

Executive Summary

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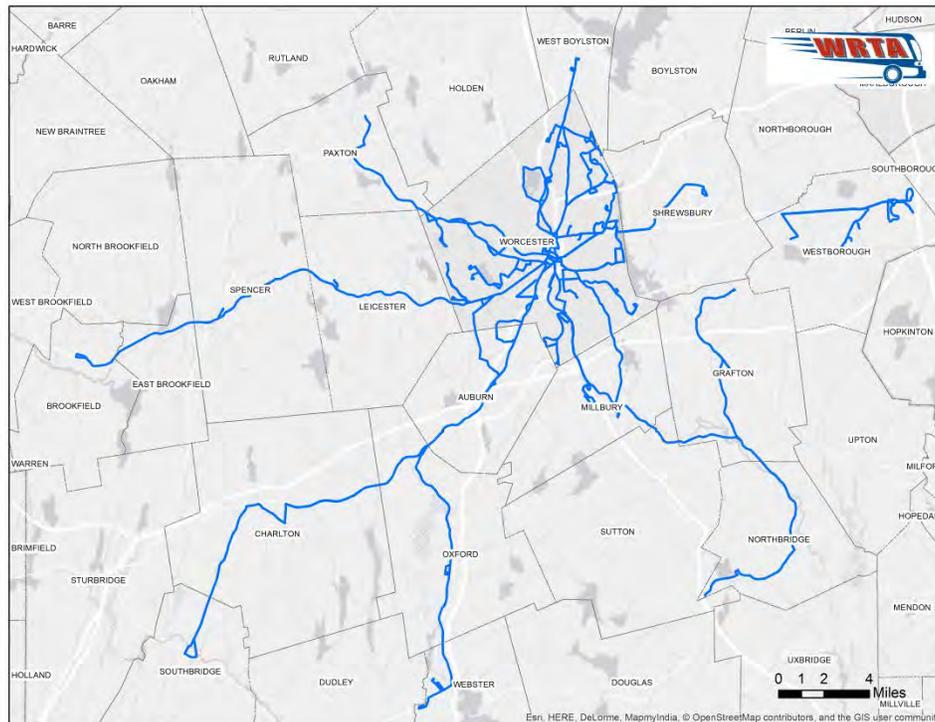


EXECUTIVE SUMMARY

Overview

The Worcester Regional Transit Authority (WRTA) provides fixed route bus service for 17 of the 37 member communities in Central Massachusetts. Figure 1 depicts the served communities which include Auburn, Brookfield, Charlton, East Brookfield, Grafton, Leicester, Millbury, Northbridge, Oxford, Paxton, Shrewsbury, Southbridge, Spencer, Webster, Westborough, West Boylston, and Worcester.

Figure 1. WRTA Service Area



There are twenty-five (25) local fixed bus routes which operate Monday through Saturday on a 15 to 60 minute frequency, and three more inter-community connector routes which operate on weekdays only, with variable frequency. These bus routes serve roughly half a million residents living in the WRTA service area.

The State Legislature, in response to requirements of the Transportation Finance Bill passed in 2013, tasked each Regional Transit Authority (RTA) in the Commonwealth of Massachusetts to prepare a Regional Transit Plan. The purpose of this plan is to:

- examine WRTA’s existing service
- identify local markets with potential ridership



- provide recommendations on ways to improve service operations.

The consultant firm of AECOM was selected to prepare this plan with assistance provided by WRTA, MassDOT, and local stakeholders.

Recommended Phase Approach

To meet the goals of the plan, recommendations were made to improve WRTA service over three phases, as follows:

In Phase 1, clock face frequencies¹ have been established to improve on-time performance, highly productive routes will have more frequent service, and new routes have been implemented and adjustments to alignments have been made to provide cross town service. Phase 2 seeks to expand the service area to areas in Dudley, Holden, Southbridge, Sturbridge, and Webster, extend service hours on Sunday, and improve frequencies. Lastly, in Phase 3 service will expand to reach Northborough Crossing and North Brookfield. This expansion will improve connections between local colleges and neighboring RTAs.

