



Statewide Paratransit Expansion Study

December 2022

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EXECUTIVE SUMMARY

STUDY PROCESS AND OUTREACH

In June 2022, the Rhode Island General Assembly directed RIPTA to study statewide paratransit service to address “the transportation needs of seniors and individuals whose disability prevents independent use of the fixed route system and who do not fall within [3/4 mile] of a fixed route as required by ADA.”

RIPTA engaged Nelson\Nygaard Consulting Associates to undertake the study, which included interviews and meetings with RIde staff, analysis of current services, analysis of demographic characteristics, estimates of future demand, cost estimates for statewide service, two rounds of public outreach, and coordination with the R.I. Human Services Transportation Coordinating Council (HSTCC) and the Accessible Transportation Advisory Committee (ATAC).

REQUIREMENT TO PROVIDE COMPLEMENTARY PARATRANSIT

Pursuant to the U.S. Department of Transportation's regulations under the Americans with Disabilities Act (ADA), as a fixed-route bus service provider, RIPTA must provide complementary paratransit service, which RIPTA calls RIde service, to eligible individuals whose disabilities prevent them from traveling to/from bus stops or from using fixed-route buses. RIPTA must offer this service within 3/4 mile of either side of non-commuter bus routes, whenever fixed-route buses operate (i.e., the same service spans) and without regard to the rider's trip purpose. Fares cannot be more than twice the regular fixed-route base fare for each trip. Further, RIPTA must operate without capacity constraints, meaning RIPTA must provide sufficient vehicles and drivers to ensure riders' RIde trips take about the same time as taking the bus and that the RIde vehicles arrive at pickup locations on time.

CURRENT RIDE SERVICE

Service Area Coverage

RIde service is provided to all locations within 3/4 mile of RIPTA local and regional fixed bus routes. This area includes 78% of the state's residents and 32% of the state's land area. The

weekend RId service area is slightly smaller area since some bus routes do not operate on weekends. Six municipalities are fully served by RId, 14 are mostly served, 11 are partially served, and eight municipalities have no RId service. See Figure 1.

Figure 1 Distribution of Municipalities Served by RId (Weekday Peak Service)

Fully Served	Mostly Served (60%+)		Partially Served	No Service
Central Falls	Barrington	Lincoln	Bristol	Charlestown
E. Providence	Cranston	Portsmouth	Burrillville	Foster
N. Providence	E. Greenwich	Smithfield	Coventry	Hopkinton
Pawtucket	Johnston	S. Kingstown	Cumberland	Little Compton
Providence	Middletown	Warren	Exeter	New Shoreham
Warwick	Narragansett	W. Warwick	Glocester	Richmond
	Newport	Woonsocket	Jamestown	Tiverton
	N. Kingstown		N. Smithfield	Westerly
			Scituate	
			W. Greenwich	

Source: Nelson\Nygaard

To meet some transportation needs in areas with limited or no fixed-route or RId service, RIPTA operates Flex, a scheduled zone-based service that allows passengers to board at a designated Flex stop or reserve a pickup in advance within each zone. Once aboard, riders can request a drop-off within each zone. Municipalities with Flex service that are either partially served or not served by RId include Burrillville, Coventry, North Smithfield, and Westerly.

Riders, Ridership, and Costs

The number of eligible riders is based on the number of approved applicants. As of August 2022, approximately 4,000 individuals were eligible for service and since January 2019, approximately 3,300 individuals have traveled at least once.

In FY 2022, RId provided 192,468 total trips, with approximately 95% in RId vehicles and the remainder provided by taxi subcontractors. By comparison, FY19 ridership was 278,360 trips and 87% were provided by RId with 13% provided by taxi subcontractors. FY22 operating costs were just below \$10.9 million and average costs per vehicle hour were \$63.69.

STATEWIDE DEMAND AND COSTS

To estimate potential demand and costs for statewide service, the consulting team assumed RIPTA would continue to operate statewide RId service as they operate ADA service today under the same policies and procedures. The lone exception is for New Shoreham (Block

Island) where it was assumed that a local taxi company would be contracted to provide service to eligible riders.

To develop the demand forecast, the team extrapolated current ridership patterns to eligible riders throughout the state using U.S. Census data. The team estimated demand for two service spans. A base service span would offer statewide service on weekdays from 6 a.m. until 7 p.m., and on weekends from 8 a.m. until 5 p.m. An extended service span would add evening hours with service ending at 12 a.m. each day.

Estimated Additional Ridership

Under the base scenario, an additional 59,800 one-way trips per year are expected, a 31% increase over FY22 ridership. This includes 50,400 additional one-way trips in areas that currently have no RIdE service—both communities that do not have any Ride service and communities with some RIdE service. It also includes 9,400 additional one-way trips in areas currently service by RIdE, but that have no weekend service or where weekday service is less than statewide service hours under the base scenario. Extending service to midnight would add approximately 64,200 trips (4,400 trips above the base scenario), a net increase of 33%.

Estimated Additional Operating Costs

The team based its additional cost estimates on hourly operating costs and service delivery patterns less added fare revenues. Under the base scenario, net additional annual operating costs are estimated at just under \$5.5 million, a 50% increase over existing operating costs. The extended scenario’s annual operating costs are just over \$6.4 million, a 59% increase.

Estimated Additional Capital and Startup Costs

Between 26 and 28 additional RIdE vehicles would be needed to operate the statewide service at a cost of \$3.9 to \$4.2 million. Additional state funding would be required to purchase and eventually replace new vehicles. An additional \$45,000 is included to cover onboarding and equipment costs for added RIdE staff (customer service agents, schedulers, and dispatchers/coordinators), and for software upgrades. Figure 2 summarizes the net additional operating and capital/startup costs for both scenarios.

