BCRTA TRANSIT PLAN

Existing Conditions Memorandum

Summer 2022

Bcrta
Butler County Regional Transit Authority

Introduction

The *Existing Conditions Technical Memorandum* for the Butler County Regional Transportation Authority's (BCRTA) Transit Plan is a two-part memorandum that provides an overview of the transit services provided by BCRTA, analyzes the service against transit performance indicators, and provides background information regarding the transit market in the BCRTA service area.

The first part of the memorandum is the *Market Analysis* which spatially identifies areas that are indicative of a higher propensity to use public transportation. The second part of the memorandum is the *Route Profiles* which provides a detailed route-by-route analysis based on data from February 2022. The *Existing Conditions Technical Memorandum* serves as the baseline of understanding for existing services and will be leveraged through the next phases of the plan.

MARKET ANALYSIS

Introduction

More than any other factor, density determines the effectiveness and efficiency of public transportation. Places with higher concentrations of people and/or jobs tend to have higher transit ridership. At the same time, most transit agencies have a mandate to provide comprehensive service in the communities they serve and to provide mobility for residents with no other means of transportation. The purpose of this Market Analysis is to both identify the strongest transit corridors in Butler County and to highlight areas with relatively high transit need. Thus, the Market Analysis consists of two key components: Transit Potential and Transit Need.

While Transit Potential is an analysis of population and employment density, Transit Need focuses on socio-economic characteristics such as income, automobile availability, age, and disability status that are indicative of a higher propensity to use transit. Transit use is also influenced by the built environment. Certain land uses—such as retail centers, civic buildings, multifamily housing, educational institutions, medical facilities, and major employment centers—tend to generate transit trips at a relatively higher rate. As such, these ridership generators are included in the maps describing Transit Potential and Transit Need. These ridership generators are included as points on each map due to the number of trip generators and scale of each map. Fixed-Route transit service is shown throughout as it was operated in January 2022.

Transit Potential

Transit service is generally most effective in areas with high concentrations of residents and/or jobs. The following Transit Potential analysis uses American Community Survey (ACS) 2019 five-year datasets and Longitudinal Employer-Household Dynamics (LEHD) 2019 job employment data.

Population Density

Public transportation is most efficient when it connects population and employment centers where people can easily walk to and from bus stops. Transit's reach is generally limited to within one-quarter mile to one-half mile of the transit line, or a 10-minute walk. For this reason, the size of a transit travel market is directly related to an area's population density. Typically, a density greater than five people per acre[1] is needed to support base-level (hourly) fixed-route

[1] The TCRP Transit Capacity and Quality of Service Manual suggests 3 households per acre (approximately 6 people per acre) or 4 jobs per acre can support hourly transit service. Figure is based on these findings and the consultant's prior experience with transit service planning.

transit service. **Figures 1 through 4** show the population density of Butler County. Yellow areas indicate places where fixed-route service could be feasible; areas that are orange or red have the potential to support more frequent service.

Butler County at large has low population density unsupportive of traditional fixed-route transit; however, pockets of transit-supportive densities are prominent in the cities of Oxford, Hamilton, Trenton, and Middletown. There is also density outside of Butler County in Springdale where BCRTA currently provides service. Transit supportive densities are concentrated most heavily around:

- Community centers and hospitals in Oxford
- Miami University in Oxford and Hamilton
- Multi-family housing in Trenton and Middletown

Figure 1 - Oxford Population per Acre

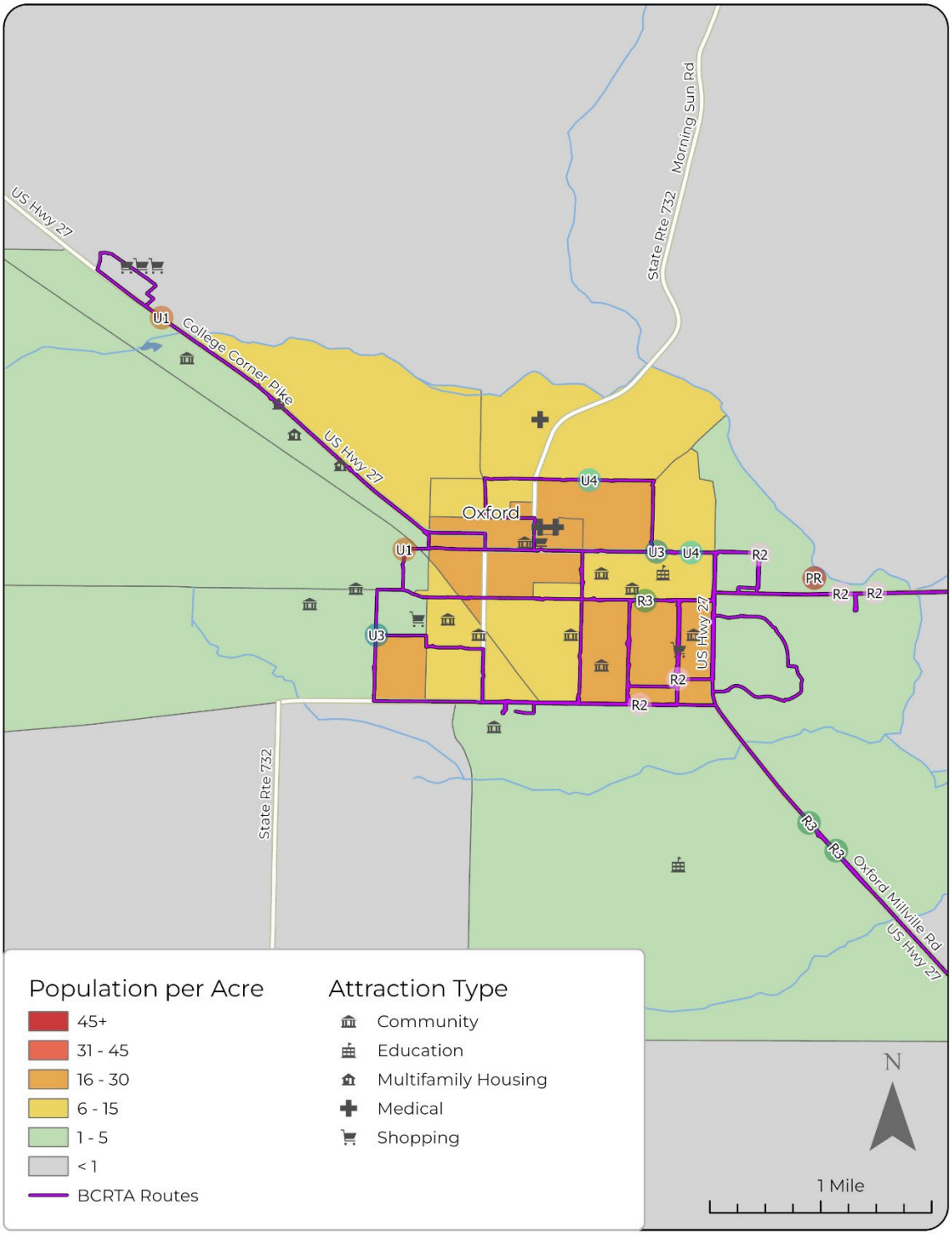

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Figure 2 - Middletown Population per Acre

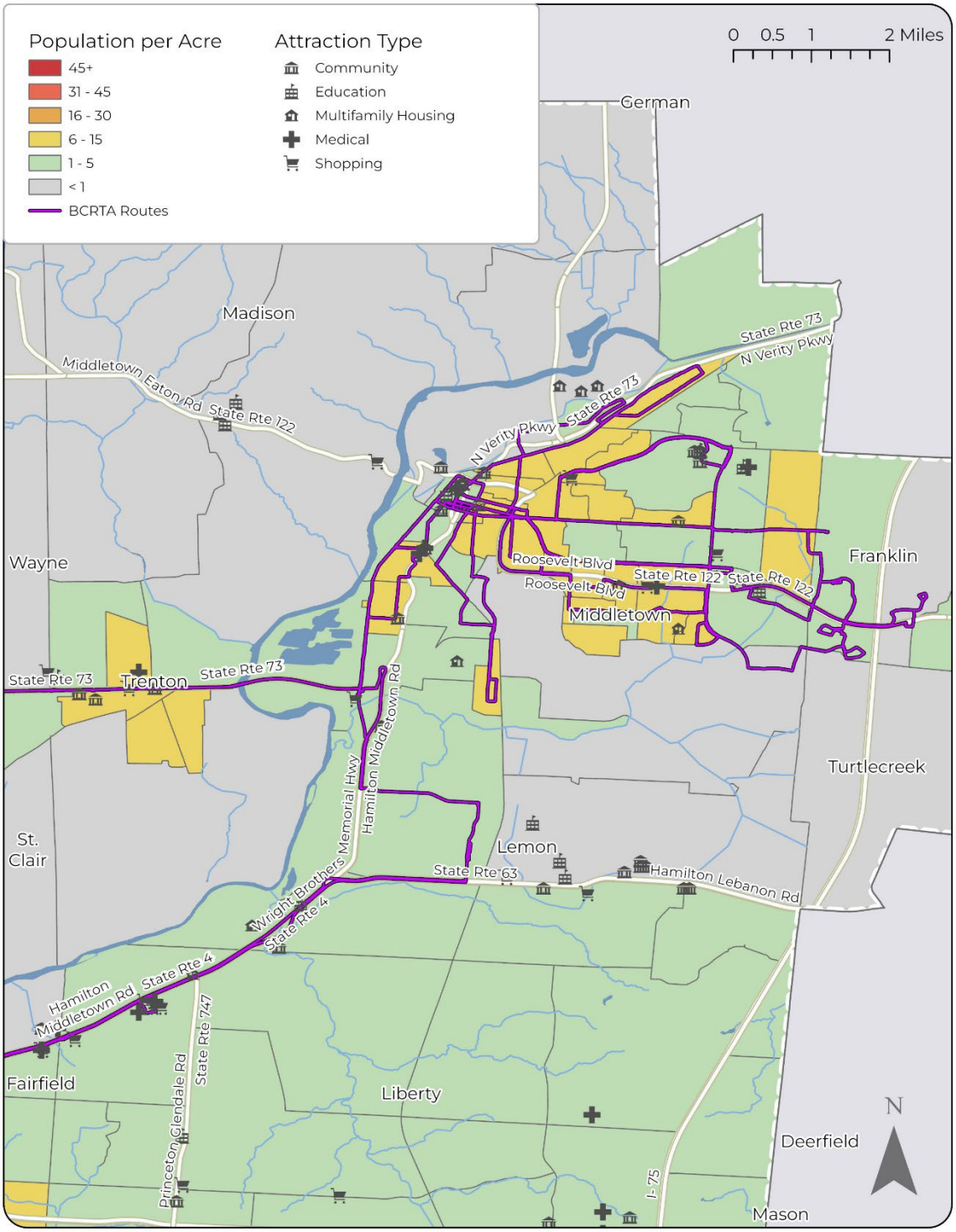

Figure 3 - Hamilton Population per Acre

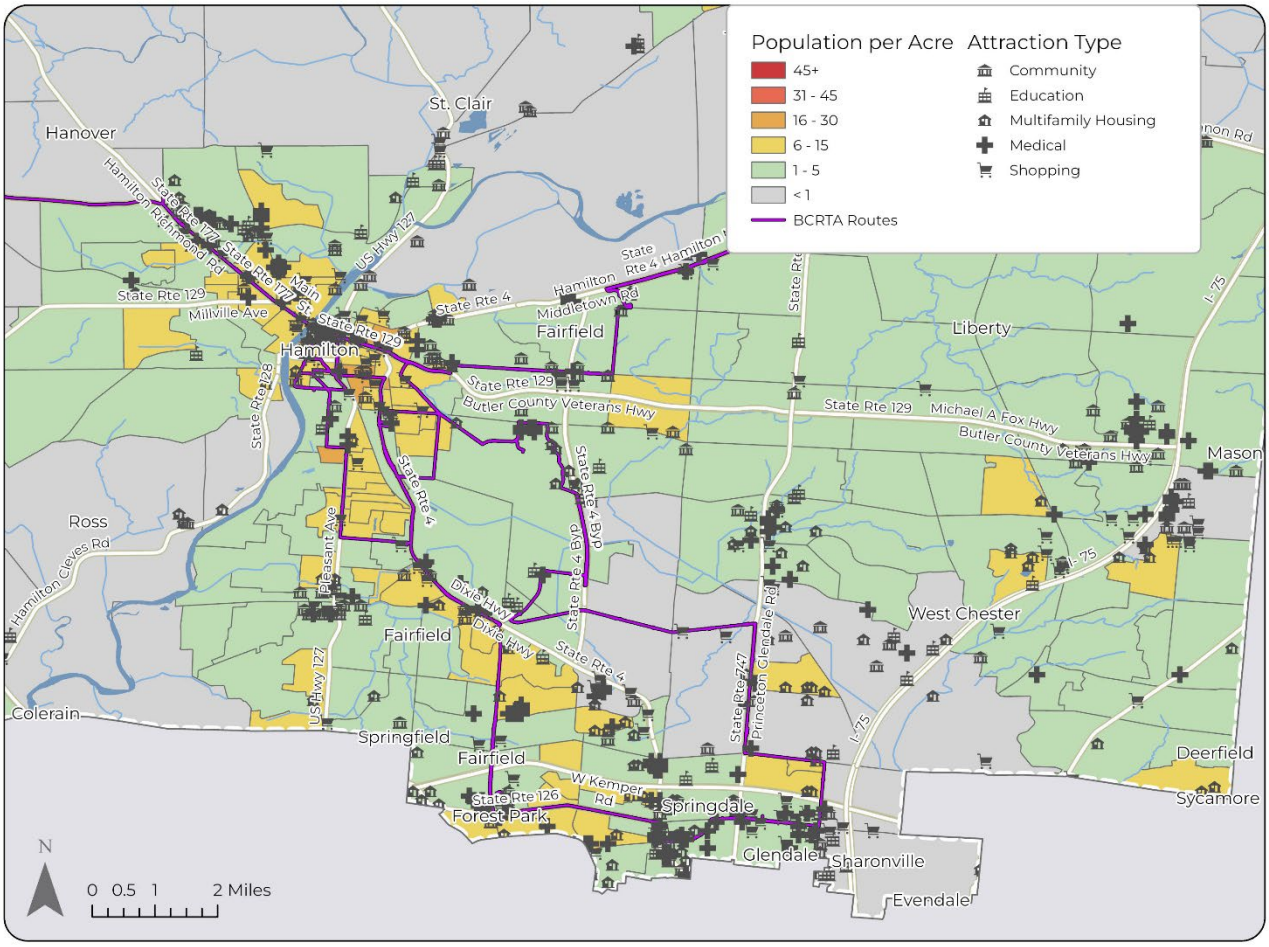

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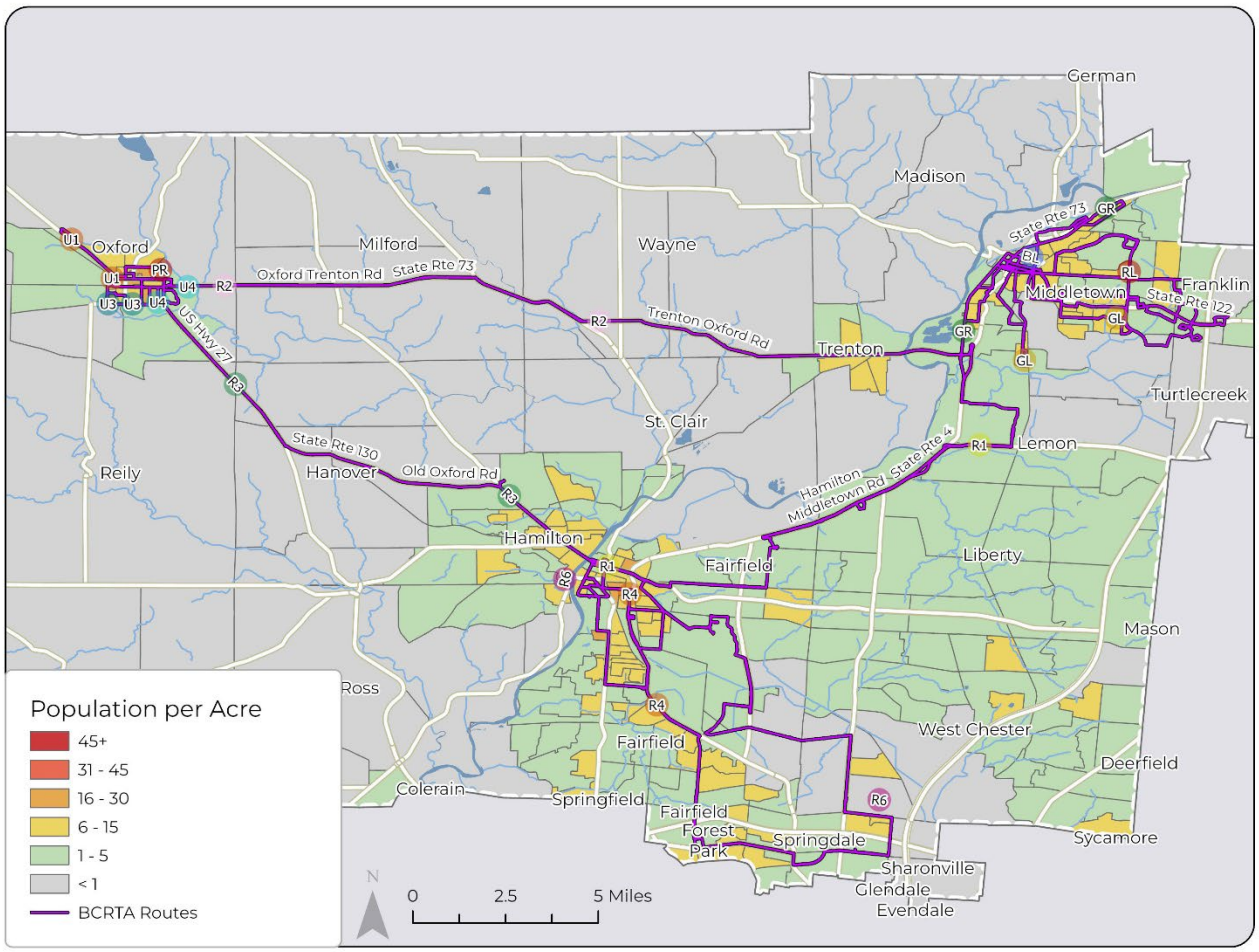
Figure 4 - Countywide Population per Acre



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Employment Density

Given that traveling to and from work accounts for the largest single segment of transit trips in most markets, the location and number of jobs in a region are also strong indicators of transit demand. Transit that serves areas of high employment density also provides key connections to job opportunities. Like population density, an employment density greater than five jobs per acre can typically support base-level fixed-route service. This density corresponds with the yellow, orange, and red areas in Figures 5 through 8.

In Butler County, job concentration is highest in Oxford, with additional areas of moderate job density in the southeast Per region concentrations are centered around:

- Miami University in Oxford
- West Chester west of I-75
- Hamilton on High Street near the Great Miami River
- The Tri-County Mall and surrounding shopping centers in Springdale

Figure 5 - Oxford Jobs per Acre

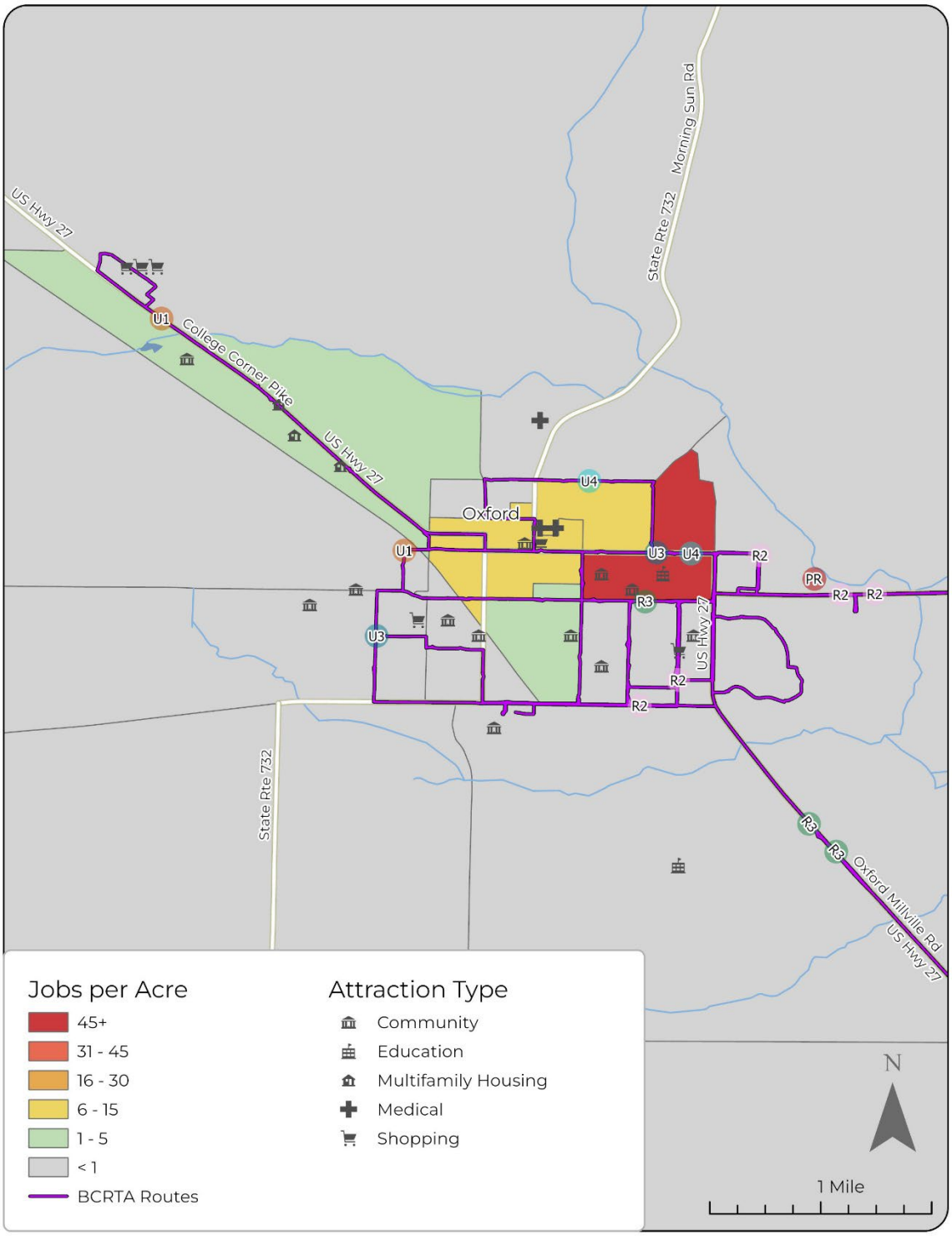


Figure 6 - Middletown Jobs per Acre

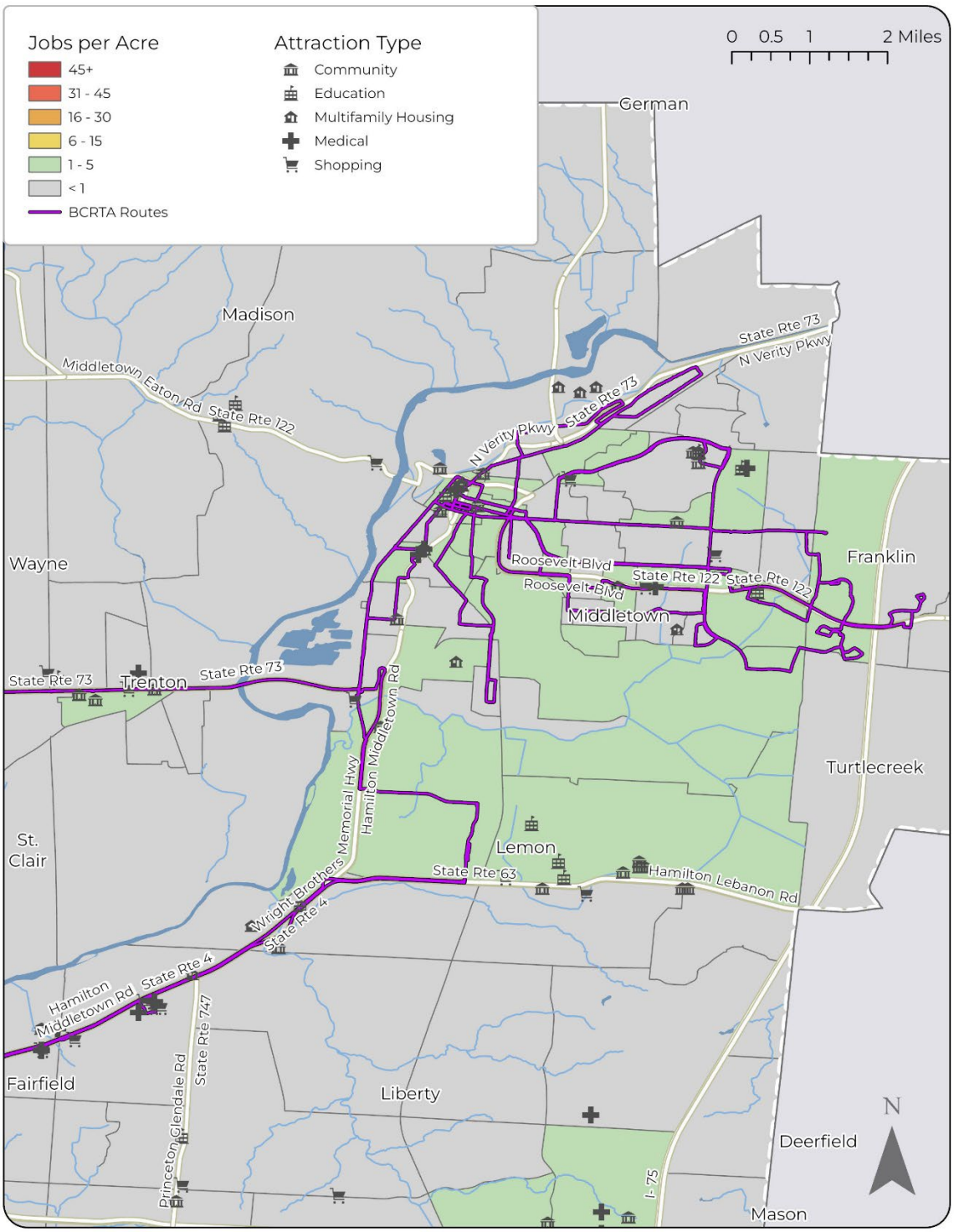


Figure 7 - Hamilton Jobs per Acre

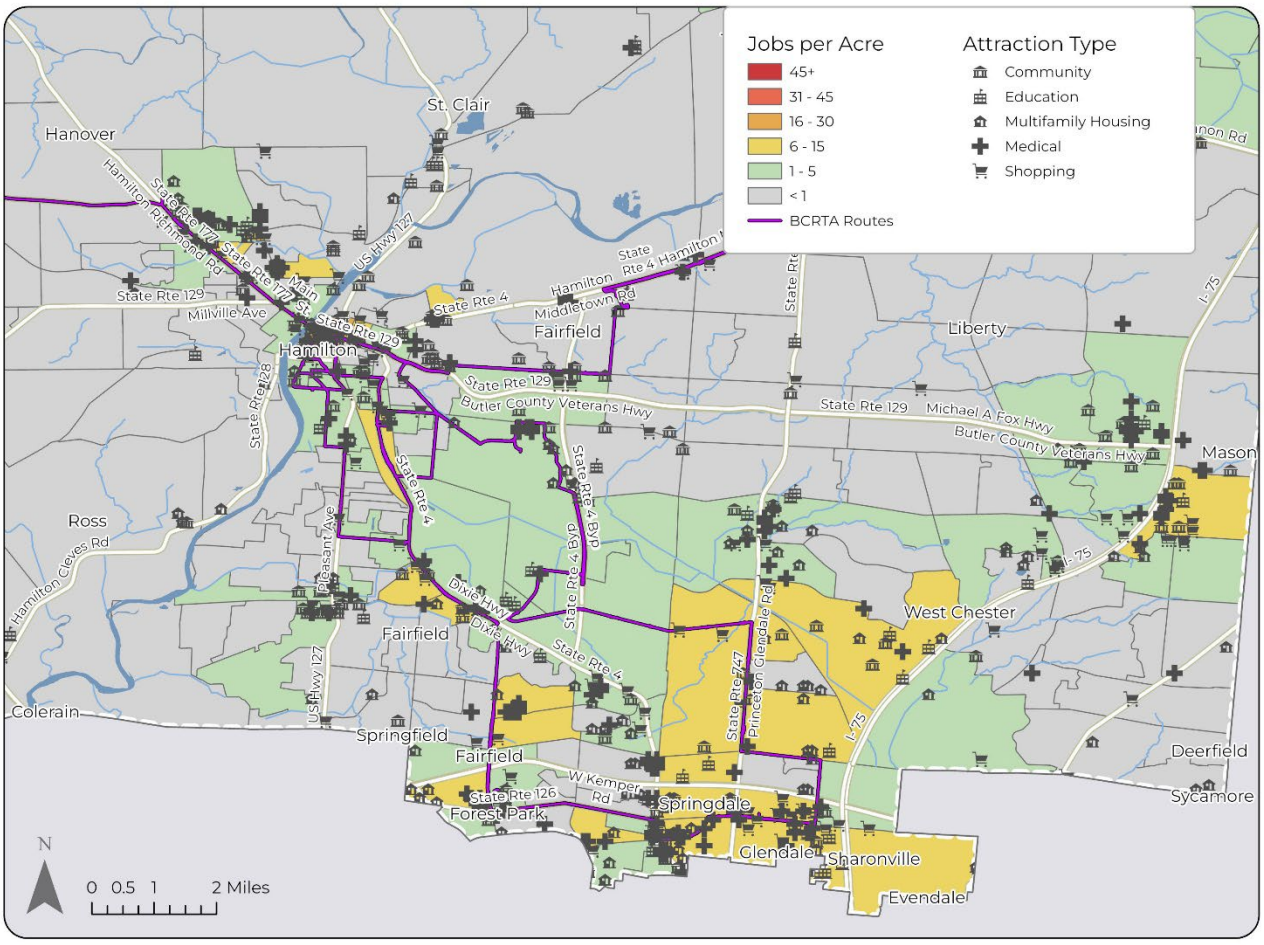
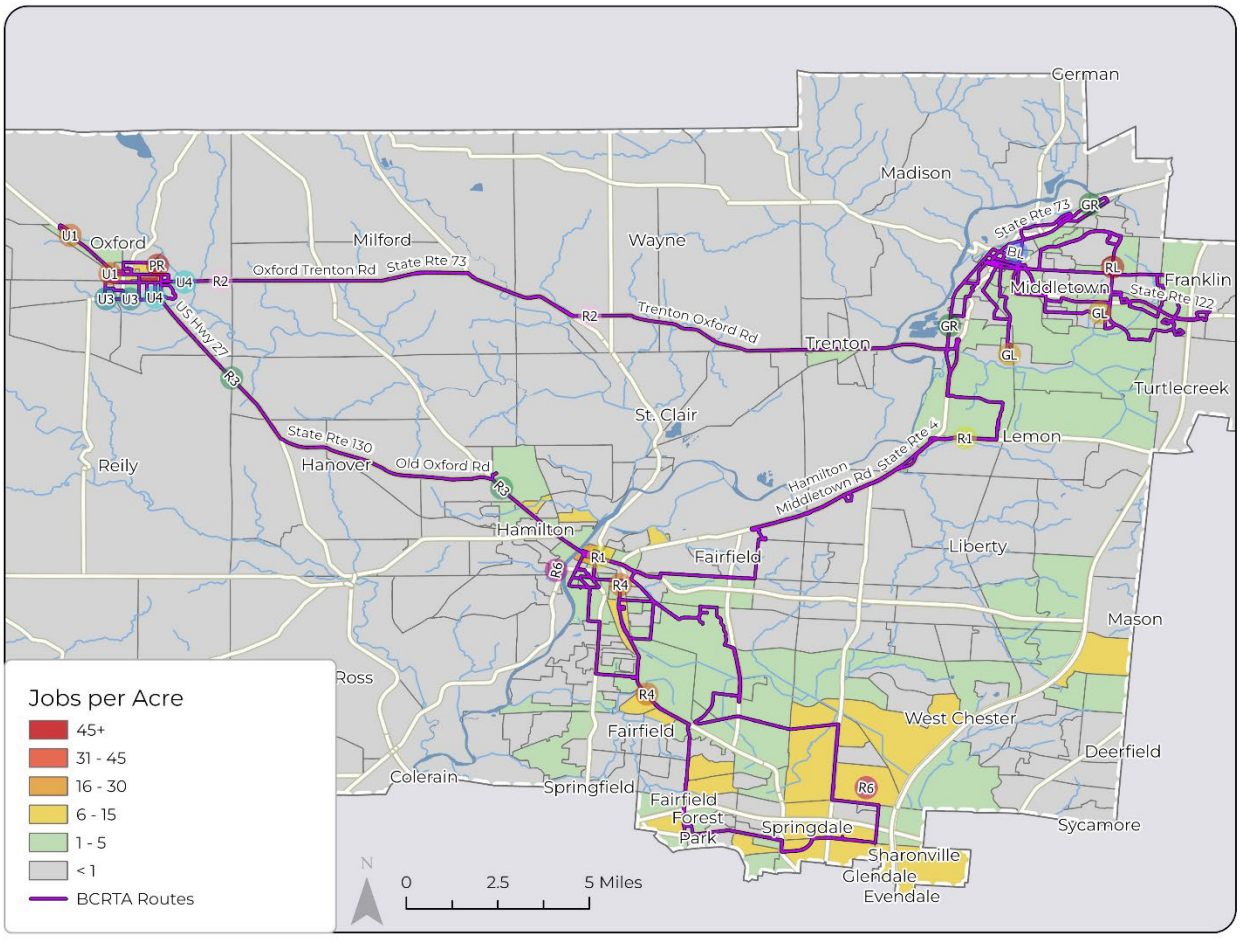


Figure 8 - Countywide Jobs per Acre



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Transit Potential

Transit Potential, depicted in Figures 9 through 12, combines the population and employment densities for each block group shown previously to indicate fixed-route service viability in the study area.