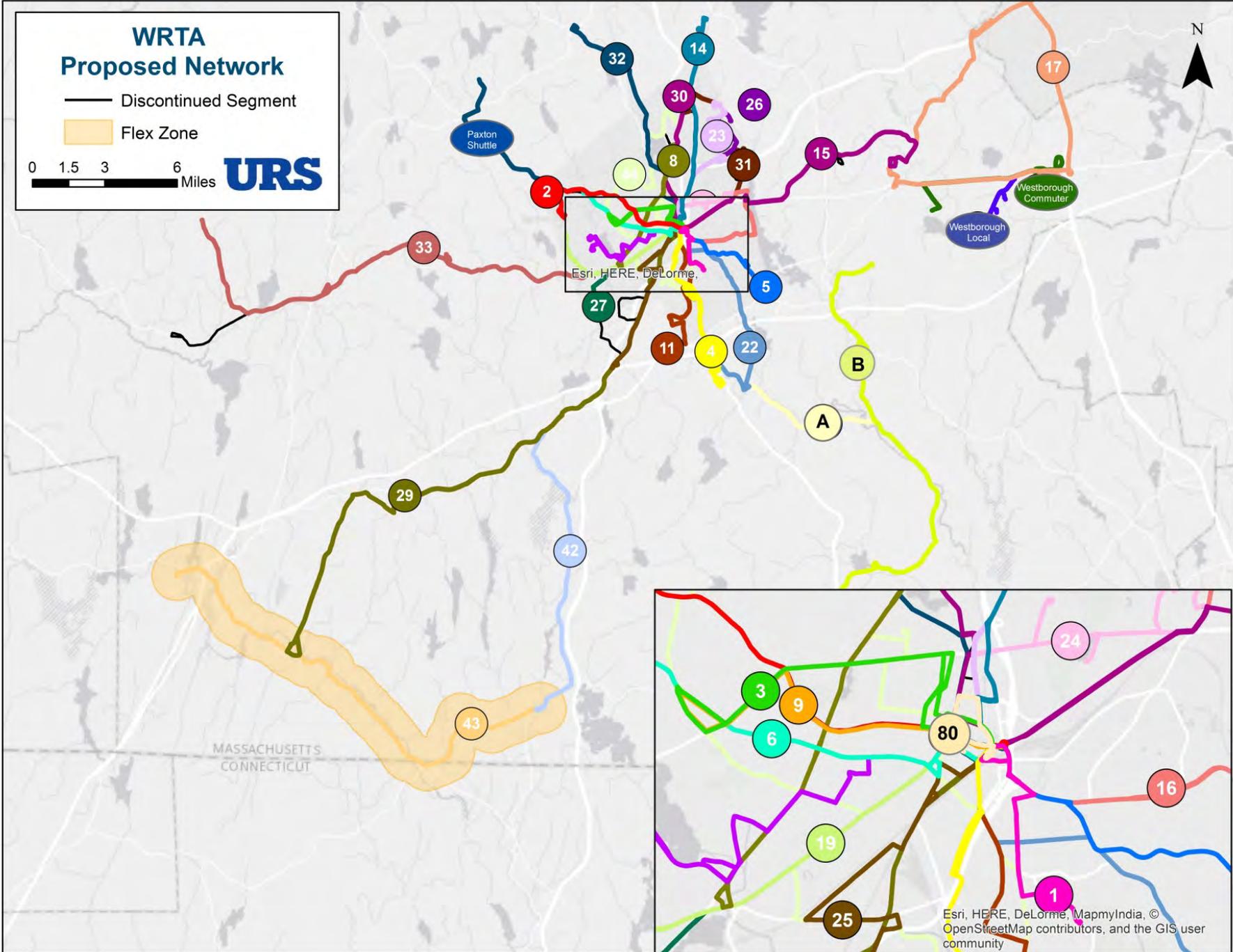
Figure 2 depicts the WRTA service area with the proposed route network based on implementation of the recommendations in all three phases.

