



TECHNICAL MEMORANDUM #1

Market Analysis and Review of Existing
Conditions

February 20, 2022





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RICHLAND COUNTY TRANSPORTATION DEVELOPMENT PLAN

INTRODUCTION

The ten-year Transportation Development Plan (TDP) is overseen by the Richland County Regional Planning Commission (RCRPC) and Richland County Transit (RCT) Board. The plan will serve as the foundation for future service and technology enhancements for the agency over a ten-year horizon as defined. The systematic plan will outline a clearly defined vision for public transportation for Richland County and the region.

The planning initiative consists of a comprehensive and data-driven analysis of market conditions and review of the governance and administrative structure, existing services, and capital assets for RCT. An assessment of transportation needs is conducted through an involved public engagement campaign.

The referenced work plan illustrates the methodology and strategies for addressing the activities required for meeting identified goals and objectives. The activities, or tasks, presented herein are designed to ensure the final plan reflects the expectations of the RCRPC, who manages the Metropolitan Planning Organization (MPO), the Richland County Transit Board (RCTB), and local study participants.

As with many transit systems across America today, sustaining sufficient funding from federal, state, and local sources is a concern. Public transit budgets are dependent upon public funding. While a significant portion of the operating and capital budget comes from the Federal Transit Administration (FTA), revenue is necessary from state and local sources. Therefore, the TDP planning process takes careful steps to understand community needs and place those strategically alongside the fiscal realities and possibilities for RCT to improve service and agency practices while pursuing new and enhanced technology solutions.

MEMORANDUM ORGANIZATION

This technical memorandum is the first of a series of technical memorandums making up the final development plan:

- Technical Memorandum #1 | Market Analysis and Review of Existing Conditions
- Technical Memorandum #2 | Public Input Summary
- Technical Memorandum #3 | Analysis of Service Alternatives
- Technical Memorandum #4 | Analysis of Technology Solutions

This memorandum contains an analysis of area demographics; a detailed operating profile; and an analysis of agency finances and performance. The data gathered and presented in this memorandum is instrumental in laying the groundwork for service alternatives and technology solutions for RCT. The structure of this document is illustrated below:

- Section 1 | Introduction
- Section 2 | Transit Demand Estimation
- Section 3 | Operational Analysis
- Section 4 | Governance Structure and Organizational Review
- Section 5 | Financial Review

STUDY ORGANIZATION

The scope of services was structured into a total of eight tasks to successfully complete this effort. The study is organized as follows:

- Task 1 | Project Initiation
- Task 2 | Convene Steering Committee
- Task 3 | Conduct Market Analysis and Review of Existing Conditions
- Task 4 | Implement Public Relations Campaign
- Task 5 | Develop Recommendations
- Task 6 | Develop Technology and Service Recommendations
- Task 7 | Draft Planning Study and Implementation Plan
- Task 8 | Deliver Final Report

The referenced tasks, and associated subtasks, detail the effort the RLS Project Team will complete to successfully address the Development Plan and lay out the strategic steps for implementing recommendations for identified service and technology improvements outlined in the plan.

CHAPTER 1. TRANSIT DEMAND ESTIMATION

The demographic populations of an area have general characteristics that relate to their overall potential to become transit riders. A variety of socio-economic data was compiled and computed on a block group basis and analyzed as part of this effort. The data consulted as part of this effort is from the U.S. Census Bureau's 2020 American Community Survey (ACS) Five-Year Estimates. It is important to note that the ACS Five-Year Estimates have been used to supplement data that is not available through the 2020 Decennial Census. As a five-year estimate, the data represents a percentage based on a national sample and does not represent a direct population count. Results of this effort are presented herein.

STUDY AREA

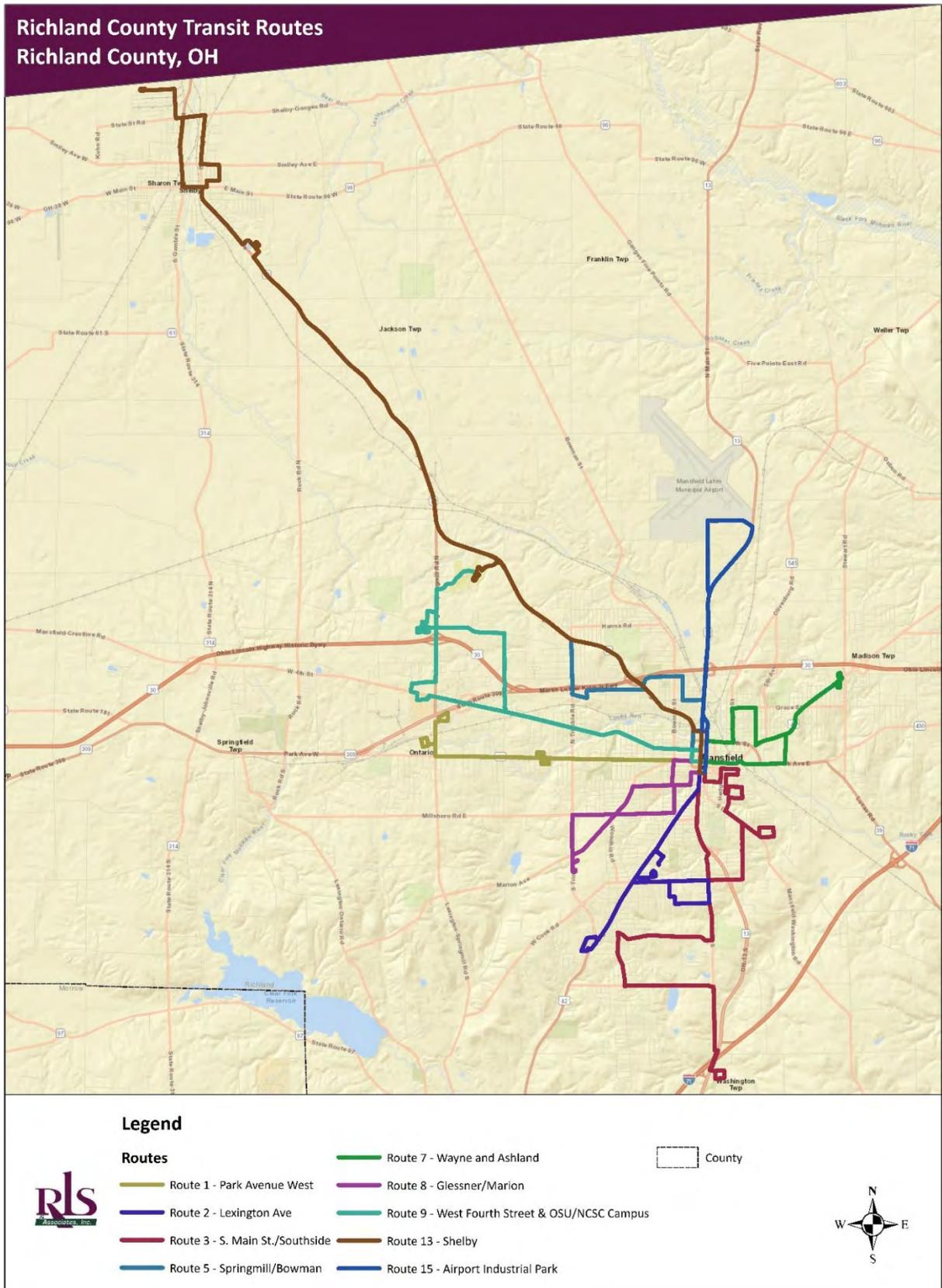
Richland County is located in north-central Ohio; it covers a total of 495 square miles, has a population of 124,936, and a population density of 252 persons per square mile according to the 2020 Census. Mansfield is the county seat and has a population of 47,669. Richland County consists of eight municipalities including, Village of Bellville, Village of Butler, Village of Lexington, Village of Lucas, City of Mansfield, City of Ontario, and City of Shelby. RCT

operates with the Mansfield Urbanized Area (UZA); the current service network includes the cities of Mansfield, Ontario, and Shelby. The jurisdictional boundary for the County is depicted in Figure 1.1, and RCT's current fixed route service network is illustrated in Figure 1.2.

Figure 1.1 | Richland County Boundary Line



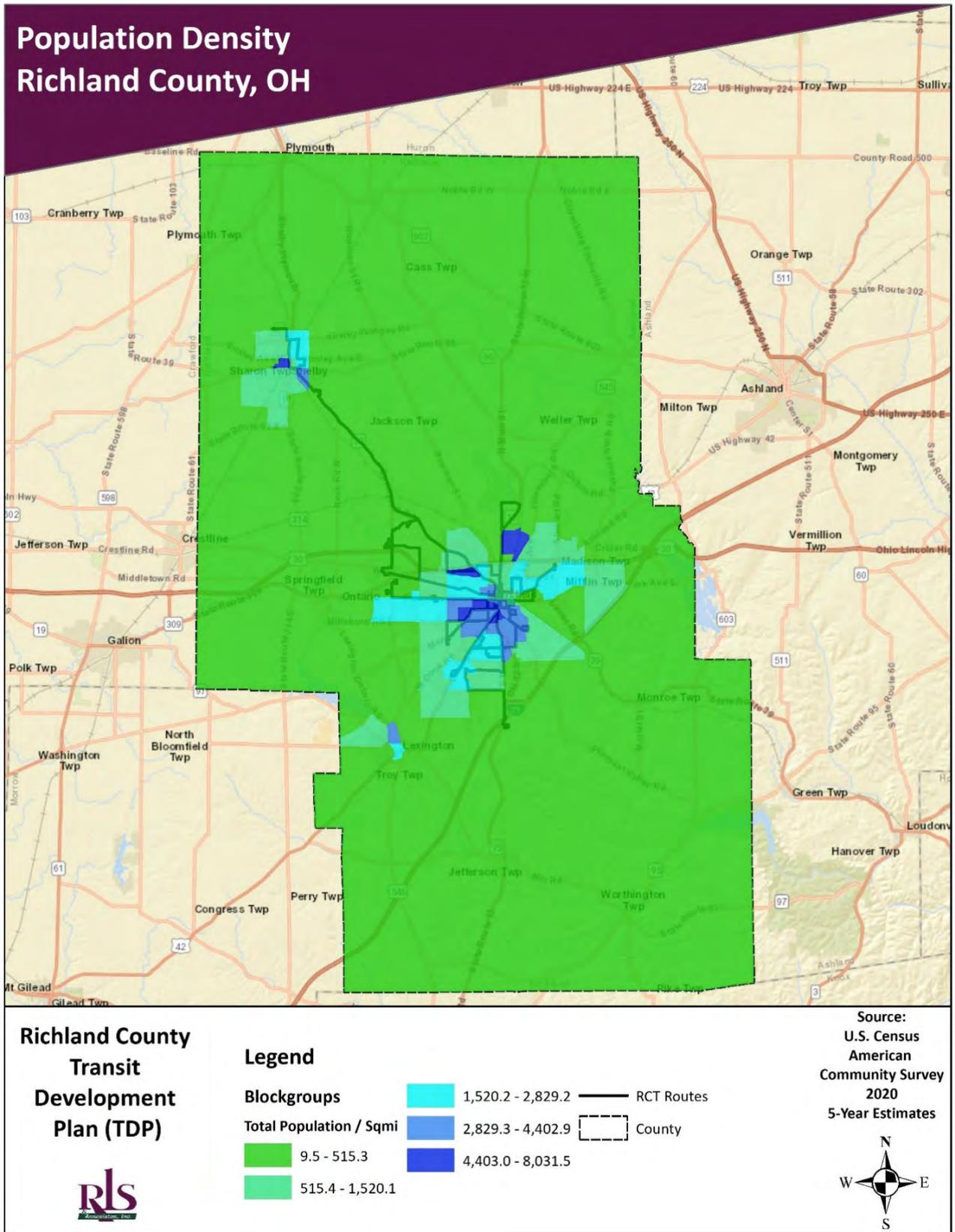
Figure 1.2 | Richland County Transit Service Network



POPULATION

Several block groups in the County have densities over 2,000 people per square mile, which represents the typical minimal level of population density that will support fixed route public transit service. Population densities are lower on the periphery and in townships adjacent to the City of Mansfield: a finding not unique to Richland County, this trend is inherent to cities across the United States. These densities are appropriate for demand response, or origin-to-destination, transit service. Demand response service is likely to be more cost-efficient than fixed route service in areas where population density is low; at levels lower than 2,000 persons per square mile. The population density for Richland County, overlaid with the RCT fixed route service network, is illustrated in Figure 1.3. The most densely populated areas are represented in dark blue, symbolizing at least 4,403 people per square mile. These areas are located in north, northwest, and southwest Mansfield, north central Lexington, and northwest Shelby.

Figure 1.3 | Population Density



The current population for each of the eight municipalities within Richland County is presented in Table 1.1.

Table 1.1 | 2022 Richland County Population by Municipality

Municipality	Population
Bellville	1,970
Butler	3,361
Lexington	4,854
Lucas	583
Mansfield	47,669
Ontario	6,671
Shelby	9,274
Shiloh	610

The Ohio Development Services Agency (ODOD) projects a decline in population through 2040. The total decrease projected by ODOD from present day to 2040 is 7.8 percent. However, planned changes in regional employment opportunities related to the new Intel plant in Licking County and other major employers are projected to stimulate population growth for Central Ohio and have a positive impact on the Richland County population.

