



Rhode Island Public Transit Authority COMPREHENSIVE OPERATIONAL ANALYSIS

# SERVICE GUIDELINES



December 2012



NYGAARD



#### **Table of Contents**

	Page
1	INTRODUCTION
2	RIPTA SERVICES
	Rapid Bus Routes
	Key Corridor Routes
	Urban Radial Routes
	Non-Urban/Suburban/Crosstown Routes2
	Regional Routes
	Express/Commuter Routes
	Flex Service
3	SERVICE DESIGN GUIDELINES
	Service Should be Simple4
	Routes Should Operate Along a Direct Path4
	Route Deviations Should be Minimized4
	Major Transit Routes Should Operate Along Arterials
	Routes Should be Symmetrical
	Routes Should Serve Well-Defined Markets
	Services Should be Well-Coordinated
	Service Should be Consistent
	Stops Should be Spaced Appropriately
	Vehicle Type Should be Appropriate for Service
4	SERVICE LEVEL GUIDELINES
	Service Coverage
	Minimum Span of Service
	Minimum Service Frequencies
5	PERFORMANCE13
	Passengers per Revenue Hour13
	Farebox Recovery
	Application of Performance Guidelines14
AP	PENDIX A: RIPTA ROUTE CLASSIFICATIONS





## **1 INTRODUCTION**

The Rhode Island Public Transportation Authority (RIPTA) strives to provide quality transit service in a cost-effective manner that is consistent and equitable. To do so, RIPTA must make a number of competing decisions on where demand is greatest, on which types of service would work best and be most appropriate, and where limited resources can and should be used. To do this, RIPTA has developed this set of service guidelines that will be used to:

- Determine where service should be provided
- Design service.
- Determine appropriate service levels.
- Measure and establish minimum levels of service performance.

The service guidelines will be applied to the entire family of services provided by RIPTA and are intended to bring clarity and consistency to the process of continually adjusting and improving transit services to meet varied and changing customer needs. This document addresses the design and scheduling of service and does not address amenities at transit stops and stations.<sup>1</sup>

In most cases, the service guidelines define minimum thresholds that must be met, and most services would exceed the minimum thresholds. However, the guidelines are also designed to—within limits—provide flexibility to respond to varied customer needs and community expectation in an accountable, equitable, and efficient manner.

Finally, it should be noted that adherence to these service guidelines is dependent upon resource availability, and in particular, the amounts of funding provided by RIPTA's local partners. In the event of constrained resources, RIPTA will meet these guidelines as closely as possible and will work to achieve consistency as resources permit.



<sup>&</sup>lt;sup>1</sup> RIPTA is preparing separate guidelines to address the design of bus stops and hubs, as well as desired goals and treatments for key transit corridors.



## **2 RIPTA SERVICES**

RIPTA provides a family of services that are designed to meet a wide array of travel needs. The specific routes included in each class are shown in Appendix A. The seven classes of general public transit service are:

- 1. Rapid Bus
- 2. Key Corridor
- 3. Urban Radial
- 4. Non-Urban/Suburban/Crosstown
- 5. Regional
- 6. Express/Commuter
- 7. Flex

### **RAPID BUS ROUTES**

The newest service type currently under development by RIPTA is Rapid Bus. The first Rapid Bus service to be offered will be on Route 11 Broad Street and Route 99 North Main Street as the R-Line. The service is being designed to provide frequent, limited stop service using distinct vehicles and intelligent technology systems such as signal priority to reduce travel time.

### **KEY CORRIDOR ROUTES**

Key corridor routes are RIPTA's highest ridership and/or most productive routes and and form the "backbone" of the RIPTA system. These routes operate along primary arterials and offer simple, straight, and direct service. Key corridors are targeted for passenger amenities, service enhancements, intersection improvements, and other potential transit enhancements as may be identified on a case by case basis.

### **URBAN RADIAL ROUTES**

Urban radial routes are those that operate either entirely or primarily in densely developed areas, which is where the demand for transit is the highest, and to and from either downtown Providence or downtown Pawtucket. Most of RIPTA's routes are urban radial routes.

