Worcester Regional Transit Authority

Request for Proposals (RFP) #2024-02

On-Call Planning Consulting Services

RFP Issue Date: January 19, 2024

Addendum #1

Addendum Issue Date: February 1, 2024

The Worcester Regional Transit Authority (WRTA) is issuing this addendum to the above-mentioned Request for Proposals (RFP) for the purpose of clarifying and answering questions submitted on or before the RFP Questions, Comments, and Requests for Clarification Deadline of January 26, 2024.

Questions & Clarifications

Question 1: How many selections is WRTA planning to make? Related, should each item be structured to cover all of the scope items and tasks listed in the RFP?

Answer 1: WRTA anticipates awarding this RFP to one firm, based on the results of the Evaluation Committee. The WRTA does reserve the right to retain more than one firm, if it so chooses, based on the needs of a particular project and the experience and qualifications of the firm.

Question 2: Can you elaborate on 5.3 Item D? Is it safe to assume that background work has already been done that would be used as a foundation for route optimization for electrification? Or should we discuss capabilities around more basic capabilities around electrification (e.g., facility electricity needs)?

Answer 2: WRTA envisions the selected firm to assist with starting the schedule optimization efforts utilizing its current route structure and fleet roster to integrate BEBs that traditionally have limited traveling range(s) and long charging time(s) versus a diesel, or diesel-hybrid bus. The WRTA is currently working with its A&E vendor, and consultant to the BEB manufacturer regarding BEB charging elements and facility electrical requirements.

Question 3: If a firm on a team typically charges based on license fees and/or fixed fees (e.g., software license), is it acceptable to include examples of services and fees associated with those services instead of hourly rate information?

Answer 3: It is acceptable to include examples of services and related fees, but should not be in lieu of submitting applicable hourly rates.

Question 4: Our firm has a commitment to sustainability that includes limiting the amount of printed materials we produce. With that in mind, would WRTA accept an emailed PDF only of our proposal instead of printed and mailed hard copies?

Answer 4: The WRTA will not accept this request. The contents of Section 2.4 remain as published.

Question 5: Has a DBE participation goal been established for this project?

Answer 5: There is no DBE participation goal associated with this RFP, but the WRTA encourages DBEs to be utilized.

Question 6: Regarding Section 5.2, could you please clarify item B? Are you looking for personnel support with outreach or support in developing materials for outreach?

Answer 6: Depending on the project, WRTA envisions both personnel support for public outreach efforts and development of related materials for distribution.

Question 7: Should the Relevant Experience highlight applicable experience as it relates to Section 5.2 (Scope of Services), 5.3 (Anticipated Tasks), or both?

Answer 7: Both.

Question 8: Should the Approach to Accomplishing Scope of Work address Section 5.2 (Scope of Services), 5.3 (Anticipated Tasks), or both? Is WRTA looking for hypothetical project scopes for some or all of the Anticipated Tasks?

Answer 8: Both. WRTA is not looking for detailed project scopes for each individual item listed in Section 5.3 as part of a proposer's submission, but would envision a proposer summarizing appropriately.

Question 9: Can WRTA provide more details on the desired scope of work related to the Service Standards anticipated task? Does WRTA have existing service standards and if so, can those be shared?

Answer 9: The WRTA has existing fixed-route Service Standards (included at the end of this Addendum) that was originally produced in 2009, and revised in 2012, and 2015. This anticipated task would include revamping the current living document, and incorporate demand response and potentially microtransit into an enhanced, comprehensive document that represents the existing level of service WRTA offers.

Question 10: The required forms, are they just for the Prime to complete or should subconsultants also complete them?

Answer 10: The required forms are for Prime proposers to complete, but the use of proposed subconsultants must be outlined in detail, per Section 2.3.

Question 11: WRTA is requesting a fully burdened rate containing all overhead, fee, administration and Other Direct Costs (ODC) such as travel expense. In our experience building the ODC's into the fully burdened rate often artificially causes the rate to be higher than necessary as the number of hours do not correlate to the amount of the travel expense and the client ends up paying for travel expenses whether the consultant travels or not. We would request to bill these ODC's at cost to the Agency at the pre-approved GSA rates established by the Federal Government for Worcester, MA. We will put together an estimate before any travel to be approved by the Agency. This will control costs and ensure you are getting the best rate available to Federally Funded agencies. Is this acceptable?

Answer 11: Yes, this is acceptable to the WRTA.

Question 12: Does Section 2.12 Multiple Proposals preclude an entity from being on more than 1 proposal team OR does it preclude a proposal team from making more than 1 submission?

Answer 12: Section 2.12 – Multiple Proposals precludes a proposal team from making more than one submission.

Service Standards

Fixed Route Bus Service and Performance

Worcester Regional Transit Authority

April 2009
Revised: March 2015

Table of Contents

Foreword

With the intent of providing consistent quality service, the Worcester Regional Transit Authority (WRTA) has developed service standards for its fixed route service. These standards are consistent with the Federal Transit Administration (FTA) Circular C.4702.1B, "TITLE VI Requirements and Guidelines for Federal Transit Administration Recipients."

These standards are structured to include the overall goals of the WRTA in achieving improved and coordinated services, measuring the adequacy of existing service, and providing guidelines for new services and extensions. While these standards may not all be achievable due to funding restrictions, they are no less important to ensure that current services and growth are benchmarked for equity and sound sustainable transit principles.

These standards recognize the need for balance between the objectives of expanding the amount and quality of service, and maintaining the highest efficiency of service within the limits of passenger revenue, public investment, and the constraints of legislative mandate and the fiscal constraints of available funding.

In summary, these standards of service are designed to provide an important tool for the guidance of those responsible for planning and operating the service and as a mechanism for verifying and controlling the actual service produced.

Objectives

A primary goal of the Worcester Regional Transit Authority (WRTA) is to provide timely, quality, clean and convenient public transportation service within the limits of its financial resources. To meet this goal requires simultaneous attention to the following objectives:

- Overall, the transit system design should strive to be economically, financially, environmentally and socially responsible. Proposals for improved transit services should be evaluated for their compliance with these factors.

Economically, existing and proposed services should show a maximum of total benefit (direct and indirect).

Financially, existing and proposed service should maximize the effective use of limited financial resources.

Environmentally, fixed-route service should allocate for accessibility to other modes of transportation, such as commuter rail, walking and biking, minimize congestion and vehicle miles traveled (VMT) at a regional scale, and promote emission and pollution reduction policy.

Socially, improvements must coordinate with regional development goals, be compatible with growth policies and development adopted by communities served, and have overall benefits demonstrable to decision makers at various levels of government.

- The public transit system should be designed, operated, and maintained so that it will attract passengers in such numbers as to assure its continuing viability as a reasonable alternative to other modes of transportation. Efforts should be made to attract patrons with all facets of the system including the quality and quantity of service, interfaces with other transportation systems, the convenience of its schedules, the low cost of its fares, optimum use of improved streets and highways, the design and maintenance of shelters, bus stop, and a vigorous

Objectives

outreach program. Technology should be employed that facilitates the delivery of an efficient and safe operation.

- A paramount consideration is the safety of the operator and passenger. Operating practices and vehicle maintenance should be such that any kind of accident will be improbable and fatalities will be extremely rare.

- The transportation system should be designed to support sustainable land-use patterns, regional smart growth, and neighborhood livability while reinforcing desired economic development.

- Service improvements and extensions should be evaluated not only for economic considerations, but also as a required public service to provide mobility for "transit dependent" groups and, in the broader sense, to attract new markets from competing modes.

- Successful new developments and improvements in surface transit vehicle designs should be sought and used as a general policy. Vehicles should be provided which are safe, smooth riding, climate controlled, quiet, easy to get in and out of, well-lit, clean, non-offensive to pedestrians or other travelers and aesthetically attractive. To insure optimal use of equipment, the quality of performance by operating and maintenance personnel will be a major objective with consistently improving methods of recruitment, training, and education to insure safe, efficient operations by courteous, neatly uniformed personnel.

- Transit system improvements should consider the necessary measures to alleviate congestion problems and minimize social disruption without impeding the development of the evolving system as whole.