In Butler County, the areas of highest transit potential are concentrated in Oxford. There are areas of moderate concentrations in Hamilton, and Middletown, and north of Springdale. These places also stood out as areas with high concentrations of jobs or population in the previous sections. When combining the two metrics, however, many more places appear to be potentially supportive of fixed-route transit services, most notably West Chester Township along US-75, where there are high concentrations of medical services, community services, and housing. While West Chester does not have a sufficiently high Transit Potential to accommodate high-frequency service, microtransit or limited trips to connect other regions in Butler County to this area can provide connectivity and increase mobility.

Additional factors, such as land use and intersection density, can impact the feasibility of fixed-route transit services. Many of the yellow areas on the maps in Figures 9 through 12, such as some neighborhoods in Middletown, have transit-supportive population and employment densities but may still be inefficient for fixed-route services. In areas like these, it is worth considering other interventions, such as on-demand microtransit, to provide efficient service.

Figure 9 - Oxford Transit Potential

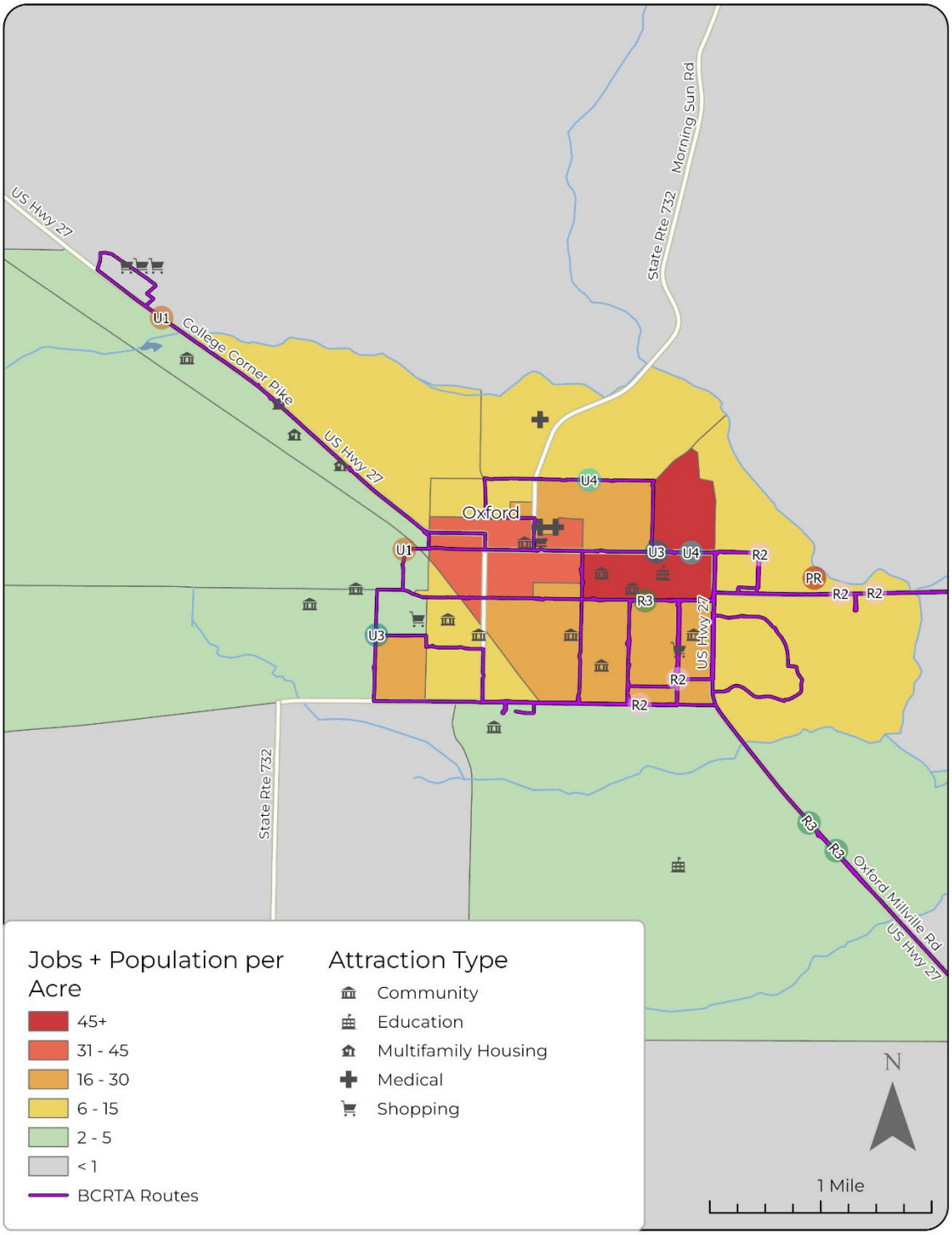

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Figure 10 - Middletown Transit Potential

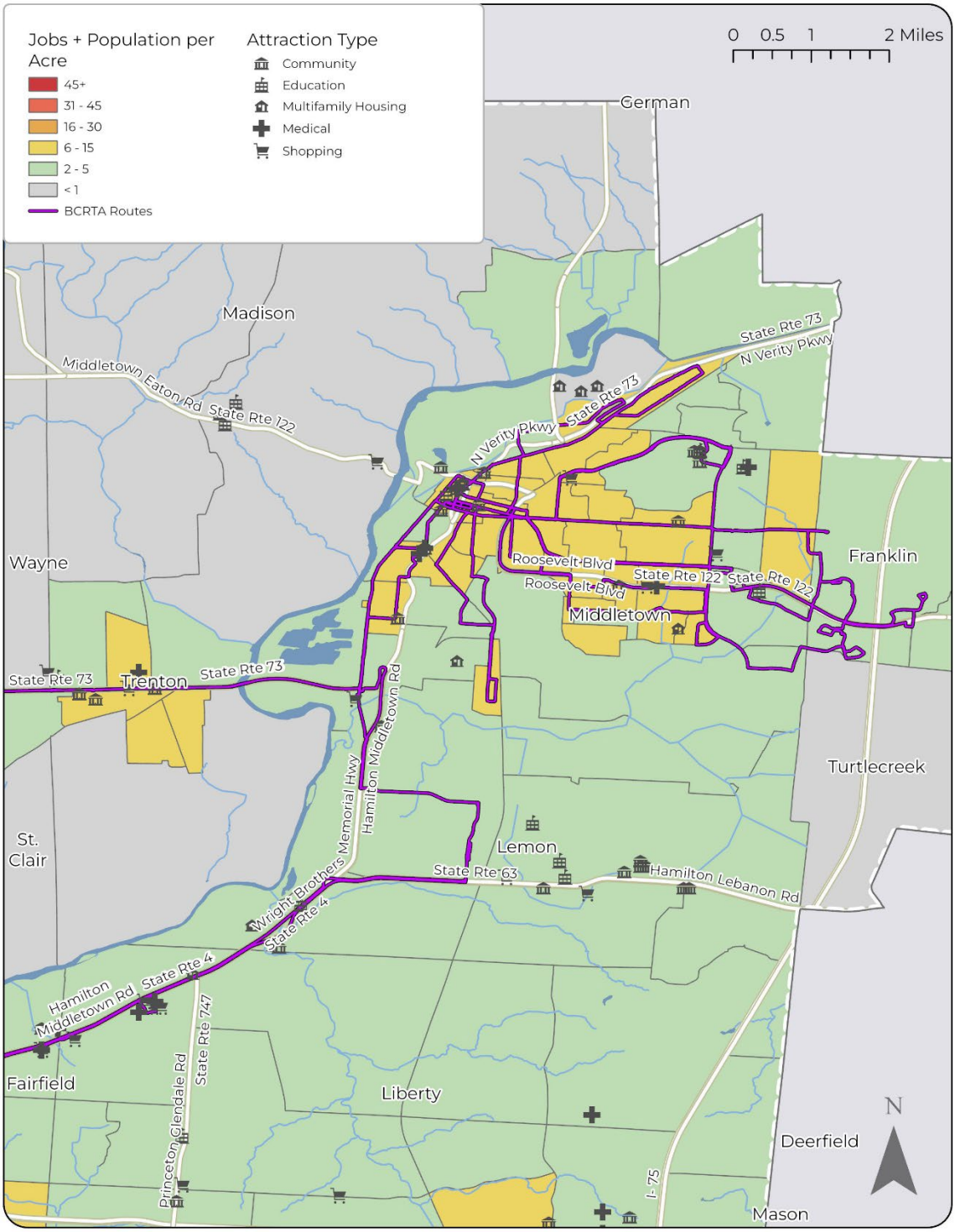

Figure 11 - Hamilton Transit Potential

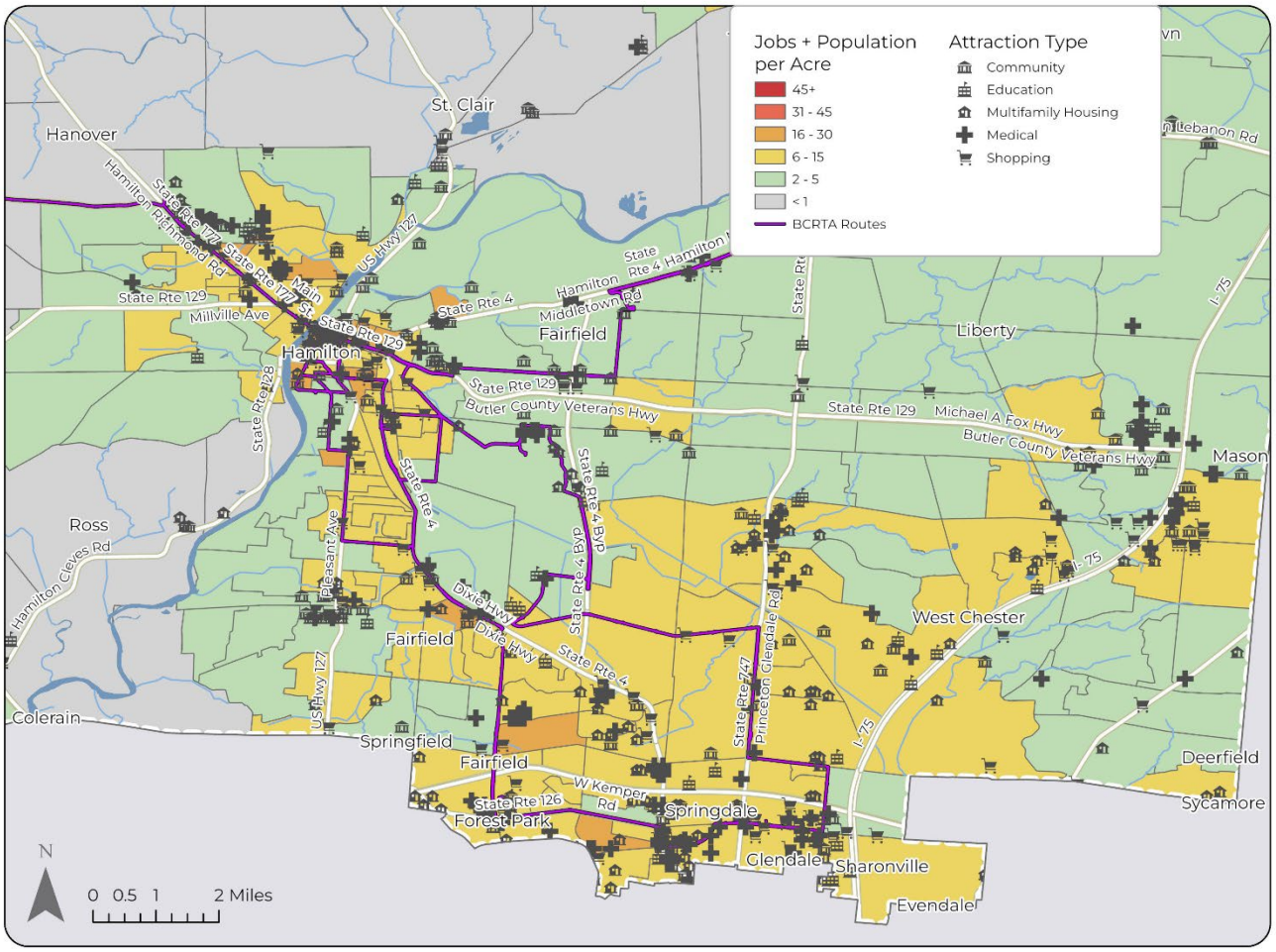

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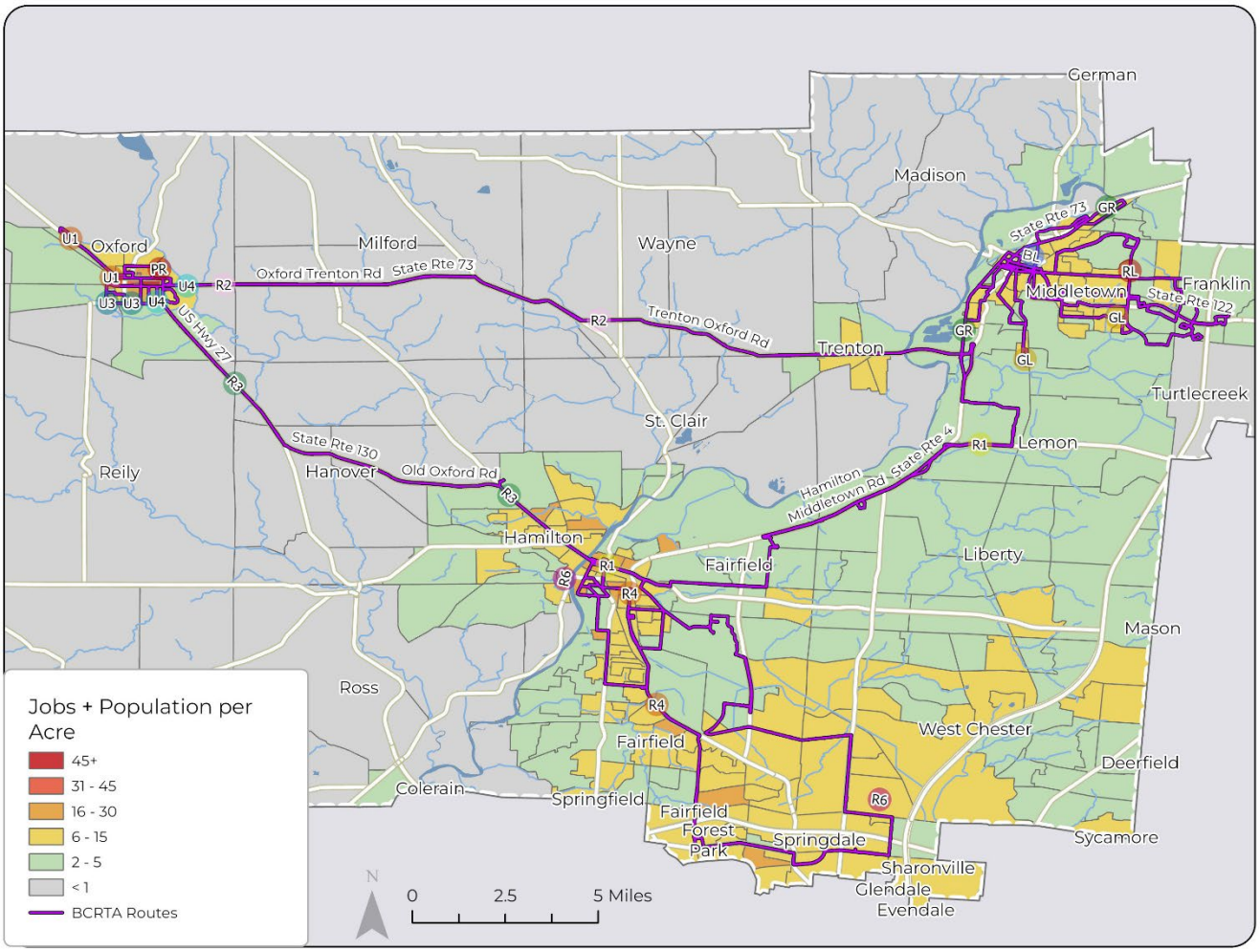
Figure 12 - Countywide Transit Potential



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Transit Need

Above all, public transportation is a mobility tool. Certain population subgroups have a relatively higher propensity to use transit as their primary means of local and regional transportation. These groups include:

- People without access to an automobile, whether it be by choice or due to financial or legal reasons, often have no other transportation options besides using transit.
- Persons with disabilities, many of whom cannot drive and/or have difficulty driving.
- Low-income individuals, typically because transit is less expensive than owning and operating a car.
- Youth and Young adults is defined as persons from age 15 to 24. This group has in recent years shown a greater interest in transit, walking, and biking than in driving.
- Older adults, who as they age, often become less comfortable or less able to operate a vehicle.

The maps in this section show the relative densities of each of these five high-transit-propensity population subgroups by Census block groups in Butler County to help determine where the need for transit service is greatest.

With density ranges differing for each demographic analysis, the maps utilize a Jenks Natural Breaks classification method to assign each block group to one of five density categories. For each analysis, depending on the natural break category into which it falls, a score from 1 (lowest density) to 5 (highest density) is assigned to each block group. Following the analysis of each individual factor, the Transit Need Index map (**Figure 15**) shows the composite Transit Need score for each block group based on the sum of its scores in each preceding analysis. For example, if a block group falls in the highest density category for each of the five demographic analyses, it will end up with a Transit Need Index value of 25 (5+5+5+5+5). The lowest possible Transit Need Index score is 5 (1+1+1+1+1).

While the Transit Potential analysis highlights areas of Butler County with actual densities to support fixed-route service, Transit Need is a relative measure that estimates the need for transit compared to other block groups. There is not, however, a specific Transit Need Index score or value that represents a threshold for supporting fixed-route service. Instead, Transit Need should be considered alongside Transit Potential. If two areas have similar and sufficient Transit Potential, the area with higher Transit Need should be prioritized for service. Conversely, in some locations, while the density of transit-dependent population groups may be relatively high, if the total population and/or employment density are still quite low, the potential to generate substantial fixed-route transit ridership will also remain low.

Zero-Vehicle Household Density

Figures 13 through 16 show zero-vehicle household density throughout Butler County.

Zero-vehicle households have concentrations in a few notable areas:

- Oxford along West Chestnut Street
- Hamilton on State Routes 128, 129, and 1277

Figure 13 - Oxford Zero-Car Households

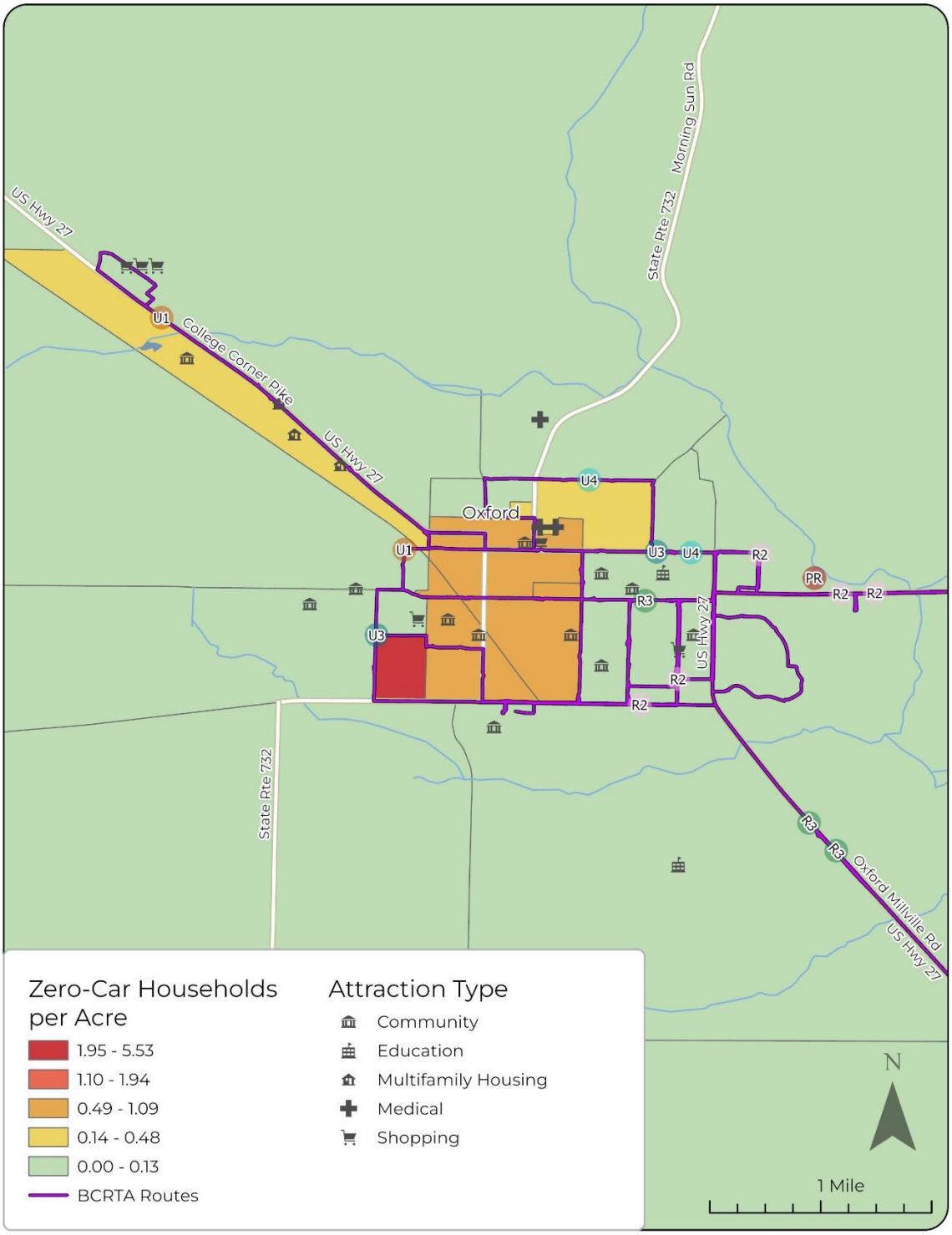

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Figure 14 - Middletown Zero-Car Households

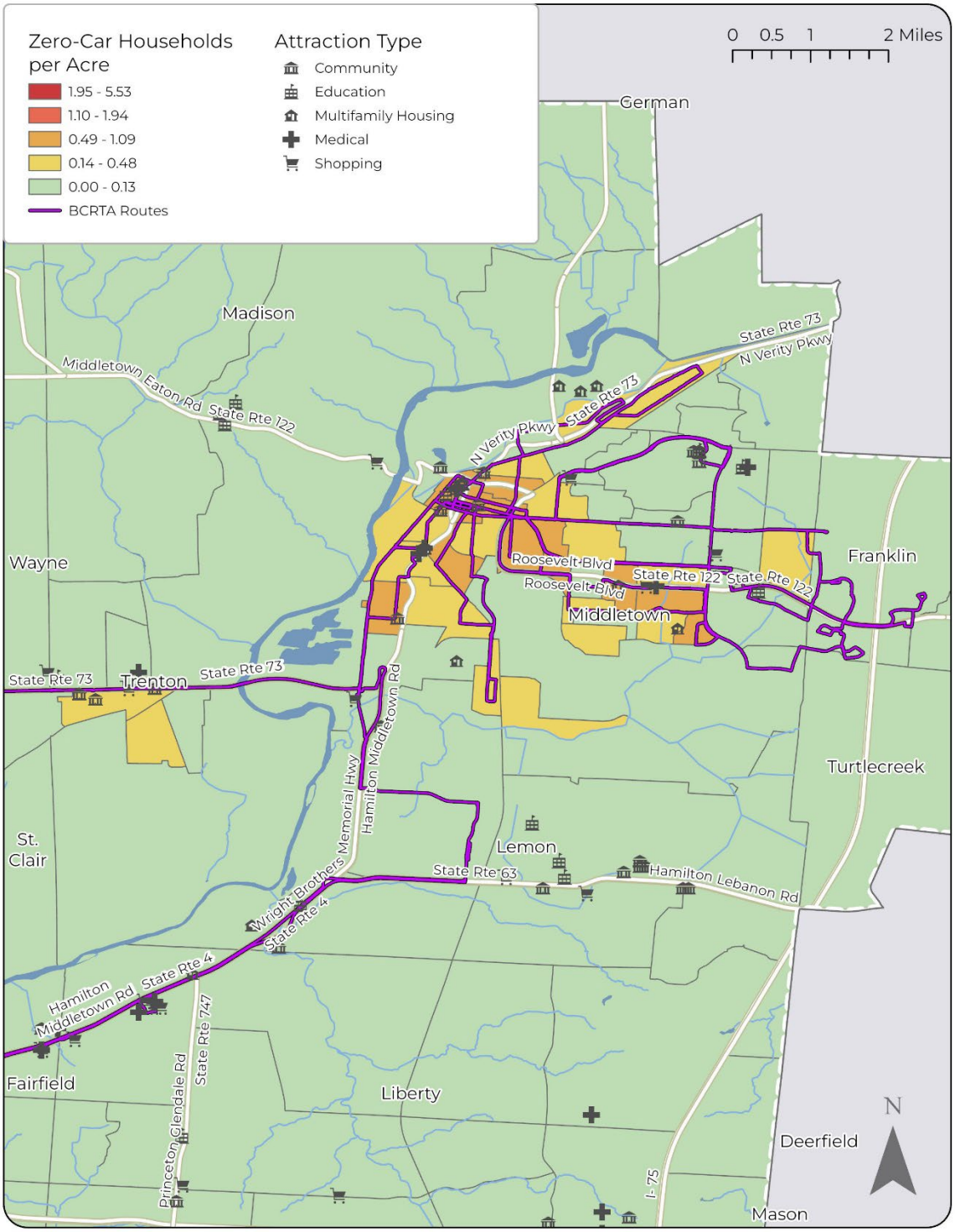


Figure 15 - Hamilton Zero-Car Households

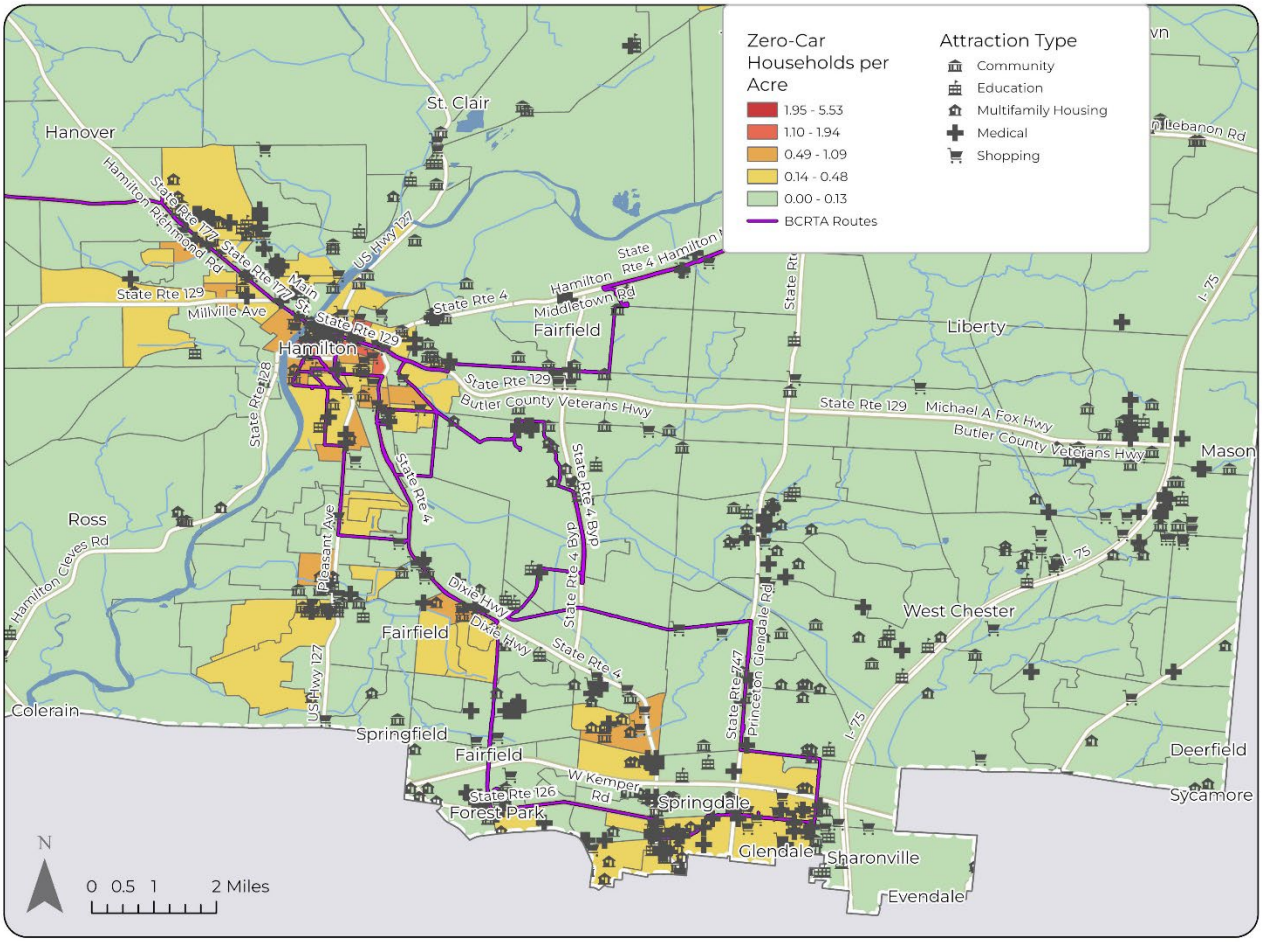
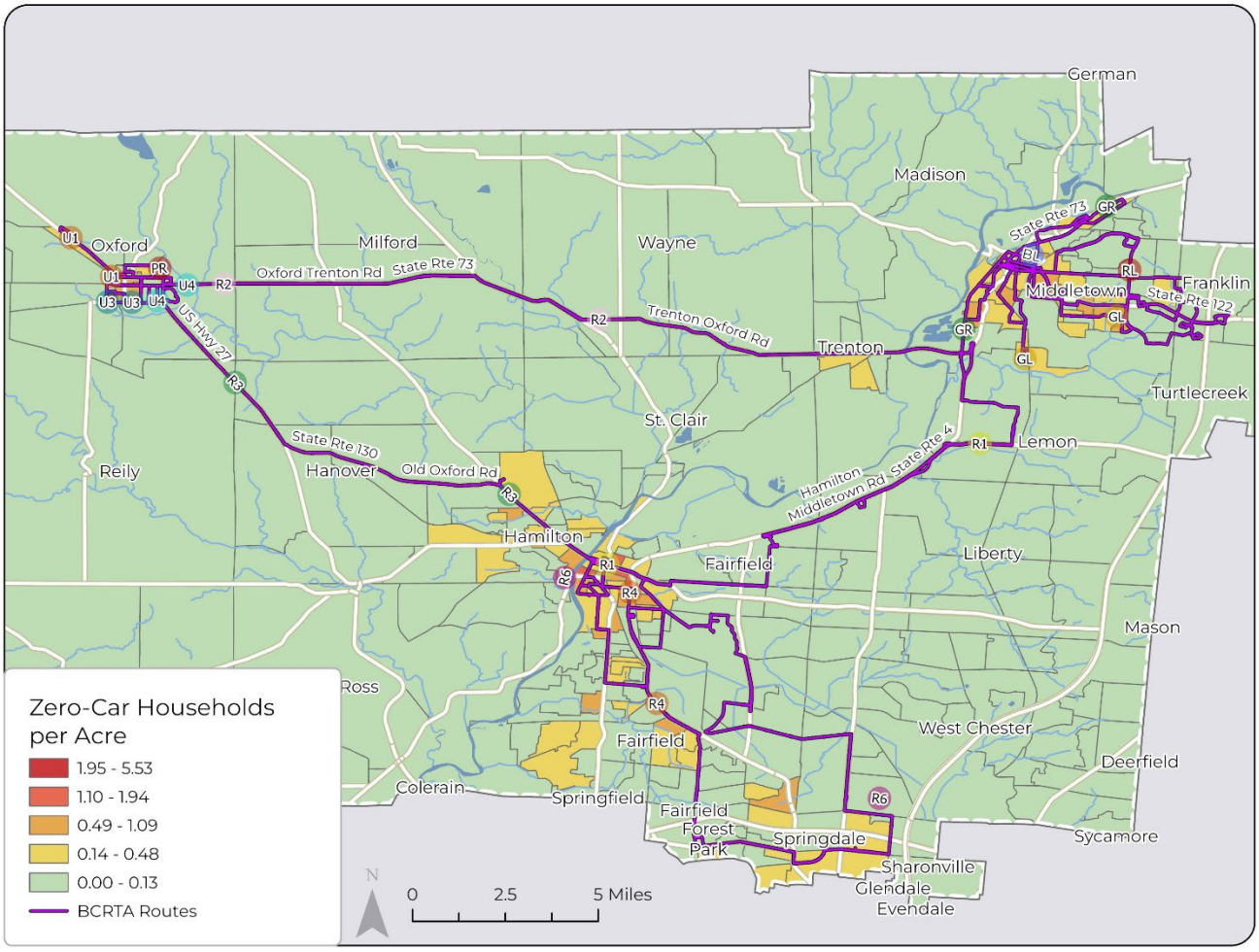