¹ A clock face frequency is established when a transit timetable offers consistent, frequent service at regular intervals such as 00:15, 00:30, or 00:45 past the hour. These frequencies create an easy to remember timetable for riders.



REGIONAL TRANSIT PLAN

Worcester Regional Transit Authority





Benefits

Implementing the phased recommendations would provide benefits to WRTA and aid them in meeting their goals and objectives to provide a cost-efficient system while maintaining a high level of service to its riders. The phased service improvements would result in the following benefits:

1. Implementing alignment changes would allow WRTA to provide service to areas that demonstrate demand for transit service.
2. Standardizing headways and implementing clock face frequencies would create a simpler, user-friendly system for WRTA riders.
3. Expanding service to new areas, extending hours of operation on Saturday, and implementing service on Sunday would expand mobility in the region.

The following are WRTA objectives that have been met through the development and selection of the phased recommendations:

Goal: Provide timely, quality, clean, and convenient public transportation service within the limits of its financial resources

Objectives:

- Design and operate service to attract passengers
- Provide service to the transit dependent
- Alleviate congestion
- Minimize travel time

Cost Estimation

With the implementation of each phased recommendation, additional operational and capital improvements would increase WRTA's annual operating cost. Figure 3 depicts the base operating costs for the existing system along with the additional costs associated with the service improvements in each phase.

WRTA's existing annual revenue operating hours are 167,500, these hours are expected to increase throughout each phase. During Phase 1 annual revenue hours will increase by 12,000; annual revenue hours will increase by 20,600 in Phase 2 and finally by 39,200 to an estimated 239,300 hours in Phase 3.

