

South Central Transit Authority

# Transit Development Plan

## Executive Summary

March 2024



*Presented by:*

**Foursquare**  
ITP

In association with:  
Bowman  
WBA



A TRANSIT DEVELOPMENT PLAN  
FOR BARTA AND RRTA

# Background

In 2014, Berks Area Regional Transit Authority (BARTA) and Red Rose Transit Authority (RRTA) consolidated their administrative, management, and planning functions into a single entity called South Central Transit Authority (SCTA). SCTA oversees the operations of BARTA and RRTA, which still operate as separate transit systems serving Berks County and Lancaster County, PA, respectively.

RRTA provides **service between the City of Lancaster and outlying towns in Lancaster County including Elizabethtown, Mount Joy, Columbia, Lititz, Ephrata, New Holland, and Gap.** BARTA provides fixed-route bus and paratransit service in Berks County. **All BARTA bus routes connect to the BARTA Transportation Center in downtown Reading, PA. Service is offered between five and seven days a week**

SCTA completed its last Transit Development Plan (TDP) in 2018—the first TDP conducted since BARTA and RRTA merged. The 2018 TDP sought to identify service enhancements, improve the overall efficiency of the system, and attract more riders. The COVID-19 pandemic forced SCTA to reassess and refocus its priorities.

The 2024 TDP Update provides an opportunity to take a fresh look at the strengths, weaknesses, and opportunities facing BARTA and RRTA. Recommendations emerged from a process that included detailed analyses of service, a comprehensive assessment of the overall market for transit service, and public and stakeholder engagement.


**SCTA**  
Service Area Stats


**1,848** square miles


**949,401** residents

**BARTA & RRTA**  
hub-and-spoke networks


**RRTA**  
Fixex Route Service  
2023


 **1,147,150**  
passenger trips


 **1,683,744**  
revenue miles

 **116,977**  
revenue hours

**BARTA**  
Fixex Route Service  
2022

 **2,081,069**  
passenger trips

 **1,564,470**  
revenue miles

 **136,116**  
revenue miles

# PLAN OVERVIEW

02

## Strategic Vision

An overview of the TDP's vision, goals, and objectives as well as guiding principles for service planning.

03

## Inventory of Existing Services

An overview of existing transit services in the study area, including current operating characteristics.

04

## Budget and Funding

A description of current fare policies and funding sources.

05

## Fleet and Facilities

A description of SCTA assets related to the provision of service including vehicles, bus waiting areas, and customer information.

06

## Market Analysis

An assessment of both the need and potential for transit service in the region based on density and demographic characteristics, as well as regional travel patterns.

07

## Initial Public and Stakeholder Input

A summary of public and stakeholder input, collected in meetings and surveys at the start of the study and used to inform the development of preliminary service scenarios.

08

## Service Assessment

A diagnostic assessment of the existing systems' strengths, weaknesses, and opportunities, as identified through the combination of technical analyses and industry best practices.

09

## Preliminary Service Scenarios and Stakeholder Reactions

An overview of existing transit services in the study area, including current operating characteristics.

10

## Final Recommendations

A description of current fare policies and funding sources.

# Strategic Vision

SCTA established a vision statement, goals, and objectives to guide the development and implementation of the plan. The vision statement expresses what SCTA continually aims to achieve while the goals and objectives provide specific desired outcomes and the actions needed to bring them to fruition. The vision statement along with the goals and objectives lay the groundwork for the recommendations developed for this TDP.

## VISION

*SCTA provides safe, effective, efficient, and customer focused public transportation services by using resources responsibly and exploring innovative ways to better serve existing customers, meet future demand, and increase the use of public transit in its service areas.*

## GOALS

**SAFE:** Provide a safe, secure, and comfortable experience for all customers and transit employees.

**EFFECTIVE:** Offer a network that links people to the places they need and want to go.

**EFFICIENT:** Make riding transit reliable and efficient.

**CUSTOMER FOCUSED:** Maintain and improve customer amenities for a positive customer experience.

**FISCALLY SUSTAINABLE:** Operate a service that maximizes available funds and remains well-positioned financially into the future.

**INNOVATIVE:** Explore new tools and operating models to maximize service quality and efficiency.

## GUIDING PRINCIPLES

A set of guiding principles help to further inform the transit service recommendations.