### **NON-URBAN/SUBURBAN/CROSSTOWN ROUTES**

Non-urban/suburban/crosstown routes are local routes that operate primarily outside of the Providence core and whose major function is to serve non-urban or crosstown trips. Some of these routes may be





radial routes to and from Kennedy Plaza or other transit hubs, but primarily serve passengers from outside of the urban core.

### **REGIONAL ROUTES**

Regional routes provide service between Rhode Island's major regional centers, such as Woonsocket – Providence, Newport – Providence, or URI – Providence. These routes are long routes that serve to tie much of the state together.

### **EXPRESS/COMMUTER ROUTES**

Express/commuter routes are designed primarily to provide commuter service to and from downtown Providence. Express routes typically make stops at designated areas such as park & ride facilities and regional transit centers, then travel non-stop to downtown Providence via highways or freeways. These routes generally operate on weekdays only, and many operate only during peak periods. However, depending upon demand, some express routes operate for longer hours. In addition, some local routes may also only provide commuter service.

### FLEX SERVICE

Flex service is flexible service designed to serve lower density areas. Service operates within a geographically limited zone known as a Flex zone, and picks up and drops off passengers anywhere within the zone, including connecting points with fixed-route bus service for travel outside the zone.





## **3 SERVICE DESIGN GUIDELINES**

RIPTA strives to serve as many Rhode Island residents, workers, and visitors as it can with its available resources. Service elements that will attract one type of rider to transit can deter other riders, and RIPTA must balance these types of competing demands. However, there are also certain service design principles that will improve service for nearly all riders; this section describes the guidelines for these principles.

### SERVICE SHOULD BE SIMPLE

For people to use transit, service should be designed so that it is easy to understand. In this way, current and potential riders can grasp and use the transportation options available to take them where and when they want to go with ease. Most of the guidelines in this section are aimed at making service intuitive, logical, and easy to understand.

### **ROUTES SHOULD OPERATE ALONG A DIRECT PATH**

Passengers and potential passengers alike prefer faster, more direct transit services. In RIPTA's quest to remain competitive with the automobile, special attention should be placed on designing routes to operate as directly as possible to maximize average speed for the bus and minimize travel time for passengers while maintaining access to service. Routes should not deviate from the most direct alignment unless there is a compelling reason. Directness of service is affected by a series of factors, some under RIPTA's control, and others due to the environment in which service operates. Some of these factors include:

#### SERVICE FACTORS WITHIN RIPTA'S CONTROL

#### Directness of individual routes (meandering)

- Connectivity throughout route network (transfers)
- Operating characteristics (number of stops, express/local operation, etc.

#### ENVIRONMENTAL FACTORS BEYOND RIPTA'S CONTROL

- Traffic congestion
- Geography
- Accessibility of streets from adjacent areas
- Street geometry and turning movements
- Traffic signals and controls

#### **ROUTE DEVIATIONS SHOULD BE MINIMIZED**

As described above, service should be relatively direct. The use of route deviations—the deviation of service off of the most direct route—should be minimized.

However, there are instances when the deviation of service off of the most direct route is appropriate, for example to avoid a bottleneck or to provide service to major shopping centers, employment sites, schools, etc. In these cases, the benefits of operating the route off of the main route must be weighed against the inconvenience caused to passengers already on board. Route deviations should be implemented only if:

1. The deviation will result in an increase in overall route productivity.



- 2. The number of new passengers that would be served is equal to or greater than 25% of the number of passengers who would be inconvenienced by the additional travel time on any particular deviated trip.
- 3. The deviation would not interfere with the provision of regular service frequencies and/or the provision of coordinated service with other routes operating in the same corridor.

In most cases, where route deviations are provided, they should be provided on an all day basis. Exceptions are during times when the sites that the route deviations serve have no activity—for example route deviations to shopping centers do not need to serve those locations early in the morning before employees start commuting to work.

# MAJOR TRANSIT ROUTES SHOULD OPERATE ALONG ARTERIALS

Rapid bus, key corridor, and urban radial routes should operate on major roadways and should avoid deviations to provide local circulation. Riders and potential transit users typically have a general knowledge of an area's arterial road system and use that knowledge for geographic points of reference. The operation of bus service along arterials makes transit service faster and easier for riders to understand and use.

