



**Massachusetts Bay
Transportation Authority**

Proposed FY24-28 Capital Investment Plan

Public Meetings

March and April 2023

Thank you for Participating!

- Thank you for joining the meeting! We appreciate your participation
- This meeting will be recorded so that it can be shared it with the people that were unable to join
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Language Accessibility

English

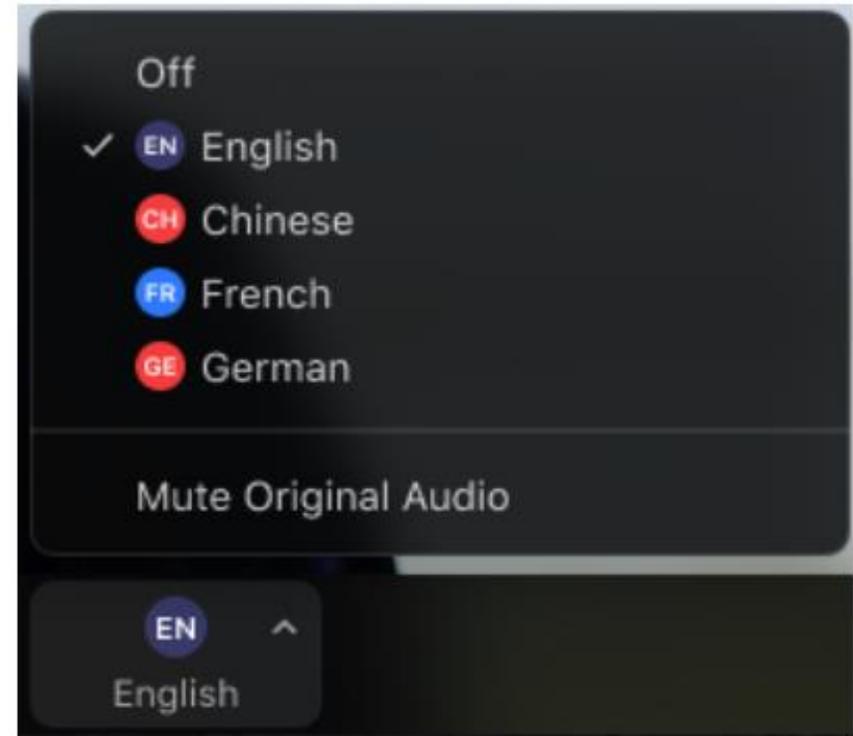
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Spanish

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Chinese

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English

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Spanish

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Overview

English

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Spanish

- ¡Gracias por atender esta junta! Agradecemos su participación.
 - Esta junta estaría grabada para poder compartir con los que no pudieron asistir.
 - Los participantes están silenciados al entrar la junta para que solo se pueda oír a los presentadores.

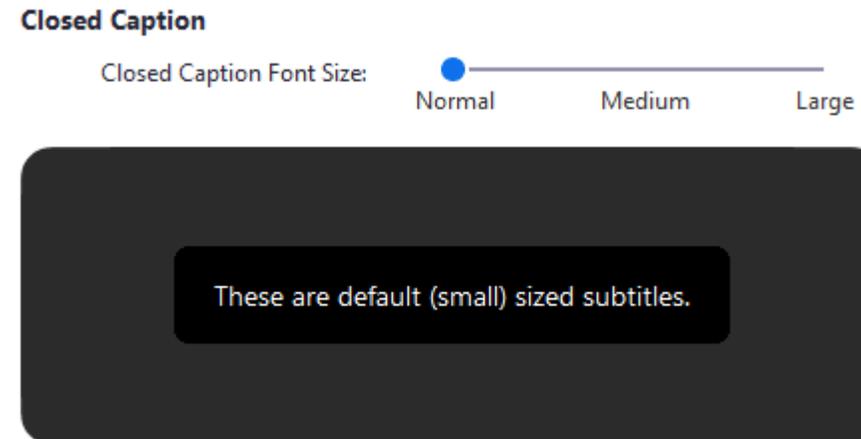
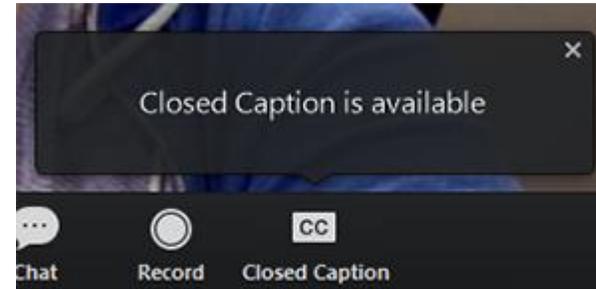
Chinese

- 感谢您参与此会议！
 - 本次会议将会**被录像**，以便我们把它分享给没能来参加的人。
 - 所有参与者在进来时都会被静音，以便于演讲者能被听到。



Closed Captions

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 - **Tip:** Click and drag the closed captioning to move its position in the meeting window.
- To adjust the caption size:
 - Click the upward arrow next to **Start Video / Stop Video**.
 - Click **Video Settings** then **Accessibility**.
 - Move the slider to adjust the caption size



