

**Massachusetts Bay
Transportation Authority**

FY24-28 Capital Investment Plan

MBTA Board of Directors

July 27, 2023

FY24-28 CIP | Transforming the MBTA

Advances Critical Future MBTA Initiatives through New Funding

- New funding is aimed at advancing the T towards a future transit system that is electrified, resilient, and accessible

The FY24-28 CIP raises the bar with \$9.7B in investments across 5-years

- Increased investment level when compared to the FY23-27 CIP
- \$1.5B in new funds focused on supporting safety, state of good repair and projects that will improve service for MBTA riders

Focus on the Basics: Safe & Reliable Transportation

- Over \$300M in new funding allocated to address condition of tracks and related assets
- Includes over \$250M to support the agency's response to the FTA Special Directive response

Healey-Driscoll Administration Priorities

In accordance with Gov. Healey, Lt Gov. Driscoll, Sec. Fiandaca & GM Eng, the MBTA's FY24-28 CIP:



Advances the Transportation System of Future at the MBTA

- Investments towards a future transit system that is electrified, resilient, and accessible
- \$1.5B in new funding allocated in the FY24-28 CIP



Prioritizes Safety and Reliability Investments

- Investments to reduce safety risks, increase system reliability, lower maintenance costs, and improve system performance
- \$7.9B or 81% of the estimated total project spending in the FY24-28 CIP



Builds Toward Enhanced and Improved System Accessibility

- Investments instrumental to ensure access for all riders when using our transit system
- \$2.1B or 21% of the estimated total project spending in the FY24-28 CIP



Promotes Environmental Sustainability and Resiliency

- Investments that promote electrification, resource efficiency, and the hardening of the system against extreme weather events
- \$3.8B or 39% of the estimated total project spending in the FY24-28 CIP

Healey-Driscoll Administration MBTA Capital Initiatives

- The Healey-Driscoll Administration’s FY24 H.1 budget recommendation proposes \$181M in one-time MBTA capital investments including station accessibility improvements, including funds for the MBTA’s systemwide escalator and elevator replacement program (\$70M), bridge repair, rehabilitation and replacement (\$100M) and design for the Red-Blue connector (\$11M)
- These investments, while still pending a final FY24 budget, have been included in the updated FY24-28 CIP, and will help to improve the safety and reliability of the MBTA system, while also addressing a key MBTA policy objective and advancing a major expansion project
- \$5M in one-time state assistance for start-up costs for a means-tested fare program, as included in the Governor’s FY24 H.1 budget recommendation, has been included in the MBTA’s FY24 Operating Budget

Key Capital Investments	Proposed Funding
Bridge Repair, Rehabilitation and Replacement	\$100M
Station Improvements and Accessibility, including escalator and elevator program	\$70M
Red-Blue Connector: Advancing to 30% design with a total funding commitment level in the FY24-28 CIP of \$30M	\$11M



FY24-28 CIP | New Funding

New Funding Programmed in FY24-28

\$1,534.2M

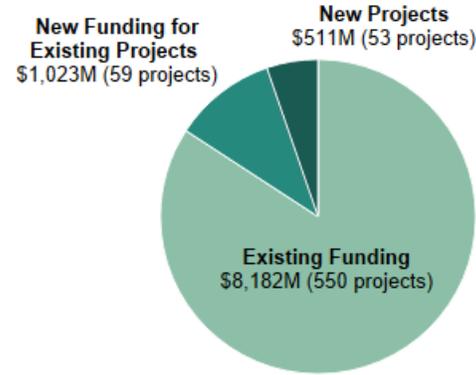
Total Projects Receiving New Funding

112

Total New Projects

53

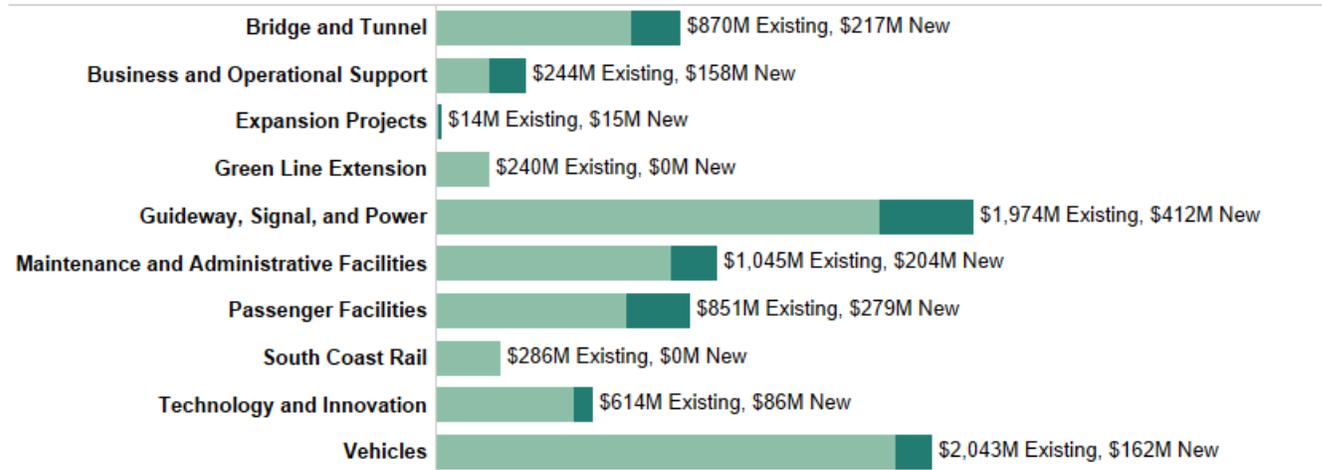
FY24-28 Programmed Spend by New or Existing



Top 15 Projects Receiving New Funding, by FY24-28 New Funding

CIP ID	Project Name	Authorized Budget	FY24-28 New Funding	FY24-28 Total
P0265	Fare Transformation	\$854M	\$61M	\$473M
P0516	On-Call Track III	\$104M	\$35M	\$101M
P0606	ATC Implementation - North Side Commuter Rail Lines	\$467M	\$50M	\$143M
P0671a	Quincy Bus Facility Modernization	\$476M	\$74M	\$401M
P0911	Hybrid Bus Overhaul (New Flyer XDE40 - SR1983)	\$121M	\$95M	\$121M
P0940	Rail Transformation - Early Action Items	\$49M	\$39M	\$48M
P1107	Bridge Program Pipeline - Rehabilitation, Repair and Replacement	\$295M	\$66M	\$85M
P1139	Systemwide Asset Management Program Phase 4	\$54M	\$42M	\$53M
P1151	Heavy Rail Vehicle Conditional and Reliability Assessment	\$55M	\$52M	\$53M
P1165	Transit Station Economic Development - Norfolk County	\$100M	\$40M	\$76M
P1238	Additional FTA Directive-Related Costs	\$37M	\$37M	\$37M
P1251	Anticipated FTA Directive-Related Capital Costs	\$40M	\$40M	\$40M
P1252	Rapid Transit and Commuter Rail Station Accessibility Improvements	\$70M	\$70M	\$70M
P1253	Rapid Transit and Commuter Rail Bridge Replacement	\$100M	\$100M	\$100M
P2204c	On-Call Contracts to Support Track State of Good Repair	\$95M	\$95M	\$95M
Total		\$2,917M	\$896M	\$1,896M

Existing and New FY24-28 Funding by CIP Program



Existing New

Advancing the Transportation System of the Future

New funding in the FY24-28 CIP aims to advance the MBTA towards a future system that is electrified, resilient, and accessible:



\$125M in new funding to modernize, upgrade, and electrify our Bus service

- For the full construction of Quincy (P0671a) and North Cambridge (P0671c) facilities as part of the T's Bus Modernization Strategy, \$85M in new funds are available in the CIP. Also includes \$40M in new funding to support bus improvements at key locations such as Blue Hill Ave (P1005b)



\$61M in new funding to support Regional Rail Transformation and new staff for the Rail Transformation team

- Includes \$39M for Regional Rail Transformation's service planning, track, power, and accessibility upgrades on the EJ Corridor, Fairmount, and Providence/Stoughton lines (P0940); \$2M for electrification conceptual design on the EJ Corridor (P0934a); \$10.2M for business plan and operator contract development (P1202); and \$10M for design for the Old Colony Line double-tracking (P1209)



\$30M to advance the Red-Blue Connector to 30% design, which includes **\$15M in new funding**, and **\$35M in new funds** to harden the rapid transit system against climate change

- The new funds for the Red-Blue Connector will support 30% design completion (P0866). The \$35M in new resiliency funding encompasses \$20.8M for flood protection on the Blue Line (P0912a) and \$14.2M for various resiliency efforts, including our systemwide climate resiliency program (P1205)



Nearly \$220M in new funding toward enhanced and improved accessibility on the system

- Ranges from nearly \$146M in new funds that include escalator and elevator replacements (P1225 and P1226) and station efforts such as JFK/UMass (P1231) and Jackson Square (P1249); and \$8M in new funds for accessibility improvements on the Green Line's D Branch (P1232)

Advancing the Transportation System of the Future



Rendering of the new Quincy Bus Maintenance Facility's interior that will support electrified bus service – the CIP includes new funding for construction (P0671a)



Rendering of the new North Cambridge Bus Maintenance Facility showing charging infrastructure for BEBs – the CIP includes new funding for construction (P0671c)



Conceptual design schematics of potential decarbonized Commuter Rail trains (P0918)



New, bi-level, unpowered Commuter Rail coach (P1152)



Rendering of new Green Line Type10 vehicle that will provide increased capacity, safety, and accessibility on the Green Line (P0369)

Prioritizing Safety and Reliability

With nearly **\$1.2B** in new funding to prioritize safety and reliability, the FY24-28 CIP includes 480+ projects focused on those priorities encompassing roughly \$7.8B or 81% of estimated total project spending:



Nearly \$350M in new funding assigned to our tracks and related assets to support safe and reliable service

- Includes efforts to address speed restrictions (P1238 and P2204) as well as key initiatives such as ATC implementation on the north side of the Commuter Rail (P0606)



Totaling more than \$230M in new funding, the CIP includes 13 projects to support the Authority's response to the FTA's Directives

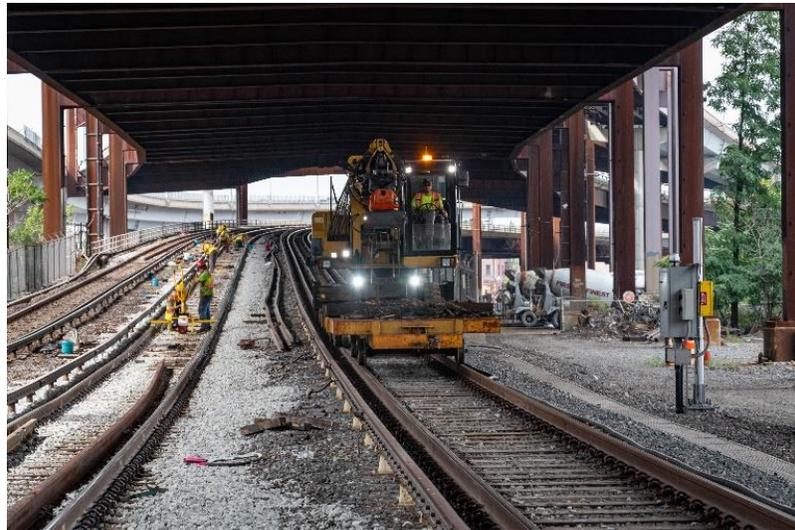
- Focuses on track-related work, asset management, equipment procurement, OCC reconfiguration, and improvements to oversight and preventive maintenance practices



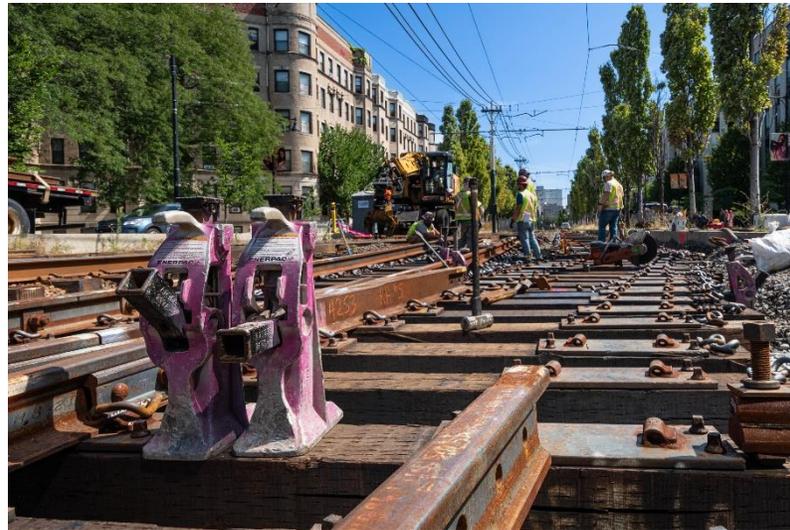
Roughly \$310M in new funds allocated to inspect, repair, and upgrade our passenger and maintenance facilities