***An effective transit network consists of strong individual routes. Routes should...***

### Operate at Regular Intervals

Each bus arrives at the same time or times each hour

### Operate Along a Direct Path

Direct, rather than circuitous, alignments

### Be Symmetrical

Operate along same alignment in both directions

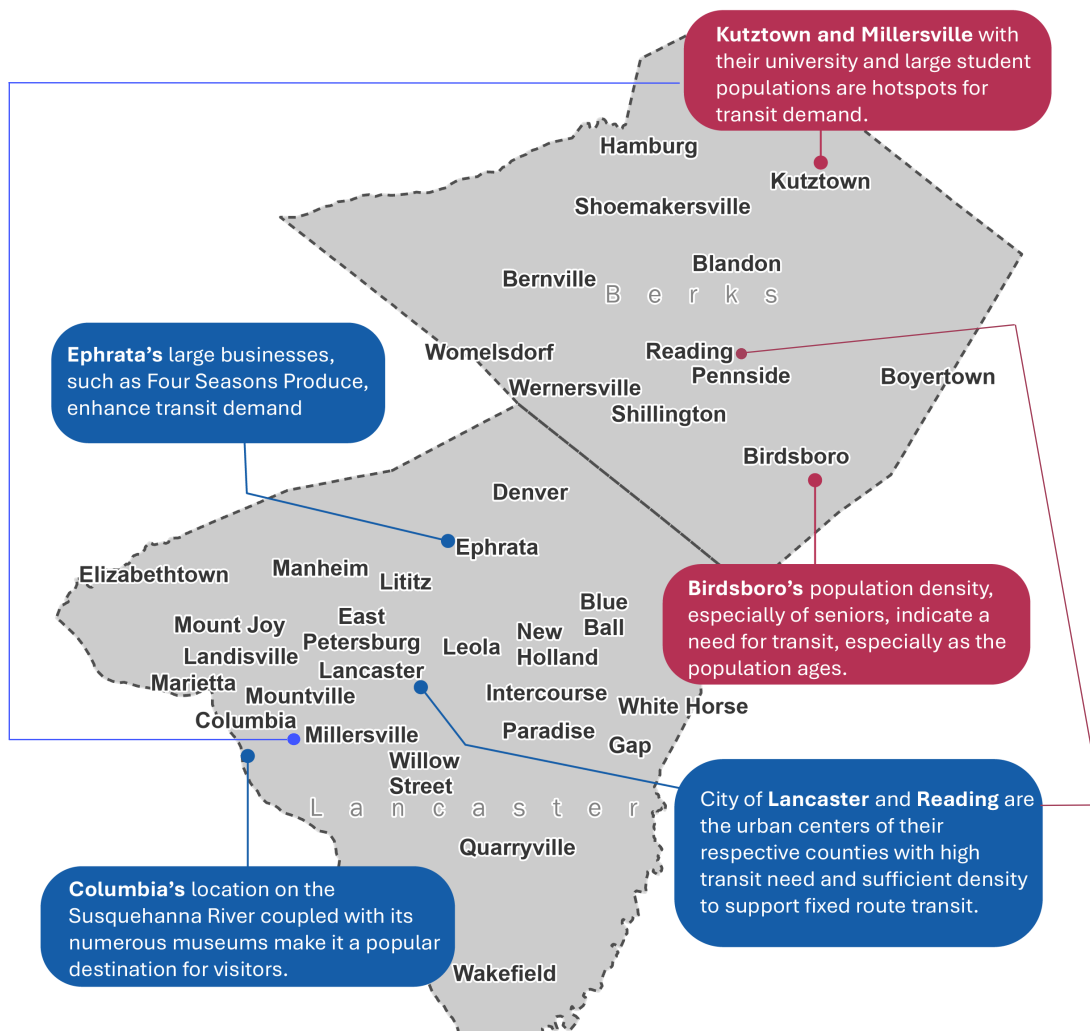
### Serve Well-Defined Markets

Multi-family housing  
Grocery & retail  
Medical facilities

# Market Analysis

A market analysis allowed the study team to assess the underlying need for public transit in SCTA's service area. The market analysis examines several factors that are indicators for transit demand, including **density of people and jobs** as well as the characteristics of people living in the service area where transit would be most successful. Key characteristics to examine include concentrations of **senior** and **youth** populations, **zero-car households**, and **low-income households**.

The analysis identified several hotspots for transit demand in in Berks and Lancaster County. These hotspots include the City of Lancaster and New Holland, Ephrata, and Columbia Townships in Lancaster County and Reading, Kutztown, and Boyertown in Berks County.

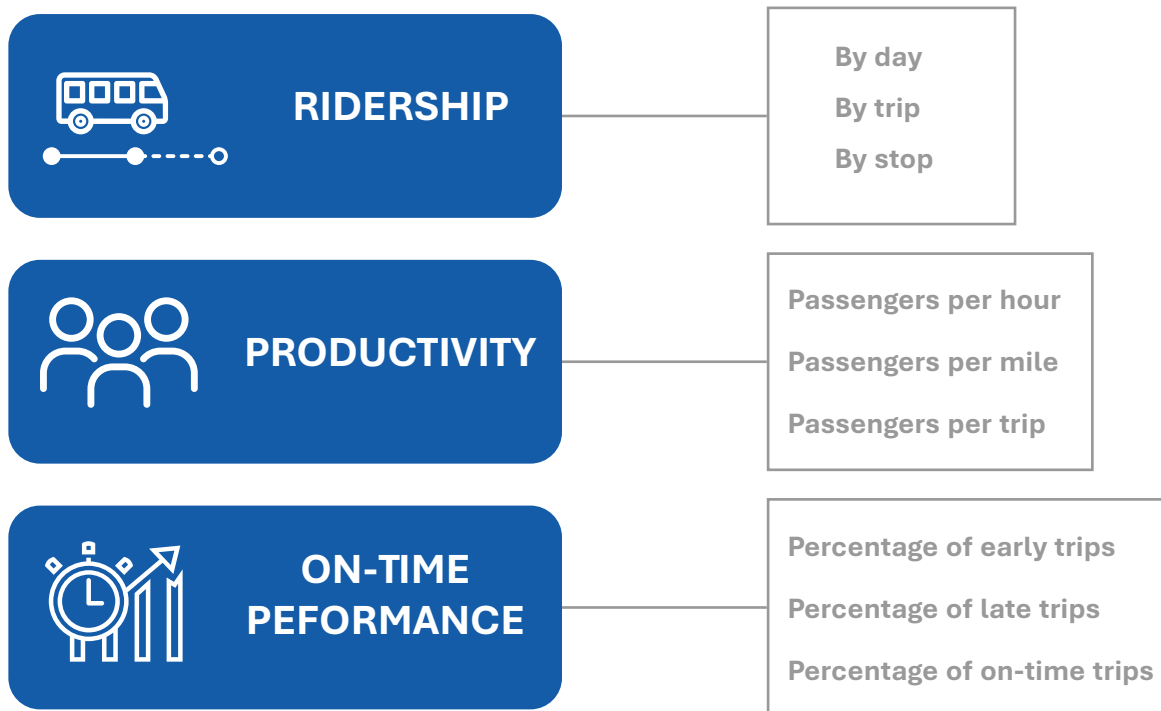


# Service Assessment

While the market analysis provides an overview of the underlying market for transit, a service assessment illustrates each route's performance across a series of metrics, such as ridership, on-time performance, and productivity. The analysis also answered several qualitative questions about how understandable and well-connected each route is.