In the *Richland County Housing Inventory Report*, revised August 5, 2022, Community Science, Inc. offered two alternative population projections for the county, providing greater perspective and accounting for discrepancies that might be present in the ODOD model. Under the one of these approaches, the “state steady” model, a marginal increase in the county’s population is projected over the next 10 to 30 years. The second approach, an “error correction” model, accounts for the difference between Richland County’s actual population growth from 2010 to 2020 and the ODOD’s projected growth for the referenced horizon to population projections for subsequent years. The referenced population projections calculated and presented by Community Science, Inc. are depicted in Table 1.2.

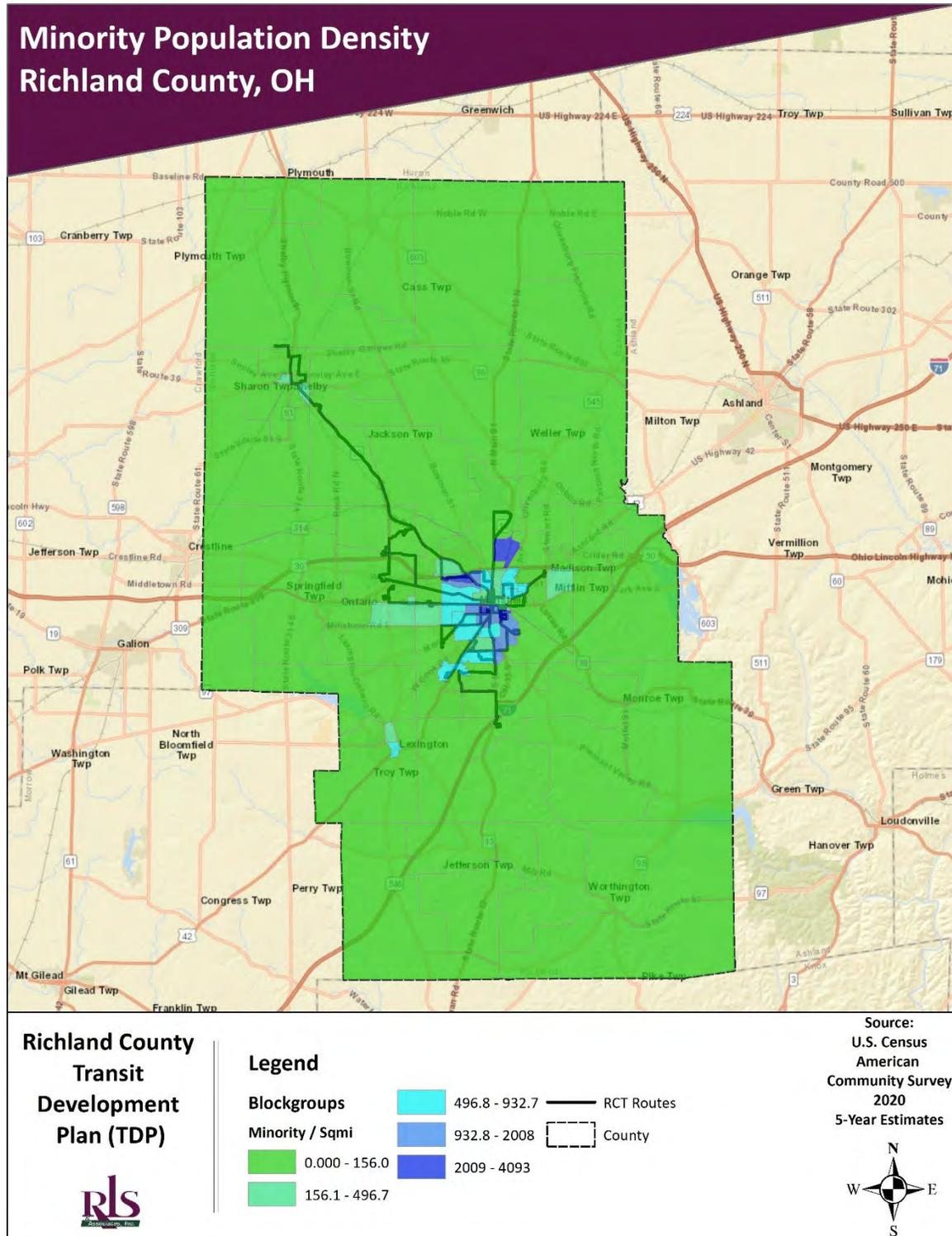
Table 1.2 | Population Projections for Richland County

Year	ODOD		State Steady		Error Correction	
	Projection	Change	Projection	Change	Projection	Change
2010*	124,475	-	124,475	-	124,475	-
2020**	120,200	-3.4%	124,936	0.4%	124,936	0.4%
2030	116,640	-3.0%	125,399	0.4%	125,989	0.8%
2040	115,160	-1.3%	125,863	0.4%	129,184	2.5%
*2010 represents actual population figures for all models						
**2020 represents actual population figures for ‘state steady’ and ‘error correction’ model. ODOD projections used for ODOD model.						

Source: Richland County Housing Inventory Report, August 2022, Community Science, Inc.

Data for minority populations in Richland County was also compiled. Results are presented in Figure 1.4.

Figure 1.4 | Minority Population

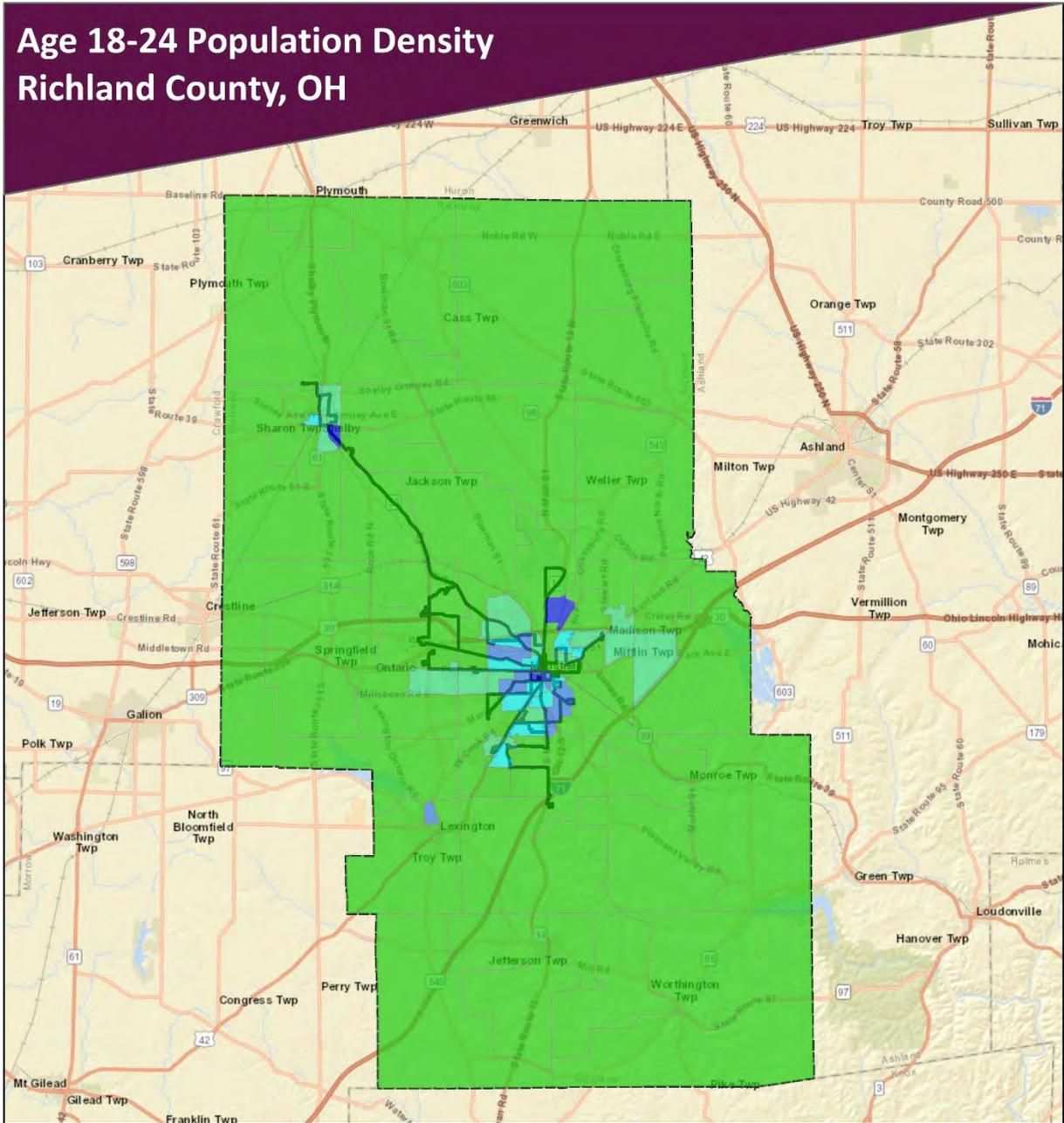


Minority populations are represented directly north, northwest, directly south, and southwest of the City of Mansfield. A pocket of a medium density minority population is represented west of the City of Lexington outside of the RCT service network. Identifying and understanding the location of population groups provides insight on access to opportunity areas (employment, education, healthcare, recreation, etc.) and desired travel demand.

According to 2020 Census Bureau data, young adults age 18 to 24 represent 10,010 or 8.27 percent of the County's total population. The youth represent a community group with the greatest propensity for becoming longstanding transportation users. RCT is well poised to capture youth riders through service delivery to Ohio State University Mansfield (OSUM) and North Central State College (NCSC) in Mansfield and Shelby. The population density for the referenced demographic group is depicted in Figure 1.5.

Figure 1.5 | Young Adult Population

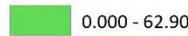
**Age 18-24 Population Density
Richland County, OH**



**Richland County
Transit
Development
Plan (TDP)**



Legend

Blockgroups	 209.5 - 434.0	 RCT Routes
18-24 / Sqmi	 434.1 - 736.6	 County
	 0.000 - 62.90	
	 62.91 - 209.4	

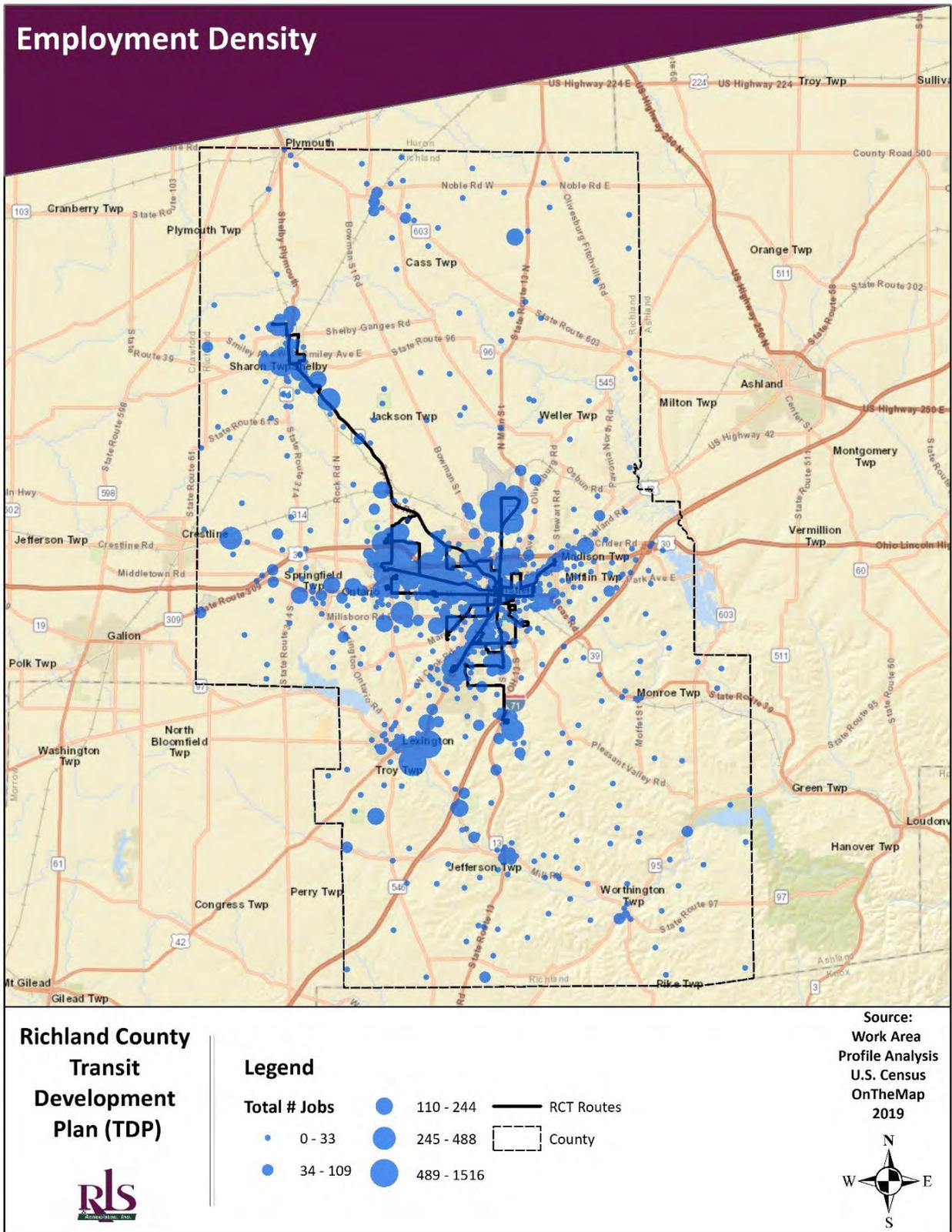
Source:
U.S. Census
American
Community Survey
2020
5-Year Estimates



EMPLOYMENT

Equally important to where people live are the destinations they frequent. In 2020, there were 2,606 employer establishments within the eight municipalities throughout Richland County. The most common job groups for County residents include production occupations at 13.7 percent, office and administrative support occupations at 11.7 percent, and sales and related occupations at nine percent. The most common employment sectors are manufacturing, which employs 21.1 percent of the County's workforce, healthcare and social assistance at 16.1 percent of the workforce, and retail trade at 12.1 percent. Figure 1.6 illustrates the density of work destinations for Richland County residents overlaid with the RCT fixed route network.