### **ROUTES SHOULD BE SYMMETRICAL**

Routes should operate along the same alignment in both directions to make it easy for riders to know how to return to their trip origin location. For example, if a route follows Elmwood Avenue into downtown, it should use Elmwood Avenue on its outbound trip. Exceptions can be made in cases where such operation is not possible due to one-way streets or turn restrictions. In those cases, routes should be designed so that the opposite directions parallel each other as closely as possible.

### **ROUTES SHOULD SERVE WELL-DEFINED MARKETS**

To make service easy to understand and to eliminate service duplication, service should be developed to serve well-defined markets. Ideally, major corridors should be served by only one route of each route type—for example, one key corridor route and one regional route, and not by multiple key corridor routes and multiple regional routes. However, exceptions can and should be made when multiple routes should logically operate through the same corridor to unique destinations.

### SERVICES SHOULD BE WELL-COORDINATED

When multiple routes operate through the same corridor but to different destinations, service should be coordinated to maximize its utility and minimize redundancy. To avoid bunching of buses and to balance loads, major routes of the same route type that serve the same corridor should be scheduled to operate at the same service frequencies and should alternate trips at even intervals.

### SERVICE SHOULD BE CONSISTENT

Routes should operate along consistent alignments and at regular intervals (headways). People can easily remember repeating patterns but have difficulty remembering irregular sequences.



For example, routes that provide four trips an hour should depart from their terminals every 15 minutes. Limited exceptions can be made in cases where demand spikes during a short period in order to eliminate or reduce crowding on individual trips.

Most routes intersect with other routes at transfer centers, stations, and street intersections. At major transfer locations, schedules should be coordinated to the greatest extent possible to minimize connection times for the predominant transfer flows.

### **STOPS SHOULD BE SPACED APPROPRIATELY**

The distance between stops is of key concern to RIPTA. More closely spaced stops provide customers with more convenient access as they are likely to experience a shorter walk to the nearest bus stop. However, transit stops are also the major reason that transit service is slower than automobile trips, since each additional stop with activity requires the bus to decelerate, come a complete stop, load and unload riders, and then accelerate and re-merge into traffic. Since most riders want service that balances convenience and speed, the number and location of stops is a key component of determining that balance.

RIPTA provides different types of transit services that are tailored toward serving different types of trips and needs. In general, services that emphasize speed (e.g. Rapid Bus or Express routes) should have fewer stops, while services that emphasize accessibility should have more frequent stops.

The minimum stop spacing (or maximum stops per mile) are shown in Table 1. Where multiple routes operate in the same corridor, the standard for the higher service type applies. Express/commuter services are not required to serve every stop in a corridor. Exceptions to these guidelines should only be made in locations where walking conditions are particularly dangerous, significant topographical challenges impede pedestrian access, and factors compromise safe bus operations and dwelling.

	RAPID BUS	KEY CORRIDOR	URBAN RADIAL	NON-URBAN/ SUBURBAN/ CROSSTOWN	REGIONAL	EXPRESS/ COMMUTER	FLEX
Minimum Stop Spacing (feet)							
Moderate to High Density Areas	1,100	900	900	660	900	900	n/a
Low Density Areas	1,300	1,300	1,300	1,100	1,100	1,100	n/a
Maximum Stops per Mile							
Moderate to High Density Areas	5	6	6	8	6	6	n/a
Low Density Areas	4	4	4	5	5	5	n/a

#### TABLE 1 | BUS STOP SPACING GUIDELINES

Notes: Moderate to high density = greater than or equal to 4,000 persons per square mile; low density = less than 4,000 persons per square mile

### SERVICE DESIGN SHOULD MAXIMIZE SERVICE

Service design can significantly impact schedule efficiency. Service should be designed to maximize inservice time and minimize out-of-service time. In other words, the length of the route and the time it takes to make each trip impacts how long of a layover is required at each end and how many buses are needed to provide the service. Often, it may be more efficient to extend a route to pick up a few more passengers and limit the amount of layover time.





