



**Massachusetts Bay  
Transportation Authority**

# Proposed FY24-28 Capital Investment Plan

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Audit and Finance Subcommittee

March 9, 2023

# 5-Year MBTA Capital Investment Plan

## What is the Capital Investment Plan (CIP)?

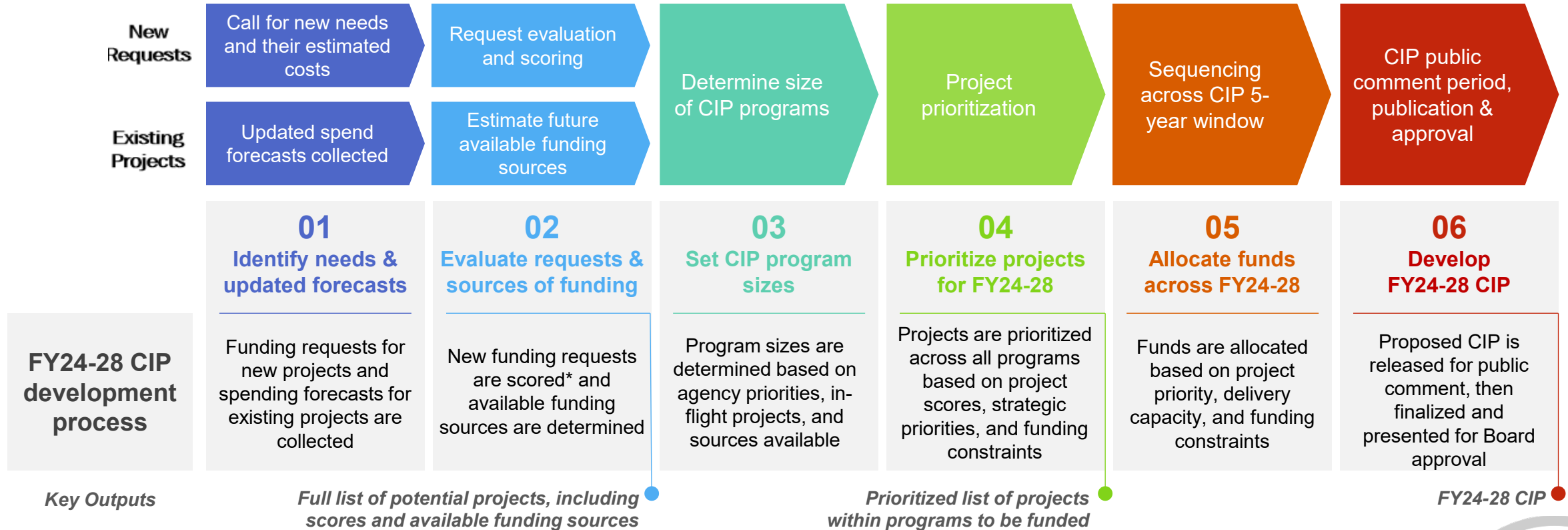
- It is a short-term, financially constrained investment program that includes all our capital expenses over the next five years. It is a rolling plan, updated annually
- It funds the planning, design, construction, maintenance, and acquisition of capital assets across the transit network
- It includes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



# 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

**The MBTA continues to aggressively pursue eligible discretionary funding opportunities in the Bipartisan Infrastructure Law (BIL).**

To accomplish this goal we, (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 FY22-23**

As of early February 2023, the MBTA has won \$249.4 million in discretionary grant funding in FY22-23, related but not limited to:

### **Bus Electrification**

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

### **System Accessibility and Passenger Facilities**

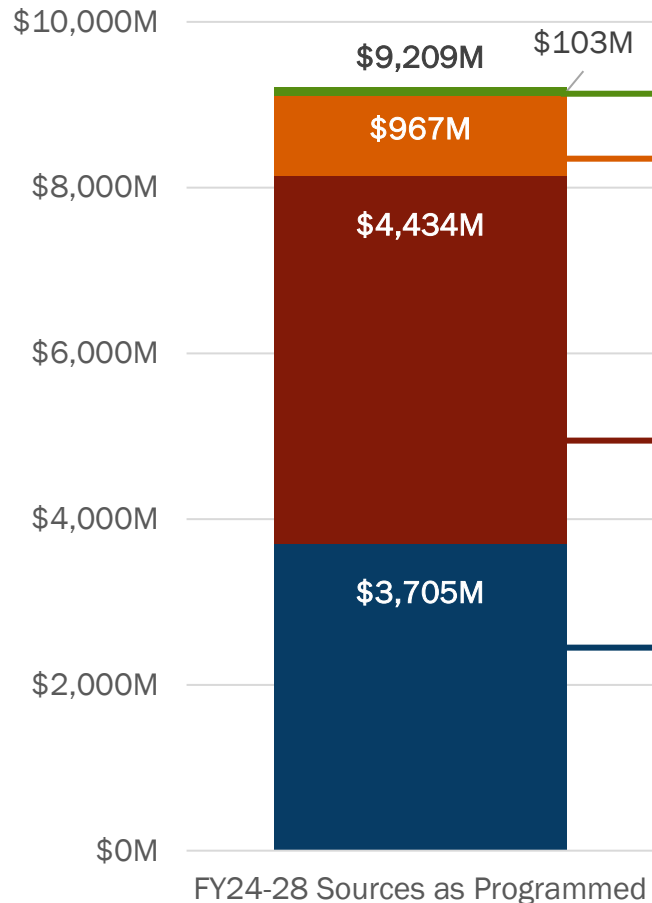
- \$66.6M awarded for the Symphony Station Accessibility Improvements Project
- \$6.6M awarded for the Hingham Ferry Dock Modifications project

### **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

Draft FY24-28 CIP  
Sources as Programmed



The MBTA's proposed FY24-28 CIP reflects \$9.2B in programmed sources. This amount reflects changes to project schedules and spend forecasts as collected through the agency's Q3 cashflow exercise.

**\$103M in Reimbursable funds** through partnerships and agreements

**\$967M 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)

**\$4,434M in MBTA funds**, including MBTA-issued bonds, operating budget transfers and existing RRIF/TIFIA loans

**\$3,705M in Federal funds** including federal formula funding levels, received discretionary grant awards, and federal funding for GLX

■ Federal ■ MBTA ■ State ■ Reimbursable



# FY24-28 CIP | Policy Priorities



## 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.



# Proposed FY24-28 CIP | Summary

### Total Projects

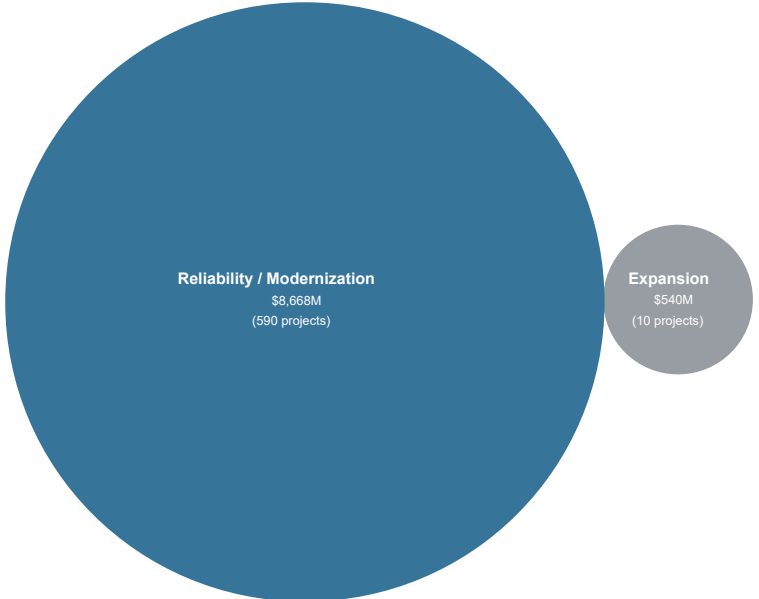
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### FY24-28 Programmed Spend