Figure 2 Additional Costs for Statewide RIdE Service

Scenario	Base (Days)	Extended (Days & Evenings)
Net additional operating costs	\$5,449,000	\$6,425,300
Additional capital and startup costs	\$3,945,000	\$4,245,000

Source: Nelson\Nygaard

IMPLEMENTATION CONSIDERATIONS

The study identified considerations relating to the potential implementation of statewide RIde service and noted some other important considerations for RIPTA and for statewide transit service in general. These include:

- Implementation would likely take time and would require additional planning, outreach, and analysis.
- Acquiring additional RIde vehicles would be a lengthy process due to continuing COVID-related supply chain disruptions.
- RIPTA does not have adequate capacity to store all the new RIde vehicles required to deliver statewide service; an offsite location would be needed.
- The study did not consider alternative service-delivery options that could meet many riders' needs.
- RIPTA is experiencing an ongoing driver shortage, which remains a significant issue. It is hoped that a recently approved enhanced compensation package will alleviate this concern.
- RIPTA will be facing massive funding challenges beginning in FY25 as COVID relief funding expires, with a projected initial revenue gap of more than \$30 million.
- Implementing Transit Forward RI 2040, Rhode Island's adopted statewide transit master plan, will require substantial additional annual investment. Implementing this plan will address many concerns expressed by stakeholders in conjunction with this study.
- Fare-free transit service, the focus on several recent and ongoing demonstration studies in Rhode Island, has major implications for complementary paratransit demand and finances. RIde fares for trips beginning and ending in fare-free zones must also be free and offering free RIde travel may lead to increased travel.

1 INTRODUCTION

The Rhode Island Public Transit Authority (RIPTA) engaged Nelson\Nygaard Consulting Associates to study statewide paratransit service expansion. This report summarizes study findings in five chapters. This chapter provides **background information** on the basis for the study, the requirements for complementary paratransit under the Americans with Disabilities Act, and a description of RIPTA's RIde service for people with disabilities.

Chapter 2 describes the **outreach and engagement process**, including the two rounds of public meetings. It also describes interactions with the RI Human Services Transportation Coordinating Council (HSTCC) and RIPTA's Accessible Transportation Advisory Committee (ATAC).

Current RIde service is discussed in Chapter 3, including the population within the current RIde service area, the number of currently eligible and active riders and their travel patterns.

Chapter 4 explains the **method used to estimate demand** for statewide service, the assumed service design, and associated costs.

Chapter 5 covers important **implementation considerations**, particularly in the context of ongoing driver shortages and limited vehicle availability.

STUDY BACKGROUND

The Rhode Island General Assembly allocated \$75,000 in gas tax funds and directed RIPTA to study statewide paratransit service. The study's aim is to address "the transportation needs of seniors and individuals whose disability prevents independent use of the fixed route system and who do not fall within [$\frac{3}{4}$ mile] of a fixed route as required by ADA." The General Assembly also directed RIPTA to include public input and to deliver a report summarizing the study with a design for statewide paratransit service that includes cost estimates for implementation.

REGULATORY CONTEXT

Requirement for Complementary Paratransit

In crafting the Americans with Disabilities Act (ADA), Congress recognized that even when a fixed-route transit system is fully accessible, there will be some individuals whose disabilities prevent them from using the system. Congress therefore created a complementary paratransit as a “safety net” to ensure that these individuals have transportation available to them on the same basis as individuals using fixed route systems.

In 1991, the U.S. Department of Transportation issued regulations under the ADA for public entities such as RIPTA. The Federal Transit Administration (FTA) is responsible for overseeing ADA compliance. FTA’s website provides links to the DOT ADA regulations¹ and to an ADA Circular,² which explains regulations in more detail, including the complementary paratransit service requirements in Chapter 8.

RIPTA’s Paratransit Obligations under ADA

As a fixed-route bus service provider, the DOT ADA regulations obligate RIPTA to provide complementary paratransit (Ride service) to eligible individuals whose disabilities prevent them from traveling to/from bus stops or from using fixed-route buses. As a recipient of federal funds, RIPTA must comply with the DOT ADA regulations and other federal requirements. The DOT ADA regulations require RIPTA to:

- Offer complementary paratransit service (Ride) within 3/4 mile of either side of non-commuter bus routes. RIPTA’s Express routes are excluded except where they provide local service such as Route 9x in Greenville. This is referred to as the **ADA service area**.
- Within the ADA service area, provide service from a rider’s origin to a rider’s destination and provide reasonable assistance to riders who need it.
- **Operate whenever fixed-route buses operate** (i.e., the same service spans) and without regard to the rider’s trip purpose.
- Charge no more than twice the regular fixed-route base fare for each trip.
- **Operate without capacity constraints**, meaning RIPTA must provide sufficient vehicles and drivers to ensure riders’ Ride trips take about the same time as taking the bus and that the Ride vehicles arrive at pickup locations on time.

¹ See <https://www.transit.dot.gov/regulations-and-guidance/civil-rights-ada/ada-regulations>

² See <https://www.transit.dot.gov/regulations-and-guidance/civil-rights-ada/ada-guidance>

- Honor Ride trip requests **without waiting lists** the day prior to travel by contacting RIPTA during normal business hours or via voice message on Sundays and holidays when RIPTA's offices are closed.
- Grant ADA paratransit eligibility to those who apply³ and qualify and serve eligible visitors.

³ Individuals whose disabilities prevent them from traveling to/from RIPTA's bus stops or from riding RIPTA's buses must apply for ADA paratransit eligibility and explain why they cannot use fixed-route bus service. As part of the application process, applicants must also provide documentation from a treating professional.

2 STUDY OUTREACH

The study included coordination with the Rhode Island Human Services Transportation Coordinating Council and RIPTA's Accessible Transportation Advisory Committee. In addition, two rounds of public meetings sought input from riders, advocates, and others.

HSTCC AND ATAC COORDINATION

RIPTA staff included this study on its meeting agendas for two HSTCC meetings in September and November and on three ATAC meetings in September, October, and November. This included reviewing the scope, promoting the public meetings, and sharing study progress.

PUBLIC ENGAGEMENT

To obtain input from the public, RIPTA and the study team scheduled two rounds of public meetings. The first round included two virtual meetings in September to obtain input on the need for expanded RIde service. The second round included two virtual meetings in November to present the study findings and seek public comment.

Study Publicity

RIPTA staff publicized the study and public meetings through press releases, emails and phone calls to known stakeholders, and a dedicated study page on its website.

September Public Input Sessions

Two virtual meetings were held on September 20 and 21, 2022 via Zoom. Those who registered were asked whether they use RIde service and for specific locations where they would like to travel via RIde but are unable to currently do so.

The combined 74 attendees (including seven who attended both) included riders, elected officials, municipal staff, advocates, and agency staff (local, state, nonprofits, etc.). After a brief presentation of the study scope and schedule, the team used four breakout rooms to discuss specific trips riders would like to take that they cannot currently take. Riders were

also asked to provide input on service priorities and other topics the team should consider as part of this study. A copy of the presentation is included in the appendix.