- Service should be designed to minimize door-to-door travel time for present and potential patrons. This can be achieved by improving the walk, wait, ride and transfer elements of the total transit journey. Patrons should be assured of the fastest possible trip time by a policy of utilizing transit friendly roadways to complete the trip economically. Transferring should be minimized by continuously seeking more direct routes from origin to destination. Where transfer elimination is impossible, feeder services should be carefully coordinated and adequate facilities should be provided for patrons to switch vehicles with protection from weather. Walk and wait portions of the trip should be minimized by provision of service frequencies on more heavily traveled main line routes as closely spaced as possible within economic constraints and spacing of routes to provide reasonable walking distance. Technology should be employed to assist patrons in minimizing their wait time for vehicles.

STANDARDS FOR EXISTING SERVICE

Service Standards

Economic and Productivity Standards

Customer Service

PERFORMANCE MEASURES

Customer Satisfaction Survey

Definition: *Overall service quality shall be measured by the percentage of patrons who rate their overall satisfaction with service as good or excellent in the annual customer satisfaction survey. A minimum of 300 respondents is required for statistical validity.*

FY12: *80% Good/Excellent; 93% Fair*

Goal: *90% Good or Excellent*

Valid Complaints per Passenger

Definition: *Total number of valid complaints per 5,000 passengers. Validity of complaints are determined by operations staff upon investigation of a complaint.*

FY12: *0.46/5,000 est.*

Goal: *One (1) complaint per 5,000 passenger trips.*

In-Person:
WRTA Offices, 287 Grove St, Worcester
WRTA Customer Service, 60 Foster St, Worcester

Phone: 508.791.WRTA

Email:
csfeedback@therta.com (general complaints)
paratransit@therta.com (Paratransit)
info@scmelderbus.org (Elderbus Partransit)

Web:
www.therta.com
www.wrtaparatransit.com
www.scmelderbus.org

In order to retain current customers and to attract new customers, the service provided will be designed and operated to meet the needs and expectations of the existing and potential market for transit in the WRTA service area, with consideration to Title VI requirements and guidelines and Environmental Justice considerations of avoiding "Disproportionately High and Adverse Effect on Minority and Low-income Populations" meaning an adverse effect that:

"is predominately borne by a minority population and/or a low-income population, or will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population."

This means that appropriate measures will be necessary to provide information, comfort, convenience, safety, and a welcoming environment by employees of the system. Special consideration shall be given to providing equipment (such as low-floor buses with ramps) and operating procedures (such as calls to dispatch when a passenger can't be accommodated) to provide the maximum practical access to service by elderly and disabled passengers.

The effectiveness of such measures will be regularly monitored through tabulation of data related to the complaint/ suggestion / compliment function and by surveys of rider satisfaction, focus groups and other information gathering measures as follows:

- Passenger Amenities (shelters, schedules, real-time information systems, interactive voice recognition, mobile-friendly website, informational kiosks and wayside messaging signs)
- Customer Feedback (in person, by phone, by email, or feedback form at http://wrta.wpengine.com/contact/your-feedback/)
- Operator Feedback
- Advisory Board & Elected Representatives Feedback
- Central Massachusetts Regional Planning Commission (Audits & Planning)
- Transportation Planning Advisory Group (Monthly Meetings)
- Complaint Investigation
- Supervisor Monitoring
- On-Time Performance
- Missed Trips
- Passengers Left Behind
- Deployment of Supplemental Service To Get Back to Schedule (Setbacks)
- In-Service Failures
- Independent Audits of Operator Rule Adherence

Service Quality Standards[(1)]

TOWN	POP 2010	DENSITY 2010
AUBURN	16,188	986
BARRE	5,398	121
BERLIN	2,866	218
BOYLSTON	4,355	221
BRIMFIELD	3,609	102
BROOKFIELD	3,390	204
CHARLTON	12,981	296
CLINTON	13,606	1,874
DOUGLAS	8,471	222
DUDLEY	11,390	520
EAST BROOKFIELD	2,183	209
GRAFTON	17,765	762
HOLDEN	17,346	478
HOLLAND	3,003	230
LEICESTER	10,970	445
MILLBURY	13,261	806
NEW BRAINTREE	999	48
NORTH BROOKFIELD	4,680	213
NORTHBOROUGH	14,155	755
OAKHAM	1,902	90
OXFORD	13,709	500
PRINCETON	3,413	95
RUTLAND	7,973	220
SHREWSBURY	35,608	1,637
SOUTHBRIDGE	16,719	801
SPENCER	11,688	344
STURBRIDGE	9,268	238
SUTTON	8,963	263
WALES	1,316	82
WARREN	5,135	186
WEBSTER	16,767	1,149
WEST BOYLSTON	7,669	553
WEST BROOKFIELD	3,701	175
WESTBOROUGH	18,272	852
WORCESTER	181,045	4,710

Route Design Standards

The following considerations are consistent with efficient route design and standards which should be monitored over time for major deviations. While these criteria are often constants, they will change and may materialize as changes in ridership, revenue and on-time performance occur. However, recognition of economic factors such as new residential and business developments based on updated building permits, are essential.

1. **Population Density** – Where population density is greater than 4000 persons/square mile (City center), the goal is to provide service within a ¼ mile walk distance to at least 90% of the population. An attempt should be made to provide some service to all communities with a population density greater than 700 persons/square mile.
2. **Employment Density** – An attempt should be made to provide service to major employers (200 employees or more).
3. **Route and Corridor Spacing**
4. **Demographics** – The goal is to attract a diverse population including college students, commuters, elderly population and minority population regardless of income, ethnicity or race.
5. **Service Equity** - An attempt should be made to serve all communities where there is more than 5% of the population with income less than 80% of the county's median income.
6. **Enhance Interlining and Limit Transfers**
7. **Connectivity between feeder and main line routes**
8. **Route Directness**
9. **Proximity to Trip Generators and Destinations**

(1) Bus Route Evaluation, TCRP Synthesis 10, 1995

Service Quality Standards

A ***turnback*** is where fewer than all of the buses on a route operate beyond a particular point. From this point, some buses return to the origin, usually the CBD, while others continue to an outer terminus. This technique, like branching, allows for more frequent service over a trunk portion of a route.

"Interlining" is essentially the joining of two separate routes to be operated as one operator run. Most commonly these routes are joined in the downtown district. While the choice of routes to be linked should be based on a strong transfer relationship thus allowing many patrons to ride through to their desired destination, often they must be based on budgetary restrictions and run times. Other considerations must also be examined including schedule compatibility. To prevent schedule inefficiencies, the headway and running times must flow together and not require excess layover to maintain a reasonable frequency. Another advantage to interlining is the elimination of unnecessary turns and duplicate use of streets in the CBD. By interlining, routes can flow through town, sometimes offering cross-town type service, rather than loop the congested business and shopping districts.

The WRTA uses branching, turnbacks, and interlining because they allow for increased service to concentrated areas in a more economical manner.

Schedule Design Standards

Route frequency or headways can be a product of the type of service where rural or less populated areas may be classified as feeder routes that may interline or allow transfer to more heavily used urban mainline routes. Feeder route frequency can be as much as one hour during peak periods as long as timely transfers and interlines are accommodated at transfer locations. Considerations are:

- Local versus Express
- Urban versus Rural
- Distance Between Urbanized Areas- It is a goal to connect with adjacent service area providers as financially feasible.
- Roadways
- Congestion Mitigation
- Clean Air Act (CAA)
- Speed Constraints
- Size of Vehicle
- Traffic and Civil Lane or Bridge Constraints
- Maximum Number of Standees
- Duration of Standee
- Maximum Headways
- Peak versus off-Peak
- Waiting for Transfers
- Use of Clock Headways
- Hours of Service (Span)
- Transit Signal Priority

One significant area of determination of quality of service is routing policies. A number of devices are available for cost saving including turnbacks, branching and interlining of routes.

Branching allows for more frequent service to a densely populated area, usually near the CBD, while providing less frequent service to sparsely populated outer areas. An example would be 15 minute service from the CBD where departing buses would alternate between two branches. The result would be service to a wider area and a frequency of 30 minutes to each branch.

DIRECTNESS OF SERVICE

WRTA standards for travel time for express routes should be no more than 150% of auto travel time; and for non-express routes should be no more than 200% of auto travel time. Community routes travel time should not exceed 250% of auto travel time.

TRANSIT ACCESS

It shall be the policy of the WRTA to space routes such that within approximately 90% of the densely populated areas of the core city, Worcester, residents shall reside within one quarter (1/4) of a mile from a bus route.

