

Potential 20-Year Transit Investment Scenarios

1.1 Introduction

Transit in Rhode Island is primarily operated and/or managed by one of two entities, the RI Public Transit Authority (RIPTA) or the RI Department of Transportation (RIDOT).

This document provides an overview of current funding levels for both agencies and presents four potential 20-year funding scenarios:

1. **Maintain Service Levels/Planned Funding:** Increases current funding by 3% annually to keep up with inflation and maintain existing service levels. Does not assume any notable network expansion or enhancement.
2. **Meet State of Good Repair (SGR) Needs:** Increases capital investment to better meet identified maintenance and asset replacement needs.
3. **Continue Ongoing System Expansion:** Continues to invest in systemwide enhancement and expansion at today's funding levels, with a corresponding increase in operating costs to support new services. State of good repair needs would also be met.
4. **Implement the Vision:** Fully implements the statewide vision for transit as presented in the RI Transit Master Plan, *Transit Forward RI* (2020), including an expanded transit network to better meet statewide demand.

These scenarios are intended to inform decision-making related to the programming of varying levels of investment for ongoing transit operations, maintenance, system enhancement and/or expansion.

Current Transit Programs & Funding

An overview of current transit spending in Rhode Island is provided in Table 1. Annual operating funds reflect RIPTA's approved FY2021 operating budget and RIDOT transit activities programmed in the FY2018-2027 State Transportation Improvement Program¹ (STIP).

¹ Statewide Transportation Improvement Plan FY2018-FY2027, adopted December 2017, amended March 2020.

Table 1 Overview of Current Transit Spending in RI (\$FY21, in millions)

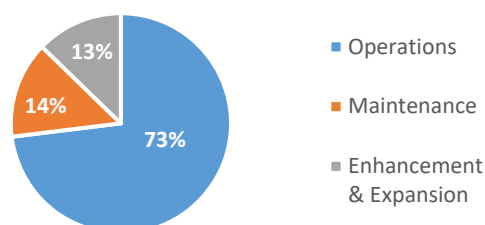
	RIPTA	RIDOT	Total
FY2021 Transit Operations	\$126.6 M ¹	\$10.0 M ²	\$136.6 M
Avg. Annual Asset Maintenance ³	\$20.6 M	\$5.9 M	\$26.5 M
Avg. Annual Enhancement & Expansion ³	\$15.4 M	\$8.4 M	\$23.8 M
Total	\$162.6 M	\$24.3 M	\$187.9 M

Notes:

1. Adopted RIPTA FY2021 Budget (RIPTA Finance, May 2020).
2. Programmed spending for RIDOT transit activities in FY2021 of the FY2018-FY2027 STIP.
3. Average annual funding over the ten-year STIP.

In FY2021, approximately \$187.9 million will be invested to support transit in Rhode Island. The majority (73%) will be directed toward transit operations, including administration and overhead. About 14% will be directed toward asset maintenance and replacement, and 13% toward system enhancement and expansion.

FY2021 Transit Spending in RI



Annual Transit Operations

The cost to operate transit services across the statewide network is estimated to be about \$136.6 million in FY2021.

RIPTA's FY2021 operating budget of \$126.6 million supports fixed route bus, on-demand Flex service, and complementary/ADA paratransit services in 36 of 39 communities across the state.

RIDOT is anticipated to spend about \$10.0 million in FY2021 to support MBTA commuter rail service south of Providence, the Providence-Newport ferry, T-Link rail-bus connections, and commuter resources. RIDOT also has an agreement with the MBTA regarding the transfer of capital funds to support commuter rail service into Providence.

Transit Asset Maintenance/State of Good Repair

An average of about \$26.5 million per year is programmed in the FY2018-2027 STIP for transit asset maintenance. Periodic maintenance, repair and/or replacement of capital assets is needed to maintain the transit network in a "State of Good Repair." Deferring such investments can make service less reliable and involve higher costs over the long term.

On average, about \$20.6 million per year is directed towards the maintenance of RIPTA assets. RIPTA assets include revenue and non-revenue vehicles; maintenance facilities and office buildings; passenger hubs, shelters and bus stop signage; and,

maintenance, communications, information technology and fare collection equipment.

The current STIP allocates an average of \$5.9 million per year to maintain RIDOT-owned transit assets and to contribute towards the maintenance of other rail and ferry assets.² This includes repairs to rail stations owned by RIDOT (Wickford Junction, Kingston, Westerly and Woonsocket), the maintenance of FRIP track segments outside of the Northeast Corridor, and the repair of certain capital assets associated with ferry services.