Figure 16 - Countywide Zero-Car Households



Population with Disabilities Density

Figures 17 through 20 show the density of people living with a disability. The highest concentrations of people with a disability are found in Middletown and Hamilton. There is also an area of moderate density in southwest West Chester. Of particular focus are:

- Hamilton on US Highway 127, and Hancock Ave
- Middletown along State Route 122

Figure 17 - Oxford People with Disabilities per Acre

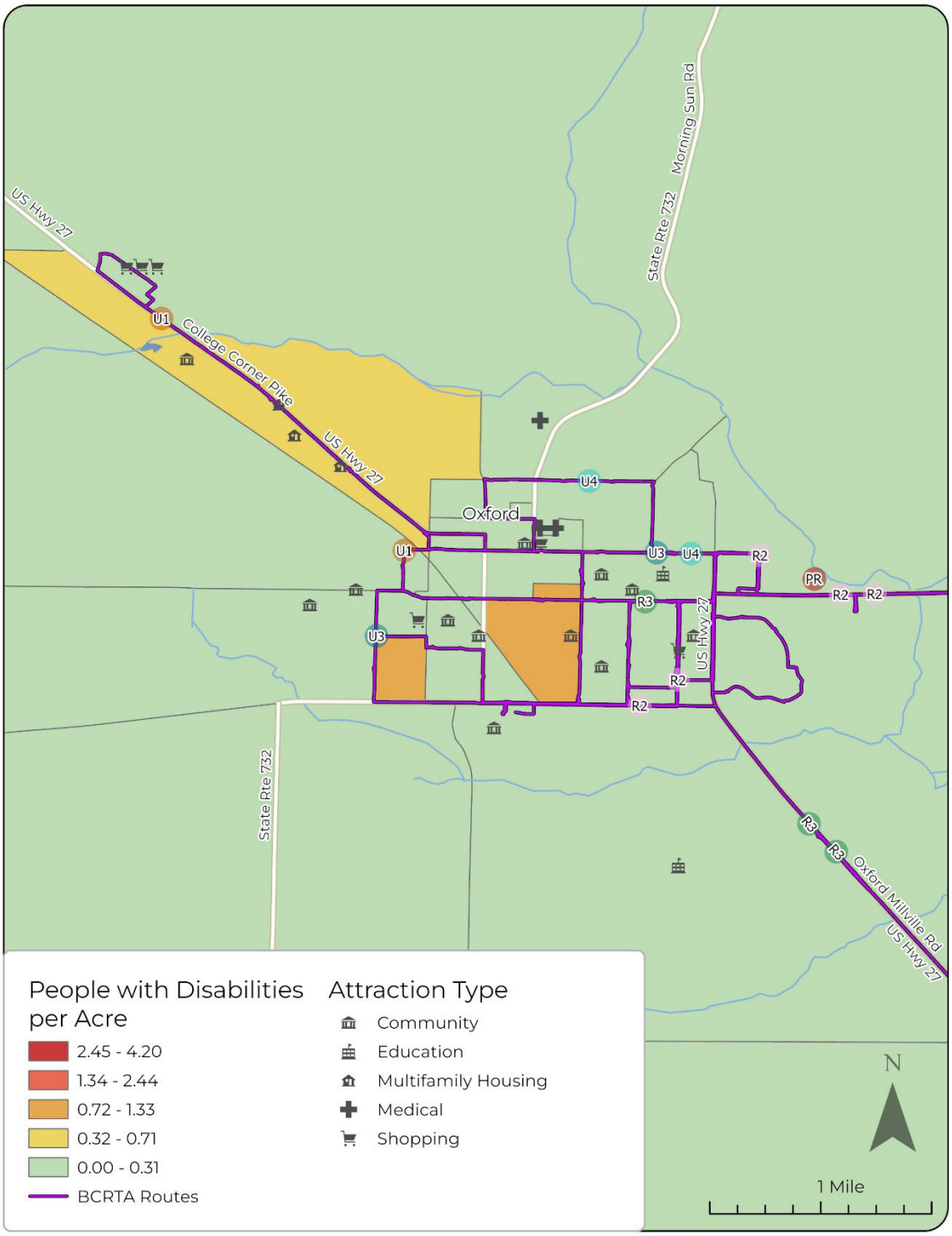


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Figure 18 - Middletown People with Disabilities per Acre

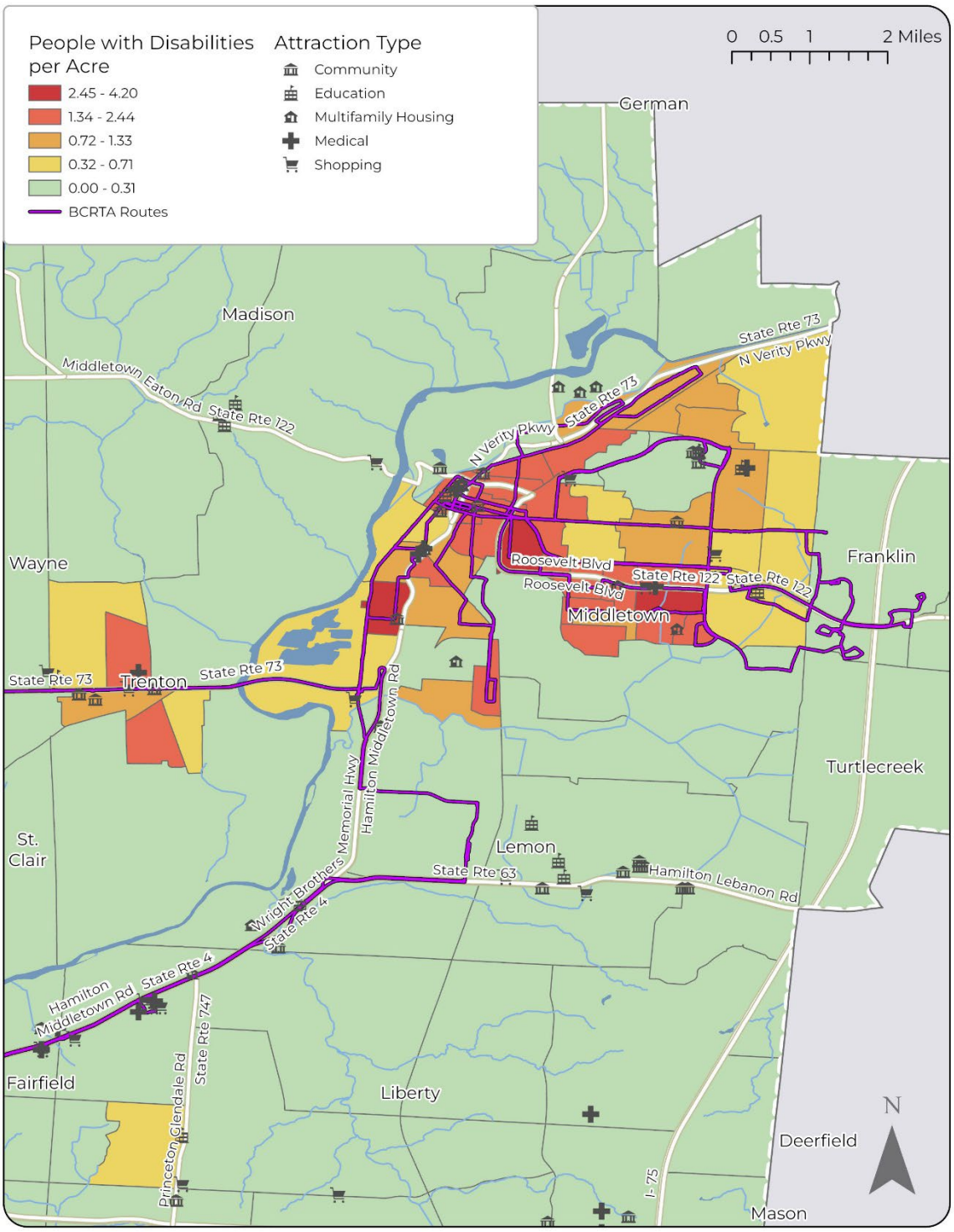

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Figure 19 - Hamilton People with Disabilities per Acre

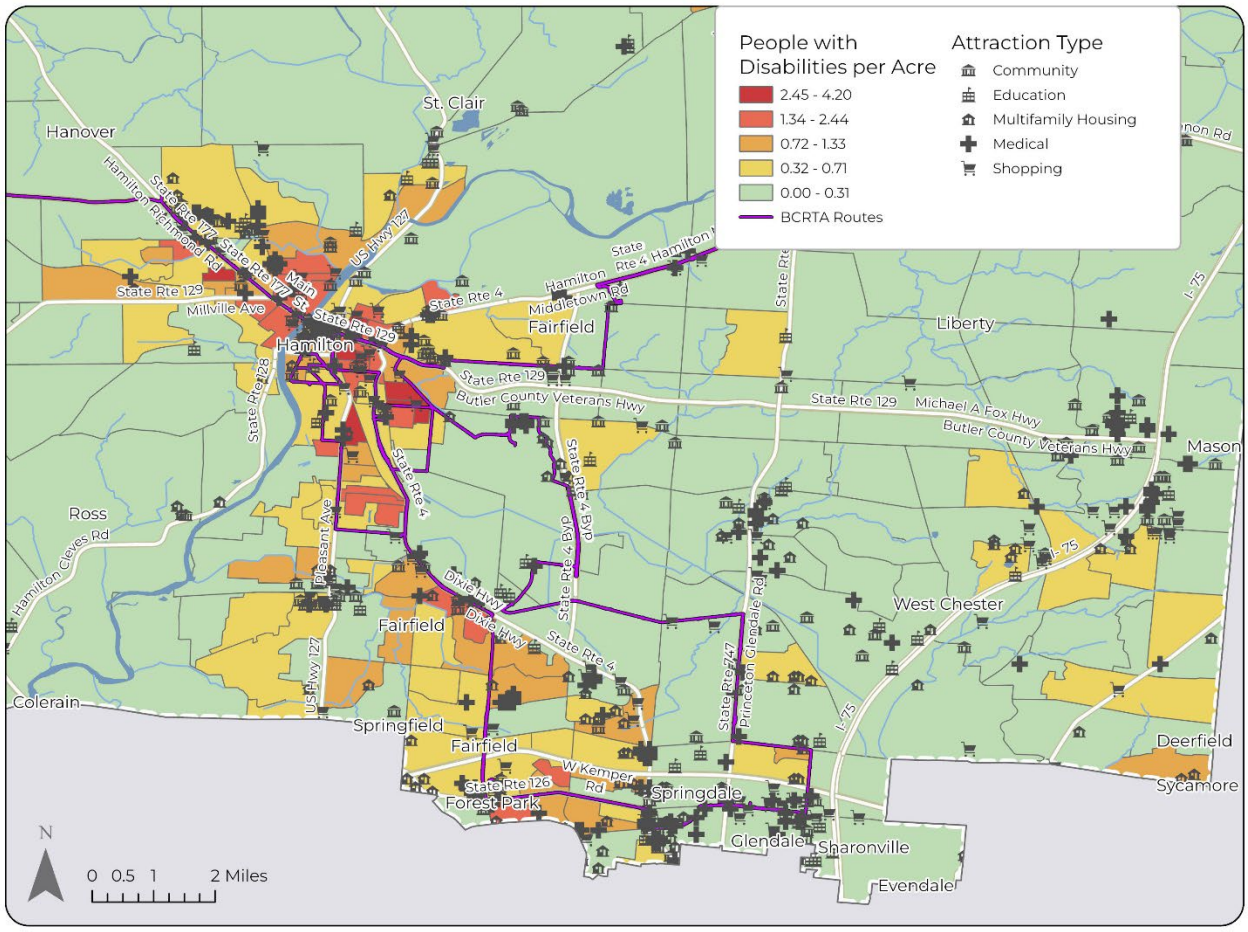

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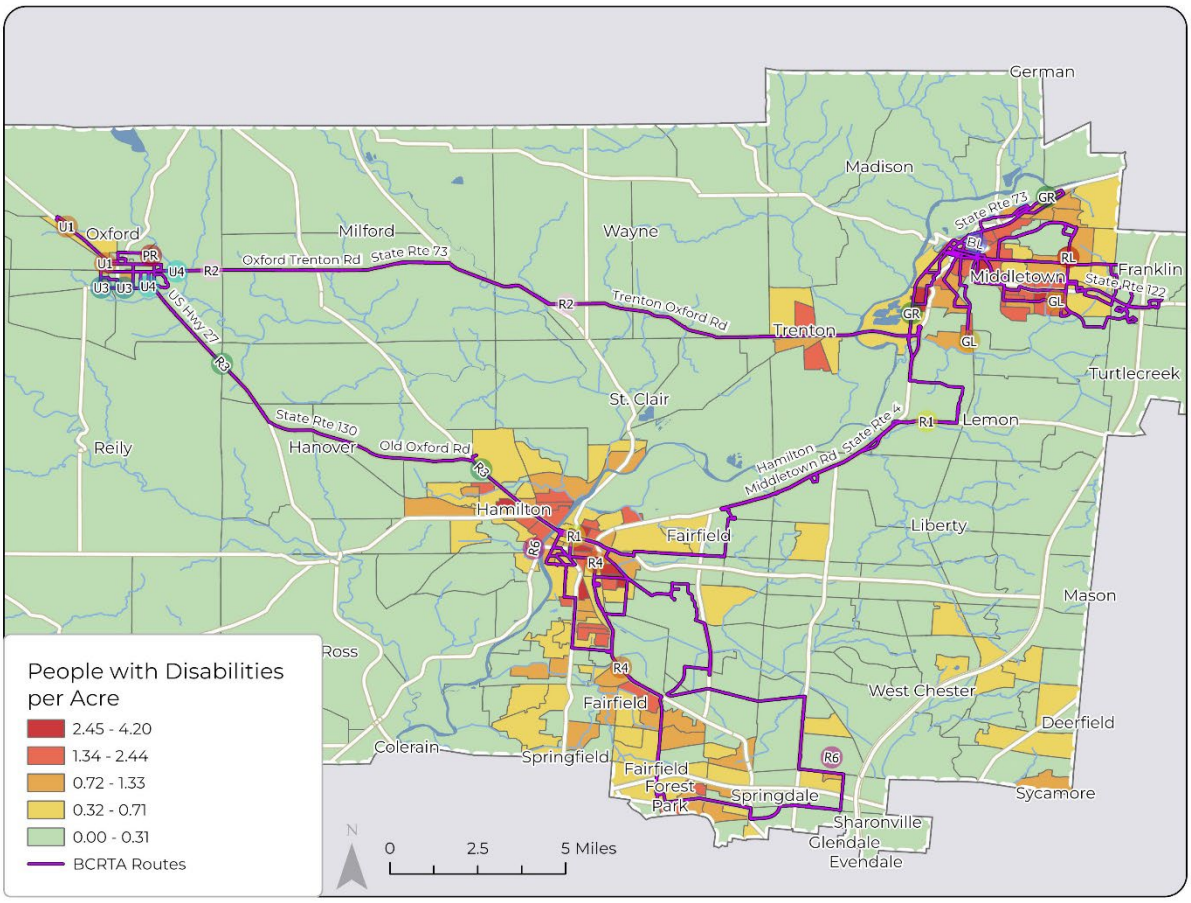
Figure 20 - Countywide People with Disabilities per Acre



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Low-Income Population Density

Figures 21 through 24 show the density of low-income households throughout Butler County. Low-income households are defined as those earning less than 150 percent of the federal poverty line.

Low-income was measured as a household income of less than 150% of the Federal poverty level. Low-income clusters were found in:

- Oxford, near State Route 732 and High Street
- Hamilton near High Street
- Middletown near State Routes 4 and 122

Figure 21 - Oxford Low-Income Households per Acre

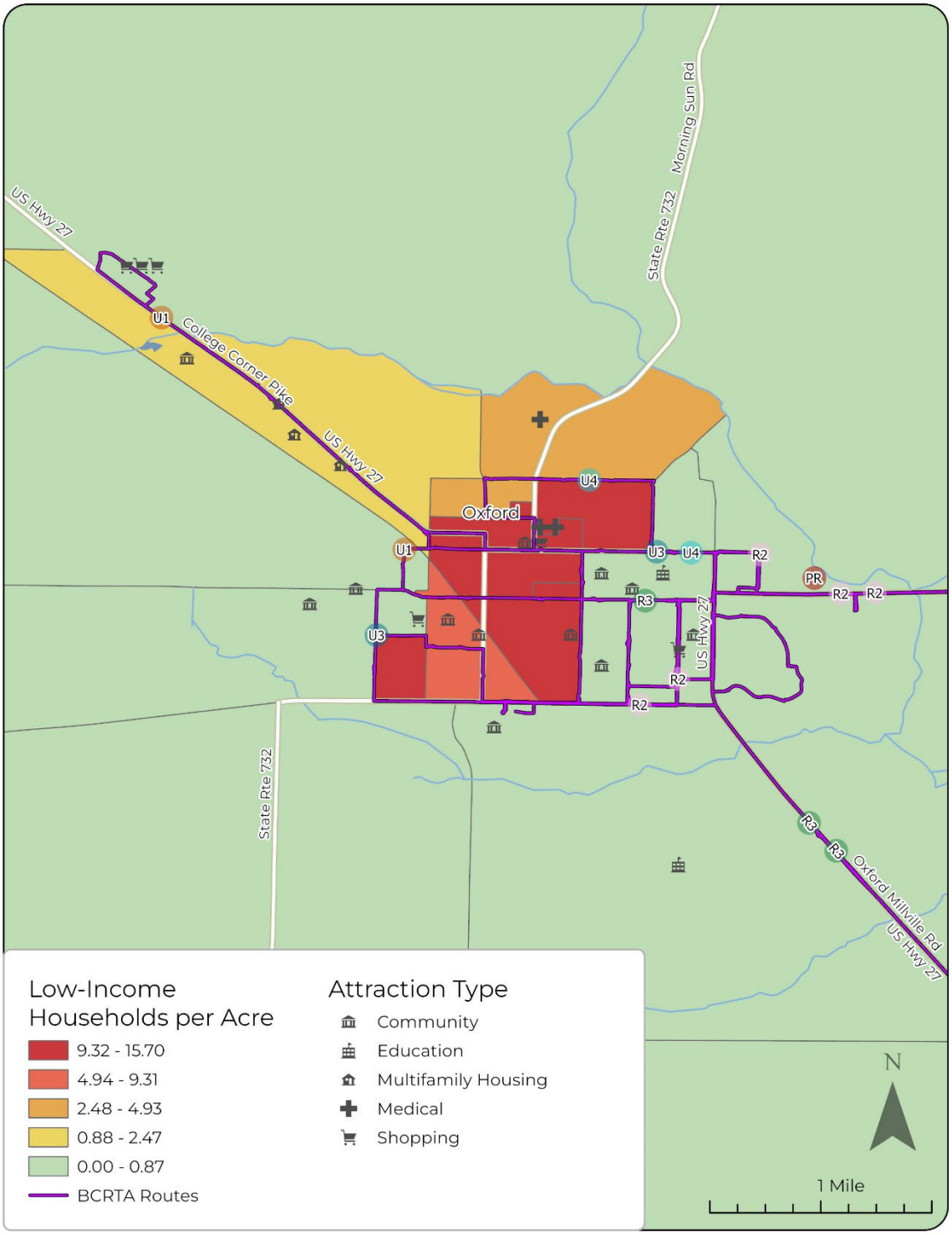

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Figure 22 - Middletown Low-Income per Acre

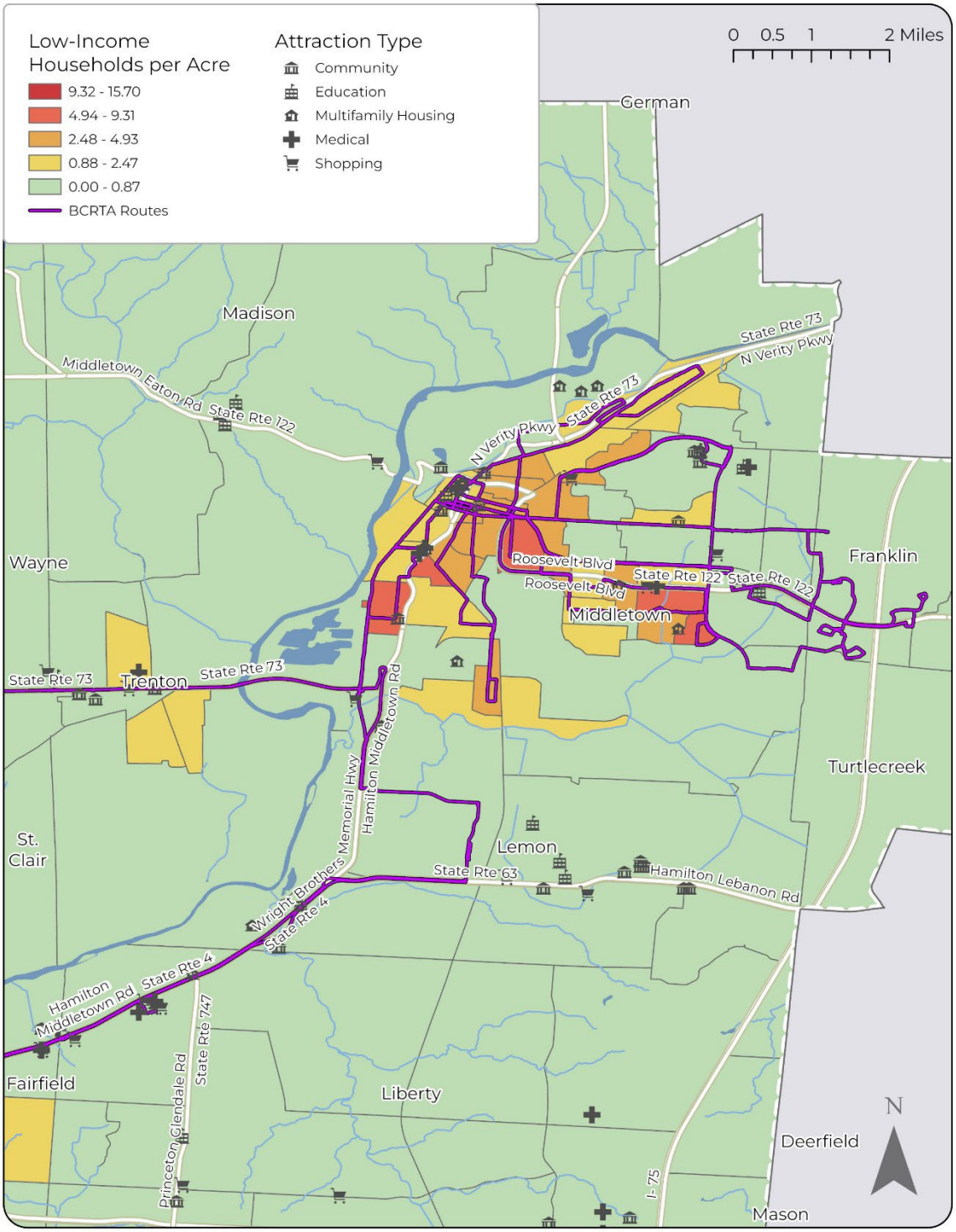


Figure 23 - Hamilton Low-Income per Acre

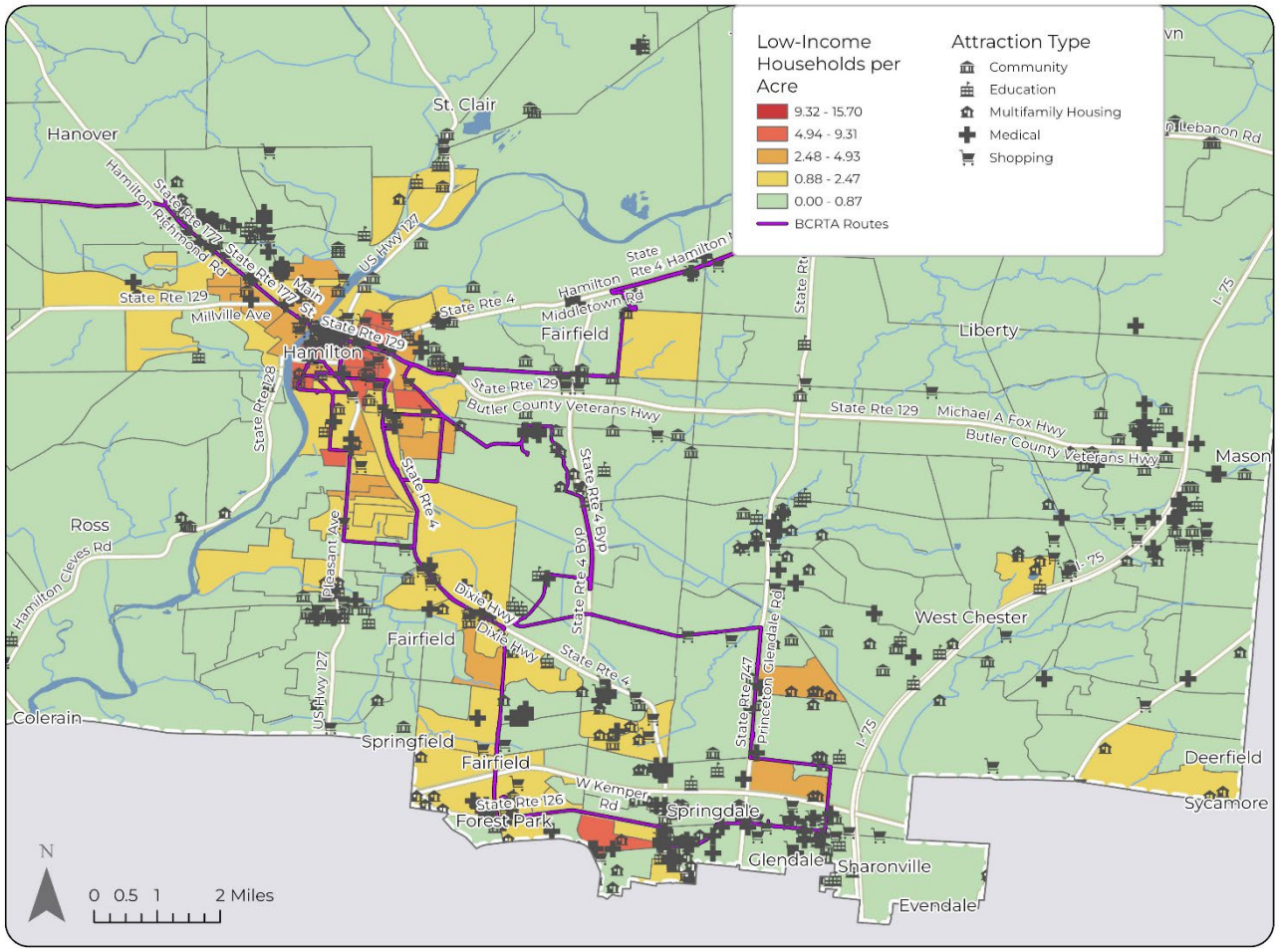
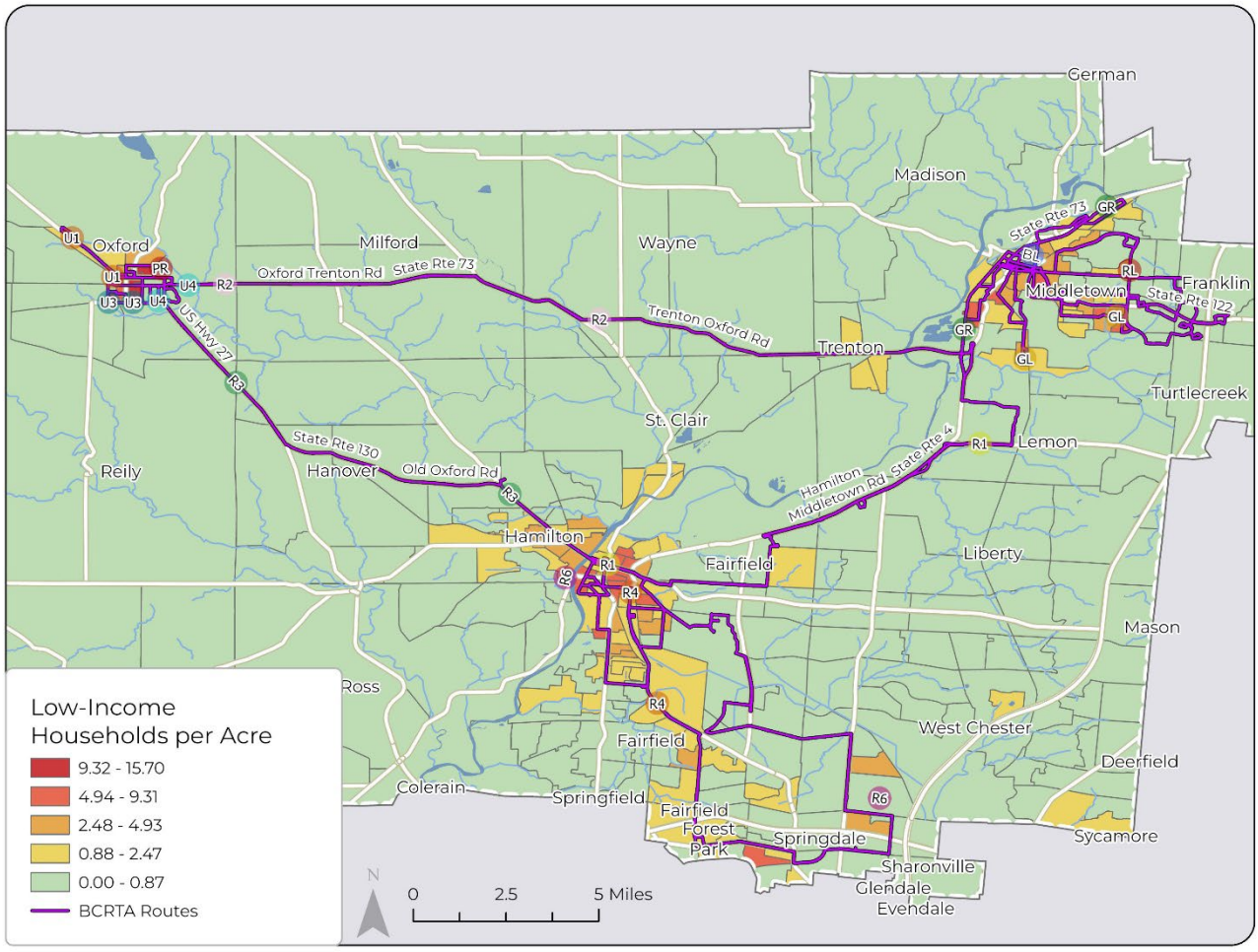


Figure 24 - Countywide Low-Income per Acre



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Youth and Young Adult Population

Figures 25 through 28 show the concentrations of youth and young adult populations in Butler County. Youth and Young Adult was calculated as the population aged 15-24 years old. This age range has a growing demand for mobility due to employment, educational, and social activities, but limited access to transportation.