LOADING STANDARDS

Service should provide a seat for everyone in most periods except for the peak 60 minutes. During the peak 60 minutes some overloads are tolerable and may be considered necessary within the constraints of equipment and labor availability and cost effectiveness.

The "maximum load factor" is calculated by dividing the total number of seats passing the maximum load point in one direction into the number of patrons passing the same point and in the same direction during the operating period considered.

Since the load factor is an average, individual trips may exceed the average during a particular operating period.

Directness of service is a prime goal in routing policy. While fixed route transit service cannot match the automobile in terms of directness of travel between a multitude of origins and destinations, some route deviation is considered normal and essential to serve the greatest potential transit markets along a given route. However, too much deviation can make the trip time differential between transit and the private automobile so great that persons who might use transit will turn to other modes of travel.

In order to balance the need for some deviation in routing with the goal of directness, routings between major traffic generators (i.e. City Hall; shopping districts and malls; residential complexes; hospitals, etc, must consider other standards to determine whether or not a route deviation is productive or is necessary for other reasons such as safety, rider convenience, neighborhood issues, operating restrictions, disabled access, etc.

While the objective may be to provide a seat for every passenger, this may be affected by the size of the vehicle assigned, unexpected route delays and delays on parallel or feeder routes which may not be economically feasible during peak periods. Schedules are designed, to the extent possible, to conform to the maximum loading standards outlined in Table 1, which are geared to insure that even in peak periods most passengers will have a seat for at least a major part of their journey. The passenger load on any bus shall never exceed the safe or legal limit for that vehicle. The loading standards expressed in Table 1 are intended to be below these safety limits.

MAXIMUM LOADING STANDARDS

(Percent of Seats Provided)**

Operating Period	Loading Standard
Each Peak Period (by direction)	125% average
Base (Non-Peak)	No Standees
Night	No Standees
Saturday/Sunday/Holidays	No Standees

** Passengers as a percent of seats provided for the designated time standards may be exceeded for individual trips within the time period.

Headways

During peak periods, the frequency of service on the main line routes are usually determined by the load factor standards described in Table 1. However, for less traveled community feeder routes or during evening and some daytime weekend periods, when levels of ridership are so low as to require excessive time periods between vehicles to conform to loading standards, it is necessary to establish demand based headway to guide the provision of service equitably throughout the area.

While a policy based (fixed interval) headway would be preferred such as a so called "clock headway" every 10, 15, 20, 25, 30, 45 or 60 minutes[(2)], budget constraints, transfers and interlining needs make this objective difficult to achieve. The WRTA will continue to refine its headways toward this goal as funding becomes available.

Headway for regularly scheduled service should not exceed 60 minutes and should be designed wherever possible to conform to regularly recurring intervals.

This standard does not apply to morning and afternoon extras or special purpose service designed to meet individual circumstances such as a shift change; or to commuter services that operate primarily during peak periods

On-Time Performance

The WRTA monitors on-time performance utilizing outside auditors known as "Secret Shoppers", street supervision and through periodic checks of the on-board vehicle camera surveillance system. The WRTA also uses the Automatic Vehicle Location system which is used to better monitor these criteria. The Authority shares its current performance with the WRTA's Advisory Board on a monthly basis.

Several elements contribute to the on-time performance or non-performance of transit service:

- General traffic delays
- Mechanical failures
- Poor schedule design
- Inadequate operator training and control
- External emergencies and inclement weather.

The WRTA has no control over external emergencies and inclement weather. However, it does have direct responsibility for mechanical failures, schedule design, and operator training and control.

Although traffic delays are beyond its immediate jurisdiction, schedules should be constructed so that sufficient time is available under normal traffic conditions to complete the trip on time. Where street traffic varies either seasonally or by day of the week and hour of the day, schedules should be adjusted accordingly and timely information should be provided to the riders.

(2) Fixed Route Scheduling, National Center for Transit Research USF, March 2005.

PERFORMANCE MEASURES

On-Time Performance

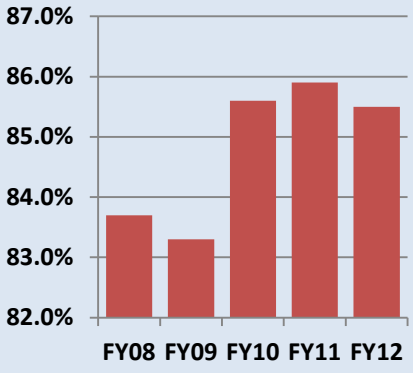
Definition: "On-time" is defined as one minute early to five minutes late at designated time points. Under no circumstances should buses leave designated time points ahead of schedule.

Late operation is defined as any service arriving at a designated time point more than five minutes later than the scheduled time.

Percentage of fixed-route vehicles by route that reach their assigned time points on-time in the system.

FY12: *85.5%*
Goal: *90% Peak Period; 95% Off Peak*
Trend: *FY08 – 83.7%*
FY09 – 83.3%
FY10 – 85.6%
FY11 – 85.9%

On-Time Performance



In instances where schedule adherence becomes difficult during peak periods by reason of general traffic congestion, the options are to modify the schedules for that particular situation or take steps to avoid the traffic problems causing the congestion. When new or amended schedules are introduced, the WRTA has been successful at working with the Union to adjust schedules after reasonable periods of actual experience.

Disruptions due to mechanical failure of equipment cannot be eliminated but should be minimized within the economic limits of sound maintenance practices. Maintenance standards will be discussed in a subsequent section.

Schedule adherence criteria vary with the quantity of service provided in accordance with Table 2.

SCHEDULE ADHERENCE

(Required Minimum Percent of On-Time Service)

Operating Period	Headway	
	30 Minutes and Less	Over 30 Minutes
Total Peak Period	85%	95%
Base (Non-Peak)	95%	95%
Saturday/Sunday/Holiday	95%	95%

Short headway, heavily traveled routes are less likely to adhere to schedule than longer headway "off peak" service. Accordingly, as headways increase service should operate closer to scheduled times. This standard, therefore, provides for different schedule adherence based on headway.

Actions to be taken include:

- Continue to improve method of data collection to accurately monitor and report on the standard for different operating periods of the day.
- Enforcement of rules and regulations currently in existence.
- Improving initial and continuing operator training.
- Consideration of route and scheduling changes.
- Changes in equipment assignments.

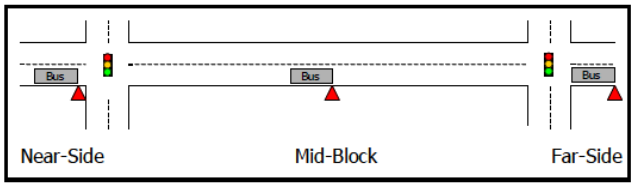
Distance Between Stops

While bus stop locations and sizes are dictated by cities and towns, these decisions affect schedule adherence and passenger waiting time. Designation of bus stops along transit routes requires balancing passenger convenience against speed of operation. Obviously, stops at every intersection provide the shortest walking distance to the bus stop. However, vehicle speed and trip time for patrons already on the bus are affected significantly. Aside from pure spacing considerations, stops should be located to optimize convenience for concentrations of patrons along the route.

As a general guideline, stop spacing in urban areas should not be closer than **550 feet** (See Attachment A). Stop spacing outside the City of Worcester in low density areas or on special limited routes should not be governed by fixed criteria. In these cases, vehicles should stop when hailed by a patron as soon as safety and practicality allow. In commercial or industrial areas, the number and location of bus stops should be controlled by the concentration of patrons more than by "rule-of thumb" spacing standards.

Stops should be located at street intersections where possible so that passengers are provided with safe access to the bus, buses do not block cross traffic in intersecting streets, and buses are able to reenter the traffic stream with a minimum of conflict. In most instances, these requirements will dictate the use of stops located so that transit vehicles stop before entering the intersection (so-called "nearside" bus stops).

This standard is to be followed except where traffic conditions or where such a bus stop would impede allowable right hand turns where a "farside" stop (after the intersection) clearly is more practical or safer. Currently 30% of bus stops are nearside bus stops, 22% are far-sided and 48% are midblock stops.



Source: TCRP. Transit Capacity and Quality of Service Manual. 2nd Edition. Part 4. Bus Transit Capacity.

