

FY24-28 Capital Investment Plan

MBTA Board of Directors

June 8, 2023

Draft for Discussion & Policy Purposes Only

Healey-Driscoll Administration Priorities

Under the direction of Gov. Healey, Lt Gov. Driscoll, Sec. Fiandaca & GM Eng, the MBTA's 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 programmed investments in 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 programmed investments in FY24-28 CIP



Promotes Environmental Sustainability and Resiliency

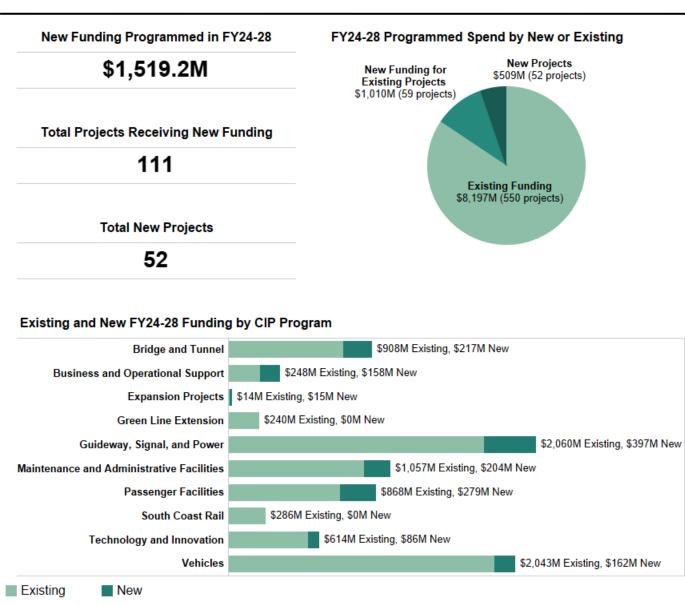
- Investments that promote electrification, resource efficiency, and the hardening of the system against extreme weather events
- \$3.8B or 39% of the programmed investments in the FY24-28 CIP

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 Funding	\$100M
Station Improvements and Accessibility	\$70M
Red-Blue Connector	\$11M

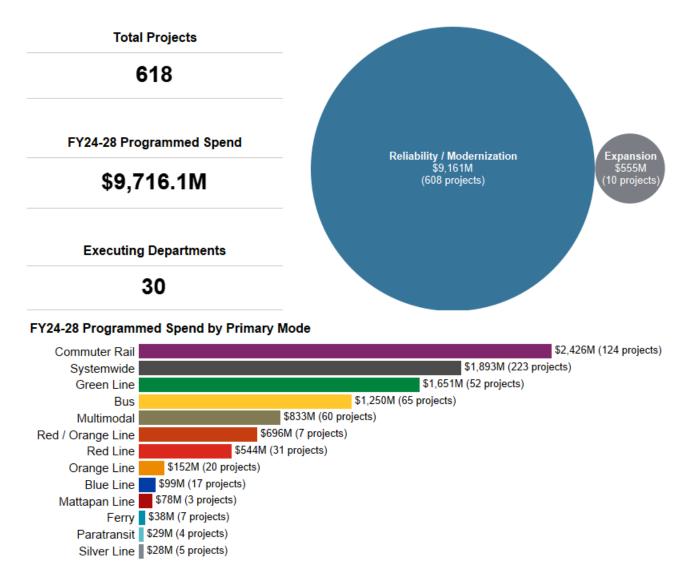
FY24-28 CIP | New Funding



Top 15 Safety-Related Projects Receiving New Funding, by FY24-28 Programmed Spend

CIP ID	Project Name	FY24-28 New Funding	FY24-28 Total	Authorized Budget
P1253	Rapid Transit and Commuter Rail Bridge Replacement	\$100M	\$100M	\$100M
P0911	Hybrid Bus Overhaul (New Flyer XDE40 - SR1983)	\$95M	\$95M	\$95M
P2204c	On-Call Contracts to Support Track State of Good Repair	\$95M	\$95M	\$95M
P0671a	Quincy Bus Facility Modernization	\$74M	\$74M	\$74M
P1107	Bridge Program Pipeline - Rehabilitation, Repair and Replacement	\$66M	\$66M	\$275M
P1151	Heavy Rail Vehicle Conditional and Reliability Assessment	\$52M	\$52M	\$52M
P0606	ATC Implementation - North Side Commuter Rail Lines	\$50M	\$50M	\$50M
P1139	Systemwide Asset Management Program Phase 4	\$42M	\$42M	\$42M
P1251	Anticipated FTA Directive-Related Capital Costs	\$40M	\$40M	\$40M
P1238	Additional FTA Directive-Related Costs	\$37M	\$37M	\$37M
P0516	On-Call Track III	\$35M	\$35M	\$35M
P0856	Ruggles Station Improvements Phase 2	\$25M	\$25M	\$25M
P2204f	Implementation of MOW Corrective Maintenance Work Plan	\$22M	\$22M	\$22M
P0886	Capital Program Support	\$20M	\$20M	\$20M
P0126	Facility Roof Replacement	\$20M	\$20M	\$20M
Others		\$405M	\$405M	\$428M
Grand Total		\$1,177M	\$1,177M	\$1,410M