**Transit ridership potential in both systems is limited by service design.** In Lancaster County, for example, limited and irregular service frequencies, circuitous alignments, and one-way service segments are also likely causes of lower ridership and productivity. In Berks County, circuitous alignments and one-way service segments limit ridership and productivity.

## SERVICE ASSESSMENT METRICS



# Service Recommendations

The final recommendations for BARTA and RRTA aim to address several key themes the study team heard through public and stakeholder engagement efforts and discovered through the market and service analyses, including:

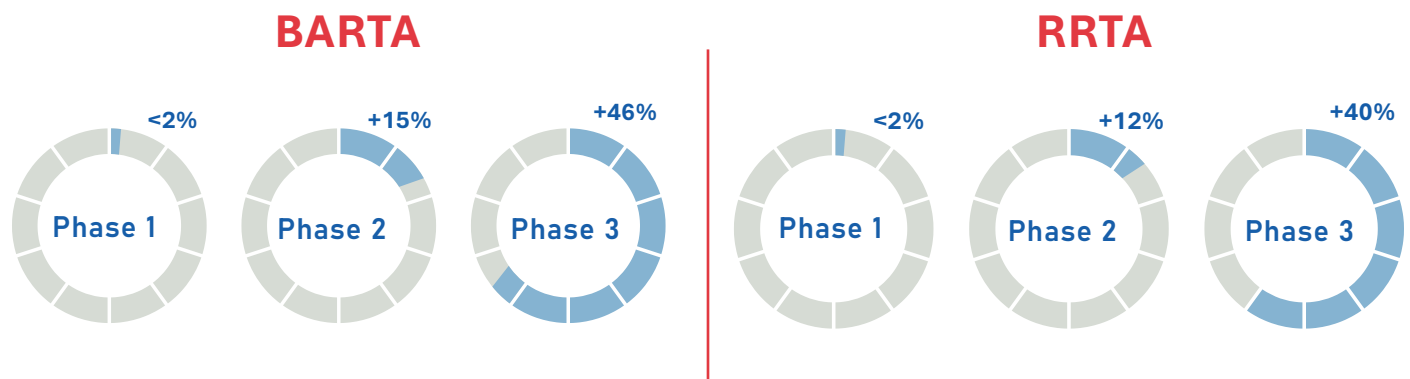
- Providing more **consistent span of service and frequencies** across all routes.
- **Reallocating services to be less concentrated during peak periods** and provide additional service during off-peak periods and weekends.
- Interlining routes for **efficiency gains**.
- **Simplifying route alignments** and eliminating one-way loops.

While these changes result in the elimination of under-performing route segments, resources in the plan are concentrated in the areas that offer the greatest transit potential and aim to address known challenges with the system. The changes in travel apparent following the COVID-19 pandemic make clear that the typical peak-hour, commute-focused service is not as desirable as consistent all-day service on weekdays and weekends. This plan is intended to fill service gaps and improve mobility for transit-dependent populations in the BARTA and RRTA service areas.