The city of Oxford has both the highest density of youth and young adults, as well as many high-density block groups clustered together. This is likely due to the presence of Miami University in Oxford. Additionally, there are moderate clusters in Hamilton and some in Middletown. There is a higher density block group in Hamilton near Miami University, with a cluster near Fairview Street and State Route 127.

Figure 25 - Oxford Young Adults per Acre

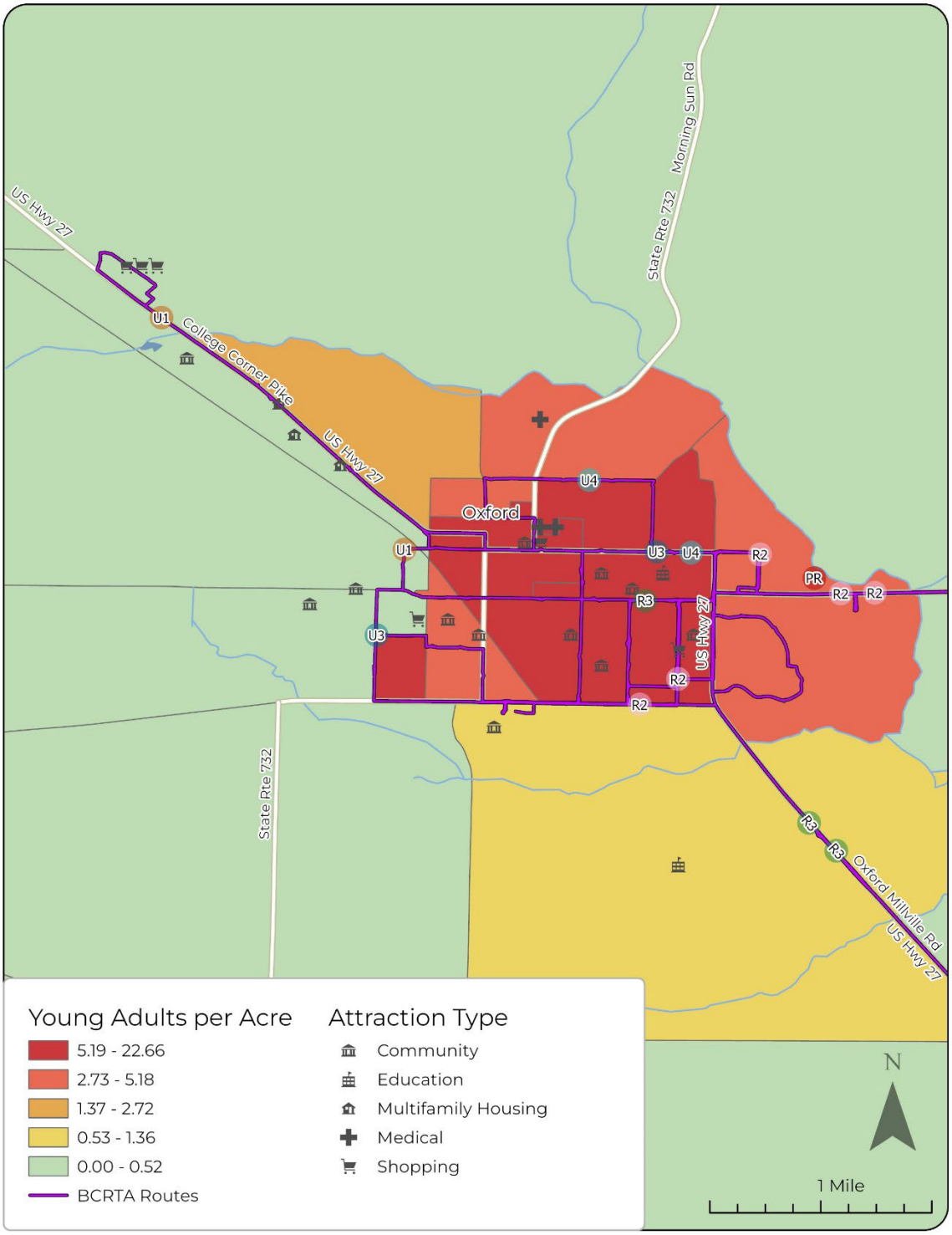

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Figure 26 - Middletown Young Adults per Acre

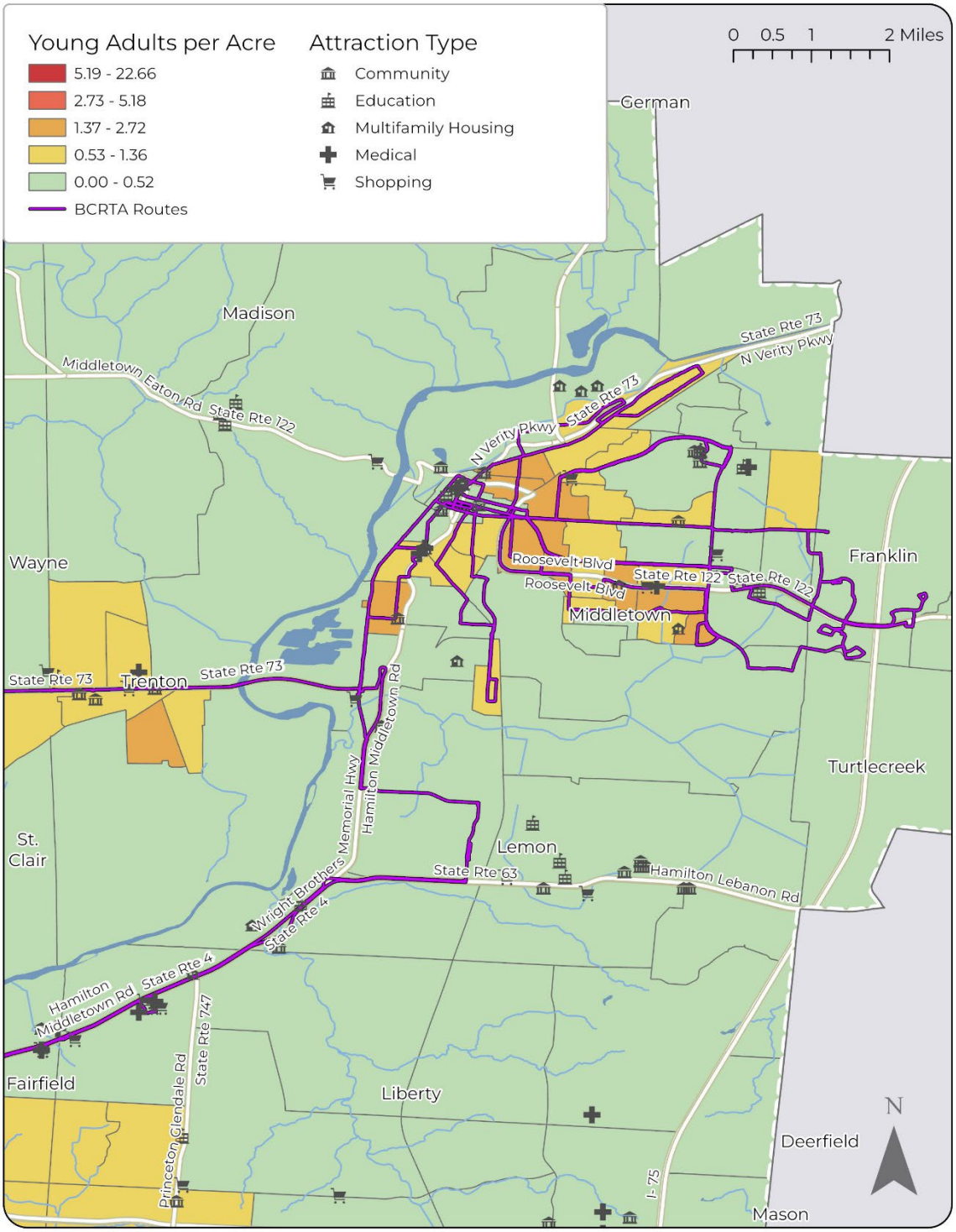


Figure 27 - Hamilton Young Adults per Acre

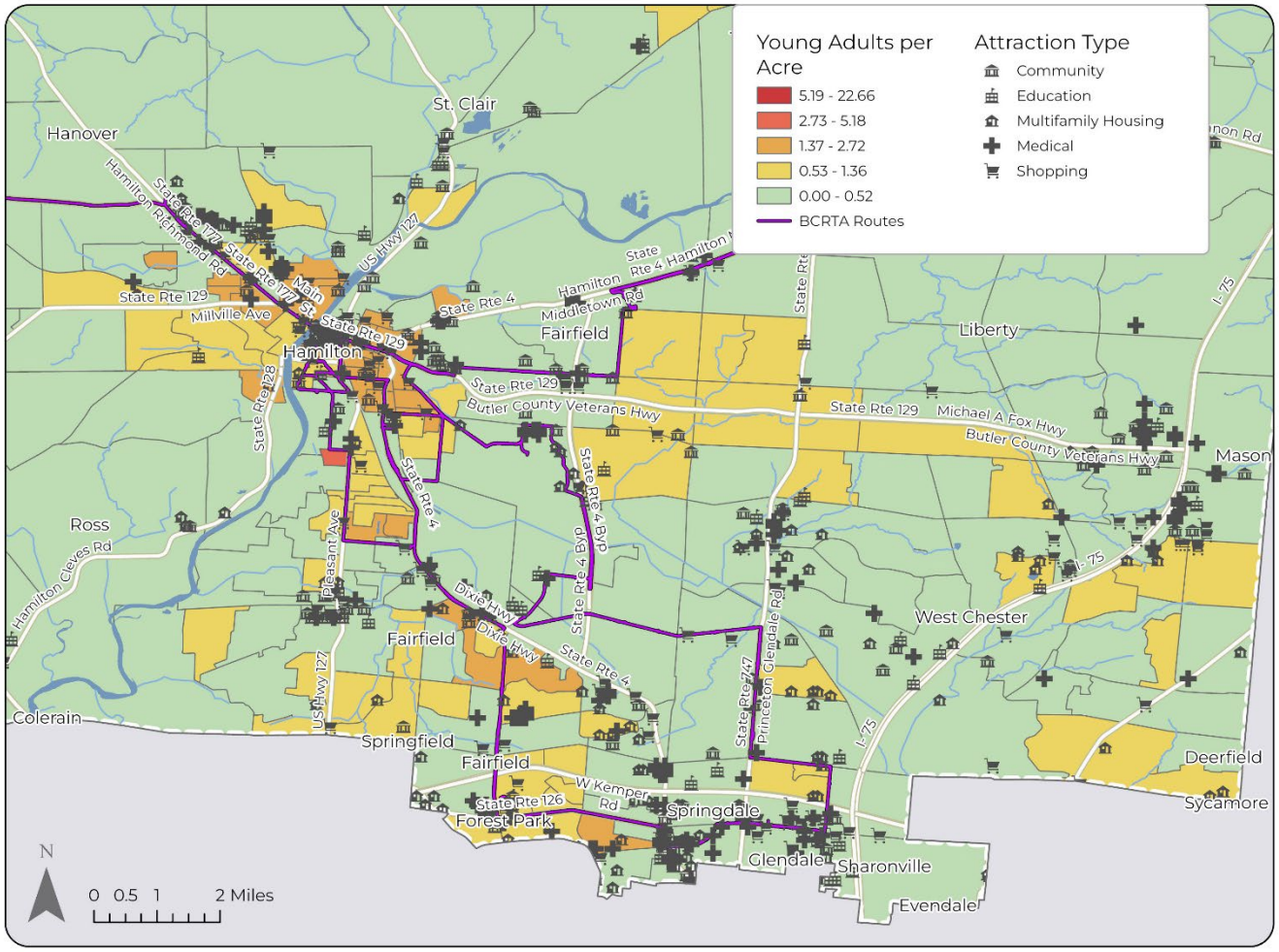
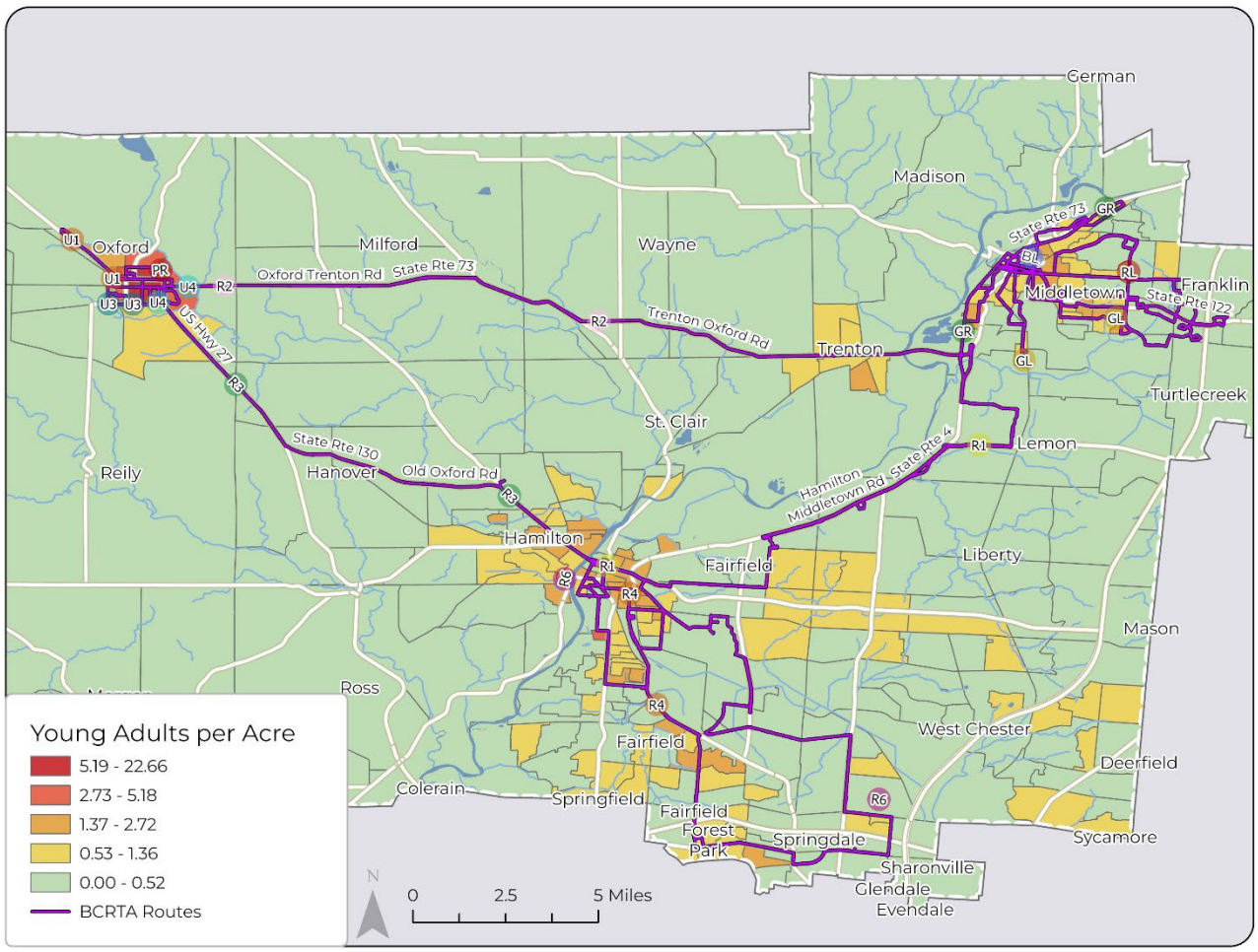


Figure 28 - Countywide Young Adults per Acre



Senior Population

Figures 29 through 32 show the population of adults aged 65 or older in Butler County. Middletown, Fairfield, Trenton, and Hamilton all have high high senior-aged population density, relative to Butler County, so high concentrations of seniors appear prevalent throughout these cities. Additional pockets of high senior density can be found in Sharonville near the border of Hamilton County, which does not currently have fixed-route transit service. Transit services in most of these cities primarily serve arterial roads or travel along the edges of housing developments and require riders to walk to the nearest stop to access transit.

Figure 29 - Oxford Senior Population per Acre

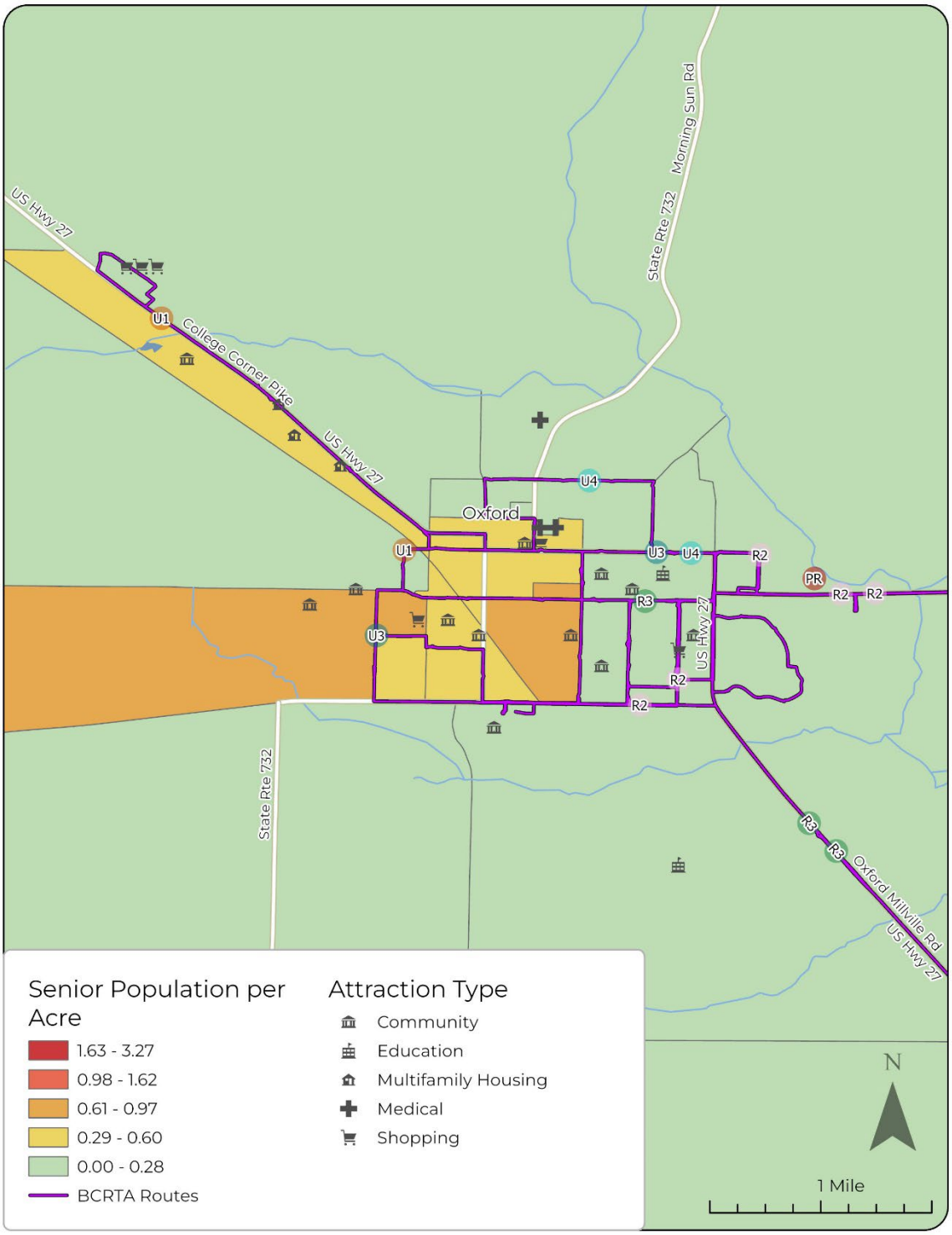


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Figure 30 - Middletown Senior Population per Acre

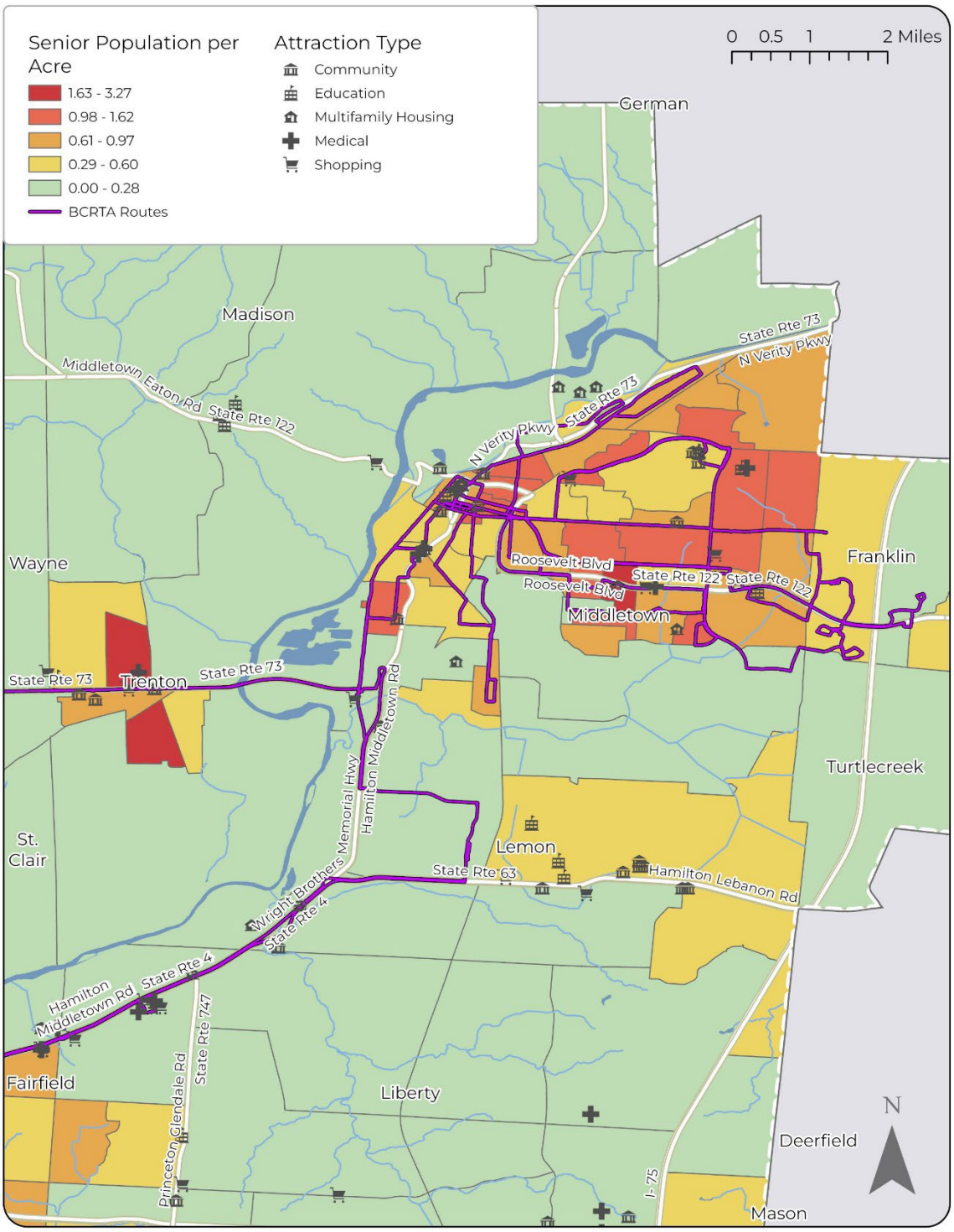

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Figure 31 - Hamilton Senior Population per Acre

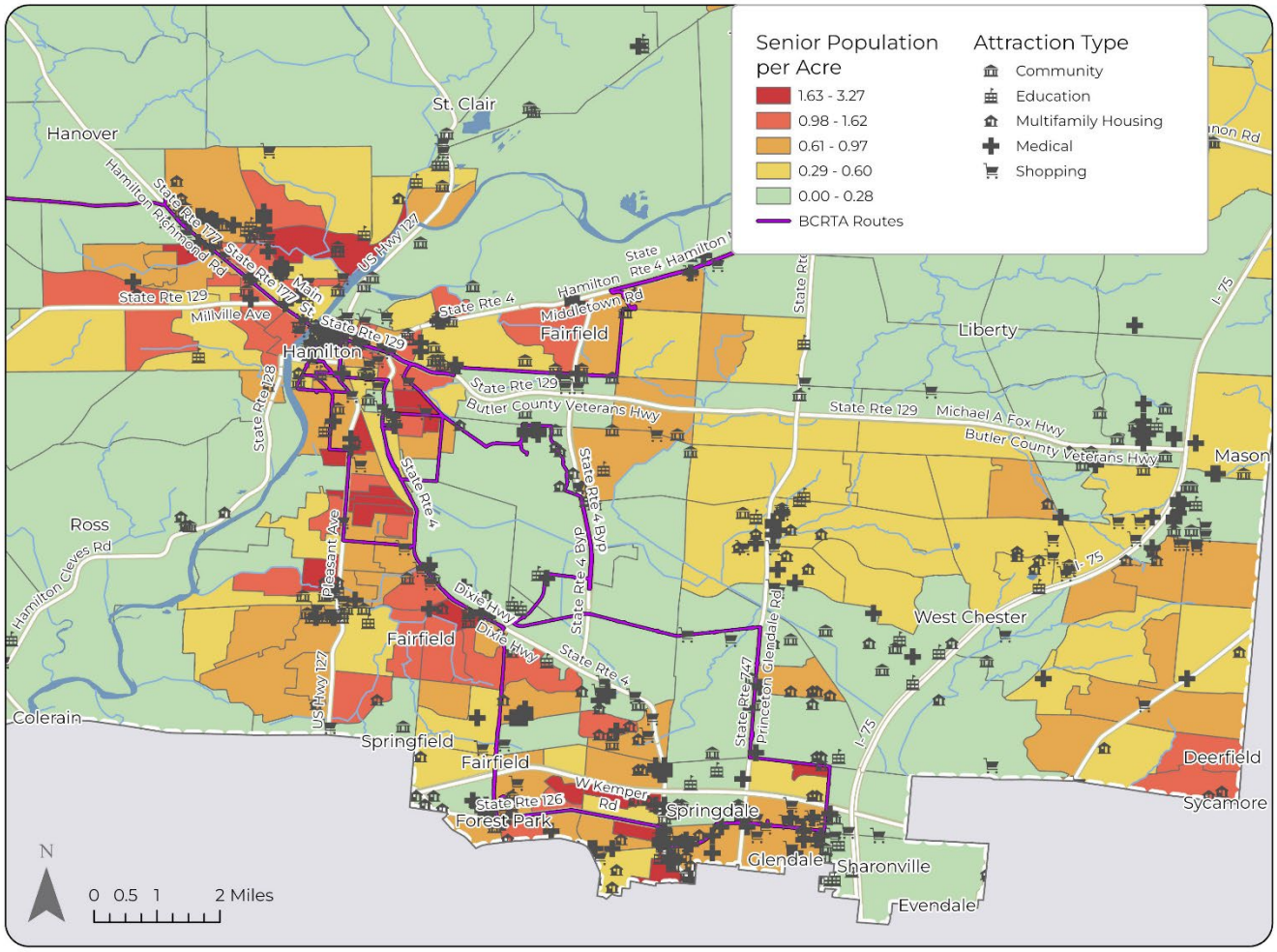

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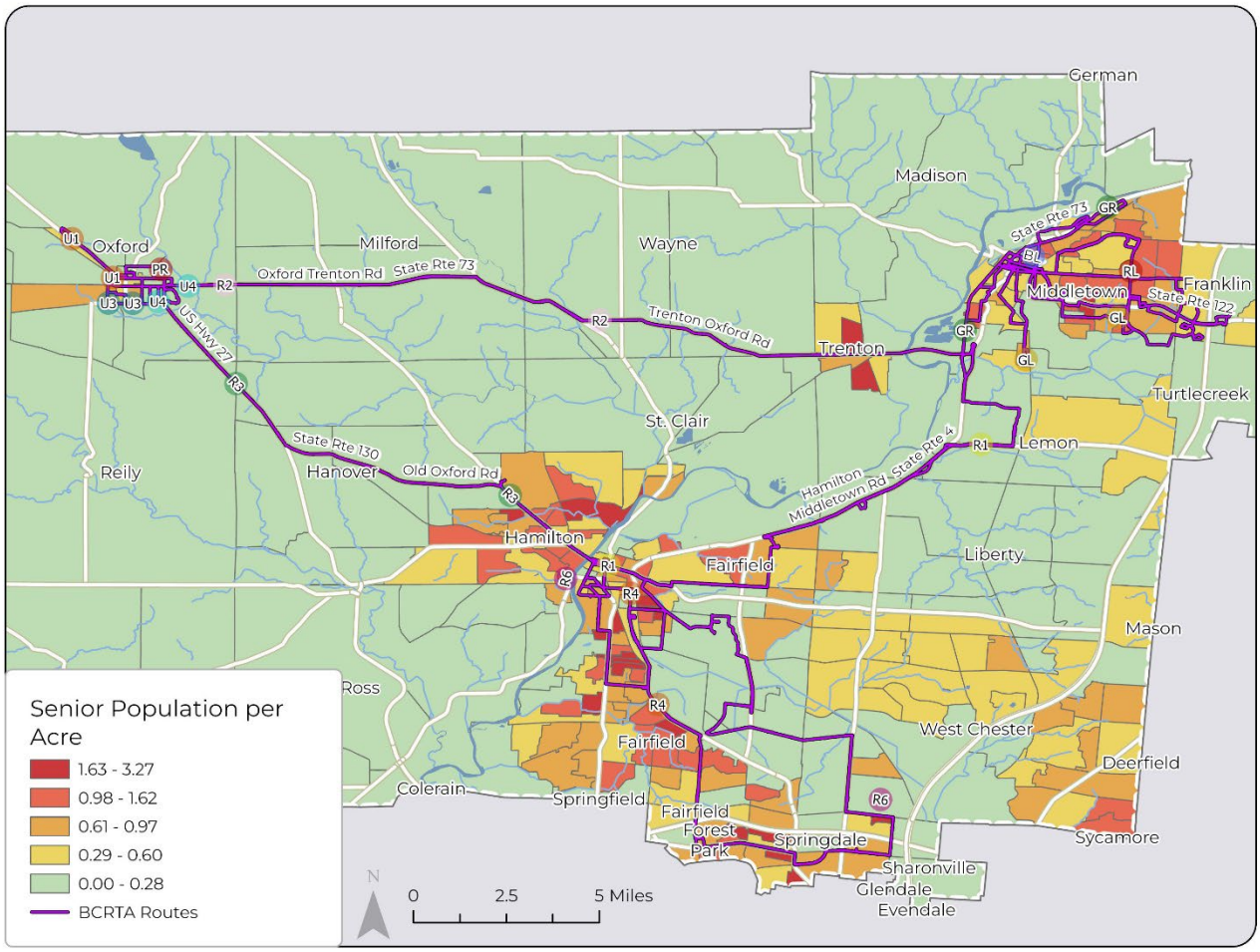
Figure 32 - Countywide Senior Population per Acre



