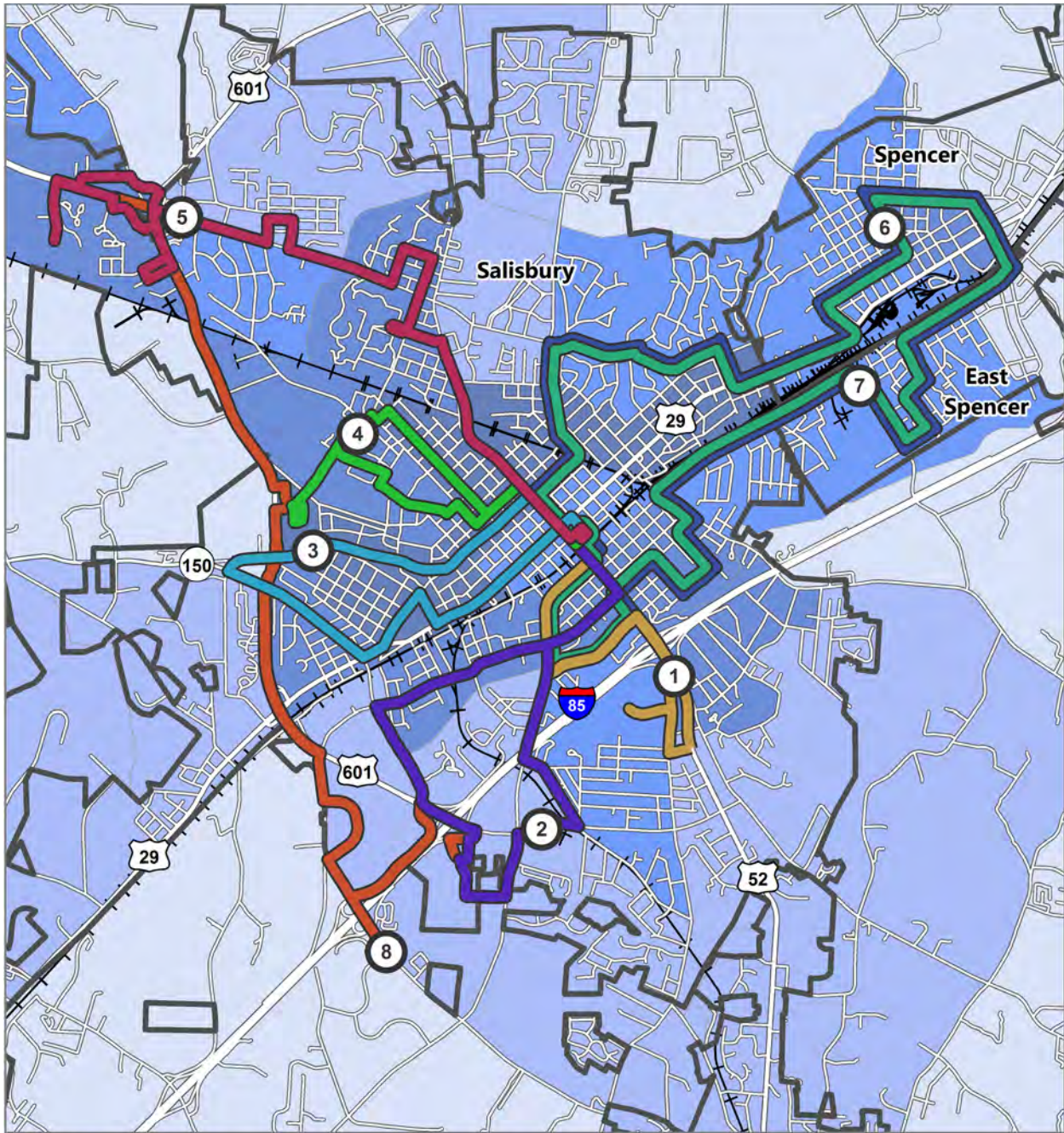


Appendix D: Demographic Maps for Recommended Routes

The relationship between the recommended city fixed-routes and demographics is illustrated in the following maps contained on the subsequent pages:

- Population Density
- Minority Population
- Low-Income Population
- Limited English Proficiency Population
- Persons with Disabilities
- Household Access to Vehicles

Population Density



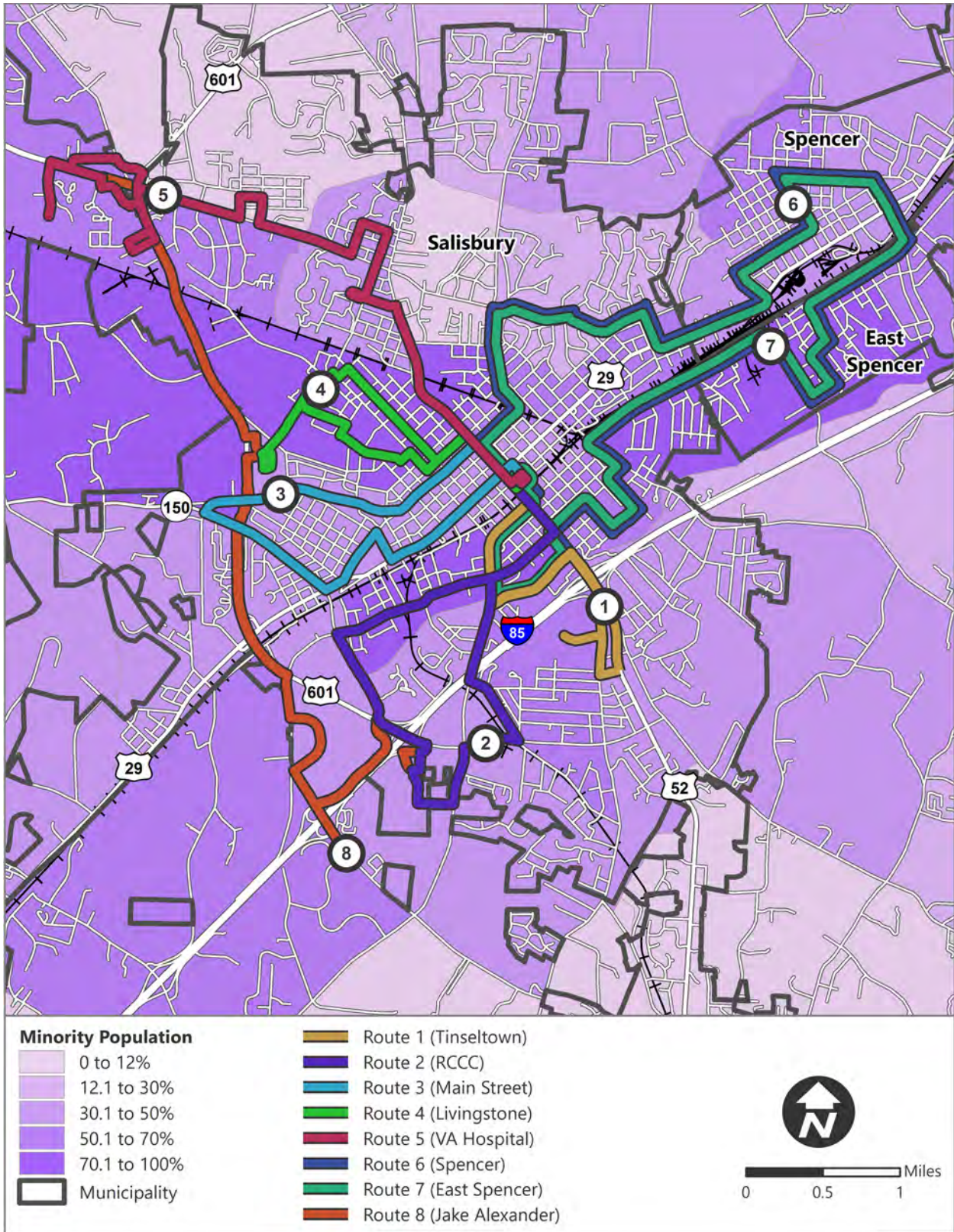
Population Density
Persons per square mile