## Phasing Recommendations

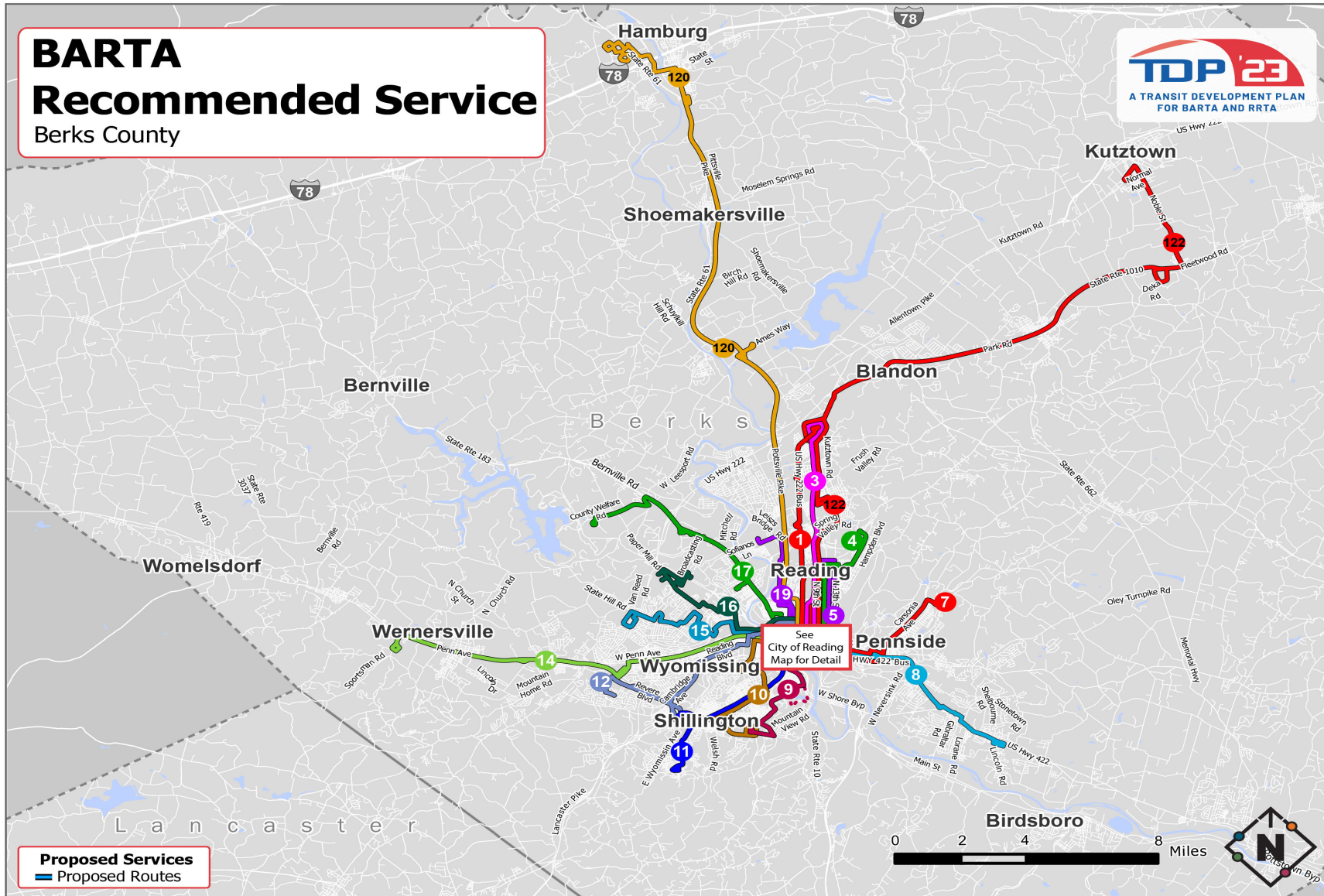
The final recommendations for the BARTA and RRTA systems are concentrated on fixed-routes service, with three phases of implementation strategies. Phase 1 of implementation focuses on service alignment changes with only minor improvements to level of service; Phase 2 and Phase 3 focuses on improving headways and expanding the service span of realigned routes.

**Nearly all BARTA and RRTA routes are impacted in some way by the recommended changes in the proposed network.** Overall, the Phase 1 improvements increase annual revenue hours and the estimated cost of the service by less than two percent for both systems. The Phase 2 recommendations increase revenue hours and operating cost by 15 percent for BARTA and 12 percent for RRTA compared to FY 2023 service. In Phase 3 annual revenue hours and annual operating cost will increase by 46 percent for BARTA and 40 percent for RRTA compared to FY 2023.