#### **VEHICLE TYPE SHOULD BE APPROPRIATE FOR SERVICE**

RIPTA's standard fixed-route vehicle is a 40' transit bus, which seats 36 passengers is appropriate for most services. The standard Flex service vehicle is smaller and seats 16 passengers, plus two individuals using wheelchairs. Trolley vehicles should be deployed on routes that demonstrate the highest share of tourist ridership and/or on routes where outside funding support for trolley vehicles is received. In the future, RIPTA may deploy articulated transit buses on routes with high ridership.





## **4** SERVICE LEVEL GUIDELINES

Service level guidelines define when service should be provided and how often it should be provided. Three guidelines are used:

- 1. Service Coverage
- 2. Minimum Span of Service
- 3. Minimum Service Frequencies
- 4. Maximum Passenger Loadings

These guidelines, in combination with the productivity guidelines presented in Section 5, are used to determine appropriate service levels for each route. At a minimum, service should be provided based on the minimum span of service and minimum service frequency guidelines. Beyond that, additional service should be added to meet passenger loading guidelines, and to extend the span of service earlier in the morning and later at night if minimum productivity guidelines can be met.

On an ongoing basis, service should be added when ridership increases to levels that exceed maximum loading guidelines. Conversely, service should also be reduced when ridership falls below the minimum productivity guidelines."

### SERVICE COVERAGE

RIPTA's enabling legislation provides RIPTA with the authority to operate transit service throughout Rhode Island. As the state's designated Mobility Manager, RIPTA receives many requests for service from citizens who are not within walking distance of any route, or who desire that existing routes be expanded to serve new destinations. Transit cannot be effective and productive in all environments, but RIPTA does strive to provide service in all transit-supportive areas.

Population and employment densities are one of the strongest indicators of potential transit demand. Figure 1 on the following page provides a general guideline for where different levels of transit service may be warranted. Once densities begin to exceed 3 to 6 households per acre or 4 jobs per acre, fixed route bus services may be viable. More densely developed areas may warrant higher levels of transit service.

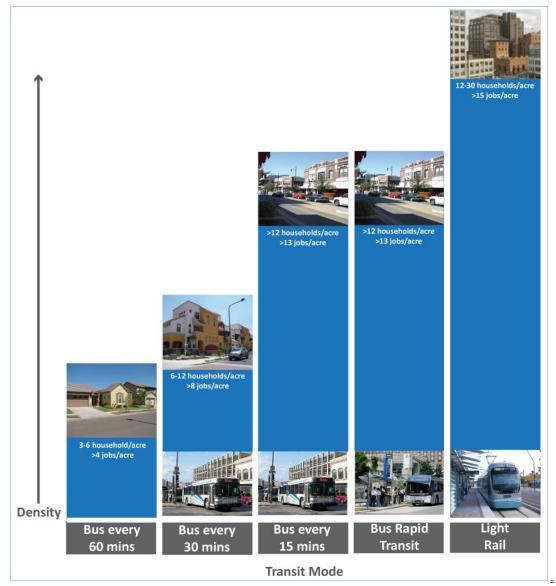
Population and employment density should be used to evaluate the potential for service. If densities are relatively high along a continuous corridor, or if the corridor connects major activity centers or hubs, a higher level of service may be warranted. If densities meet the minimum guidelines, but only exist in small or scattered areas, travel demand may not be sufficient to support transit. Or, a lower level of transit – such as Flex or on-demand services – may be warranted.

Other factors must also be considered when deciding whether an area can support productive transit service. These include demographic data within the corridor, such as the number of transit dependant individuals and household incomes. State goals, including whether the area falls within RI's designated growth boundary or is a designated activity center, should be considered. Other local conditions, such as the cost of parking, can increase transit demand. Note that these guidelines only apply to the evaluation of potential service; existing service should not be evaluated with these service coverage guidelines.









Source: Composite data compiled by Nelson/Nygaard from various sources.

### MINIMUM SPAN OF SERVICE

The number of hours per day when transit service is provided along a route, a segment of route, or between two locations plays a role in determining the availability of transit service to potential users. Transit service must be available near the time a trip needs to be made in order for transit to be a travel option. Ideally, transit service should operate according to the standard time periods specified (peak rush hours, midday, night, etc.) to minimize customer uncertainty.