Figure 1.6 | Employment Density



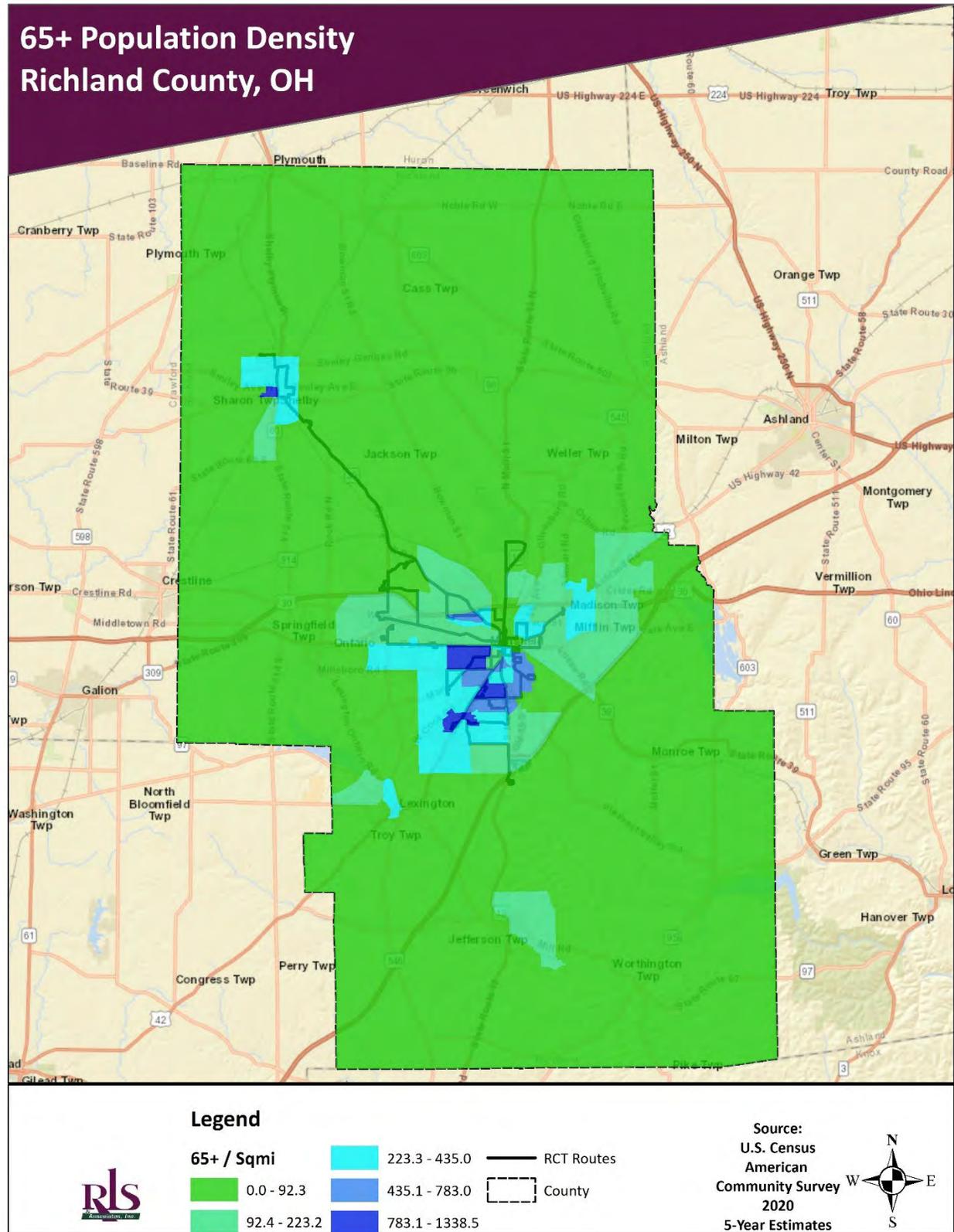
OLDER ADULT POPULATION

The population across the United States is aging. Most individuals born during the post-WWII “baby boom” era, defined by the Census Bureau as persons born from 1946 through 1964, are now over the age of 65, increasing their likelihood of needing and pursuing alternate transportation options to driving personal vehicles. Survey data reported by the Administration on Aging (U.S. Department of Health and Human Services) confirmed an increase in longevity and health for this demographic group as compared to historical years. Quality of life issues and the desire to live independently place increasing pressure on existing transportation providers to meet the growing demand.

Older adults are most likely to use transportation services when they are no longer able or choose not to drive. Elders are more likely to be on a fixed and limited income, thus making public transportation a more economical option to vehicle ownership. For these reasons, the population of older adults is an indicator of potential transit demand. RCT is not the exception, as a significant portion of current customers fall within this demographic group. Data on demographics of existing ridership will be collected as part of the customer and on-board rider survey effort.

Figure 1.7 illustrates the density per square mile of the population aged 65 years and older by block group. The block groups with the largest densities of older adults are located in the City of Mansfield and all immediate directions surrounding the city. Other areas with a larger density of older adults include Shelby, within the RCT service network, and the City of Lexington, which is outside of the network.

Figure 1.7 | Older Adult Population Density



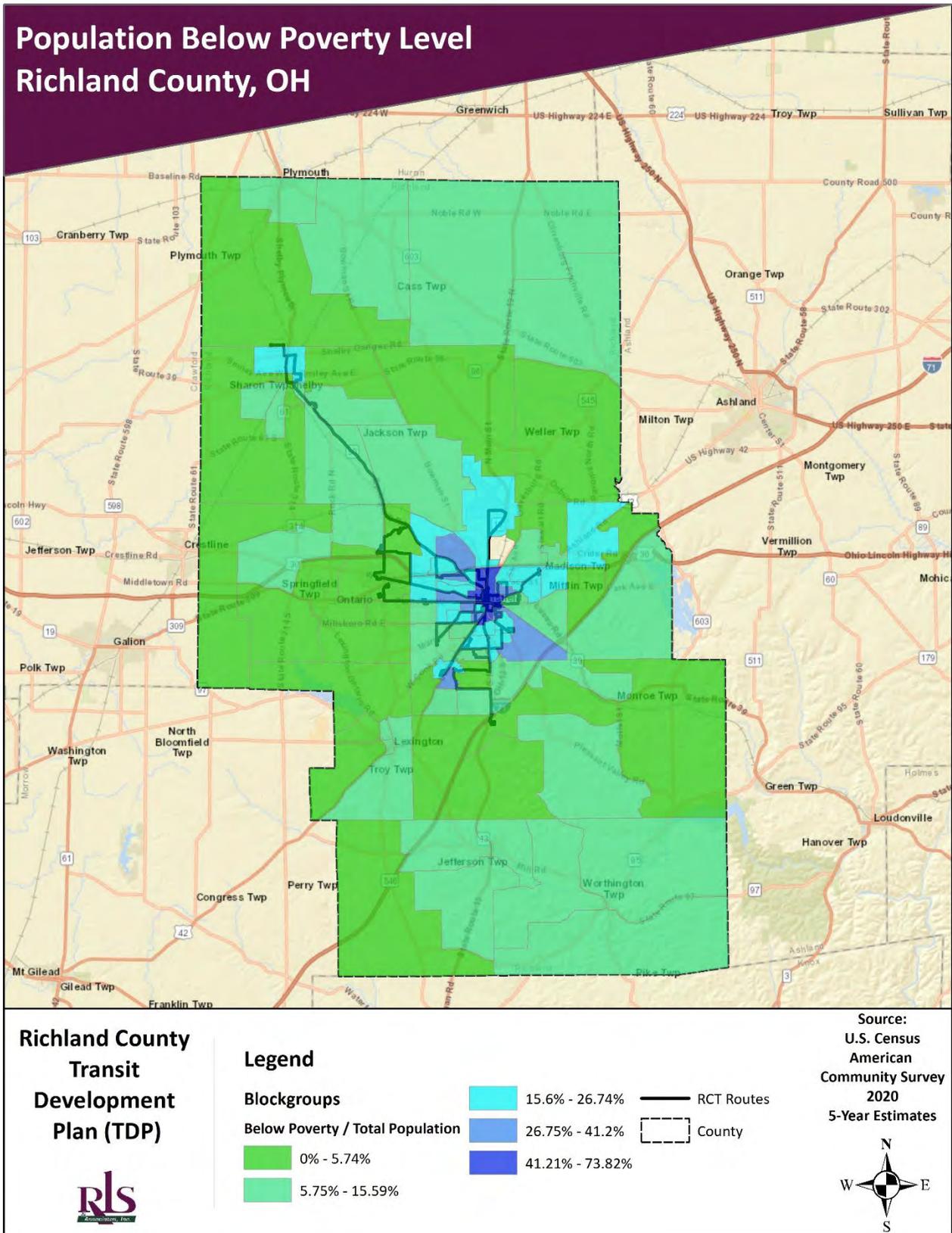
HOUSEHOLD INCOME AND POVERTY

U.S. Census American Community Survey data confirms 48,967 households within Richland County. The median household income is \$49,186. The highest income bracket is \$75,000 to \$100,000, which includes 13.2 percent of the population, followed by \$60,000 to \$75,000 at 11.1 percent. The total population making less than \$10,000 per year is 7.2 percent. Roughly 13 percent of Richland County residents live below the poverty line. This is congruent with the national average of 12.8 percent.

The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who classifies as impoverished. If a family's total income is less than the family's threshold then that family and every individual in it is considered to be living in poverty. Figure 1.8 depicts the distribution of households in poverty throughout the County. The block groups that have the highest percent of households in poverty are concentrated in and around the City of Mansfield.