FY24-28 CIP | Summary



Top 15 Projects by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	Authorized Budget	FY24-28 Total
P0265	Fare Transformation	Systemwide	\$854M	\$473M
P0369	Green Line Type 10 Vehicle Replacement Program	Green Line	\$1,000M	\$427M
P0671a	Quincy Bus Facility Modernization	Bus	\$476M	\$401M
P0362	Red / Orange Line Vehicles	Red / Orange Line	\$1,073M	\$390M
P0018	North Station Draw 1 Bridge Replacement	Commuter Rail	\$574M	\$352M
P0160	South Coast Rail Expansion	Commuter Rail	\$921M	\$271M
P0618	Procurement of 40ft Enhanced Electric Hybrid Buses	Bus	\$349M	\$259M
P0095	Green Line Extension	Green Line	\$2,119M	\$216M
P0551	Longfellow Approach	Red Line	\$210M	\$202M
P0924	B Branch Accessibility & Capacity Improvements	Green Line	\$221M	\$176M
P0285	Signal Program - Red/Orange Line	Red / Orange Line	\$289M	\$153M
P1152	Procurement of Hyundai Rotem Bi-Level Coaches - Option	Commuter Rail	\$161M	\$153M
P0370	Green Line Train Protection	Green Line	\$213M	\$146M
P0606	ATC Implementation - North Side Commuter Rail Lines	Commuter Rail	\$467M	\$143M
P0889	Tower 1 Interlocking Early Action Project	Commuter Rail	\$169M	\$140M
Total			\$9,095M	\$3,900M

Spotlight | FTA Directive-Related Projects

- The MBTA continues to implement Corrective Action Plans (CAPs) in response to the Federal Transit Administration's (FTA) Safety Management Inspection (SMI) and subsequent Special Directives.
- The FY24-28 CIP includes 13 projects related to FTA Special Directive response with FY24-28 programmed spend totaling \$259.9M.

SD 22-4: Track Maintenance & PPE

\$167.1M programmed across seven projects for track-related work, equipment and asset management

SD 22-6: Operations Control Center

\$11.2M programmed for upgrades and reconfiguration of existing Operations Control Center (OCC)

SD 22-9: Workforce Assessment

\$2.7M programmed across two projects to strengthen construction oversight and related workforce

SD 22-12: Policies & Training

\$1.5M programmed to develop training and formalize procedures for preventive maintenance rules and best practices

Multiple Special Directives

\$77.5M programmed for future planned costs and contingency related to the FTA's directives

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)

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Spotlight | Climate Change Strategy



Prioritizing resiliency in project selection

The project selection process prioritizes climate resiliency measures. Critical climate resiliency projects currently in the CIP include Systemwide Tunnel Flood Mitigation Program, Blue Line Tunnel Improvements, Airport Portal Flood Protection, Fiber Optic Burial Project, Courthouse Station Waterproofing, and Pump Room Improvements

• The CIP includes more than \$22M in new funding to prevent flooding by adding floodgates and large steel doors to the Blue Line tunnel's Airport Portal (P0912a) and repairing and upgrading pump rooms on the Silver Line and rapid transit tunnels (P0912b)



Vulnerability assessments for future climate conditions

Completing vulnerability assessments to forecast climate conditions in 2030, 2050 and 2070 and understand impacts from storm surge, flooding, wind, snow, ice, and other elements. The MBTA is working with stakeholders to share knowledge, develop policies, 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

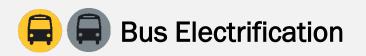


Energy-focused capital program development

Incorporating sustainable and energy-focused elements into asset management and capital project delivery. Initiatives to increase energy efficiency include building control and energy management systems, procurement of more efficient compressors and HVAC systems, new standards and upgrades to energy-efficient lighting fixtures

• More than \$10M in new and existing funding in the CIP is allocated towards our energy management and billing systems (P0434 and P1230), lighting upgrades at our rapid transit tunnels (P1200), and renewable energy initiatives (P0290).

Spotlight | Bus and Rail 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



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



Commuter Rail Electrification

The MBTA is committed to Phase 1 of Regional Rail Transformation and the CIP includes \$44M in new funding to support current Transformation work including:

- Service planning, business plan development, and definition of requirements for future operator contract procurement
- Early action items such as design funding for Old Colony Line doubletracking
- Industry dialogue and specifications development for its decarbonized, future rolling stock fleet through existing funds



Conceptual design schematics of potential decarbonized Commuter Rail trains provided by manufacturers in response to an RFI funded through the CIP's Future Rolling Stock Fleet (P0918) project

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Ridership Impact of Allocated Funding

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 riders impacted by the failure, replacement, or upgrade of the primary asset involved in a CIP project. High impact is defined as over 10,000 riders; medium as 1,000-10,000 riders; low as less than 1,000 riders

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	\$352M	\$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

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

Public Feedback Recap | Rapid Transit

We heard more than 120 mentions regarding Rapid Transit investments in the FY24-28 CIP:



For initial planning and up to 30% design of the Red-Blue
 Connector, \$19M is allocated by the MBTA and \$11M in new funding is included in the Governor's Fair Share FY2024 Budget Recommendation



To address the FTA's directives related to track infrastructure, roughly \$137M in new funding was allocated in the CIP. An additional \$125M in new funding was also allocated to support overall track, signal, and power upgrades



For targeted elevator, escalator, and accessibility improvements across our rapid transit system, the CIP includes roughly \$50M in new funding in addition to nearly \$55M proposed in the Governor's FY2024 Budget (of the \$70M for Station and Accessibility Improvements)