Use Chat for Technical Questions

English

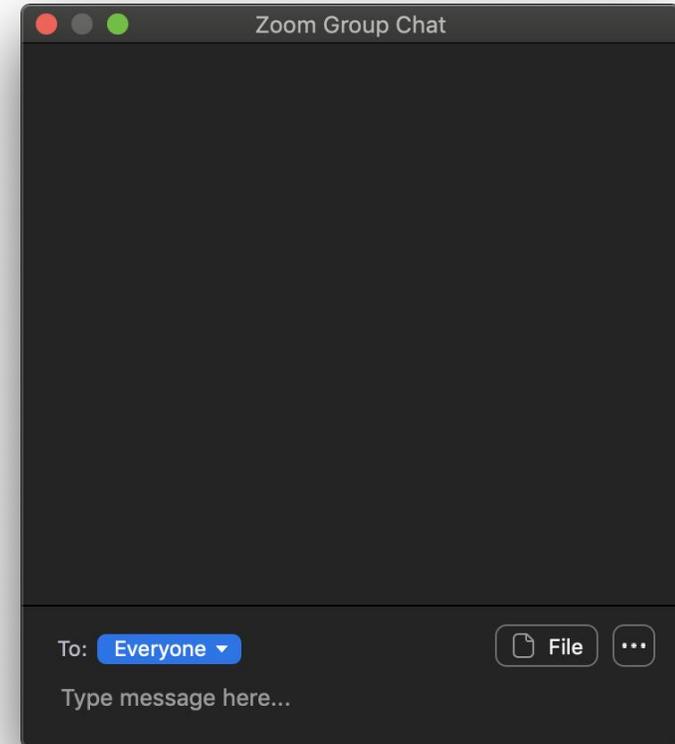
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5-Year MBTA Capital Investment Plan

What is the Capital Investment Plan (CIP)?

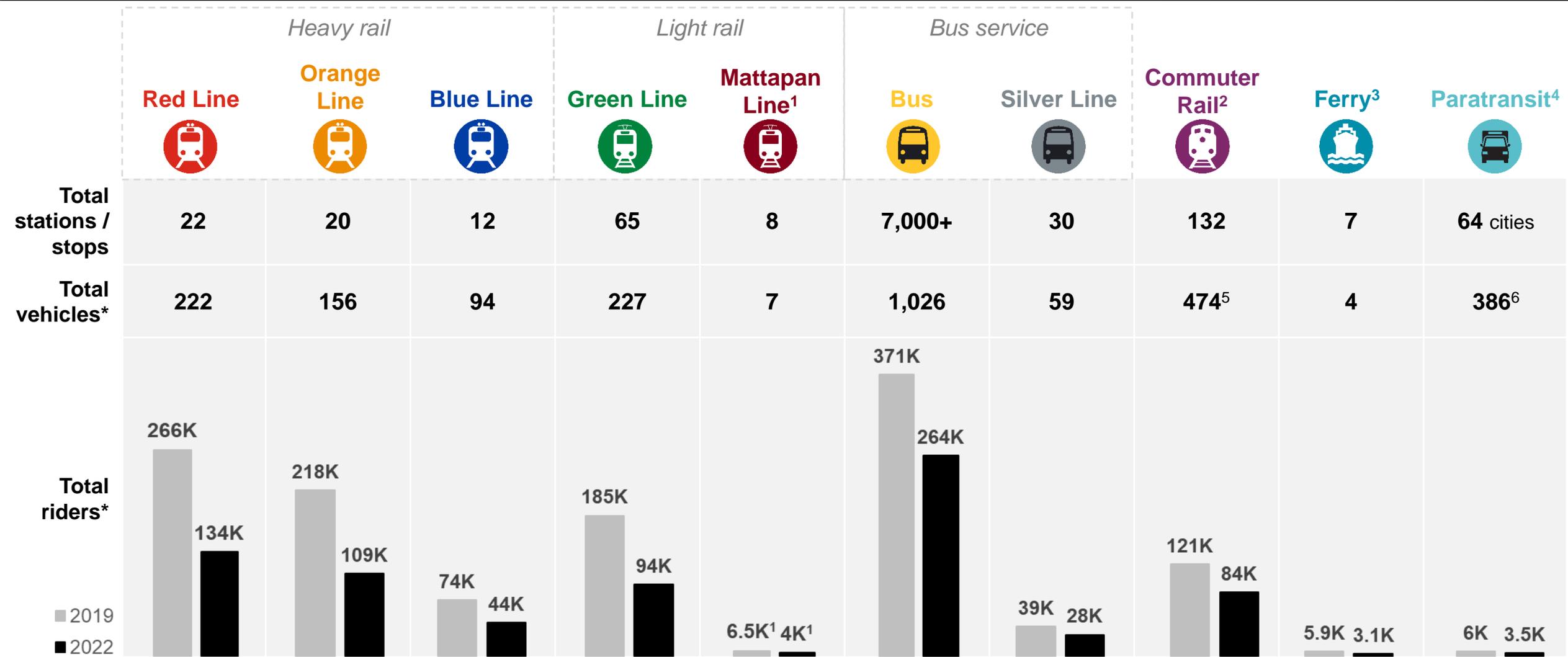
- It is a short-term, financially constrained investment program that includes all our capital expenses over the next five years. It is a rolling plan, updated annually
- It funds the planning, design, construction, maintenance, and acquisition of capital assets across the transit network
- It includes 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