Figure 1.8 | Population Below Poverty Level

Population Below Poverty Level Richland County, OH

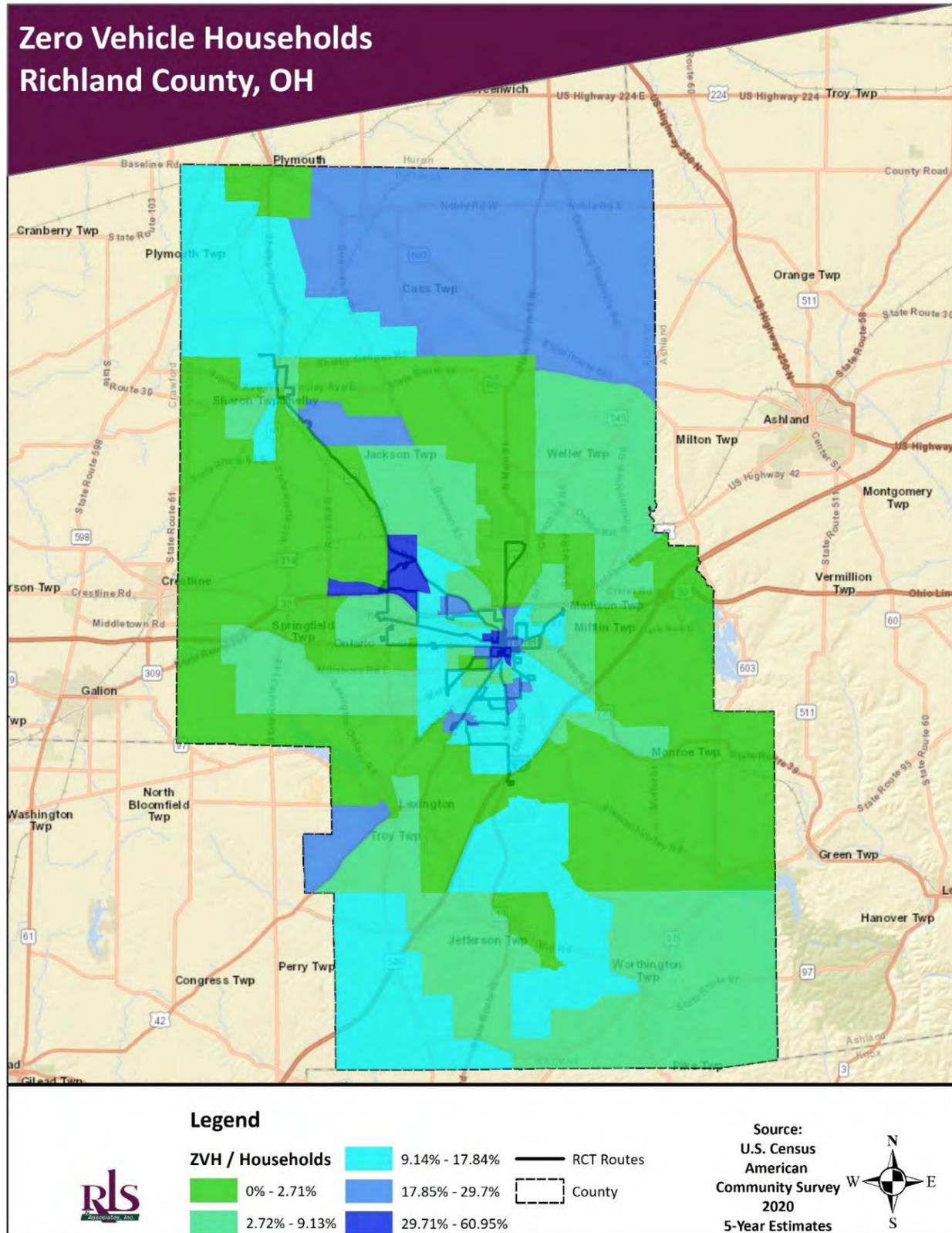


ZERO VEHICLE HOUSEHOLDS

Transportation is traditionally a household's second-largest expense next to housing. The characteristics of the household's neighborhood or community will impact the costs of transportation. Locations that are close to services and employment will allow the household to spend less time, energy, and money on transportation, while locations with greater sprawl may involve higher costs and more time for transportation. The Center for Neighborhood Technology's Housing and Transportation (H+T) Index calculation for Richland County is \$13,875 for the typical household's annual transportation spending, an average of 28 percent of household income. Combining this with the average housing expenses in the County, at 23 percent of average household income, means that the typical household spends 51 percent of their annual income on **housing** and **transportation**. While housing alone is traditionally deemed affordable when consuming no more than 30 percent of income, the H+T Index incorporates transportation costs—usually a household's second-largest expense as referenced—to show that location-efficient places can be more livable and affordable. More information about the H+T Index can be found at: <https://htaindex.cnt.org/map/>.

The number of zero vehicle households reported for the County total 1,959. The percentage of housing units that have no available vehicle, according to the 2020 ACS Five-Year Estimates, is illustrated by block group in Figure 1.9 below. The block groups with the darkest shading have the highest percentage of housing units with no available vehicles. These block groups are predominately concentrated in and around Mansfield and north of Ontario. There are also block groups with moderate levels of zero vehicle households located southeast of Shelby as well as portions of Mansfield and Lexington. Zero vehicle household counts for Northern and Southwestern Richland County can be attributed, in part, to Mennonite and Amish communities located in these areas. In the block groups with the highest densities of zero vehicle households, between 29.7 and 61.0 percent of households have no access to a vehicle.

Figure 1.9 | Zero Vehicle Households



TRANSIT PROPENSITY

One method of projecting which locations have residents with the most transportation need is to calculate transit propensity. Transit propensity is a measure of the likelihood that a local population will utilize public transit, considering their demographic characteristics. The model was derived through research completed on transit trip generation. The result is an estimate of the relative propensity for transit per Census block group. To calculate transit propensity, ACS 5-Year Estimates were gathered at the block group level for Richland County. The data included total population, total households, population below poverty level, number of persons age 65 and older, and the number of households with zero vehicles available.

The first step in calculating propensity involved creating a threshold value equal to the total number of each variable characteristic divided by the total for the entire service area. The service area is equal to the sum of the populations and households of the study area.

Calculations for the threshold values are outlined in the following list.

- ◆ Number of households with zero vehicles divided by the total number of households within the service area equals 4.0% (threshold value)
- ◆ Households within the service area living below the poverty level divided by the calculated poverty population equals 12.3% (threshold value)
- ◆ Population within the service area that is age 65 and over divided by the total population of the service area equals 19.0% (threshold value)

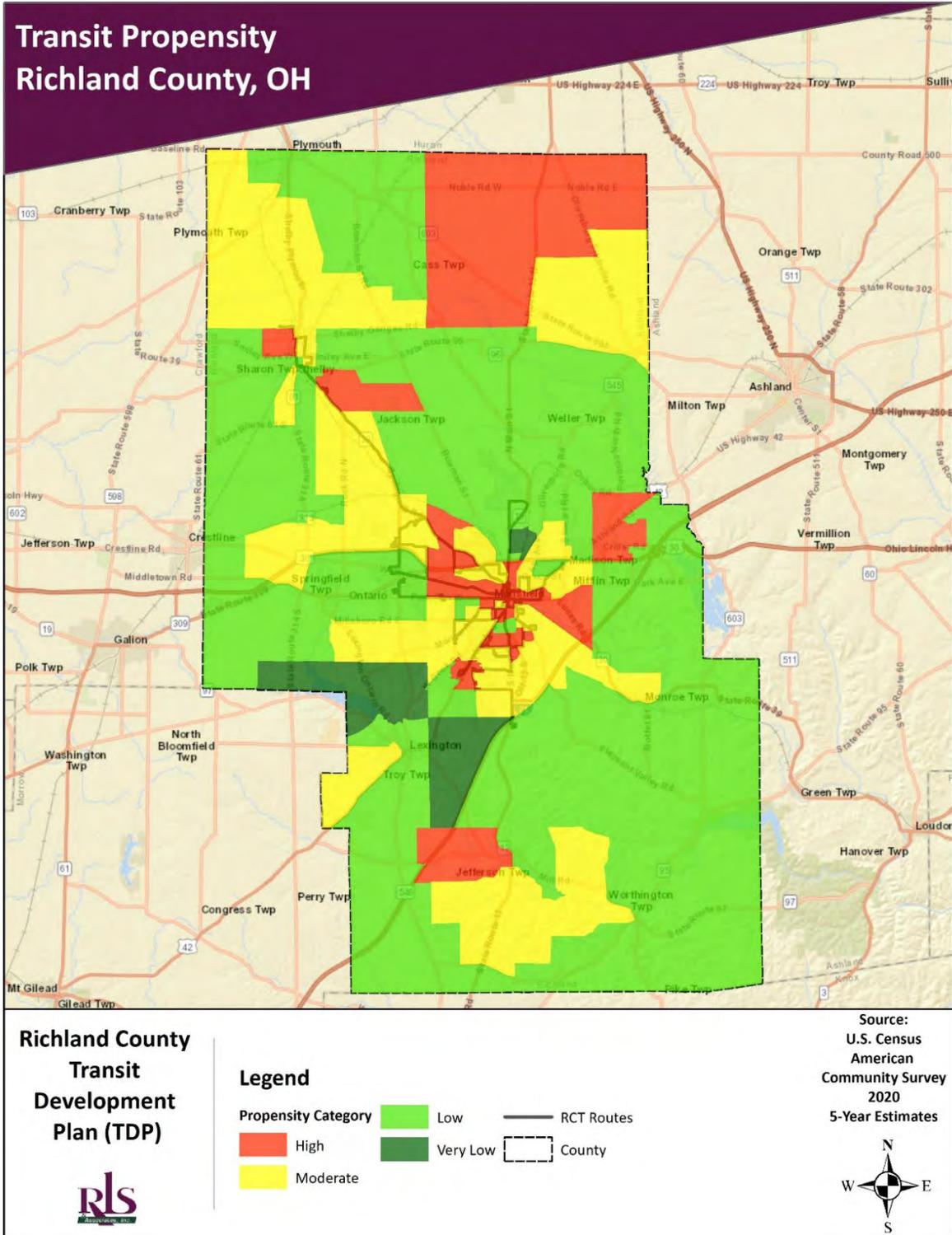
The threshold values were entered into the transit propensity model to determine each block group's transit propensity. This process included,

- ◆ Calculating the standard deviation for each variable to create a “moderate” category equal to one standard deviation around the mean (threshold). (One-half standard deviation below and one-half standard deviation above the threshold value)
- ◆ Query the variables for block groups that experienced percentages within the categories very low, low, moderate, high, and very high propensity.
 - Very low equals all three of the variables for the block group fell below the lower limit threshold value
 - Low equals one or two of the three variables were below the lower limit
 - Moderate equals block groups within one standard deviation around the mean
 - High propensity equals block groups where one or two of the three variables exceed the upper limit
 - Very high propensity equals block groups where all three of the variables exceed the upper limit

It must be noted that “Very low” and “Low” values do not indicate a lack of need, but a level of need that is below the mean (average) value for the study area. It must also be noted that transit propensity values reflect zero vehicle households, which are higher in areas with

significant Amish populations. The analysis results indicate that need is spread throughout areas of the County as demonstrated in Figure 1.10.

Figure 1.10 | Transit Propensity



PRIOR RELEVANT STUDIES

Prior studies are an important foundation for building an understanding of the history of RCRPC, the MPO, and RCT. A comprehensive review of current and former studies and relevant materials was performed as part of a desk review audit. Documents consulted as part of this process included, but were not limited to,

- 1) the 2017 Transportation Development Plan;
- 2) the 2021 Coordinated Human Services Plan;
- 3) the RCT Transportation Asset Management (TAM) Plan;
- 4) the Looking Forward 2045 Long Range Transportation Plan (LRTP);
- 5) the Transportation Improvement Plan (TIP);
- 6) the 2017 - 2021 Transportation Safety Report;
- 7) the 2021 Active Transportation Plan; and
- 8) the Task Force Summary Report: 2035 Comprehensive Plan for Richland County

The content reviewed as part of this effort outlines existing conditions including opportunities and challenges, vision, goals and priorities for public transportation services administered by RCT. The TDP is a continuation of and update to the 2017 study, renewing the vision and establishing goals and objectives that most effectively and efficiently address the unmet transportation needs of the community. The revised vision will inform the way in which public transportation services operated by RCT are administered to the region.

CHAPTER 2. OPERATIONAL ANALYSIS

OVERVIEW

RCT is the designated public transportation provider for the Mansfield UZA; operating within and serving Richland County including the cities of Mansfield, Ontario and Shelby and portions of Madison Township. RCT provides fixed route service through nine established bus routes (depicted in Figure 1.2 under the [Study Area](#) section of this memorandum) and ADA complementary paratransit service within a $\frac{3}{4}$ mile radius of fixed routes through a Dial-A-Ride program. The agency also employs a Travel Training program providing tailored classroom and/or field training to ensure individuals can successfully navigate the transit system and associated services.

RCT operates service with a fleet of 19 revenue vehicles including, eight heavy-duty buses and eleven light transit vehicle (LTV) shuttles. The active vehicle inventory is provided in Table 4.4 under the [Capital Plan](#) section of this memorandum. RCT capital resources include vehicles and facilities. All vehicles are ADA accessible. The LTV shuttles are used in the delivery of both fixed route and ADA complementary paratransit services. RCT facility assets include the Stanton Transit Center located at 74 S. Diamond St. and the Maintenance and Operations Facility located at 232 N. Main St. The RCRPC Office is located in close proximity to RCT facilities at 19 N. Main St. All facilities are situated in downtown Mansfield. RCT is a

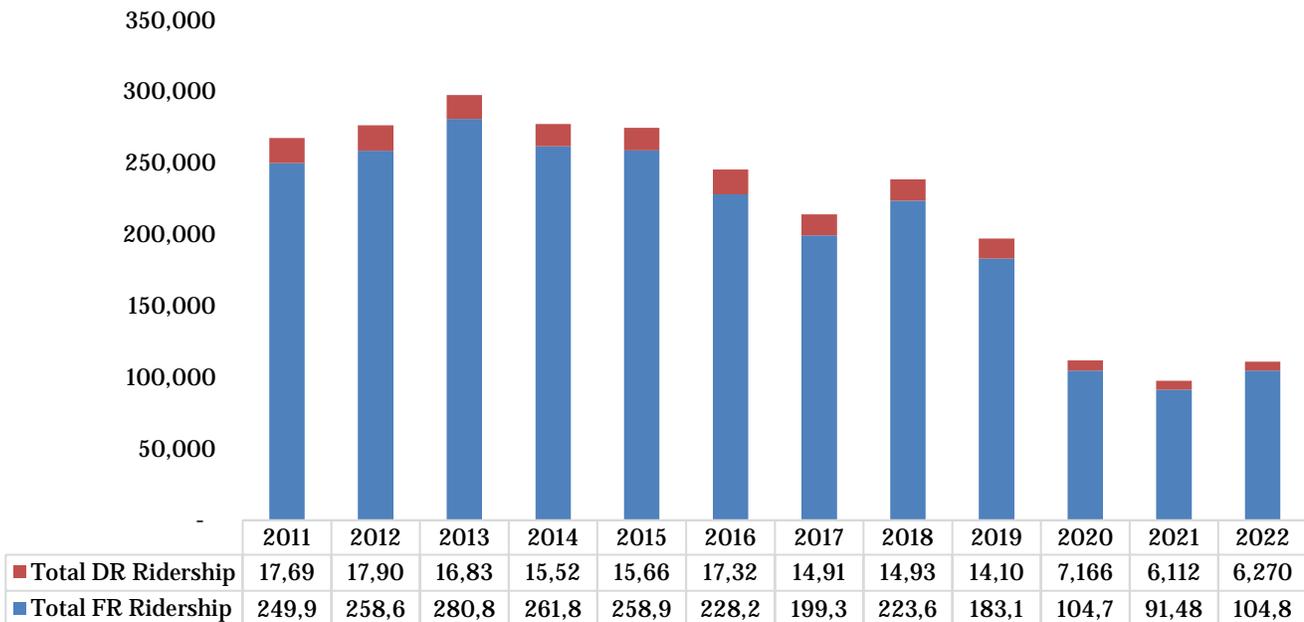
flag-stop system meaning customers can “flag” the operator to board the bus at any location along the established route; however, designated stops marked with RCT branded signage are located along each bus route and included in the published schedule. Passengers waiting at a bus stop where a sign is posted, must wave to the bus to indicate that they want to ride. Services are traditionally provided from 7:00 am to 6:30 pm Monday through Friday. Evening and weekend service is not provided. Operating hours and frequency vary by route. A comprehensive operational analysis at the route level is forthcoming and will be detailed in Technical Memorandum #2 (scheduled for submission February 10, 2023).