Amtrak owns and maintains track, signals and wayside equipment within the Northeast Corridor, as well as Providence Station. The annual Amtrak Access Fee paid by RIDOT (for commuter rail operations south of Providence) indirectly supports maintenance of these assets. The Providence-Newport Ferry operating contract also incorporates maintenance for private assets used to provide this service.

Other public transit assets are maintained using funds outside of the federal surface transportation program.³

Transit Expansion & Enhancement

The 10-year STIP identifies a total of \$238 million for transit enhancement and expansion projects, or about \$23.8 million per year. These projects are funded through a mix of state and federal funds, including \$35 million in state bond monies approved by voter referendum in 2014 and federal discretionary grants.

On average, RIPTA is programmed to spend about \$15.4 million per year to improve passenger initiatives, develop new transit corridors and make improvements to hubs, bus stops and technology. RIDOT is programmed to spend about \$8.4 million per year to improve transit hubs and stations, and to construct new stations.

Current expansion projects funded in part using federal discretionary grants include the Downtown Transit Connector and the Pawtucket/Central Falls Commuter Rail Station and Bus Hub.

² The STIP identifies federal funding by year of obligation and doesn't fully obligate all fixed guideway funding. Funds not needed for asset maintenance are transferred to the MBTA in exchange for commuter rail service to Providence.

³ The RI Airport Corporation owns and maintains the T.F. Green/Warwick commuter rail station using airport fees, car rental fees and other sources. The RI Department of Environmental Management owns and maintains the Providence and Newport ferry terminals.

1.2 Potential Future Investment Scenarios

Four potential transit investment scenarios are presented below. These alternative funding strategies represent increasingly higher levels of potential investment over the next 20 years to meet various statewide transit goals.

Table 2 compares the total investment over 20 years in each of the scenarios to current levels of funding programmed for FY2021, with varying levels directed towards transit operations, asset maintenance or enhancement/expansion. Figure 1 shows the relative magnitude of investment under each 20-year scenario.

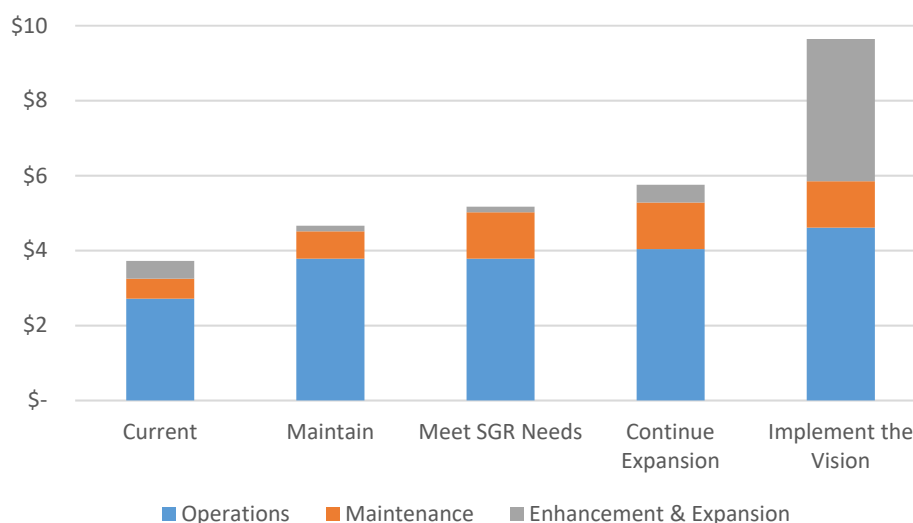
Table 2 Comparison of Total 20-Year Investment Across Scenarios (In \$ millions, inflated to year of expenditure)

	FY2021 Spending	Alternative 20-Year Investment Scenarios			
		Maintain/ Planned	Meet SGR Needs	Continue Expansion	Implement the Vision
Transit Operations	\$2,717 M	\$3,781 M	\$3,781 M	\$4,039 M	\$4,609 M
Asset Maintenance	\$530 M	\$734 M	\$1,241 M	\$1,241 M	\$1,241 M
Enhancement/Expansion	\$477 M	\$149 M	\$149 M	\$477 M	\$3,794 M
Total 20-Year Investment	\$3,724 M	\$4,664 M	\$5,171 M	\$5,757 M	\$9,644 M
<i>Increase over Current Spending</i>		<i>25%</i>	<i>39%</i>	<i>55%</i>	<i>159%</i>