Transit Need

Figures 33 through 36 combine the five-preceding demographic-density maps into one composite Transit Need map. The Transit Need Index reveals that the populations most likely to need transit services are most prevalent in

- Hamilton along Hancock Avenue, Hayes Avenue, State Route 129
- Oxford at West Chestnut St
- Trenton along State Route 73
- Middletown along State Route 4, State Route 122, Manchester Avenue
- Fairfield near State Route 4
- Low to moderate need in southeast corner of the county – maybe suitable for microtransit to connect to POI or transit, maybe connect to West Chester

Figure 33 - Oxford Transit Need

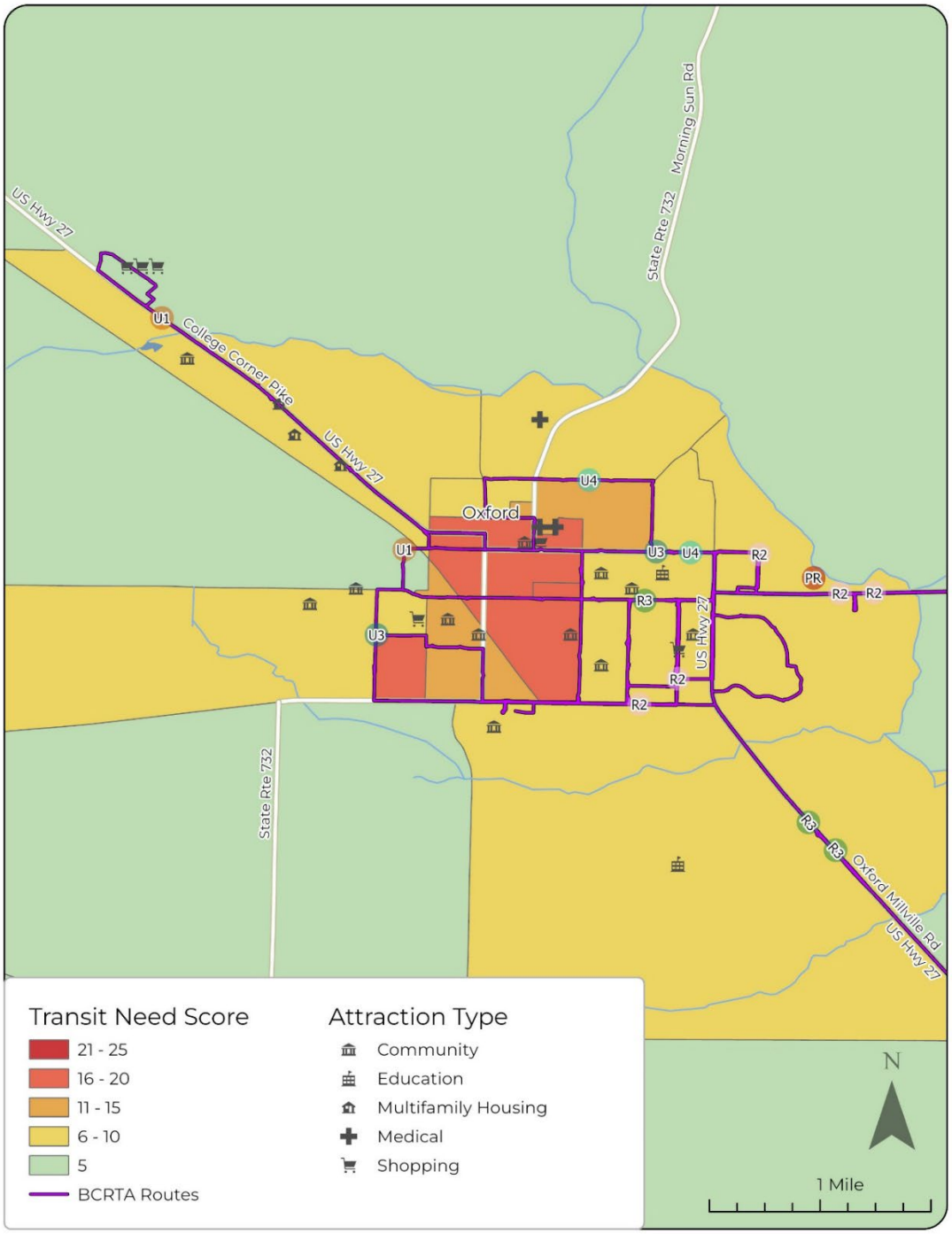


Figure 34 - Middletown Transit Need

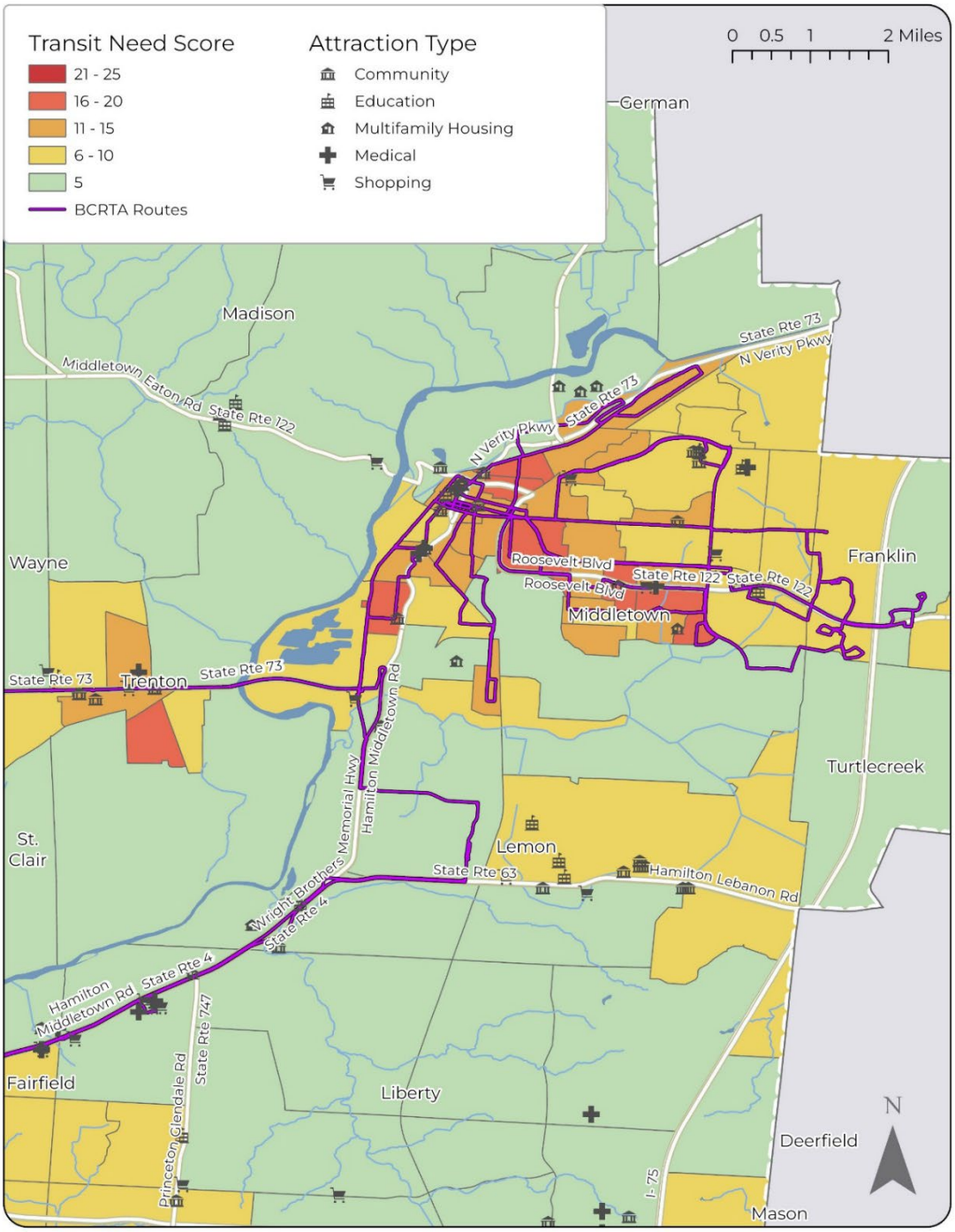


Figure 35 - Hamilton Transit Need

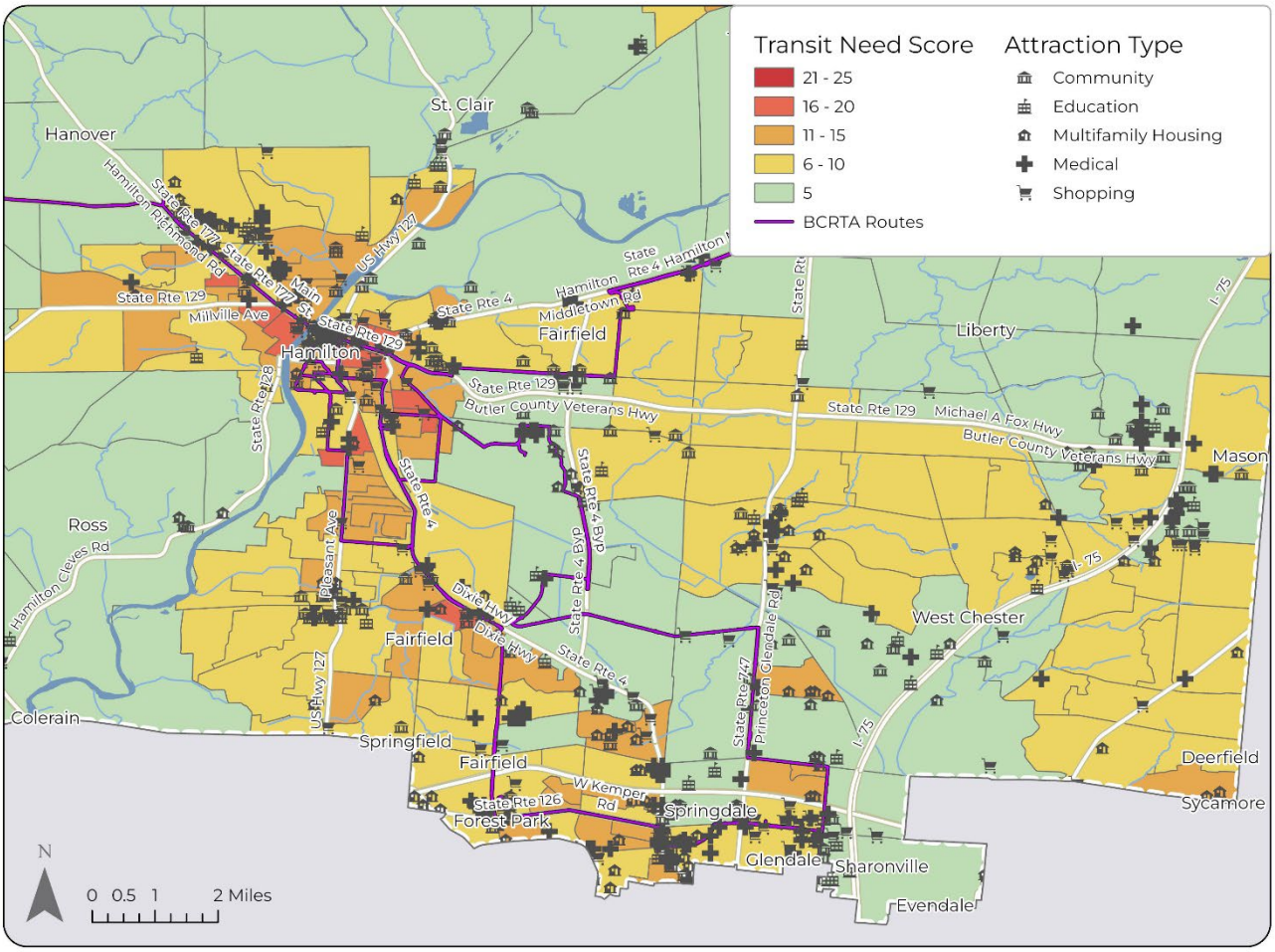
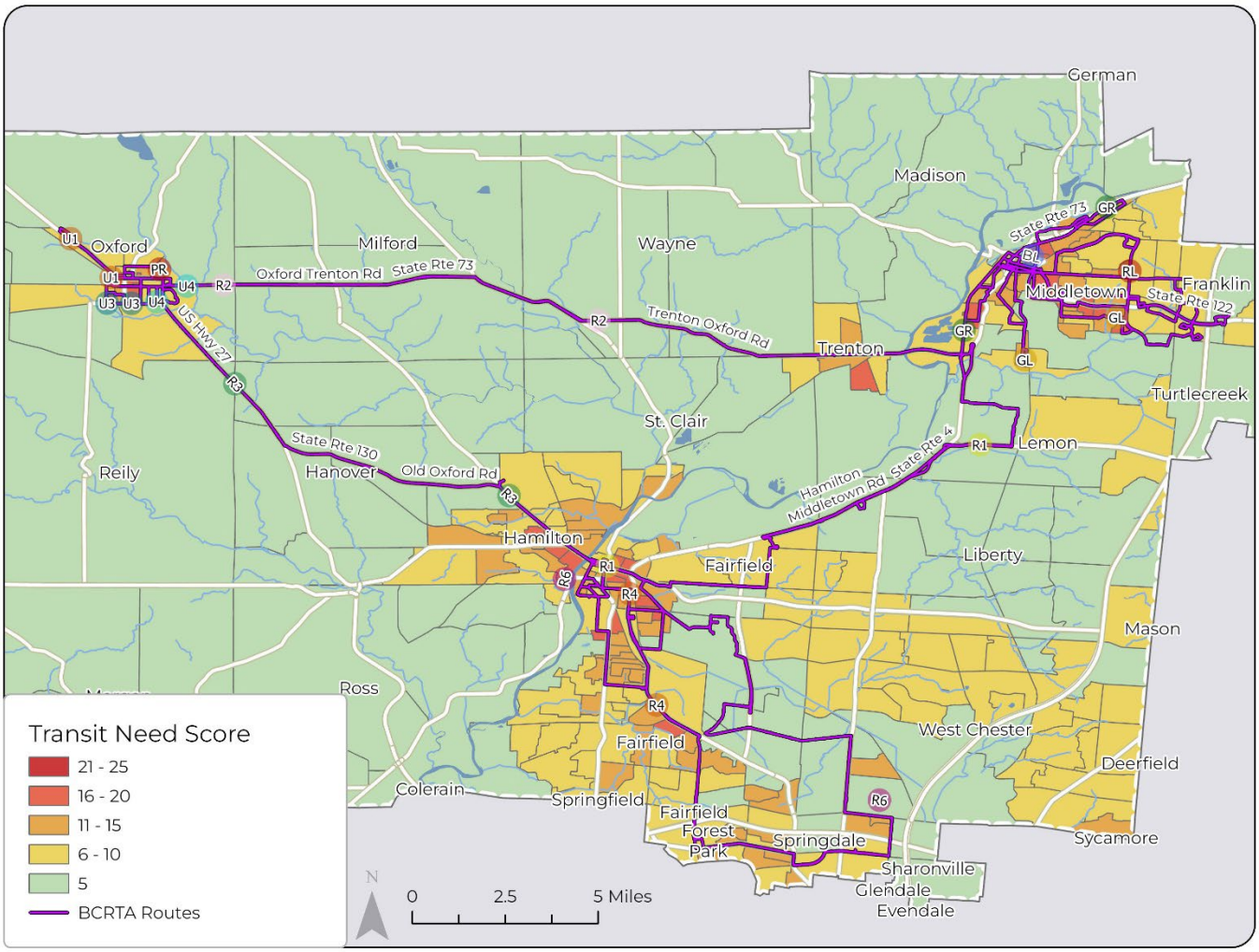


Figure 36 - Countywide Transit Need



Regional Travel Patterns

In general, transit users want to access the same regional destinations as travelers who use other modes of transportation. Thus, to understand the overall market for transit service, it is helpful to identify the most prevalent travel patterns in the region, regardless of mode.

The Ohio-Kentucky-Indiana Regional Council of Governments (OKI) maintains a regional travel demand model which is used to simulate the travel patterns of all individual travelers in the region. The OKI model divides the region into traffic analysis zones (TAZ) and forecasts the expected travel volumes between each TAZ based on land-use, population, and socio-economic data. The following assessment of travel patterns in the Butler County study area relies on the 2019 regional travel demand model data provided by OKI.

Figures 37 through 40 show the significant TAZ-to-TAZ travel flows in the region. Significant travel flows are defined as 250 or more trips per day between any two TAZs. The majority of significant TAZ-to-TAZ travel is within the respective cities of Butler County, rather than between them.

Oxford

The highest concentration of significant travel patterns in and around Oxford is focused on Miami University, with particularly high travel volumes between the university area and western Oxford, where there are several apartment complexes.

Oxford has some of the highest TAZ-to-TAZ travel volumes in Butler County.

Table 1. Top Travel Flows

Rank	TAZ 1	TAZ 2	Daily Trips (all modes)	Existing Transit Connection
1	**1169** (West Oxford)	**1170** (East Oxford)	2048	U1, U3
2	**1166** (West Oxford – south of Fairfield Road)	**1170** (East Oxford)	1709	U1, U3
3	**1166** (West Oxford – south of Fairfield Road)	**1169** (West Oxford)	1430	U3
4	**1168** (Nortwest Oxford – north of College Corner Pike)	**1170** (East Oxford)	1251	U1
5	**1169** (West Oxford)	**1212** (Central Oxford)	1108	U1

Middletown

There is a high volume of trips in Hamilton between Hamilton Middletown Road, near Lemon and Madison, and a TAZ south of Hamilton Middletown Road along Route R1. This TAZ has a shopping center, grocery store, and medical services. There are also high concentrations of significant travel patterns between Middletown and Franklin. Franklin is outside of Butler County but within an area served by existing BCRTA routes.

Table 2. Top Travel Flows

Rank	TAZ	TAZ 2	Daily Trips (all modes)	Existing Transit Connection
1	**992** (Southeast Middletown)	**1535** (West Franklin)	797	BL
2	**992** (Southeast Middletown)	**1460** (Turtlecreek)	676	BL
3	**965** (West Middletown south of Roosevelt Blvd)	**1535** (West Franklin)	628	BL
4	**965** (West Middletown, south of Roosevelt Blvd)	**1460** (Turtlecreek)	593	BL
5	**965** (West Middletown south of Roosevelt Blvd)	**992** (Southeast Middletown)	586	BL

Hamilton

TAZ-to-TAZ travel volumes within Hamilton are generally lower than in Oxford and Middletown as trips are more dispersed. The most significant travel volumes in Hamilton are concentrated in clusters to the northwest, south, and near Fairfield.

Table 3. Top Travel Flows

Rank	TAZ	TAZ 2	Daily Trips (all modes)	Existing Transit Connection
1	**909** (NW Hamilton north of Hamilton Richmond Road)	**1101** (NW Hamilton north of Hamilton Richmond Road)	993	R3
2	**1101** (NW Hamilton north of Hamilton Richmond Road)	**1268** (West Hamilton, west of Hamilton Richmond Road)	795	R3
3	**1098** (West Hamilton, west of Hamilton Richmond Road)	**1101** (NW Hamilton north of Hamilton Richmond Road)	659	R3
4	**1097** (West Hamilton, west of Hamilton Richmond Road)	**1101** (NW Hamilton north of Hamilton Richmond Road)	628	R3
5	**1101** (NW Hamilton, north of Hamilton Richmond Road)	**1103** (North Hamilton south of Beissinger Road)	606	None

Countywide

In addition to the travel patterns noted above, there are also concentrations of significant TAZ-to-TAZ travel volumes north of Springdale, around West Chester, and between Oxford and Hamilton.

The travel patterns listed below are the top five TAZ-to-TAZ travel flows within Butler County, excluding those identified in previous sections.

Table 4. Top Travel Flows

Rank	TAZ	TAZ 2	Daily Trips (all modes)	Existing Transit Connection
1	**997** (West Chester, south of Liberty Way)	**998** (West Chester, south of Tylersville Road)	1557	None
2	**1038** (Lemon, south of Hamilton Lebanon Road)	**1065** (Lemon, north of Hamilton Lebanon Road)	1533	None
3	**1460** (Middletown, south of SR 122, outside of Butler County)	**1535** (Middletown, north of SR 122, outside of Butler County	1459	BL
4	**1038** (Lemon, south of Hamilton Lebanon Road)	**1039** (Lemon, west of Hamilton Middletown Road)	1218	R1
5	**1038** (Lemon, south of Hamilton Lebanon Road)	**1064** (Lemon, north of SR 63)	1165	R1