PERFORMANCE TRENDS

An operational analysis and review of performance data for RCT was performed with findings presented in the paragraphs below. An assessment of standard public transit performance measures including productivity, efficiency, and effectiveness for a five-year period was conducted under this effort. National Transit Data (NTD) reports spanning years 2017 through 2021 and internal reports generated by RCT demonstrate agency performance and productivity prior to the COVID-19 pandemic to present day. The service patterns and performance examined as part of the analysis will help to inform future recommendations.

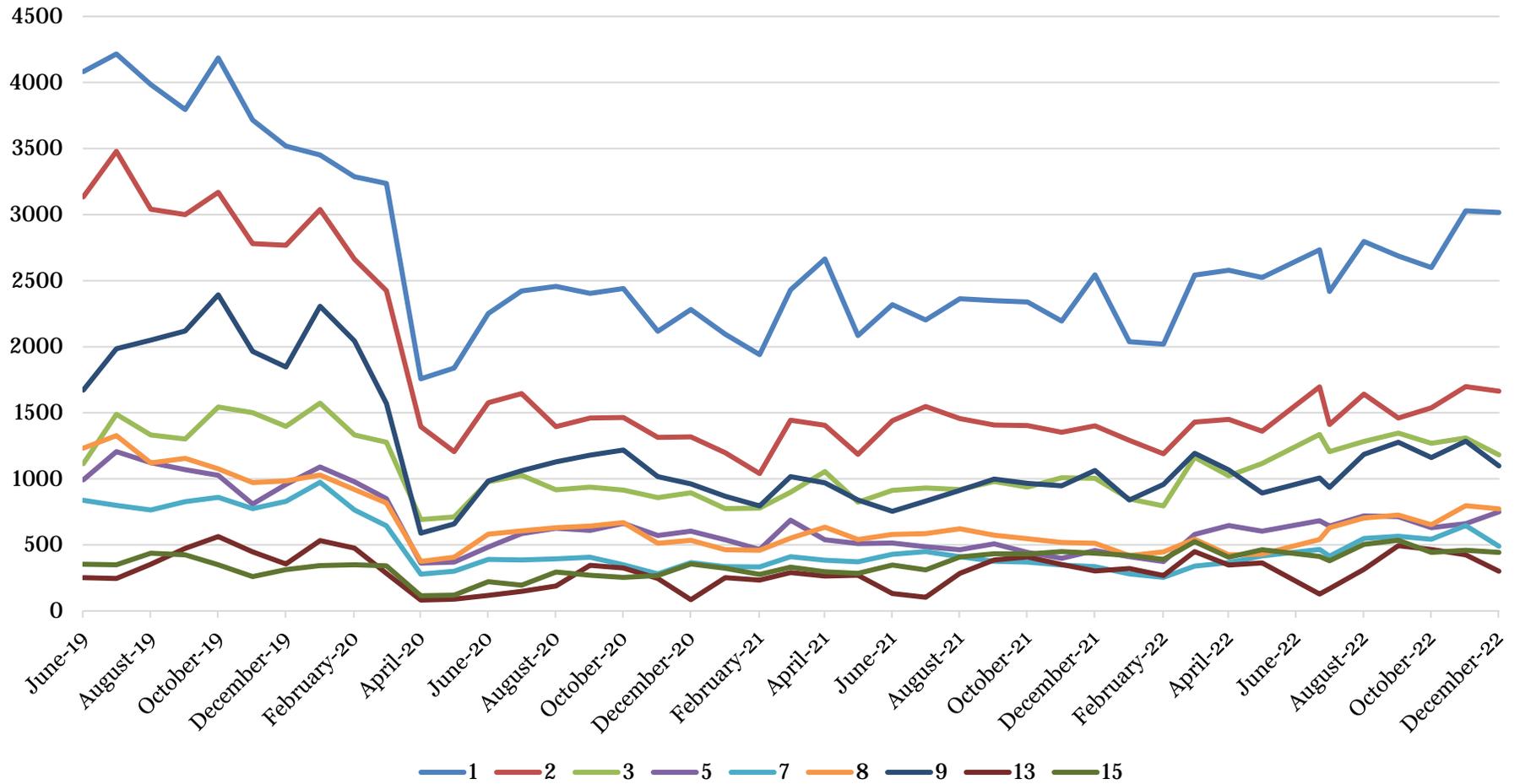
The total annual one-way passenger trips for fixed-route bus and ADA paratransit, reported as demand response, service is illustrated in Figure 2.1. The total annual one-way passenger trips for each of the nine bus routes within RCT’s fixed-route service network from 2019 to 2022 is depicted in Figure 2.2.

Figure 2.1 | Total Passenger Trips



Source: National Transit Database and Richland County Transit

Figure 2.2 | Total Annual Passenger Trips per Route, 2019 - 2022



Source: Richland County Transit

RCT experienced a 48 percent decrease in fixed-route ridership over a six-year horizon; decreasing from 202,779 annual one-way trips in 2017 to 104,834 in 2022. It is important to note that RCT agency underwent a service revision in 2019 which resulted in the streamlining of fixed-routes and a reduction in the number of revenue service hours delivered and revenue miles traveled for both modes of service. Additionally, the reported decline is consistent with industry trends realized since the on-set of the COVID-19 pandemic in calendar year 2020. A 56 percent decrease in ADA complementary paratransit, or demand response, ridership was realized for the same time span. The decrease can be attributed to, in part, the service reduction implemented in 2019 as well as the COVID-19 pandemic as noted. The agency's three bus routes with the highest reported annual passenger trips for the referenced horizon are, Route 1 Park Avenue West; Route 2 Lexington/West Cook; and Route 9 Glessner/Marion. Ridership trends for all fixed routes trended in similar manner over time.

The performance analysis conducted confirms productivity and demonstrates the effectiveness of fixed-route and demand response services delivered by RCT while providing a baseline for future measures. Performance data for both service modes for years 2017 through 2021 is presented in Table 2.1. Productivity data for each bus route within RCT's fixed-route service network is illustrated in Table 2.2.

Table 2.1 | Service Data and Productivity Metrics

Service Mode: Fixed Route	Year				
Operational Statistics	2017	2018	2019	2020	2021
Annual Passenger Trips	202,779	224,286	183,182	104,762	90,550
Vehicles Operating in Max Service (VOMS)	10	10	10	7	7
Total Vehicle Revenue Miles	317,364	310,927	286,507	241,128	239,195
Total Vehicle Revenue Hours	21,053	21,593	22,114	17,730	17,579
Service Effectiveness					
Trips per Revenue Mile	0.6	0.7	0.6	0.4	0.4
Trips per Revenue Hour	9.6	10.4	8.3	5.9	5.2
Service Mode: Demand Response	Year				
Operational Statistics	2017	2018	2019	2020	2021
Annual Passenger Trips	13,962	13,982	12,313	6,800	6,114
Vehicles Operating in Max Service (VOMS)	6	6	6	5	5
Total Vehicle Revenue Miles	66,420	67,051	64,784	34,612	31,960
Total Vehicle Revenue Hours	7,314	5,977	6,076	3,765	3,915
Service Effectiveness					
Trips per Revenue Mile	0.2	0.2	0.2	0.2	0.2
Trips per Revenue Hour	1.9	2.3	2.0	1.8	1.6

Source: National Transit Database

Table 2.2 | Route Level Productivity Metrics - Passenger Trips per Revenue Hour, 2019 - 2022

Fixed Bus Route	Year			
	2019	2020	2021	2022
1 – Park Ave. West	16.8	10.7	10.5	11.0
2 – Lexington / West Cook	13.1	7.5	6.3	6.4
3 – South Main St. / Southside	5.9	4.3	4.2	4.9
5 – Springhill St. / Bowman	8.8	5.6	4.6	5.3
7 – Wayne / East Mansfield	7.0	3.9	3.4	3.8
8 – Glessner / Marion	9.6	5.5	5.0	5.1
9 – West Fourth St.	8.6	5.2	4.2	4.6
13 – NCSC / Kehoe / Shelby	3.0	1.9	2.4	2.6
15 – Airport Industrial Park	8.4	6.1	9.3	10.5

As referenced, RCT underwent a service revision in 2019 which resulted in the streaming of fixed bus routes and a decrease in both revenue service hours and miles for each service mode. For an accurate year over year comparison, route level productivity measures reflect 2019 to 2022. The primary metric for service productivity is passenger per revenue hour as illustrated in Figure 2.2. Productivity at the system and route level are consistent with declining ridership trends as illustrated and summarized above.

CHAPTER 3. GOVERNANCE STRUCTURE AND ORGANIZATIONAL REVIEW

The Richland County Transit Board (RCTB), comprised of seven appointed members, is the governing body for Richland County Transit. The mission of the RCTB is to provide safe, clean, reliable, efficient, and courteous transportation service for the transit users of Richland County. Although governed by an independent Board, Richland County Regional Planning Commission (RCRPC) has provided oversight for RCTB since 1978. RCT operations are managed by a third-party contractor. The private company under contract has the authority to manage and directly negotiate a local collective bargaining agreement (CBA) with a labor force of operators and mechanics. A summary of the role and function of each party is presented in this section. The organizational chart for RCTB at present is depicted in Figure 3.1.

Richland County Regional Planning Commission (RCRPC)

The RCRPC, established in 1959, addresses issues ranging from infrastructure to zoning across jurisdictions and political boundaries within Richland County. The Commission is comprised of 28 individuals who represent governmental agencies, businesses, and civic organizations within the County. The objective of the Commission is to identify the needs, problems and hopes of the people and to plan the environment in accordance with them. The Commission employs a staff of professionals and technicians to undertake a variety of