- Encompasses safety and accessibility improvements at JFK/UMass (P1231), overhead inspections and repairs at our stations (P1177), facility safety improvements (P1219), among others

Prioritizing Safety and Reliability



Track maintenance and replacement near Sullivan Square Station on the Orange Line



Track maintenance and replacement on the Green Line's E Branch



Repairs at the Red Line's Cabot Yard maintenance facility



Building Enhanced and Improved System Accessibility

With nearly \$220M in new funding to enhance and improve accessibility, the FY24-28 CIP includes 95+ projects focused on those priorities encompassing roughly \$2.1B or 21% of estimated total project spending:

 ↑ Nearly \$146M in new funding assigned to projects that provide elevator and escalator improvements at our passenger facilities

- Ranges from escalator and elevator replacements (P1225 and P1226) to targeted station efforts at Ruggles (P0856), Jackson Square (P1249), Newton Highlands (P0129), among others

 Over \$50M in new funds to support accessibility improvements at our passenger facilities beyond elevator and escalators

- Includes, but is not limited to, wayfinding (P1248), platform improvements (P1150 and P1225), and accessibility-centered efforts on the Green Line's D-Branch (P1232)

 New accessibility funding encompasses \$70M for rapid transit and Commuter Rail accessibility improvements included in the Governor's FY24 H.1. budget recommendation

Building Enhanced and Improved System Accessibility



Rendering of the upgraded, fully accessible, Newton Highlands Station on the Green Line. Upgrades will include raised platforms, detectable warning strips, and two accessible routes to platforms as shown in the image



Rendering of the upgraded, fully accessible, Natick Center Station on the Commuter Rail. Upgrades include full-length high-level platforms for easier boarding, two new elevators, accessible ramps, and pedestrian bridge replacement



New two-way communication (audio and video) displays at Government Center Station that serve the Blue and Green Lines which provide enhanced system accessibility to our riders



Promoting System Sustainability & Resiliency

With nearly \$559M in new funding assigned to projects that help promote sustainability and resiliency, the FY24-28 CIP includes 165+ projects with benefits to those priorities encompassing roughly \$3.8B or 39% of total project estimated spend:



Over \$340M in new funding assigned to projects with resiliency benefits that harden the system against extreme weather events

- *Includes, but is not limited to, flood prevention on the Blue Line tunnel's Airport Portal (P0912a), and pump room upgrades on the Silver Line and rapid transit tunnels (P0912b)*



Nearly \$210M in new funding allocated to projects with sustainability benefits to reduce the MBTA's carbon footprint and increase efficiency

- *Encompass construction funding for Quincy (P0671a) and North Cambridge (P0671c) facilities as well as energy efficiency initiatives (P1230), among other efforts*



More than \$10M in new funding to continue long-term vulnerability assessments and support climate resiliency

- *Ranges from systemwide vulnerability and resiliency programs (P0680 and P1205) to targeted efforts to harden our communications (P1206) and drainage (P1227) against future climate conditions*

Promoting System Sustainability & Resiliency



Installation of flood gates on the Green Line's Fenway Portal near Fenway Station



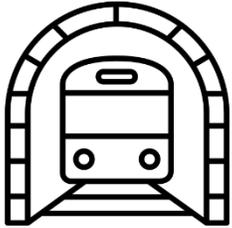
A Silver Line Battery Electric Bus (BEB) with an example of en-route charging equipment



Solar panel canopy at the Nantasket Junction Station on the Commuter Rail's Greenbush Line



Spotlight | Addressing Climate Change at the MBTA



MBTA Climate Planning

The MBTA is currently developing a climate plan that seeks to reduce our energy usage & achieve net zero, as well as prioritize top actions for climate response. This planning will help the Agency meet regulatory requirements, protect our assets and riders from extreme weather and align our actions across the agency.



Vulnerability assessments to prepare for future climate conditions

To support the MBTA's climate planning activities, the Authority is completing vulnerability assessments to forecast climate conditions in 2030, 2050 and 2070 and understand impacts from extreme weather events. The MBTA is working with stakeholders to share knowledge, develop policies, and work on regional protection projects

- *More than \$10M in new and existing funding in the CIP is allocated towards systemwide vulnerability and resiliency programs (P0680 and P1205), as well as targeted efforts to harden our communications (P1206) and drainage (P1227) against future climate conditions*



Prioritizing resiliency in project selection and energy-focused elements into capital project development

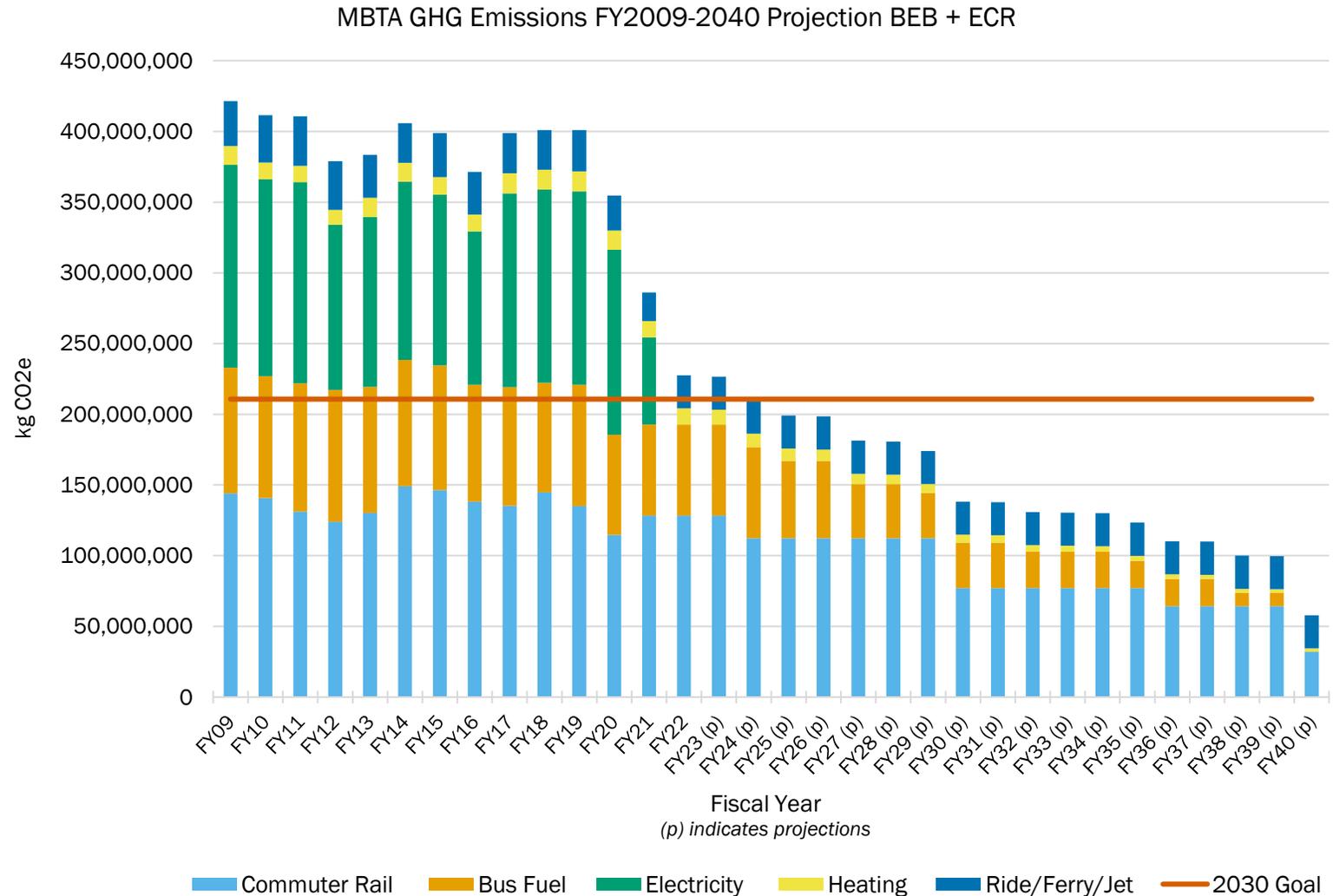
The project selection process prioritizes climate resiliency measures, in addition sustainable and energy-focused elements are being incorporated into asset management and capital project delivery.

- *The CIP includes over \$22M in new funding to prevent flooding on the Blue Line tunnel's Airport Portal (P0912a) and repair pump rooms on the Silver Line and rapid transit tunnels (P0912b). Additionally, over \$8M in new and existing funding is focused on our energy management and billing systems (P0434 and P1230), and renewable energy initiatives (P0290)*

Spotlight | GHG Emissions Reduction and Decarbonization

The MBTA uses many forms of energy to serve our riders and we constantly seek to reduce our carbon footprint:

- The Authority remains committed to the targets set by, *Leading by Example*, and is working towards reducing GHG emissions from the burning of onsite fossil fuels at buildings and vehicles
 - The MBTA is required to reduce GHG emissions by 50% by 2030 and the agency is on track to achieve that goal by 2024
- Through funding for the development of the MBTA’s climate planning, Bus and Rail Electrification initiatives, among other efforts, the CIP supports the Authority in progressing toward GHG and emission reduction goals
- Continued progress toward these goals will be driven by:
 - Identification of priority actions and funding needs for climate change response based on the results of our climate planning efforts in development
 - Continuous purchasing of renewable energy credits (RECs)



Spotlight | Vehicle Electrification

Bus Electrification

The CIP supports the T's Bus Electrification Strategy and includes \$85M in new funding to advance the Strategy's goals through:

- New construction funding for Quincy and North Cambridge facilities, and existing design funding for Arborway
- Existing funds for the purchase of 80 battery-electric buses (BEBs) to support electrified service from Quincy and North Cambridge as the facilities come online
- Existing funds for initial planning of future modernized bus facilities such as Wellington Bus Facility



Silver Line's 60ft battery-electric bus with electric charging infrastructure

For more info, please refer to the Bus Electrification Strategy at: <https://www.mbta.com/projects/bus-electrification>

Non-Revenue Fleet Electrification

The MBTA is working towards transitioning other aspects of our fleet to zero emissions technology:

- The T is in the process of analyzing and evaluating options focused on our non-revenue vehicle fleet to comply with *Leading by Example*
- An analysis is in development to identify opportunities to replace our non-revenue fleet with electric vehicles
- Additionally, electric vehicle charging infrastructure is being installed at our facilities to support these efforts



Non-revenue hybrid fleet

Spotlight | Regional Rail and Rail Electrification

To advance the first phase of Regional Rail Transformation, the FY24-28 CIP includes over \$120M in programmed investments, which includes \$61M in new funds, focused on:



Planning, design, and “no regrets” capital investments to deliver electrified, all-day, bidirectional Regional Rail and high-frequency urban rail service

- *For the planning, design, and implementation of early action items, the CIP includes \$65M in new and existing funds for the addition of turn tracks; power upgrades and permitting for rail electrification and electric train pilot; accessibility and platform improvements; among other efforts*



Specifications development for a decarbonized fleet and future operator contract for Regional Rail service

- *Includes \$60M for Regional Rail Transformation’s planning and industry dialogue to develop specifications for the future decarbonized Regional Rail rolling stock, as well as legal, technical, and financial advice support for the procurement of operational partners for the current and future decarbonized services*



Expansion of the Rail Transformation team to support Regional Rail implementation and electrification

- *The new funds for Rail Transformation includes additional headcount to reach a fully staffed Rail Transformation Office to support current and future project work*