0 to 400
401 to 1,000
1,001 to 1,700
1,701 to 2,500
2,501 to 4,400
Municipality

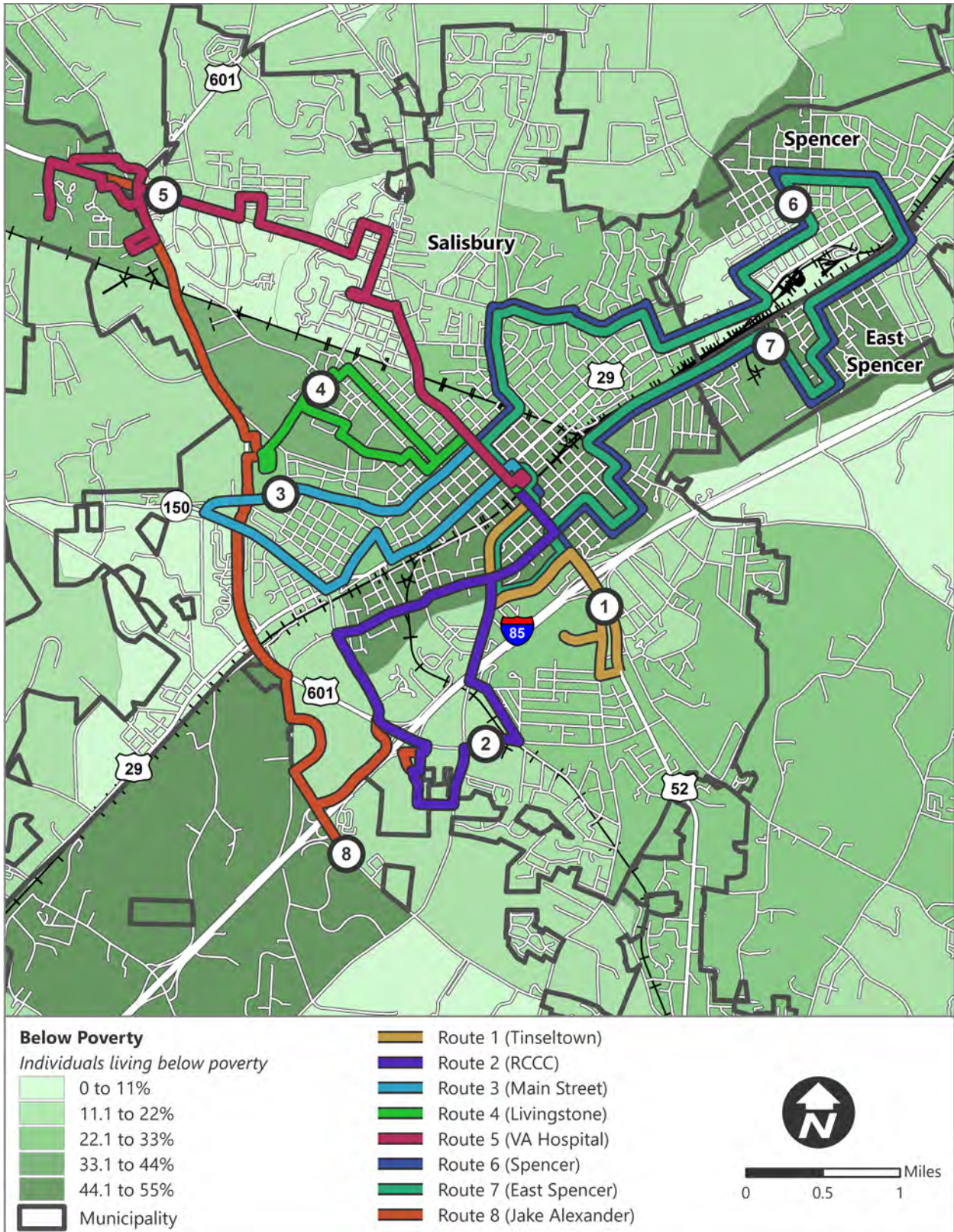
Route 1 (Tinseltown)
Route 2 (RCCC)
Route 3 (Main Street)
Route 4 (Livingstone)
Route 5 (VA Hospital)
Route 6 (Spencer)
Route 7 (East Spencer)
Route 8 (Jake Alexander)