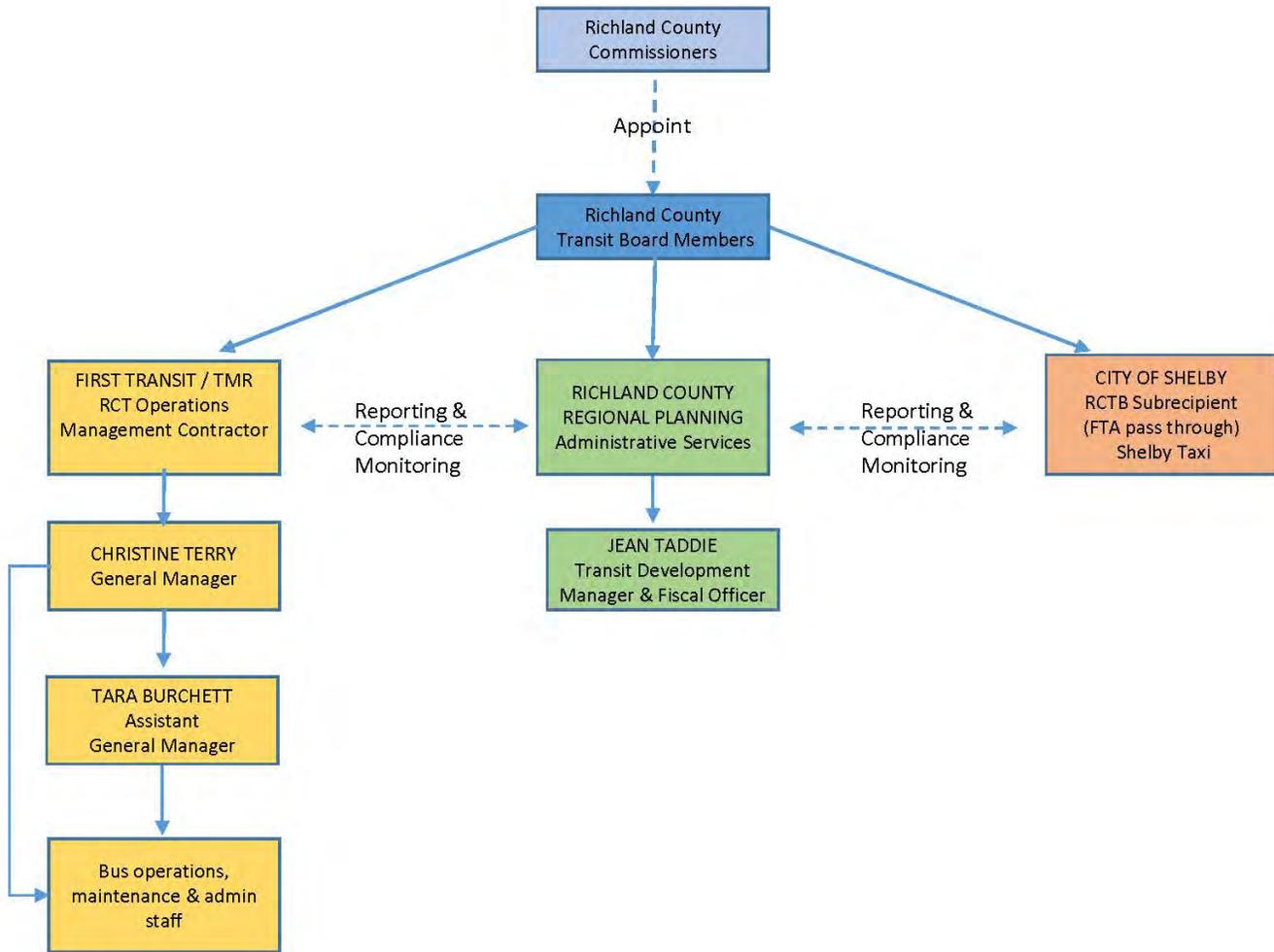
programs and projects, including, community development; land use planning; transit planning; and transportation planning (MPO).

The commission provides administrative services for the Richland County Transit Board. Oversight of the transit agency is provided by the Commission's Transit Development Manager. Additional administrative functions provided on an abbreviated scale as compared to the above referenced include, planning, GIS, and mobility management.

Richland County Transit Board (RCTB)

The RCTB is the governing body for RCT. It is responsible for establishing policy and procedures, defining service levels, and developing the fare structure for the transit agency. RCT Board members and Chair are appointed by the Richland County Commissioners as per Chapter 306 of the Ohio Revised Code. The RCTB assumes financial responsibility for RCT including its expenses and owns the capital assets. Income received including fare box revenue is the property of the RCTB.

Figure 3.1 | 2022 RCTB Organizational Chart



CHAPTER 4. FINANCIAL REVIEW

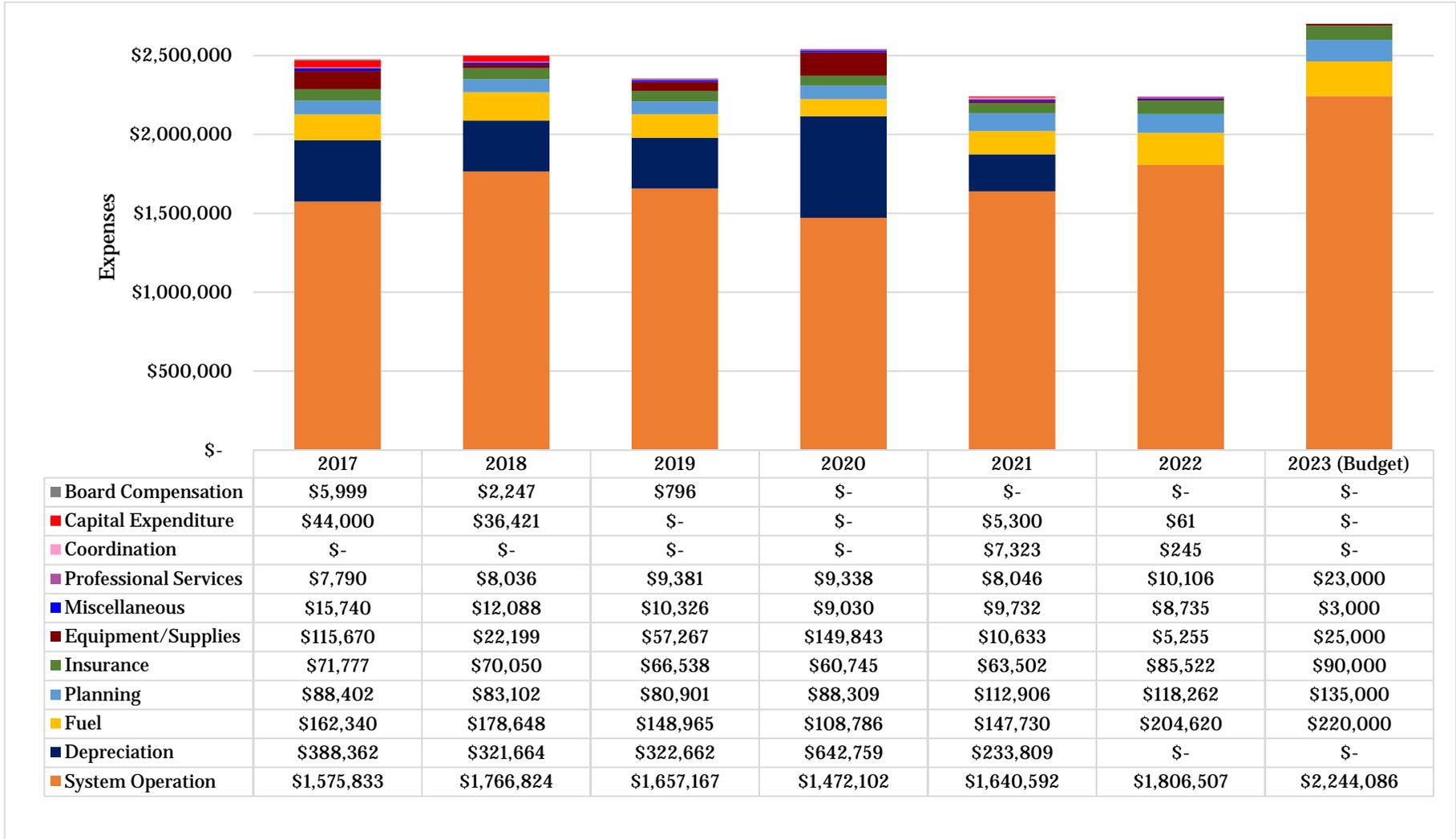
RCT is funded through a combination of federal, state, and local dollars, as well as passenger fares and human service agency revenue. The agency provided financial records to RLS for fiscal year 2017 through fiscal year 2022, and the adopted 2023 budget.

EXPENSES

RCT's annual expenses, beginning in 2017, are provided in Figure 4.1. The largest expense category is System Operation, which primarily represents the agency's operations contract with First Transit/TMR. Expenses dropped by 5.8 percent from 2018 to 2019, reflecting the agency's reduction in service due to funding constraints. Expenses rose in 2020 with the onset of the COVID-19 pandemic and the availability of Federal CARES Act funding.

Expenses for 2022 and 2023 do not reflect depreciation. The projected expenses for 2023, which total \$2,740,086, reflect rising costs of operation, including increased wages, benefits, and fuel costs.

Figure 4.1: Expenses by Category, 2017-2023

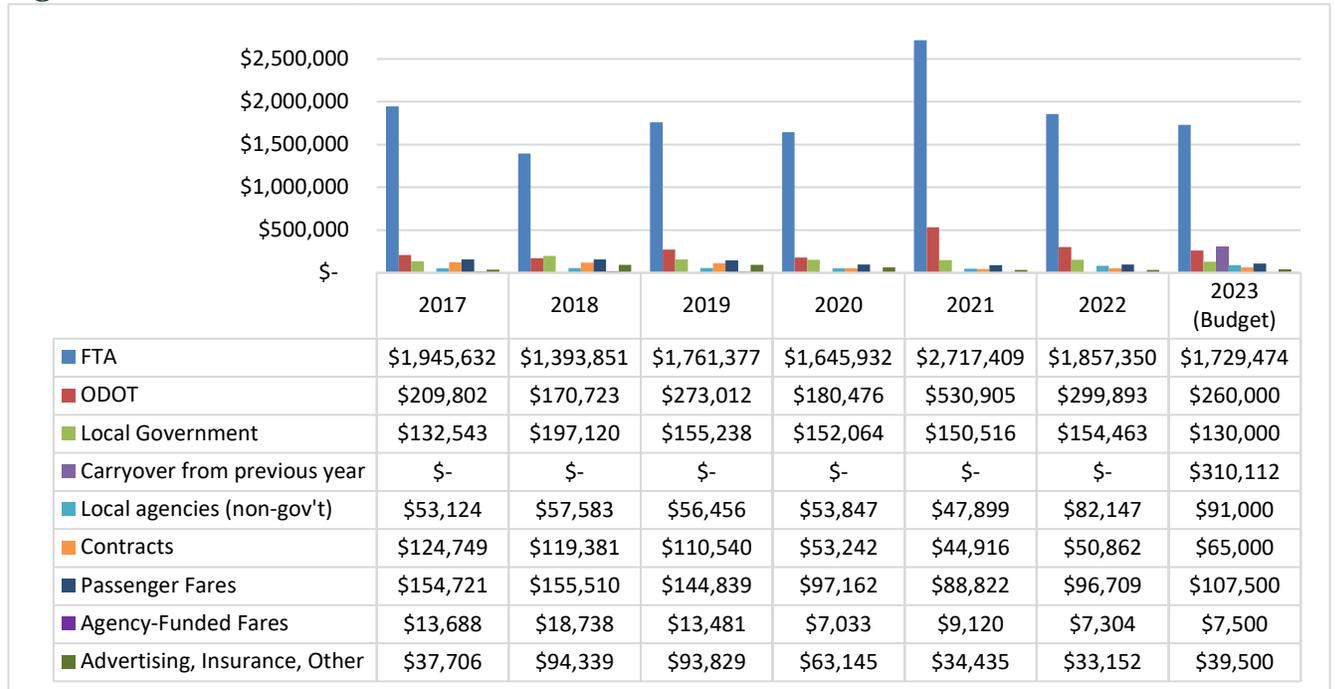


Source: Richland County Regional Planning Commission

REVENUE

RCT revenues, beginning in 2017, are shown in Figure 4.2.

Figure 4.1: RCT Revenues, 2017-2023



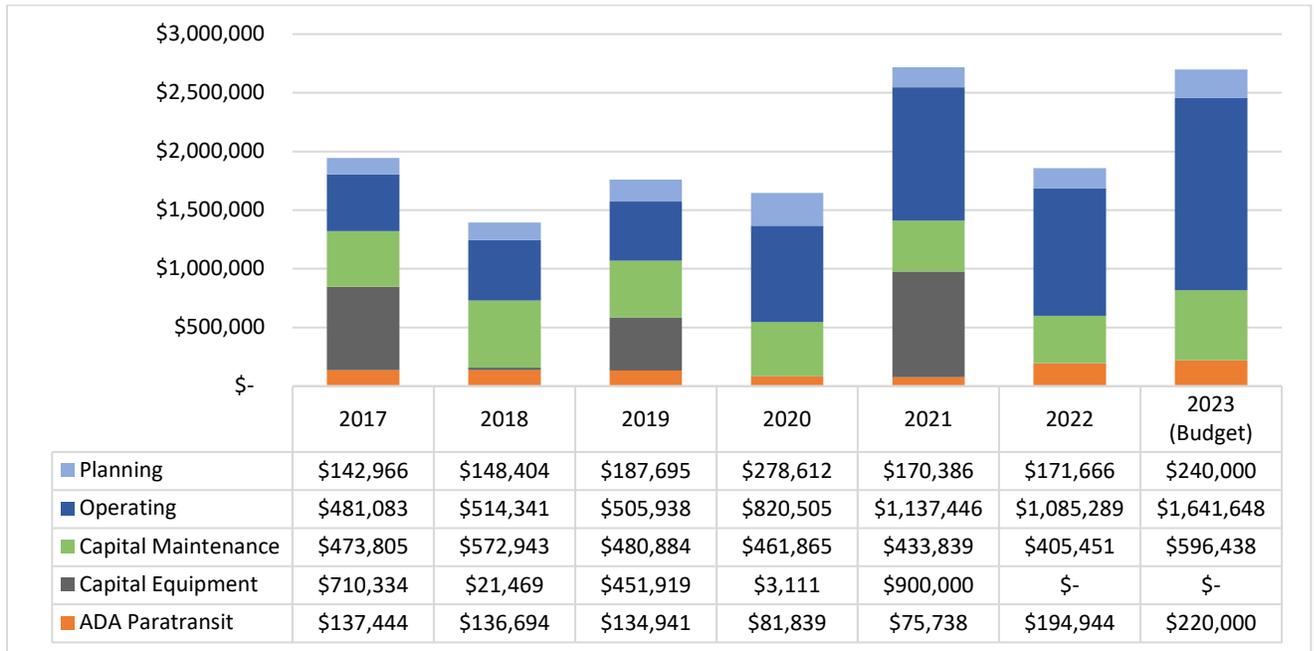
Source: Richland County Regional Planning Commission

Federal Transit Administration Revenue

Federal Transit Administration (FTA) funding authorized under 49 USC Section 5307 is the primary funding source for RCT. The FTA provides several categories of Section 5307 grant funding to RCT. The categories include planning, operations, capitalized maintenance, capital equipment, and ADA paratransit. RCT must match operating funding at a rate of 50 percent federal/50 percent local; the other categories require only a 20 percent local match.