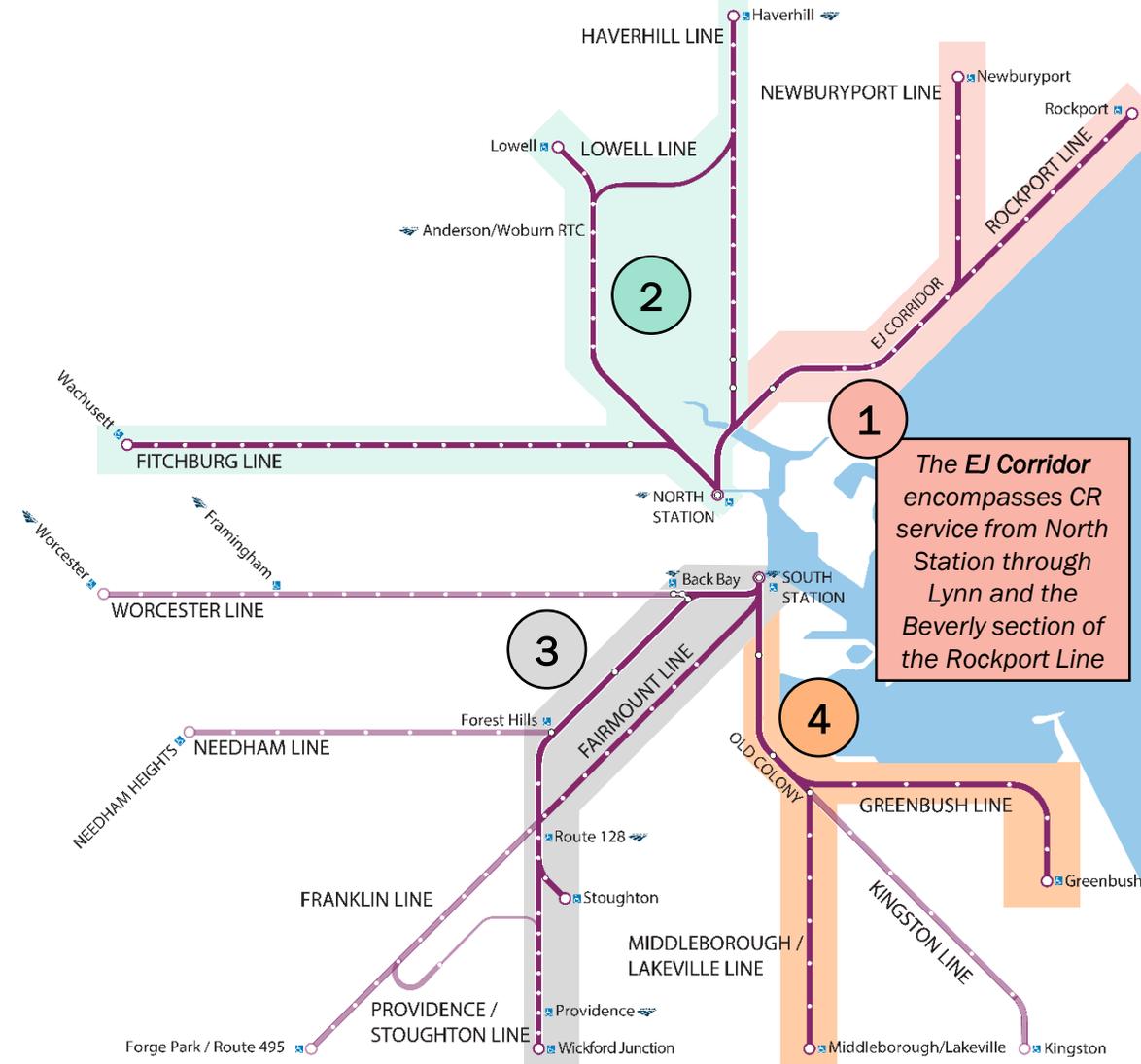
Spotlight | Regional Rail and Rail Electrification

The first phase of Regional Rail Transformation includes targeted CIP investments on the North and South Side of the Commuter Rail:

- 1 On the **Environmental Justice (EJ) Corridor**, these investments include:
 - Conceptual design of power systems, substation, signal and track upgrades, and other critical path activities for EJ Corridor electrification
 - Beverly turn tracks improvement (nearly completed)
 - Planning of track and platform upgrades for 20-minute service to Beverly
 - Site clearance and conceptual design of Salem’s maintenance facility
- 2 On the **Haverhill, Lowell, and Fitchburg Lines**, the CIP supports design and construction of turn tracks and other improvements for 30-minute urban rail service to stations within Route 128/I-95
- 3 On the **Fairmount and Providence/Stoughton Lines**, the focus is on the planning and design of power upgrades, implementing 30-minute service on the Fairmount Line, and permitting for a decarbonized pilot
- 4 On the **Old Colony Lines**, the CIP includes design funding for double-tracking to deliver hourly service on the branches and start planning for the megaproject to double track between Boston and Quincy Center

Additionally, the CIP includes key efforts across the Commuter Rail:

-  Including future fleet and operator procurement, rail crossing safety improvements, new bi-level unpowered coaches, North Station Draw 1 Bridge replacement, South Station Tower 1 Interlocking Early Action, among other efforts



Spotlight | Passenger Facility Investments

The FY24-28 CIP includes **\$1.1B** to rehabilitate and upgrade stations, stops, and parking facilities to improve accessibility and the customer experience.



\$205M for accessibility and critical infrastructure improvements on the Commuter Rail:

- \$39M for accessibility and infrastructure improvements at Worcester Union Station, including a new high-level platform, elevators, and track (P0395)
- \$37M for the reconstruction and modernization of Winchester Center Station, including new accessibility infrastructure and station brightening (P0179)*
- \$26M for the reconstruction and modernization of Natick Center Station, including new fully accessible high-level side platforms (P0174)*
- \$18M to advance designs and implement short-term solutions at several inaccessible stations on the Commuter Rail (P1150)*
- \$15M to advance design of double-side, high-level, fully accessible platforms at Auburndale, West Newton, and Newtonville stations (P0170)*



\$459M for the design and construction of modernized stations on the Red, Orange, Green, and Blue Lines:

- \$84M to construct four new elevators, raise platforms, egress stairs, and upgraded fire alarm systems at Symphony Station (P0168)
- \$76M to rebuild Green Line surface stations and related infrastructure on the B, C, D, and E lines to address ADA compliance (P0890, P1009, P1232)*
- \$72M for the design and construction of 3 new elevators connecting the Red and Orange Lines at Downtown Crossing (P0074)
- \$42M for accessibility improvements at Newton Highlands Station, including new ramps, raise platforms, and pedestrian crossing improvements (P0129)*
- \$41M for improvements to Hynes Convention Center Station, including raised platforms; redundant elevators, and upgrades to key systems (P0626)
- \$26M for the construction of a new elevator and modernization of an existing elevator at Jackson Square Station (P1249)*
- \$2M for the planning of a new JFK/UMass station redesign to increase safety, accessibility, and climate resiliency (P1231)*



\$59M for projects on the Bus, Ferry, and Silver Line systems to improve safety, enhance system accessibility, and modernize facilities

- \$22M to replace the floating dock, access gangway, canopy, and walkways at the Hingham ferry station (P0078)
- \$12M for improvements to bus stops that which are unsafe or have significant barriers to accessibility (P1109, P0613)



\$415M for systemwide and multimodal projects to improve accessibility and station SGR

- \$120M for continued improvements at Ruggles Station addressing accessibility, code-compliance, and state-of-good repair issues (P0856)*
- \$70M to support design and construction of station renovations and accessibility improvements on the rail and transit networks (P1252)*
- \$32M to support design and some construction work for the replacement of elevators and/or addition of new elevators at transit stations (P0075)

Spotlight | Passenger Facility Investments



Rendering of the outbound Symphony station entrances next to the BSO's Symphony Hall (October 2021)



Rendering of Columbus Ave. entrance at Ruggles Station (September 2022)



New elevator shaft under construction at Worcester Union Station



FY24-28 CIP | Summary

Total Projects

619

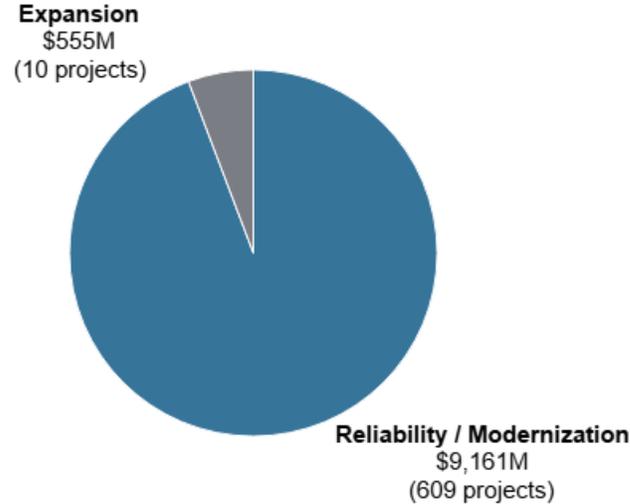
FY24-28 Programmed Spend

\$9,716.1M

Executing Departments

30

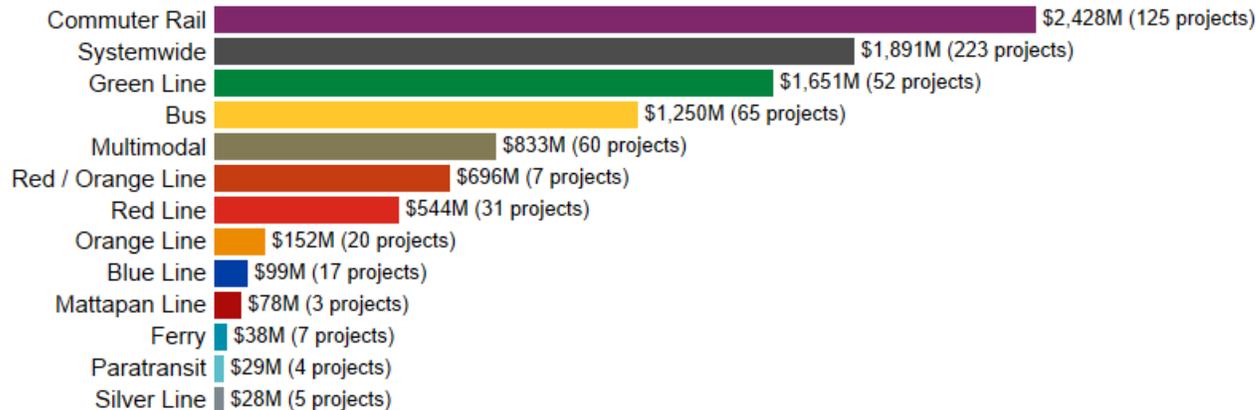
FY24-28 Programmed Spend by CIP Priority



Top 15 Projects by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	Authorized Budget	FY24-28 Total
P0018	North Station Draw 1 Bridge Replacement	Commuter Rail	\$574M	\$337M
P0095	Green Line Extension	Green Line	\$2,119M	\$216M
P0160	South Coast Rail Expansion	Commuter Rail	\$921M	\$271M
P0265	Fare Transformation	Systemwide	\$854M	\$473M
P0285	Signal Program - Red/Orange Line	Red / Orange Line	\$289M	\$153M
P0362	Red / Orange Line Vehicles	Red / Orange Line	\$1,073M	\$390M
P0369	Green Line Type 10 Vehicle Replacement Program	Green Line	\$1,000M	\$427M
P0370	Green Line Train Protection	Green Line	\$213M	\$146M
P0551	Longfellow Approach	Red Line	\$210M	\$202M
P0606	ATC Implementation - North Side Commuter Rail Lines	Commuter Rail	\$467M	\$143M
P0618	Procurement of 40ft Enhanced Electric Hybrid Buses	Bus	\$349M	\$259M
P0671a	Quincy Bus Facility Modernization	Bus	\$476M	\$401M
P0889	Tower 1 Interlocking Early Action Project	Commuter Rail	\$169M	\$140M
P0924	B Branch Accessibility & Capacity Improvements	Green Line	\$221M	\$176M
P1152	Procurement of Hyundai Rotem Bi-Level Coaches - Option	Commuter Rail	\$161M	\$153M
Total			\$9,095M	\$3,885M

FY24-28 Programmed Spend by Primary Mode



FY24 Proposed Capital Spend

The MBTA continues to sustain an unprecedented level of investment focused on the safety and reliability of our system, the modernization of our assets and the strategic expansion of our network.