Service Expansion Locations

Participants were asked to offer specific destinations that are not served today and the reasons these trips are not available. The following themes emerged:

- **Statewide Access:** Individuals with disabilities want transportation independence to fully participate in work, school, and quality-of-life activities. Several participants expressed a desire to travel anywhere in the state, for any purpose, within a reasonable span of service.
- **Expanded Corridor/Rural Access:** Many who reside outside the RIde service area wish to travel to destinations served by RIde (within the service area). They rely on family, friends, or Uber/Lyft to provide transportation or drop them at RIde pickup locations (by arrangement).
- **Longer Service Spans:** Even when desired trips fall entirely within the RIde corridor, travel is limited to the times when fixed-route service operates. Longer service spans would allow individuals to participate in community and recreational opportunities at night and on weekends,

Service Priorities

Participants were asked to share their priorities for accessible service. In summary, those who use RIde services area prioritized longer service spans. Those who do not have service found it harder to state a preference beyond expanded geographic access.

The following additional themes emerged:

- **No Trip Caps:** There was universal sentiment that there should be no restriction on the number of trips a person can make in a specific period or, at a minimum, a very high cap that allows for both work and social trips.
- **Unrestricted Trip Purposes:** Although many noted that medical and work-related trips are the most important, most felt that people should be able to travel for any purpose.
- One area in where views varied was whether **premium fares** might be charged for expanded accessible services. Some participants expressed a willingness and ability to pay \$1 to \$2 more for trips that went beyond ADA requirements, and a few were willing to pay twice the current ADA fare. Others maintained the need for a universal flat fare to ensure full access for those on fixed incomes.

Other points made during the discussions included safety, the desire for same-day booking, and equity (suggesting that rural areas merit the same level of service as urban areas).

Additional Comments

- **Improve Ride Reservations:** There is a desire for online trip booking.
- **Offer On-Demand Services:** Many expressed an interest in on-demand services like the Boston-area program that uses Uber/Lyft/taxis to provide some level of same-day service.
- **Consider New Models of Service:** Ideas offered included: accessible shuttles, volunteer networks, or improvements to RIPTA fixed route and Flex services.

November Public Comment Sessions

The sessions held in November offered interested individuals the opportunity to hear a presentation on the study findings. The two sessions included 40 unique attendees (with four who attended both) including riders, elected officials, municipal staff, advocates, and agency staff (local, state, nonprofits, etc.). Following the presentation, participants asked clarifying questions for which responses were provided. Participants also made the following comments:

- Perhaps RIPTA should consider charging a higher fare for trips outside of the ADA service area.
- It will take time for the estimated additional ridership to materialize.
- There are people in rural parts of the state who do not have a disability but still need transportation. States like Vermont have implemented rural public transportation programs to meet this need.
- It would be great if Ride reservations were more automated; on-line reservations would require fewer agents and reduce labor costs.

3 EXISTING RIDE SERVICE

The consultant team obtained information from RIPTA on the current fleet, organization structure, facilities, software, eligible riders, historical ridership, costs, and a range of service characteristics. The team also interviewed RIPTA staff and compiled census data for each municipality in the state.

SERVICE PROVISION

RIPTA directly operates Ride service, using its own employees as drivers, supervisors, mechanics, schedulers, dispatchers, call takers, etc. RIPTA also uses its own fleet of 82 vehicles, and all but two are stored at a lot at RIPTA's main administrative building and garage at 705 Elmwood Ave in Providence. Two vehicles are stored in Middletown/Newport to help reduce deadheading to that part of the service area.

To supplement its directly operated service, RIPTA contracts with taxi companies throughout the service area and assigns trips to taxis when feasible and cost effective.

SERVICE AREA

Ride service is provided to all locations within 3/4 mile of RIPTA local and regional fixed bus routes. Ride service is not provided on RIPTA's express (commuter) routes, as the ADA does not require paratransit for commuter bus routes. Where Routes 9x and 10x operate locally during limited weekday hours, however, Ride service is provided.

Figure 3 shows the weekday Ride and fixed-route service area during peak commuting periods. This area includes 78% of the state's residents and 32% of the state's land area. Ride service is concentrated in the eastern half of the state. Providence, Pawtucket, and Warwick are served by many local and regional bus routes and by Ride. Further north, west and south, Ride service is provided in 1.5-mile-wide corridors extending North Smithfield, Woonsocket, and Burrillville in the north, to Coventry and Scituate to the west, into South County and into the East Bay. The weekend Ride service area is slightly smaller area since some bus routes do not operate on weekends. Figures 2 and 3 show the Saturday and Sunday Ride service areas, respectively.