Figure 4.2 provides FTA revenue levels by category, beginning in 2017. It is typical for a transit agency to have inconsistent levels of FTA capital funding from year to year. The 2021 Bipartisan Infrastructure Bill increased the amount of FTA funds available to communities. Capital funding applications depend largely on vehicle replacement needs due to fleet age and state of good repair status.

Figure 4-2: FTA Revenue by Category, 2017-2023



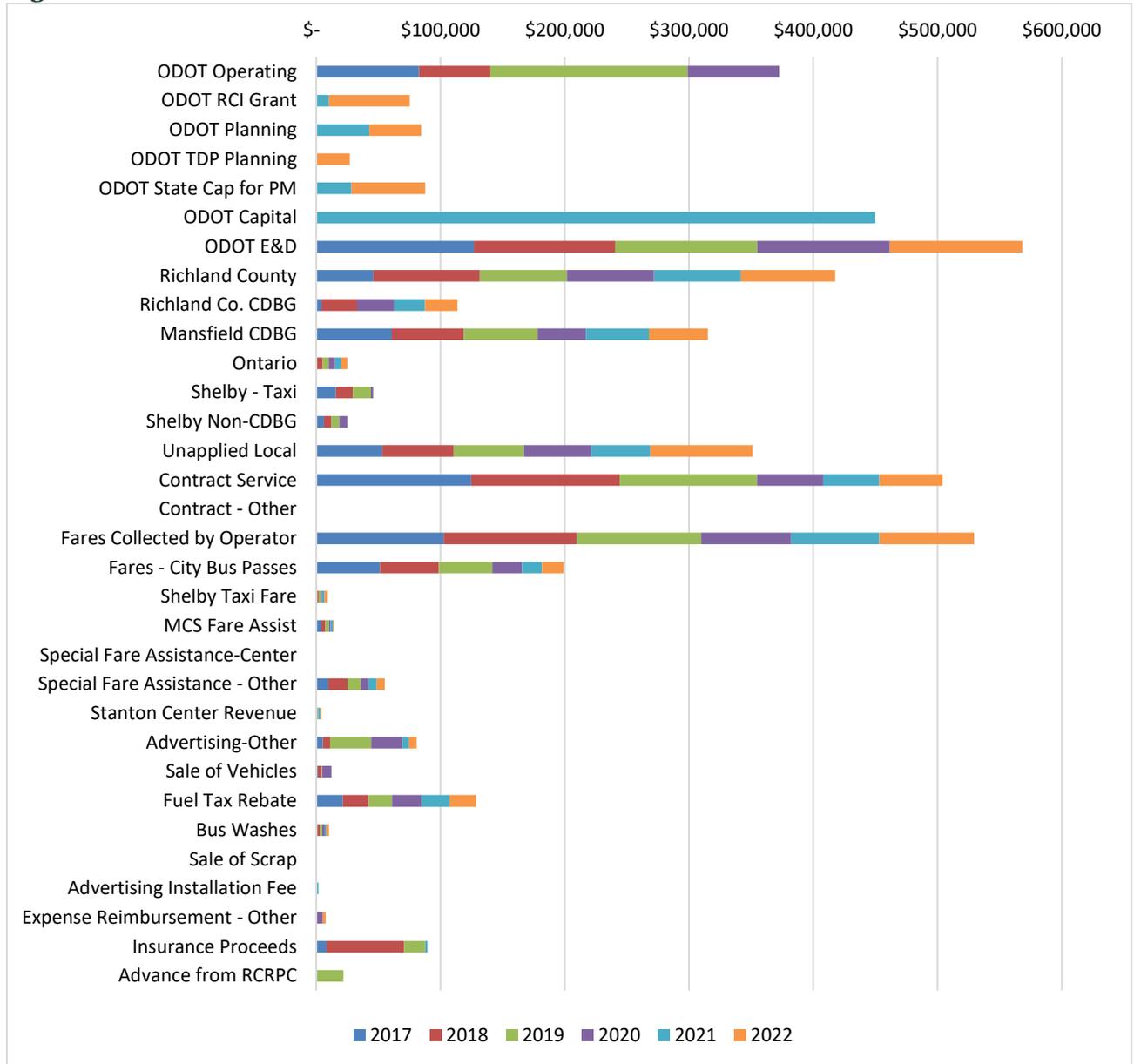
Source: Richland County Regional Planning Commission

Non-FTA Revenue

In addition to FTA revenue, RCT receives funding from the Ohio Department of Transportation (ODOT) Office of Transit and a variety of local organizations. These contributions are shown in Figure 4.4, which displays the amounts of funding provided from 2017 to 2022. Local and state funds, as well as Federal funds derived from non-USDOT sources, are eligible sources of local match for FTA grants.

Outside of ODOT funds, the largest sources of local match for RCT FTA funding are revenues generated by service contracts, Richland County, and Federal Community Development Block Grant (CBDG) funding allocated by the City of Mansfield. The “Unapplied Local” category consists of contributions from North Central State University, Ohio State University-Mansfield, Pioneer Career & Technology Center, Richland County Mental Health and Recovery Board, and the City of Shelby.

Figure 4.4: Non-FTA Revenue, 2017-2022



Source: Richland County Regional Planning Commission

Passenger Fare Structure

RCT’s passenger fare structure is provided in Table 4.1. Fares may be paid in cash on the bus, or via bus passes that can be purchased in advance at the RCT offices.

Table 4.1: RCT Fare Structure

Pass Type	Single Pass	Day Pass	Monthly Pass
Adult	\$2.00	\$5.00	\$50.00
Children/Students 6-18	\$1.00	\$2.50	\$25.00

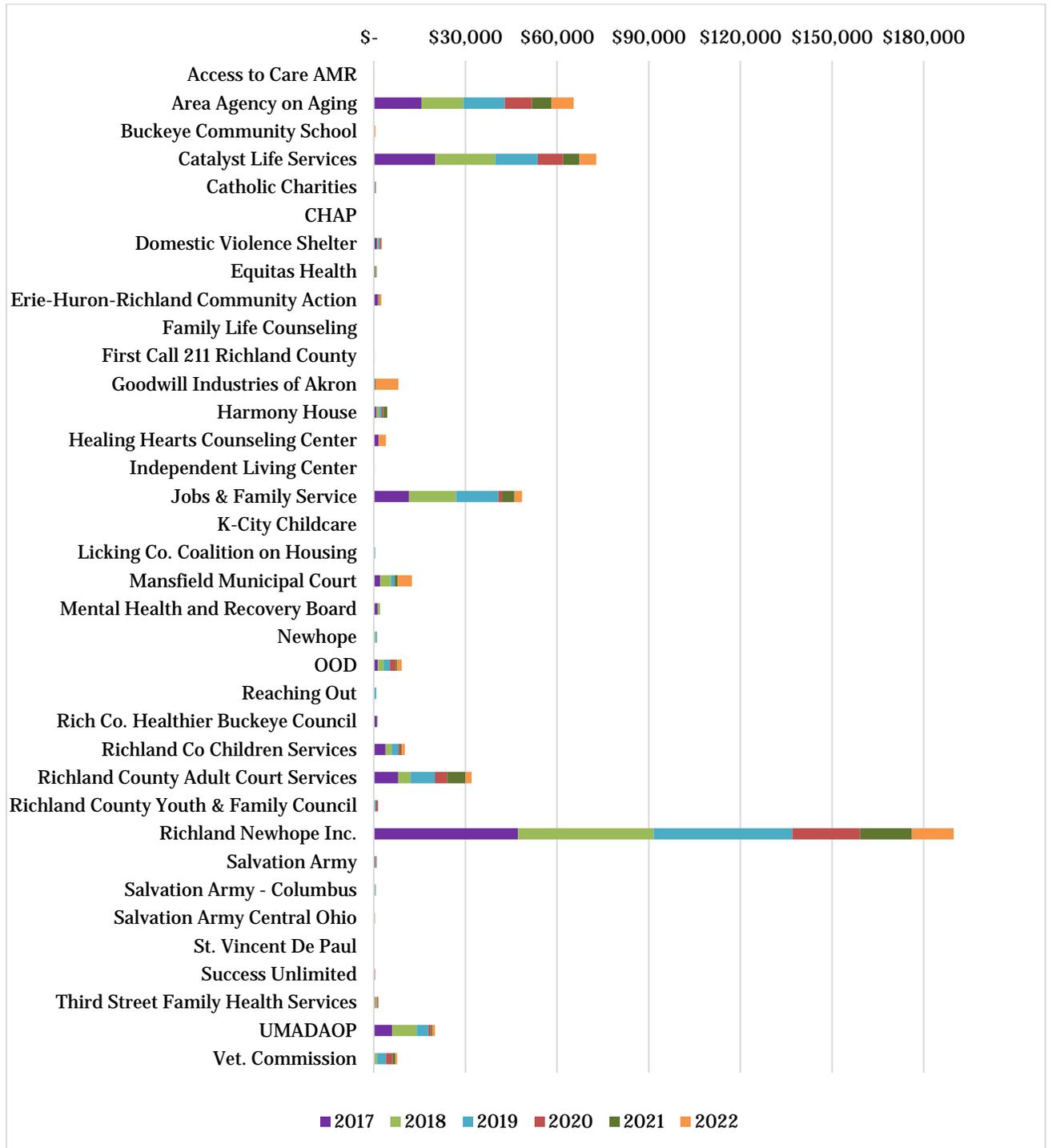
Pass Type	Single Pass	Day Pass	Monthly Pass
Age 65+/Medicare card holder	\$1.00	\$2.50	\$25.00
Disabled	\$1.00	\$2.50	\$25.00
Children under 5	Free	Free	Free
Transfers	Free (at Transit Center only)	Free (at Transit Center only)	Free (at Transit Center only)
Dial-A-Ride/Grocery Shuttle	\$4.00	Not offered	\$100.00

Source: Richland County Transit

Contract Revenue

RCT generates program income through contracting for client transportation services with local human service agencies. Prior to the pandemic, agency contracts brought in approximately \$118,000 per year, which was used as local match. Contract revenue has fallen since the pandemic, but is likely to increase as more human service agency clients resume their pre-pandemic travel patterns. The agencies that have purchased the most service include Richland Newhope Industries, Catalyst Life Services, Area Agency on Aging, and Richland County Job and Family Services. Contract revenue is shown in Figure 4.5.

Figure 4.5: Agency Transportation Revenue by Organization, 2017-2022



Source: Richland County Regional Planning Commission

The agencies listed in Figure 4.5 purchase either bus passes for the RCT fixed routes, or rides on the Dial-A-Ride service. The price of fixed route bus passes follows the RCT general public fare structure. Agencies purchasing Dial-A-Ride trips on behalf of clients are charged \$8.00

per ride. The passenger fare covers a portion of the fully allocated cost of providing the ride. The remaining cost is covered by federal and state subsidies. RCT does not currently charge agencies the fully allocated cost for a Dial-A-Ride trip. Many transit agencies in Ohio opt to charge human service agencies for the fully allocated cost of demand response trips, or they charge rates set by state agencies (e.g., Department of Opportunities for Ohioans with Disabilities). Table 4.2 provides the amounts of fixed route and Dial-A-Ride contract service purchased by human service agencies by year.

Table 4.2: Contract Service Revenue, 2017-2022

Year	Bus tickets	Dial-A-Ride	Total
2017	\$68,128	\$56,621	\$124,749
2018	\$60,779	\$58,602	\$119,381
2019	\$51,722	\$58,818	\$110,540
2020	\$29,260	\$24,063	\$53,323
2021	\$28,036	\$16,904	\$44,940
2022	\$35,606	\$15,256	\$50,862

Source: Richland County Regional Planning Commission and RLS Computations

FINANCIAL PERFORMANCE

RLS retrieved RCT’s National Transit Database (NTD) Agency Profiles for 2017 through 2021. The profiles include measures of cost efficiency and cost effectiveness. **Cost efficiency** refers to the amount of public transportation services produced for the community in relation to the resources expended. This measure attempts to answer the question, “*How many resources were expended per unit of public transportation service?*” Units of service produced are measured in terms of service outputs such as vehicle hours or vehicle miles. Resources expended include labor, capital, materials, and services. The smaller the number of resources expended to produce a unit of service, the greater the resource efficiency of the public transportation service.