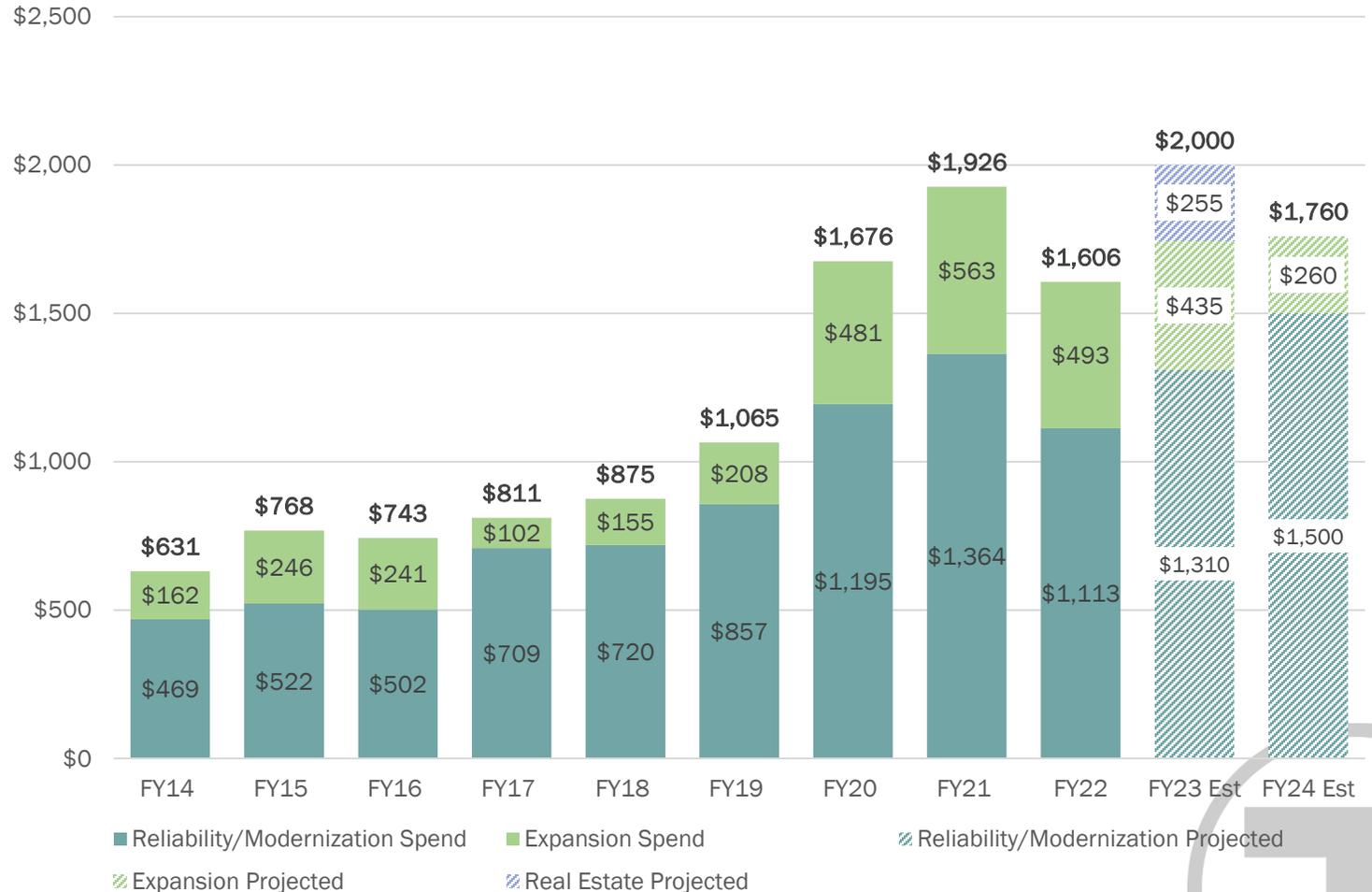
Average annual capital spend in the period of FY20 to FY22 was nearly twice as high as the preceding three-year period of FY17-FY19.

For FY23, exclusive of the one-time real estate acquisition of Widett Circle, MBTA target capital spend is \$1,745.

Looking ahead to FY24 the MBTA has once again set an ambitious spending goal of \$1.76B:

- \$1,500M in Reliability/Modernization
- \$260M in Expansion

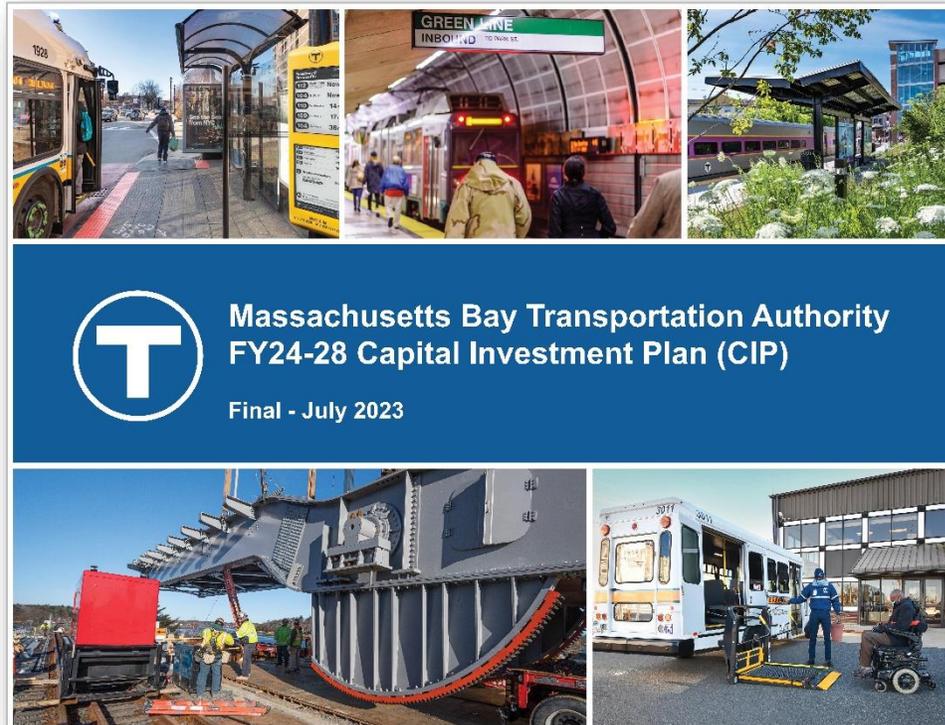
Actual and Projected Capital Spend FY14-24



FY24-28 CIP Book

The final FY24-28 CIP document is structured around five major components and will be available at:

www.mbta.com/cip



- The CIP Book details what the MBTA’s Capital Plan is, our investment priorities, and key considerations for the process
- It includes a summary of new and proposed investments as well as breakdowns by CIP Programs and Modes/Lines
- It highlights the public comments we received this year and our responses to the public’s requests and how those feed into the capital plan
- It provides a detailed project list, with descriptions and status for the 618 projects included in the plan



Board Vote

VOTED:

To approve the Fiscal Year 2024-2028 Capital Investment Program (“CIP”), as presented at the July 27, 2023 meeting of the MBTA Board of Directors and as attached hereto as Appendix A, and to authorize the General Manager, in the name of and on behalf of the Massachusetts Bay Transportation Authority, to take any steps he deems necessary and appropriate to provide notice to the Legislature and the public of the CIP, pursuant to M.G.L. c. 161A, §5.



Appendix | CIP Program Summary Slides – New Funding



Program Summary | Bridge and Tunnel

Program Purpose

Repairs, reconstructs, and replaces Commuter Rail and transit bridges, tunnels, culverts, and dams

Total Projects

44

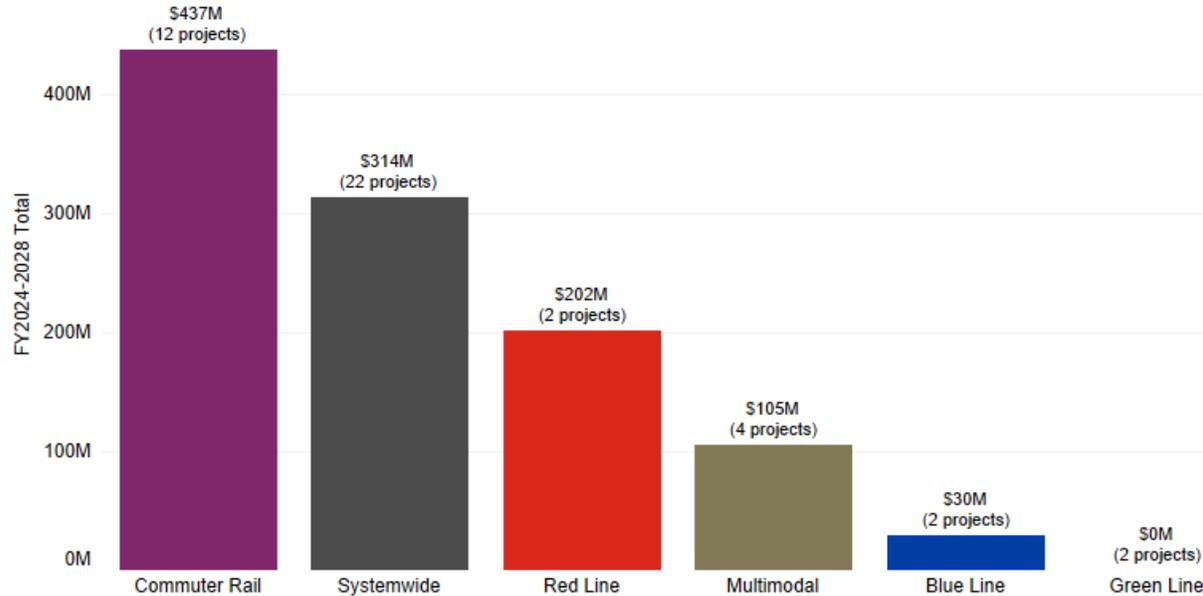
FY24-28 Programmed Spend

\$1,087.8M

Executing Departments

6

FY24-28 Programmed Spend by Primary Mode



Bridge and Tunnel Projects Receiving New Funding, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	FY24-28 New Funding	FY24-28 Total	Total Authorized Budget
P1253	Rapid Transit and Commuter Rail Bridge Replacement	Multimodal	\$100.0M	\$100.0M	\$100.0M
P1107	Bridge Program Pipeline - Rehabilitation, Repair and Replacement	Systemwide	\$65.8M	\$85.3M	\$295.0M
P0909	Repairs and Rehabilitation of MBTA-Owned Dams	Commuter Rail	\$16.5M	\$25.6M	\$40.0M
P1000	Urgent Structural Design Support	Systemwide	\$7.7M	\$10.5M	\$11.5M
P1240	Boyd Street Pedestrian Bridge Demolition	Commuter Rail	\$2.3M	\$2.3M	\$2.3M
P1200	Rapid Transit Tunnel Lighting Upgrades	Multimodal	\$2.2M	\$2.2M	\$2.2M
Total			\$194.4M	\$225.9M	\$450.9M

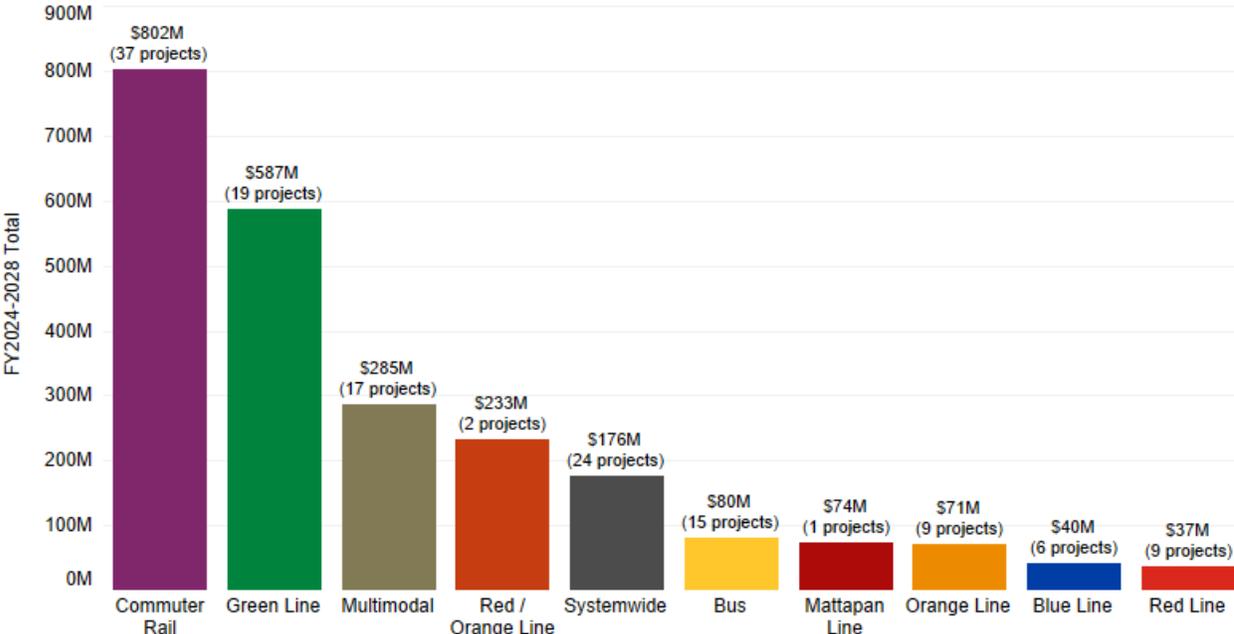
Program Summary | Guideway, Signal, and Power