Track maintenance and replacement on the Orange Line



Construction of an accessible pedestrian bridge at the Suffolk Downs Station on the Blue Line

Public Feedback Recap | Bus

We heard more than 100 mentions regarding Bus investments in the FY24-28 CIP:



For the full construction of Quincy and North Cambridge facilities as part of the T's Bus Modernization Strategy, \$85M in new funding is included in the CIP. As these facilities come online, existing funds will support the procurement of BEBs for electrified bus service



To continue advancing the implementation of dedicated bus lanes and transit supportive infrastructure, the CIP includes \$40M in new funding for projects at key locations such as Columbus Ave and Blue Hill Ave



Rendering of new Quincy Bus facility



Aerial view of center-running bus lane and transit supportive infrastructure at Columbus Ave

Public Feedback Recap | Commuter Rail

We heard more than 400 mentions regarding Commuter Rail investments in the FY24-28 CIP:



For Regional Rail Transformation's service planning, business plan, operator contract development, and early actions such as the design of the Old Colony Line double-tracking, the CIP includes \$44M in new funding



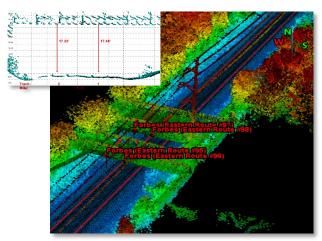
To advance the rehabilitation of bridges and signals across the Commuter Rail network, the CIP includes roughly \$82M in new MBTA and an additional \$100M is proposed in the Governor's FY2024 Budget



For accessibility improvements and station studies at priority locations, up to \$29M in new funding is allocated in the CIP and \$15M is proposed in the Governor's FY2024 Budget



Conceptual design schematics of potential decarbonized Commuter Rail trains provided by manufacturers in response to an RFI



LiDAR inputs used in Regional Rail Transformation planning efforts

FY24 Proposed Capital Spend Target

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

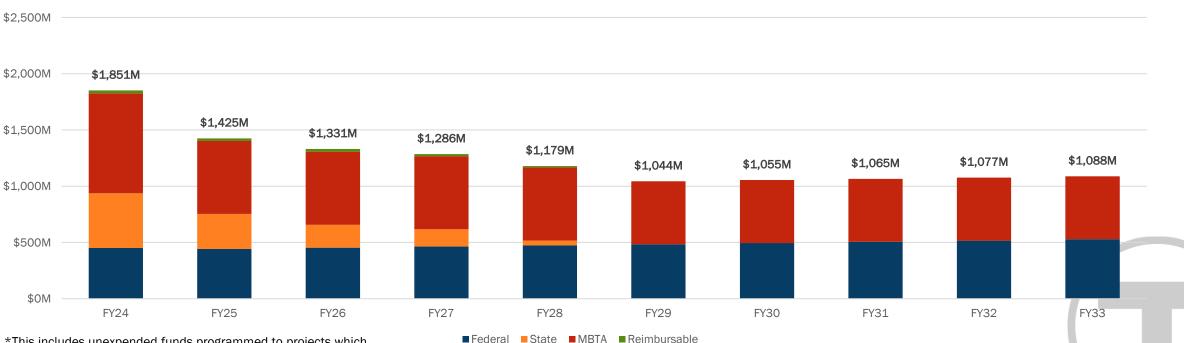
Actual and Projected Capital Spend FY14-24



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Capital Source Assumptions | 10 Year Outlook

- Out-year source assumptions reflect a continued downward trend driven by an absence of state funds (as existing sources, which are tied to specific projects, primarily SCR and GLX, are expected to wrap up spending by FY28), and a flat level of MBTA revenue bond issuance (\$500 annually from FY29 on).
- While the MBTA's FY24-28 CIP is expected to include roughly \$9.7B* in sources, without additional sources, future 5-year capital plans may be roughly half this size.



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*This includes unexpended funds programmed to projects which were made available in earlier fiscal years

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10 Year Sources When Available as of 2/3/23

Future Board Vote

VOTED:

To approve the Fiscal Year 2024-2028 Capital Investment Program ("CIP"), as presented at the June 22, 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** FY24-28 Programmed Spend Executing Departments 44 \$1,102.8M 6 FY24-28 Programmed Spend by Primary Mode 500M \$452M (12 projects) 400M \$314M FY2024-2028 Total W005 W005 (22 projects) \$202M (2 projects) \$105M (4 projects) 100M \$30M (2 projects) S0M 0M (2 projects) Commuter Rail Systemwide Red Line Multimodal Blue Line Green Line

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 =	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	\$65.8M	\$275.0M
P0912a	Airport Portal Flood Protection	Blue Line	\$20.8M	\$20.8M	\$21.5M
P0909	Repairs and Rehabilitation of MBTA-Owned Dams	Commuter Rail	\$16.5M	\$16.5M	\$30.0M
P1000	Urgent Structural Design Support	Systemwide	\$7.7M	\$7.7M	\$7.7M
P1240	Boyd Street Pedestrian Bridge Demolition	Commuter Rail	\$2.3M	\$2.3M	\$2.3M
P0912b	Systemwide Pump Room Upgrades	Multimodal	\$2.2M	\$2.2M	\$2.4M
P1200	Rapid Transit Tunnel Lighting Upgrades	Multimodal	\$2.2M	\$2.2M	\$2.2M
Total			\$217.5M	\$217.5M	\$441.1M