Passenger needs and the transit authority's financial capacity are key considerations in setting weekday service spans, and in deciding which routes are operated on Saturdays and Sundays. Weekday routes should permit workers and students to make their morning start times, and should end late enough to



provide return trips home for second shift workers. Service oriented to non-work travel can start later and end sooner. Sunday service may not be necessary on many routes.

The minimum span of service guidelines define the **minimum** period of time that different types of service should operate. Minimum span of service guidelines are presented in Table 2. Note that service can start earlier and end later if demand warrants, but the extra service would be subject to the minimum performance guidelines presented in Section 5. Also, the guidelines may not apply to some services on certain days, indicated by a "–". Service may still be provided on these days (to meet other guidelines, for example), though it would not be subject to minimum span of service guidelines.

	RAPID BUS	KEY CORRIDOR	URBAN RADIAL	NON-URBAN/ SUBURBAN/ CROSSTOWN	REGIONAL	EXPRESS/ COMMUTER	FLEX				
Weekdays	KAI ID DOJ	CORRIDOR	KADIAL	CROSSIOWIN	REGIONAL	COMMOTER					
Begin	6:00 AM	6:00 AM	6:00 AM	6:00 AM	6:00 AM	n/a	8:30 AM				
End	12:00 AM	12:00 AM	7:00 PM	7:00 PM	9:00 PM	n/a	4:30 PM				
Saturdays											
Begin	6:00 AM	7:00 AM	<b>.</b>	. ,							
End	11:00 PM	11:00 PM	Saturday service may be provided, if warranted, but is not required.								
Sundays											
Begin	7:00 AM	7:00 AM									
End	11:00 PM	9:00 PM	Sunda	Sunday service may be provided, if warranted, but is not required.							

#### TABLE 2 | MINIMUM SPAN OF SERVICE GUIDELINES

Notes: The beginning span of service refers to the departure of the first inbound trip, and the ending span of service refers to the departure time of the last peak direction trip.

#### MINIMUM SERVICE FREQUENCIES

Service frequency (the time interval between two vehicles traveling in the same direction on the same route) has a major influence on transit ridership; high frequency service is often considered a key characteristic for attractive service. At the same time, frequency has a significant impact on operating costs, and service requirements increase exponentially with improvements in service frequency.

Because of the expense of high frequency service, transit service frequency is normally based upon existing or potential demand. This often translates into variations in service frequency throughout the day, with higher frequency in peak periods, and less frequent service outside of the peak.

In general, frequencies are established to provide enough vehicles past the maximum load point(s) on a route to accommodate the passenger volume and stay within recommended loading standards. Minimum service frequency guidelines are presented in Table 3. Note that when a corridor is served by multiple routes, effective service frequencies in the corridor would be more frequent than those for individual routes. For certain routes serving outlying areas of the state, service areas may be reduced to maintain satisfactory farebox recovery ratios. As with all standards, this service frequency matrix should be considered a guide, not an absolute measure.





	RAPID BUS	KEY CORRIDOR	URBAN RADIAL	NON-URBAN/ SUBURBAN/ CROSSTOWN	REGIONAL	EXPRESS/ COMMUTER	FLEX
Weekdays							
Early AM	30	30	60	60	60	—	n/a
AM Peak	10	15	30	60	60	3 trips	n/a
Midday	10	20	60	60	60	_	n/a
PM Peak	10	15	30	60	60	3 trips	n/a
Night	30	30	60	60	120	_	n/a
Saturdays							
All Day	15	30	60	60	_	_	n/a
Sundays							
All Day	15	30	60	60	_	_	n/a

Note: "—" indicates that the guideline does not apply. Also, the guidelines apply to services that are provided, and do not imply that all services will be provided at all times.

*Clock-face service intervals* (e.g. every 10, 12, 15, 20, 30 or 60 minutes) are easier for passengers to remember and can help facilitate better transfer connections between routes. Whenever possible, frequencies should be set at regular clock-face intervals. However, there are two key exceptions:

- Where individual trips must be adjusted away from clock-face intervals to meet shift times, work times, transfer connections, or other special circumstances;
- Where the desired frequency of service causes round trip recovery time to exceed 20% of the total round trip vehicle time, leading to inefficient service.