\$9,208.7M

### Executing Departments

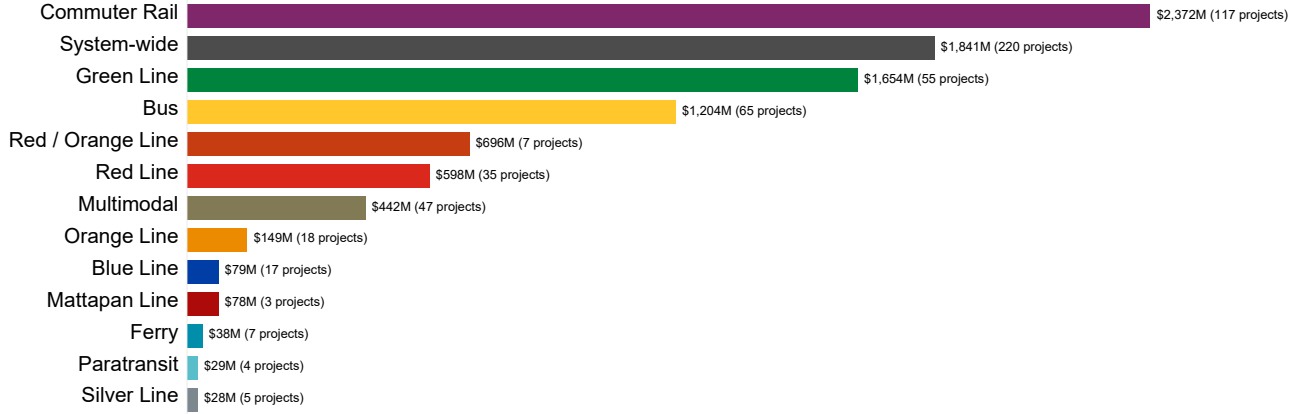
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### Top 15 Projects by FY24-28 Programmed Spend

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
<b>Total</b>			<b>\$9,016M</b>	<b>\$3,847M</b>

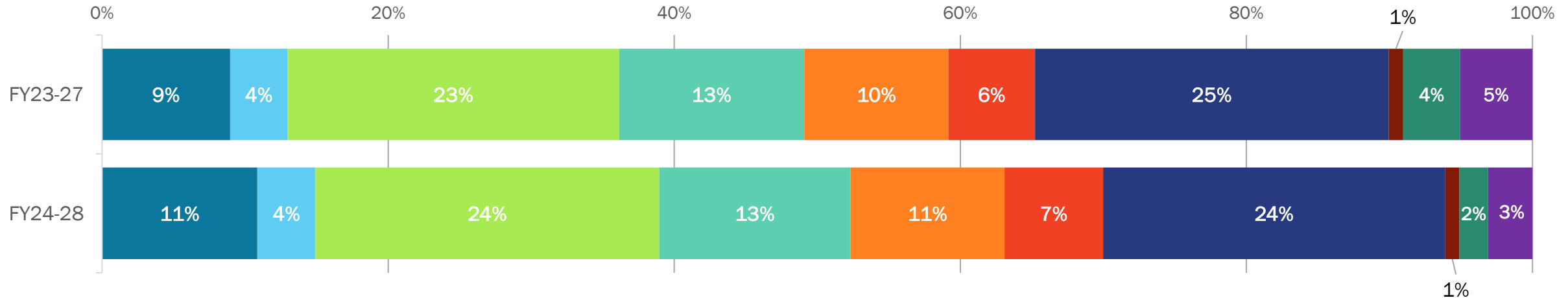
### FY24-28 Programmed Spend, by Primary Mode



# Proposed FY24-28 CIP | Program Sizes

- The FY24-28 CIP program sizes have been updated based on programmed amounts and reflect investment levels that are largely in proportion to the FY23-27 CIP
- This demonstrates the agency’s continued commitment to prioritizing investments in the system’s guideway, signal and power, and vehicle assets

FY23-27 and FY24-28 CIP Program Sizes as a Percentage of the Total CIP Budget



## Reliability & Modernization Priority

- Bridge & Tunnel
- Business and Operational Support
- Guideway, Signal, and Power

- Maintenance and Administrative Facilities
- Passenger Facilities
- Technology and Innovation