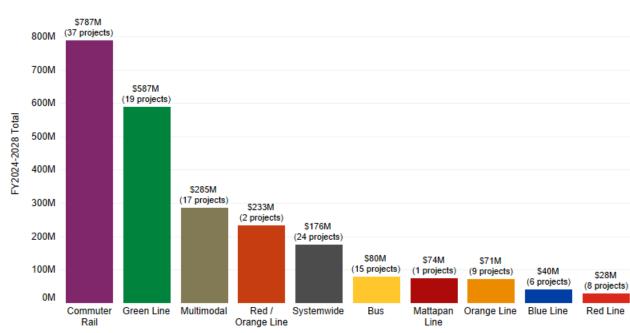
Program Summary | Guideway, Signal, and Power

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
138	\$2,362.7M	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
P2204c	On-Call Contracts to Support Track State of Good Repair	Multimodal	\$94.6M	\$94.6M	\$94.6M
P0606	ATC Implementation - North Side Commuter Rail Lines	Commuter Rail	\$50.0M	\$50.0M	\$50.0M
P1238	Additional FTA Directive-Related Costs	Systemwide	\$37.4M	\$37.4M	\$37.4M
P0516	On-Call Track III	Multimodal	\$34.7M	\$34.7M	\$34.7M
P0940	Rail Transformation - Early Action Items	Commuter Rail	\$24.0M	\$24.0M	\$24.0M
P1005a	Columbus Ave Bus Lane Phase 2	Bus	\$23.4M	\$23.4M	\$23.6M
P2204f	Implementation of MOW Corrective Maintenance Work Plan	Multimodal	\$22.4M	\$22.4M	\$22.4M
P2204d	Implementation of Special Maintenance Repair Plan - Materials and Labor	Multimodal	\$19.7M	\$19.7M	\$19.7M
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
P1005b	Blue Hill Ave Transit Priority Corridor	Bus	\$15.0M	\$15.0M	\$15.0M
P1210	PILC-EPR Medium Voltage Cable Replacement Program	Multimodal	\$14.8M	\$14.8M	\$14.8M
P0692	PRIIA-NEC Baseline Capital Charges	Commuter Rail	\$12.8M	\$12.8M	\$12.8M
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
P2204a	Tufts Curve Rail Fasteners Replacement	Orange Line	\$0.0M	\$0.0M	\$7.5M
Total			\$397.1M	\$397.1M	\$404.8M

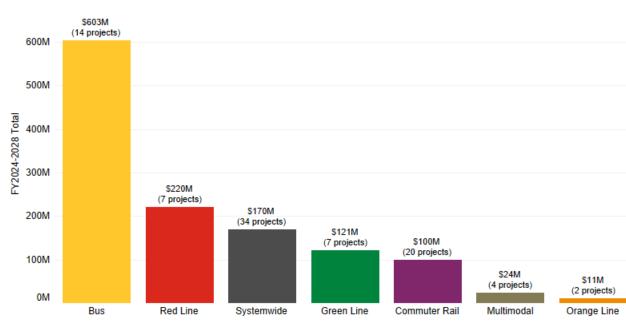
Program Summary | Maintenance and Administrative Facilities

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 =	Authorized Budget
P0671a	Quincy Bus Facility Modernization	Bus	\$74.1M	\$74.1M	\$74.1M
P0126	Facility Roof Replacement	Systemwide	\$20.0M	\$20.0M	\$20.0M
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
P2206a	OCC Station Upgrades and Reconfiguration	Systemwide	\$11.2M	\$11.2M	\$11.5M
P0671c	North Cambridge Bus Facility Retrofit	Bus	\$11.0M	\$11.0M	\$11.0M
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	\$7.8M
P1219	Facility Safety Improvements	Systemwide	\$4.0M	\$4.0M	\$4.0M
P0952b	Widett Layover and Maintenance Facility - Site Securement	Commuter Rail	\$3.0M	\$3.0M	\$3.0M
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
P0952a	Widett Layover and Maintenance Facility - Land Acquisition	Commuter Rail	\$0.0M	\$0.0M	\$70.0M
Total			\$203.7M	\$203.7M	\$274.1M