The length of the curb area parking restriction devoted to a bus stop, particularly in heavily traveled corridors and where large numbers of patrons board daily, is of critical importance. The objective must be to promote optimum safety for the boarding or alighting passenger, and also to promote the more timely travel time of the transit vehicle without seriously affecting the flow of other vehicles.

For safety of patrons and operation of rear door wheelchair lifts, the length of the bus stop should allow the operator to pull both doors of the bus to the curb. For the safety of pedestrians and other vehicles, the near-side bus stop should allow adequate setback from a crosswalk to facilitate vehicular right turn on red movements and a clear sight path and walkway for pedestrians. For far-side stops, the length must be adequate for the bus to clear the cross street and crosswalk and yet give adequate space ahead for the bus to allow it to reenter traffic without excessive maneuver.

The Institute of Traffic Engineers established recommended practice for bus stop locations are as follows:

Near-Side stops: requires a distance of 105 feet between the front of the stopped bus to the front of a preceding parking stall.

Far-Side stops: requires a distance of 80 feet as measured from the rear of a stopped bus to the end of the first parking stall.

Mid-block bus stop: for a single bus should be 145 feet in length, allowing 45 feet forward and 60 feet to the rear of the bus.

Bus Stops require city and town approval and they are governed by the Institute of Traffic Engineers. Currently the WRTA has 1,359 stops in its fixed-route service. Outside the City limits, the WRTA employs a flag-stop system except at a few major trip generators. Every stop inbound and outbound should be properly signed, except for those that are flagged by patrons outside the City area. The WRTA has a Signage Master Book which specifies signage requirements for every stop.

WRTA includes Quick Response Codes (QR codes) in its bus stop signage at the Top 200 bus stops measured by the number of boardings and alightings, and proximity to major generators, such as hospitals, colleges, shopping centers, public institutions, social service locations and high-density housing complexes. The signs with QR codes are being installed on an incremental basis in all bus stops.

Definition of Operating Hours

Operating period times shall be determined by peak period loads. At all other route points requiring time, headway and passenger load considerations, the operating periods will be directly related to, and an extension of, the time limits determined at the maximum load point.

The following defines the WRTA time periods:

AM Early	4:00 am - 5:59 am
AM Transitional	6:00 am - 8:59 am
Mid-day Peak	9:00 am - 2:59 pm
PM Transitional	3:00 pm - 5:59pm
PM Late	6:00 pm - 9:59 pm

The maximum peak period shall be defined as that 60-minute span within the total peak period during which the maximum number of passengers are carried in the predominant direction. The transition period shall be defined as that period within the total peak that immediately precedes or follows the maximum peak period.

Economic and Productivity Standards[3]

PERFORMANCE MEASURES

Total Unlinked Passenger Trips

Definition: *The number of passengers who board a WRTA fixed-route vehicle. Passengers are counted each time they board a vehicle. Passengers making multi-vehicle connections are counted for each segment of travel.*

FY12: *3.791M*

Goal: *4.687M (FY02)*

Trend: *FY08 – 3.102M*
FY09 – 3.176M
FY10 – 3.283M
FY11 – 3.450M

Passenger per Revenue Mile

Definition: *The average number of passengers carried by the fixed-route service for each revenue mile travelled.*

FY12: *2.42*

Goal: *2.5*

Trend: *FY08 – 1.98*
FY09 – 2.03
FY10 – 2.16
FY11 – 2.29

Passenger per Revenue Hour

Definition: *The average number of passengers carried by the fixed-route service for each revenue hour operated.*

FY12: *27.79*

Goal: *30.0*

Trend: *FY08 – 22.82*
FY09 – 24.21
FY10 – 25.32
FY11 – 25.49

Standards

While Service Quality Standards play a major role in designing and marketing new services or making changes in underperforming routes, the comparable cost of services, revenue and ridership define success and review of the lower performing routes. These standards can be measured weekly, monthly and sometimes annually (see example Attachment B) to assess where improvements can be made, and goals will be set for each of the following:

- Passengers per Hour
- Cost per Route
- Cost per Passenger per Route
- Passengers per trip
- Passengers Miles
- Revenue per Route
- Subsidy per Route

Route Performance

Ridership performance measures are of particular importance. Unlimited public transit needs versus limited financial resources dictate that transit service be the most effective possible. Identification of ineffective service will allow appropriate actions to be taken to ensure effectiveness.

Each route in the transit system is judged as a separate service entity. Individual routes should however, be evaluated with an understanding that routes are interrelated with respect to transfer passengers and the success of the system as a whole. (Refer to Federal Transit Administration guidelines for public meetings, equal provision of service among minority ridership, etc.)

Before a performance measure can be calculated for an individual route, it is necessary to decide on a firm method of determining the ridership on each route and the operating resources associated with operating route service. Relative route costs can be measured by determining the cost per passenger for each route.

(1) Bus Route Evaluation, TCRP Synthesis 10, 1995

Since the WRTA has a variety of fare classifications (e.g., cash, Charlie Card, 1-Day Pass, 31-Day Passes, UPASS, reduced fare for children, elderly and handicapped), revenue alone does not adequately reflect a route's performance. Ridership (Cost per Passenger) is therefore preferred to revenue (cost/passenger) as a measure of route performance. Ridership measurements present a more accurate picture of a route's service and acceptability to the community and enable accurate comparisons to be made between routes which may experience varied ridership and fare mixtures.

Because of the different fare programs, the ridership measurement of route usage places all routes on an equal comparative level. In general, routes with good ridership performance will also have good revenue performance, but special cases may need to be recognized.

PERFORMANCE MEASURES

Farebox Recovery Ratio

Definition: *The amount of fare recovered from the fixed-route service versus the costs of providing the service.*

FY11: *19.7%*

Goal: *20%*

Trend: *FY07 – 16.7%*
FY08 – 15.9%
FY09 – 18.0%
FY10 – 19.4%

Farebox Failure

Definition: *Percentage determined by the number of fare box failures divided by the number of actual trips provided.*

FY12: *0.16%*

Goal: *0.1%*

Trend: *FY08 – 0.05%*
FY09 – 0.05%
FY10 – 0.09%
FY11 – 0.11%

Once the route cost and ridership have been calculated, it is possible to evaluate the route or segment of a route on its relative performance.

This evaluation should be completed as a sequential review of four major elements:

1. If the ridership cost is ***equal to or less than 100%*** of the average for all routes, then the route and/or segment will be deemed to provide a service worthy of continuation and no action will be taken.
2. If the ridership cost falls ***between 100-150%*** of the average for all routes, the route should be reviewed by the staff to determine if there are any segments of service included in the route for which corrective action should be taken. Significant changes in routing or service will be reviewed with the WRTA Advisory Board before being implemented.
3. If the ridership cost falls between ***150-200%*** of the average for the type of route, a report will be made to the Advisory Board on the route in question; in addition, the report shall recommend possible actions to be taken either to improve the routes performance, or to discontinue it.
4. If the ridership cost falls ***above 200%*** of the average for all routes, two actions can be considered. If it is judged that the particular service requires minimal resources and that the overall system can "carry" the sub-standard ridership, then it may be continued in six month intervals through a policy directive of the Administrator. If a continuation would require a significant allocation of the system's resources to continue the route, then the route will be terminated with the approval of the Advisory Board.

These criteria apply equally to existing service and planned new routes or extensions. For existing routes, the performance statistics can be calculated from actual data, while for planned services would have to be estimated.

It is understood that Saturday, Sunday and evening services require special consideration due to the higher percentage of transit dependent riders using these services. In situations where these services come up for evaluation, the needs of such riders will be given special consideration. To ensure that the need for service is reexamined on a regular basis, the four stages of performance through which a route is evaluated will be the same for all routes.

Since the four stages of performance are general in nature, special cases may need to be recognized. Such services shall be designated as experimental and evaluated on an ongoing basis. These evaluations will describe the performance of service, its conformity with the WRTA's service standards, and any special considerations bearing on the continuation or termination of the service. The WRTA Advisory Board will determine, through a policy directive, the desirability of continuing the route, terminating the route, or designating the route as part of the regular service, to be evaluated under the four-stage performance evaluations previously described.