Program Purpose

Rehabilitates, replaces, and upgrades guideway, signal, and power assets across Commuter Rail, transit, and bus

Total Projects	FY24-28 Programmed Spend	Executing Departments
139	\$2,386.4M	8

FY24-28 Programmed Spend by Primary Mode



Guideway, Signal, and Power Projects Receiving New Funding, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	FY24-28 New Funding	FY24-28 Total	Authorized Budget
P0606	ATC Implementation - North Side Commuter Rail Lines	Commuter Rail	\$50.0M	\$142.9M	\$466.8M
P0516	On-Call Track III	Multimodal	\$34.7M	\$101.5M	\$104.3M
P0692	PRIIA-NEC Baseline Capital Charges	Commuter Rail	\$12.8M	\$57.4M	\$125.3M
P0940	Rail Transformation - Early Action Items	Commuter Rail	\$39.0M	\$47.9M	\$49.0M
P1238	Additional FTA Directive-Related Costs	Systemwide	\$37.4M	\$37.4M	\$37.4M
P1213	SCADA Equipment Update	Systemwide	\$15.0M	\$15.0M	\$15.0M
P1212	15kV Feeder and Duct Bank Replacement	Multimodal	\$15.0M	\$15.0M	\$15.0M
P1210	PILC-EPR Medium Voltage Cable Replacement Program	Multimodal	\$14.8M	\$14.8M	\$14.8M
P1209	Rail Transformation Early Actions - Old Colony Double Track	Commuter Rail	\$10.0M	\$10.0M	\$10.0M
P1207	Rapid Transit Rail Fastener Upgrades Assessment	Orange Line	\$6.2M	\$6.2M	\$6.2M
P1208	Signal Infrastructure ROW Hazards and Safety Cleanup	Multimodal	\$1.0M	\$1.0M	\$1.0M
P1214	Signal Switch Heater Modernization	Multimodal	\$0.5M	\$0.5M	\$0.5M
P1211	Green Line Microlok and Fiber Modernization	Green Line	\$0.5M	\$0.5M	\$0.5M
P1241	Signal CIH HVAC Rehab and Modernization	Multimodal	\$0.3M	\$0.3M	\$0.3M
Total			\$237.0M	\$450.3M	\$845.9M

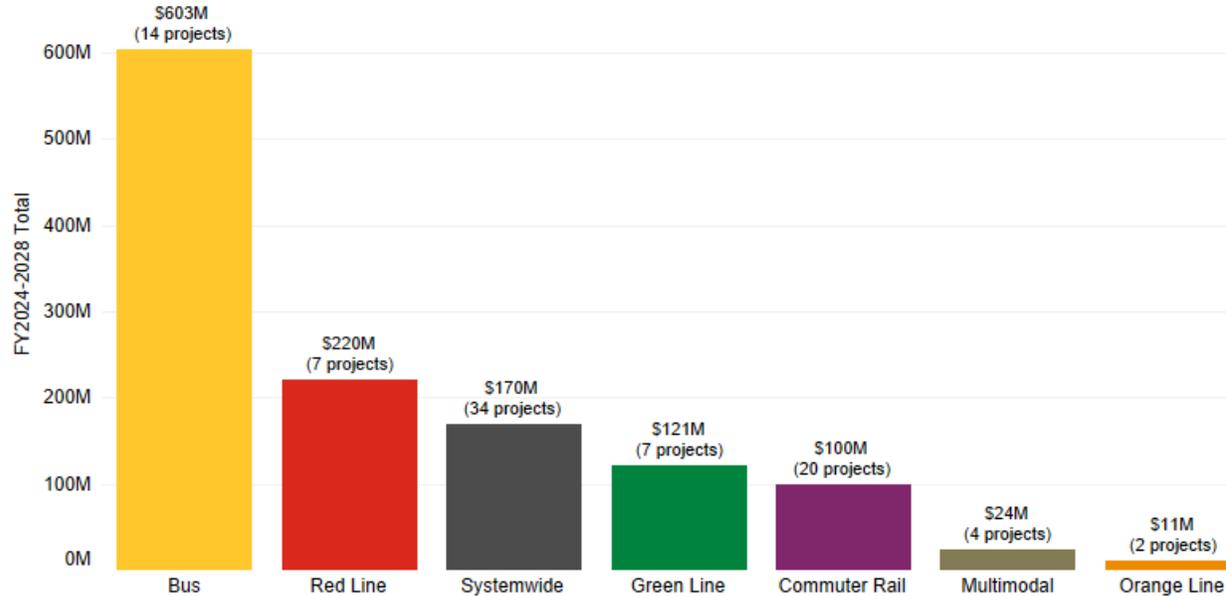
Program Summary | Maintenance and Administrative Facilities

Program Purpose

Rehabilitates and upgrades maintenance and administrative facilities that support operations

Total Projects	FY24-28 Programmed Spend	Executing Departments
88	\$1,249.1M	8

FY24-28 Programmed Spend by Primary Mode



Maintenance and Administrative Facilities Projects Receiving New Funding, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	FY24-28 New Funding	FY24-28 Total	Total Authorized Budget
P0671a	Quincy Bus Facility Modernization	Bus	\$74.1M	\$401.0M	\$476.2M
P0671c	North Cambridge Bus Facility Retrofit	Bus	\$11.0M	\$42.3M	\$43.0M
P0126	Facility Roof Replacement	Systemwide	\$20.0M	\$41.3M	\$72.5M
P1216	Everett Building 2 Floor Repairs	Multimodal	\$18.8M	\$18.8M	\$18.8M
P1220	Employee Breakroom and Bathroom Upgrades Program	Systemwide	\$15.0M	\$15.0M	\$15.0M
P1224	Systemwide Trailer Replacement Program	Systemwide	\$10.4M	\$10.4M	\$10.4M
P1215	Systemwide Replacement of Lifts and Cranes	Systemwide	\$10.0M	\$10.0M	\$10.0M
P1222	Codman Yard Storage and Office Facility	Red Line	\$9.6M	\$9.6M	\$9.6M
P0952	Widett Layover and Maintenance Facility	Commuter Rail	\$7.8M	\$7.8M	\$10.5M
P1219	Facility Safety Improvements	Systemwide	\$4.0M	\$4.0M	\$4.0M
P1218	Transit Facilities Maintenance Capital Expenses	Systemwide	\$2.5M	\$2.5M	\$2.5M
P1217	Storage Building at South Boston Power Facility	Systemwide	\$2.5M	\$2.5M	\$2.5M
P1223	Von Hillern Yard Storage Facility	Red Line	\$2.0M	\$2.0M	\$2.0M
P1221	Orient Heights Storage and Office Facility	Multimodal	\$2.0M	\$2.0M	\$2.0M
Total			\$189.6M	\$569.1M	\$678.8M

Program Summary | Passenger Facilities

Program Purpose

Rehabilitates and upgrades stations, stops and parking facilities to improve accessibility and the customer experience

Total Projects

104

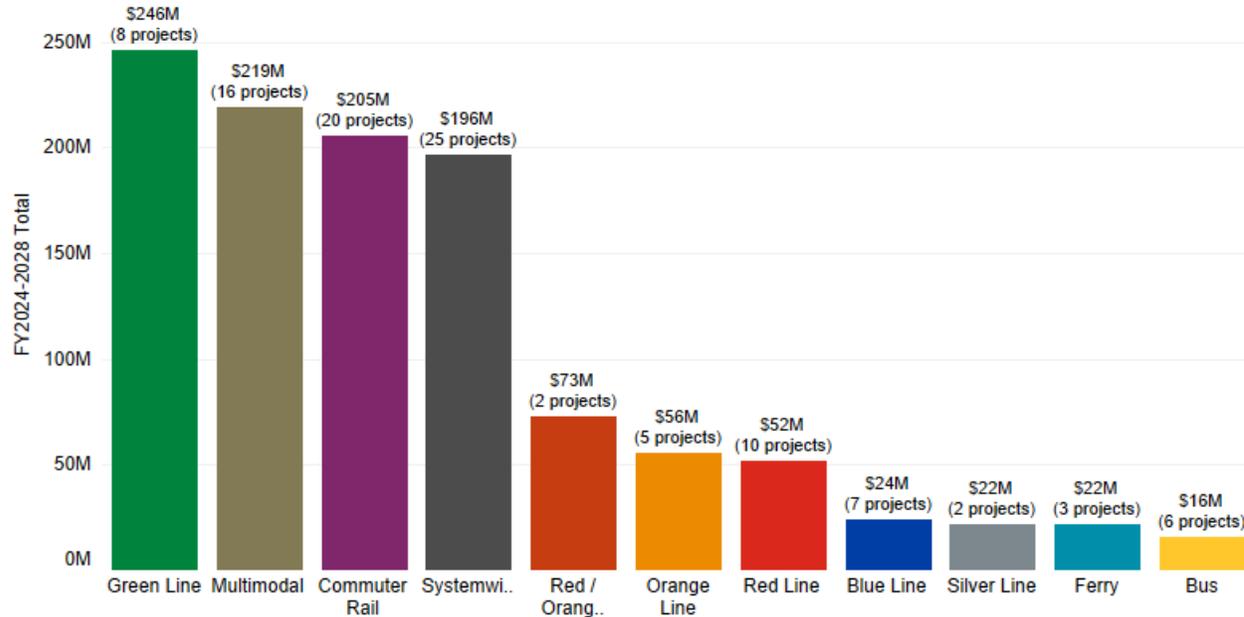
FY24-28 Programmed Spend

\$1,130.1M

Executing Departments

13

FY24-28 Programmed Spend by Primary Mode



Passenger Facilities Projects Receiving New Funding, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	FY24-28 New Funding	FY24-28 Total	Authorized Budget
P0856	Ruggles Station Improvements Phase 2	Multimodal	\$25.1M	\$119.6M	\$124.5M
P1252	Rapid Transit and Commuter Rail Station Accessibility Improv..	Multimodal	\$70.0M	\$70.0M	\$70.0M
P0129	Newton Highlands Green Line Station Accessibility Project	Green Line	\$15.8M	\$42.1M	\$48.0M
P0179	Winchester Center Station	Commuter Rail	\$0.9M	\$37.0M	\$61.8M
P0174	Natick Center Station Accessibility Project	Commuter Rail	\$7.6M	\$26.3M	\$57.0M
P1150	High Priority Stations Accessibility Improvements Program	Commuter Rail	\$10.0M	\$18.0M	\$19.0M
P1225	Systemwide Escalator and Elevator Replacement Program	Systemwide	\$15.0M	\$15.0M	\$15.0M
P0087	Braintree and Quincy Adams Garage Rehabilitation	Red Line	\$5.1M	\$12.9M	\$126.7M
P0404	Courthouse Station Leaks	Silver Line	\$1.0M	\$8.8M	\$37.1M
P1232	Green Line D Branch Enhanced Accessibility Improvements	Green Line	\$8.0M	\$8.0M	\$8.0M
P1137	Emergency Power and Lighting	Multimodal	\$5.0M	\$7.5M	\$8.0M
P1228	Systemwide Door Replacement Program	Systemwide	\$5.3M	\$5.3M	\$5.3M
P1227	Systemwide Drainage Mapping and Repairs Program	Systemwide	\$5.0M	\$5.0M	\$5.0M
P1226	Vertical Transportation Safety Modernization	Systemwide	\$5.0M	\$5.0M	\$5.0M
R0031	Stations Needs Assessments	Multimodal	\$3.0M	\$4.1M	\$5.8M
P0881	Parking and Paving II	Systemwide	\$2.0M	\$3.6M	\$9.3M
P1231	JFK Station/Busway Safety and Accessibility Reconstruction	Multimodal	\$2.3M	\$2.3M	\$2.3M
P0076	Oak Grove Station Vertical Transportation Improvements	Orange Line	\$1.0M	\$2.1M	\$40.7M
P1229	Systemwide Tactile Paving and Platform Edge Repairs	Systemwide	\$2.0M	\$2.0M	\$2.0M
P0066e	Harvard/Central Elevator	Red Line	\$0.5M	\$1.3M	\$19.5M
P1230	Commercial Tenant Billing System	Systemwide	\$0.5M	\$0.5M	\$0.5M
Total			\$190.1M	\$396.4M	\$670.5M

Program Summary | Vehicles

Program Purpose

Rehabilitates and replaces revenue fleets and non-revenue vehicle equipment for reliable and safe operations