The System | MBTA by the Numbers



*Reflects active vehicle counts as of June 2022 and average weekday trips 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

MBTA Capital Investment by Fiscal Year

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.

FY22 and FY23 Key Project Milestones:



Green Line Extension Medford Branch **opened on December 12, 2022**

Over **14,000 feet of track** was replaced, **6 units of special trackwork** were upgraded, and **10 pedestrian crossings** were improved on the B, C, D, and E Branches of the Green Line during six diversions in Summer 2022



Construction of the new Gloucester Drawbridge on the Newburyport/Rockport Line was **successfully completed in December 2022**

Work on the first major construction package for South Coast Rail Phase I was **substantially completed**, including the construction of **two new stations**

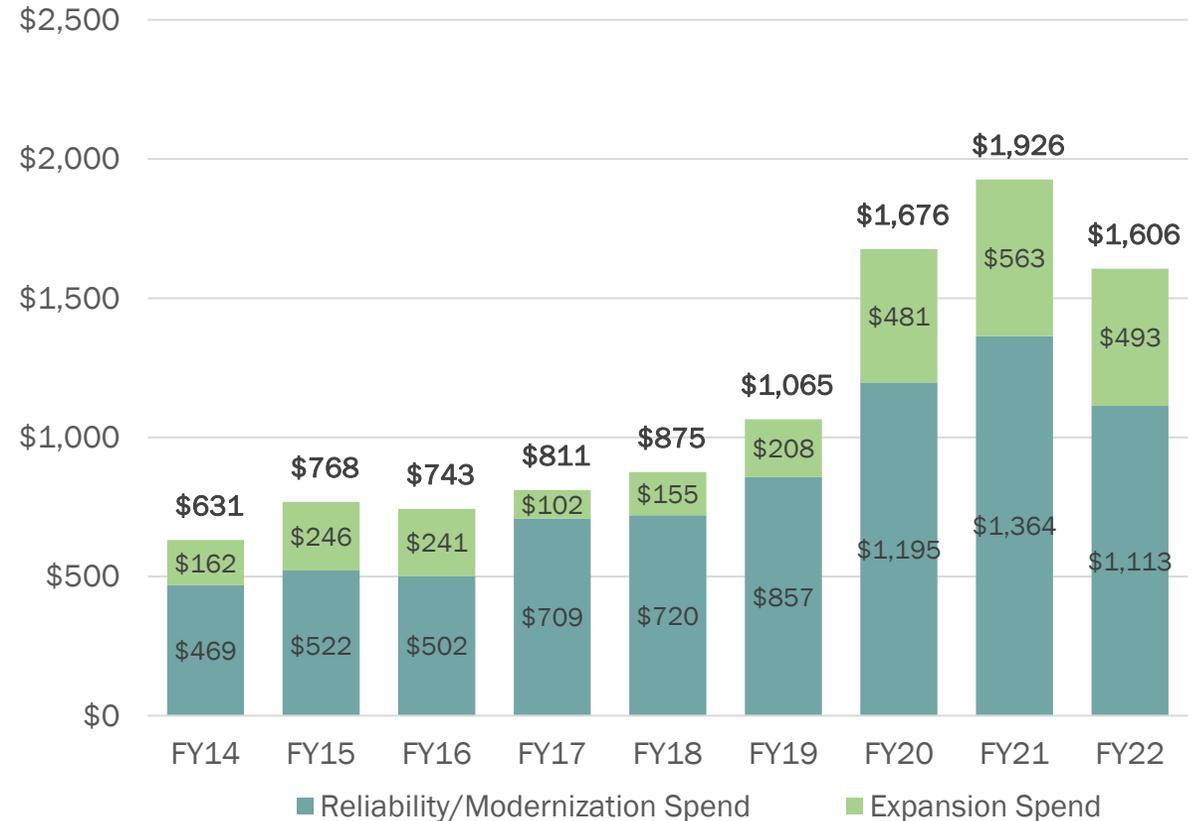


Red and Orange Lines continued vehicle replacement (**90 new vehicles delivered to car houses**), and upgrades to signals (**50% completion on the Red Line**) and traction power substations (**78% completion on the Orange Line**)



New center-running bus lane on Columbus Avenue in Boston opened in **October 2021 for passenger service**

MBTA Capital Investment by Fiscal Year (\$M)



Proposed FY24-28 CIP | Policy Objectives



Prioritizing Safety and Reliability Investments

- Safety and reliability investments are the MBTA's priority and account for roughly \$7.6B or 83% of the programmed investments in the Proposed FY24-28 CIP. These projects are necessary to reduce safety risks, increase system reliability, lower maintenance costs, and improve system performance.