Figure 3 Weekday Rlde Service Area

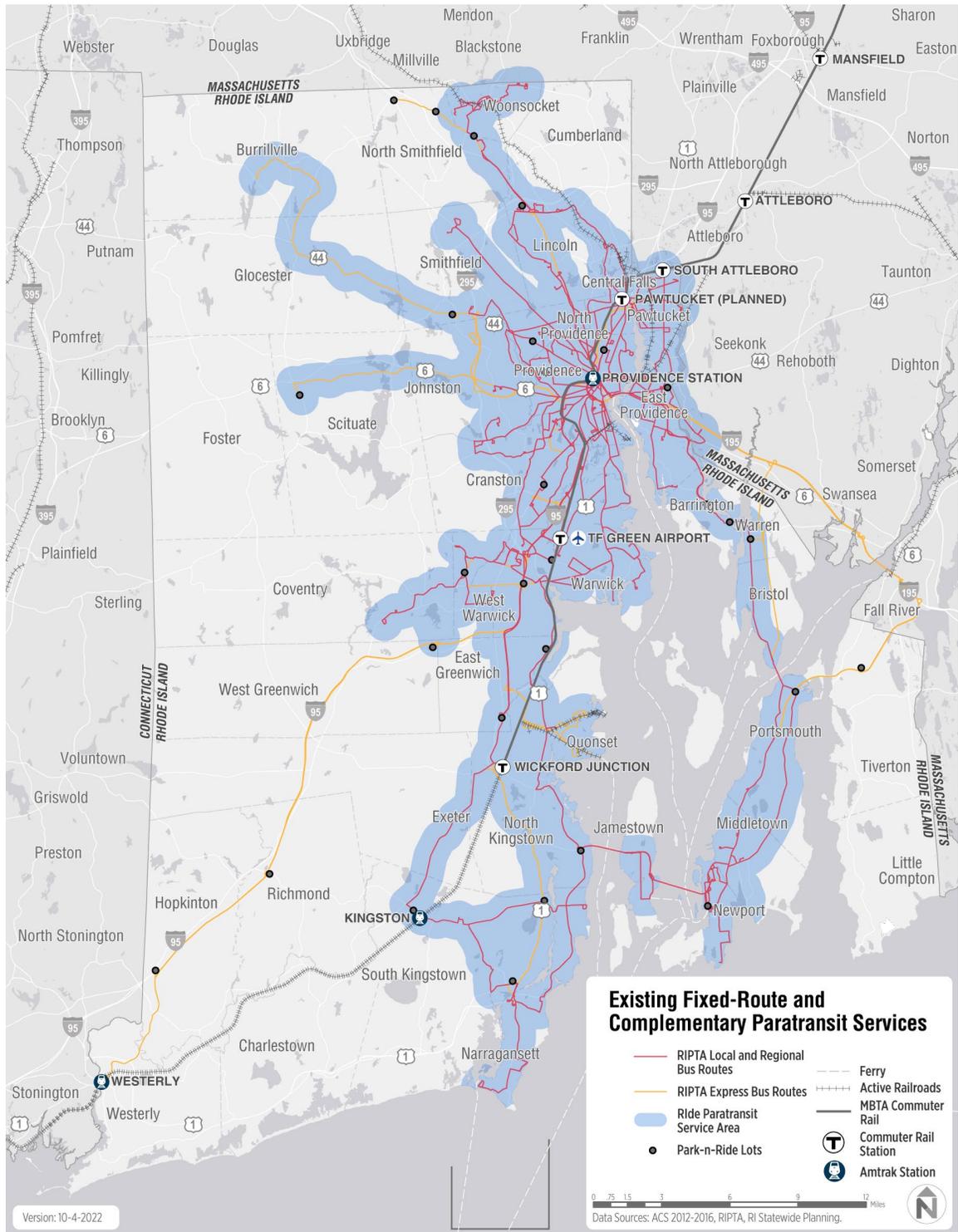


Figure 4 Saturday Ride Service Area

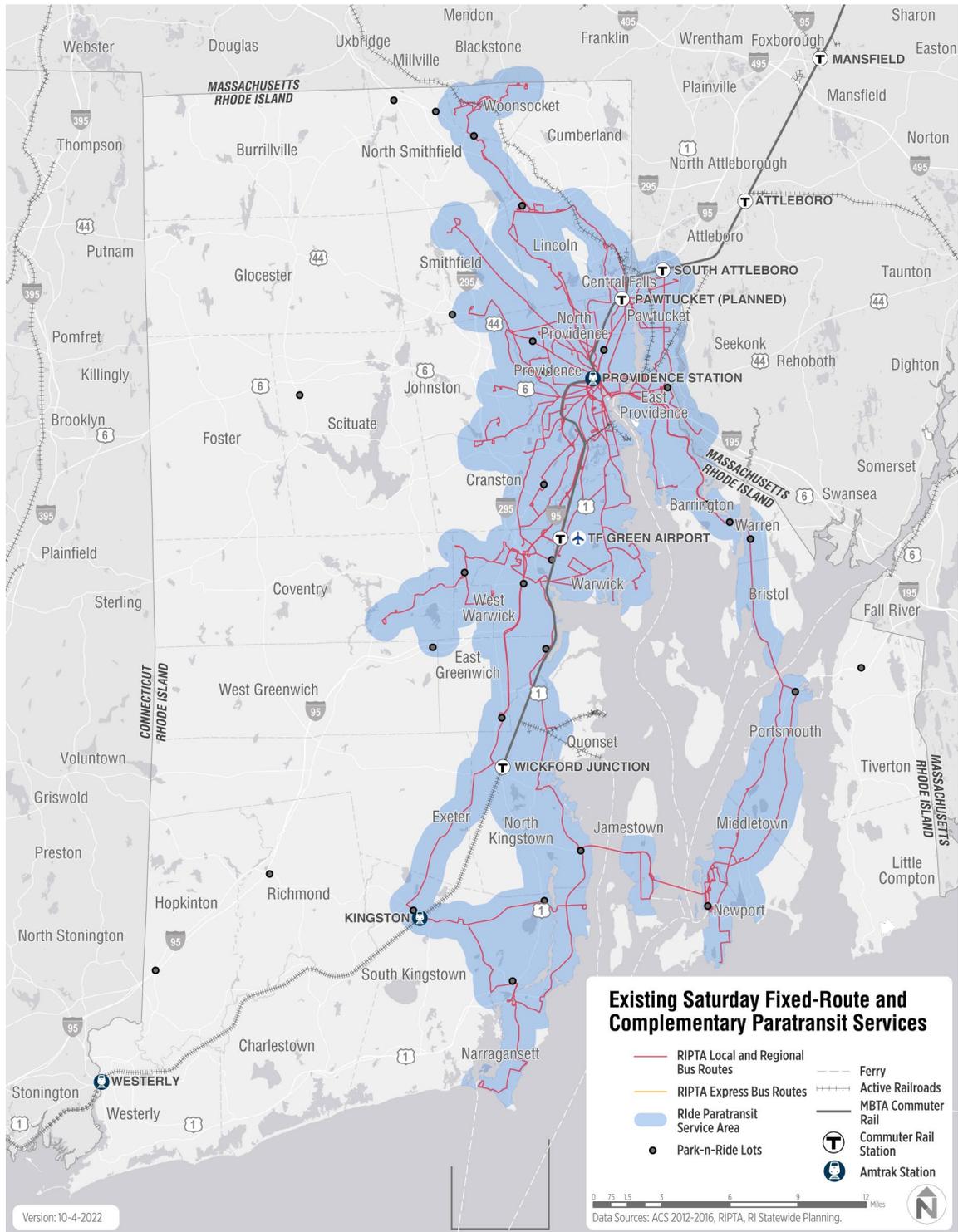
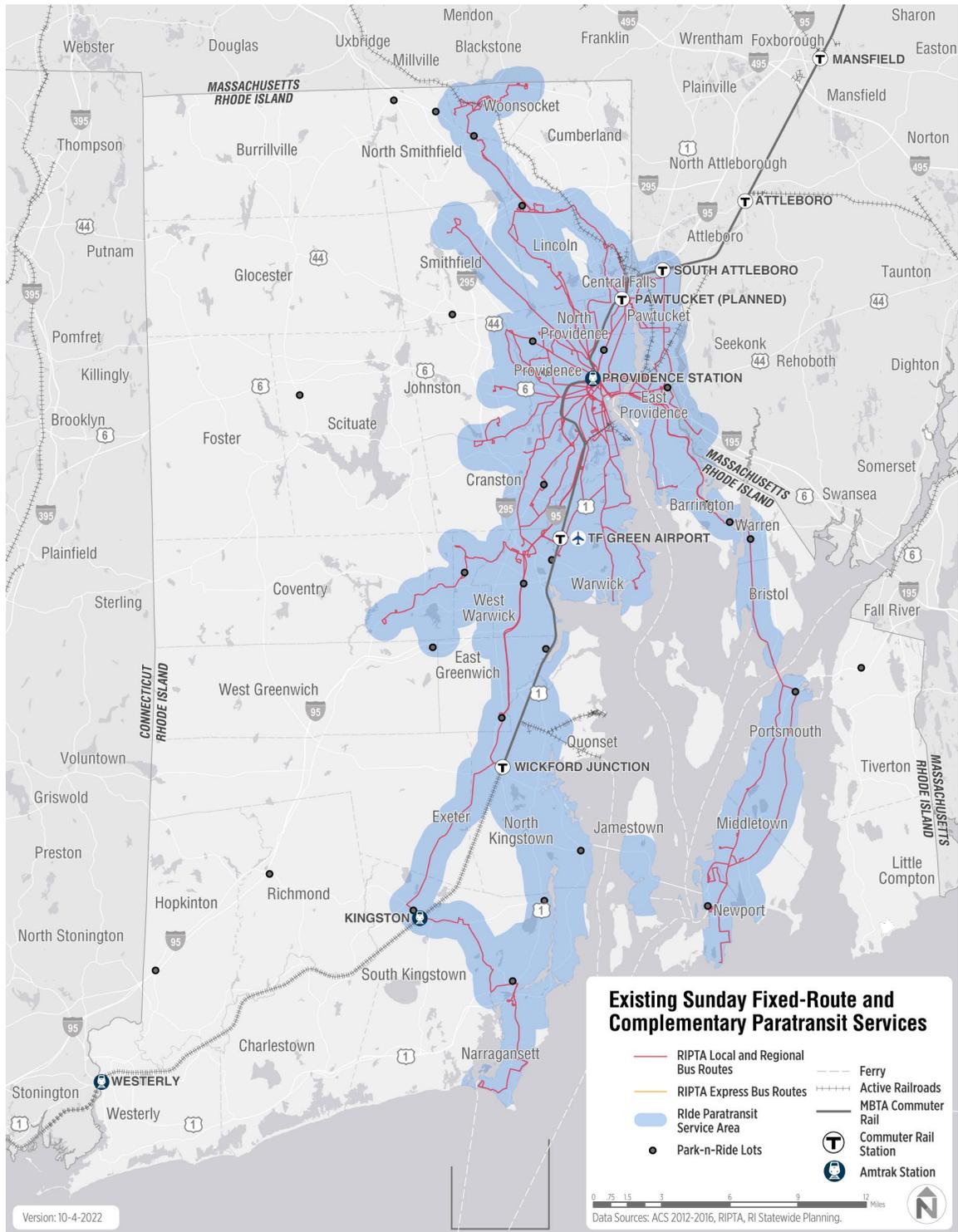