Total Projects

90

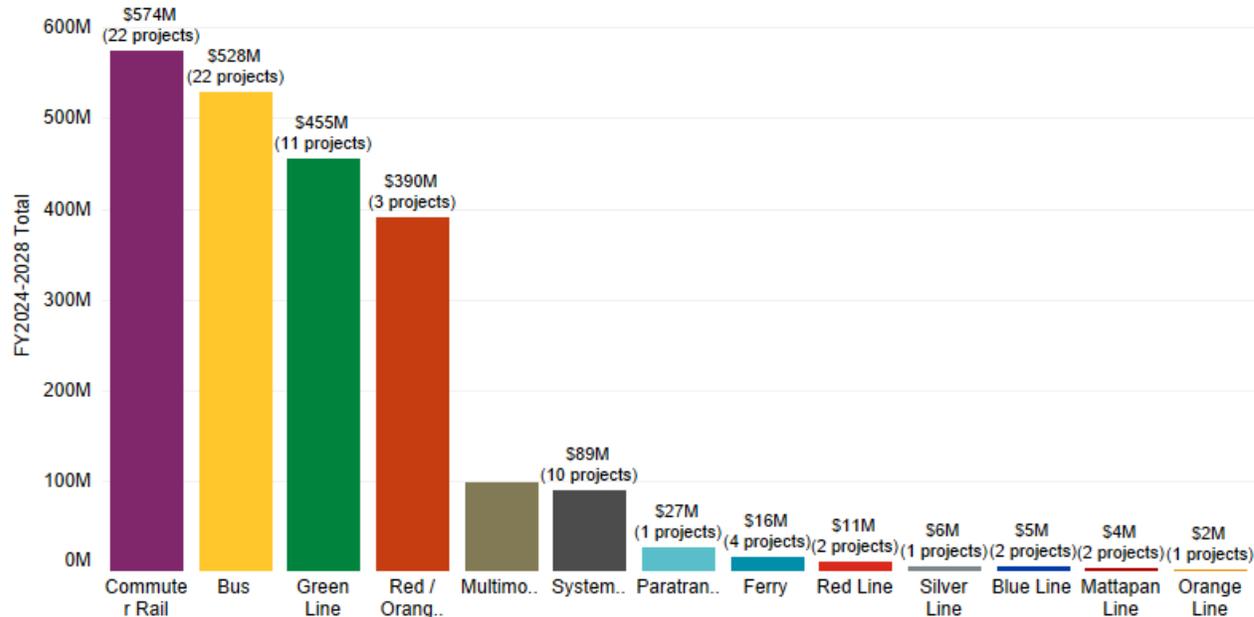
FY24-28 Programmed Spend

\$2,204.9M

Executing Departments

7

FY24-28 Programmed Spend by Primary Mode



Vehicles Projects Receiving New Funding, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	FY24-28 New Funding	FY24-28 Total	Total Authorized Budget
P0911	Hybrid Bus Overhaul (New Flyer XDE40 - SR1983)	Bus	\$94.9M	\$120.9M	\$120.9M
P1151	Heavy Rail Vehicle Conditional and Reliability Assessment	Multimodal	\$52.2M	\$53.5M	\$55.2M
P1157	Systemwide Non-Revenue Vehicles Program - Phase 2	Systemwide	\$12.0M	\$18.0M	\$18.0M
P1237	CM2150 Engine Replacements	Bus	\$2.4M	\$2.4M	\$2.4M
P0928	Ferry Enhancements (Vessel, Docks & Infrastructure)	Ferry	\$0.3M	\$0.3M	\$0.6M
Total			\$161.8M	\$195.1M	\$197.1M

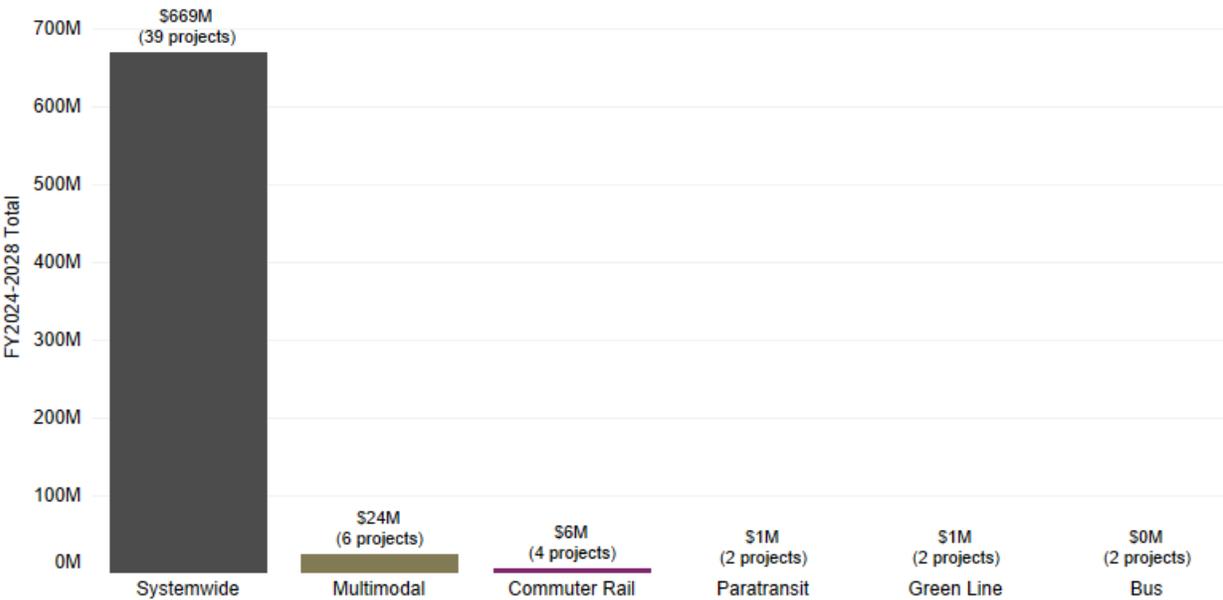
Program Summary | Technology and Innovation

Program Purpose

Investments in technology to enhance productivity, modernize the system, and improve the quality of service

Total Projects	FY24-28 Programmed Spend	Executing Departments
55	\$700.5M	16

FY24-28 Programmed Spend by Primary Mode



Technology and Innovation Projects Receiving New Funding, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	FY24-28 New Funding	FY24-28 Total	Total Authorized Budget
P0265	Fare Transformation	Systemwide	\$61.3M	\$61.3M	\$61.3M
P0972	PA/ESS Critical Upgrades	Systemwide	\$4.8M	\$11.8M	\$14.5M
P0908	Communications Rooms Remediation	Multimodal	\$3.2M	\$11.3M	\$12.8M
P0451	PMIS Implementation	Systemwide	\$2.0M	\$5.0M	\$15.7M
P0944	IT Infrastructure State of Good Repair	Systemwide	\$2.5M	\$4.1M	\$7.4M
P1028	Light Rail Safety Dispatch and Tracking Improvements	Multimodal	\$2.7M	\$3.5M	\$3.9M
P0542	OHS System Improvements	Systemwide	\$2.2M	\$3.1M	\$5.6M
P1234	Data Center Relocation	Systemwide	\$2.8M	\$2.8M	\$2.8M
P1243	Electronic Communications for Frontline Workers	Systemwide	\$2.6M	\$2.6M	\$2.6M
P1236	Digital Transformation Capital Program	Systemwide	\$1.0M	\$1.0M	\$1.0M
P1233	SWAN Power Hardening and Resiliency Program	Systemwide	\$0.8M	\$0.8M	\$0.8M
P1235	SourceOne Replacement	Systemwide	\$0.4M	\$0.4M	\$0.4M
Total			\$86.3M	\$107.7M	\$128.8M

Program Summary | Business and Operational Support

Program Purpose

Investments in asset management, safety and security, communications, and other systems supporting operations

Total Projects

89

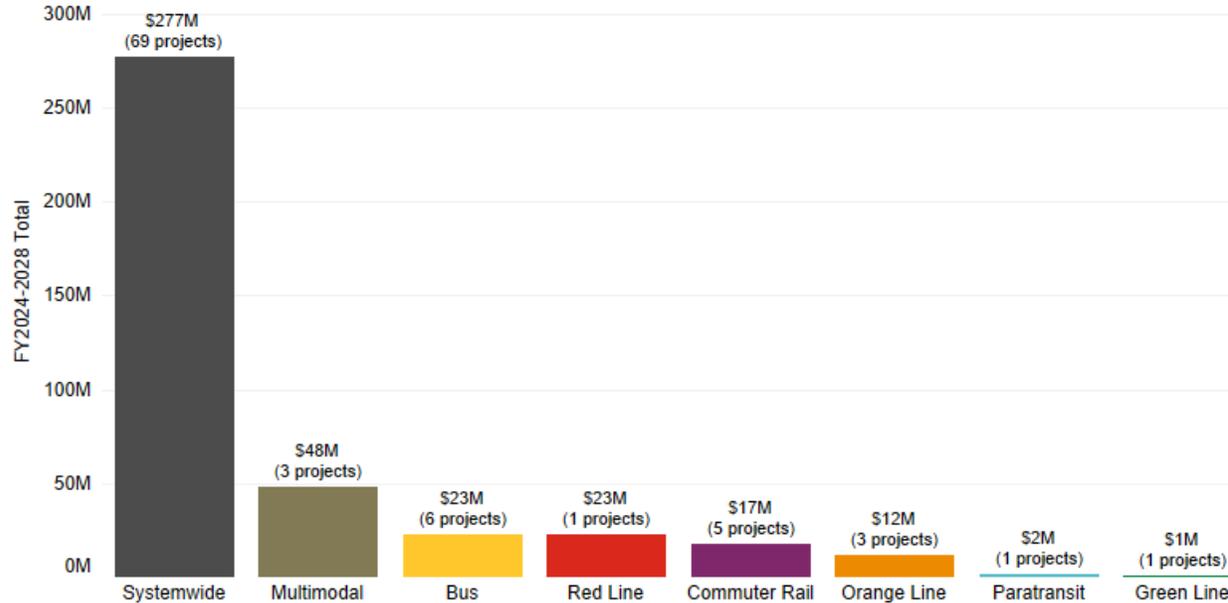
FY24-28 Programmed Spend

\$402.0M

Executing Departments

21

FY24-28 Programmed Spend by Primary Mode



Business and Operational Support Projects Receiving New Funding, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	FY24-28 New Funding	FY24-28 Total	Authorized Budget
P1139	Systemwide Asset Management Program Phase 4	Systemwide	\$41.7M	\$53.2M	\$53.7M
P0886	Capital Program Support	Systemwide	\$18.0M	\$25.7M	\$29.2M
P0321	Bond Costs / SOMWBA	Systemwide	\$12.1M	\$20.8M	\$60.6M
P1201	Capital Programs Safety Assurance Support	Systemwide	\$12.5M	\$12.5M	\$12.5M
P1202	Rail Transformation Contract Procurement Support	Commuter Rail	\$10.2M	\$10.2M	\$10.2M
P1203	MVSS Camera Technology Refresh Program	Bus	\$3.5M	\$3.5M	\$3.5M
P1204	Emergency Management Coordination and Support	Systemwide	\$3.0M	\$3.0M	\$3.0M
P0934a	Rail Transformation - EJ Corridor Electrification Conceptual Design	Commuter Rail	\$2.0M	\$2.0M	\$2.0M
P1205	Systemwide Climate Resiliency Program	Systemwide	\$1.5M	\$1.5M	\$1.5M
P1206	Communications Resiliency Masterplan	Systemwide	\$0.5M	\$0.5M	\$0.5M
Total			\$104.9M	\$132.9M	\$176.8M

Program Summary | South Coast Rail, Green Line Extension, and Expansion Projects

Program Purpose

South Coast Rail: Extension of Commuter Rail service to Fall River and New Bedford on the South Coast of Massachusetts

Green Line Extension: Extension of Green Line service from Lechmere to Somerville and Medford

Expansion Projects: Planning and design of targeted expansion projects identified as next priorities

Expansion Projects Receiving New Funding, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	FY24-28 New Funding	FY24-28 Total	Total Authorized Budget
P0866	Red-Blue Connector - Planning	Multimodal	\$15.0M	\$29.1M	\$30.0M
Total			\$15.0M	\$29.1M	\$30.0M

Total Projects

10

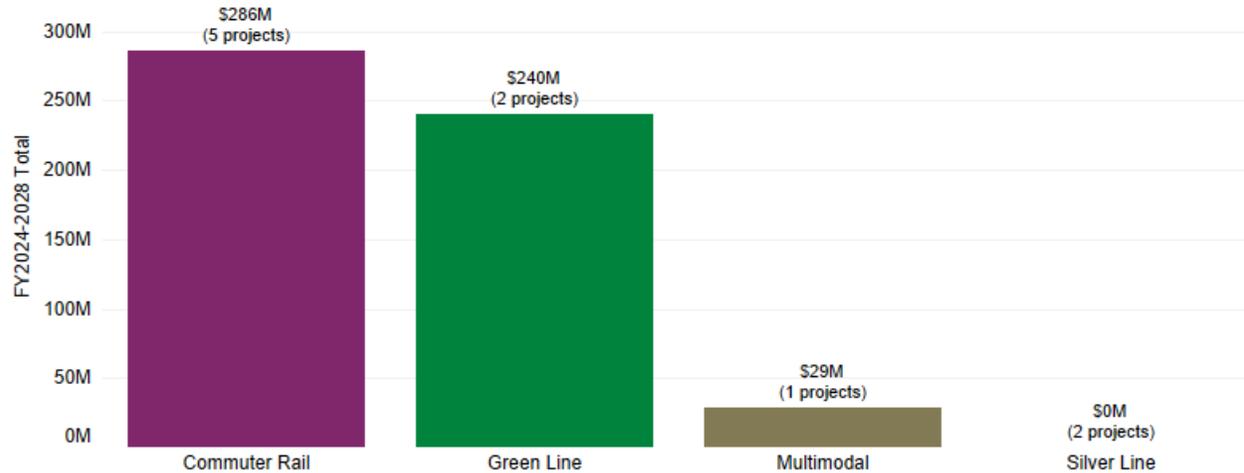
FY24-28 Programmed Spend

\$555.4M

Executing Departments

7

FY24-28 Programmed Spend by Primary Mode



Appendix



5-Year MBTA Capital Investment Plan

What is the Capital Investment Plan (CIP)?