Building Toward Enhanced and Improved System Accessibility

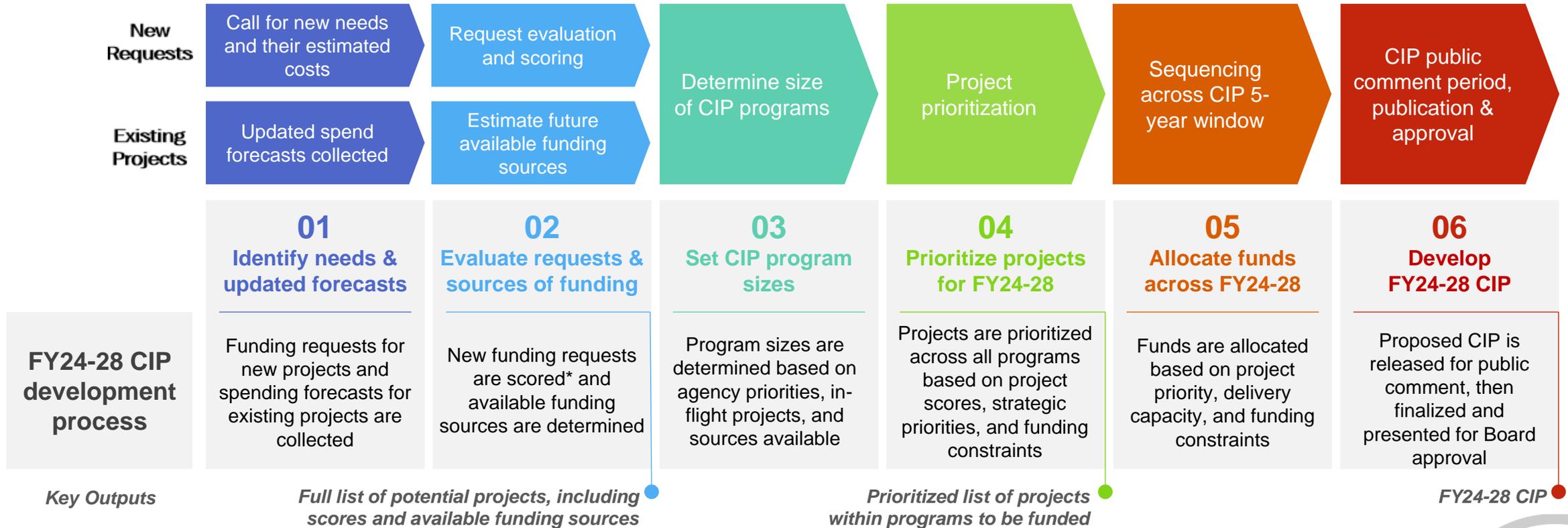
- System Accessibility account for roughly \$1.9B or 21% of the programmed investments with significant accessibility benefits in the FY24-28 CIP. These investments are instrumental to ensure access for all when using the MBTA's transit system.



Promoting System Sustainability and Resiliency (S&R)

- Investments focused on system sustainability and resiliency account for roughly \$3.6B or 39% of the programmed investments in the FY24-28 CIP. These investments promote electrification, resource efficiency, and harden the system against extreme weather events, including flooding and extreme heat.

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



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



Proposed FY24-28 CIP | Summary

Total Projects

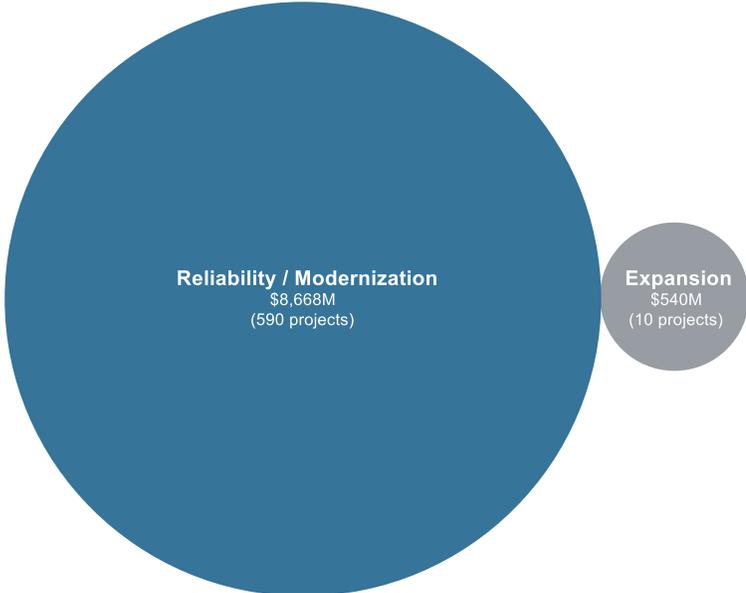
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FY24-28 Programmed Spend