- Vehicles

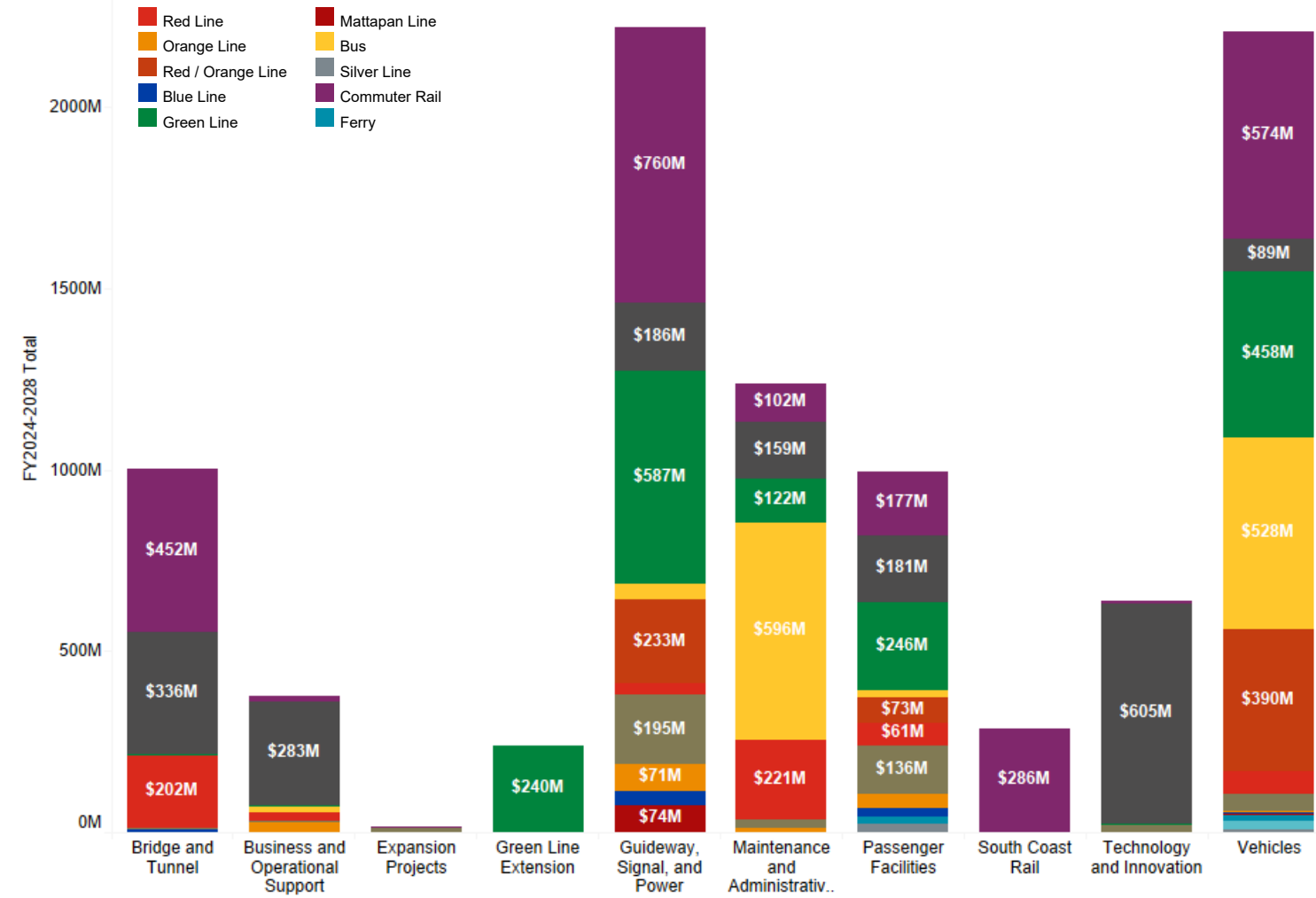
## Expansion Priority

- Expansion Projects
- Green Line Extension
- South Coast Rail

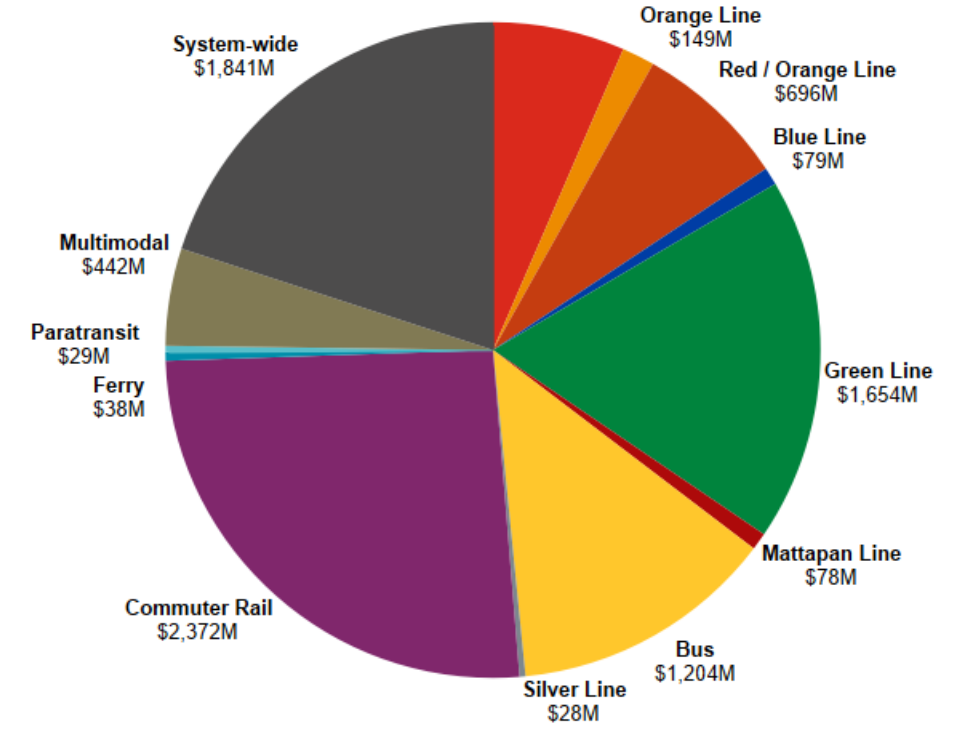


# Proposed FY24-28 CIP | Investments by Mode

FY24-28 Programmed Spend, by CIP Program and Primary Mode



FY24-28 Programmed Spend, by Primary Mode



# FY24-28 CIP | New Funding

## New Funding Programmed in FY24-28

**\$955.9M**

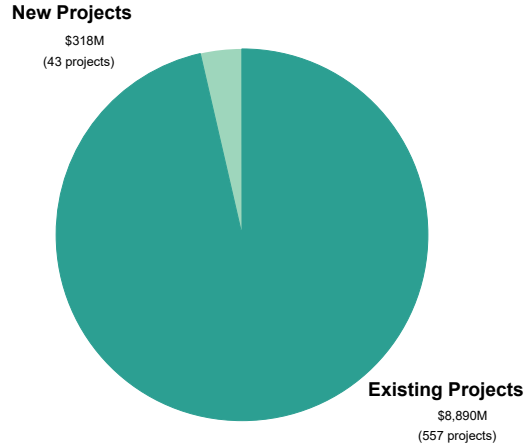
## Total Projects Receiving New Funding

**78**

## Total New Projects

**43**

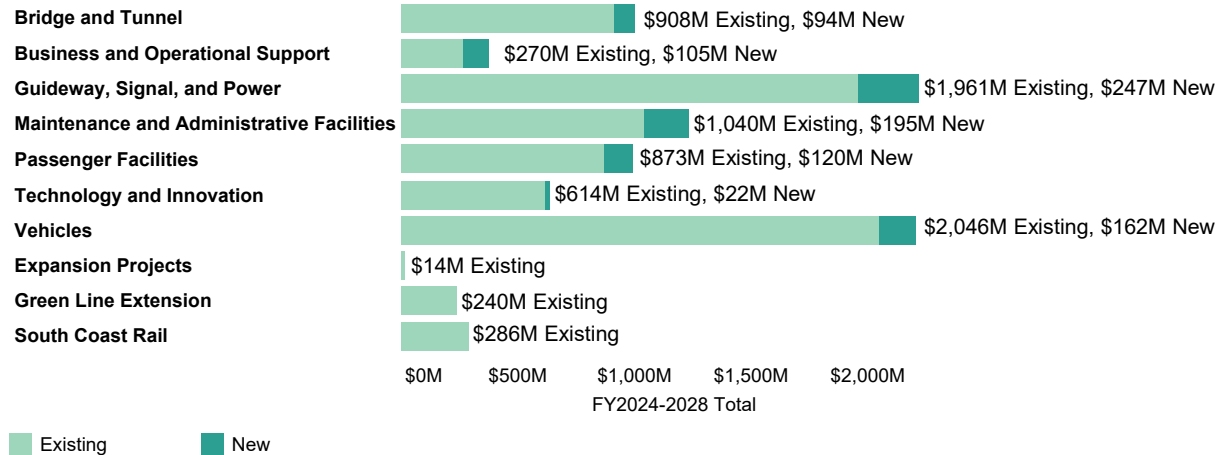
## FY24-28 Programmed Spend by New or Existing Project



## 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
<b>Grand Total</b>		<b>\$917M</b>	<b>\$1,791M</b>	<b>\$2,769M</b>

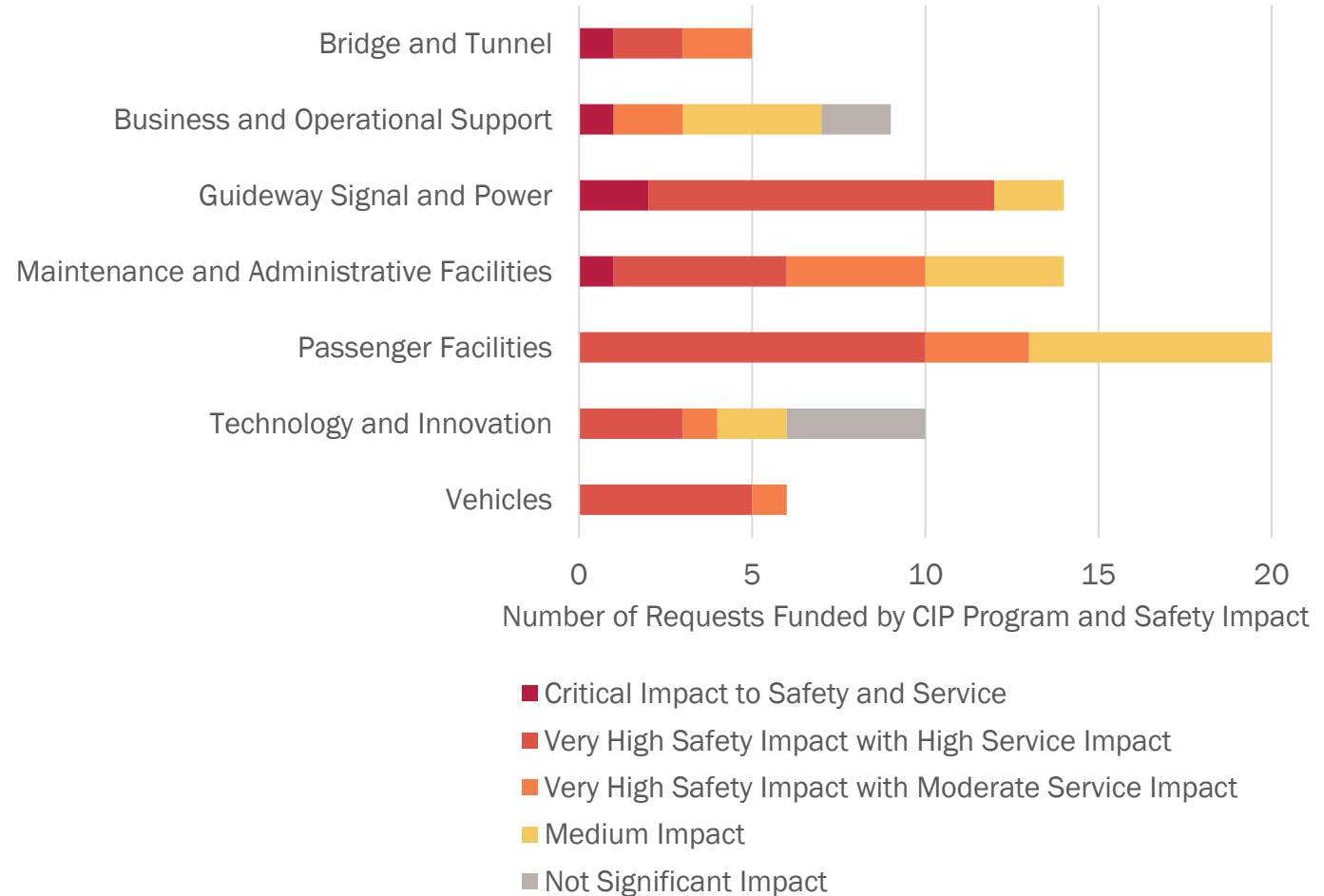
## Existing and New FY24-28 Funding by CIP Program



# Safety Impact Evaluation of Funded Requests

- The Safety Impact Matrix (SIM) was developed to serve as an additional input to further elevate and identify key projects during CIP project prioritization to distinguish different levels of safety impact
- Safety impact is conceptualized as the relationship between Safety and Service and builds upon data from the MBTA’s SMS, TAM, and CIP scoring process
- Over half of the requests prioritized for new funding in the proposed FY24-28 CIP have at least a Very High Impact
- Requests with Critical and Very High Impact to Safety and Service are related but not limited to state of good repair of our guideway, signal, and power assets; life and fire safety systems at our maintenance and passenger facilities, and vehicle assets