# BARTA Recommended Service Berks County



**Proposed Services**  
— Proposed Routes

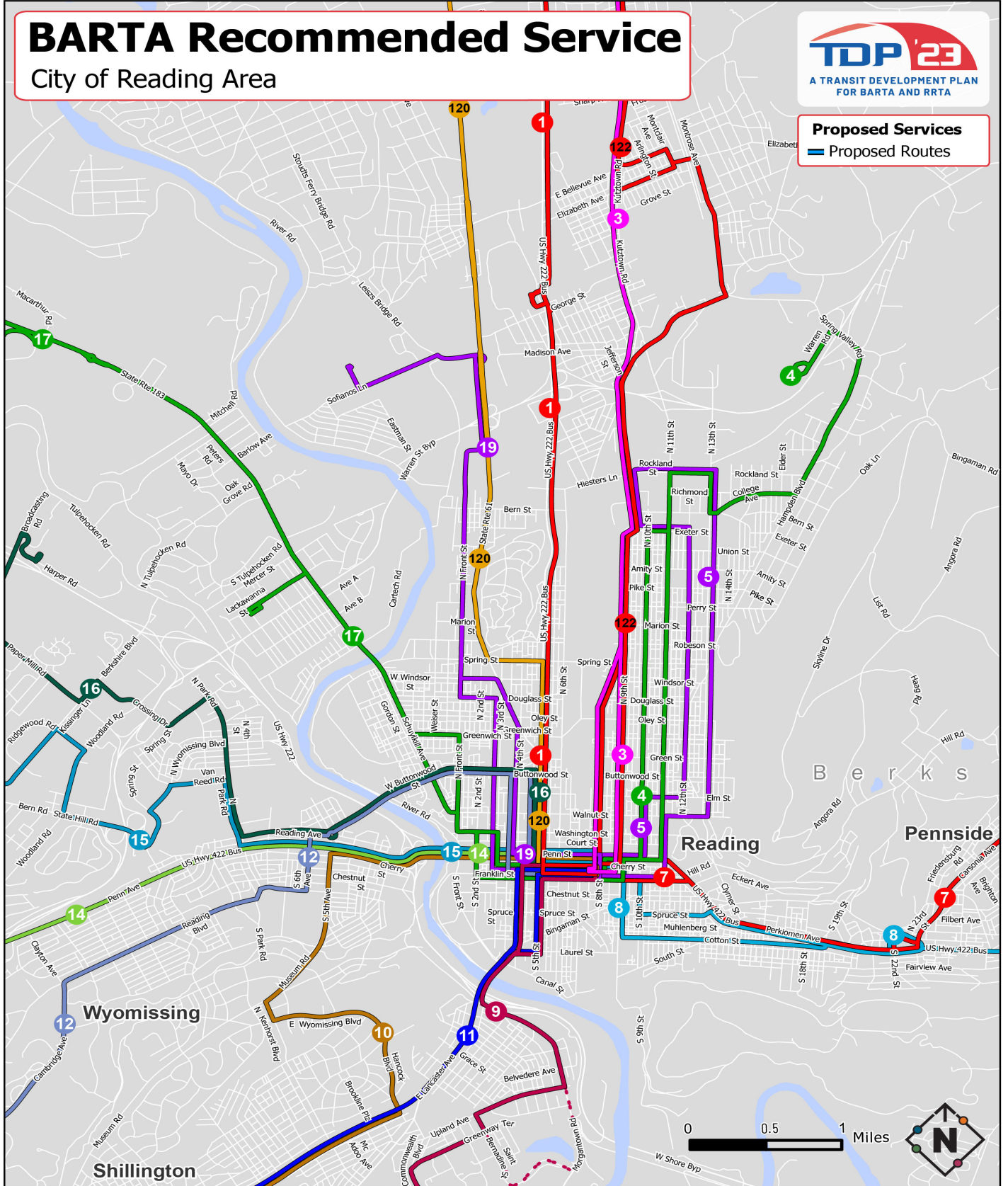


# BARTA Recommended Service

City of Reading Area

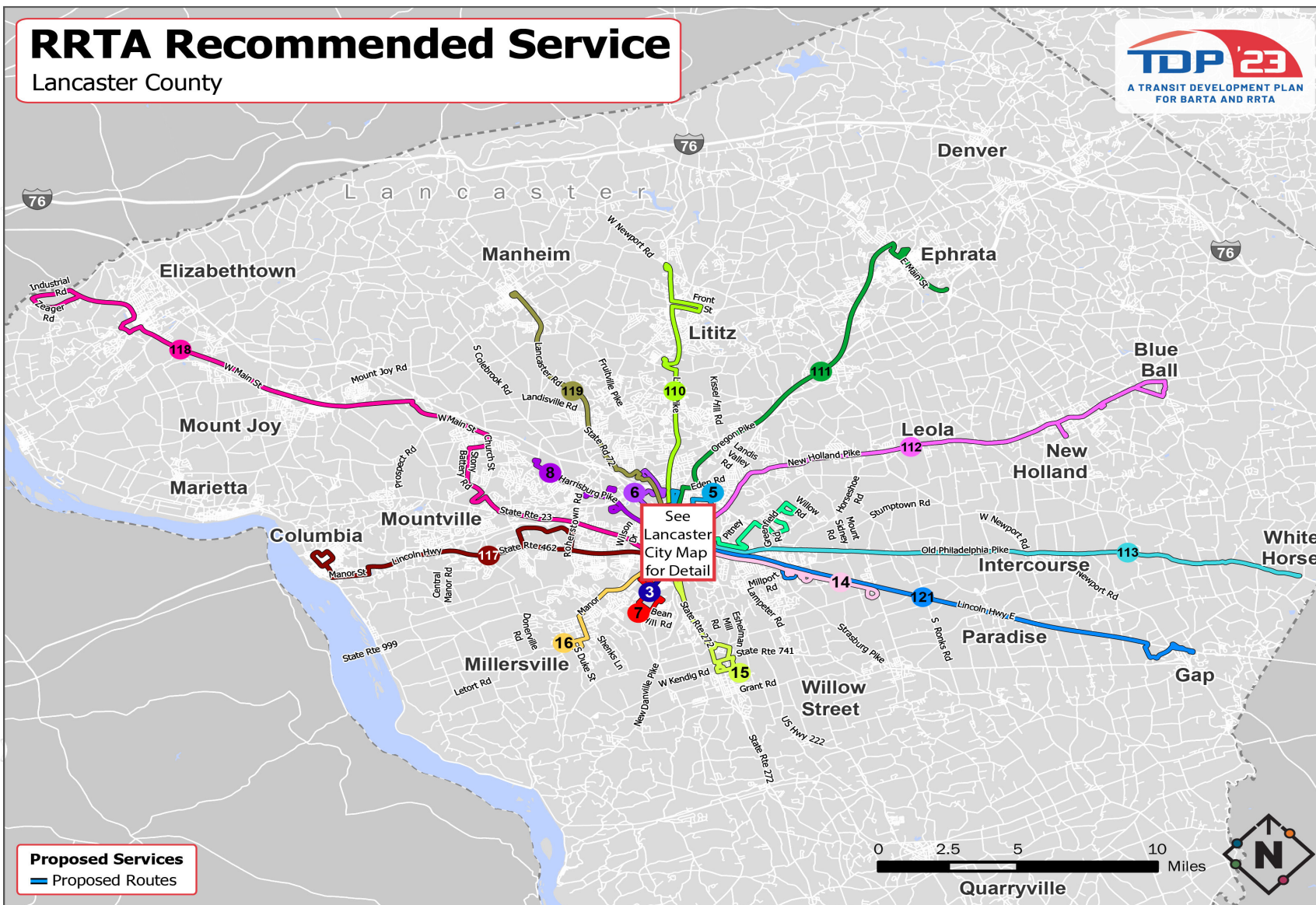