Figure 5 Sunday Ride Service Area



Peak Weekday Ride Service Coverage

Current peak weekday Ride service includes 78% of the state’s residents. Figure 6 shows the distribution coverage including municipalities fully served (6), mostly served (14), partially served (11), and not served (8). It also shows the total population and population served. Figure 7 lists the municipalities that fall into each category.

Figure 6 Municipalities and Residents Served by Ride (Weekday Peak Service)

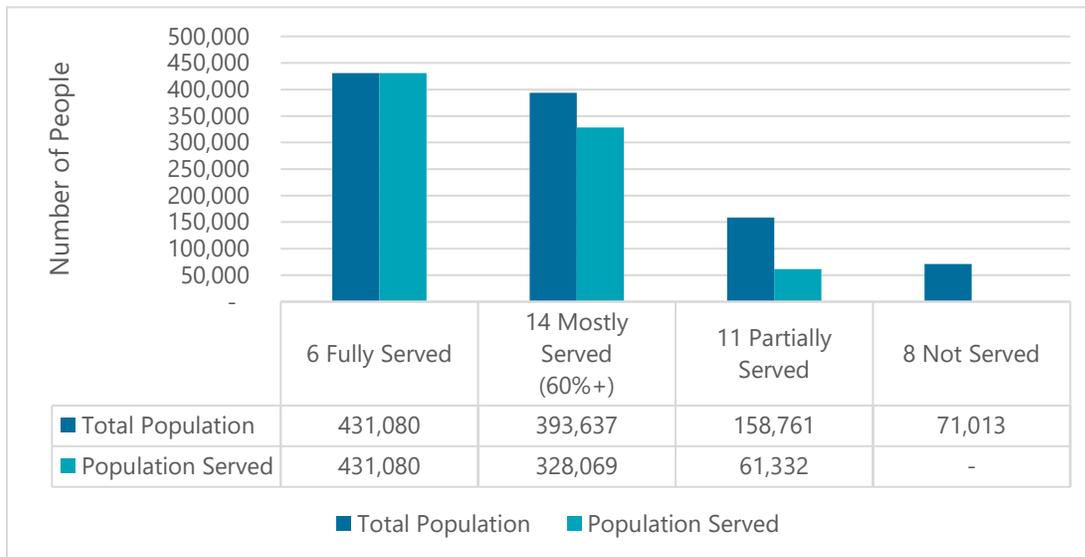


Figure 7 Distribution of Municipalities Served by Ride (Weekday Peak Service)

Fully Served	Mostly Served (60%+)		Partially Served	No Service
Central Falls	Barrington	Lincoln	Bristol	Charlestown
E. Providence	Cranston	Portsmouth	Burrillville	Foster
N. Providence	E. Greenwich	Smithfield	Coventry	Hopkinton
Pawtucket	Johnston	S. Kingstown	Cumberland	Little Compton
Providence	Middletown	Warren	Exeter	New Shoreham
Warwick	Narragansett	W. Warwick	Glocester	Richmond
	Newport	Woonsocket	Jamestown	Tiverton
	N. Kingstown		N. Smithfield	Westerly
			Scituate	
			W. Greenwich	

Source: Nelson\Nygaard

Service Coverage Variations

The consultant team also evaluated how many more people would be included in the service area were service provided beyond the ¾-mile buffer by also considering buffers of 1.5

miles, 2 miles, and 3 miles. As shown in Figure 8, expanding the current ¾-mile peak ADA service (78% of the state’s population) to 1.5 miles of existing bus routes would include 86% of the state's population. Expanding to 2 and 3 miles would include 88 and 91 percent of the state's population, respectively. Such expansion would still not serve communities in the farther reaches of the state including parts of Tiverton, Little Compton, and Westerly, among other communities.