Notes:

1. All costs escalated at 3% annually over 20 years.
2. Current Spending based on approved budgets and adopted FY2018-FY2027 STIP.
3. Maintain/Planned Scenario inflates spending for operations and maintenance by 3% annually and does not pursue expansion projects.
4. Meet SGR Needs reflects increased investment in asset maintenance, repair and replacement based on inputs from RIPTA and RIDOT.
5. Continue Expansion reflects current Enhancement/Expansion funding with a corresponding increase in Transit Operations to support new projects.
6. Implement the Vision: Inflates RI Transit Master Plan cost estimates (Nelson\Nygaard, 2020) to year of anticipated expenditure, less costs to operate existing service and replace existing fleet.

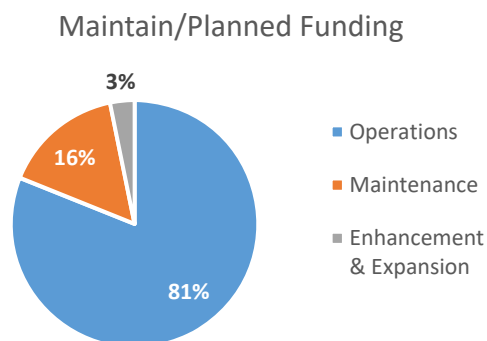
Figure 1 Potential Transit Investment over 20 Years (\$YOE, in \$billions)



Scenario 1: Maintain Service Levels/Planned Funding

As shown in Table 2, the *Maintain/Planned* scenario would involve an estimated 25% increase in statewide transit investment over 20 years.

Operations: Funding would be similar to today but increased to keep up with inflation at 3% annually over 20 years. The annual cost of operating today's services would increase from \$136.6 million to \$246.7 million by year 2041. Existing transit service levels would be maintained, but no new services would be pursued.



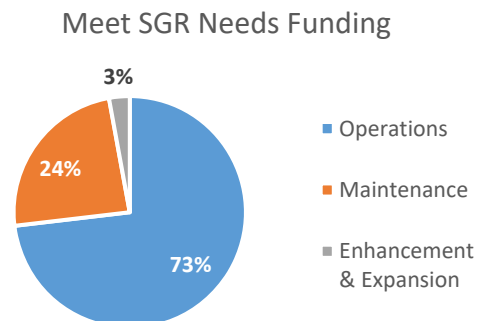
Asset Maintenance:⁴ Funding would be increased to keep pace with inflation, increasing from an average of \$26.5 million annually in the current STIP to \$47.9 million by year 2041. This would provide RIPTA with about 50% of the funding needed to maintain their system in a state of good repair. RIDOT would meet about 85% of anticipated asset investment needs. Some assets in the statewide network would continue to remain in service beyond their useful lifespan with potential impacts on future system reliability.

⁴ Based on input from RIPTA Finance Department and RIDOT Office of Transit, May 2020.

Expansion and Enhancement: Current spending levels would be reduced and focused only on enhancement (e.g. technology improvements, enhanced passenger facilities, fare programs, etc.), rather than the introduction of new services that involve increased operating costs. Discretionary funding would not be pursued for expansion projects. Total expenditures would drop from an average of \$23.8 million annually in the current STIP to \$7.4 million annually.

Scenario 2: Meet State of Good Repair Needs

As shown in Table 2, the *Meet State of Good Repair Needs* scenario would involve an estimated 39% increase in transit investment over 20 years. Additional funding would need to be pursued for asset repair and replacement; there would be no resources directed towards system expansion.



Operations: Same as the *Maintain/Planned* scenario described above.

Asset Maintenance:⁵ Funding would be increased to better reflect asset depreciation and meet anticipated maintenance and repair needs over 20 years. Reinvestment in the existing system would be increased from an average of \$26.5 million today to \$99.6 million by FY2041.

RIPTA's annual maintenance needs are anticipated to be \$87.2 M by FY2041 reflecting ongoing depreciation over 20 years. Fleet replacement will continue to require the largest share of RIPTA's asset maintenance funding (45%). Facility investments (e.g. garages, passenger facilities, bus stops and the East Side tunnel) are anticipated to require about 39% of SGR funds, and information technology and the final 16% would be directed to other equipment (e.g. communications, maintenance equipment, security equipment and office furnishings).