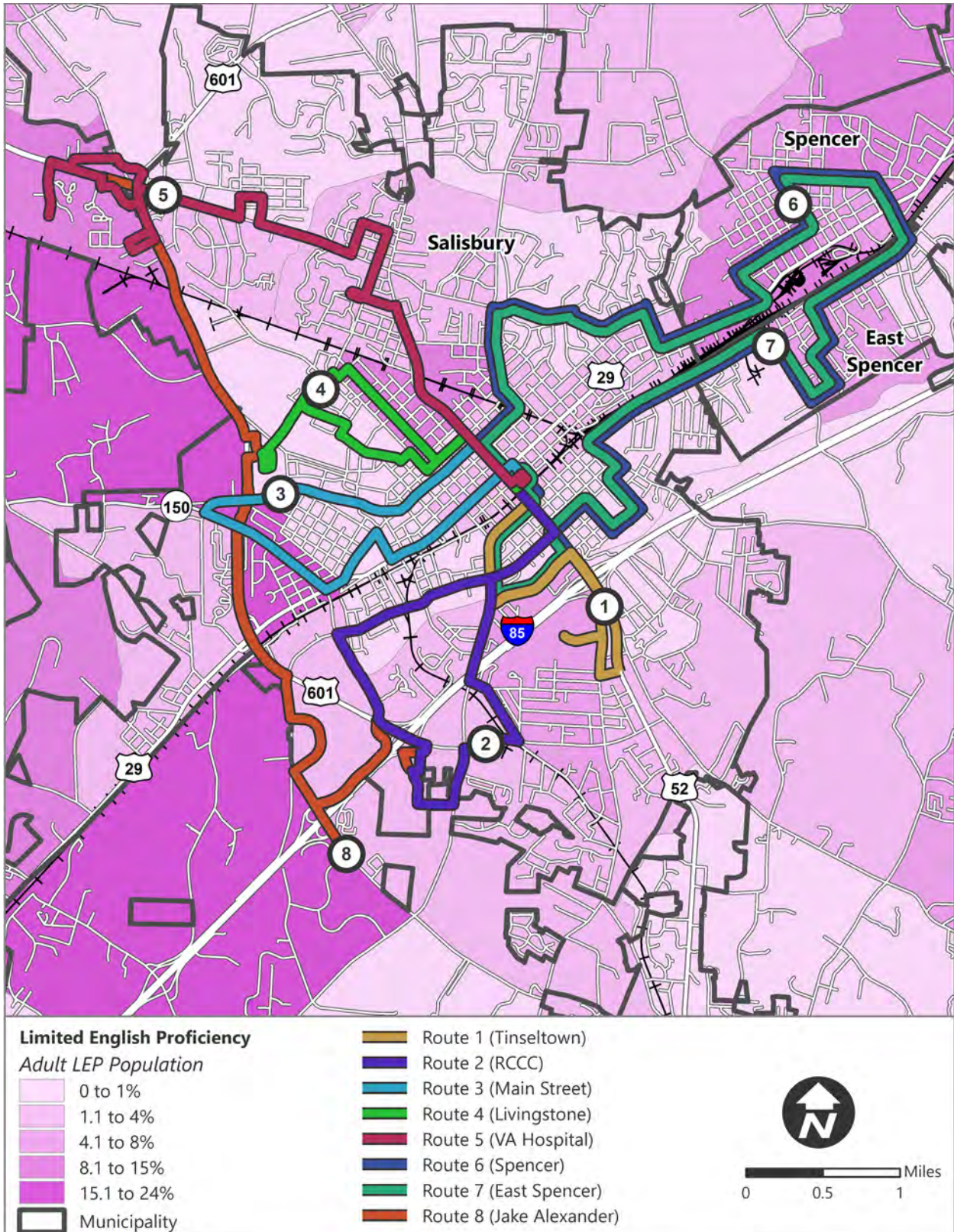
Minority Population



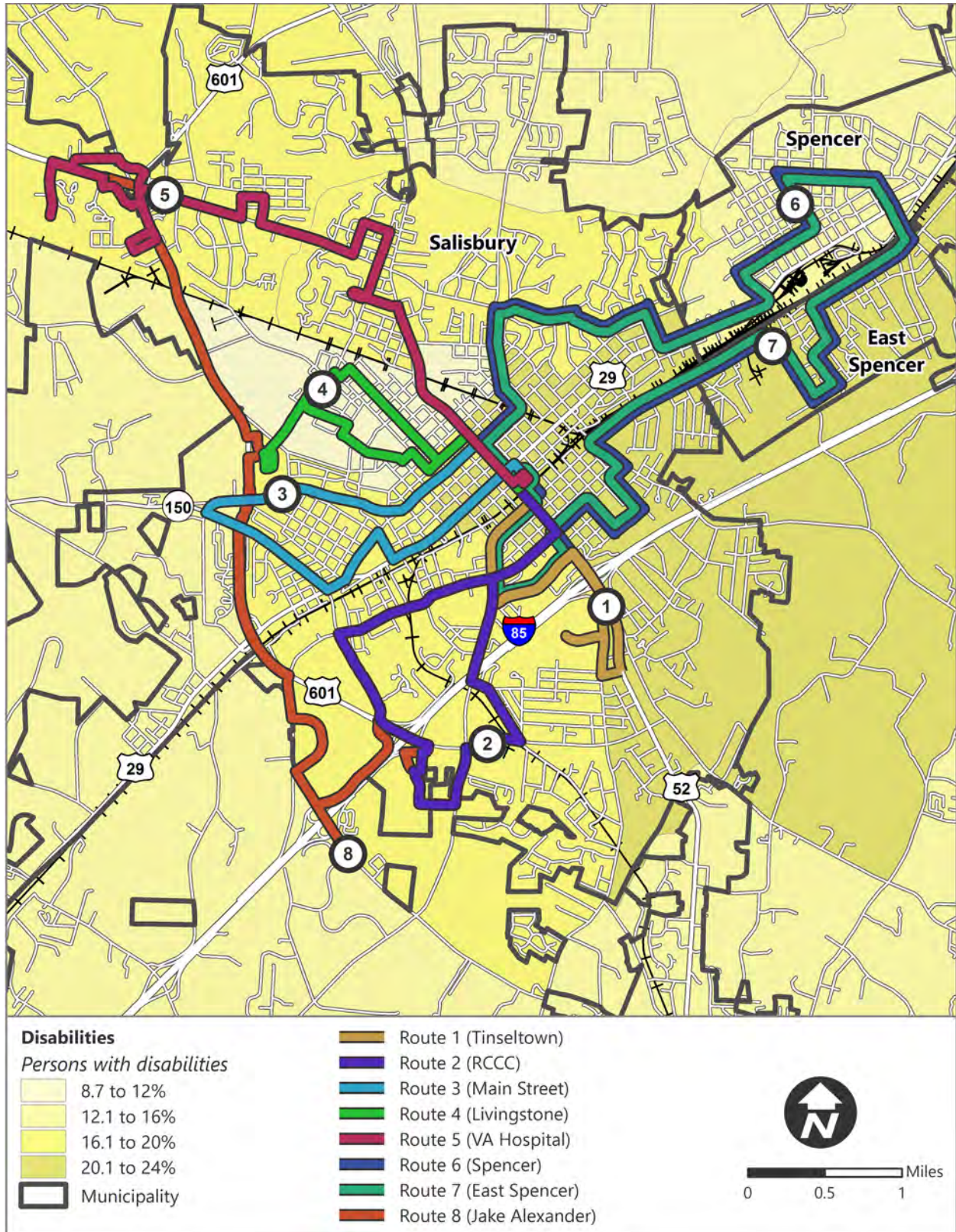
Low-Income Population



Limited English Proficiency Population



Persons with Disabilities



Household Access to Vehicles