Figure 8 RI Residents Included in Required ¾-mile and Hypothetical 1.5-, 2-, and 3-mile Buffers of RIPTA Bus Routes

	¾ mile (required)	1.5 miles	2 miles	3 miles
Population Included	818,420	902,070	930,757	961,944
Percent of State Total	78%	86%	88%	91%

Source: Nelson\Nygaard

Flex Service Coverage

To meet some transportation needs in areas with limited or no fixed-route or RIdE service, RIPTA operates Flex, a scheduled zone-based service that allows passengers to board at a designated Flex stop or reserve a pickup in advance within each zone. Once aboard, riders can request a drop-off within each zone. Municipalities with Flex service that are either partially served or not served by RIdE include Burrillville, Coventry, North Smithfield, and Westerly.

OTHER SERVICE CHARACTERISTICS

Hours of Service

RIdE service spans are the same as RIPTA’s fixed-route bus services spans. While maximum service is provided during peak commuting times on weekdays, RIdE service is provided throughout most of the same service area between approximately 5 a.m. and 12 a.m. On Saturdays and Sundays, the service areas are smaller and service hours are shorter but generally cover 6 a.m. to 10 p.m. Because two of the weekday express routes (9x and 10x) operate locally in western/northwestern RI during the morning and in the afternoon, RIdE service is provided during these times but not during the middle of the day. For example, the portion of Route 9x along Route 44 in Greenville provides RIdE service roughly between 6:45 and 9:30 a.m. and 2 and 6 p.m. RIdE service is not provided between 9:30 a.m. and 2 p.m.

Eligible Riders and Ridership

The number of eligible riders varies from month to month and is based on the number of approved applicants. As of August 2022, approximately 4,000 individuals are eligible for service and since January 2019, approximately 3,300 individuals have traveled at least once.

Figure 9 presents service statistics for the full month of August 2022. As shown, Rlde provided approximately 16,100 trips during the month to 1,200 individuals for an average of approximately 13 trips per individual. During August, Rlde provided just over 2,900 trips on an average weekday and just under 3,600 trips on Wednesdays, the peak day.

Figure 9 August 2022 Rlde Service Usage

Trip Characteristics	Number
Total trips provided (full month)	16,100
Total individuals riding	1,200
Monthly trips per rider	13
Trips on peak day (Wednesdays)	3,558
Trips on average weekday	2,912

Source: RIPTA

Pre- and Post-COVID Ridership Trends

Figure 10 shows ridership trends for each fiscal year from FY19 through FY22. As shown, FY22 ridership was approximately 75% of FY19 ridership. The reduced Rlde demand is consistent with reduced fixed-route demand although Rlde service demand continues to grow.

RIPTA supplements its Rlde fleet with taxi subcontractors and uses taxis to cover long-distance trips when possible. This frees up Rlde vehicles to provide more shared rides within the denser parts of the service area, thus increasing productivity. While RIPTA used taxi subcontractors for 13% of Rlde trips in FY19, the number of available contracted taxi providers declined during COVID, and taxi usage fell to 5% in FY22. Having fewer taxi subcontractors available increases the cost per trip and may make it harder for RIPTA to maintain on-time performance standards in the future.

Figure 10 Annual Rlde Trips and Taxi Subcontractor Use (FY19–FY22)

Fiscal Year (FY)	FY19	FY20	FY21	FY22
Total trips	278,360	235,052	148,691	192,468
Percent in Rlde vehicles	87%	86%	99%	95%
Percent via taxis	13%	14%	1%	5%

Source: RIPTA

OPERATING COSTS

In FY2022, RIDE operating costs were just under \$10.9 million of which just under \$300,000 was for taxi subcontractors. Average costs per vehicle hour were \$63.69. These operating costs serve as the baseline for comparing the statewide service expansion discussed in the next chapter.

4 STATEWIDE SERVICE ESTIMATES

This chapter explains the team’s approach to estimating demand for a hypothetical statewide paratransit service and describes the service parameters used and estimated costs.

ASSUMPTIONS

Service Characteristics

To simplify comparisons with existing service, the team assumed that RIPTA would provide statewide service using the current service delivery model, namely directly operated service supplemented with taxi subcontractors. Policies and procedures would remain the same, namely:

- Service would be provided to individuals who, because of their disability are unable to use fixed route transit services (ADA paratransit eligible).
- All types of trips would be served, including trips for work, education, medical purposes, shopping, personal business, and recreation.
- The fare would be same as current RIde service (currently \$4 per trip).
- RIPTA would continue to accept trip reservations during normal business hours.
- RIPTA would negotiate trip times with riders up to an hour from the time requested to maximize trip sharing and scheduling efficiency.
- There would be no cap on the number of trips riders could request.
- On-board ride times would be reasonable. In the fixed-route service area, ride times would be comparable to similar fixed-route trips. Outside the fixed-route service area, on-board ride times would be no more than twice the direct automobile travel time.
- Service standards for high on-time performance (94 percent) would not change.

Service in New Shoreham (Block Island)

It is assumed that RIPTA would not provide service directly on Block Island, but that funding would be provided to a local taxi company to offer service to eligible riders using the same criteria and service policies as the rest of the state.

Demand Patterns

The hypothetical scenario assumes that the estimated demand for statewide service would be immediate, meaning that the service would be offered and those eligible would begin to travel right away. In practice, it would take time for ridership to grow. Individuals with disabilities would need to learn about the service, apply for eligibility, and begin to travel. Further, RIPTA would need to expand its current RIdE operation (vehicles, drivers, software, other staff, etc.) as discussed below. The scenario assumes a statewide base of riders and assumes resources are in place to provide service. To develop its hypothetical forecast, the team:

- Assumed patterns of ridership by hour and by day would mirror current ridership (August 2022).
- Used FY22 hourly operating costs.
- Assumed the same mix of RIdE vehicles and taxi vehicles.