FY24-28 CIP Funded Requests: Distribution of Safety Impact by CIP Program



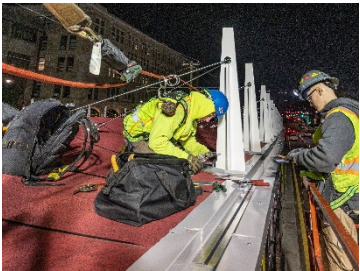
# Prioritizing Safety and Reliability

**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

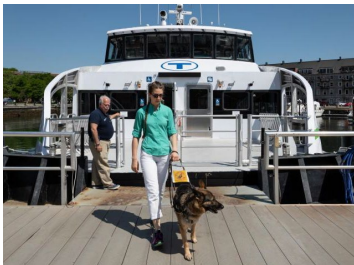
**90+** projects with significant accessibility benefits, accounting for roughly \$1.9B of programmed spending are part of the 5-year CIP. This includes but is not limited to:



**40+** projects to enhance accessibility at stations, bus stops, and rail and grade crossings, ranging from small to full scale 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)

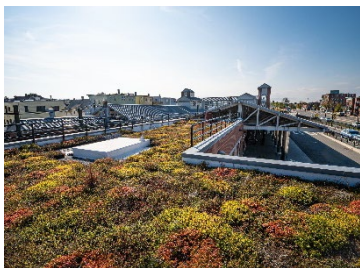
**150+** projects with varying S&R benefits, accounting for roughly \$3.6B of programmed spending are part of the 5-year CIP. This includes but is not limited to:



**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 indirect 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

### Rapid Transit and Commuter Rail

- Multi-Mode Locomotives (P0918)
- Cabot Facility Flood Mitigation (P0950)

### 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 multi-mode 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)
- Multi-Mode Locomotives (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](http://www.mbta.com/cip)



1

## About the CIP

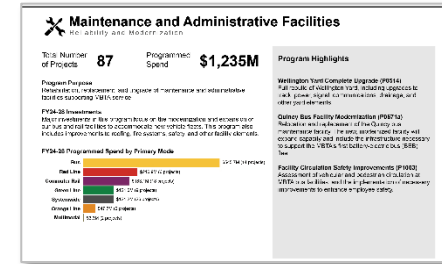
- What is the CIP?
- Structure of the CIP
- Our Investment Priorities

- Funding Sources
- Annual Development Process
- Public Engagement

2

## FY24-28 CIP Summary

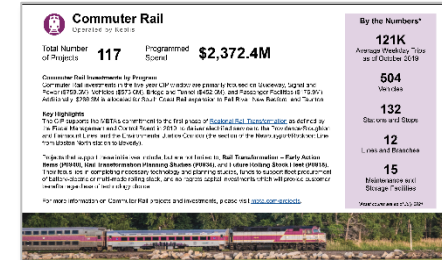
- Summary of FY24-28 investments and funding awarded to new and existing projects
- Overview of safety, accessibility, sustainability and resiliency efforts



3

## FY24-28 Investments by Program

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



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

# FY24-28 Proposed CIP Public Engagement

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](http://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](mailto: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

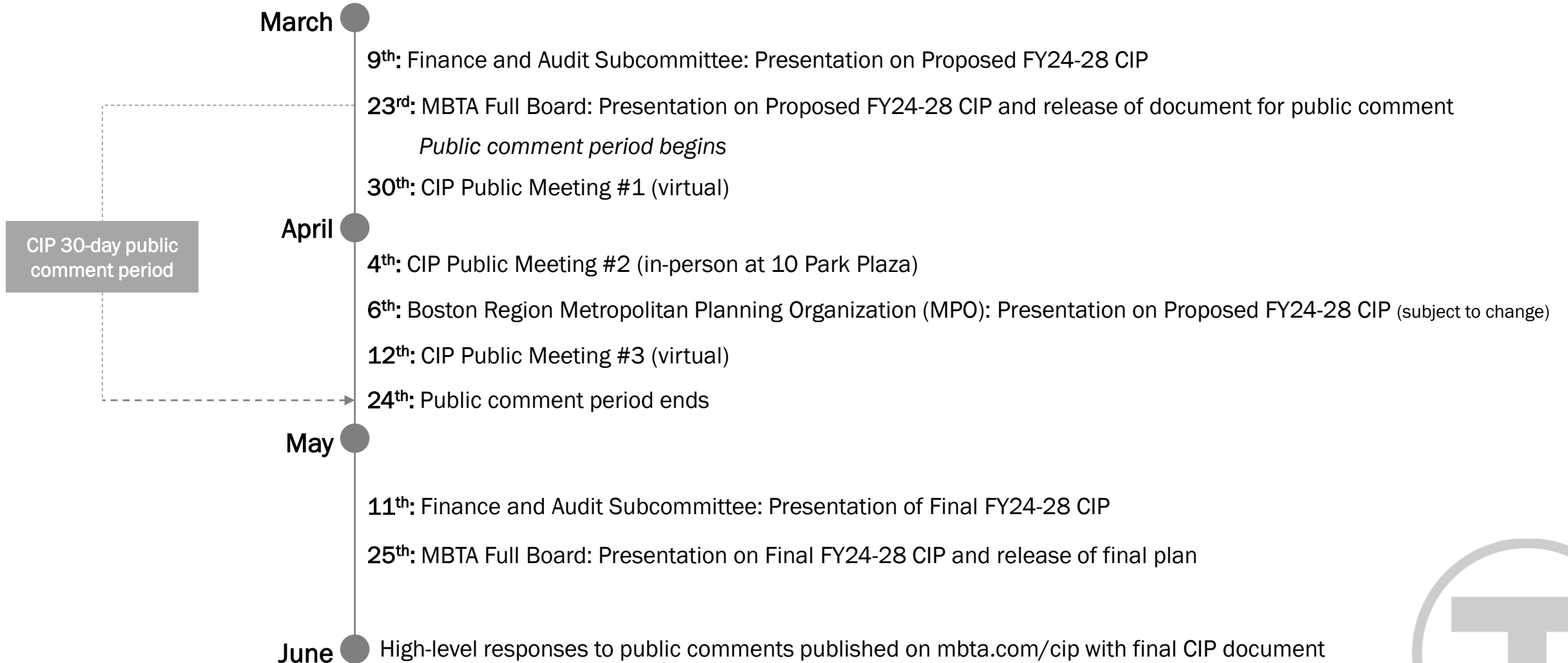
📍 **THURSDAY, MARCH 30, 6:30 P.M.**  
Location: Virtual public meeting

📍 **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



# Appendix – CIP Program Summary Slides



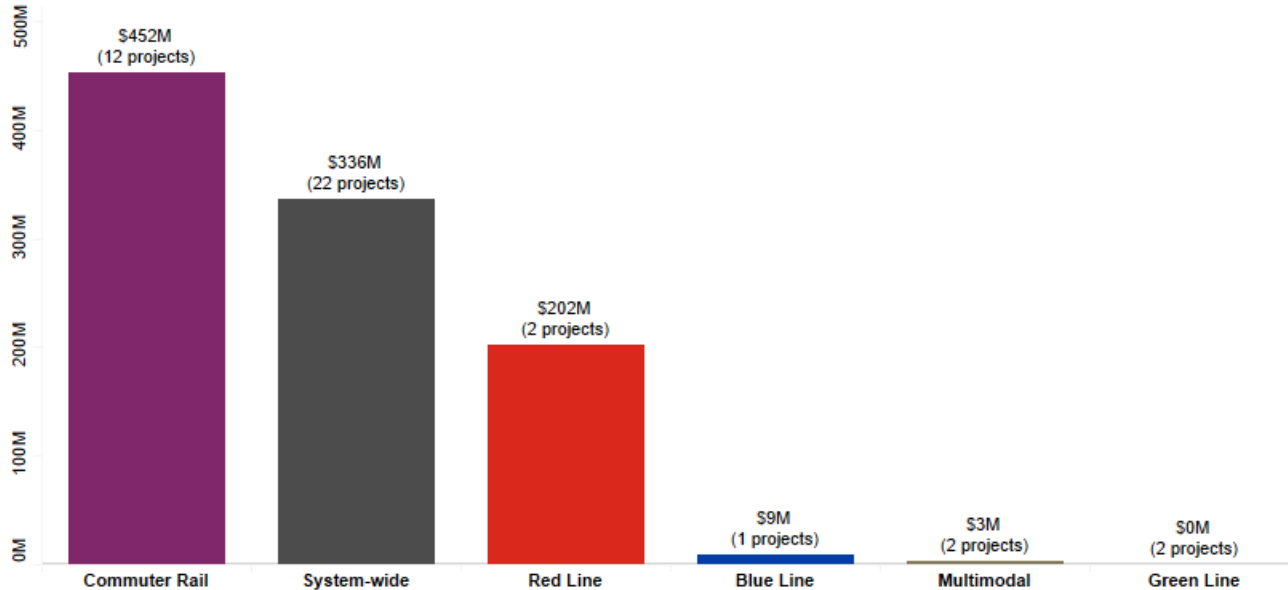
# Program Summary | Bridge and Tunnel

## Program Purpose

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

Total Projects	FY24-28 Programmed Spend	Executing Departments
<b>41</b>	<b>\$1,002.4M</b>	<b>5</b>