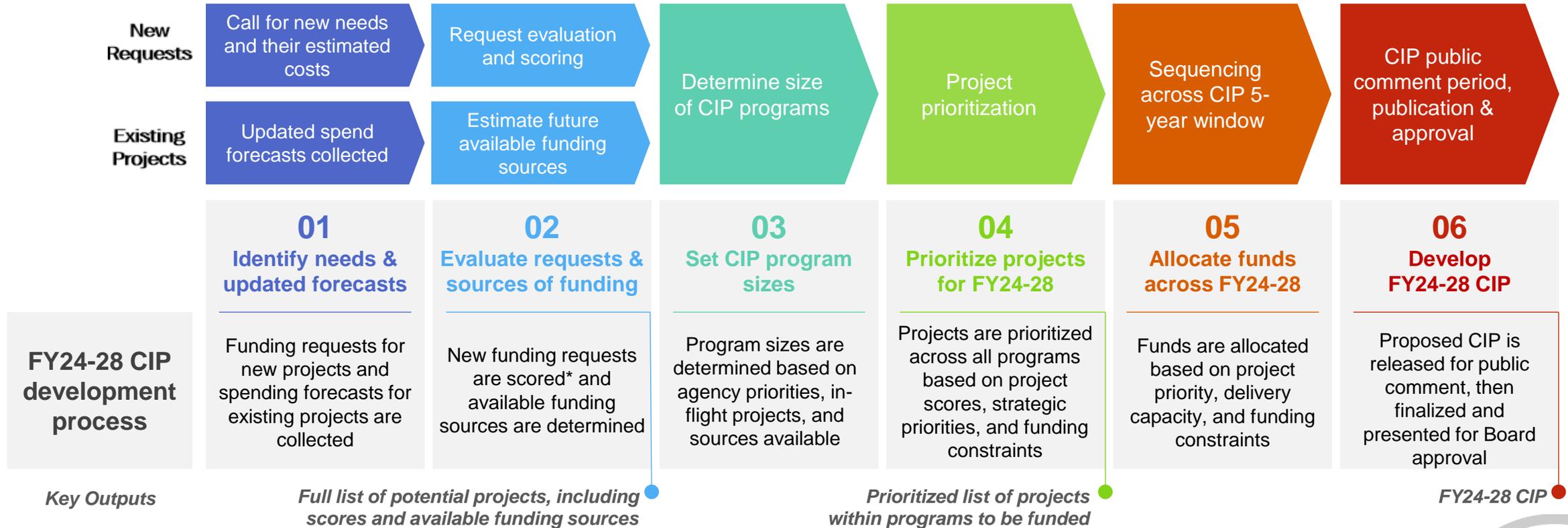
- It is a short-term, financially constrained investment program that includes all our capital expenses over the next five years. It is a rolling plan, updated annually
- It funds the planning, design, construction, maintenance, and acquisition of capital assets across the transit network
- It includes unique, asset-based capital projects to modernize, expand, and increase the reliability of the transit network to support the Authority's priorities and goals

What is a Capital Project?

- Capital projects are investments or activities related to acquiring, renewing, constructing, improving, or maintaining a capital asset, including project planning and design
- Capital assets are vehicles, facilities, units of equipment, or infrastructure elements with a useful life of more than one year and acquisition cost equal or greater than \$5,000



CIP Development | 6 Key Steps



*Requests were evaluated with an increased emphasis on system safety and security (asset conditions and inputs from Safety and Security departments), in addition to mobility, cost effectiveness, sustainability and resiliency, policy support, social equity and economic impact.



CIP Investment Programs

Asset class strategies are used to inform program sizing and investment priorities

Reliability and Modernization Programs (7)

Improve the reliability of the system and modernize existing assets

Focused on State of Good Repair and continued safety of riders and employees



Bridge and Tunnel

Repairs, reconstructs, and replaces Commuter Rail and transit bridges, tunnels, culverts, and dams



Guideway, Signal, and Power

Rehabilitates, replaces, and upgrades guideway, signal, and power assets across commuter rail, transit, and bus systems



Maintenance and Administrative Facilities

Rehabilitates and upgrades maintenance and administrative facilities



Passenger Facilities

Rehabilitates and upgrades stations, stops, and parking facilities to improve accessibility and the customer experience



Vehicles

Rehabilitates and replaces revenue fleets and non-revenue vehicle equipment for reliable and safe operations



Business and Operational Support

Investments in asset management, safety and security, communications, and other systems supporting operations



Technology and Innovation

Investments in technology to enhance productivity, modernize the system, and improve quality of service

Expansion Programs (3)

Target investments to increase system capacity or multimodal options



Green Line Extension (GLX)

Extension of Green Line service from Lechmere to Somerville and Medford



South Coast Rail (SCR)

Extension of Commuter Rail service to Fall River, New Bedford, and Taunton on the South Coast



Expansion Projects

Planning and design of targeted expansion projects identified as next priorities



Scoring Criteria and Weights

Scoring has been modified to place an increased emphasis on State of Good Repair, safety, and security, with these topics making up 50% of a project's total weighted score. Aspects related to climate mitigation and adaptation have been consolidated in an updated Sustainability and Resiliency criterion.

	Criteria	Description	Sub-criteria	Scoring Weights by Priority	
				Rel. / Mod.	Expansion
Safety-Related Criteria (50%)	State of Good Repair	The extent to which the project contributes a state of good repair on the transportation system and aligns with asset management goals	<ul style="list-style-type: none"> Asset Condition (6 points) Impact to Other Assets (2 point) Operations Criticality (2 points) 	30%	N/A
	Safety and Security	The extent to which the project addresses documented or identified safety issues and hazards, and security vulnerabilities and risks	<ul style="list-style-type: none"> Impact on System Safety (7 points) Impact on System Security (3 points) 	20%	N/A
	Mobility	The extent to which the project is intended to provide modal options efficiently and effectively for all users through benefits to reliability, accessibility, and other measures of service quality.	<ul style="list-style-type: none"> Impact on Reliability (2 points) Impact on Accessibility (2 points) Impact on Customer Experience (2 points) Impact on Riders (4 points) 	10%	25%
	Cost Effectiveness	The extent to which the project impacts operating costs and revenues and maximizes the return on the public's investment.	<ul style="list-style-type: none"> Impact on Operating Costs (5 points) Impact on Operating Revenues (5 points) 	10%	25%
Climate / Environment Criterion (10%)	Sustainability and Resiliency	The extent to which the project supports climate sustainability and resiliency, meets state goals of improving air quality and reducing greenhouse gases, and results in a reduction of pollution.	<ul style="list-style-type: none"> Flood Risk (3 points) Severe Weather Resiliency (3 points) Air Quality and GHG Reduction (2 points) Reduce Pollution and/or Natural Resource Consumption (2 points) 	10%	10%
	Policy Support	The extent to which the project is aligned with MBTA policy priorities, including Focus 40.	<ul style="list-style-type: none"> Alignment with Focus40 (5 points) Alignment with MBTA Strategic Planning Report (5 points) 	5%	10%
	Social Equity	The extent to which the project equitably distributes social, economic, and health benefits to residents and local businesses.	<ul style="list-style-type: none"> Benefits to EJ and Title VI Communities (7 points) Additional Equity Benefits to Vulnerable Populations (3 points) 	10%	15%
	Economic Impact	The extent to which the project supports economic growth in the Commonwealth.	<ul style="list-style-type: none"> Impact on Connectivity to Employment Centers (3 points) Impact on Corridors At or Near Capacity (3 points) Impact on Communities with Transit-Supportive Land Use (3 points) Impact on Housing Choice Communities (1 point) 	5%	15%

CIP Funding Sources | Overview



Federal funding

FTA Formula funds

- Urbanized Area Program (Section 5307)
- Buses and Bus Facilities (Section 5339)
- State of Good Repair (Section 5337)
- Level of funding established in BIL and distributed to eligible UZAs

Discretionary funds

- Competitive processes run by federal agencies. Funds included in the CIP after award



State funding

Bonds

- General obligation bonds (bond cap) and special obligation/revenue bonds (Rail Enhancement Program) for specific projects such as:
 - South Coast Rail Phase 1, including 16 Commuter Rail coaches
 - Green Line Extension
 - Red Line/Orange Line vehicles and infrastructure improvements
 - Procurement of 64 Bi-Level Commuter Rail Coaches



MBTA sources

Bonds

- Taxable, tax-exempt, and sustainability bonds

Loans

- Build America Bureau (BAB) loans through TIFIA and RRIF

Operating Budget Transfer

- Funds transferred from MBTA's operating budget to the capital program

Capital Maintenance Fund (CMF)

- Authority's fund to be used at the discretion of the CFO

Note - The sum of MBTA bonds and loans is limited by the overall coverage ratio in order to maintain the MBTA's credit rating.



Others

Reimbursable

- Outside funds through partnerships and formal agreements



Federal Discretionary Grants Strategy

Consistent with the goals of the Healey-Driscoll Administration, the MBTA continues to aggressively pursue eligible discretionary funding opportunities in the Bipartisan Infrastructure Law.

(1) proactively identify grant opportunities, (2) identify a pipeline of competitive projects, and (3) develop and submit strong applications.