**Proposed Services**  
— Proposed Routes



# RRTA Recommended Service

Lancaster County



**Proposed Services**  
 Proposed Routes

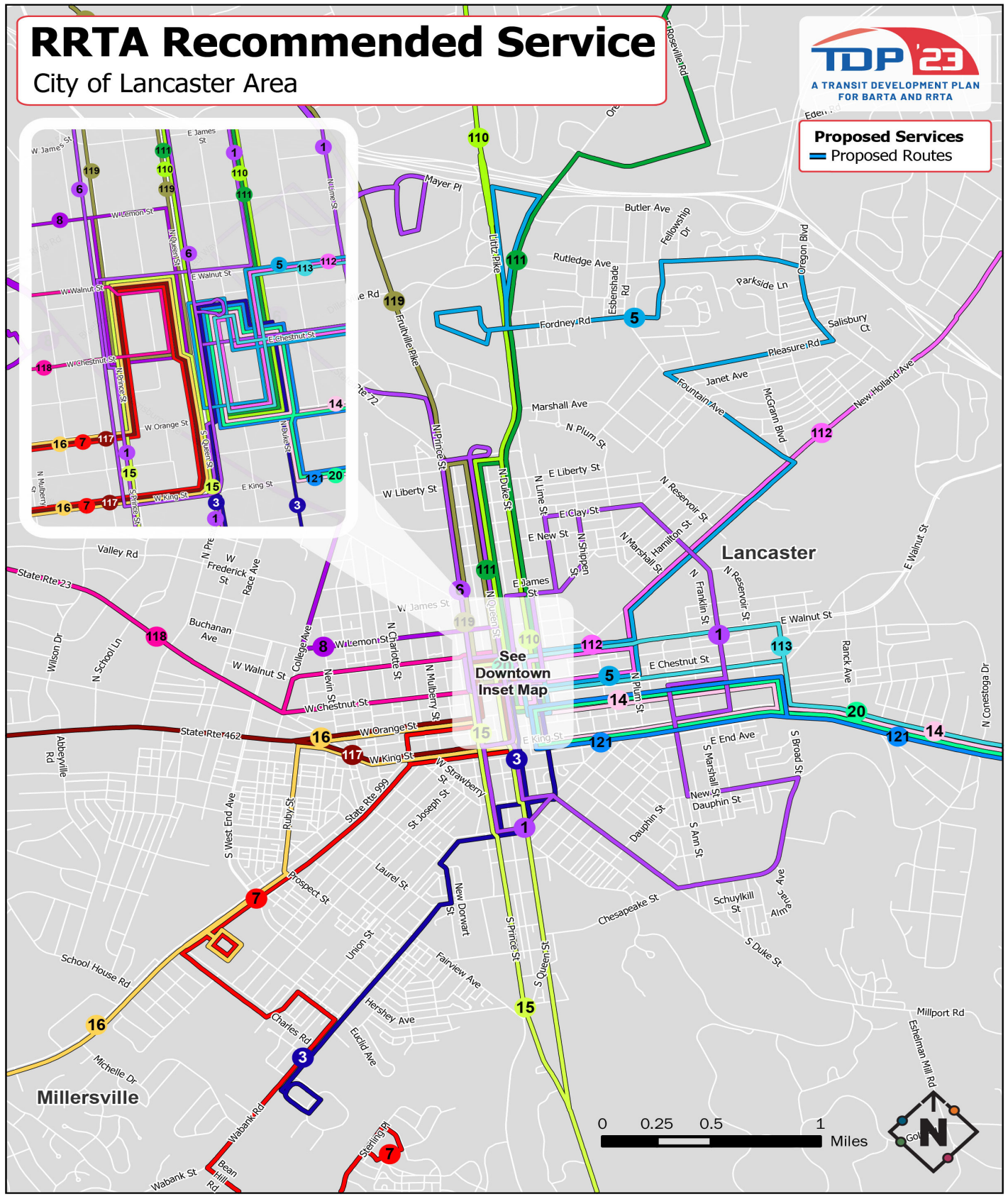
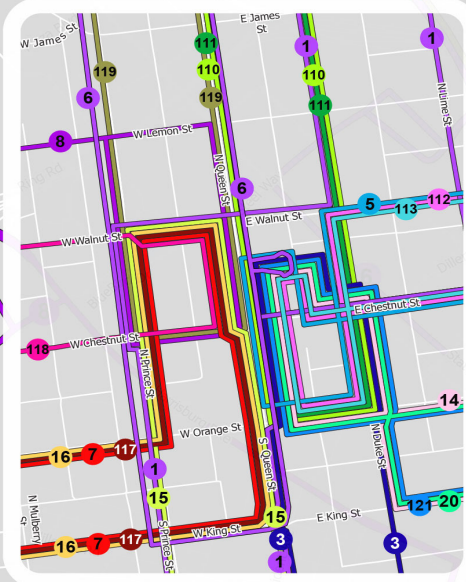