## FY24-28 Programmed Spend by Primary Mode



## Top 15 Bridge and Tunnel 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	\$352M
P0551	Longfellow Approach	Red Line	\$210M	\$202M
P1107	Bridge Program Pipeline - Rehabilitation, Repair and Replacement	System-wide	\$295M	\$85M
P0912	Systemwide Tunnel Flood Mitigation Program	System-wide	\$143M	\$50M
P0495	Bridge Bundling Contract	System-wide	\$132M	\$39M
P0627	Systemwide Bridge Inspection and Rating	System-wide	\$104M	\$35M
P0909	Repairs and Rehabilitation of MBTA-Owned Dams	Commuter Rail	\$40M	\$26M
P0552	Dorchester Avenue Bridge	System-wide	\$37M	\$21M
P1115	South Elm Street Bridge Replacement	Commuter Rail	\$20M	\$20M
P0907	East Street Bridge Replacement (Dedham)	Commuter Rail	\$18M	\$18M
P0852	Structural Repairs Systemwide	System-wide	\$30M	\$18M
R0074	Tunnel Inspection Systemwide	System-wide	\$31M	\$17M
P0704	Tunnel Emergency Ventilation Program	System-wide	\$15M	\$13M
P0006	Gloucester Drawbridge Replacement	Commuter Rail	\$100M	\$13M
P0892	Saugus Drawbridge Replacement	Commuter Rail	\$20M	\$11M
<b>Total</b>			<b>\$1,769M</b>	<b>\$920M</b>

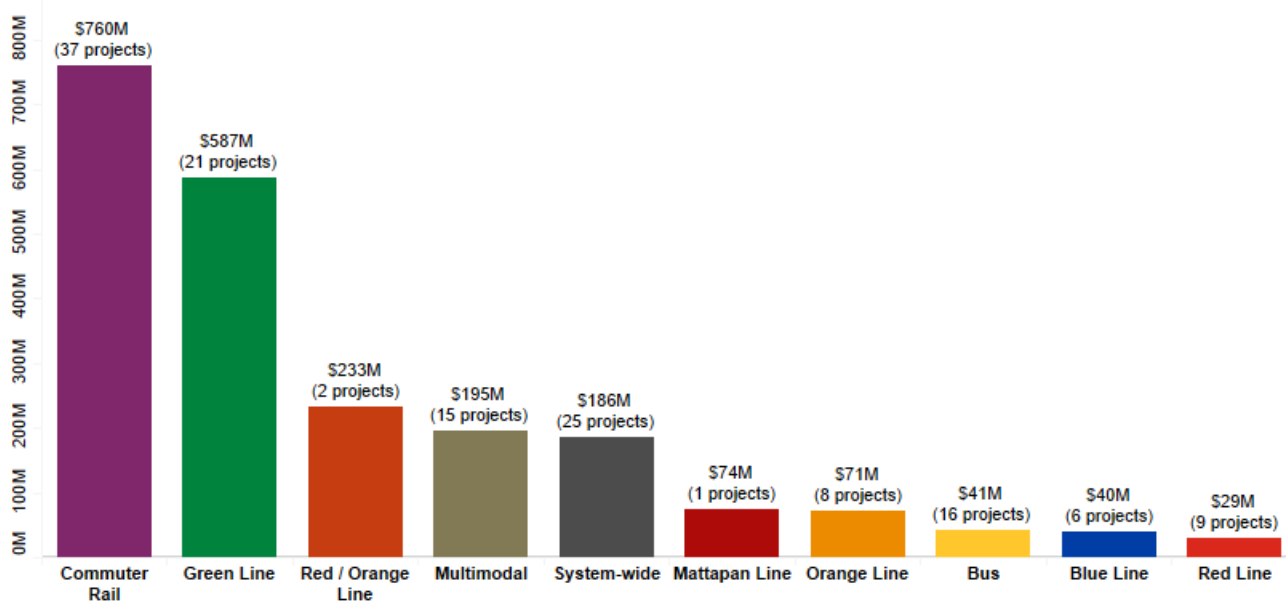
# Program Summary | Guideway, Signal, and Power

## 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
<b>140</b>	<b>\$2,217.9M</b>	<b>9</b>

## FY24-28 Programmed Spend by Primary Mode



## Top 15 Guideway, Signal, and Power Projects, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	Authorized Budget	FY24-28 Total
P0924	B Branch Accessibility & Capacity Improvements	Green Line	\$221M	\$176M
P0285	Signal Program - Red/Orange Line	Red / Orange Line	\$289M	\$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
P0591	Green Line Central Tunnel Track and Signal Replacement	Green Line	\$120M	\$116M
P0889	Tower 1 Interlocking Early Action Project	Commuter Rail	\$139M	\$115M
P0612	Commuter Rail Fiber Optic Resiliency	Commuter Rail	\$121M	\$103M
P0923	E Branch Accessibility & Capacity Improvements	Green Line	\$86M	\$86M
P0157	Red Line / Orange Line Infrastructure Improvements	Red / Orange Line	\$470M	\$80M
P0857	Mattapan HSL Transformation	Mattapan Line	\$115M	\$74M
P0553	Keolis Capitalization Initiatives and Extra Work	Commuter Rail	\$154M	\$68M
P0692	PRIIA-NEC Baseline Capital Charges	Commuter Rail	\$119M	\$51M
P1238	Additional FTA Directive-Related Costs	System-wide	\$40M	\$40M
P0148	Commuter Rail Positive Train Control	Commuter Rail	\$444M	\$36M
<b>Total</b>			<b>\$3,149M</b>	<b>\$1,536M</b>

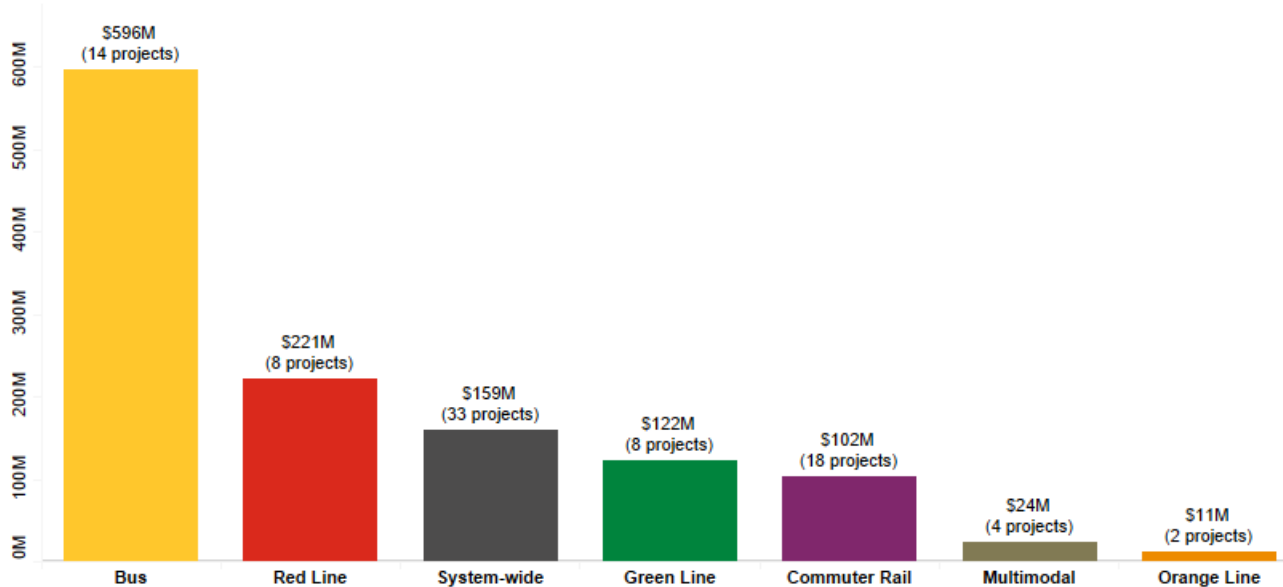
# Program Summary | Maintenance and Administrative Facilities