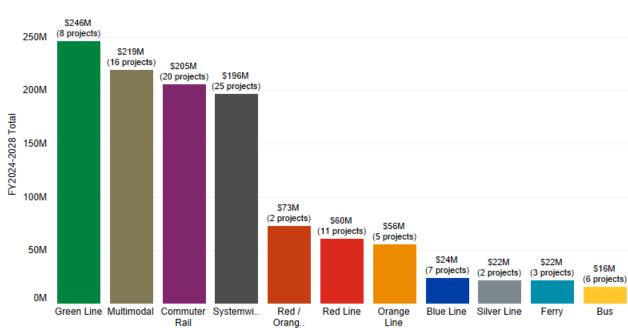
Program Summary | Passenger Facilities

Program Purpose

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

Total Projects	FY24-28 Programmed Spend	Executing Departments
105	\$1,138.8M	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
P1252	Rapid Transit and Commuter Rail Station Accessibility Improv	Multimodal	\$70.0M	\$70.0M	\$70.0M
P1165	Transit Station Economic Development - Norfolk County	Systemwide	\$40.0M	\$40.0M	\$50.0M
P1249	Jackson Square Station Accessibility Improvements	Orange Line	\$26.3M	\$26.3M	\$26.3M
P0856	Ruggles Station Improvements Phase 2	Multimodal	\$25.1M	\$25.1M	\$25.1M
P0129	Newton Highlands Green Line Station Accessibility Project	Green Line	\$15.8M	\$15.8M	\$15.8M
P1225	Systemwide Escalator and Elevator Replacement Program	Systemwide	\$15.0M	\$15.0M	\$15.0M
P1150	High Priority Stations Accessibility Improvements Program	Commuter Rail	\$10.0M	\$10.0M	\$10.0M
P0170	Newton Commuter Rail Stations Design	Commuter Rail	\$8.8M	\$8.8M	\$8.8M
P1232	Green Line D Branch Enhanced Accessibility Improvements	Green Line	\$8.0M	\$8.0M	\$8.0M
P0174	Natick Center Station Accessibility Project	Commuter Rail	\$7.6M	\$7.6M	\$7.6M
P1228	Systemwide Door Replacement Program	Systemwide	\$5.3M	\$5.3M	\$5.3M
P0087	Braintree and Quincy Adams Garage Rehabilitation	Red Line	\$5.1M	\$5.1M	\$5.1M
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
P1137	Emergency Power and Lighting	Multimodal	\$5.0M	\$5.0M	\$5.0M
P1177	Systemwide Transit Station Overhead Inspections	Multimodal	\$4.9M	\$4.9M	\$5.0M
P1250	Wonderland Mutlimodal Connector	Multimodal	\$4.0M	\$4.0M	\$4.0M
P1178	Back Bay Station Concourse	Multimodal	\$3.2M	\$3.2M	\$3.7M
R0031	Stations Needs Assessments	Multimodal	\$3.0M	\$3.0M	\$3.0M
P1231	JFK Station/Busway Safety and Accessibility Reconstruction	Multimodal	\$2.3M	\$2.3M	\$2.3M
P1229	Systemwide Tactile Paving and Platform Edge Repairs	Systemwide	\$2.0M	\$2.0M	\$2.0M
P0881	Parking and Paving II	Systemwide	\$2.0M	\$2.0M	\$2.0M
P1245	North Wilmington Station Platform Safety Improvements	Commuter Rail	\$1.3M	\$1.3M	\$1.3M
P0404	Courthouse Station Leaks	Silver Line	\$1.0M	\$1.0M	\$1.0M
P0076	Oak Grove Station Vertical Transportation Improvements	Orange Line	\$1.0M	\$1.0M	\$1.0M
P0179	Winchester Center Station	Commuter Rail	\$0.9M	\$0.9M	\$0.9M
P1230	Commercial Tenant Billing System	Systemwide	\$0.5M	\$0.5M	\$0.5M
P0066e	Harvard/Central Elevator	Red Line	\$0.5M	\$0.5M	\$0.5M
P1176	South Salem Station Study	Commuter Rail	\$0.5M	\$0.5M	\$0.5M
P1248	Alewife Wayfinding Improvements	Multimodal	\$0.3M	\$0.3M	\$0.3M
P1244	North Andover Commuter Rail Station Feasibility Study	Commuter Rail	\$0.1M	\$0.1M	\$0.1M
Total			\$279.3M	\$279.3M	\$289.9M

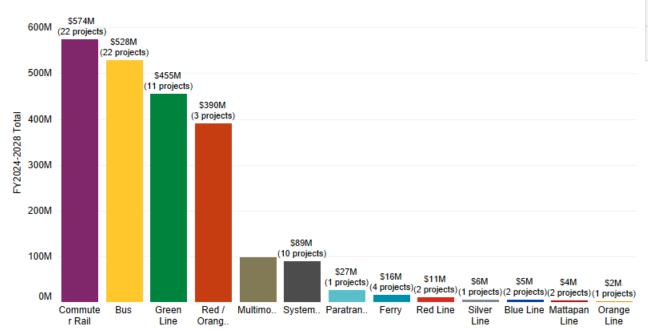
Program Summary | Vehicles

Program Purpose

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

Total Projects	FY24-28 Programmed Spend	Executing Departments
90	\$2,204.9M	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 =	Authorized Budget
P0911	Hybrid Bus Overhaul (New Flyer XDE40 - SR1983)	Bus	\$94.9M	\$94.9M	\$94.9M
P1151	Heavy Rail Vehicle Conditional and Reliability Assessment	Multimodal	\$52.2M	\$52.2M	\$52.2M
P1157	Systemwide Non-Revenue Vehicles Program - Phase 2	Systemwide	\$12.0M	\$12.0M	\$12.0M
P1237	CM2150 Engine Replacements	Bus	\$2.4M	\$2.4M	\$2.4M
P0928	Ferry Enhancements (Vessel, Docks & Infrastructure)	Ferry	\$0.3M	\$0.3M	\$0.3M
P0673y	Rolling Stock Maintenance Support	Systemwide	\$0.2M	\$0.2M	\$0.3M
Total			\$162.0M	\$162.0M	\$162.1M

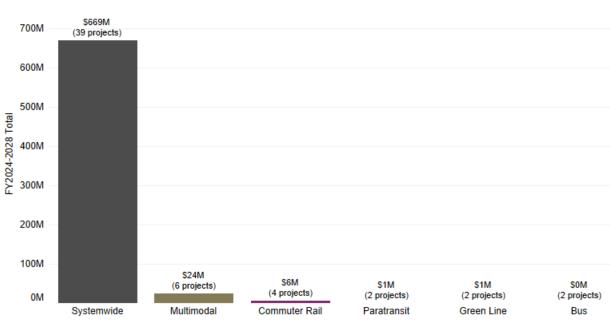
Program Summary | Technology and Innovation