#### **VEHICLE LOADING**

RIPTA will design its services to keep the number of passengers on its vehicles at a comfortable level, always within the limits of safety. In peak periods, this means that some passengers may be expected to stand for part of the trip. In off-peak periods and for service that operates for long distances, service will be designed to try to provide a seat to all customers.

Two different techniques are used to keep passenger loads within acceptable levels. The first is to match vehicle types with ridership levels, and to use larger vehicles on higher ridership routes. The second method is to provide more frequent service, with service frequencies set to keep passenger loads within the limits presented in Table 4.

The vehicle load standard is calculated on the basis of an average for the both the peak and off-peak periods, at the busiest point on the route. For instance, if a service operates at 15-minute frequency, then 4 buses would pass the busiest point in an hour. The average number of passengers for these 4 buses must fall within the service standards, even though any one bus may be more crowded than the average. If the standard is exceeded for the average calculation, RIPTA will consider more frequent service or larger vehicles to improve the situation.





#### TABLE 4 | AVERAGE VEHICLE LOADING MAXIMUMS

	RAPID BUS	KEY CORRIDOR	URBAN RADIAL	NON-URBAN/ SUBURBAN/ CROSSTOWN	REGIONAL	EXPRESS	FLEX				
Average Maximum Passenger Loading (as a percentage of seating capacity)											
Peak	120%	120%	120%	120%	100%	100%	100%				
Off-Peak	100%	100%	100%	100%	100%		100%				

Note: Maximums are averages over one-hour periods; individual trips may exceed averages.

#### TABLE 5 | VEHICLE CAPACITIES

	60' ARTICULATED BUS	RAPID BUS	40' BUS	35' BUS	35' TROLLEY	FLEX VEHICLE
100% of Seating Capacity	55	36	36	28	28	16
120% of Seating Capacity	66	43	43	34	34	n/a

Note: RIPTA does not currently operate articulated vehicles, but may do so in the future.





## **5 PERFORMANCE**

RIPTA must use its resources effectively and all routes should achieve a minimum level of productivity. The two primary guidelines to assess performance:

- 1. Productivity in terms of "Passengers per Revenue Vehicle Hour" for most services, and "Passengers per Trip" for for Regional and Express/Commuter services that typically carry passengers for long distances with little passenger turnover.
- 2. Cost-Effectiveness, in terms of Farebox Return, which is the percentage of operating expenses recouped by farebox revenues.

### **PASSENGERS PER REVENUE HOUR**

With limited exceptions, all service should attract a minimum level of ridership. For routes that experience a significant amount of ridership turnover along the route (all services except Regional routes and Express/Commuter routes), this minimum level of ridership is expressed in terms of Passengers per Revenue Service Hour, or in simpler terms, the average number of passengers that a bus should serve for each hour it is in service. For Regional and Express/Commuter routes, which often travel for long distances with little ridership turnover, the minimum level of ridership is expressed in terms of Passengers per Bus Trip. These minimum productivity levels are presented in Table 6.

				PASSENGERS PER TRI			
	RAPID BUS	KEY CORRIDOR	URBAN RADIAL	NON-URBAN/ SUBURBAN/ CROSSTOWN	FLEX	REGIONAL	EXPRESS/ COMMUTER
Weekdays							
Early Morning	20	15	10	10	5	15	15
Late Night	20	15	10	10	5	15	15
All Day	50	40	20	15	5	20	25
Saturdays							
Early Morning	20	10	10	10	5	15	-
Late Night	20	10	10	10	5	15	-
All Day	30	20	15	10	5	15	-
Sundays							
Early Morning	20	10	10	10	5	15	-
Late Night	20	10	10	10	5	15	-
All Day	30	20	15	10	5	15	-

#### TABLE 6 | MINIMUM PRODUCTIVITY LEVELS (PASSENGERS PER REVENUE VEHICLE HOUR)

Note: "Early morning" and "Late Night" refers to service before and after the minimum span of service. All day refers to the complete span of service, including early morning and late night service. "—" indicates that the standard does not apply. \*Express productivity is measured as a minimum number of passengers per trip.