## Program Purpose

Rehabilitates and upgrades maintenance and administrative facilities that support operations

Total Projects	FY24-28 Programmed Spend	Executing Departments
<b>87</b>	<b>\$1,235.0M</b>	<b>8</b>

## FY24-28 Programmed Spend by Primary Mode



## Top 15 Maintenance and Administrative Facilities Projects, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	Authorized Budget	FY24-28 Total
P0671a	Quincy Bus Facility Modernization	Bus	\$476M	\$401M
P0679	Codman Yard Expansion and Improvements	Red Line	\$117M	\$103M
P0512	Cabot Yard Complete Upgrade	Red Line	\$143M	\$99M
P0942	Bus Facility Interim Improvements	Bus	\$82M	\$59M
P1010	Riverside Vehicle Maintenance Facility Modifications & Upgrades	Green Line	\$49M	\$49M
P1144	Commuter Rail Facilities State of Good Repair	Commuter Rail	\$49M	\$43M
P0126	Facility Roof Replacement	System-wide	\$72M	\$41M
P0671	Bus Facility Modernization Program	Bus	\$96M	\$41M
P0671c	North Cambridge Bus Facility Retrofit	Bus	\$36M	\$35M
P0671b	Arborway Bus Facility - Design Funding	Bus	\$36M	\$35M
P1103	Reservoir Yard and Non-Revenue Track Optimization and Reconfiguration	Green Line	\$31M	\$31M
P1171	Billerica MOW Repair and Storage Facility	Commuter Rail	\$30M	\$30M
P1216	Everett Building 2 Floor Repairs	Multimodal	\$19M	\$19M
P1220	Employee Breakroom and Bathroom Upgrades Program	System-wide	\$15M	\$15M
P0925	Green Line Yards - Track Upgrades	Green Line	\$15M	\$15M
<b>Total</b>			<b>\$1,265M</b>	<b>\$1,016M</b>



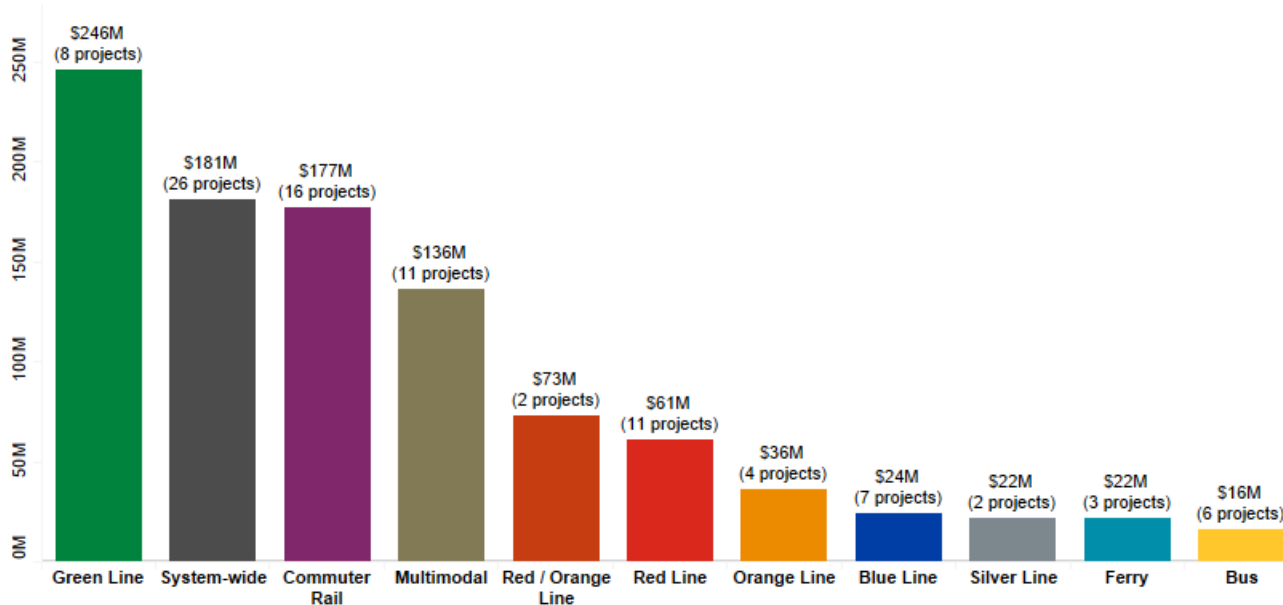
# Program Summary | Passenger Facilities

## 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
<b>96</b>	<b>\$993.3M</b>	<b>11</b>

## FY24-28 Programmed Spend by Primary Mode



## Top 15 Passenger Facilities Projects, by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	Authorized Budget	FY24-28 Total
P0856	Ruggles Station Improvements Phase 2	Multimodal	\$125M	\$120M
P0168	Symphony Station Improvements	Green Line	\$91M	\$84M
P0074	Downtown Crossing Vertical Transportation Improvements Phase 2	Red / Orange Line	\$78M	\$72M
P1009	Short Term Accessibility Improvements - FTA Compliance Actions	Green Line	\$57M	\$55M
P0129	Newton Highlands Green Line Station Accessibility Project	Green Line	\$48M	\$42M
P0626	Hynes Convention Center Station	Green Line	\$46M	\$41M
P0395	Worcester Union Station Accessibility and Infrastructure Improvements	Commuter Rail	\$75M	\$39M
P0179	Winchester Center Station	Commuter Rail	\$62M	\$37M
P1165	Transit Station Economic Development Improvements - Norfolk County	System-wide	\$50M	\$36M
P0163	Forest Hills Improvement Project	Orange Line	\$39M	\$34M
P0075	Elevator Program Multiple Location Design	System-wide	\$55M	\$32M
P0108	Back Bay Station Ventilation	Commuter Rail	\$43M	\$31M
P0174	Natick Center Station Accessibility Project	Commuter Rail	\$57M	\$26M
P0605	Alewife Garage Rehabilitation	Red Line	\$76M	\$23M
P1025	Lynn Station Parking Garage Deconstruction	Commuter Rail	\$23M	\$22M
<b>Total</b>			<b>\$924M</b>	<b>\$693M</b>