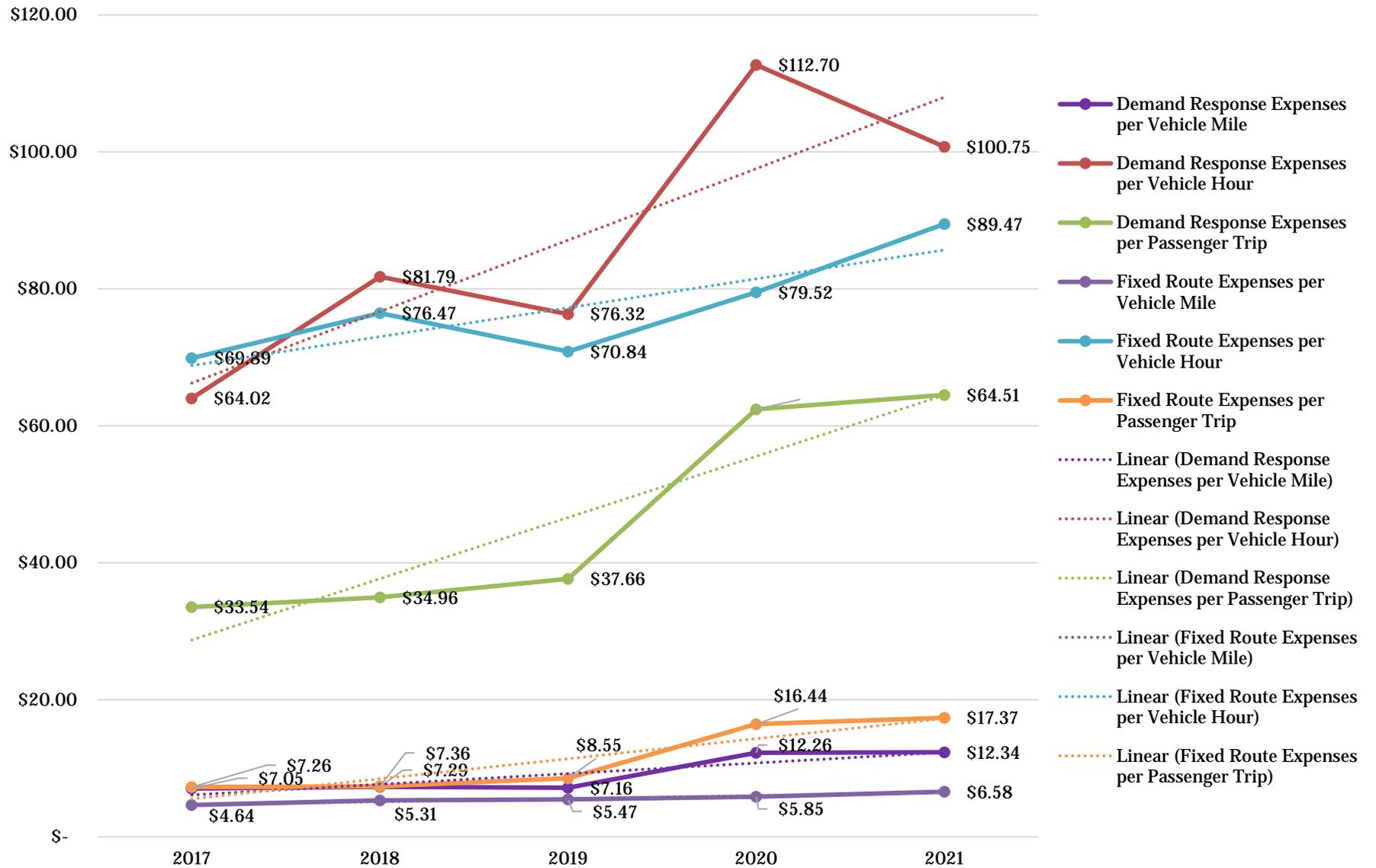
The consumption of public transportation services in relation to the resources expended is referred to as **cost effectiveness**. This concept attempts to answer the question, “*How many resources were expended per unit of consumption?*” Consumption is measured by passenger boardings, passenger trips, or passenger miles. The smaller the number of resources expended in relation to the service consumed, the more cost-effective the service.¹

Figure 4.4 displays trends in cost efficiency and cost effectiveness over the five-year period beginning in 2017. The data is also provided in Table 4.3, which shows the year-over-year percentage change in the performance measures. Large increases occurred from 2019 to 2020

¹ This evaluation framework and definitions are derived from Burkhardt, *et. al.*, *Financial Management Guidelines for Rural and Small Urban Transportation Providers*, American Association of State Highway and Transportation Officials (AASHTO), Washington, D.C., 1992.

due to the pandemic. While funding remained stable due to the Federal CARES Act, a one-time emergency injection provided at 100% with no local match requirement, service outputs (revenue hours and miles) were reduced and ridership declined, resulting in increased unit costs. The pandemic resulted in unusual expenses including furlough pay, frontline employee bonuses, and additional cleaning, for example.

Figure 4-3: Financial Performance, 2017-2021



Source: National Transit Database

Table 4.3: Financial Performance, 2017-2018

	2017	2018	Change	2019	Change	2020	Change	2021	Change
Demand Response									
Expenses per Vehicle Mile	\$7.05	\$7.29	3%	\$7.16	-2%	\$12.26	71%	\$12.34	1%
Expenses per Vehicle Hour	\$64.02	\$81.79	28%	\$76.32	-7%	\$112.70	48%	\$100.75	-11%
Expenses per Passenger Trip	\$33.54	\$34.96	4%	\$37.66	8%	\$62.40	66%	\$64.51	3%
Fixed Route									
Expenses per Vehicle Mile	\$4.64	\$5.31	14%	\$5.47	3%	\$5.85	7%	\$6.58	12%
Expenses per Vehicle Hour	\$69.89	\$76.47	9%	\$70.84	-7%	\$79.52	12%	\$89.47	13%
Expenses per Passenger Trip	\$7.26	\$7.36	1%	\$8.55	16%	\$16.44	92%	\$17.37	6%

Source: National Transit Database and RLS computations

CAPITAL PLAN

RCT maintains an asset inventory in the agency’s FTA-required Transit Asset Management (TAM) plan. The agency’s TAM goal is to maintain the agency’s revenue vehicles in serviceable condition through their useful life benchmark (ULB) ages (14 years for transit buses and ten years for cutaway buses), and to provide transit service in a safe manner with zero preventable accidents. In the November 2022 update of the TAM plan, RCT listed the vehicles, equipment, and facilities shown in Table 4.4 in its asset inventory.

Table 4.4: Asset Inventory with % At/Exceeds ULB

Type	Total Number	Average Age	Average Mileage	Average Replacement Cost/Value	Total Replacement Cost/Value	% At or Exceeds ULB
Revenue Vehicles	19	6.9	74,352	\$251,785.89	\$4,783,932.00	16%
Bus	8	7.1	98,015	\$448,231.75	\$3,585,854.00	13%
Cutaway	11	6.7	57,143	\$108,916.18	\$1,198,078.00	18%
Equipment	30	12.0	N/A	\$3,078.17	\$92,345.00	93%
Other Rubber Tire Vehicles	3	12.3	N/A	\$15,575.00	\$47,250	33%
Building Hardware	1	32.0	N/A	\$8,125.00	\$8,125.00	100%
Equipment	26	12.4	N/A	\$1,421.92	\$36,970.00	100%
Facilities	2	28.0	N/A	\$1,240,275.00	\$2,480,546.00	N/A
Maintenance	1	32.0	N/A	\$1,828,550.00	\$1,828,546.00	N/A

Type	Total Number	Average Age	Average Mileage	Average Replacement Cost/Value	Total Replacement Cost/Value	% At or Exceeds ULB
Revenue Vehicles	19	6.9	74,352	\$251,785.89	\$4,783,932.00	16%
Passenger Facility	1	24.0	N/A	\$652,000.00	\$652,000.00	N/A

Proposed Capital Investments

Table 4.5 includes the TAM plan’s prioritized schedule of capital investments through 2023. This schedule will support RCT’s decision-making about capital funding applications for the ten-year planning horizon.

Table 4.5: Proposed Investment Schedule

Project Name	Project Year	Asset Category	Asset Class	Cost	Priority
Cutaway Bus Replacement (204, 205, 219)	2022	Revenue Vehicles	CU - Cutaway Bus	\$375,000.00	High
Radio Equipment	2022	Equipment	Equipment	\$30,000.00	High
Administration/ Maintenance Window Replacement	2023	Facilities	Maintenance	\$32,000.00	High
Administration/ Maintenance and Transit Center HVAC Renovation	2023	Facilities	Maintenance	\$400,000.00	High
Administration/ Maintenance Parking Area Repair	2023	Facilities	Maintenance	\$70,000.00	High
Administration/ Maintenance Painting	2023	Facilities	Maintenance	\$15,000.00	High
Bus Replacement (20, 22, 23)	2024	Revenue Vehicles	BU - Bus	\$1,500,000.00	High
Cutaway Bus Replacement (206, 217, 218, 220)	2024	Revenue Vehicles	CU - Cutaway Bus	\$600,000.00	High
Administration/ Maintenance Vehicle Lift Repair	2024	Equipment	Equipment	\$15,000.00	Medium
Transit Center Repair and Update Restroom Facilities & Repair External Support Beams	2024	Facilities	Maintenance	\$25,000.00	Medium
Administration/ Maintenance Fuel Pumps & Island	2025	Facilities	Maintenance	\$75,000.00	High

Project Name	Project Year	Asset Category	Asset Class	Cost	Priority
Administration/ Maintenance Roof Replacement	2025	Facilities	Maintenance	\$75,000.00	High
Administration/ Maintenance LED Lighting - Parking Lot & Office Area	2025	Facilities	Maintenance	\$75,000.00	High
Transit Center LED Lighting - Parking Lot and Interior	2025	Facilities	Maintenance	\$15,000.00	High
Cutaway Bus Replacement (221-224)	2025	Revenue Vehicles	CU - Cutaway Bus	\$600,000.00	High
Administration/ Maintenance Facility Flooring Replacement	2026	Facilities	Maintenance	\$15,000.00	Medium
Replace Service Truck	2026	Equipment	Non-Revenue/ Service Automobile	\$52,000.00	Medium
Transit Center Flooring Replacement	2026	Facilities	Maintenance	\$10,000.00	Medium
Transit Center Interior & Exterior Painting	2026	Facilities	Maintenance	\$40,000.00	High
Cutaway Bus Replacement	2027	Revenue Vehicles	CU - Cutaway Bus	\$580,000.00	High
Lift Truck Replacement	2027	Equipment	Equipment	\$30,000.00	Medium
Transit Center Signs	2027	Facilities	Maintenance	\$20,000.00	Low
Administration/ Maintenance Facility Signs	2027	Facilities	Maintenance	\$20,000.00	Low
Transit Center Exterior Benches & Interior Seating	2027	Facilities	Maintenance	\$25,000.00	Low
Bus Replacement	2029	Revenue Vehicles	BU - Bus	\$615,000.00	High
Bus Replacement	2031	Revenue Vehicles	BU - Bus	\$1,815,000.00	High
Cutaway Bus Replacement	2031	Revenue Vehicles	CU - Cutaway Bus	\$125,000.00	High
Cutaway Bus Replacement	2032	Revenue Vehicles	CU - Cutaway Bus	\$673,000.00	High
Bus Replacement	2032	Revenue Vehicles	BU - Bus	\$1,250,000.00	High

CHAPTER 5. SUMMARY

Transit demand estimation data and agency performance trends provide insight on existing conditions of Richland County and Richland County Transit. Socio-economic and demographic data overlaid with the RCT system network illustrates that public transportation is serving majority of the areas in which demand is the greatest and population groups with the greatest need. Gaps in service and an opportunity to serve individuals age 65 and older and individuals below the poverty level located in and around Madison Township where transit propensity is highest. Services are also appropriately aligned with areas in which job density and employment opportunities are greatest. However, locations not served include Lexington and Troy Township, Millsboro Rd., and Ontario.

RCT ridership declined steeply with the onset of the COVID-19 pandemic in early 2020. In 2022, ridership recovered slightly over 2021 levels. Detailed analysis of ridership and productivity will be provided in Technical Memorandum #2. The drop in ridership, as well as rising costs and emergency federal funds availability, led to the decreased cost-efficiency observed in Figure 4-5. RCT's annual operations require approximately \$2 million in revenue. The system relies on numerous local agencies to supply critical local matching funds. Its federal operating funds must be matched dollar-for-dollar by state or local funds (passenger fares are ineligible as local match). In 2023, RCT will supplement its revenue with unspent, saved local funds from previous years. This will allow the system to preserve service in 2023 while absorbing cost increases. Future TDP tasks will include work to identify sources of sustainable local funding for both operations and the capital needs detailed in Table 4.5.

NEXT STEPS

A comprehensive public engagement campaign inclusive of the following elements is well underway:

1. Community Survey
2. Customer/On-board Survey
3. Public Open Houses
4. Pop-up Events
5. Vision Bus
6. Social Media Contest

Qualitative and quantitative data including public input garnered through the above referenced campaign, stop level ridership data, and schedule adherence for each bus route is being secured and will be presented under Technical Memorandum #2 on February 10, 2022.