### FAREBOX RECOVERY

The second performance measure is farebox recovery, which is the percentage of operating expenses recouped by farebox revenues. Minimum farebox recovery percentages are shown in Table 7.

TABLE 7   MINIMUM FAREBOX RECOVER	TABLE 7	MINIMUM	FAREBOX	RECOVERY
-----------------------------------	---------	---------	---------	----------

	RAPID BUS	KEY CORRIDOR	URBAN RADIAL	NON-URBAN/ SUBURBAN/ CROSSTOWN	REGIONAL	EXPRESS	FLEX
Minimum Farebox Rec	overy						
Weekday	30%	20%	20%	20%	n/a	n/a	5%
Saturday	20%	15%	15%	15%	n/a	n/a	5%
Sunday	20%	15%	15%	15%	n/a	n/a	5%

### **APPLICATION OF PERFORMANCE GUIDELINES**

In cases where routes do not meet minimum performance guidelines, changes should be made to improve route performance. These changes can include a variety of measures, including reconfiguring the route alignment to attract more passengers, targeted marketing, eliminating particularly unproductive segments, and reducing service levels. If no changes can be identified that improve performance, steps may be taken to discontinue the route unless it serves a demonstrable critical need that is not served by other routes or services (including paratransit service).

In cases where service expansion is considered, ridership and productivity estimates should be developed that indicate that there is a reasonable certainty that the new service will meet the performance guidelines within 12 months of implementation.



## APPENDIX A: RIPTA ROUTE CLASSIFICATIONS

#### RAPID BUS ROUTES

- 11 Broad Street
- 99 North Main Street / Pawtucket Avenue

#### **KEY CORRIDOR ROUTES**

- 17 Dyer Avenue / Pocasset Avenue
- 20 Elmwood Avenue
- 27 Broadway / Manton Avenue
- 28 Broadway / Hartford Avenue
- 31 Cranston Street
- 42 Hope Street
- 50 Douglas Avenue
- 56 Chalkstone Avenue
- 71 Broad Street (Pawtucket)

#### **URBAN RADIAL ROUTES**

1 Eddy Street 3 Warwick Avenue 6 Prairie Avenue / Roger Williams Zoo 13 Arctic Center / Washington Street 18 Union Avenue 19 Plainfield Street / Westminster Street 21 Reservoir 22 Pontiac Avenue 26 Atwells Avenue / Rhode Island College 30 Arlington / Oaklawn Avenue 33 Riverside 40 Butler Hospital / Elmgrove Avenue 49 Camp Street / Miriam Hospital 51 Charles Street 52 Branch Avenue / Bryant University 53 Smithfield Avenue 55 Admiral Street / Providence College 57 Smith Street 58 Mineral Spring Avenue / North Providence 72 Weeden Street / Central Falls 73 Fairlawn / CCRI 75 Dexter Street / Lincoln Mall 76 Central Avenue 77 Benefit Street / Broadway 79 Columbus Avenue 80 Armistice Boulevard 92 Federal Hill – East Side

#### NON-URBAN/SUBURBAN/CROSSTOWN ROUTES

29 Kent County 34 East Providence 35 Rumford / Newport Avenue 63 Broadway / Middletown Shop 67 Bellevue Avenue / Mansions 78 Beverage Hill Avenue / Newport Avenue 87 Fairmount Street / Walnut Hill Plaza 14 West Bay 64 Newport / URI

#### **REGIONAL ROUTES**

54 Lincoln / Woonsocket 60 Providence / Newport 66 URI / Galilee

#### **EXPRESS/COMMUTER ROUTES**

8 Jefferson Boulevard9 Pascoag32 West Barrington90 Park-n-Rides

#### FLEX SERVICES

203 Narragansett Flex
204 Westerly Flex
210 Kingston Flex
211 Kingston Connection
231 South Aquidneck Flex
242 West Warwick/Coventry Flex
281 Woonsocket Schedule Flex
282 Pascoag/Slatersville Flex