Hypothetical Service Spans

Current RIdE service complements the RIPTA fixed-round service, which means that RIdE operates during the same hours and days as bus service. Since expanded statewide service would operate in areas without RIPTA bus service, the hypothetical demand estimates include two possible service spans:

- **Base (daytime hours):** Statewide service would be provided on weekdays from 6 a.m. until 7 p.m., and on weekends from 8 a.m. until 5 p.m. This would cover most commuting, medical, and shopping trips and offer daytime service for primarily non-work purposes on weekends.
- **Extended (includes evening hours):** Statewide service would be provided weekdays from 6 a.m. until 12 a.m., and on weekends from 8 a.m. to 12 a.m. This would enable people to travel to/from jobs that extend into the evening, attend evening educational opportunities, and participate in evening social events and entertainment.

The team applied these service spans throughout the state, meaning that any areas with fixed routes not operating during the base or extended spans would also see increased RIdE service.

ADDED ANNUAL RIDERSHIP

Methodology

To estimate the hypothetical demand for statewide RIdE service, the consultant team employed a model developed for the Transit Cooperative Research Program (TCRP).⁴ This model estimates ridership based on total service area population and percent of the service area population with household incomes below the poverty line.

Using census data for population and income and current RIdE trip patterns, the team estimated annual additional ridership for the two statewide service spans as summarized in Figure 11. As shown, in FY22, RIdE provided 192,468 trips.

Under the base scenario, an additional 59,800 one-way trips per year are expected, a 31% increase over FY22 ridership. This includes 50,400 additional one-way trips in areas that currently have no RIdE service—both communities that do not have any RIdE service and communities with some RIdE service. It also includes 9,400 additional one-way trips in areas currently service by RIdE, but that have no weekend service or have weekday service less than the assumed statewide hours. Extending service to midnight would add approximately 64,200 trips (4,400 trips above the base scenario), a net increase of 33%.

Figure 11 Estimated Additional Trips with Statewide Paratransit Service

Scenario	Base (Days)	Extended (Days & Evenings)
FY22 annual trips	192,468	192,468
Added trips	59,800	64,200
Percent increase	31%	35%

Source: Nelson\Nygaard

ADDED OPERATING COSTS

As noted, the service delivery model for statewide service assumes that RIPTA would operate RIdE service with the same general approach as it does today, meaning use of dedicated

⁴ Koffman, D., **TCRP Report 119: Improving ADA Complementary Paratransit Demand Estimation**, Transportation Cooperative Research Program, Transportation Research Board, National Research Council, Washington, D.C., 2007.

vehicles supplemented by taxi subcontractors, the same fares, eligibility, and policies. Accordingly, to estimate annual operating costs for each statewide service option, the team:

- Estimated ridership by hour for each day using total predicted ridership and current RIdE ridership by hour and day.
- Used a published model⁵ to generate the number of vehicles required each hour to serve the estimated hourly riders.
 - The model relies on hourly demand, service area size, average operating speed, and maximum allowed on-board travel time (as a factor of direct travel time) to estimate additional vehicles.
- Calibrated the model using August 2022 data.
- Used total hourly vehicle requirements to derive total annual vehicle hours.
- Multiplied annual vehicle hours by RIPTA’s FY22 per-vehicle-hour operating cost of \$63.69.
- Subtracted fares (\$4 per trip) to derive net annual operating costs.

The estimated additional operating costs are shown in Figure 12. Under the base scenario, net additional operating costs are estimated at just under \$5.5 million, a 50% increase. The increase of 59,800 trips translates to just over \$91 per additional trip. The extended scenario’s annual operating costs are just over \$6.4 million, a 59% increase. The increase of 64,200 trips translates to just over \$100 per additional trip.

Figure 12 Estimated Additional Operating Costs for Statewide RIdE Service

Scenario	Base (Days)	Extended (Days & Evenings)
Additional trips	59,800	64,200
Additional vehicle hours	89,300	104,900
Hourly cost	\$63.70	\$63.70
Total additional operating costs	\$5,688,400	\$6,682,100
Fare revenue	(\$239,400)	(\$256,800)
Net additional operating costs	\$5,449,000	\$6,425,300
Existing operating costs (FY22)	\$10,848,000 (rounded)	\$10,848,000 (rounded)
Total combined operating costs	\$16,297,000	\$17,273,300
Increase	50%	59%

Source: Nelson\Nygaard

⁵ Fu Liping, “A Simulation Model for Evaluating Intelligent Paratransit Systems”, **Transportation Research Record: Journal of the Transportation Research Board, No. 1760**, TRB, National Research Council, Washington, D.C, 2002

ADDED CAPITAL AND STARTUP COSTS

In addition to additional operating costs, investments will be needed to purchase new vehicles and to support onboarding new staff and upgrading software.

Added Vehicle Costs

Between 26 and 28 additional Ride vehicles would be needed to operate the statewide service. The current Ride service is provided with 82 vehicles—68–70 used in daily service and 12–14 spares (a 20% spare ratio). A 31% increase in annual vehicle-hours of service under the base service span option would require an additional 26 vehicles—22 in daily operation and four spares. A 33% increase in annual vehicle-hours of service under the extended service span option would require an additional 28 vehicles—23 in daily operation and five spares. Additional state funding would be required to purchase and eventually replace new vehicles.

RIPTA recently procured new Ride vehicles, which are on order with delivery expected in the next year. The per-vehicle cost of these vehicles, fully equipped with needed technology is \$150,000.

Costs to Onboard New Staff and Upgrade Software

To accommodate the additional expected calls and to schedule and manage the additional demand for service, additional Ride operations staff would be needed. Ride currently has six customer service agents, three schedulers, and five dispatchers/controllers. The following additional staff would be needed:

- Two customer service agents
- One scheduler
- Two dispatchers/coordinators

While wages, benefits, and other costs to support this additional staff are included in the per vehicle-hour costs used to estimate additional annual operating costs. Onboarding and equipping new staff would require a one-time training and technology investment. Allowing \$1,500 per employee for onboarding and training, and \$3,000 per employee for workstations and technology, the one-time cost to add six new employees is estimated at \$15,000. This cost would be the same for both span options. In addition, the scheduling and management software (Reveal) would require customization to serve all of Rhode Island at an estimated one-time cost of \$30,000. In summary, one-time staffing and technology costs, regardless of

option, would be \$45,000. **Error! Not a valid bookmark self-reference.** shows the cost of purchasing additional vehicles, onboarding new staff, and upgrading software.