# RRTA Recommended Service

## City of Lancaster Area



**Proposed Services**  
 Proposed Routes

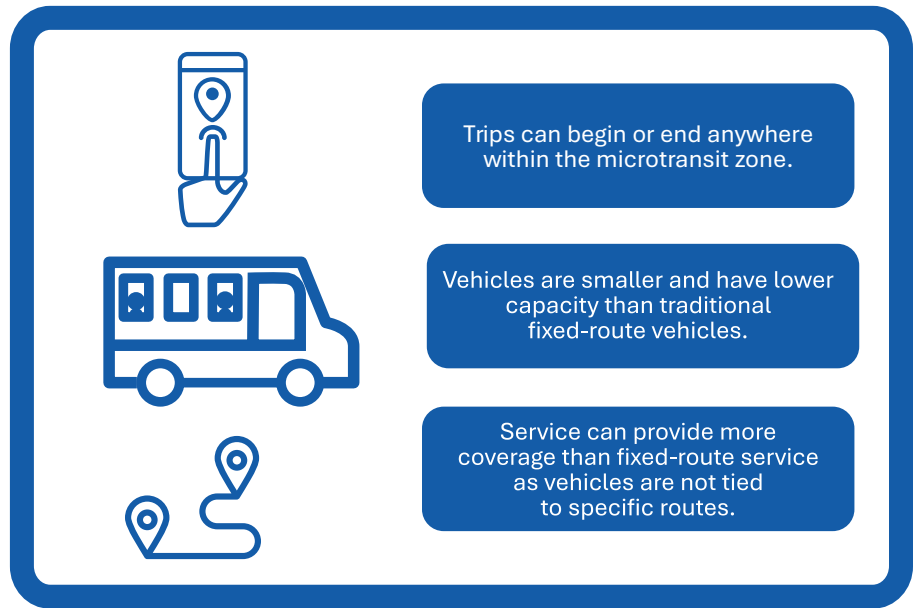


# Potential Microtransit Service

In Berks and Lancaster Counties, there are opportunities to leverage technology and implement new types of transit service in the region, including on-demand microtransit service. Microtransit service fits well with the current market for transit service in the region, where, in some areas, demand may be too low to justify suburban and rural routes, leaving some communities without any service at all. **Microtransit’s flexibility allows it to serve as a market probe, gauging the growth of ridership demand geographically and over time.**

As service evolves and matures, microtransit service can be adjusted by modifying service zones and/or fleet characteristics (number of vehicles, size of vehicles, percentage of wheelchair accessible vehicles, etc.), or the service can be replaced by fixed-route service where appropriate.

A high-level microtransit feasibility analysis conducted as part of the TDP indicated that the service could provide new and enhanced transit connections across townships in Berks and Lancaster Counties as well as provide local circulation to jobs and other destinations. Areas that stand out as having moderate to high microtransit feasibility include the **Birdsboro** area; the **Columbia/Marietta** area; along the **Route 772 corridor**, connecting Mount Joy, Manheim, and Lititz; and along the Route 322 Corridor connecting Akron, Ephrata, and New Holland. **Additional study is needed to confirm where and how microtransit should ultimately be implemented in the region.** SCTA should embark on such a study in the near term to then be prepared to implement an on-demand microtransit pilot in the mid-term.



The infographic is enclosed in a blue rounded rectangle. On the left side, there are three icons: a hand pointing at a location on a smartphone screen, a side-view illustration of a small transit van, and a map showing a winding route between two location pins. On the right side, there are three blue rounded rectangular text boxes stacked vertically.

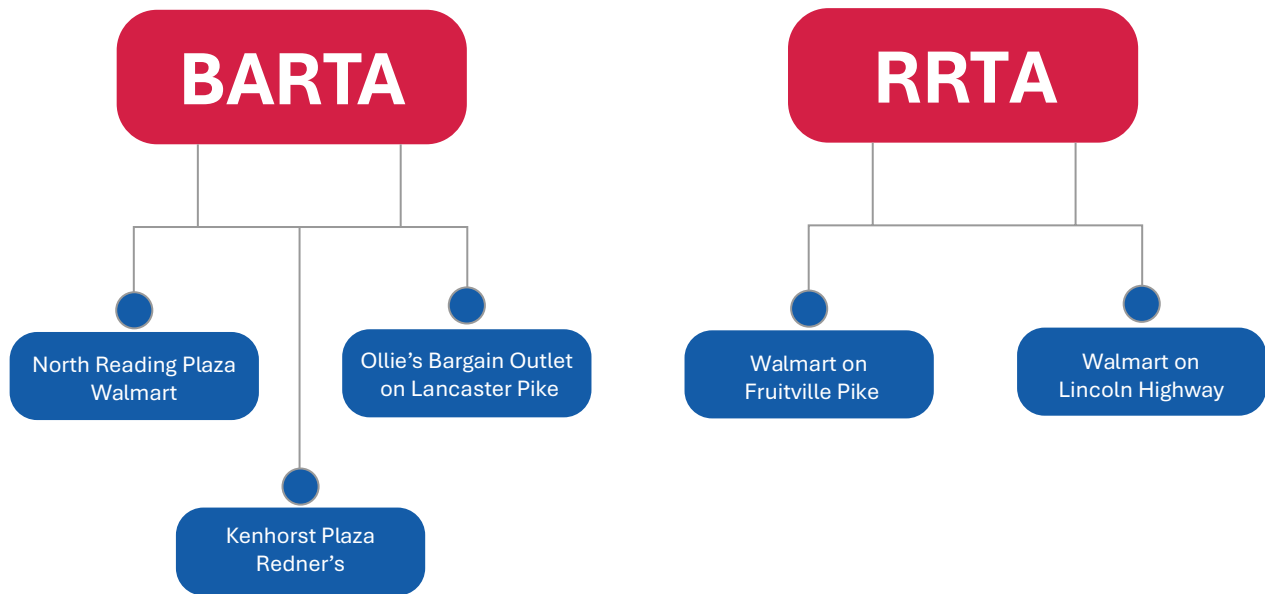
- Trips can begin or end anywhere within the microtransit zone.
- Vehicles are smaller and have lower capacity than traditional fixed-route vehicles.
- Service can provide more coverage than fixed-route service as vehicles are not tied to specific routes.

# Capital Improvements

Implementing the service recommendations will require capital investments. These investments will take time to implement may require additional study, but they will enhance the service provided by BARTA and RRTA and improve the customer experience.