Project Selection for Grant Opportunities

The MBTA strives to pursue funding for projects that align with the MBTA's stated goals, strategic mission, and the 5-year CIP which is the MBTA's statement of priorities for capital investments:

- The annual CIP development process continues to establish the pool of projects for which the agency may develop a discretionary grant application
- In some cases, awarded funds will allow the MBTA to reallocate previously programmed funds and in other cases, awards may go to unfunded phases of a project or increased project costs
- On a limited basis, the best fit for a grant program may be a project that is “next up” in prioritization (as determined in the CIP process) but has not yet made it into the CIP

Notable Grant Awards in FFY22-23

As of May 2023, the MBTA has won over **\$250** million in discretionary grant funding in FY22-23, related but not limited to:

Bus Electrification

- \$116M awarded for battery-electric buses
- \$5M awarded for charging infrastructure at the new Quincy Bus Facility

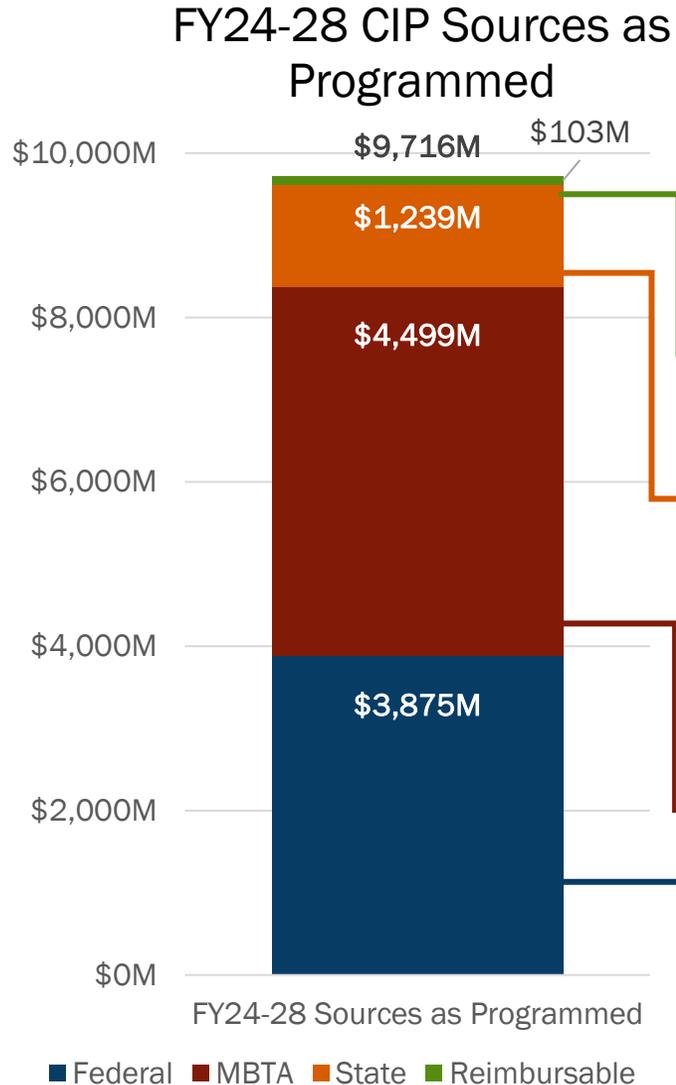
System Accessibility and Passenger Facilities

- \$66.6M awarded for the Symphony Station Accessibility Improvements Project
- \$6.6M awarded for the Hingham Ferry Dock Modifications project

System Safety

- \$6.9M through the DHS/FEMA Transit Security Grant Program
- \$100K awarded for the MBTA's Suicide Trespass Prevention Project
- \$20K awarded for the South Coast Rail Transit Safety Education Project through Operation Lifesaver, Inc.

FY24-28 CIP | Programmed Funding Sources



The MBTA's FY24-28 CIP reflects \$9.7B in programmed sources. This amount reflects changes to project schedules and spend forecasts as collected through the agency's Q3 cashflow exercise, as well as additional funding and new projects added since the release of the Proposed CIP.

\$103M in Reimbursable funds through partnerships and agreements

\$1,239M in State funds, including Bond Cap and Rail Enhancement Program (REP) special obligation bonds set aside for specific projects; also includes \$116M in funding from MassTRAC to support local match for additional federal funds the MBTA received under the Bipartisan Infrastructure Law (BIL), and anticipated funding from the FY24 Commonwealth budget.

\$4,499M in MBTA funds, including MBTA-issued bonds, operating budget transfers and existing RRIF/TIFIA loans

\$3,875M in Federal funds including federal formula funding levels, received discretionary grant awards, and federal funding for GLX



Spotlight | Vehicle Investments

The FY24-28 CIP includes **\$2.2B** in investments to rehabilitate, replace, and procure revenue fleets and non-revenue vehicle equipment for reliable and safe operations.



\$534M in projects to upgrade the MBTA bus fleet to battery electric vehicles and overhaul existing fleets:

- \$97M to support an initial purchase of 80 Battery Electric Buses which will replace diesel buses operating out of Quincy and N. Cambridge (P0653)
- \$259M to procure 160 enhanced electric hybrid buses to replace aging diesel fleet, with an option to purchase an additional 300 buses (P0618)
- \$120M to support the midlife overhaul of the existing fleet 40ft hybrid buses (P0911)



\$589M investment in the procurement of new CR coaches, the overhaul of existing vehicles, and the planning of our future decarbonized fleet:

- \$50M to support planning for the procurement of decarbonized rolling stock to replace the oldest existing diesel locomotives (P0918)
- \$296M to procure new bi-level coaches to replace end-of-life single- and bi-level coaches (P0893, P1152) and support South Coast Rail (P0160a)
- \$93M for the midlife overhaul of 40 HSP46 locomotives to ensure continued service reliability while transitioning to a decarbonized fleet (P1173)



\$988M in projects to procure, overhaul, and maintain rolling stock on the Red, Orange, Green, Blue, and Mattapan Lines:

- \$427M for the procurement of 102 new fully-accessible Green Line vehicles to replace the existing vehicle fleet (P0369)
- \$390M for the continued acceptance of 252 Red and 152 Orange Line vehicles to replace the existing fleets (P0362)
- \$35M for continuous improvements to vital systems on the existing fleet of Red, Orange, and Blue Line vehicles (P1162)



\$43M to replace paratransit vehicles and overhaul ferry vessels:

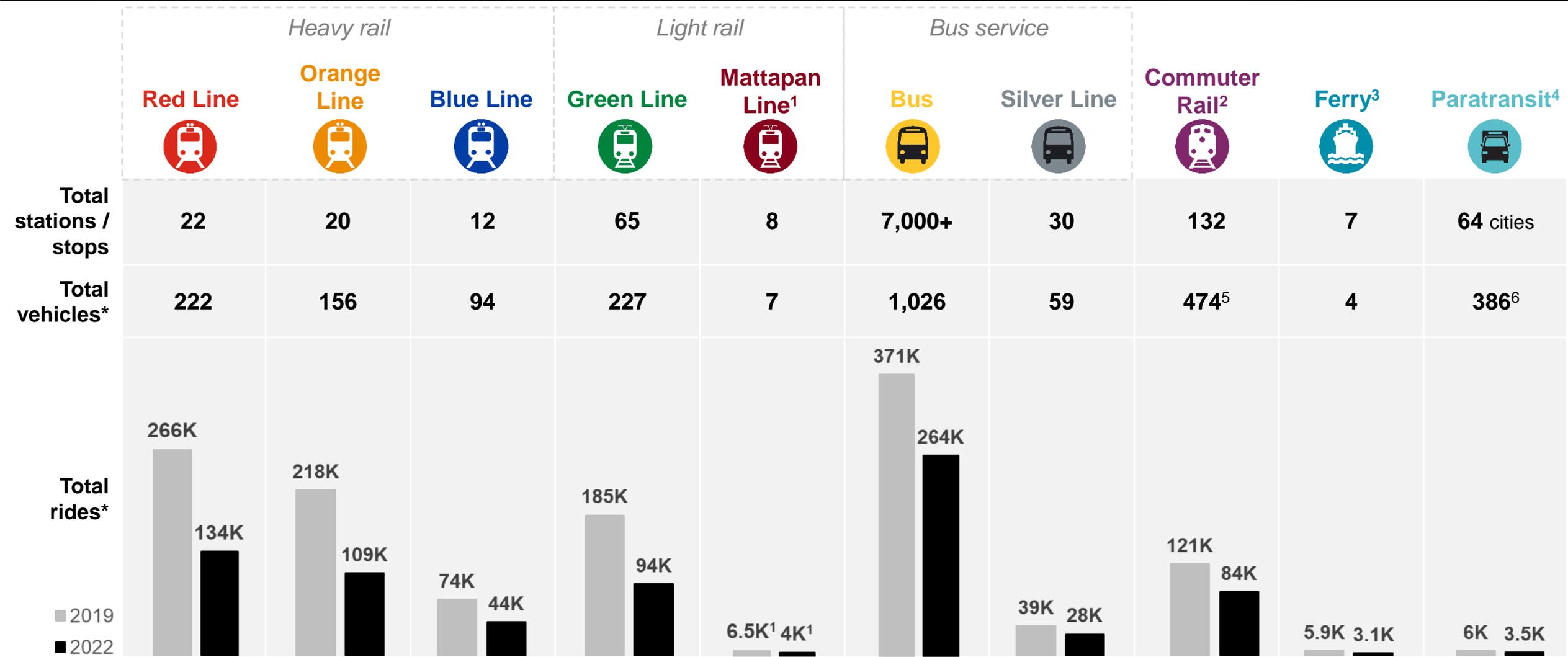
- \$27M to replace the existing fleet of RIDE vans and sedans and equip the new fleet with reliable in-vehicle technology (P0656)
- \$16M to overhaul two MBTA ferries to maintain the vehicles in a state of good repair (P0633)



\$94M to support the procurement and replacement of non-revenue vehicles and vehicle support equipment, and to maintain revenue vehicles across the system:

- \$61M for the procurement of multiple crane car consists and two overhead catenary inspection consists (P0547)
- \$18M to support the continued procurement of non-revenue vehicles to support operations and maintenance (P1157)

The System | MBTA by the Numbers



*Reflects active vehicle counts as of June 2022 and average weekday unlinked trips/rides as of Oct-19 and Oct-22; ¹2019 Mattapan Line ridership estimated as of Fall 2018, with 2022 average weekday trips estimated as 4 to 4.5k daily boardings; ² Operated by Keolis; ³ Operated by Boston Harbor Cruises; ⁴ Operated by National Express Transit and Veterans Transportation Services; ⁵ 81 locomotives and 393 coaches; ⁶ 151 automobiles and 235 vans

Ridership Impact

Out of the \$1.5B in new funding allocated in the CIP, \$1.1B, or 70%, was programmed to projects that would have a high ridership impact*



More than \$300M of new funding with high ridership impact is allocated to our track, power, and signal assets to improve service performance and reliability



Roughly \$272M of new funds are allocated to station projects focused on renovations, safety, and accessibility improvements with high ridership impact



Additionally, 9 out of the Top 10 projects in the CIP by FY24-28 programmed spend have a high ridership impact

* Considers the number of average weekday unlinked trips undertaken by riders that would be impacted by the failure, replacement, or upgrade of the primary asset involved in a CIP project. High impact is defined as over 10,000 rides; medium as 1,000-10,000 rides; low as less than 1,000 rides

Ridership impact of Top 10 projects by FY24-28 Programmed Spend

CIP ID	Project Name	Ridership Impact* (average weekday ridership)	FY2024-2028 Total	Authorized Budget
P0265	Fare Transformation ¹	High: 1,285,113	\$473M	\$854M
P0369	Green Line Type 10 Vehicle Replacement Program	High: 185,000	\$427M	\$1,000M
P0671a	Quincy Bus Facility Modernization ¹	High: 18,825	\$401M	\$476M
P0362	Red / Orange Line Vehicles	High: 484,000	\$390M	\$1,073M
P0018	North Station Draw 1 Bridge Replacement	High: 42,311	\$337M	\$574M
P0160	South Coast Rail Expansion	Medium: 3,220 ²	\$271M	\$921M
P0618	Procurement of 40ft Enhanced Electric Hybrid Buses	High: 92,566	\$259M	\$349M
P0095	Green Line Extension	High: 50,000 ²	\$216M	\$2,119M
P0551	Longfellow Approach	High: 266,000	\$202M	\$210M
P0924	B Branch Accessibility & Capacity Improvements	High: 13,500	\$176M	\$221M

¹Project received new funding; ²Ridership impact based on ridership forecasts

Ridership and Investment Level

Bus, Red Line, and Orange Line service concentrate the highest ridership

- Based on pre-COVID average weekday unlinked trips or rides

The Commuter Rail and the Green Line are the modes with highest programmed amounts

- Followed by Bus and Heavy Rail

The Commuter Rail and Green Line also concentrate the highest investment/rides ratio

Average weekday ridership (thousand rides)			FY24-28 Programmed Amount ¹ (\$ million)		Investment per mode per ridership (\$ million / thousand rides)	
Mode/Line	Oct-19	Oct-22	Mode/Line	FY24-28 Total	Mode/Line	Investment/rides ratio
Bus	371	264	Commuter Rail	\$2,425.9	Commuter Rail	6,539
Red Line ²	266	134	Green Line	\$1,650.5	Green Line	6,205
Orange Line ²	218	109	Bus	\$1,250.1	Ferry	5,784
Green Line	185	94	Red Line ²	\$892.2	Bus	5,734
Commuter Rail	121	84	Orange Line ²	\$499.6	Paratransit	4,915
Blue Line	74	44	Blue Line	\$98.6	Red Line ²	4,823
Silver Line	39	28	Mattapan Line	\$78.1	Silver Line	4,724
Mattapan Line	6.5	4	Ferry	\$37.6	Orange Line ²	4,129
Paratransit	6	4	Paratransit	\$29.5	Mattapan Line	2,002
Ferry	5.9	3	Silver Line	\$27.9	Blue Line	1,333

¹ In addition to the modes listed above, the CIP allocates investments to multimodal projects that can be equally attributed to more than one specific mode, and to systemwide projects that cannot be linked to one or more specific modes.

² Programmed amounts allocated to Red/Orange Line projects (projects that equally impact both the Red and Orange Lines) were divided by two and added, in equal amounts, to the programmed investments for the Red and Orange Line.