\$9,208.7M

Executing Departments

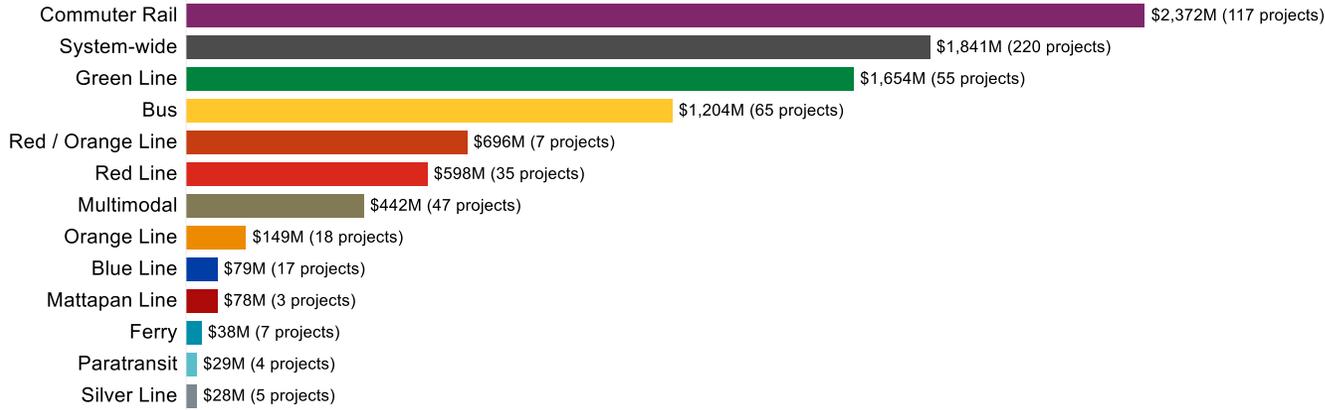
30



Top 15 Projects by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	Authorized Budget	FY24-28 Total
P0369	Green Line Type 10 Vehicle Replacement Program	Green Line	\$1,000M	\$427M
P0265	Fare Transformation	System-wide	\$792M	\$411M
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
P0516	On-Call Track III	Multimodal	\$151M	\$148M
P0370	Green Line Train Protection	Green Line	\$213M	\$146M
P0606	ATC Implementation - North Side Commuter Rail Lines	Commuter Rail	\$467M	\$143M
Total			\$9,016M	\$3,847M