The above performance criteria have been directed at a route's overall performance, the various segments of service on a route having been averaged together. Routes can also be reviewed by segments to insure that the performance measures provide an accurate evaluation. Selected segments of service of a particular route may be reviewed with the Advisory Board to determine appropriate action.

As part of the total review of each route, individual trips shall be examined. Any trip carrying less than five passengers shall be reviewed for termination unless circumstances indicate otherwise.

For example, a trip which carries less than five passengers may occur between two acceptable trips and it would be impractical to discontinue the middle trip without affecting the successful trips. This situation may also occur on the fringe times of peak hour service when driver pay time guarantees make substandard trips less costly.

Six possible management actions can be applied to those routes found to be below standard.

- Service adjustment
- Route restructuring
- Increased route-specific marketing
- Route elimination
- Additional sources of revenue (e.g., corporate sponsorship)

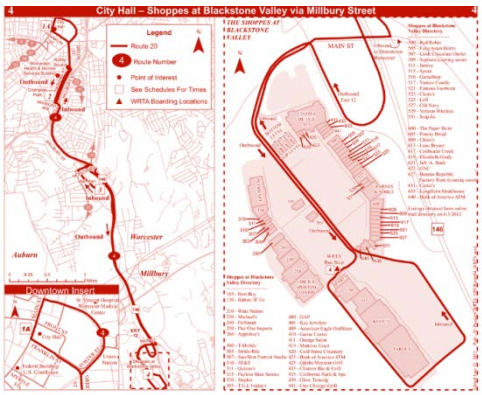
Periodic monitoring of the total system will not only identify ineffective service, but on-board or video monitored counts enable the WRTA to judge the effectiveness and individual route performance of all service provided. Changes in ridership and revenue between periods may signal the need for careful attention to monitoring performance in succeeding periods.

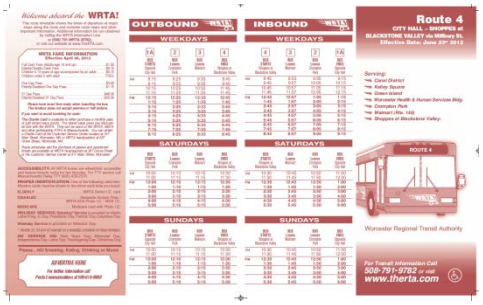
MARKETING AND OUTREACH

Marketing and Outreach

Amenities

Marketing and Outreach





Schedules

WRTA public timetables should be maintained in an attractive, readable, and convenient form. Public timetables should include a route map, time points such that intermediate times may be easily estimated, a clear indication of major destinations or traffic generators along a route and fare information. Periodic surveys of time points shall be made to review adequacy of information provided to the public.

Public timetable distribution will be as follows:

a) On all buses
b) In the general office at 287 Grove Street
c) Customer Service Office
d) All sales outlets
e) Libraries
f) Colleges
g) Major generators
h) Intermodal transportation centers
i) Major employers
j) Mailed upon telephone request
k) Website

The WRTA will place schedule displays at locations along or near heavily used stops and in all WRTA owned bus shelters. These displays will include a system map and information about all routes serving the stop.

Advertising

Standard media advertising will also be used to reach the general public to provide information about the system. This advertising will emphasize the introduction of new transit services and special promotions. The WRTA contracts with PENTA Communications, Inc. for assistance in this area while brochures for distribution and placards installed on the fleet are done in-house. All advertising, posting and brochures are posted on the WRTA's website and bustracker kiosks throughout the city.

The WRTA has also partnered in a pilot with Go Green Solutions to provide recycling cans for bus customers that double as billboard advertisements at shelters in downtown Worcester and is an environmentally-friendly solution to waste collection and removal.

YOU'RE INVITED...

...to a Public Meeting. Hear the proposed Bus Route 22 revisions:

- Increased Bus Service
  Direct Bus Service to the Shoppes at Blackstone
- Bus Routing change

Meeting held at:
Millbury Public Library
128 Elm Street, Millbury, MA
Wednesday, October 19, 2011
6:00-7:00pm

All meetings are open to the public. If you need interpretation services, please call 508-453-3403 or email kshea@therta.com. For more information about the WRTA, visit www.therta.com.

Outreach

The WRTA has the commitment to outreach to its patrons and future customers, particularly to keep them informed of any changes, either in fares, routes, or service. Public open meetings, meeting with the newspaper editorial boards, public access channels, local radio talk shows and meet and greet sessions at elderly complexes and colleges are some of the means of communicating changes to both our current passengers and new markets. Also, the WRTA partners with local organizations in diverse community events.

The WRTA is committed to held meetings in accessible locations at different times throughout the region. Also, translations services are available for those who request them. Meetings are a standard format to receive comments, and suggestions. Other non-traditional formats that the WRTA use are one-on-one interactions, listening sessions, prioritization methods, a staffed information bus or a tent in high pedestrian traffic locations, shopping malls, among others.

Web, Mobile, and Social Media

The WRTA offers a variety of digital media channels to provide information to and receive information from the general public. The website has been updated to improve accessibility and provide better alert and update mechanisms, including real-time e-mail and text message service and delay updates. The website is mobile-device friendly so that information can be easily viewed and retrieved on smartphones or tablets. Track-by-Text and Integrated Voice recognition also allows getting real-time bus information.

Social media platforms like Facebook, Twitter, and YouTube are another tool employed to outreach WRTA patrons. It provides a two-way communication in real-time, allows citizen engagement and provides the means for public support. It can be used to communicate system changes, emergency notifications, updates on board meetings, activities, fare changes, route changes, special projects, recognitions, and recruiting efforts, among others.

User Information Aids

Interactive Voice Recognition

The task of making public transit more attractive as an alternative mode of travel in the WRTA's service area requires that high quality information about how to use the service to be readily available to current and potential riders, easy to understand, and to provide full information.

ITS technology applications shall be available in many ways as possible to the public. This technology helps people to connect to digital content and real-time information. The WRTA has implemented an Automatic Vehicle Location (AVL) system which allows for “Next Bus” arrival times at major stops and transfer locations. Wayside Messaging via kiosks is also available in major transfer locations and various community partner organizations.

Currently this information is accessible on printed schedules, by phone (call-in number, Google voice, Skype, paratransit automated call-backs, YouTube Channel), automatic message alerts by email or text, on the web (maps, ETA page, schedules page), LED kiosks in public locations, and through Quick Response codes at bus stop signs throughout the city.

The WRTA is committed to educate the public on how to use these new applications through different media types, such as brochures, “How To” instructions in printed schedules, tutorials on his website, at the Customer Service Center, Travel Training sessions, in community activities and public events. The WRTA will evaluate customer preferences in terms of usage of these informational aids, and make the necessary changes as appropriate.

Telephone Information

A central telephone information system should be maintained throughout normal service hours to answer public requests for information in a competent and courteous manner. Adequate answering capacity should be provided so that callers seldom get a busy signal and hold time is kept to a minimum. All information regarding routes or schedules, including new schedules, route changes, bus estimated time arrival, and pertinent information of a general nature will be transmitted to the information service personnel in timely fashion. The WRTA has a new integrated voice recognition (IVR) phone system that provides real-time bus times for passengers.

Amenities

Passenger Shelters and Benches

The placement of shelters and benches and the identification of priority locations should consider two major factors: the number of boarding and transferring passengers at a specific stop, and the frequency of service at the stop. Shelters should be considered at stops with the highest number of boarding and transferring riders during the course of a typical weekday.

Shelters should be provided at all major downtown stop locations wherever possible in accordance with existing physical conditions or planned downtown construction. Also, they should normally be provided at only inbound stops in areas other than major downtown transfer locations unless special conditions dictate otherwise. Efforts to coordinate with other agencies should be made anytime a new shelter will be put in place as to enhance the area's current conditions, provide accessible sidewalks, crosswalks, signage, benches, bike racks, pavers, bollards and street curbs as required.

The WRTA utilizes a private contractor to clean and perform snow removal at shelters located at major stops and transfer locations.

The WRTA has a Shelter Master Book. The book is a guide and dynamic database that includes shelter specifications, pictures, and ongoing assessments, among other relevant data.

Bus Route Designation

Buses will be clearly marked as to route. Special attention will be placed on through-routed buses. Overhead destination signs at the front, side and rear of the bus will be properly displayed. The WRTA has introduced new multi-colored signage in its new fleet which has been broadly praised by the public.