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 =	Authorized Budget
P0265	Fare Transformation	Systemwide	\$61.3M	\$61.3M	\$61.3M
P0972	PA/ESS Critical Upgrades	Systemwide	\$4.8M	\$4.8M	\$4.8M
P0908	Communications Rooms Remediation	Multimodal	\$3.2M	\$3.2M	\$3.2M
P1234	Data Center Relocation	Systemwide	\$2.8M	\$2.8M	\$2.8M
P1028	Light Rail Safety Dispatch and Tracking Improvements	Multimodal	\$2.7M	\$2.7M	\$2.7M
P1243	Electronic Communications for Frontline Workers	Systemwide	\$2.6M	\$2.6M	\$2.6M
P0944	IT Infrastructure State of Good Repair	Systemwide	\$2.5M	\$2.5M	\$2.5M
P0542	OHS System Improvements	Systemwide	\$2.2M	\$2.2M	\$2.2M
P0451	PMIS Implementation	Systemwide	\$2.0M	\$2.0M	\$2.0M
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	\$86.3M	\$86.3M	

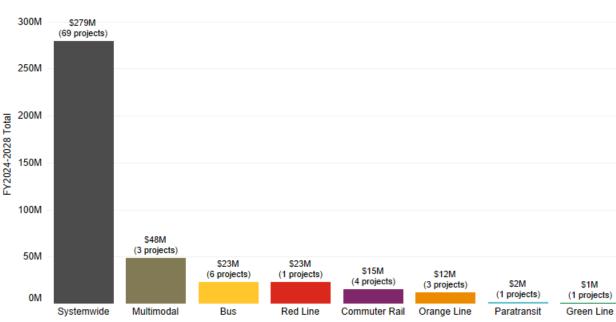
Program Summary | Business and Operational Support

Program Purpose

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

Total Projects	FY24-28 Programmed Spend	Executing Departments
88	\$402.0M	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 Sy		\$41.7M	\$41.7M	\$41.7M
P1251	Anticipated FTA Directive-Related Capital Costs	Multimodal	\$40.1M	\$40.1M	\$40.1M
P0886	Capital Program Support	Systemwide	\$20.0M	\$20.0M	\$20.0M
P1201	Capital Programs Safety Assurance Support	Systemwide	\$12.5M	\$12.5M	\$12.5M
P0321	Bond Costs / SOMWBA	Systemwide	\$12.1M	\$12.1M	\$12.1M
P1202	Rail Transformation Contract Procurement Support	Commuter Rail	\$10.2M	\$10.2M	\$10.2M
P2204e	Implementation of Special Maintenance Repair Plan - Busing and Support Costs	Multimodal	\$8.2M	\$8.2M	\$17.4M
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
P2209b	Gap Analysis of Contractor Oversight	Systemwide	\$2.0M	\$2.0M	\$2.0M
P2212a	Development of Preventive Maintenance Checklist & Tools	Systemwide	\$1.5M	\$1.5M	\$1.6M
P1205	Systemwide Climate Resiliency Program	Systemwide	\$1.5M	\$1.5M	\$1.5M
P1246	Chelsea and Everett Cross-Town Route Implementation Planning Study	Bus	\$0.8M	\$0.8M	\$0.8M
P2209a	Capital Programs Technical Support Services for Construction Oversight Activities	Systemwide	\$0.8M	\$0.8M	\$1.1M
P1206	Communications Resiliency Masterplan	Systemwide	\$0.5M	\$0.5M	\$0.5M
P1247	MBTA Suicide Trespass Prevention	Commuter Rail	\$0.1M	\$0.1M	\$0.1M
Total			\$158.4M	\$158.4M	\$168.0M

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

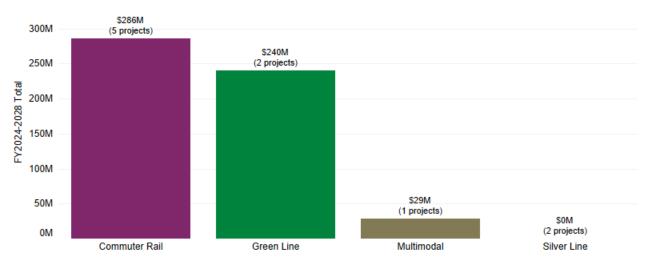
Green Line Extension: Extension of Green Line service from Lechmere to Somerville and Medford Expansion Projects: Planning and design of targeted expansion projects identified as next priorities

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

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

Total Projects	FY24-28 Programmed Spend	Executing Departments
10	\$555.4M	7

FY24-28 Programmed Spend by Primary Mode



Appendix



Draft for Discussion & Policy Purposes Only

5-Year MBTA Capital Investment Plan

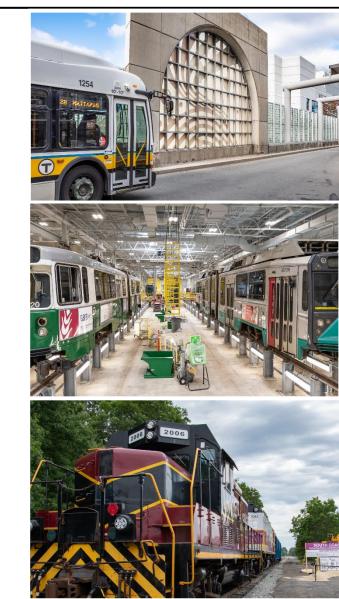
What is the Capital Investment Plan (CIP)?