For RIDOT, current state of good repair spending would be increased by about \$1 million per year to reflect the new Pawtucket/Central Falls commuter rail station opening in 2022 and to better maintain other fixed guideway assets. RIDOT annual asset maintenance needs are anticipated to be \$12.4 million by FY2041.

Expansion and Enhancement: Same as *Maintain/Planned Funding* scenario above.

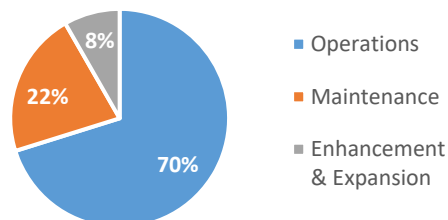
^{5 5} Based on input from RIPTA Finance Department and RIDOT Office of Transit, May 2020.

Scenario 3: Continue Funded Expansion

As shown in Table 2, the *Continue Funded Expansion* scenario would involve an estimated 55% increase in statewide transit investment over 20 years.

Systemwide enhancement and expansion would be funded at the same level as in the current STIP. However, annual operations funding would need to increase to support expanded services. Asset maintenance funding would also be increase to the levels presented above in the *Meet SGR Needs* scenario. Additional funding sources, such as federal discretionary grants, additional statewide bond monies and/or other funds would need to be pursued.

Continue Expansion Funding



Operations: Pursuing service expansion at today's funding levels over 20 years would allow for implementation of about 15% of the full RI Transit Master (see the *Implement the Vision* scenario below). A corresponding increase of 15% in operational costs is assumed to operate new or enhanced services.

Asset Maintenance: Same as *Meet SGR Needs* scenario above.

Expansion and Enhancement: Average annual spending on enhancement and expansion would be \$23.8 million per year, the same as programmed in the current STIP. Over 20 years, this would amount to a total of \$477 million and would allow for partial implementation (about 15%) of the RI Transit Master Plan vision.

Although RIPTA and RIDOT have yet to develop a specific implementation or phasing plan for the master plan, Table 3 suggests a potential slate of projects that could be pursued using this partial funding.

Table 3 Example Enhancement & Expansion Projects at FY2021 Funding Levels

Projects	Capital Cost Range	Notes
RIPTA		
Increase service frequency and span	\$45-55 M	Procure buses to provide more service
Develop new LRT/BRT corridors	\$85-95 M	Project Develop and 30% Design/NEPA
Develop new Rapid Bus corridors	\$70-80 M	Design/construct 2-3 new routes
Develop new Regional Rapid Bus corridors	\$100-130M	Design/construct 2 new routes
Introduce new Local Routes	\$10-12 M	Add 3 new local routes
Introduce Quonset Flex	\$0.3 M	
Special Event Services	\$1 M	Set aside funding
Increase Paratransit services	\$4-5 M	Cover expanded service area
Add new Transit Emphasis Corridor	\$15-20 M	Olneyville Square to KP
Install transit priority treatments	\$5-6 M	TSP, queue jumps, etc. at targeted sites
Make improvements to bus stops	\$8-9 M	At stops with > 150 daily boardings
Build new regional hubs	\$31-34 M	Jewelry District, CCRI
Build new local mobility hubs	\$5-6 M	Introduce five new local hubs
RIDOT		
Pursue FRIP Electrification	\$14-17 M	100% Design; no construction
Pursue Amtrak Station at TF Green/Warwick	\$5-7 M	30% Design
TOTAL	\$477 M	

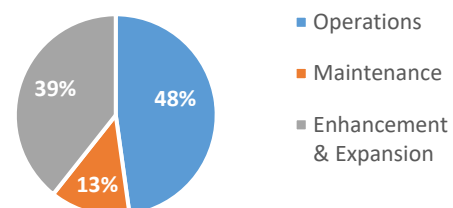
Notes:

1. Cost based on RI Transit Master Plan capital cost estimates, with range reflecting inflation to potential year of expenditure.

Implement RI Transit Master Plan Vision

As shown in Table 2, the *Implement the Vision* scenario would involve one and a half times (159%) of today's investment over 20 years. It assumes the RI Transit Master Plan, *Transit Forward RI*, would be fully implemented. Identified state of good repair needs would also be fully met.

Implement the Vision Funding



Operations: With implementation of the statewide transit vision phased in over 20 years, many large projects would not get implemented until the later years. Average annual operating costs would slowly increase over the 20-year period, with light rail and other high capacity services being introduced in the later phases. When fully implemented in FY2041, the cost to operate statewide transit services would be

about \$431 million (in \$2041), or about three times the magnitude of annual transit operating costs in the state today.