FY24-28 Programmed Spend, by Primary Mode



FY24-28 CIP | New Funding

New Funding Programmed in FY24-28

\$955.9M

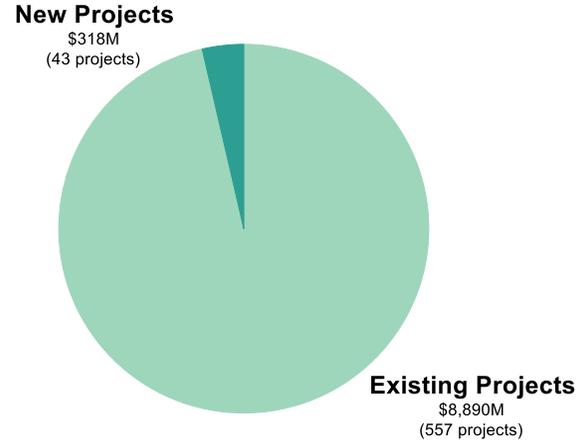
Total Projects Receiving New Funding

78

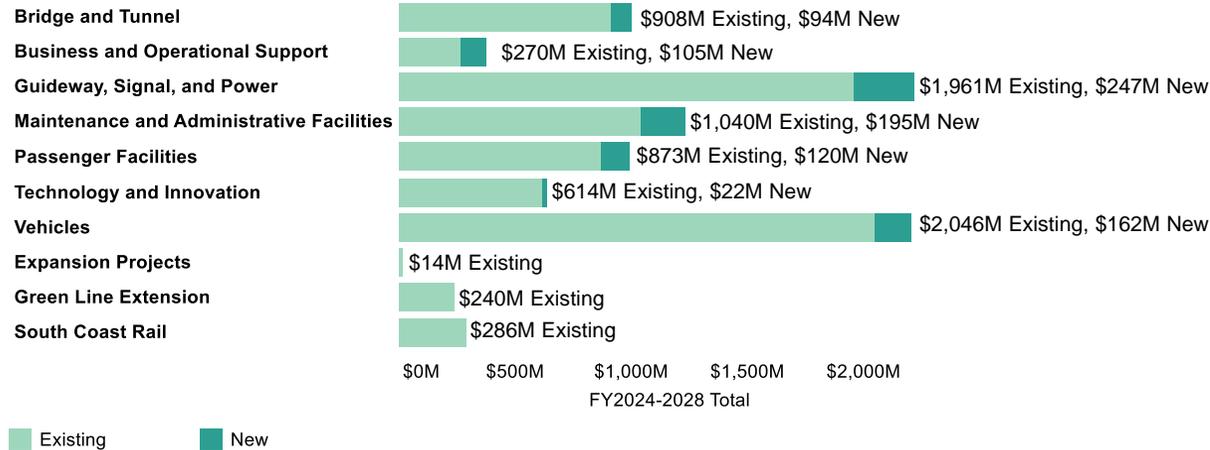
Total New Projects

43

FY24-28 Programmed Spend by New or Existing Project



Existing and New FY24-28 Funding by CIP Program



Top 25 Safety-Related Projects Receiving New Funding, by FY24-28 Programmed Spend

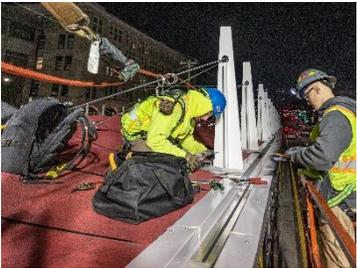
CIP ID	Project Name	FY24-28 New Funding	FY24-28 Total	Authorized Budget
P0671a	Quincy Bus Facility Modernization	\$74M	\$401M	\$476M
P0516	On-Call Track III	\$81M	\$148M	\$151M
P0606	ATC Implementation - North Side Commuter Rail Lines	\$50M	\$143M	\$467M
P0911	Hybrid and CNG Bus Overhaul	\$95M	\$121M	\$121M
P0856	Ruggles Station Improvements Phase 2	\$25M	\$120M	\$125M
P1107	Bridge Program Pipeline - Rehabilitation, Repair and Replacement	\$66M	\$85M	\$295M
P1139	Systemwide Asset Management Program Phase 4	\$42M	\$53M	\$54M
P0692	PRIIA-NEC Baseline Capital Charges	\$13M	\$51M	\$119M
P0129	Newton Highlands Green Line Station Accessibility Project	\$16M	\$42M	\$48M
P0126	Facility Roof Replacement	\$20M	\$41M	\$72M
P1238	Additional FTA Directive-Related Costs	\$40M	\$40M	\$40M
P1239	Red Line Type 3 Vehicle Selective Systems Upgrade	\$39M	\$39M	\$39M
P0671c	North Cambridge Bus Facility Retrofit	\$11M	\$35M	\$36M
P0886	Capital Program Support	\$20M	\$31M	\$35M
P0909	Repairs and Rehabilitation of MBTA-Owned Dams	\$17M	\$26M	\$40M
P0940	Rail Transformation - Early Action Items	\$10M	\$19M	\$20M
P1216	Everett Building 2 Floor Repairs	\$19M	\$19M	\$19M
P1157	Systemwide Non-Revenue Vehicles Program	\$12M	\$18M	\$18M
P1150	High Priority Stations Accessibility Improvements Program	\$10M	\$18M	\$19M
P1225	Systemwide Escalator and Elevator Replacement Program	\$15M	\$15M	\$15M
P1220	Employee Breakroom and Bathroom Upgrades Program	\$15M	\$15M	\$15M
P1213	SCADA Equipment Update	\$15M	\$15M	\$15M
P1212	15kV Feeder and Duct Bank Replacement	\$15M	\$15M	\$15M
P0087	Braintree and Quincy Adams Garage Rehabilitation	\$5M	\$13M	\$127M
P1000	Urgent Structural Design Support	\$8M	\$10M	\$11M
Others		\$186M	\$257M	\$378M
Grand Total		\$917M	\$1,791M	\$2,769M

Prioritizing Safety and Reliability

475+ non-negotiable, safety-sensitive reliability projects, accounting for roughly **\$7.6B of programmed spending** are part of the 5-year CIP. This includes but is not limited to:



- 15+** 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



- 300+** 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

You can also visit [mbta.com/safety](https://www.mbta.com/safety) and [mbta.com/qco](https://www.mbta.com/qco) for more information on the MBTA's safety initiatives and the FTA's SMI

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

90+ projects with significant accessibility benefits, accounting for roughly \$1.9B of programmed spending are part of the 5-year CIP. This includes but is not limited to:



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 [mbta.com/accessibility](https://www.mbta.com/accessibility) for more information on accessibility initiatives

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)

150+ projects, accounting for roughly \$3.6B of programmed spending, have S&R benefits and are part of the 5-year CIP. This includes but is not limited to:



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



20+ 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 [mbta.com/sustainability](https://www.mbta.com/sustainability) for more information on S&R initiatives