SAFETY, SECURITY AND MAINTENANCE

Safety and Security

Fleet Standards

Safety and Security

PERFORMANCE MEASURES

Accidents per 100,000 revenue miles

Definition: *The average number of all accidents that are achieved per every 100,000 revenue miles in the system.*

FY11: *5.55*

Goal: *5/100,000 miles*

Trend: *FY07 – 5.59*
FY08 – 4.37
FY09 – 5.83
FY10– 5.05

Drug and Alcohol Testing

Definition: *Measures the percentage of misuse of drugs and alcohol among fixed-route transit employees.*

CY11: *95.72% (-); 3.74%(+); 0 Refusals*

Goal: *100% (-)*

Trend: *CY06 – 98.51%(-); 1.49%(+)*
CY07 – 98.88%(-); 0.56%(+)
CY08 – 100%(-)
CY09 – 95.26% (-); 4.21%(+)
CY10 – 99.45% (-); 0.55%(+)

Safety standards are directly related to maintaining the lowest possible collision rates expressed in two ways: traffic collisions per hundred thousand miles operated, and passenger accidents per hundred thousand passengers carried. The WRTA utilizes its insurance carrier and accident indices to determine appropriate benchmarks to measure safety performance. Also, the WRTA differentiates between non-preventable accidents and preventable accidents. The FTA suggests that transit properties seek the goal of less than six accidents per 100,000 miles. The WRTA will continuously upgrade its safety program including special efforts to upgrade operator training and retraining programs, especially in order to minimize preventable accidents.

It is the WRTA's policy that every collision or incident involving vehicles, passengers, or WRTA personnel in any way, be reported immediately. One hundred percent of incidents should be analyzed to determine possible remedial actions, and follow up action should be carried out. All locations having three or more collisions per year should be included in a high priority correction program with appropriate municipal and/or traffic officials.

Safety of personnel and property is considered essential. Fire control equipment shall be maintained in top condition and fire training should be carried out at frequent intervals. Periodic review of property and equipment shall also be made to assure that the WRTA facility meets or exceeds OSHA and local requirements for safety.

It is important that the WRTA continue to maintain an aggressive security program to assure the safety of patrons and employees and the perceived security of the system as viewed by existing and potential customers and employees. Customers and employees of the system should be secure from acts of violence and the system property should be secure from vandalism and theft.

All buses will be equipped with a two-way radio system allowing contact with a dispatcher and a second radio with direct contact with local law enforcement agencies. Continuous surveillance of garage facilities and major bus stops should be maintained through cooperation with local law enforcement agencies. Continuous liaison should be maintained with local law enforcement agencies.

Fleet Standards

PERFORMANCE MEASURES

Maintenance Costs per Revenue Hour

Definition: *The average annual cost per revenue hour to perform maintenance on a fixed-route vehicle.*

FY12: *$23.54*

Goal: *<$20.58*

Trend: *FY07 - $26.10*
FY08 - $26.36
FY09 - $27.73
FY10 - $29.43

Maintenance Costs per Revenue Mile

Definition: *The average annual cost per revenue hour to perform maintenance on a fixed-route vehicle.*

FY12: *$2.18 (2011 NTD)*

Goal: *<$1.58*

Trend: *FY07 - $2.27*
FY08 - $2.29
FY09 - $2.33
FY10 - $2.51

Inventory Evaluation

Definition: *Percentage of the total value of fixed-route bus parts used per month compared to the total value of the fixed-route bus parts inventory.*

FY12: *7.15%*

Goal: *7.5%*

Trend: *FY08 – 10.61%*
FY09 – 8.78%
FY10 – 8.30%
FY11 – 7.28%

To maximize the pleasure and comfort of the passenger, the transit system should provide the most attractive and comfortable vehicles available. It is the WRTA's goal that the average age of its revenue vehicle fleet shall not exceed six years, and that the maximum vehicle age shall not exceed twelve years.

Bus amenities will be introduced as appropriate through information gained through formal market research, community input and monitoring of other transit systems' experience.

The bus fleet shall be 100% accessible to disabled patrons, for which every bus should be equipped with wheelchair ramps. Also, in an effort to integrate non-motorized travel modes to the fixed-route system, 100% of the fleet shall also be equipped with bicycle racks.

The fleet shall be 100% air-conditioned, with all air conditioning units being in proper working condition in season for pull-outs. One hundred percent of bus seats should be upholstered or contoured. Lighting on buses should be ample for reading by seated passengers but designed to minimize glare in order to facilitate the driver's vision at night.

Buses will be maintained in a high state of operational readiness through effective correctional and preventive maintenance programs. The implementation of Automatic Vehicle Maintenance (AVM) systems in every bus is a proactive measure in this regard by assisting on the identification of vehicle's wear and tear, and/or malfunctions early enough to be corrected. In addition to the preventive maintenance, each bus shall undergo a full mechanical and operational inspection each 6,000 miles, including lubrication and fluid changes.

Noise, exhaust emissions and odor will be minimized through installation of the latest environmental equipment and the periodic application of prescribed maintenance procedures. WRTA will continue its emission-reducing efforts by investing in energy efficient vehicles by adding more alternative fuel buses to the fleet. Currently the WRTA has 17 hybrid buses and 6 all-electric buses of 52 active vehicles fleet.

PERFORMANCE MEASURES

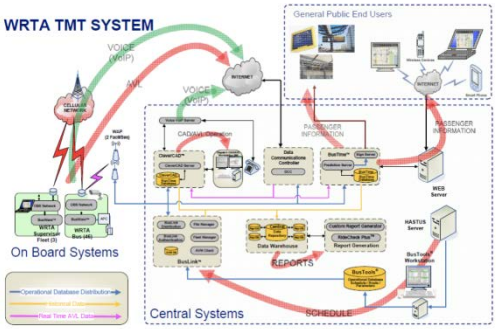
Miles Between Roadcalls

Definition: *The number of annual revenue miles served between the average number of annual road calls. Road calls are defined as "major mechanical failures" that prevents a vehicle from completing or starting a revenue trip because actual movement of the vehicle is limited or because of safety concerns.*

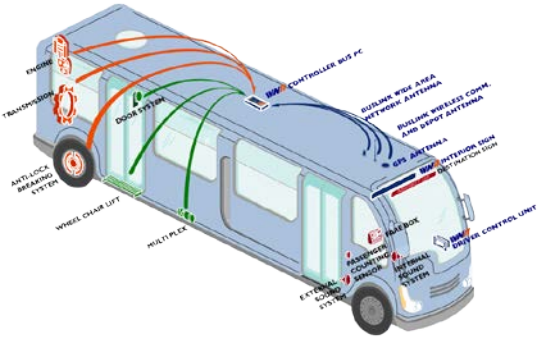
FY12: *6,866 miles*

Goal: *10,000 miles*

Standard: *7,000 miles*



Transit Management Technologies (TMT)



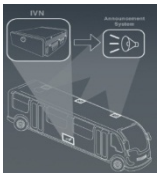
Automatic Vehicle Maintenance (AVM)

The coach interior will be cleaned of rubbish and tracked-in dirt daily, and all graffiti and interior vandalism will be removed or repaired as soon as possible upon discovery. All buses will normally undergo exterior washing daily and will follow the standard procedures to reduce water consumption and pollutant discharge. All buses will undergo complete interior washdowns including ceiling and walls, upholstery, and floor cleaning at least once every thirty days.

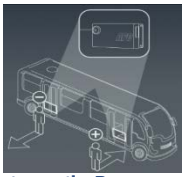
Road calls for service shall be kept to a minimum. Maintenance practices and operating procedures should be high enough to provide at least 3,000 miles of service per chargeable road. In addition, the WRTA shall seek the goal of at least 10,000 miles between service calls for Major Service Disruptions, as defined by NTD.

Technology plays a starring role in our bus fleets assisting on fleet management and dispatch, improving performance, and tracking vehicles. For this purpose all WRTA buses shall be equipped with Computer Aided Dispatch and Automatic Vehicle Location (CAD/AVL) systems. With this technology riders and dispatchers have real-time data of where the bus is located. From the fleet management perspective, this technology optimizes the route performance by assisting the adherence to schedules, allowing two-way communications, and minimizing uncertainties on the road. Currently, WRTA bus fleet is equipped with an Integrated Vehicle Network (IVN).