- 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?

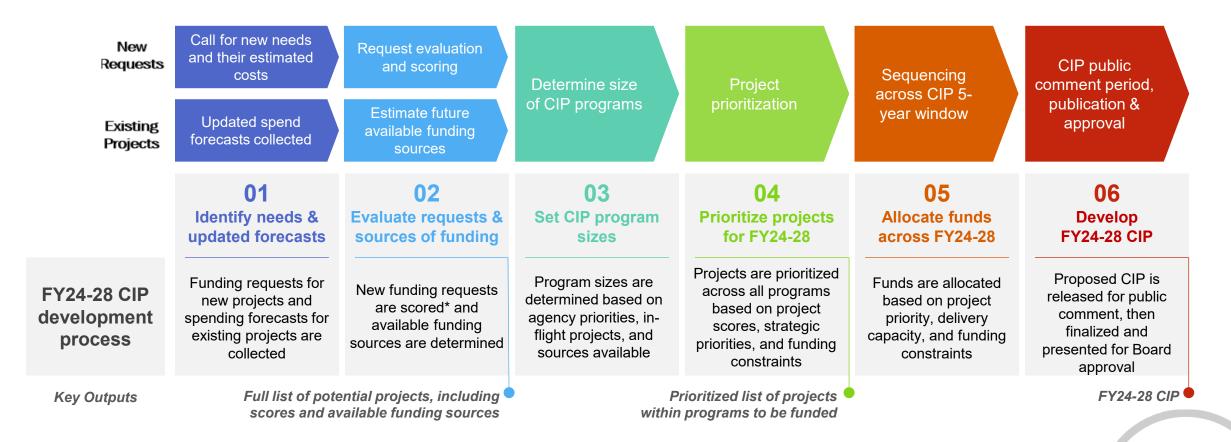
- Capital projects are investments or activities related to acquiring, renewing, constructing, improving, or maintaining a capital asset, including project planning and design
- Capital assets are vehicles, facilities, units of equipment, or infrastructure elements with a useful life of more than one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





CIP Development | 6 Key Steps

The key steps for developing the FY24-28 CIP



*<u>Requests will be evaluated with an increased emphasis on system safety and security (asset conditions and inputs from Safety and Security departments)</u>, 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 a
~	Repairs,
b	tranait bri

ridge 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



H

P

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

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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.

				Scoring W Pric	
	Criteria	Description	Sub-criteria	Rel. / Mod.	Expansion
Safety- Related	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	 Asset Condition (6 points) Impact to Other Assets (2 point) Operations Criticality (2 points) 	30%	N/A
Criteria (50%)	Safety and Security	The extent to which the project addresses documented or identified safety issues and hazards, and security vulnerabilities and risks	 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.	 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.	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.	 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.	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.	 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.	 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
 - $\circ~$ 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

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

Bus Electrification

limited to:

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

Notable Grant Awards in FFY22-23

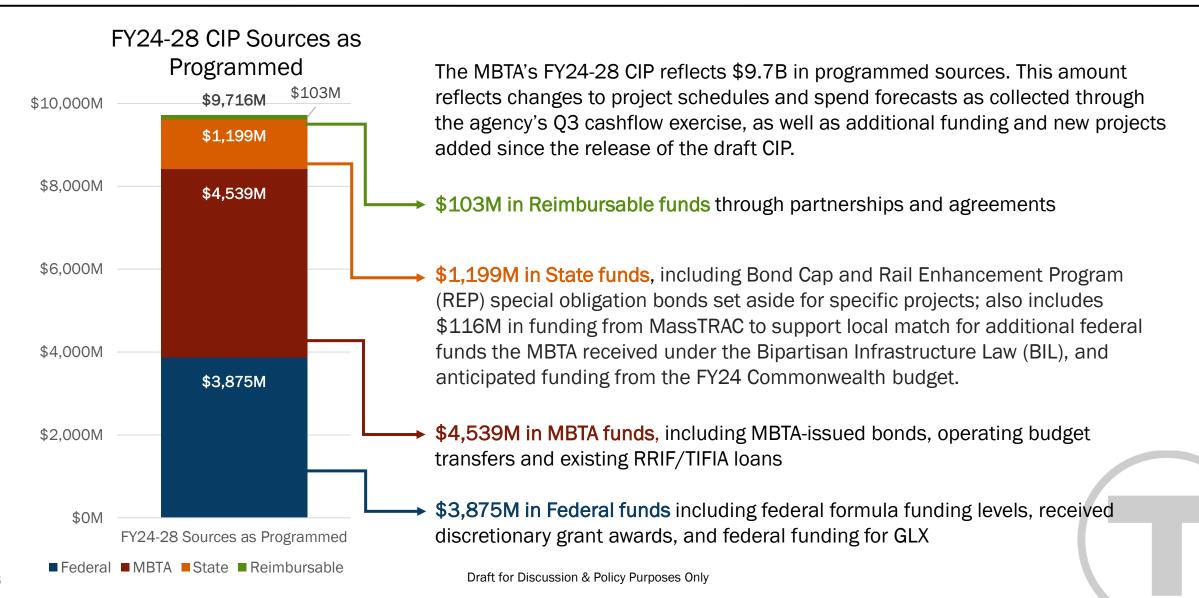
System Accessibility and Passenger Facilities