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)

Advancing Bus and Rail Electrification



Bus Electrification

The CIP supports the MBTA's Bus Electrification Strategy that seeks to achieve full bus electrification in 2040. It includes investments aligned with the 2027 goals of the Bus Electrification Strategy that target:

- Modernization of three bus facilities to provide facility capacity to electrify 30% of our fleet
- On-going conversion of bus fleet to zero emissions technology

The CIP includes projects focused on bus facility modernization and procurement of battery-electric buses (BEBs), including but not limited to:

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



Commuter Rail Electrification

The CIP supports the MBTA's commitment to the first phase of Regional Rail Transformation as defined by the Fiscal Management and Control Board in 2019:

- To deliver electrified service to the Providence/Stoughton, Fairmount lines, and Environmental Justice Corridor (the Boston North Station to Beverly section of the Rockport line).

The CIP includes projects focused on completing necessary technology and planning studies, funds to support future fleet procurements of battery-electric or electric rolling stock, and “no regrets” capital investments which will provide customer benefits regardless of technology choice, including but not limited to:

- Rail Transformation – Early Action Items (P0940)
- Rail Transformation Planning Studies (P0934)
- Rail Transformation Early Actions – Old Colony Double Track (P1209)
- Future Rolling Stock Fleet (P0918)

Proposed FY24-28 CIP Book | Structure

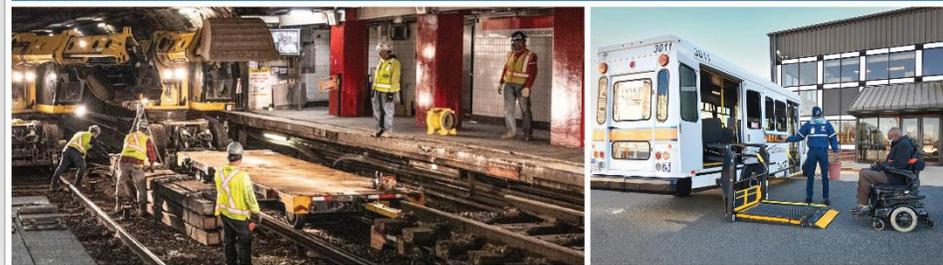
The proposed FY24-28 CIP document is structured around four major components and can be accessed at:

www.mbta.com/cip



**Massachusetts Bay Transportation Authority
FY24-28 Capital Investment Plan (CIP)**

Proposed - March 2023



- 1

About the CIP

 - What is the CIP?
 - Structure of the CIP
 - Our Investment Priorities
 - Funding Sources
 - Annual Development Process
 - Public Engagement

- 2

FY24-28 CIP Summary

 - Summary of FY24-28 investments and funding awarded to new and existing projects
 - Overview of safety, accessibility, sustainability and resiliency efforts

- 3

FY24-28 Investments by Program

 - One-page overview for each CIP program summarizing program goals and planned investment levels for FY24-28

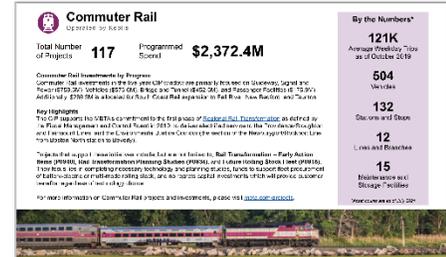
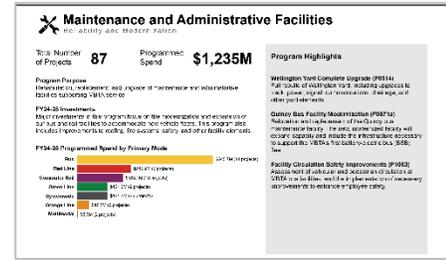
FY24-28 Investments by Mode

 - One-page overview of CIP investments by primary mode of the MBTA, highlighting key initiatives planned for FY24-28

- 4

FY24-28 Project List

 - Detailed listing of all FY24-28 CIP projects, including description, phase, primary mode, planned five-year spend, and total authorized budget



We want to hear from you!

The MBTA is seeking public comments on the proposed FY24-28 Capital Investment Plan (CIP):

- The MBTA is announcing today multiple ways that the public can share feedback on the proposed FY24-28 CIP to be released on March 23, 2023, at www.mbta.com/cip. Following the 30-day public comment period the final FY24-28 CIP will be brought to the Board for approval.
- The proposed FY24-28 CIP will include a description of the Capital Plan's structure and priorities, as well as investment summaries by CIP Program, MBTA's line/mode, and the full list of proposed FY24-28 CIP projects for public comment

Submit feedback from Thursday, March 23, 2023, through Monday, April 24, 2023:

- Using the [CIP Online Comment Tool](#)
- By Email at cipengagement@mbta.com
- By **Postal Mail**, with letters addressed to: MBTA Capital Investment Plan, 10 Park Plaza, Suite 3830, Boston, MA 02116
- During our **public events** outlined below:

CIP Public Meetings: details and instructions will be provided on the [MBTA's CIP website](#) on how to attend the virtual and in-person meetings

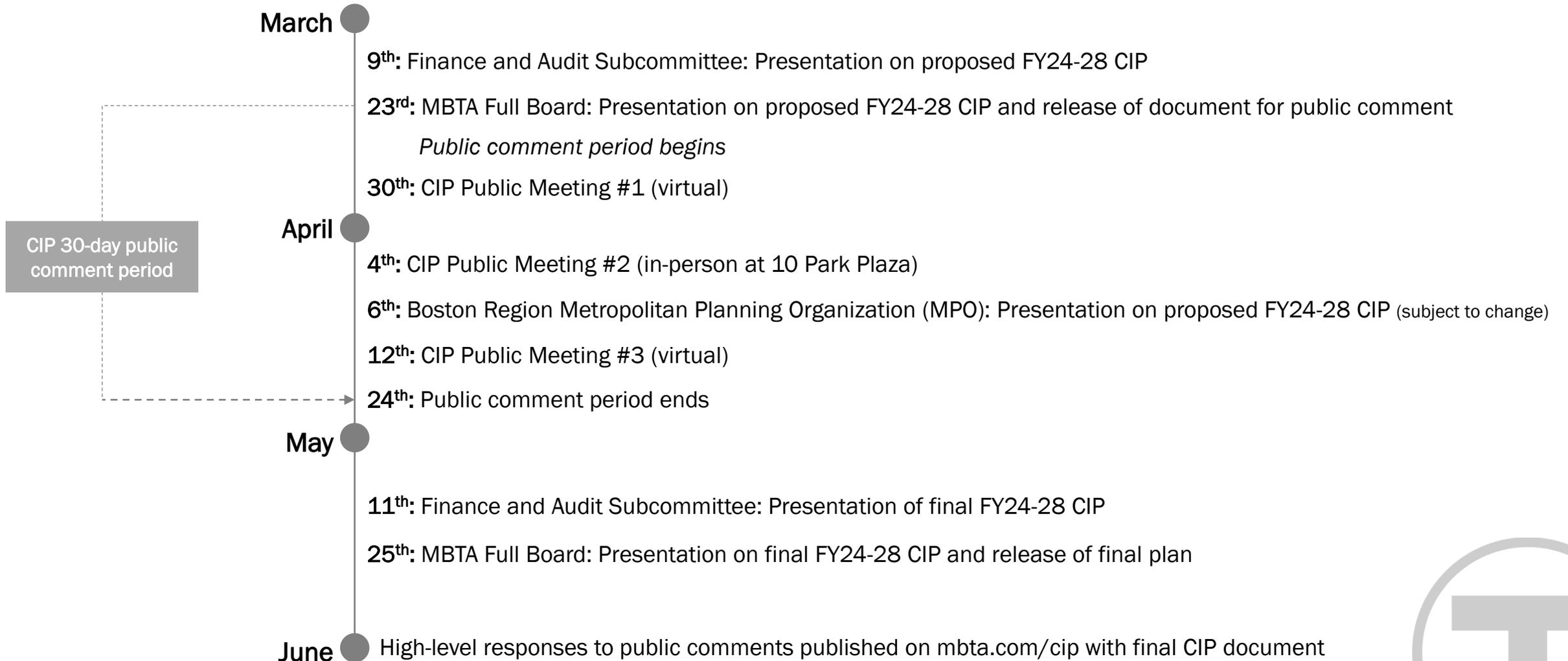
📍 **THURSDAY, MARCH 30, 6:30 P.M.**
Location: Virtual public meeting

📍 **TUESDAY, APRIL 4, 6:30 P.M.**
Location: MassDOT Board Room,
10 Park Plaza, Boston, MA 02116

📍 **WEDNESDAY, APRIL 12, 6:30 P.M.**
Location: Virtual public meeting



Next Steps



Raising Your Hand

- Please use Zoom’s “Raise Hand” feature to indicate if you have a comment
 - All participants are muted upon entry so that only the presenters can be heard. Please raise your hand and the meeting host will ask you to unmute so that you can state your question/comment.
- Por favor de usar el encero de levantar la mano en Zoom para indicar que usted tiene algún comentario o pregunta.
 - Todos los participantes en esta llamada están silenciados, para que solo los presentadores se puedan oír. Cuando usted levante su mano, manda un alerta a la moderadora que quisiera hablar. La moderadora le quitará el silencio para que pueda hacer su pregunta o comentario.
- 如果您有评论，请使用 Zoom 的“举手”功能。
 - 所有的参与者在进来时都被静音了以便于只听到演讲者。请举手，会议主持人将让您取消静音，以便您陈述您的问题/评论。



To speak, click
“Raise hand”



Send a chat
to the moderator



***9**
Raise Hand