Figure 37 - Regional Travel Patterns in Oxford

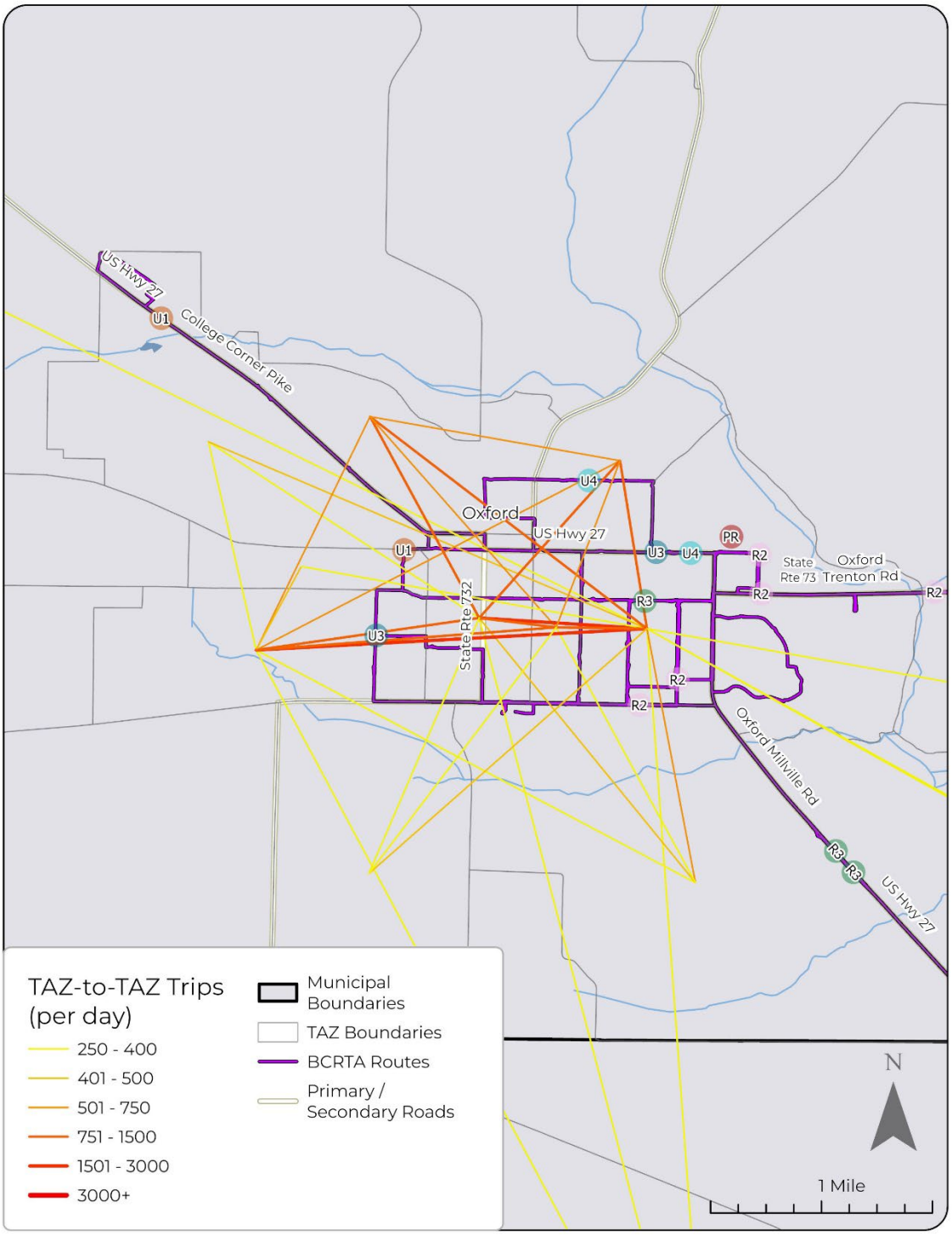


Figure 38 - Regional Travel Patterns in Middletown

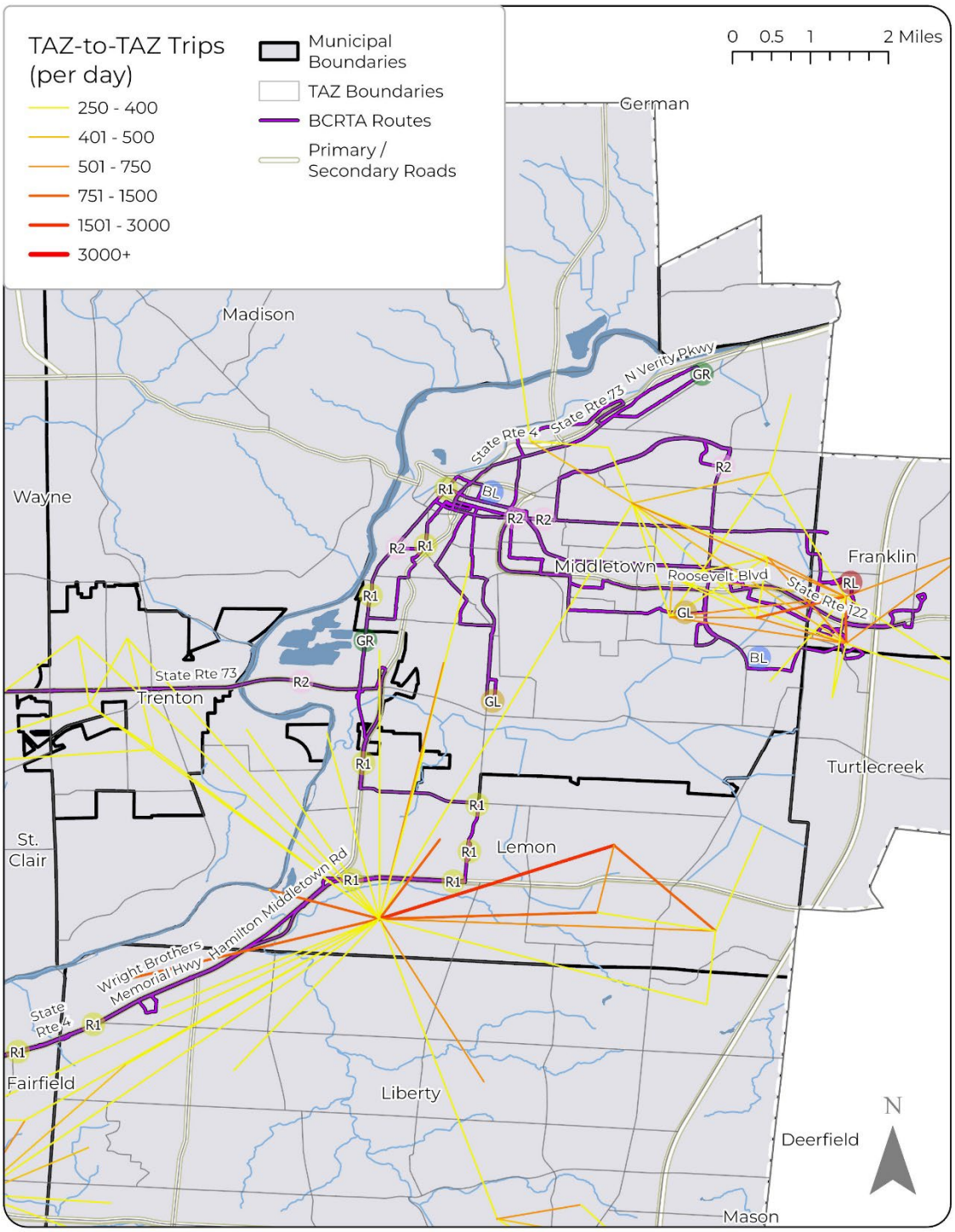


Figure 39 - Regional Travel Patterns in Hamilton

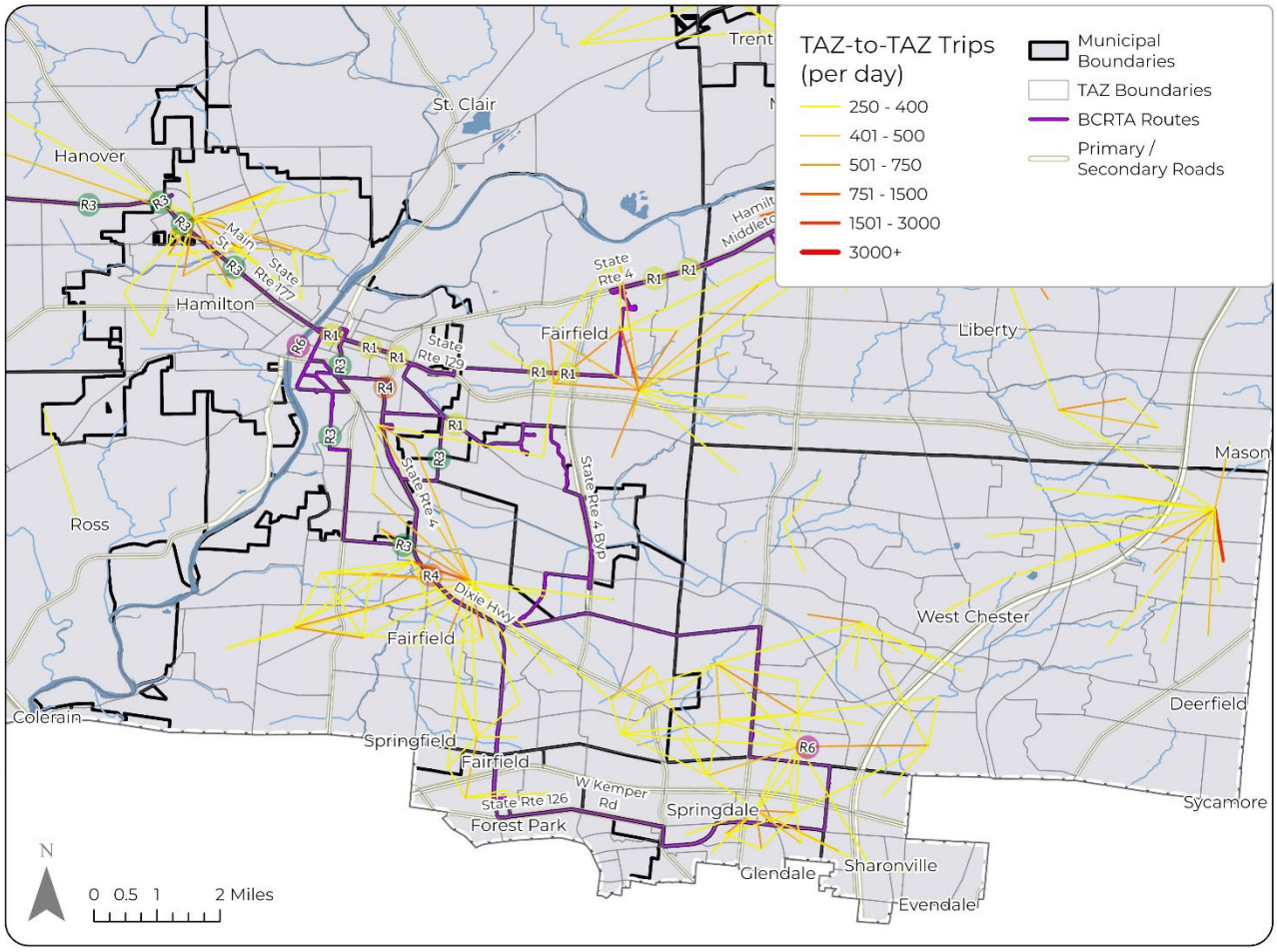
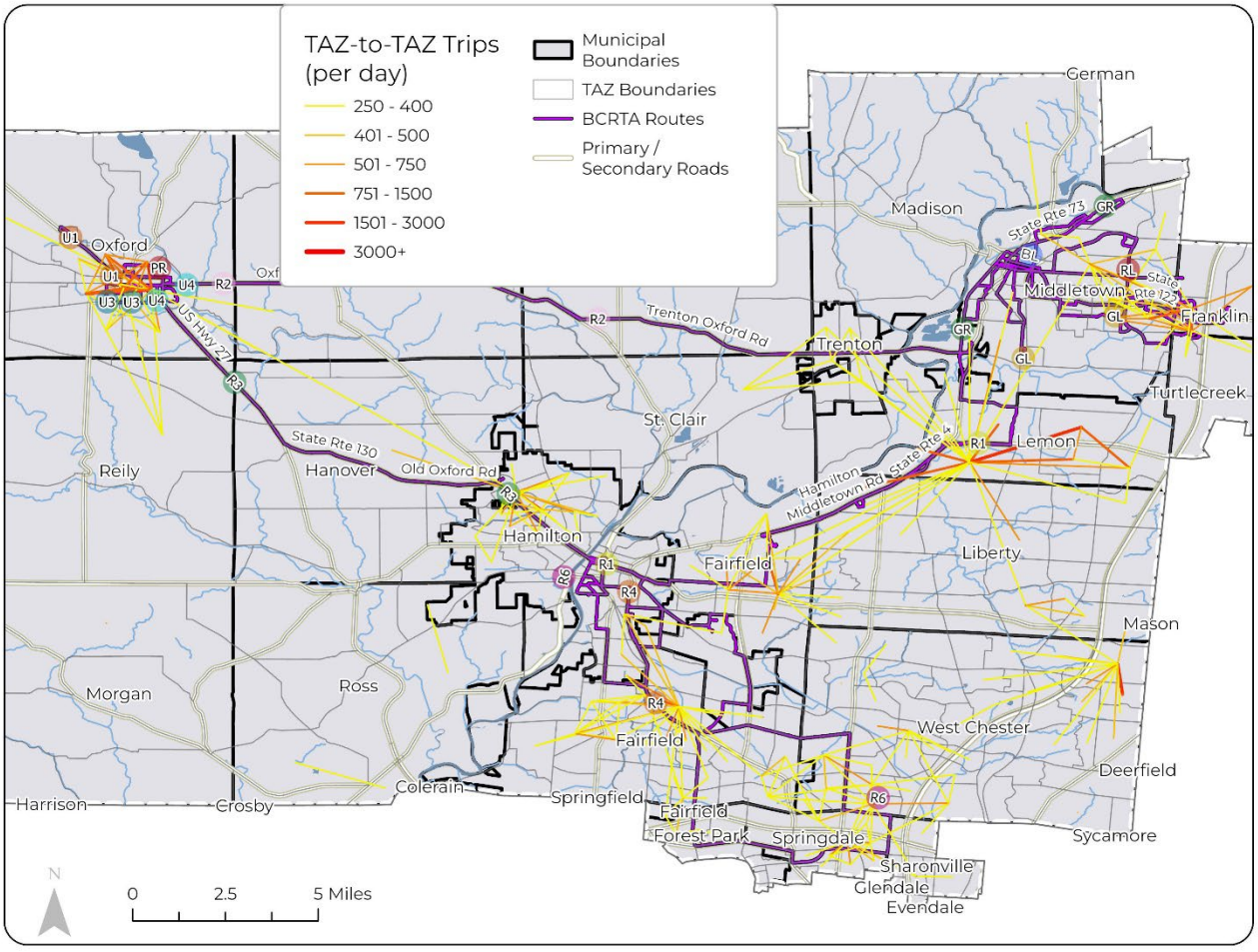


Figure 40 - Regional Travel Patterns Countywide



Butler County to Cincinnati Regional Travel Flows

BCRTA currently funds the operations of one route operated by the Southwest Ohio Regional Transit Authority (SORTA). Route 42X operates peak-period express service between the Meijer Park-and-Ride in West Chester and downtown Cincinnati.

Commuter services like the 42X generally attract riders from a wider area than local fixed-routes because riders congregate at a collection point like a park-and-ride, rather than walking to their nearest bus-stop. Given that riders often arrive at park-and-rides by car, they are usually willing to travel a greater distance to catch a commuter bus than local fixed-route riders are willing to travel to reach a bus stop.

To assess how well the 42X route facilitates commuter trips to Cincinnati, the study team examined travel patterns between Butler County and three specific zones in the Cincinnati area: Downtown (central business district), Uptown (University of Cincinnati and University of Cincinnati Medical Center), and Cincinnati / Northern Kentucky International Airport (CVG). For this assessment, travel flows to and from these zones were aggregated by Butler County municipality, rather than by Butler County TAZs, to reflect the larger capture area of park-and-ride services.

The visualization in Figure 41 shows travel flows that generate at least 500 trips per day (all travel modes and in both directions). This is a higher threshold than the 250 trips per day used in the TAZ-based analysis described previously and is meant to adjust for the larger geographic areas being analyzed in this assessment.

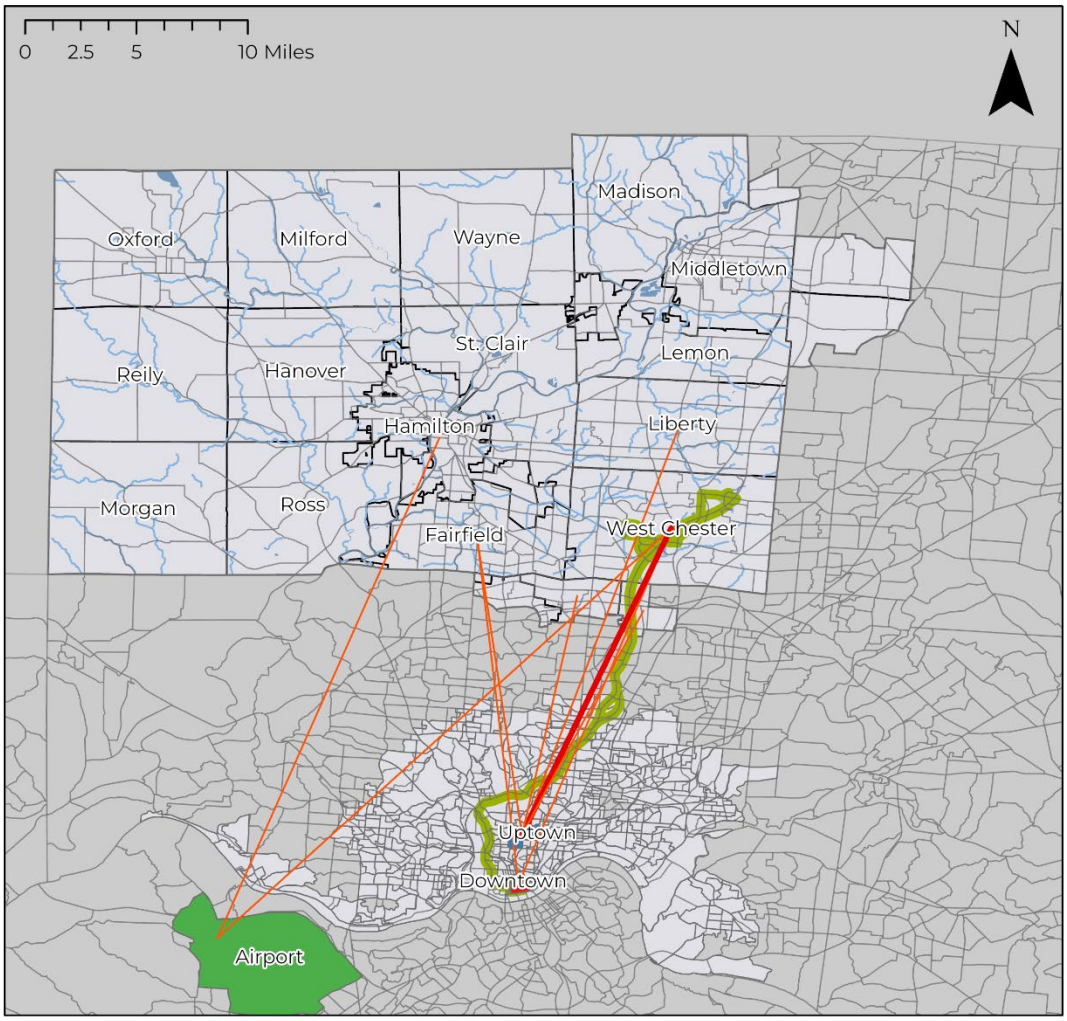
The results of this analysis reveal that the most significant travel flow is between West Chester and the Uptown zone, with more than 1,000 trips per day. This travel pattern is currently not served directly by the Route 42X, which instead provides express service between West Chester and Downtown Cincinnati, with connections available to Uptown and other destinations in Cincinnati.

Other major travel flows, generating at least 500 trips per day between Butler County and the three zones include the following:

- West Chester to Downtown and CVG
- Hamilton to CVG
- Fairfield to Uptown and Downtown
- Springdale to Uptown
- Sharonville to Uptown and Downtown
- Liberty to Uptown

The travel patterns in West Chester and Sharonville are like the routing of Route 42X, but the other travel patterns are not directly served by any transit service. These present potential opportunities for future coordination and collaboration with SORTA, including a potential re-route or variant of Route 42x to provide one-seat rides between West Chester and Uptown Cincinnati.

Figure 42 – Butler County to Cincinnati Travel Patterns



ROUTE: BL

Blue Line

Description: *The Blue Line operates between the Middletown Historic District and Blue Ball via South Highlands*

Key Points of Interest: *Middletown Shopping Center, Towne Shopping Mall, Social Security Administration, and Walmart Middletown*

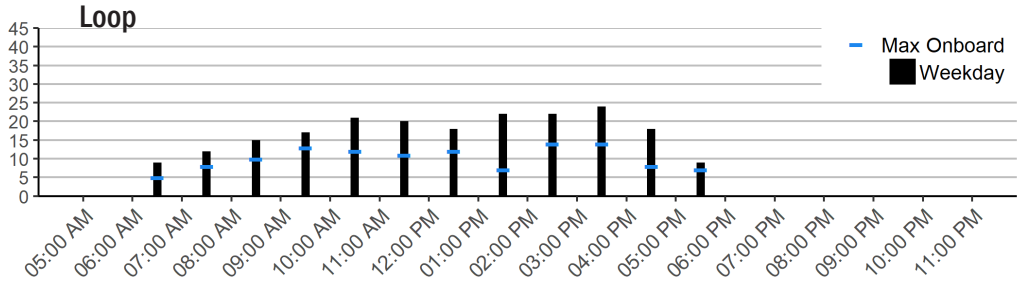
* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	195.3	5/13	14.4	5/13	1	5/13	16.3	2/13
Saturday	131.2	3/7	16.4	3/7	1.1	3/7	16.4	1/7
Sunday	No Service	-/3	No Service	-/3	No Service	-/3	No Service	-/3

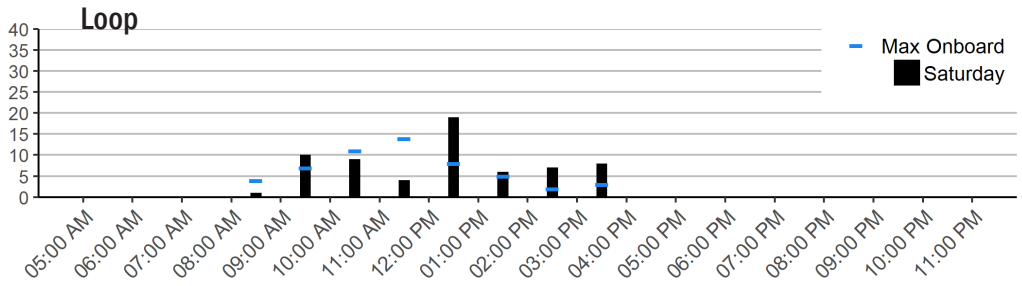
Weekday * Ridership by Trip

(February 2022)



Weekend Ridership by Trip

(February 2022)



Operating Characteristics *

Weekday

Span	6:30 a.m. - 6:30 p.m.			
Frequency	60	min	60	min
	Peak		Off-Peak	

Saturday

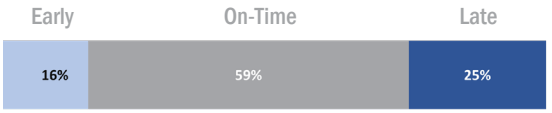
Span	8:30 a.m. - 4:30 p.m.			
Frequency	60	min	-	min
	Peak		Off-Peak	

Sunday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

On-Time Performance

Timepoint Observations



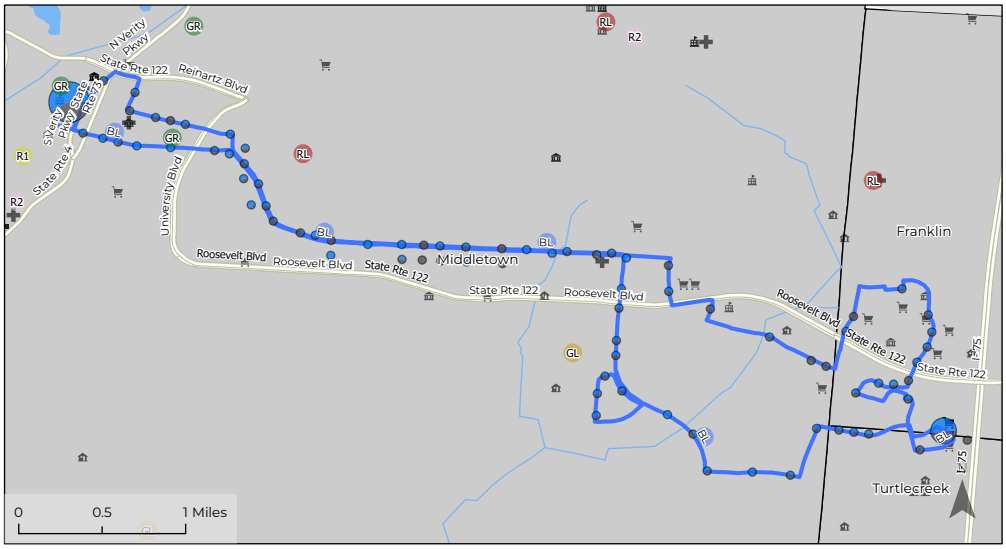
Annual Statistics

		Rank
Revenue Hours	3,452	8/13
Revenue Miles	49,848	8/13
Ridership	49,791	5/13

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)



Blue Line - Loop

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Provides easy-to-remember hourly service frequency on weekdays and Saturdays
- Strong anchors at Middletown Transit Station and Walmart on Towne Blvd.
- Facilitates connection opportunities to Gold, Red, and Green lines, as well as Route R2
- Provides connections to shopping centers and grocery stores
- Steady weekday ridership

Weaknesses

- Low ridership at most stops other than the two primary anchors
- Relatively infrequent service
- Large one-way loop east of Breiel Blvd., making travel between destinations within the loop very difficult and time-consuming
- One way service in downtown Middletown forces out-of-direction travel for many riders
- Low ridership on Saturdays with most trips carrying fewer than 10 passengers
- Poor on-time performance with less than 60% of timepoints served on time

Opportunities

- Restructure route to provide primarily bi-directional service along corridors with highest ridership potential
- Consolidate highest ridership segments of Blue, Gold, and Red lines into one or two strong-performing routes
- Replace fixed-route service in Middletown with microtransit service to allow for better service penetration in residential areas and industrial zones with job access opportunities

ROUTE: PR

Park and Ride

Description: *This route only operates part of the year when Miami University is in service - Miami University to Chestnut Field Park & Ride*

Key Points of Interest: *Campus parking lots (Chestnut Fields Lot and Ditmer Lot), Armstrong, Farmer School of Business, and Miami Station*

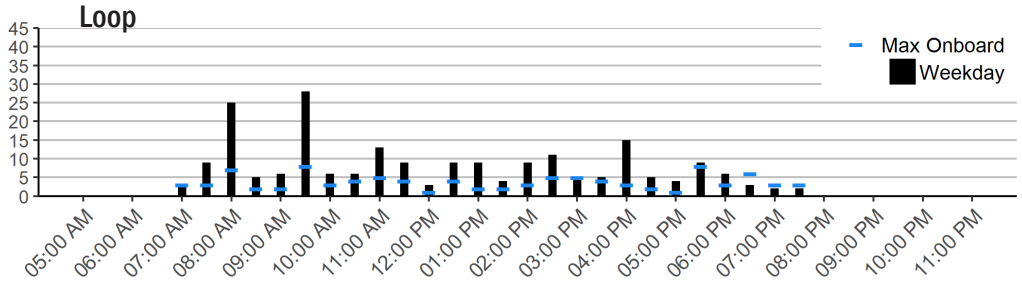
* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	652.6	2/13	50.2	1/13	5.8	1/13	25.1	1/13
Saturday	No Service	-/7	No Service	-/7	No Service	-/7	No Service	-/7
Sunday	No Service	-/3	No Service	-/3	No Service	-/3	No Service	-/3

Weekday * Ridership by Trip

(February 2022)



Weekend Ridership by Trip

(February 2022)

Route only operates Weekday service.

Operating Characteristics *

	Span	Frequency (Peak)		Frequency (Off-Peak)	
Weekday	7:00 a.m. - 6:55 p.m.	30	min	30	min
Saturday	No Service	-	min	-	min
Sunday	No Service	-	min	-	min

On-Time Performance

Timepoint Observations

Early	On-Time	Late
13%	61%	26%

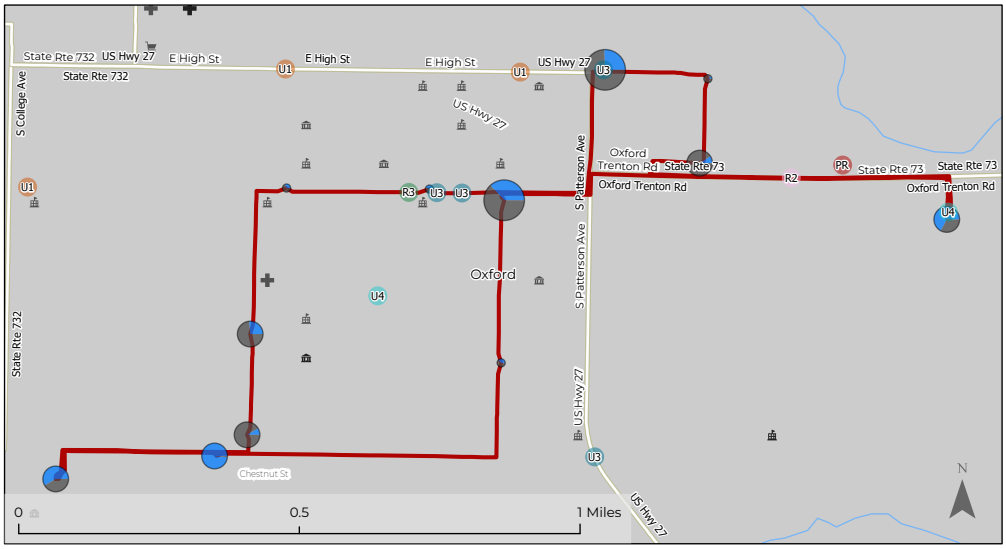
Annual Statistics

		Rank
Revenue Hours	2,080	13/13
Revenue Miles	17,920	13/13
Ridership	104,422	2/13

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)



Park and Ride - Loop

Average Daily Ridership

Average Daily Boardings

Average Daily Alightings

100

50

10

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Provides easy-to-remember half-hour frequency throughout the service day on weekdays
- Links peripheral parking lots and South Campus Garage to core of campus, including Miami Station
- High ridership and productivity

Weaknesses

- Poor on-time performance with just over 60% of timepoints served on time
- Relatively infrequent service for a parking shuttle
- Inconsistent alignments between eastbound and westbound service, meaning destinations like the South Campus Garage and Farmer School are served in one direction only and require out-of-direction travel to access
- Somewhat duplicative with other Oxford Routes
- Confusing and inconsistent schedule information shown online - for example online schedule shows more frequent departures from Chestnut Field Park & Ride than every 30 minutes, while PDF schedule shows 30-minute service. PDF schedule also shows timepoints with no arrival times and non-timepoints with arrival times listed

Opportunities

- Restructure routes in Oxford so that routes serve unique markets or corridors, and are complementary rather than redundant with one another
- Operate PR Route along a consistent alignment in both directions to reduce forced out-of-direction travel
- Increase service frequency during peak commuting periods
- Review route and schedule information published online to ensure accuracy and consistency

ROUTE: R1

R1 - Hamilton/Middletown Shuttle

Description: *R1 operates between the Hamilton German Village Historic District and the Middletown Historic District via Excello*

Key Points of Interest: *Bridgewater Falls, Butler Tech: Fairfield Township Campus – Central Campus, Butler Tech Liberty Township Campus, Butler Tech LeSourdsville Campus, and Kohl's E-Commerce Distribution Center, Kroger*

* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

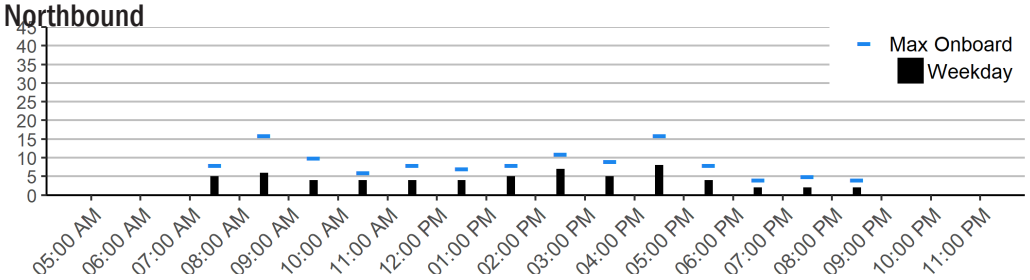
Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	86.4	9/13	3.2	10/13	0.2	11/13	5.8	10/13
Saturday	No Service	-/7	No Service	-/7	No Service	-/7	No Service	-/7
Sunday	No Service	-/3	No Service	-/3	No Service	-/3	No Service	-/3

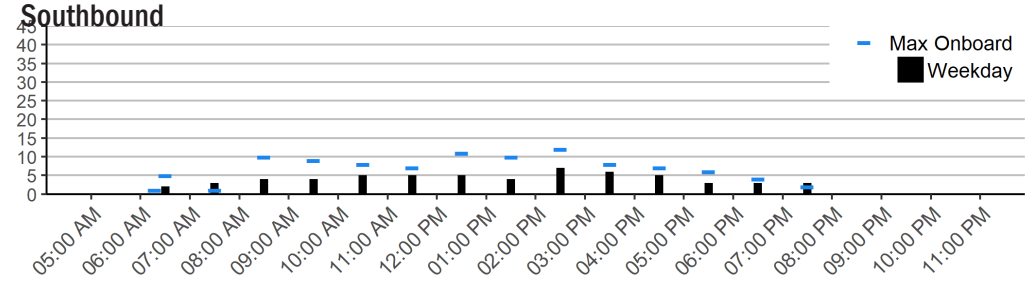
Weekday * Ridership by Trip

(February 2022)

Northbound



Southbound



Weekend Ridership by Trip

(February 2022)

Route only operates Weekday service.

Operating Characteristics *

Weekday

Span	6:17 a.m. - 9:24 p.m.			
Frequency	60	min	60	min
	Peak		Off-Peak	

Saturday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

Sunday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

On-Time Performance

Timepoint Observations

Early	On-Time	Late
14%	26%	60%

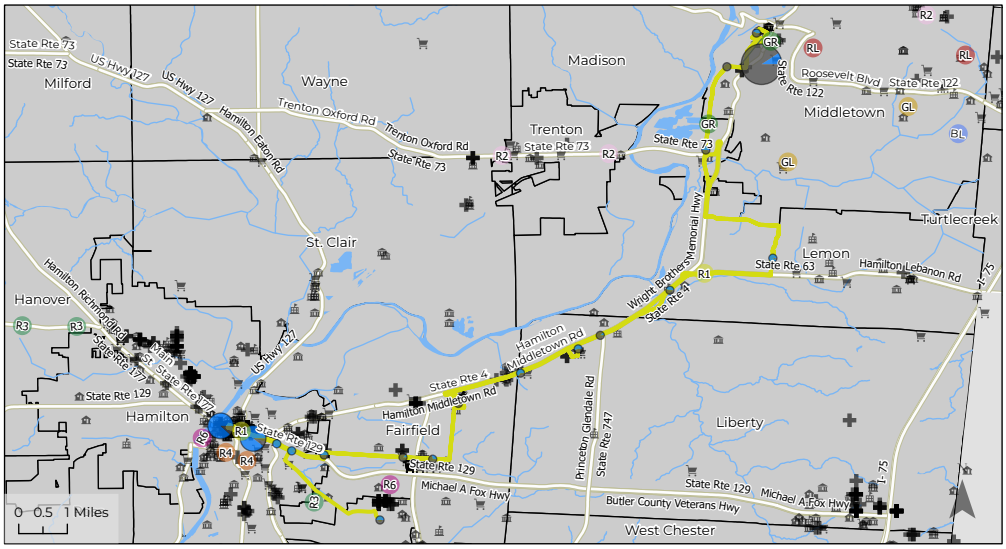
Annual Statistics

		Rank
Revenue Hours	6,885	3/13
Revenue Miles	141,270	1/13
Ridership	22,029	9/13

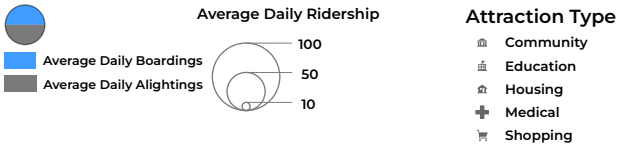
*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

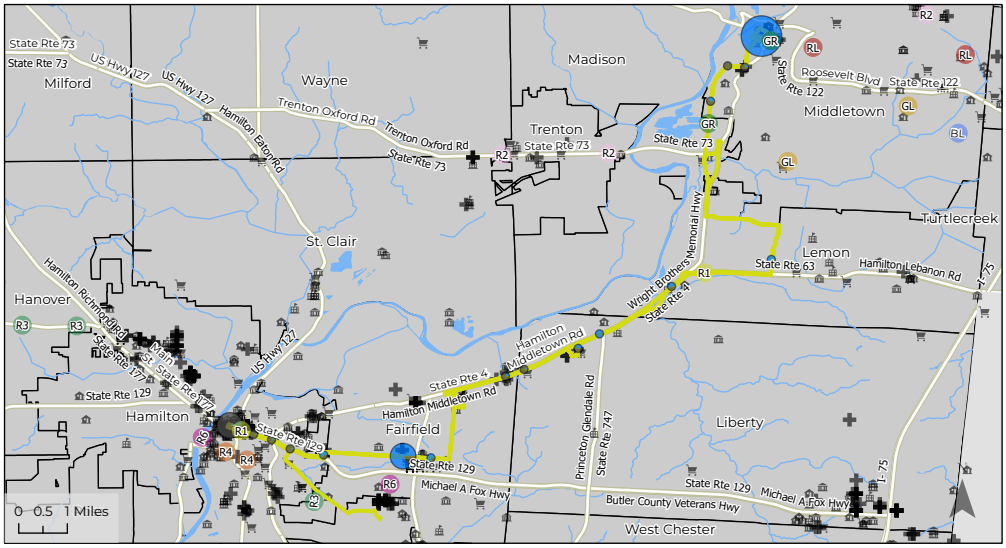
Weekday Ridership by Stop

(February 2022)

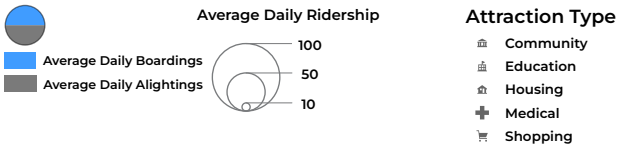


R1 - MTS to Market Street Station - Northbound





R1 - Market Street Station to MTS Transit - Southbound



Route Analysis

Strengths

- Facilitates regional travel as only BCRTA route linking Hamilton and Middletown
- Provides job and education access opportunities with connections to several Butler Tech campuses and a Kohl's distribution center
- Offers easy-to-remember hourly service frequency on weekdays. Provides multiple connection opportunities to other BCRTA services in Hamilton and Middletown

Weaknesses

- Very poor on-time performance with fewer than 30% of timepoints served on time
- Five or fewer passengers on most trips
- Low ridership at most stops outside of Hamilton and Middletown
- Some redundancy with Route R2 in Middletown and R4 in Hamilton
- Limited coverage in Monroe, despite ridership opportunities like Kroger, Monroe High School, Butler Tech Monroe Campus, and employers in the Garver Road corridor.