- \$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



Changes to the Proposed FY24-28 CIP

- Changes that have been made to the FY24-28 CIP between the publication of the Proposed and the updated document falls into one of two categories: (1) new projects and funding for the FY24-28 CIP, including projects funded by the Boston MPO and (2) new projects or significant project changes incorporated in the FY23-27 CIP through the in-year CIP Change process, including discretionary funding awards and FTA directive-related project changes.
- To ensure flexibility, consistency and transparency the MBTA uses an **In-Year CIP Change Process** to review, approve and track project budget or scope changes between annual CIP development cycles
 - In-year changes include funding requests due to cost increases, urgent investment needs or routine administrative changes
 - Costs are primarily off-set using existing programmed funds, but depending on the need may tap into surplus/contingency funds or utilize Capital Maintenance Fund (CMF) funding managed by the CFO
 - Discretionary grant awards that are received during the fiscal year are typically incorporated into the Capital Investment Plan through the in-year CIP Change process

In-Year CIP Change Process Details:



Prioritizing Safety and Reliability

480+ non-negotiable, safety-sensitive reliability projects, accounting for roughly **\$7.8B of programmed spending** are part of the 5-year CIP. This includes but is not limited to:



17 projects related to the FTA's SMI and CAPs that comprise, but are not limited to:

- Systemwide maintenance-of-way (MOW) rehabilitation
- Procurement of non-revenue equipment
- Capital Program Safety Assurance

305+ critical reliability projects to inspect, repair, and upgrade stations, tracks, bridges, tunnels, signals, power, and IT infrastructure and components

20+ projects focused on safety systems, employee training, and asset management efforts to better track, address, and improve systemwide safety and reliability

address, and improve systemwide safety and reliability

You can also visit <u>mbta.com/safety</u> and <u>mbta.com/qco</u> for more information on the MBTA's safety initiatives and the FTA's SMI Draft for Discussion & Policy Purposes Only

Key Safety Projects

Requests for new and existing projects are evaluated using 8 scoring criteria, which include Safety

Rapid Transit

- Green Line Train Protection (P0370)
- Rapid Transit Tunnel Lighting Upgrades (P1200)

Commuter Rail

- ATC Implementation North Side (P0606)
- Rail Crossing Safety Updates (P1146)

Bus

- Bus Facility Interim Improvements (P0942)
- Facility Circulation Safety Improvements (P1003)
- Charlestown Campus State of Good Repair (P1136)

Systemwide

- Facility Roof Replacement (P0126)
- Facility Safety Improvements (P1219)



Building Enhanced and Improved System Accessibility

95+ projects with significant accessibility benefits, accounting for roughly \$2.1B of programmed spending are part of the 5-year CIP. This includes but is not limited to:



CITY HALL PLAZA

40+ projects to enhance accessibility at stations, bus stops, and rail and grade crossings, ranging from upgrades to platforms, paths of travel, surfaces, public announcement systems, and other components

35+ projects to upgrade and improve elevators, escalators, wayfinding, and accessways at key stations, bringing them into compliance with ADA/MAAB, BCIL, and internal standards to create system access and equity



7 projects to procure and overhaul rail, bus, and ferry vehicles with improved accessibility features that amount to roughly \$542M to enhance and improve system access to all riders

You can also visit <u>mbta.com/accessibility</u> for more information on accessibility initiatives

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Key Accessibility Projects

Requests for new and existing projects are evaluated using 8 scoring criteria, which include Accessibility under the mobility criteria

Rapid Transit

- Green Line D Branch Enhanced Accessibility Improvements (P1233)
- Symphony Station Improvements (P0168)
- Systemwide Escalator and Elevator Replacement Program (P1225)

Commuter Rail

- High Priority Stations Accessibility Improvements Program (P1150)
- Winchester Center Station (P0179)
- Natick Center Station Accessibility (P0174)

Bus

- Bus Priority and Accessibility Improvements (P0613)
- Bus Route Safety and Service Improvements (P0044)

Promoting System Sustainability & Resiliency (S&R)

165+ projects, accounting for roughly \$3.8B of programmed spending, have S&R benefits and are part of the 5-year CIP. This includes but is not limited to:



75+ projects with system resiliency benefits, including vulnerability assessments, asset hardening and management to curb climate change and environmental impacts systemwide.



25+ projects with system sustainability benefits related to fleet, facilities, and energy assets to support system electrification and efficient use of system resources



50+ projects with varying resiliency and sustainability benefits related to facility repairs, vehicle overhauls, and asset management efforts to help build a green future and a resilient transit system for the T

You can also visit <u>mbta.com/sustainability</u> for more information on S&R initiatives

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CIP key S&R projects

Requests for new and existing projects are evaluated using 8 scoring criteria, which include a Sustainability and Resiliency criteria

Commuter Rail

- Future Rolling Stock Fleet (P0918)
- Billerica MOW Repair and Storage Facility (P1171)

Bus

- Procurement of 40ft Battery Electric Buses and Related infrastructure (P0653)
- Quincy Bus Facility Modernization (P0671a)
- Arborway Bus Facility Design Funding (P0671b)
- North Cambridge Bus Facility Retrofit (P0671c)

Systemwide

- Systemwide Climate Resiliency Program (P1205)
- Communications Resiliency Master Plan (P1206)