Asset Maintenance: Same as the *Meet SGR Needs* scenario above.

Enhancement & Expansion: The RI Transit Master Plan, *Transit Forward RI*, estimated that an investment of \$3.07 billion (in FY2020) over 20 years would be required to implement the desired statewide transit vision. When inflation is factored in, this cost would increase to an estimated \$3.8 billion investment over 20 years (based on RI Transit Master Plan cost estimates inflated to assumed year of expenditure)

Capital investments would include the purchase of additional fleet for expanded services and the construction new transit infrastructure, including:

- A new light rail transit (LRT) corridor between Central Falls, Providence and CCRI-Warwick
- Bus rapid transit (BRT) between Providence and T.F. Green Airport
- Eight Rapid Bus corridors (similar to today's R Line and assuming continued operation of that line south of Providence along Broad Street).
- Four Regional Rapid Bus lines
- A new Flex zone serving Quonset and Wickford Junction and a new app-based technology to book trips on-demand in all existing Flex zones
- Expanded service frequency on MBTA commuter rail south of Providence to T.F. Green/Warwick station, and expanded service frequency and span on most RIPTA routes
- A new Transit Emphasis Corridor between Olneyville Square and East Providence, with bus lanes and other concepts similar to RIPTA's Downtown Transit Connector

As shown in Table 4, projects with shorter implementation timeframes could be phased in earlier, such as fleet expansion for increased frequency and service span, new rapid bus corridors and other smaller projects. Project development and conceptual design for larger projects could be initiated, but these projects have a longer timeframe for implementation and would not be constructed and operational until the later phases.

Table 4 Example of Phased Implementation of RI Transit Master Plan

Years 1 to 5	Years 6 to 10	Years 11 to 15	Years 16 to 20
<p><u>RIPTA</u></p> <ul style="list-style-type: none"> Expand fleet to increase frequency and span on existing routes Expand fleet to add new routes Introduce new “on-demand” scheduling app for Flex Introduce new Quonset Flex zone Initiate design for LRT/BRT corridors Initiate design for Transit Emphasis Corridor between Olneyville and downtown and 2 Rapid Bus routes Design/construct one Regional Rapid Bus corridor Construct new regional hubs in Providence and at CCRI/Warwick. Introduce 5 community hubs Ongoing Transit Priority and Bus Stop improvements Support special event services Pilot a service partnership program 	<p><u>RIPTA</u></p> <ul style="list-style-type: none"> Expand fleet to increase frequency and span on existing routes Increase service on existing bus routes and add new routes as fleet available. Complete preliminary design/NEPA for LRT/BRT corridors Two new Rapid Bus routes (using new Transit Emphasis Corridor) Add 2nd Regional Rapid Bus routes Ongoing Transit Priority and Bus Stop improvements Design and construct new regional hub in Woonsocket. Introduce 10 community hubs Introduce new service partnerships 	<p><u>RIPTA</u></p> <ul style="list-style-type: none"> Increase service on existing bus routes and add new routes as fleet available. Complete final design for LRT Construct/begin BRT service Start LRT construction Transit Emphasis Corridor between East Providence and downtown Four additional Rapid Bus routes begin operation Add 3rd Regional Rapid Bus route Ongoing Transit Priority and Bus Stop improvements Design and construct new regional hub at TF Green/Warwick Introduce 15 community hubs 	<p><u>RIPTA</u></p> <ul style="list-style-type: none"> Increase service on existing bus routes and add new routes as fleet available. Begin LRT service Add 4th Regional Rapid Bus route Ongoing Transit Priority and Bus Stop improvements Introduce 9 community hubs
<p><u>RIDOT</u></p> <ul style="list-style-type: none"> Increase frequency of rail service to TF Green/Warwick Introduce MBTA/RIPTA fare integration (cross-honored fares) 	<p><u>RIDOT</u></p> <ul style="list-style-type: none"> Complete preliminary design for Amtrak station at TF Green/Warwick Complete final design to electrify FRIP track 	<p><u>RIDOT</u></p> <ul style="list-style-type: none"> Construct Amtrak station at TF Green/Warwick Electrify FRIP track 	<p><u>RIDOT</u></p> <ul style="list-style-type: none"> Open Amtrak Station at TF Green/Warwick