Opportunities

- Consider streamlining route to improve on-time performance
- Eliminate deviation to Kohl's distribution center to help streamline route
- Serve Monroe (including Kohl's distribution center) with microtransit service to provide local circulation and first/last mile connections to Route R1

ROUTE: R2

R2 - Oxford/Middletown Shuttle

Description: *This route is currently suspended - R2 connects Oxford and Middletown via route 73*

Key Points of Interest: *Miami Station, Miami University - Oxford, Miami University - Middletown, MTS Station*

* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	40.6	11/13	2.9	11/13	0.1	12/13	5.1	12/13
Saturday	No Service	-/7	No Service	-/7	No Service	-/7	No Service	-/7
Sunday	No Service	-/3	No Service	-/3	No Service	-/3	No Service	-/3

Weekday * Ridership by Trip

(February 2022)

Ridership data unavailable due to suspended service

Operating Characteristics *

Weekday

Span	6:22 a.m. - 8:20 p.m.			
Frequency	120	min	120	min
	Peak		Off-Peak	

Saturday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

Sunday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

On-Time Performance

Timepoint Observations

Early | On-Time | Late

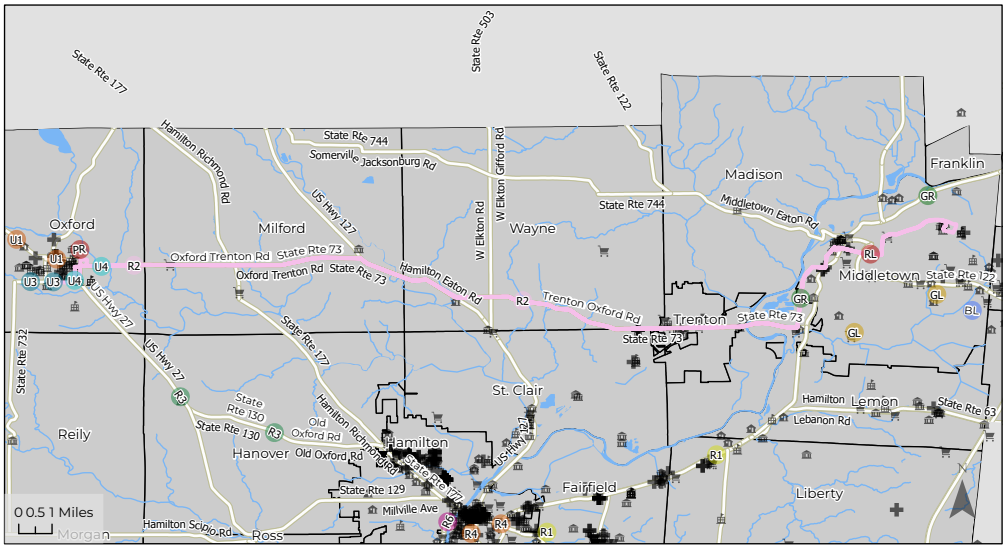
Annual Statistics

		Rank
Revenue Hours	3,570	7/13
Revenue Miles	95,625	3/13
Ridership	10,359	11/13

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)



R2 - Oxford to Middletown - Inbound

Average Daily Ridership

Average Daily Boardings

Average Daily Alightings

100

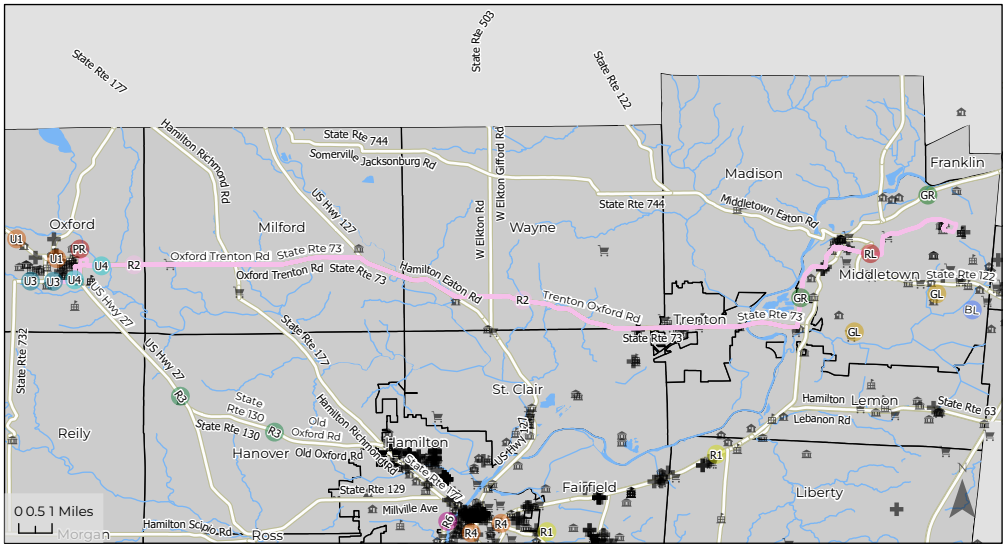
50

10

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Ridership data unavailable due to suspended service



R2 - Oxford to Middletown - Outbound

Average Daily Ridership

Average Daily Boardings

Average Daily Alightings

100

50

10

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Facilitated (service suspended) regional travel as only BCRTA route linking Oxford and Middletown
- Linked Miami University campuses in Oxford and Middletown
- Provided multiple connection opportunities to other BCRTA services in Oxford and Middletown

Weaknesses

- Service currently suspended
- Few ridership opportunities between Trenton and Oxford due to low density environment
- Some redundancy with Route R1 in Middletown

Opportunities

- Consider operating on-demand service between Oxford and Middletown using microtransit vehicles - if no trips are requested between cities, vehicles can continue to support local microtransit service within Middletown or Oxford

ROUTE: R3

R3 - Hamilton/Oxford Connector

Description: *R3 operates between Fairfield and Oxford via the Hamilton German Village Historic District, McGonigle, and Edgewood*

Key Points of Interest: *Miami University Western Campus, Miami University Hamilton, Plaza West Shopping Center, Ohio Bureau of Motor Vehicles, TriHealth Bethesda Butler Hospital, Meijer Park and Ride, and Ohio Means Jobs*

* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

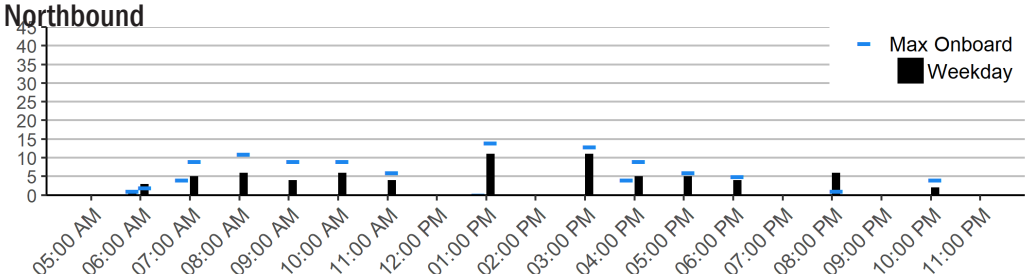
Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	155.6	6/13	4.9	9/13	0.3	9/13	9.2	7/13
Saturday	No Service	-/7	No Service	-/7	No Service	-/7	No Service	-/7
Sunday	No Service	-/3	No Service	-/3	No Service	-/3	No Service	-/3

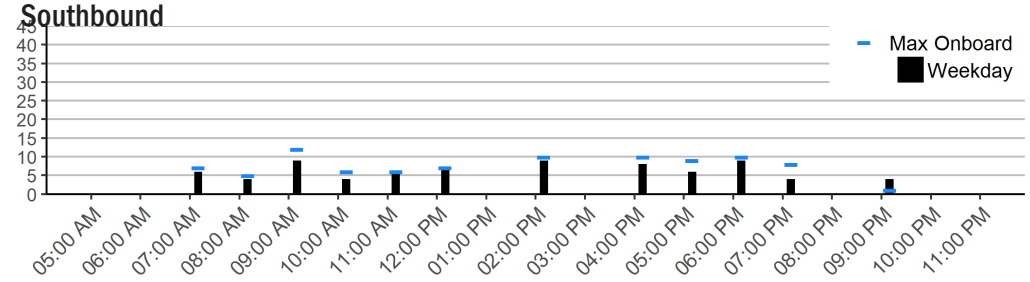
Weekday * Ridership by Trip

(February 2022)

Northbound



Southbound



Weekend Ridership by Trip

(February 2022)

Route only operates Weekday service.

Operating Characteristics *

	Span	Frequency (Peak)		Frequency (Off-Peak)	
Weekday	5:50 a.m. - 11:55 p.m.	60	min	60	min
Saturday	No Service	-	min	-	min
Sunday	No Service	-	min	-	min

On-Time Performance

Timepoint Observations

Early	On-Time	Late
14%	25%	60%

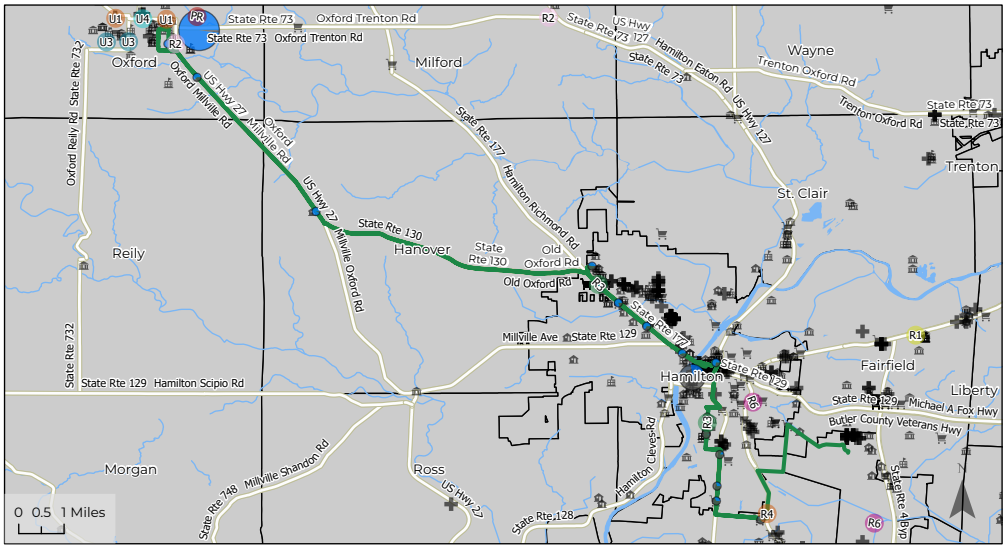
Annual Statistics

	Rank
Revenue Hours: 8,160	2/13
Revenue Miles: 127,755	2/13
Ridership: 39,672	6/13

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)



R3 - Fairfield to Miami Station - Northbound

Average Daily Ridership

Average Daily Boardings

Average Daily Alightings

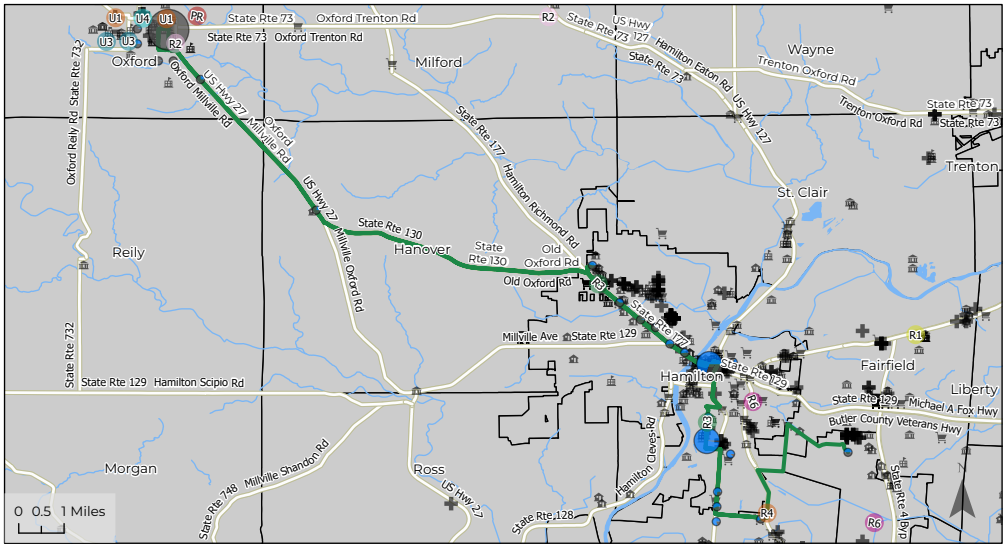
100

50

10

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping



R3 - Miami Station to Fairfield - Southbound

Average Daily Ridership

Average Daily Boardings

Average Daily Alightings

100

50

10

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Facilitates regional travel as only BCRTA route linking Oxford and Hamilton
- Serves several regionally significant destinations including TriHealth Bethesda Butler Hospital, Walmart, and Miami University campuses in Oxford and Hamilton
- Provides multiple connection opportunities to other BCRTA services in Oxford and Hamilton
- Extensive span of service on weekdays
- Relatively strong ridership on the Miami University campuses and at Market Street Station

Weaknesses

- Very poor on-time performance with fewer than 30% of timepoints served on time
- Extended service gaps (more than one hour) at several points during the service day
- Low ridership at most stops outside of Hamilton and Oxford
- No weekend service

Opportunities

- Consider truncating route at Miami University Hamilton Campus to improve on-time performance
- Introduce local fixed-route or microtransit service in Hamilton to allow Route R3 to focus on regional service
- Provide more consistent service by restructuring schedule to eliminate excessive time gaps.

ROUTE: R4

R4 - Tri-County Shuttle

Description: *This route is currently suspended - R4 operates between Hamilton and Springfield to the Tri-County Mall, via Gilmore Road*

Key Points of Interest: *BCRTA Headquarters, Market Street Station, Erie Blvd Shopping Center, Symmes Rd. Shopping Center, Winton Kemper Plaza, Tri-County Mall*

* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

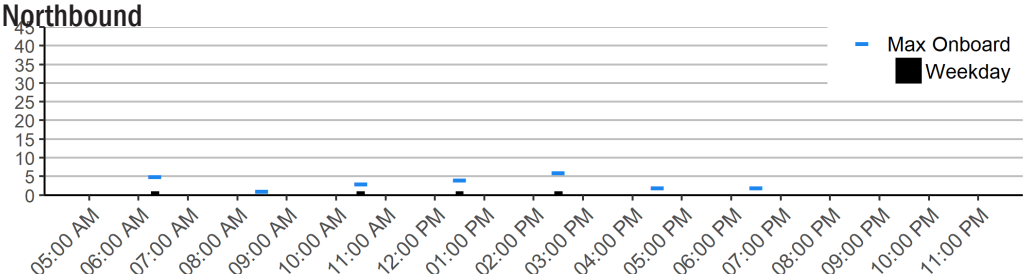
Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	37.7	12/13	2.9	12/13	0.2	10/13	5.4	11/13
Saturday	No Service	-/7	No Service	-/7	No Service	-/7	No Service	-/7
Sunday	No Service	-/3	No Service	-/3	No Service	-/3	No Service	-/3

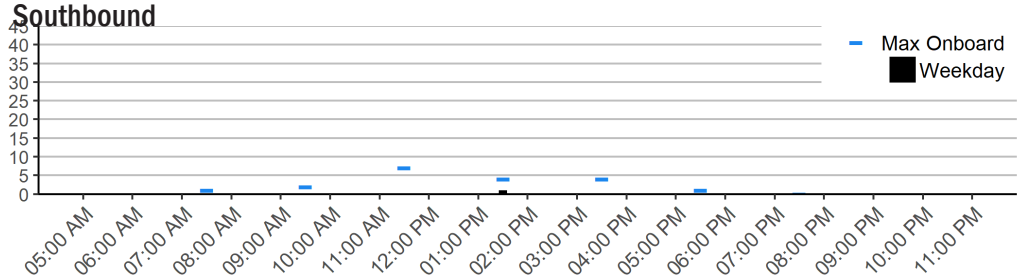
Weekday * Ridership by Trip

(February 2022)

Northbound



Southbound



Weekend Ridership by Trip

(February 2022)

Route only operates Weekday service.

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Operating Characteristics *

Weekday

Span	6:20 a.m. - 8:23 p.m.			
Frequency	120	min	120	min
	Peak		Off-Peak	

Saturday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

Sunday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

On-Time Performance

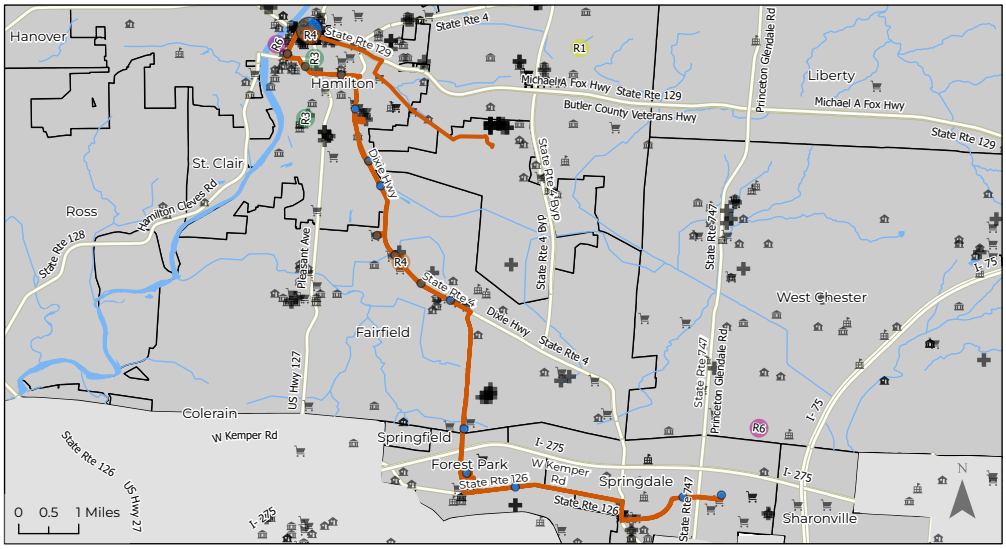
Timepoint Observations

Annual Statistics

		Rank
Revenue Hours	3,315	12/13
Revenue Miles	47,430	10/13
Ridership	9,613	12/13

Weekday Ridership by Stop

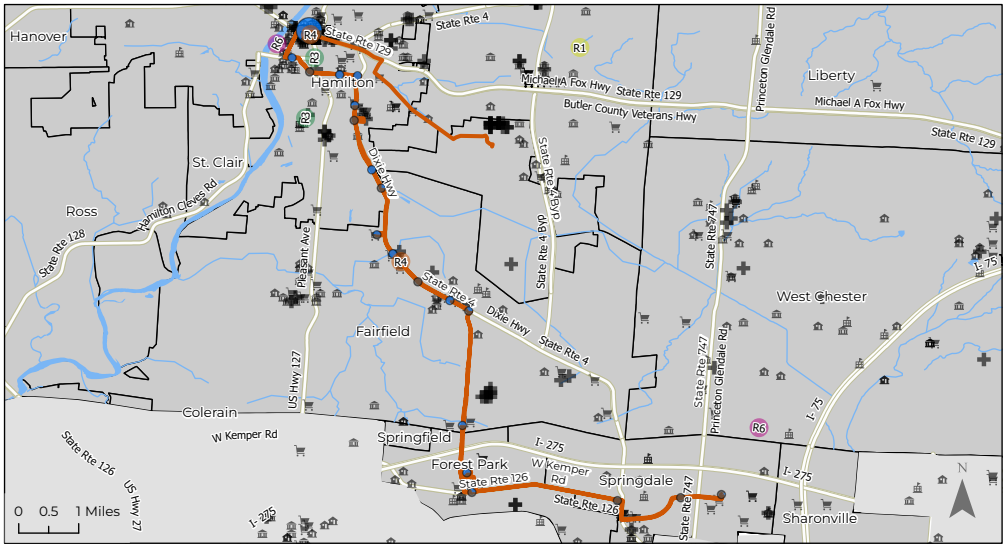
(February 2022)



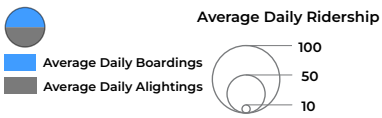
R4 - Tri-County Shuttle - Inbound

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping



R4 - Tri-County Shuttle - Outbound



Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Facilitated (service suspended) regional travel by linking Springdale and Hamilton
- Provided multiple connection opportunities to other BCRTA services in Hamilton
- Served several retail and medical centers, including Mercy Health Fairfield Hospital, Tri-County Mall, and Kroger

Weaknesses

- Very poor on-time performance with fewer than 30% of timepoints served on time
- Five or fewer passengers on all trips
- Low ridership Low ridership at all stops other than Market Street Station in Hamilton and Tri-County Mall
- Infrequent 120 minute headways throughout day.

Opportunities

- Consider integrating Hamilton coverage into a restructured local network in Hamilton
- Replace service outside of Hamilton with microtransit service focused primarily on local coverage in Springdale, but combined with on-demand trips at given times to Hamilton, reserved through the microtransit app.

ROUTE: R6

R6 - Job Connector

Description: *R6 operates between Hamilton and Springfield to the Tri-County Mall, via route 747*

Key Points of Interest: *Vora Technology Park, Fairfield Crossing, Fairfield High School, Princeton Crossing, Jungle Jim's International Market, Habitat for Humanity, Hamilton Enterprise Park, Koch Foods, AstraZeneca, Tyson Foods, and Tri-County Mall*

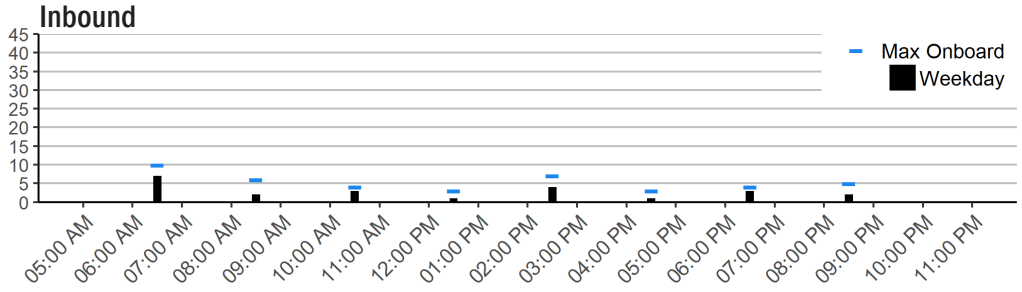
* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

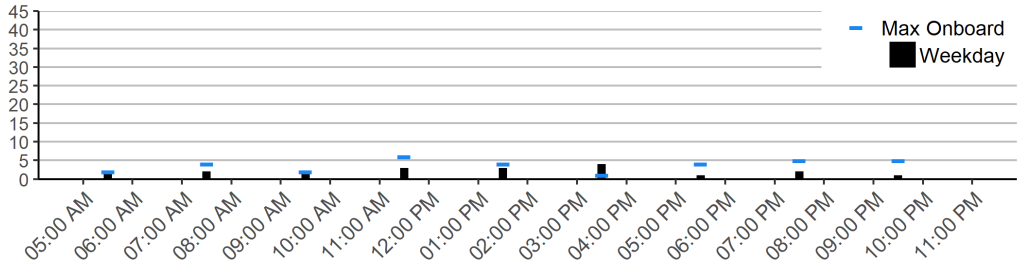
Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	28.9	13/13	1.8	13/13	0.1	13/13	3.2	13/13
Saturday	No Service	-/7	No Service	-/7	No Service	-/7	No Service	-/7
Sunday	No Service	-/3	No Service	-/3	No Service	-/3	No Service	-/3

Weekday * Ridership by Trip

(February 2022)





Weekend Ridership by Trip

(February 2022)

Route only operates Weekday service.

Operating Characteristics *

Weekday

Span	4:45 a.m. - 9:53 p.m.			
Frequency	120	min	120	min
	Peak		Off-Peak	

Saturday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

Sunday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

On-Time Performance

Timepoint Observations

Early	On-Time	Late
15%	24%	61%

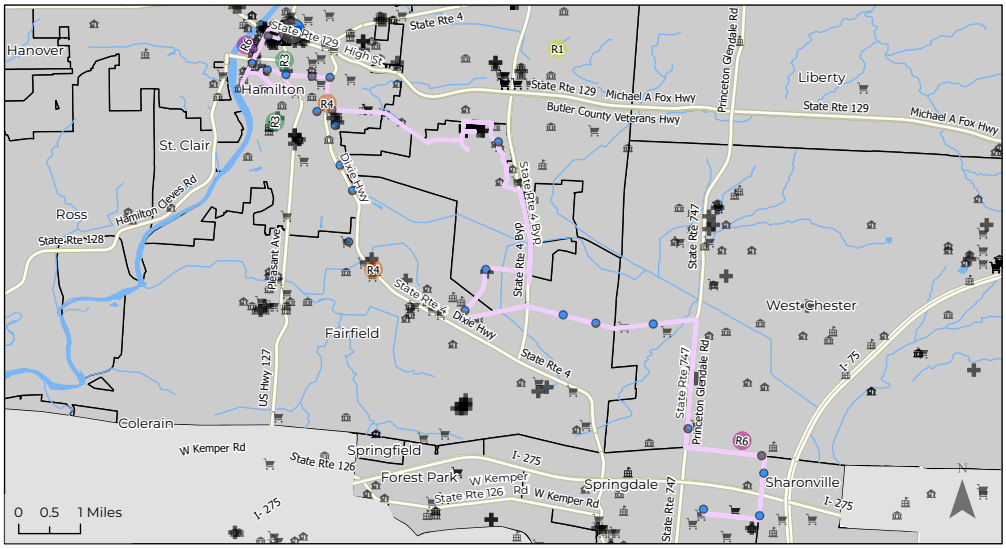
Annual Statistics

		Rank
Revenue Hours	4,080	4/13
Revenue Miles	68,595	5/13
Ridership	7,361	13/13

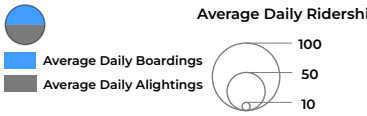
*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)

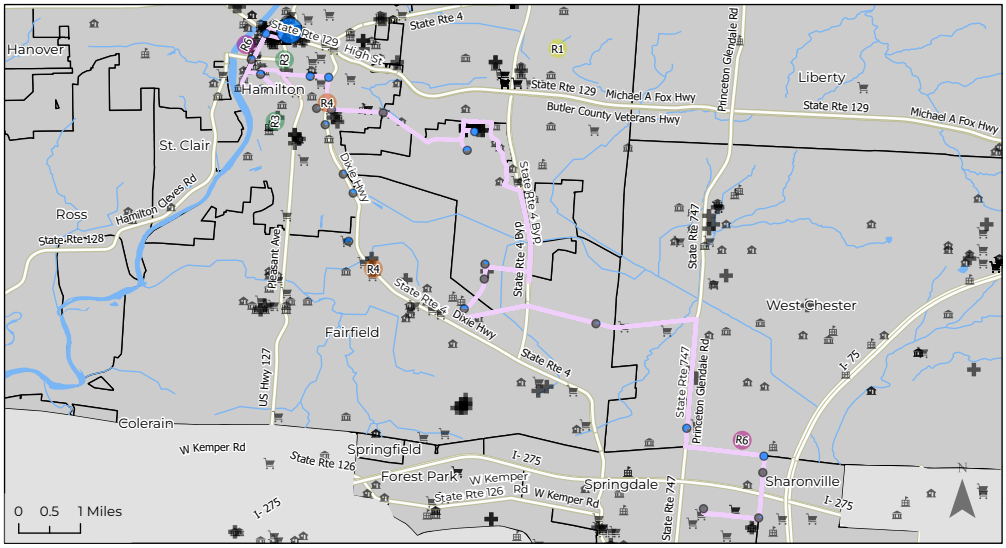


R6 - Tri-County Mall to Market Street Station - Inbound

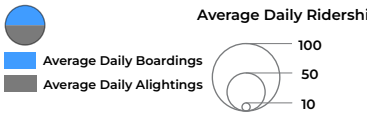


Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping



R6 - Market Street Station to Tri-County Mall - Outbound



Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Facilitates regional travel by linking Springdale and Hamilton
- Provides bi-directional service
- Serves several regionally significant destinations including Tri-County Mall
- TriHealth Bethesda Butler Hospital, Fairfield High School, and the BMV office in Hamilton
- Multiple connection opportunities to other BCRTA services in Hamilton

Weaknesses

- Very poor on-time performance with fewer than 30% of timepoints served on time
- Five or fewer passengers on most trips
- Low ridership at all stops other than Market Street Station in Hamilton and Tri-County Mall
- Infrequent 120 minute headways throughout day.

Opportunities

- Consider integrating Hamilton coverage into a restructured local network in Hamilton
- Replace service outside of Hamilton with microtransit service focused primarily on local coverage in Springdale, but combined with on-demand trips at given times to Hamilton, reserved through the microtransit app.

