

# Supporting the Transportation System of the Future

Proposed FY25-29 CIP  
MBTA's Board of Directors  
April 25, 2024



# The FY25-29 CIP works towards Healey-Driscoll Administration and MBTA Priorities

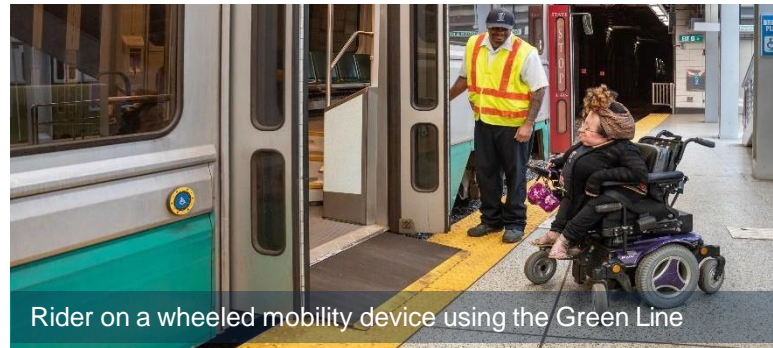
In accordance with Gov. Healey, Lt. Gov. Driscoll, Sec. Tibbitts-Nutt and GM Eng, the Proposed MBTA's FY25-29 CIP advances towards a transportation system of the future with investments that:

- ✓ Address critical asset needs,
- ✓ Keep the T on a path to better safety, service, and sustainability, and,
- ✓ Focus on the investment objectives listed below:



Track repairs on our rapid transit system

**Safety, Reliability, and  
Modernization**



Rider on a wheeled mobility device using the Green Line

**Accessibility**



South Boston Power Plant

**Sustainability and Resilience**



# What is the Capital Investment Plan (CIP)?

**The CIP contains all the MBTA's capital projects over the next five years.** Capital projects help us maintain, acquire, renew, construct or improve capital assets.

**Every year, as per our legislative mandate, we update the CIP.** This allows the T to allocate new funding to ongoing and/or new projects.

**The CIP is a short-term, financially constrained investment plan.** It accounts for the T's available sources and committed uses in the five-year window.



## CIP step-by-step process

- 
- Identify capital needs
  - Evaluate and score project requests
  - Determine funds available
  - Prioritize projects for funding
  - Sequence investments
  - Release CIP annual update

# Our Capital Program Strategy beyond the CIP

**Under the leadership of GM Eng, we are revamping our capital program strategy to generate efficiencies and deliver projects on-time and on-budget as we face our challenges head-on. To advance the Commonwealth's vision, the Authority is:**

- Reviewing prior projects in the CIP to ensure efficient spending, and course-correct as needed, while critically reviewing new project requests
- Using asset information to drive investments
- Restructuring the organizational delivery of capital projects
- Improving right-of-way access to minimize disruptions and construction costs
- Building internal workforce capacity to support State of Good Repair work
- Enhancing competitiveness and supplier and contractor diversity



# Balancing Safety, Reliability, and Modernization

To prioritize the safety of our riders, the reliability of our service, and the modernization of our assets, the Authority has made difficult decisions, grounded both in asset criticality and our ability to deliver, to repurpose and allocate new or additional funding to:

## Track Improvement Program (resequencing of funds)



Track work during Red Line diversion as part of the Track Improvement Program.

- SGR initiative to remove all rapid transit slow zones.
- Funds allocated to Longfellow’s viaduct rehabilitation, a new Commuter Rail maintenance facility in Billerica, and track and signal upgrades on the Green Line’s Central Tunnel were **resequenced** to support the near-term needs of the Track Improvement Program. To stay on timelines, these projects will need to be refunded at the appropriate time in the future.