## Mobility Hubs and Bus Stops

The BARTA and RRTA networks each have two primary transit hubs, located in Downtown Reading and Downtown Lancaster, respectively. The recommendations envision additional **mobility hubs in Berks and Lancaster Counties (Figure 13)**. Each mobility hubs can include enhanced shelters, a station or sign marker, seating, trash receptacles, and lighting. The proposed mobility hub locations are **important regional destinations**. As new services are implemented and the BARTA and RRTA transit networks evolve, additional mobility hubs could be implemented at high ridership locations.



In addition to mobility hubs, investing in basic bus stop infrastructure, such as bus stop signs, across the transit networks will improve the customer experience. To further enhance the customer experience, SCTA, can also work with its jurisdictional partners to invest in pedestrian amenities, like sidewalk infrastructure, pedestrian lighting, and safe road crossings.

## Vehicles

The service recommendations will also trigger the need for additional vehicles after Phase 1 of implementation. While the proposed service includes recommendations to make service more efficient from an operating perspective, the full implementation of recommendations will increase service. An additional 13 fixed-route service vehicles (10 for BARTA and three for RRTA) will need to be procured to fully implement the service recommendations.

# Anticipated Impacts of Recommendations

When fully implemented, the service recommendations will transform the transit networks for both BARTA and RRTA. While some service will be eliminated in unproductive route segments; **increased headways and extended hours of service on multiple routes will improve transit service in areas where it is most likely to succeed.**

## BARTA Impacts

Once fully implemented, the service recommendations for BARTA will enhance service frequency on multiple routes, especially during weekday peak periods and on weekends (**Table 1**). The proposed changes would also increase the availability of transit service outside weekday peak periods (**Table 2**). The service improvements would also increase the number of people and jobs with access to reliable 30-minute service on weekdays and weekends (**Table 3**).

**Table 1: Number of Routes with Greater Than 30 Minutes Service - BARTA**

	WEEKDAY PEAK	SATURDAY PEAK	SATURDAY PEAK
Existing	12	5	2
Proposed	15	8	3

**Table 2: Number of Routes with Regular 30- or 60-Minutes Service - BARTA**

	WEEKDAY PEAK	WEEKDAY OFF-PEAK	SATURDAY PEAK	SATURDAY OFF-PEAK	SUNDAY PEAK	SUNDAY OFF-PEAK
Existing	17	13	15	14	6	6
Proposed	17	17	17	16	17	17

**Table 3: Additional Accessibility to Frequent Service - BARTA**

	POPULATION CHANGE	JOBS CHANGE	SENIOR POPULATION CHANGE	MINORITY POPULATION CHANGE	DISABILITY POPULATION CHANGE	HOUSEHOLD WITH POVERTY CHANGE	LIMITED CAR ACCESS HOUSEHOLD CHANGE
Weekday Peak Periods with Greater Than 30 Minutes Service	0%	2%	0%	3%	2%	2%	0%
Saturday Peak Periods with Greater Than 30 Minutes Service	43%	11%	37%	46%	6%	7%	26%
Sunday Peak PEriods with Service	83%	52%	101%	35%	46%	55%	30%



# RRTA Impacts

Like the improvements on BARTA, the recommendations proposed for RRTA will increase service frequencies and span of service on several RRTA routes and will provide more comprehensive and regular service throughout the day seven days a week than is currently offered (Table 4 and Table 5). The improvements will also increase the number of people and jobs with access to 30-minute service on weekdays and weekends (Table 6).

**Table 4: Number of Routes with Greater Than 30 Minutes Service - RRTA**

	WEEKDAY PEAK	SATURDAY PEAK	SATURDAY PEAK
Existing	5	2	1
Proposed	9	5	2

**Table 5: Number of Routes with Regular 30- or 60-Minutes Service - RRTA**

	WEEKDAY PEAK	WEEKDAY OFF-PEAK	SATURDAY PEAK	SATURDAY OFF-PEAK	SUNDAY PEAK	SUNDAY OFF-PEAK
Existing	16	10	9	2	4	5
Proposed	18	18	18	18	18	18

**Table 6: Additional Accessibility to Frequent Service - RRTA**

	POPULATION CHANGE	JOBS CHANGE	SENIOR POPULATION CHANGE	MINORITY POPULATION CHANGE	DISABILITY POPULATION CHANGE	HOUSEHOLD WITH POVERTY CHANGE	LIMITED CAR ACCESS HOUSEHOLD CHANGE
Weekday Peak Periods with Greater Than 30 Minutes Service	23%	17%	27%	27%	10%	19%	7%
Saturday Peak Periods with Greater Than 30 Minutes Service	54%	14%	55%	56%	1%	20%	19%
Saturday Off Peak Periods with Service	48%	49%	29%	57%	29%	57%	33%
Sunday Peak Periods with Service	164%	132%	210%	57%	124%	152%	123%

---

# Conclusions

The recommendations included in the TDP will transform BARTA and RRTA's transit networks to address key challenges that both agencies face. These recommendations will make transit service more efficient, effective, and useful to those who rely on it.

Once fully implemented, after Phase 3, the proposed transit networks will provide **simple and consistent service** in Berks and Lancaster Counties. RRTA will operate over **170,000 revenue hours annually across 18 fixed routes; BARTA will operate nearly 200,000 revenue hours annually across 19 fixed routes**. Additionally, 15 of the 19 BARTA routes and nine of the 18 RRTA routes will have 30-minute peak period service. Seventeen of the BARTA routes and 18 of the RRTA routes will have consistent 30-minute or 60-minute service during the off-peak periods and on weekends. These service changes are coupled with capital investments that will improve the passenger experience and make walking to and waiting for the bus safer and more convenient for BARTA and RRTA customers.