ROUTE: RL

Red Line

Description: *The Red Line operates between the Middletown Historic District to east Middletown via Eldorado*

Key Points of Interest: *Miami University of Middletown, Middletown Middle and High School, Atrium Medical Center, Access Counseling, and Towne Blvd Social Security Administration*

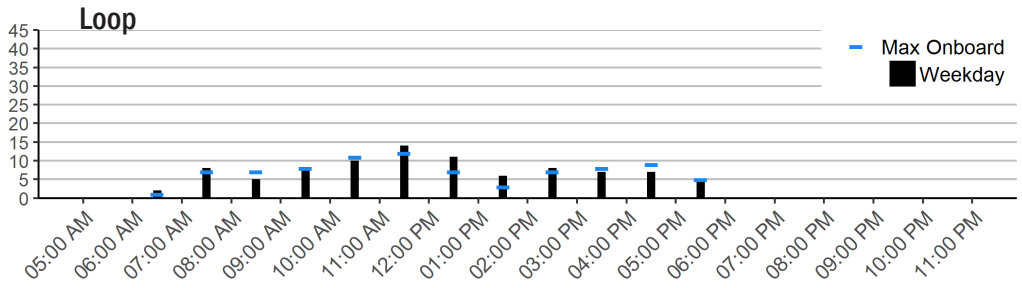
* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	81.4	10/13	6	8/13	0.4	8/13	6.8	9/13
Saturday	33.6	7/7	4.2	7/7	0.3	7/7	4.2	7/7
Sunday	No Service	-/3	No Service	-/3	No Service	-/3	No Service	-/3

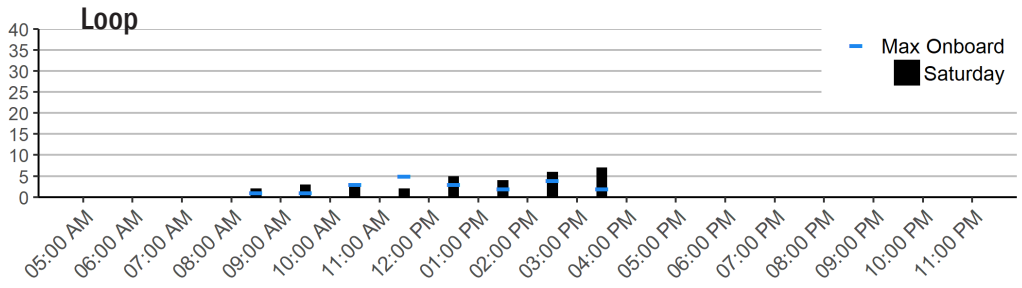
Weekday * Ridership by Trip

(February 2022)



Weekend Ridership by Trip

(February 2022)



Operating Characteristics *

Weekday

Span	6:30 a.m. - 6:24 p.m.			
Frequency	60	min	60	min
	Peak		Off-Peak	

Saturday

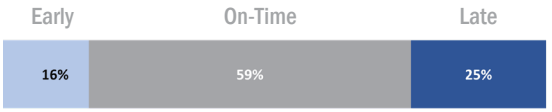
Span	8:30 a.m. - 4:24 p.m.			
Frequency	60	min	60	min
	Peak		Off-Peak	

Sunday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

On-Time Performance

Timepoint Observations



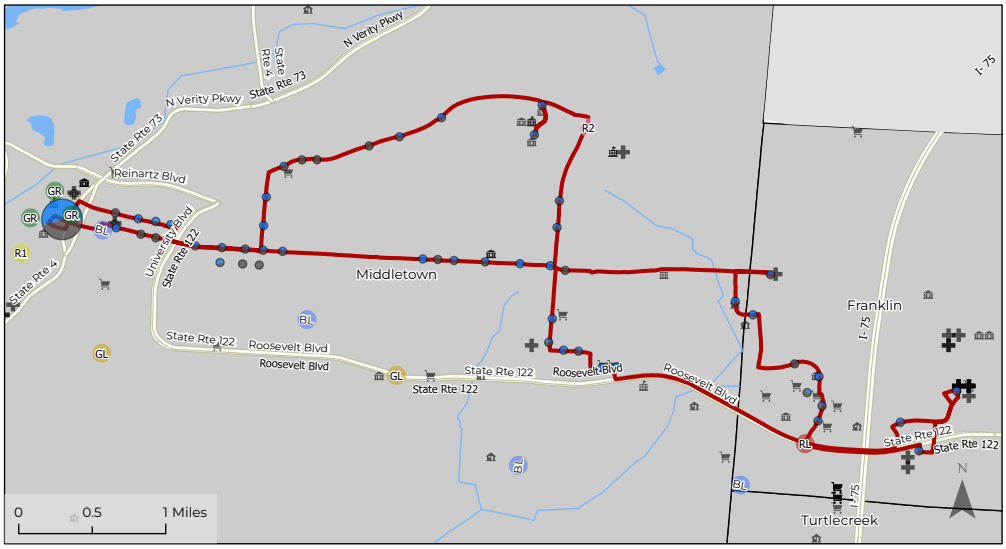
Annual Statistics

		Rank
Revenue Hours	3,452	8/13
Revenue Miles	55,693	6/13
Ridership	20,751	10/13

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)



Red Line - Loop

Average Daily Ridership

Average Daily Boardings

Average Daily Alightings

100

50

10

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Provides numerous local and regional connection opportunities at Middletown Transit Station
- Provides easy-to-remember hourly service frequency on weekdays and Saturdays
- Serves several potentially strong anchors and ridership generators including Middletown High School, Miami University Middletown Campus, Atrium Medical Center, and several grocery stores

Weaknesses

- Very frequent stop spacing, potentially contributing to poor on-time performance (less than 60% of timepoints served on time)
- Low ridership at most stops other than Middletown Transit Station
- Relatively infrequent service, especially for a route with so many potential ridership generators
- One-way service on most route segments, forcing out-of-direction travel for many riders

Opportunities

- Consolidate highest ridership segments of Blue, Gold, and Red lines into one or two strong-performing routes
- Reduce stop spacing to speed up route and potentially improve on-time performance
- Serve lower-density / automobile-oriented areas of Middletown with microtransit service

ROUTE: U1

U1 - Campus Core

Description: *Miami University to Walmart Supercenter Oxford via College Corner Pike*

Key Points of Interest: *McCullough-Hyde Memorial Hospital and Wonderful International Market*

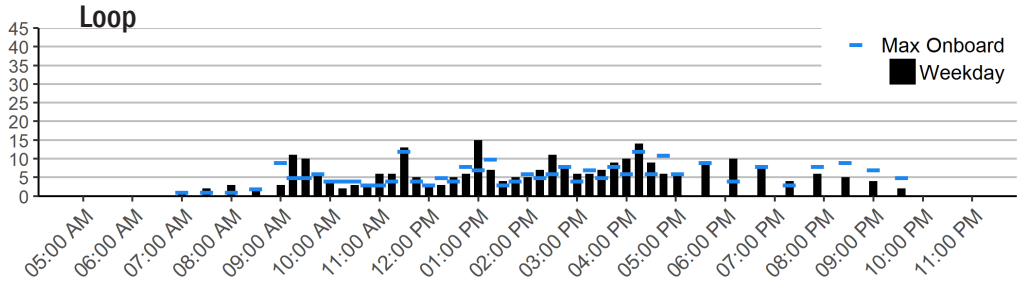
* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	529.4	3/13	24	2/13	2.7	2/13	14.7	3/13
Saturday	294.8	2/7	29.5	2/7	2.6	2/7	16.4	2/7
Sunday	178.6	2/3	17.9	2/3	1.6	2/3	9.9	2/3

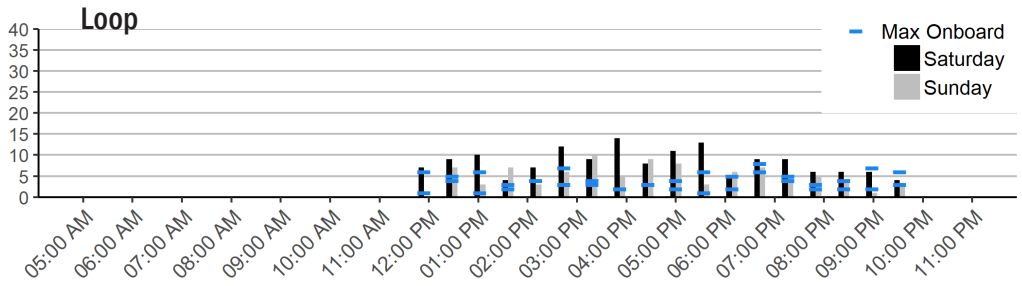
Weekday * Ridership by Trip

(February 2022)



Weekend Ridership by Trip

(February 2022)



Operating Characteristics *

Weekday				
Span	7:00 a.m. - 10:05 p.m.			
Frequency	35	min	35	min
	Peak		Off-Peak	
Saturday				
Span	11:54 a.m. - 10:03 p.m.			
Frequency	35	min	35	min
	Peak		Off-Peak	
Sunday				
Span	11:54 a.m. - 10:03 p.m.			
Frequency	35	min	35	min
	Peak		Off-Peak	

On-Time Performance

Timepoint Observations

Early	On-Time	Late
12%	63%	25%

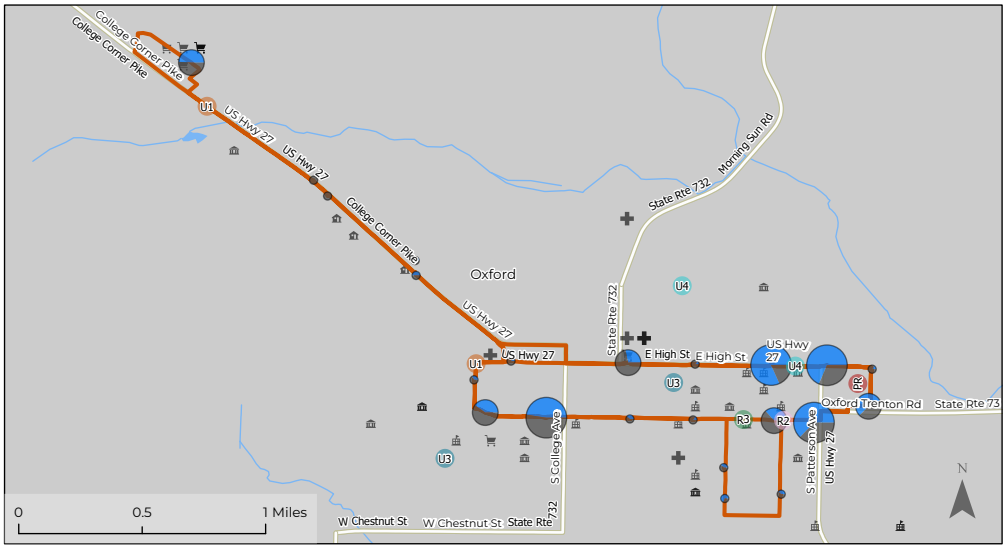
Annual Statistics

		Rank
Revenue Hours	4,060	5/13
Revenue Miles	36,342	11/13
Ridership	97,491	3/13

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)



U1 - Campus Core - Loop

Average Daily Ridership

Average Daily Boardings

Average Daily Alightings

100

50

10

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Frequent 15-minute circulator service for much of the service day on weekdays
- High ridership and productivity
- Provides campus circulation and campus with off-campus housing
- Provides key link to retail and grocery destinations for University community.

Weaknesses

- 35 minute headway prevents route from having clockface frequencies
- Walmart extension breaks the route's fairly compact loop and takes riders out of direction before completing the loop
- Strong ridership generator like Walmart likely justifies all-day service
- Some Oxford residents may not feel comfortable utilizing "U" route associated with Miami University
- Confusing and inconsistent schedule information shown online - for example, online map shows service on Oak Street while PDF map shows South Campus Avenue

Opportunities

- Consider shifting Walmart service to a non-University route to provide all-day service and a more inclusive rider environment
- Restructure route to provide more bi-directional service between Walmart and multi-family housing in Oxford
- Review route and schedule information published online to ensure accuracy and consistency

ROUTE: U3

U3 - Tollgate Loop

Description: *Miami University circulator*

Key Points of Interest: *Miami Station, Miami University, Chestnut Place Apartments, and Oxford West Apartments*

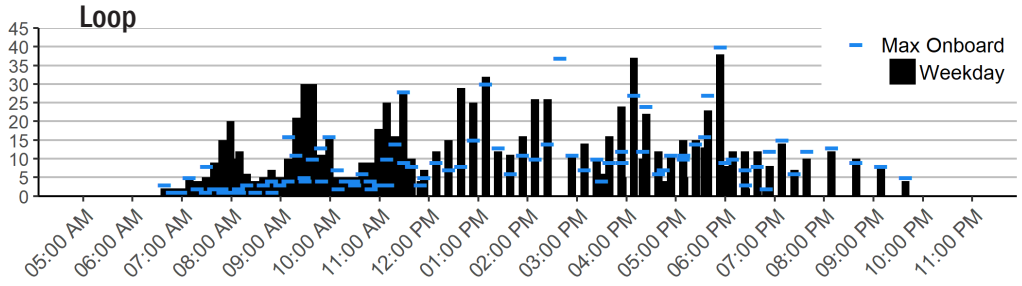
* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	903.3	1/13	20.9	4/13	2.4	3/13	13.5	5/13
Saturday	321.6	1/7	32.2	1/7	4.1	1/7	15.3	3/7
Sunday	272.9	1/3	27.3	1/3	3.5	1/3	15.2	1/3

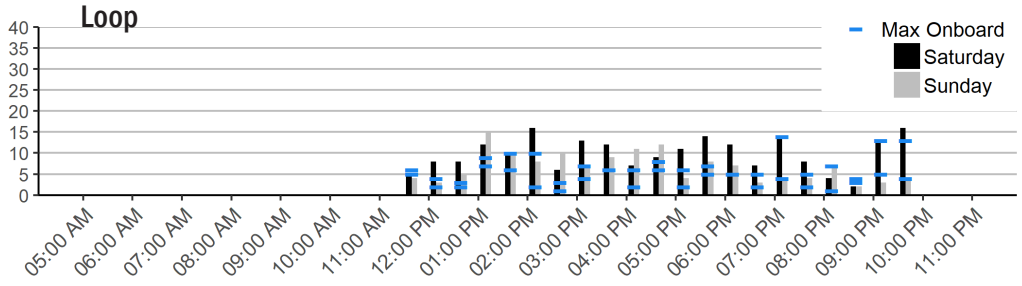
Weekday * Ridership by Trip

(February 2022)



Weekend Ridership by Trip

(February 2022)



Operating Characteristics *

Weekday

Span	6:39 a.m. - 10:02 p.m.			
Frequency	30	min	30	min
	Peak		Off-Peak	

Saturday

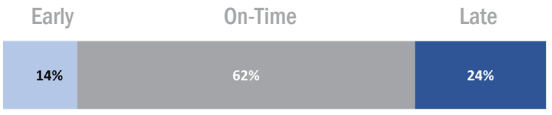
Span	11:39 a.m. - 10:02 p.m.			
Frequency	30	min	30	min
	Peak		Off-Peak	

Sunday

Span	11:39 a.m. - 10:02 p.m.			
Frequency	30	min	30	min
	Peak		Off-Peak	

On-Time Performance

Timepoint Observations



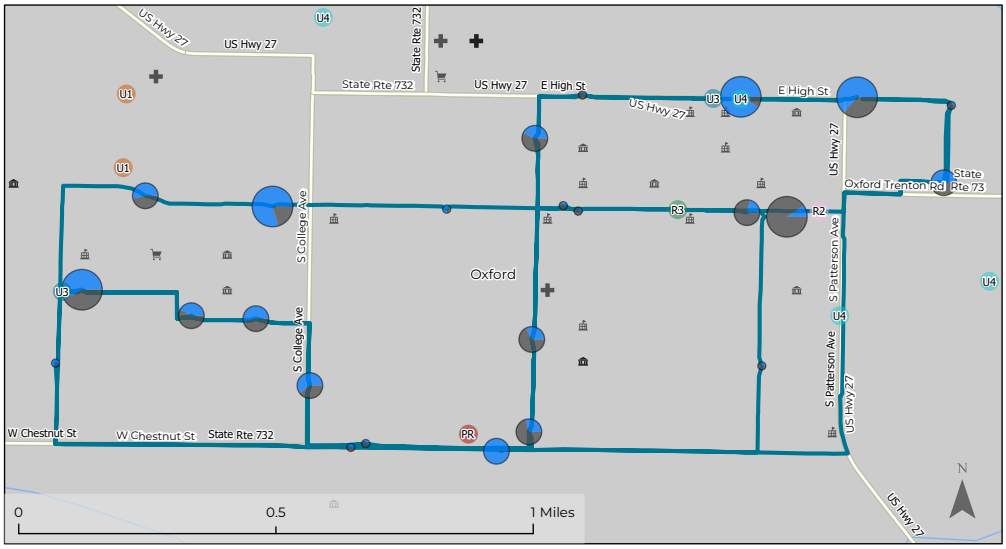
Annual Statistics

		Rank
Revenue Hours	10,995	1/13
Revenue Miles	94,737	4/13
Ridership	230,330	1/13

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)



U3 - Tollgate - Loop

Route Analysis

Strengths

- Very frequent service
- Provides on-campus circulation, and links to off-campus housing and retail/groceries seven day a week

Weaknesses

- One-way service design results in overcrowding on some trips as passengers stay on buses traveling out-of-direction to reach final destinations
- Multiple service variants may cause confusion among riders
- Relatively low ridership on non-primary service variant
- Poor on-time performance with just over 60% of timepoints served on time

Opportunities

- Simplify route by operating single consistent and bi-directional variant connecting key activity generators
- Review route and schedule information published online to ensure accuracy and consistency

ROUTE: U4

U4 - Western Campus/North Loop

Description: *This route is currently suspended - Miami University to Miami Station*

Key Points of Interest: *Uptown Park*

* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

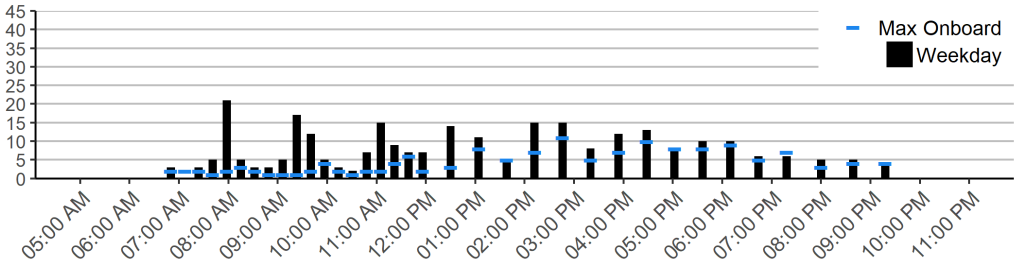
Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	452.1	4/13	21	3/13	2.3	4/13	14.1	4/13
Saturday	110.8	4/7	11.1	4/7	1.1	4/7	6.9	6/7
Sunday	115.2	3/3	11.5	3/3	1.1	3/3	5.5	3/3

Weekday * Ridership by Trip

(February 2022)

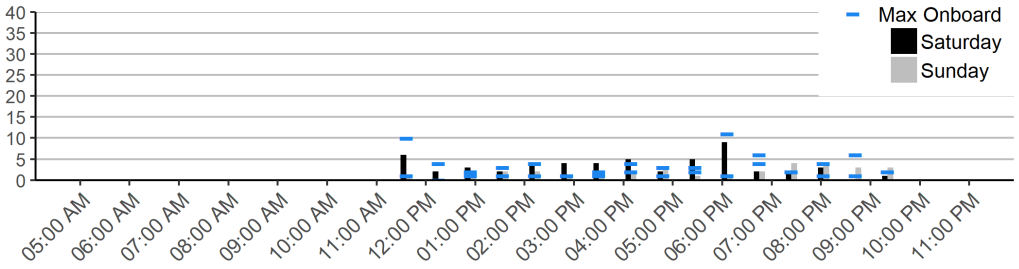
Loop



Weekend Ridership by Trip

(February 2022)

Loop



Operating Characteristics *

Weekday				
Span	6:50 a.m. - 9:52 p.m.			
Frequency	30	min	30	min
	Peak		Off-Peak	
Saturday				
Span	11:36 a.m. - 9:55 p.m.			
Frequency	45	min	45	min
	Peak		Off-Peak	
Sunday				
Span	11:36 a.m. - 9:55 p.m.			
Frequency	40	min	40	min
	Peak		Off-Peak	

On-Time Performance

Timepoint Observations

Early	On-Time	Late
13%	62%	25%

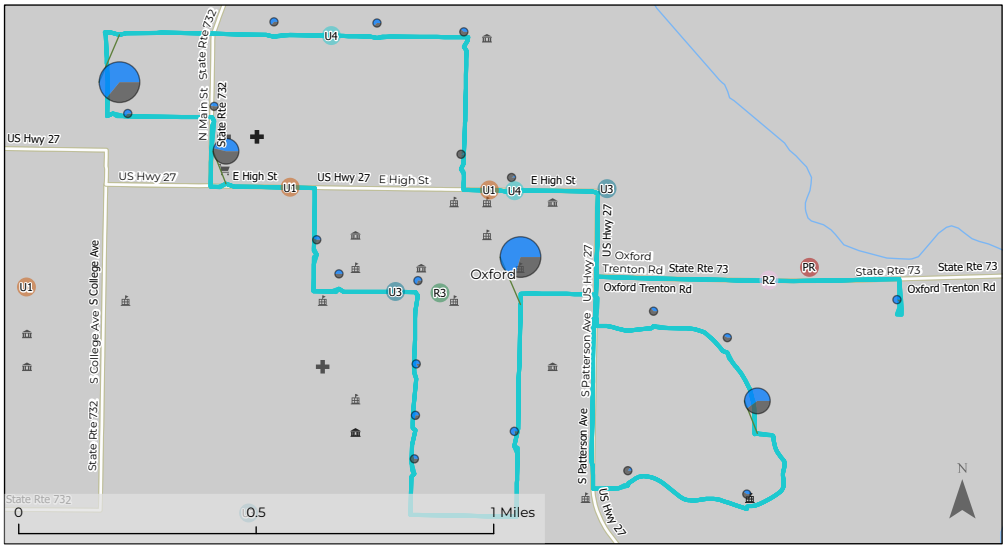
Annual Statistics

		Rank
Revenue Hours	3,740	6/13
Revenue Miles	34,254	12/13
Ridership	78,445	4/13

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)



U4 - Western Campus/North - Loop

Average Daily Ridership

Average Daily Boardings

Average Daily Alightings

100

50

10

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Only route serving neighborhoods north of High Street
- Only route serving Western College Drive
- Provides key connection to McCullough-Hyde Memorial Hospital
- Relatively frequent service
- Operates seven days per week
- Fairly strong ridership and productivity

Weaknesses

- Operates as one-way loop, which forces out-of-direction travel for most riders on either their outbound or return trip
- Some Oxford residents accessing McCullough-Hyde Memorial Hospital may not feel comfortable utilizing "U" route associated with Miami University
- Poor on-time performance with just over 60% of timepoints served on time
- Non-clockface frequencies make schedule difficult to remember
- Lack of online schedule information suggests that route may be tied to the academic calendar

Opportunities

- Consider operating a version of the route year-round to ensure uninterrupted service to McCullough-Hyde Memorial Hospital
- Serve hospital with a non-University route
- Restructure U4 Route, along with other Oxford routes, into a network of mostly bi-directional routes
- Revise schedule to provide clockface frequencies.

ROUTE: GL

Gold Line

Description: *The Gold Line operates South Middletown and Mayfield via Middletown, Oakland, South Highlands*

Key Points of Interest: *Middletown Transit Station, Middletown License Agency, Middletown Middle School, and Mayfield Elementary School*

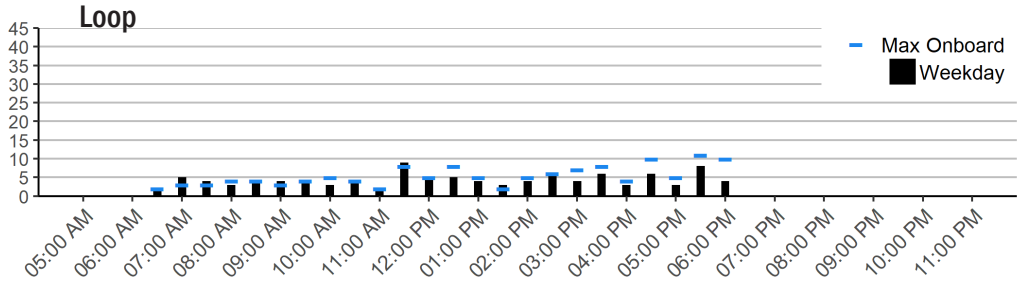
* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	107.8	8/13	8	7/13	0.6	7/13	9	8/13
Saturday	62.1	6/7	7.8	6/7	0.6	6/7	7.8	5/7
Sunday	No Service	-/3	No Service	-/3	No Service	-/3	No Service	-/3

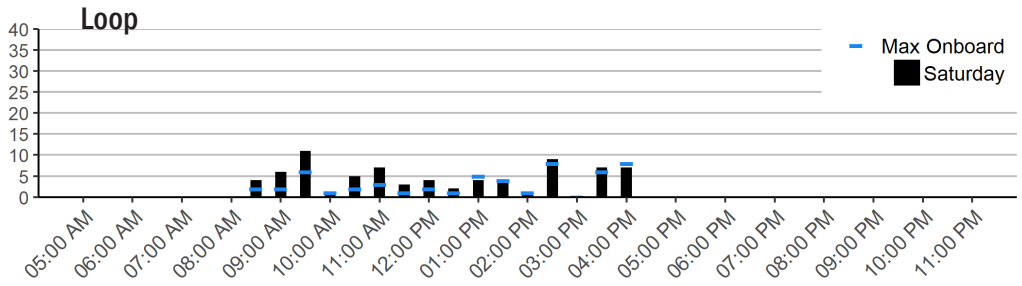
Weekday * Ridership by Trip

(February 2022)



Weekend Ridership by Trip

(February 2022)



Operating Characteristics *

Weekday

Span	6:30 a.m. - 6:30 p.m.			
Frequency	30	min	30	min
	Peak		Off-Peak	

Saturday

Span	8:30 a.m. - 4:30 p.m.			
Frequency	30	min	-	min
	Peak		Off-Peak	

Sunday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

On-Time Performance

Timepoint Observations

Early	On-Time	Late
15%	60%	25%

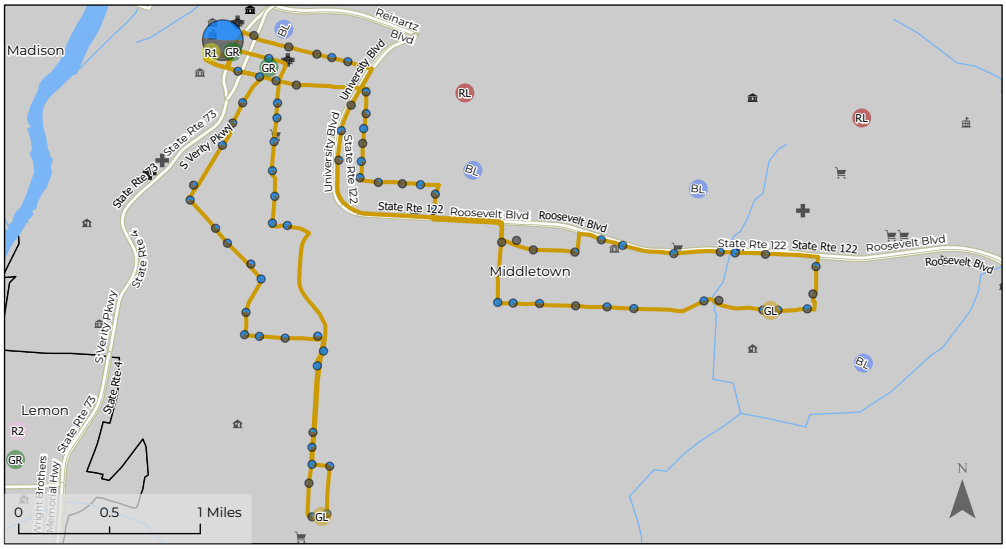
Annual Statistics

		Rank
Revenue Hours	3,452	8/13
Revenue Miles	48,387	9/13
Ridership	27,501	8/13

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)



Gold Line - Loop

Average Daily Ridership

Average Daily Boardings

Average Daily Alightings

100

50

10

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Provides numerous local and regional connection opportunities at Middletown Transit Station
- Provides easy-to-remember 30-minute service frequency on weekdays and Saturdays
- Serves large industrial employers including AK Steel and Air Products
- Serves Roosevelt Boulevard Corridor, which includes many potential ridership generators including the BMV and several multi-family housing communities

Weaknesses

- Very frequent stop spacing, potentially contributing to poor on-time performance (60% of timepoints served on time)
- Low ridership at most stops other than Middletown Transit Station
- Fewer than five passengers per trip on most weekday trips
- One-way service on most route segments
- Service to multiple distinct markets on one route may cause confusion with passengers potentially boarding a bus with the right route number but heading in the wrong direction

Opportunities

- Restructure route to provide primarily bi-directional service along corridors with highest ridership potential
- Consolidate highest ridership segments of Blue, Gold, and Red lines into one or two strong-performing routes
- Serve lower-density / automobile-oriented areas of Middletown with microtransit service

ROUTE: GR
Green Line

Description: *The Green Line operates between Excello and North Middletown via Middletown*

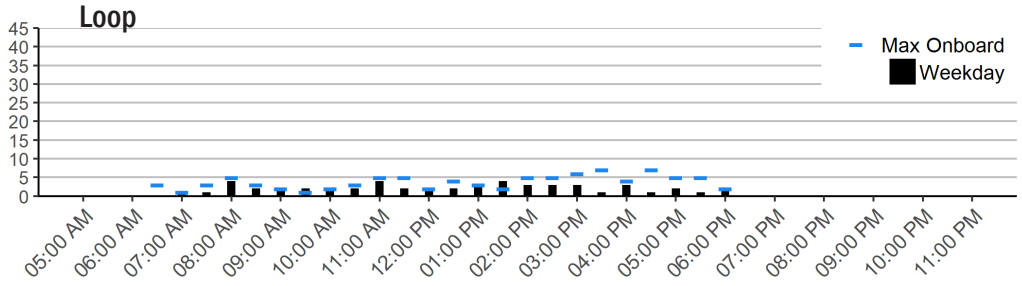
Key Points of Interest: *MidPointe Middletown Library, Canal Museum, Middletown Middle School, Robert Sonny Hill Jr. Community Center, and Sheltering Pines Apartments*

* On-Time Performance and Ridership data from February 2022.
Other figures from FY 2021 statistics.

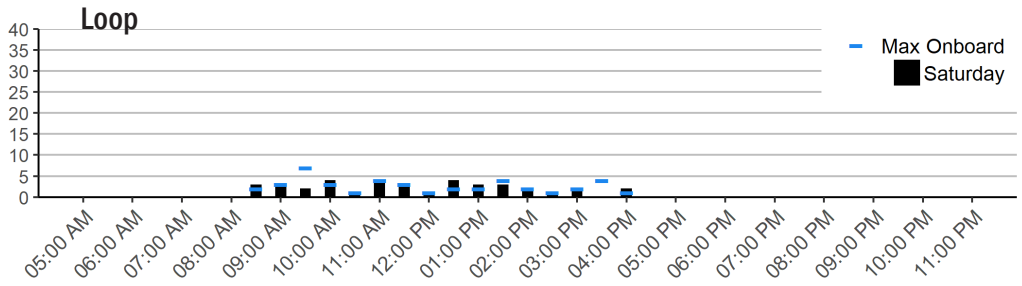
Daily Statistics

	Average Daily Boardings	Rank	Passengers per Hour	Rank	Passengers per Mile	Rank	Passengers per Trip	Rank
Weekday	138.2	7/13	10.2	6/13	0.7	6/13	11.5	6/13
Saturday	80.5	5/7	10.1	5/7	0.7	5/7	10.1	4/7
Sunday	No Service	-/3	No Service	-/3	No Service	-/3	No Service	-/3

Weekday * Ridership by Trip
(February 2022)



Weekend Ridership by Trip
(February 2022)



Operating Characteristics *

Weekday

Span	6:30 a.m. - 6:30 p.m.			
Frequency	30	min	30	min
	Peak		Off-Peak	

Saturday

Span	8:30 a.m. - 4:30 p.m.			
Frequency	30	min	-	min
	Peak		Off-Peak	

Sunday

Span	No Service			
Frequency	-	min	-	min
	Peak		Off-Peak	

On-Time Performance

Timepoint Observations

Early	On-Time	Late
15%	59%	26%

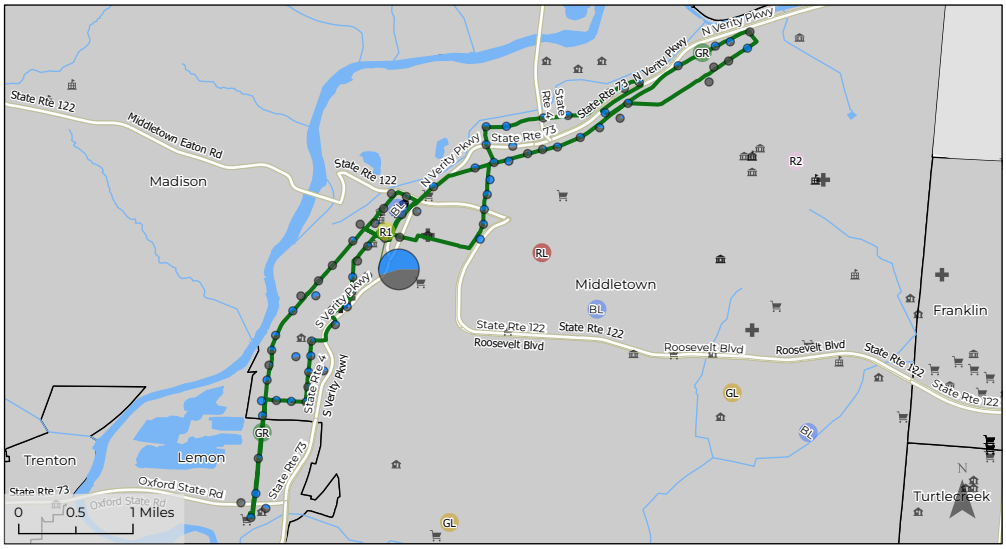
Annual Statistics

		Rank
Revenue Hours	3,452	8/13
Revenue Miles	51,672	7/13
Ridership	35,250	7/13

*Please note that the trip times in trip ridership charts reflect data from the February 2022 APC exports, while the the span and frequency of service to the right reflect January 2022 GTFS service data.

Weekday Ridership by Stop

(February 2022)



Green Line - Loop

Average Daily Ridership

Average Daily Boardings

Average Daily Alightings

100

50

10

Attraction Type

- Community
- Education
- Housing
- Medical
- Shopping

Route Analysis

Strengths

- Provides numerous local and regional connection opportunities at Middletown Transit Station
- Provides easy-to-remember 30-minute service frequency on weekdays and Saturdays
- Strong anchors at Kroger and MTS
- Serves a number of healthcare, community, and social services destinations

Weaknesses

- Very frequent stop spacing, potentially contributing to poor on-time performance (less than 60% of timepoints served on time)
- Low ridership at most stops other than Middletown Transit Station
- Fewer than five passengers per trip on nearly all trips
- One-way service on most route segments
- Extensive travel through lower density residential areas
- not many connections to activity generators
- Service north and south of MTS on one route may cause confusion with passengers potentially boarding a bus with the right Route number but heading in the wrong direction

Opportunities

- Restructure route to provide primarily bi-directional service along corridors with highest ridership potential
- Reduce stop spacing to speed up route and potentially improve on-time performance
- Realign to provide service to employment locations such as along Clark Street
- Simplify routing to focus service on areas of highest ridership and need
- Split into two routes serving markets north and south MTS to reduce opportunities for confusion