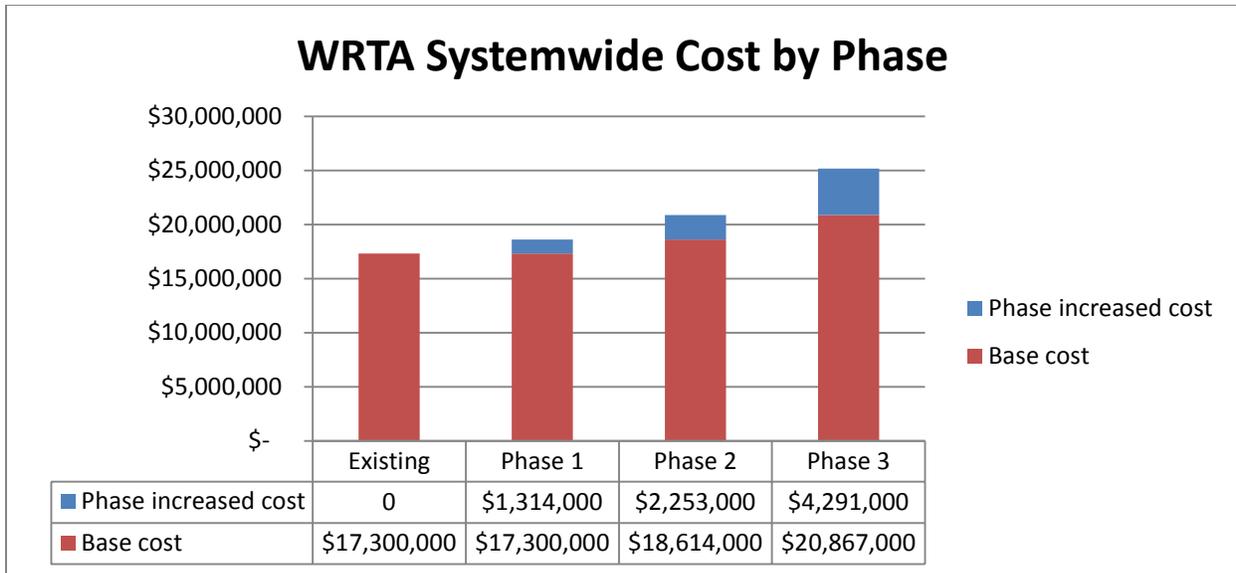


Figure 3 Cost by Phase

Capital Costs

Phase 1 service improvements have been designed using the constraint of WRTA’s existing fleet of 52 buses, 43 of which are used during peak service. Additional vehicles will be required for the recommendations presented in Phases 2 and 3. To implement these phases in a timely manner, WRTA must begin the planning process now as vehicle procurement can take up to two years before the buses can be put into service. During peak service, Phase 2 will require 50 vehicles and Phase 3 will require 61 vehicles.

Framework

Recommendations were developed using a cumulative process that incorporated public outreach, a diverse steering committee, operational input from WRTA, and analysis of existing transit service and the local/regional market. Strategies to improve the system were developed based on WRTA’s goals and objectives and the following guidelines:

1. **Simplify** – Routes should be designed along main corridors with minimal schedule deviations. For routes that are not linear, service should be provided in both directions.
2. **Service should match demand** – The denser (both in terms of employment and population) areas should have a higher level of service with either higher frequency routes or multiple lower frequency routes. Major corridors often warrant higher frequencies.
3. **Standardized frequency** – Frequencies should be standardized using clock-face schedules to create 30, 60 and 120 minute headways.
4. **Priority to existing ridership** – Service should be increased in areas that warrant it over servicing new areas, if limited resources are available.
5. **Efficiency** – Where possible, routes should be designed to be the most efficient. Decisions to deviate off the main corridor and add time to the route are only warranted where key destinations



like shopping centers are too far off the main road, there are a lack of pedestrian facilities, or the benefit (due to demand) of servicing the deviation outweighs the additional time incurred to others on the route.

6. **Consistency** – Except where warranted by peak only routes or increased peak hour service, service should have consistent headways throughout the day using clock-face schedules.
7. **Regional network** – Regional connections should be improved to provide access outside of the WRTA service area through timed transfers with other systems such as PVRTA, MWRTA and MART to areas identified as common destinations through the market analysis and public outreach process.

Task Summaries

The Transportation Finance Bill assigned the following nine tasks to be evaluated by each RTA:

Task 1. Comprehensive Assessment of Transit Services

Through the development of this plan, WRTA identified the following eight specific goals to guide future improvements to the service:

Primary Goal: Provide timely, quality, clean, and convenient public transportation service within the limits of its financial resources.

Objective 1: Operate an economically, financially, environmentally, and socially responsible System

Objective 2: Design and operate service to attract passengers

Objective 3: Maintain equipment to minimize accidents

Objective 4: Support Sustainability

Objective 5: Provide service to the transit dependent

Objective 6: Procure vehicles of the highest design

Objective 7: Alleviate congestion

Objective 8: Minimize travel time

Task 2. Examination of Ridership Trends

In FY 2014, WRTA carried over 3.7 million riders, averaging 310,000 riders per month and 13,132 riders per day. Ridership is higher on WRTA's local fixed routes with a daily average of 521 passengers while the community routes only average 290 passengers per day. Routes 11, 19, 26, 27, and 30 have the highest ridership rates among the buses in the WRTA service area. Ridership on these five routes accounts for 41% of the weekday boardings for the entire system.

Task 3. Performance Analysis of Service

Each route in the WRTA service area was evaluated based on several factors including ridership, passengers per revenue hours, and subsidy per passenger. The top three performing routes in the WRTA service are Routes 19 (Webster Square – Clark University via Main St.), 26 (Great Brook Valley via Lincoln St.), and 27 (Auburn Mall via Main St.). These routes are top priorities for service investment and may benefit from increased service frequencies or service spans. Routes performing below average, such as



Route 8 (Greendale Mall via Shore Drive), may require additional analysis to determine the cause of the problem or be considered for discontinuation of service.