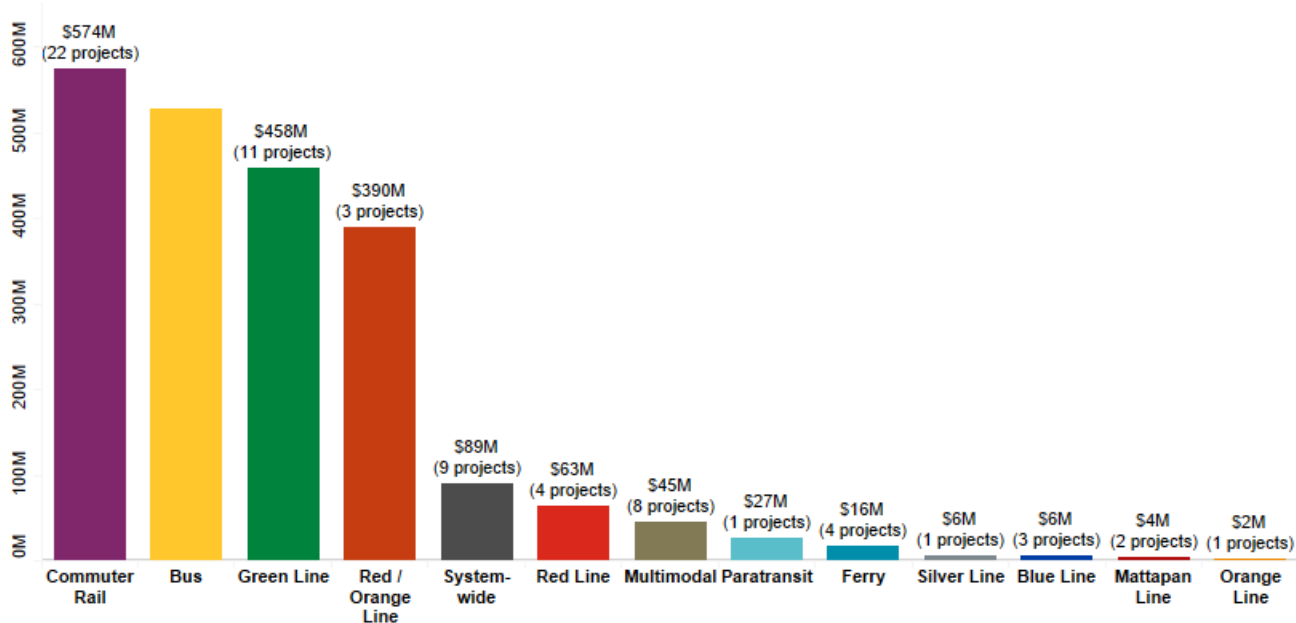
# Program Summary | Vehicles

## 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
<b>91</b>	<b>\$2,208.3M</b>	<b>7</b>

## FY24-28 Programmed Spend by Primary Mode



## Top 15 Vehicles 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
P0362	Red / Orange Line Vehicles	Red / Orange Line	\$1,073M	\$390M
P0618	Procurement of 40ft Enhanced Electric Hybrid Buses	Bus	\$349M	\$259M
P1152	Procurement of Hyundai Rotem Bi-Level Coaches - Option	Commuter Rail	\$161M	\$153M
P0893	Procurement of 67 Bi-Level Commuter Rail Coaches	Commuter Rail	\$276M	\$127M
P0911	Hybrid and CNG Bus Overhaul	Bus	\$121M	\$121M
P0653	Procurement of 40ft Battery Electric Buses and Related Infrastructure	Bus	\$101M	\$97M
P1173	HSP46 Locomotive Overhaul	Commuter Rail	\$120M	\$93M
P0547	Work Car Procurement	System-wide	\$71M	\$61M
P0918	Multi-Mode Locomotives	Commuter Rail	\$50M	\$50M
P0927	Rolling Stock - Locomotive and Coach State of Good Repair and Resiliency	Commuter Rail	\$54M	\$44M
P0652	Procurement of 100 Bi-Level Commuter Rail Coaches	Commuter Rail	\$44M	\$42M
P1239	Red Line Type 3 Vehicle Selective Systems Upgrade	Red Line	\$39M	\$39M
P1162	Reliability Centered Maintenance - Blue, Orange and Red Line	Multimodal	\$35M	\$35M
P0239	F40 Commuter Rail Locomotive Overhaul	Commuter Rail	\$126M	\$34M
<b>Total</b>			<b>\$3,621M</b>	<b>\$1,972M</b>

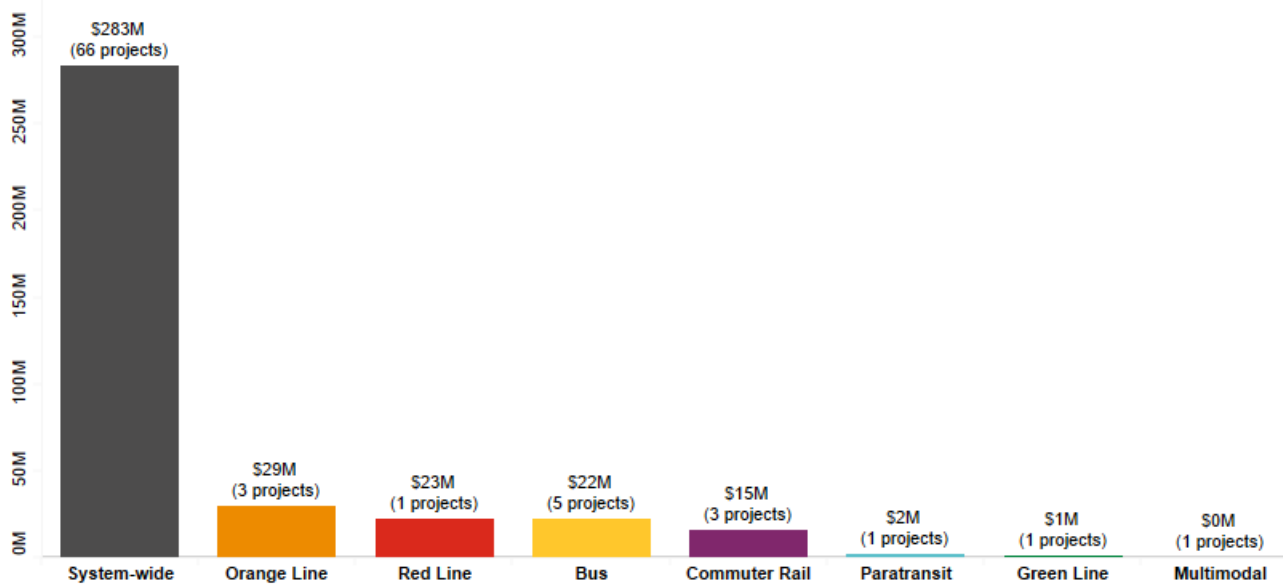
# Program Summary | Business and Operational Support

## Program Purpose

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

Total Projects	FY24-28 Programmed Spend	Executing Departments
<b>81</b>	<b>\$374.9M</b>	<b>20</b>

## FY24-28 Programmed Spend by Primary Mode



## Top 15 Projects by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	Authorized Budget	FY24-28 Total
P1139	Systemwide Asset Management Program Phase 4	System-wide	\$54M	\$53M
P0886	Capital Program Support	System-wide	\$35M	\$31M
Z0010	Capital Program XG/Reserve Fund	System-wide	\$33M	\$30M
P1012r	Red Line PM/CM and Owners Rep Professional Services	Red Line	\$31M	\$23M
P0321	Bond Costs / SOMWBA	System-wide	\$61M	\$21M
P1167a	Orange Line Surge - Track Rehabilitation (Capital Transformation scope)	Orange Line	\$33M	\$18M
P0932	Electrical Safety - Incident Energy Analysis and System Upgrades	System-wide	\$16M	\$15M
P0683	Project Connect - Financial Systems Transformation	System-wide	\$29M	\$14M
P1201	Capital Programs Safety Assurance Support	System-wide	\$13M	\$13M
P1012o	Orange Line PM/CM and Owners Rep Professional Services	Orange Line	\$22M	\$12M
P0645	OHS Program Development and Implementation	System-wide	\$22M	\$12M
P0916	Bus Network Redesign Implementation	Bus	\$12M	\$11M
P1202	Rail Transformation Contract Procurement Support	Commuter Rail	\$10M	\$10M
R0128	Workforce Modernization Program - HASTUS	System-wide	\$41M	\$10M
P0931	Safety Management System (SMS) Implementation	System-wide	\$11M	\$9M
P0690	Design Standards and Guidelines	System-wide	\$11M	\$9M
P1175	FTA Safety Management Inspection CAP Funding - Asset Management EAM	System-wide	\$9M	\$9M
<b>Total</b>			<b>\$441M</b>	<b>\$296M</b>

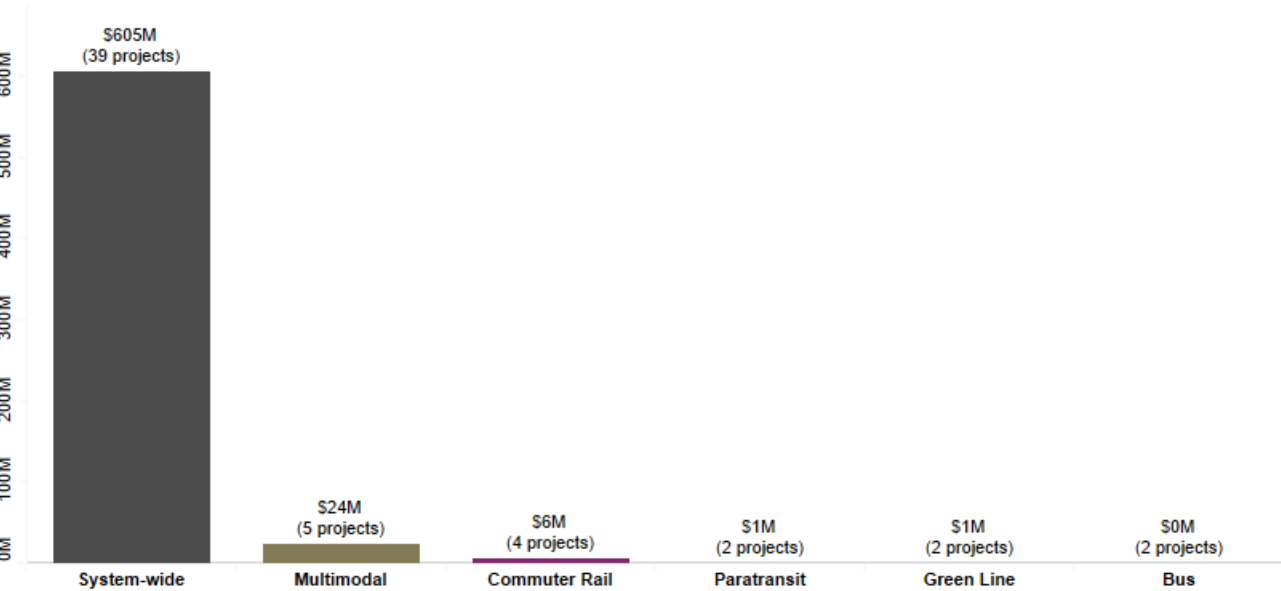
# Program Summary | Technology and Innovation