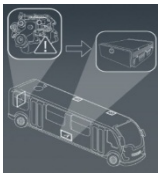
WRTA is committed to pursue an ongoing evaluation to ensure all these support systems are up-to-date and fulfill the purpose of their implementation. Also, WRTA will continue to add new technologies, as fiscal resources allow, with the intent to optimize performance, increase ridership, and reduce operational and management costs.



Automatic Voice Annunciation



Automatic Passenger Counting



Automatic Vehicle Monitoring

NEW SERVICE AND EXTENSIONS

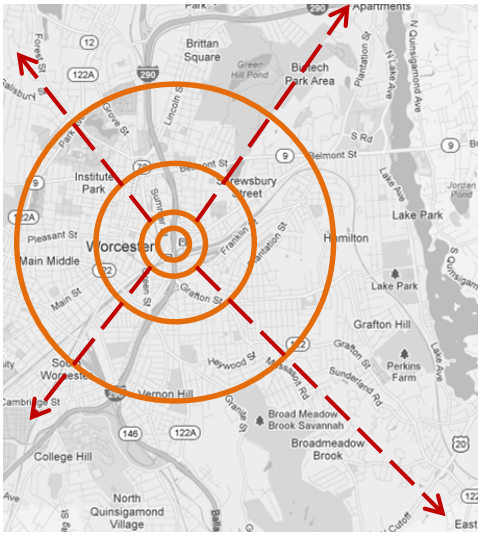
New Service

Route Extensions

Fare Changes

New Service

The WRTA is not required to perform a Service Equity Analysis for Minority and Low-Income populations as included in the FTA C 4702.1B (October 2012). Nonetheless, during the planning process if the changes represent more than 25% of routes mileage or revenue hours, the WRTA will analyze if there is any adverse effect related to the proposed service, disparate impacts to minority groups or disproportionate burdens to low-income population. If the analysis shows that the new fixed-route service has a negative impact, the WRTA will analyze other alternatives to minimize, mitigate or eliminate such impact.



The standards and criteria developed in the preceding section apply equally to proposed new services. The only difference is that analysis of loading standards, headway, bus stop spacing, schedules, ridership and financial performance are all completed on an estimated performance basis rather than on actual experience.

WRTA has a set of procedures that need to be followed in order to proceed with a service change. These procedures are divided in three phases: Consideration of Service Changes and Public Input; Internal Preparation for Changes; and Preparation for Public Materials and Outreach on Changes. (See Attachment B for more details.) Each phase has a specific task, timeline, actions and responsibilities that need to be addressed before a service change or new route is implemented. Financial and operational feasibility along with the estimated need for service is widely considered in this process. It is important to note that all new service should be approved by the Advisory Board and validated through member's vote.

Town officials play an important role on determining and validating the needs for a route change or new service, as well as community and stakeholders comments and needs. New service shall be considered as a pilot and a liberal growth period should be provided during which less than normal ridership is to be expected. If a new route or extension does not meet the performance criteria detailed in the prior section within two years of its beginning, then a decision to extend the period or to curtail service will be made.

An exception to this rule would be if a community or group is willing to participate in cost sharing of experimental proposals. In the case of experimental proposals for special groups, all services provided by contract with a business, educational institution, governmental agency or other public or private entity shall be fully funded by the entity and open to the public. The WRTA will provide service for as long as the community, employer or other special interest group is willing to participate in paying any difference between total operating expense and actual revenue derived from the route. This means that any difference between the total operating expense and actual revenue derived from the route shall be the responsibility of the contracting entity. During the extent of new service, records should be kept showing the actual revenue and expense so that decisions may be made based on actual data.

Route Extensions

As part of the growing demand for service, some of our routes can be candidates for extensions. In this regard, the WRTA will use available data sources including Automatic Passenger Counts (APC), Farebox data, Auditor's reports, and field observations, to analyze the current state of the given route to be extended, as well any other criteria that made feasible the extension, such as a new transit generator (hospitals, colleges, industries, etc.), a new transit oriented development, community request or public service institution, that will ensure a steady number of riders on that particular segment.

Route extensions may encompass the revision of WRTA paratransit service routes as well and funds shall be allocated for both accordingly. Further, they shall comply with WRTA overall standards.

WRTA is committed to minimize, mitigate or eliminate at all means any burden or impact to minority and low-income populations. For this reason, the WRTA will conduct a per route equity analysis only when the proposed change, including extensions, rerouting or service cuts, affects 25% or more of existing route mileage or revenue hours.

Fare Changes

A Fare Equity Analysis will be performed for each fare change regardless of the amount of increase or decrease in fare. This analysis will include an assessment of impact to minority and low-income populations. The WRTA will examine alternatives to lower the impact, if any, in open consultation with the public in accordance with the guidelines included in the FTA Circular 4702.1B (October 2012).

Financial constraints at the federal and state level require an efficient approach of all WRTA investments. Transit service is WRTA main responsibility and will continue to optimize its funding resources. Fares shall always be affordable to our patrons. With that in mind, the fare system will be evaluated every two years. The WRTA will use the Consumer Price Index (CPI) as a guideline to determine to what extent a fare should be raised or lowered without compromising the agency's budget.

Fare changes require a major outreach effort to inform our passengers. WRTA will conduct traditional and non-traditional outreach methods, including open venues, public hearings, community meetings, among others, in order to get passengers input and inform the changes. These events should be held at the main transfer station, the WRTA Hub, City Hall, or any other location easily accessible to transit. Information should be readily available on the webpage and on printed media (newspapers, magazines, flyers, notices, bus ads, printed schedules, shelter ads, bulletins, etc.)

ATTACHMENTS

Distance Between Stops by Route by Direction

Service Change Process and Procedures for Small-Scale Changes

Attachment A

Distance Between Stops (in feet) by Route by Direction - Only Route Segments in the City of Worcester

ROUTE	ROUTE_NAME	DIRECTION	SERVICE_TYPE	MEDIAN_DIST	# OF STOPS BELOW MEDIAN	AVG_DIST	MAX_DIST	MIN_DIST
1	RT 1: Mt. St. Ann	Inbound	City	489	9	728	2,151	244
1	RT 1: Mt. St. Ann	Outbound	City	478	10	622	1,560	203
2	RT 2: Tatnuck Square	Inbound	City	492	16	508	1,074	246
2	RT 2: Tatnuck Square	Outbound	City	490	15	500	1,056	207
3	RT 3: Worcester State University	Inbound	City	489	15	579	2,610	207
3	RT 3: Worcester State University	Outbound	City	575	12	630	2,153	328
4	RT 4: Blackstone Valley	Inbound	City/Milbury	627	10	862	4,855	289
4	RT 4: Blackstone Valley	Outbound	City/Milbury	623	8	1,532	14,146	292
5	RT 5: SW Commons/Wheelock Ave	Inbound	City/Milbury	498	16	633	1,973	50
5	RT 5: SW Commons/Wheelock Ave	Outbound	City/Milbury	519	17	637	2,307	54
6	RT 6: West Tatnuck	Inbound	City	529	20	555	2,231	51
6	RT 6: West Tatnuck	Outbound	City	529	21	591	2,021	59
7	RT 7: Washington Heights Apts.	Inbound	City	516	18	599	1,634	68
7	RT 7: Washington Heights Apts.	Outbound	City	537	18	606	1,804	51
11	RT 11: Fair Plaza	Inbound	City	459	26	614	3,627	59
11	RT 11: Fair Plaza	Outbound	City	459	25	569	2,536	63
14	RT 14: Showcase Cinemas/Holden	Inbound	City/Holden	536	23	708	2,434	198
14	RT 14: Showcase Cinemas/Holden	Outbound	City/Holden	507	22	689	3,651	55
15	RT 15: Shrewsbury Center	Inbound	City/Shrewsbury	576	8	849	2,845	323
15	RT 15: Shrewsbury Center	Outbound	City/Shrewsbury	707	8	994	2,951	381
16	RT 16: Lincoln Plaza	Inbound	City	654	22	939	3,513	50
16	RT 16: Lincoln Plaza	Outbound	City	645	23	874	3,195	205
19	RT 19: Worcester Airport/Leicester Wal-Mart	Inbound	City/Leicester	552	17	842	3,685	70
19	RT 19: Worcester Airport/Leicester Wal-Mart	Outbound	City/Leicester	586	18	966	5,255	280
22	RT 22: Blackstone Valley	Inbound	Community/Milbury	509	18	611	1,474	195
22	RT 22: Blackstone Valley	Outbound	Community/Milbury	504	19	673	5,326	195
23	RT 23: Mountain Village	Inbound	City	608	22	717	2,244	63
23	RT 23: Mountain Village	Outbound	City	615	21	739	2,185	58
24	RT 24: Umass Medical Center	Inbound	City	535	13	731	3,368	251
24	RT 24: Umass Medical Center	Outbound	City	732	12	862	3,447	170
25	RT 25:Auburn Industrial Park	Inbound	City/Auburn	814	13	863	2,510	50
25	RT 25:Auburn Industrial Park	Outbound	City/Auburn	735	13	903	2,575	61
26	RT 26: Great Brook Valley	Inbound	City	626	18	683	1,531	50
26	RT 26: Great Brook Valley	Outbound	City	600	18	683	2,145	73
27	RT 27: Auburn Mall	Inbound	City/Auburn	533	16	576	1,266	70
27	RT 27: Auburn Mall	Outbound	City/Auburn	539	17	603	1,664	275
30	RT 30: W Boylston Walmart	Inbound	City/West Boylston	552	22	582	1,056	63
30	RT 30: W Boylston Walmart	Outbound	City/West Boylston	571	22	666	1,676	170
31	RT 31: Lincoln Plaza	Inbound	City	587	25	732	2,639	63
31	RT 31: Lincoln Plaza	Outbound	City	623	26	779	2,625	50
33	RT 33: Leicester/Spencer/Brookfield	Inbound	Community/Leicester/Spencer/E Brookfiel/Brookfield	542	17	660	2,239	70
33	RT 33: Leicester/Spencer/Brookfield	Outbound	Community/Leicester/Spencer/E Brookfiel/Brookfield	521	18	596	1,101	280
42	RT 42: Oxford/Webster	Inbound	Community/Auburn/Oxford/Webster	835	9	902	4,039	263
42	RT 42: Oxford/Webster	Outbound	Community/Auburn/Oxford/Webster	548	9	804	2,575	275