Figure 13 Estimated Additional Startup and Capital Costs for Statewide Ride Service

Scenario	Base (Days)	Extended (Days & Evenings)
One-time startup costs	\$45,000	\$45,000
Additional vehicles required	26	28
Total vehicle costs (capital)	\$3,900,000	\$4,200,000
Total additional startup and capital costs	\$3,945,000	\$4,245,000

Source: Nelson\Nygaard

SUMMARY OF ADDED RIDERSHIP, STAFFING, AND COSTS

Figure 14 summarizes the two service scenarios, including estimated additional ridership, vehicle hours, total annual operating costs, and the estimated capital investment required to add vehicles and equipment, train new staff, and modify the scheduling software. Not included in this summary are potential costs for additional space to store vehicles off site since the existing RIPTA facility would not have sufficient capacity.

Figure 14 Summary of Service Characteristics and Additional Costs for Statewide Ride Service

Scenario	Base (Days)	Extended (Days & Evenings)
Weekday hours	6 AM–7 PM	6 AM–12 AM
Weekend hours	8 AM–5 PM	8 AM–5 PM
Additional annual ridership	59,800	64,200
Additional annual vehicle-hours	89,337	104,867
Net additional operating costs	\$5,449,000	\$6,425,300
Additional startup and capital costs	\$3,945,000	\$4,245,000

Source: Nelson\Nygaard

5 CONSIDERATIONS

The statewide paratransit expansion study evaluated the existing RIde complementary paratransit service required under the ADA to estimate the demand for and costs of delivering a similar service throughout the state. Two hypothetical scenarios were developed.

Based on demographic characteristics, including income, RIPTA's consultant estimates that were the hypothetical service implemented today, paratransit ridership would increase by between 31% and 33%. Operating costs would increase by approximately \$5.4 million (50% higher) and \$6.4 million (59% higher). The two scenarios would require a capital investment of \$3.9–4.2 million.

CONSIDERATIONS FOR IMPLEMENTING STATEWIDE RIDE SERVICE

Designing and implementing actual statewide RIde service would take time, however and would require more planning, outreach, and analysis. This should include additional input from the disability community (e.g., ATAC), and may require further refinement. RIPTA must continue to comply with the DOT ADA regulations, which means maintaining RIde service within the required $\frac{3}{4}$ -mile service area. Other practical considerations for RIde service expansion include:

- **Vehicle Acquisition Lead Times:** The COVID-19 pandemic's impact on global supply chains has also impacted the vehicle manufacturing industry for public transportation. RIPTA estimates that it would take 18–24 months to receive 26–28 additional vehicles.
- **Vehicle Storage:** RIPTA's Elmwood Avenue facility has capacity to store up to 100 RIde vehicles. With an existing fleet of 82 vehicles (80 in Providence and two in Newport) and 26–28 additional vehicles needed for statewide service, off-site storage for six-to-eight additional vehicles would be needed. Costs for leasing a secure nearby facility were not included in this report's estimates.
- **Alternatives to Statewide Service:** The study did not develop plans or costs for alternatives to statewide RIde service. Such studies could evaluate the costs of expanding the service area to a 1.5- or 2-mile buffer on either side of bus routes vs.

the required $\frac{3}{4}$ -mile buffer. Alternatives could consider different operating policies, hours, fares, or trip purpose prioritization, or establish less strict performance standards.

STATEWIDE TRANSIT CONSIDERATIONS

Because Ride service is only part of RIPTA's portfolio, statewide paratransit service should be considered in a broader context, including addressing ongoing driver shortages, providing funding for existing and future transit, and other programs, as discussed below.

Ongoing Driver Shortage

According to the American Public Transit Association (APTA), "public transit providers across North America face a shortage of operators and mechanics during a period of economic instability and reshuffling exacerbated by the COVID-19 pandemic."⁶ RIPTA has also experienced driver shortages and has been forced to adjust its fixed-route service schedules accordingly. One of the measures cited in the APTA study to address the issue is to increase employee compensation (wages, benefits, and other perks) to attract and retain drivers. Because driver compensation is the largest component of operating expenses, hiring additional drivers and mechanics to support expanded service (and increasing overall driver compensation) could require more transit funding in general and higher operating costs for Ride service.

Shoring up Current Transit Funding

RIPTA, like transit agencies across the U.S., is experiencing substantial budget shortfalls due to the COVID-19 pandemic, with ridership and associated fare revenue reductions ranging from 30-70% over the past two years. While federal COVID relief funds have helped sustain RIPTA's operating budget, those funds are projected to be depleted by the end of FY24. In order to maintain current service levels, RIPTA will need an infusion of at least \$30 million in operating revenue in FY25.

Investing in RI's Transit Future

Transit Forward RI, the statewide transit master plan, features five initiatives to transform public transportation in Providence and Rhode Island, greatly enhancing the state's attractiveness and competitiveness to employers and residents. The five initiatives aim to:

⁶ See <https://www.apta.com/research-technical-resources/research-reports/transit-workforce-shortage/>

1. Improve existing services
2. Expand services to new areas
3. Develop high-capacity transit
4. Improve access to transit
5. Make service easier to use

When published in 2020, Transit Forward RI estimated average additional costs of \$94-\$154 million per year, including a doubling of the current annual operating expenditures by RIPTA and Rhode Island Department of Transportation (RIDOT). Transit Forward RI included a funding plan. Since then, the U.S. Congress passed the Bipartisan Infrastructure Law, which includes numerous transit funding opportunities. Leveraging federal funds will state investments in transit can help to implement the initiatives outlined in Transit Forward RI.

Fare-Free Pilot Demonstrations

During 2022 RIPTA explored free-fare transit offerings with three pilot projects (in Newport, Central Falls, and Pawtucket/Providence). Fare-free transit service has significant implications for RIde service: under the ADA, RIde fares cannot be more than twice the fixed-route fare and where fixed-route fares are free, RIde fares must also be free. This means that RIde passengers traveling fully within free-fare zones pay no RIde fare. If additional fixed-route service is free, RIPTA will also see a drop in fare revenues for complementary RIde trips. In addition, the absence of a RIde fare (currently \$4 each way) may encourage current RIde customers to travel more frequently.