### 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
<b>54</b>	<b>\$636.5M</b>	<b>17</b>

### FY24-28 Programmed Spend by Primary Mode



### Top 15 Projects by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	Authorized Budget	FY24-28 Total
P0265	Fare Transformation	System-wide	\$792M	\$411M
P0301	Systemwide Radio	System-wide	\$145M	\$127M
P0946	ACE Network	System-wide	\$15M	\$13M
P0972	PA/ESS Critical Upgrades	System-wide	\$14M	\$12M
P0908	Communications Rooms Remediation	Multimodal	\$13M	\$11M
P0689d	Dispatching Technology for Safety and Bus Modernization	Multimodal	\$11M	\$9M
P0945	IT Disaster Recovery Plan	System-wide	\$8M	\$5M
P0451	PMIS Implementation	System-wide	\$16M	\$5M
P0635	IT Security Modernization	System-wide	\$18M	\$4M
P0944	IT Infrastructure State of Good Repair	System-wide	\$7M	\$4M
P1028	Light Rail Safety Dispatch and Tracking Improvements	Multimodal	\$4M	\$4M
P0491a	Customer Technology Access Initiatives	System-wide	\$4M	\$3M
P0689o	Rider Service Alerts Resiliency & Improvements	System-wide	\$4M	\$3M
P0542	OHS System Improvements	System-wide	\$6M	\$3M
P1234	Data Center Relocation	System-wide	\$3M	\$3M
P0434	Energy Management System	System-wide	\$4M	\$3M
P0693	Automated Passenger Counters	Commuter Rail	\$15M	\$2M
<b>Total</b>			<b>\$1,079M</b>	<b>\$623M</b>

# Program Summary | Expansion

## South Coast Rail, GLX, and Expansion Projects

### Program Purpose

**Green Line Extension:** Extension of Green Line service from Lechmere to Somerville and Medford  
**South Coast Rail:** Extension of Commuter Rail service to Fall River, New Bedford, and Taunton  
**Expansion Projects:** Planning and design of targeted expansion projects identified as next priorities

### Notable Expansion Projects by FY24-28 Programmed Spend

CIP ID	Project Name	Primary Mode	Authorized Budget	FY24-28 Total
P0160	South Coast Rail Expansion	Commuter Rail	\$921M	\$271M
P0095	Green Line Extension	Green Line	\$2,119M	\$216M
P0095a	Green Line Extension - Vehicles	Green Line	\$170M	\$24M
P0160a	South Coast Rail - Coach Procurement	Commuter Rail	\$69M	\$16M
P0866	Red-Blue Connector - Planning	Multimodal	\$15M	\$14M
<b>Total</b>			<b>\$3,293M</b>	<b>\$540M</b>

### Total Projects

10

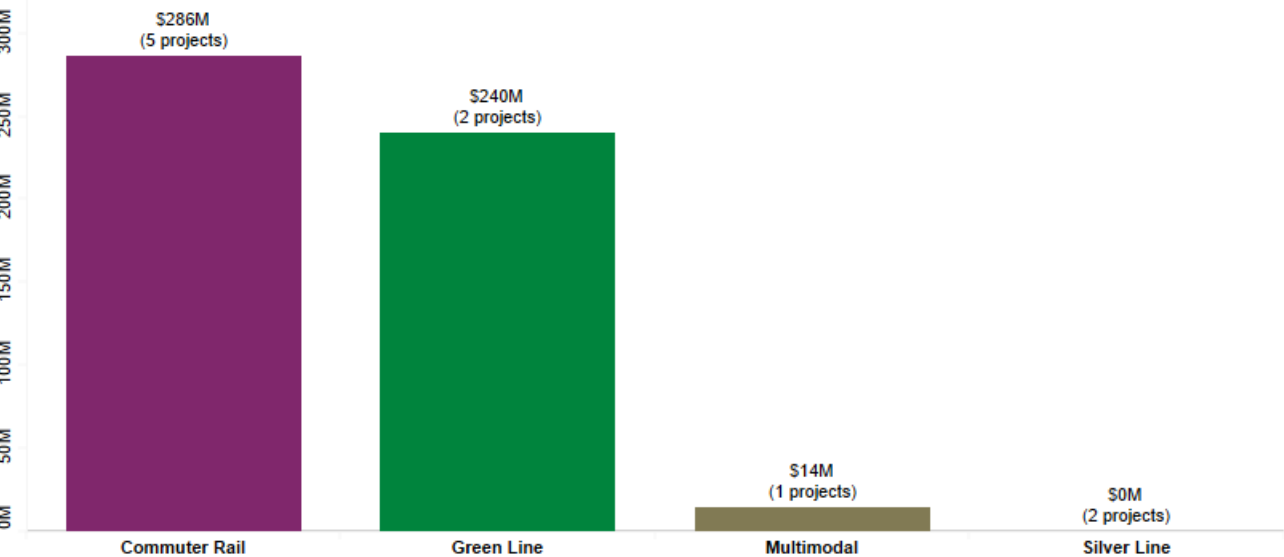
### FY24-28 Programmed Spend

\$540.4M

### Executing Departments

7

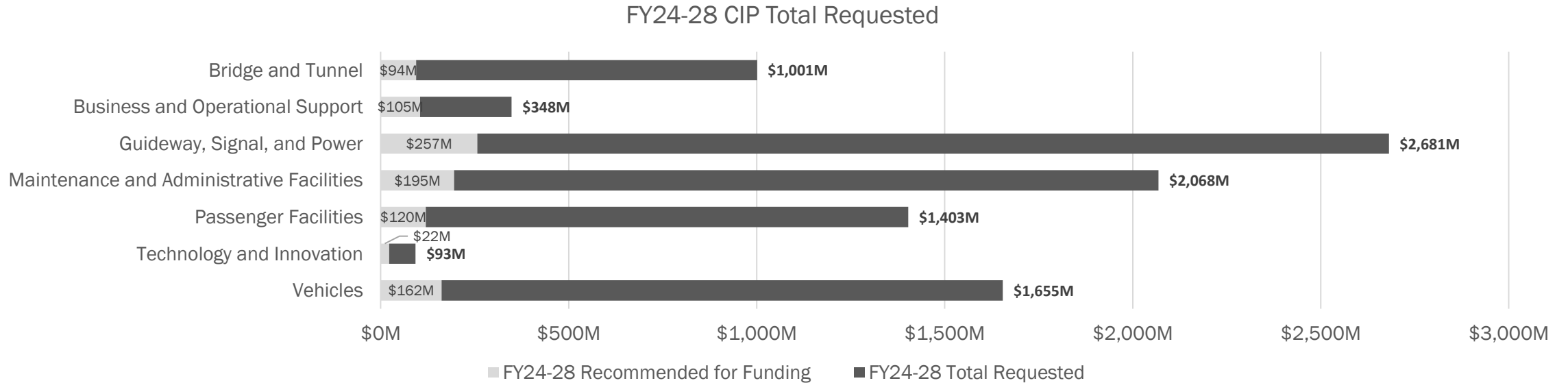
### FY24-28 Programmed Spend by Primary Mode



# Appendix



# Reliability and Mod. | Requests Received vs. Funded



CIP Priority	CIP Program	Number of Requests	Requested FY24-28 New Funding	FY24-28 Amount Recommended for Funding
Reliability and Modernization	Bridge and Tunnel	9	\$1,001M	\$94M
	Business and Operational Support	20	\$348M	\$105M
	Guideway, Signal, and Power*	47	\$2,681M	\$257M
	Maintenance and Administrative Facilities	45	\$2,068M	\$195M
	Passenger Facilities	40	\$1,403M	\$120M
	Technology and Innovation	19	\$93M	\$22
	Vehicles	20	\$1,655M	\$162
	<b>Total</b>	<b>200</b>	<b>\$9,249M</b>	<b>\$956M</b>