Attachment B

Service Change Process and Procedures

Phase I – Consideration of Service Changes & Public Input

Task	Time from Date of Implementation	Needed Action
Suggested Changes: Develop & discuss possible changes	Indefinite	**Meeting to discuss ideas**
Resource Estimates: Prepare preliminary estimates for resources needed for changes	15 weeks	**Preliminary estimate of needed vehicles and budget effects.**
Impact Analysis: Prepare for Environmental Justice; ADA; current/potential riders	14 weeks	**Review EJ areas, ADA buffers & times, and current ridership data**
Transit Advisory Comm: Discuss & Recommend Changes	14 weeks	**TAC recommendation**
Advisory Board: Vet change with Advisory Board Member & other town officials	14 weeks	**Community/Advisory Board member concurrence**
Public Meeting(s): Determination of Need & Possible Dates/Venues	14 weeks	**TAC recommendation**
Advisory Board: Vote to bring changes to public review	13 weeks	**Schedule vote**
Public Meeting(s): Preparation of Notices	11 weeks	**Prepare legal notice, press release, web posting, email/snail mail notices, bus interior notice, posters for main office and Customer Service**
Public Meeting(s): Announce	11 weeks	**Send/post above**
Public Meeting(s): Prepare materials	10 weeks	**Develop Presentation (use of visual tools & data analysis such as pass. counts or on-time performance encouraged by FTA; new ITS technologies / how to use.**
Public Meeting(s): Held	9-10 weeks	**Present presentation/Record public input**
Public Meeting(s): Prepare summary	9 weeks	**Summarize Meeting(s) input for Advisory Board**
Advisory Board: Vote on changes	9 weeks	**Advisory Board vote**

Phase II – Internal Preparation for Changes

Task	Time from Date of Implementation	Needed Action
Add/delete/change bus stops: Add to HASTUS	9-12 weeks	**Add/delete/change bus stops (as needed) related to changes**
HASTUS Information: Make sure data is current and up-to-date to prepare run cuts, headway sheets and update to Clever	7-9 weeks	**Clever requests database 1 month before implementation of changes.**
Run Cuts: Prepared	7-9 weeks	**Run Cuts take 2-3 weeks to prepare**
Headway sheets: Prepared	7 weeks	
Headway sheets: Send to CMRPC	7 weeks	**Incorporate into NTD files**
Bus Stops: Determine changes	7 weeks	**Review need for new stops, elimination of old stops, and sticker changes**
Maps: Review of schedule & system map changes	7 weeks (concurrent with headway sheets)	**WRTA staff will meet with CMRPC GIS to go over A) changes to the schedule titles, B) changes to the Time Points, C) changes to the bus routes and D) any additional changes that might be needed.**
System Map: Updated	6-7 weeks	
Schedule Maps: Updated	6-7 weeks	
Schedule Maps: Review	6-7 weeks	**CMRPC sends digital copies of updated schedule maps to Asst. GM for review. Asst. GM reviews with appropriate staff & board members.**
System Map: Review	6-7 weeks	**CMRPC sends digital copy of updated system map to Asst. GM for review. Asst. GM reviews with appropriate staff & board members.**
Schedule Maps: Edit & repeat review process	6-7 weeks	**As needed until changes complete**

Phase II – Internal Preparation for Changes

Task	Time from Date of Implementation	Needed Action
ADA Map: Edit	5 weeks	**Evaluate route changes to determine impact on ¾ mile buffer**
ADA Book: Edit	5 weeks	**Edit ADA book to reflect both time and route changes**
Schedules: Proofs back from printer & begin review	4 weeks	
Driver Bids: Posted	4 weeks	
HASTUS information: Send to Clever for database update and for GTFS files	4 weeks	**Clever requests database 1 month before implementation of changes.**
Schedules: Proofs sent back to printer	3 weeks	
Schedules: Receive from printer	2 weeks	
ADA book: Distribute changes to paratransit providers	1 week	**Provide updated ADA book changes and copies of updated ADA maps to paratransit providers**
Turn directions: Develop as needed	0-6 weeks (as needed)	**Driver turn directions are developed for driver training**
Turn directions: Send to CMRPC	0-6 weeks	**Incorporate into NTD files**
Driver Training	0-6 weeks	
Customer service & receptionist training	2 weeks	**Ensure that main office receptionist and customer service staff understand changes**
Vehicle headers: Changed	DOI	

Phase III – Preparation of Public Materials & Outreach on Changes

Task	Time from Date of Implementation (DOI)	Needed Action
Google Transit Files: Prepare, post on server, and send updated files	2 week	**Google Transit files updated and sent to MassDOT.**
Additional Marketing of Changes: Create a customized plan to reach impacted or potential riders, as needed.		**When deemed significant, efforts will be made to develop a program to best target local neighborhood or system-wide riders**
Announcements: Create announcement of changes	3 weeks	**Prepare press release, web posting, email/snail mail notices, bus interior notice, posters for main office and Customer Service**
Announcements: Translate marketing & announcement language	3 weeks	**Translate customer service materials into various languages**
Bus stop stickers: Print	3 weeks	
Announcements: Post/send	2 weeks	**Send/post above**
Bus stop stickers: Post	2 weeks	
Web: Announcement post; link to new schedule	2 weeks	**Contact Penta for new schedule & announcement posting**
Departure Listing: Develop new departure listings for shelters	2 weeks	
Phone announcement: Develop	1 week	
Schedules: Distribute to outlets, customer service center, main office	1 week	**Updated schedules to all vendors, outlets, & at customer service**
System maps: Print for shelters	1 week	**Print maps for shelters**
Bus stop signs: Remove old signs & add new signs	1 week before to 1 week after	
System maps: Provide for shelters	4-5 days prior to DOI	**Get reprinted system maps to RTA**
System maps: Change in shelters	2-3 days prior to DOI	
Departure Listing: Post in shelters	2-3 days	
Schedules: Remove old from outlets	2-3 days prior to DOI	
Schedules: Install on buses	1-2 days	
Bus stop signs: Add stickers	1-2 days	
Phone announcement: Change	DOI	
Web: System map update	DOI	**CMRPC sends digital updated system map to Penta to place on website**