Task 4. Develop and Evaluate Service Alternatives

Service alternatives for the entire WRTA system were evaluated through a process that incorporated public outreach, a diverse steering committee, operational input from WRTA, and analyses of the existing transit service and local market. Alternatives were guided by the eight goals identified by WRTA to improve service. Preliminary alternatives were presented to WRTA at workshop where they were further refined.

Task 5. Recommendations to Better Align Service

Recommendations for WRTA have been presented through a three phase implementation approach. Phases establish the immediacy and prioritization of needs and are based on an incremental approach and by the availability of resources. Recommendations in Phase 1 can be implemented immediately while recommendations in Phase 2 and 3 can only be implemented as resources become available. In Phase 1, clock-face frequencies have been established to improve on-time performance, highly productive routes will have more frequent service, and new routes have been implemented and adjustments to alignments have been made to provide cross town service. Phase 2 seeks to expand the service area to areas in Dudley, Holden, , Southbridge, Sturbridge, and Webster, extend service hours on Sunday, and improve frequencies. Lastly, in Phase 3 service will expand to reach Northborough Crossing and North Brookfield. This expansion will improve connections between local colleges and neighboring RTAs.

Task 6. Commonwealth's Environmental Policies

GreenDOT's implementation plan, developed in 2012, identifies themes, goals and indicators to guide transportation development to a more sustainable future. An evaluation of WRTA's services was conducted to determine their ongoing compliance with the policy. While there are over 300 short, medium, and long-term indicators, only 53% are applicable to WRTA. Of these applicable indicators, WRTA is already meeting 54% and working towards meeting additional medium-term indicators by 2015 and long-term indicators by 2020.

Task 7. Fare Rates and Collection Methods

Starting in 2012, WRTA installed a Scheidt & Bachmann Fare Collection system on fixed route buses which offers Smartcard capabilities and is interoperable with CharlieCard™. Encouraging payment through this new technology reduces dwell time as passengers can board faster compared to paying with cash. Three Ticket Vending Machine (TVM) locations allow riders to purchase tickets or reload value to their Smartcards. In April 2009, WRTA implemented a new fare strategy offering a flat fare structure instead of a zonal based fare. During this transition, fares also increased 20% from \$1.25 to \$1.50. Discounts, between 10 and 20 cents per ride, are offered to riders who pay using the CharlieCard.



Task 8. Region's Job Creation Goals and Employment Needs

The WRTA region is evolving from an agricultural, manufacturing, and educational-based economy into a technical-based economy. With 16 colleges, universities, and higher education institutions, WRTA's region has a strong educated workforce and students at these institutions are solid base for potential riders. Understanding the region's employment sector will allow WRTA to provide a better level of service to workers in the region.

Task 9. Determination of Effectiveness of WRTA Service to Meet the Needs of the Region's Workforce

The following indicators were used to identify demand levels and effectiveness of service across the region: population density, employment density, elderly populations, zero vehicle households, median household income, disabled households, schools, colleges and universities, hospitals, priority development areas, park and ride lots, and commuter rail. The analysis revealed that overall WRTA is successfully serving the areas with the highest levels of transit demand; however, some areas in Barre, Douglas, Dudley, Holden, and West Brookfield that have a potentially high demand for service but are not currently served by WRTA.

There are approximately 244,000 jobs in the WRTA region, although Worcester and Shrewsbury are the largest employment centers. There are 202 employers with a workforce of over 100 employees, however only 140 (69%) of these workplaces are currently served by WRTA routes. The Central Massachusetts Regional Planning Commission (CMRPC) identified 219 Priority Development Areas (PDAs) that are economically important and are capable of supporting additional growth or redevelopment. Of these 219 PDAs, only 40 are currently served by WRTA routes. Expanding the service area to reach the underserved employment centers and PDAs would increase mobility in the region.

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