## Red and Orange Line Vehicles (new and repurposed funds)

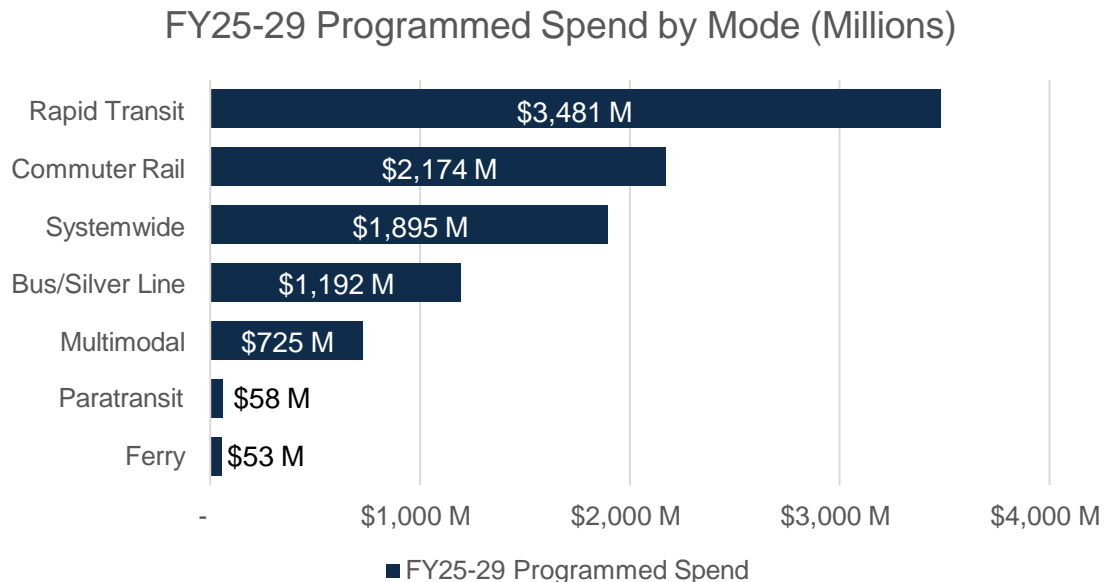


New Red Line vehicle providing service to riders at Park Station.

- Replacement of the aging Red and Orange Line fleets. The new vehicles are 4x more reliable.
- New funding available in FY25-29 CIP and funding **repurposed** from Arborway Bus Facility design funding, Copley to Arlington Track Replacement, and other projects will support CRRC’s contract “reset” for new fleet delivery by the end of 2027. Ongoing project activities will not be impacted.

# Proposed FY25-29 CIP: Summary and Sources

The CIP includes over 630 projects for a programmed spend of \$9.6B over the next five fiscal years, including \$843M in new funding:



## Funding the Proposed FY25-29 MBTA's CIP

### 38% in Federal Funds

Includes formula funds, which are distributed to each state based on certain metrics, and discretionary grant awards for specific projects.

### 11% in State Funds

General and special obligation bonds dedicated to specific projects and initiatives, as authorized in a state Transportation Bond Bill, plus FTA directive response funding and funding from Fair Share tax revenues.

### 50% in MBTA Funds

Primarily MBTA-issued bonds, currently estimated at between \$590M (FY25) and \$650M (FY26-29)/year. Also includes loans and other pay-go funding.

### 1% in Reimbursable Funds: Various agreements.

Programmed based on funding agreements with other public and private entities.



# Proposed FY25-29 CIP: Ridership and Investment Levels

## Rapid Transit and Bus service concentrate the highest ridership

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

## Rapid Transit and Commuter Rail are the modes with the highest programmed amounts

- Followed by Bus

## The Commuter Rail concentrates the highest investment per ride by mode, with Bus representing the lowest investment/rides ratio

Average weekday ridership <i>(thousand rides)</i>			FY25-29 Programmed Amount <sup>1</sup> <i>(\$ million)</i>		Investment per Ride by Mode <i>(Programmed \$ / Ride)</i>	
Mode/Line	Oct-19	Oct-23	Mode/Line	FY25-29 Total	Mode/Line	Investment/rides ratio (Oct-23)
Rapid Transit <sup>2</sup>	745	383	Rapid Transit <sup>2</sup>	\$3,481	Commuter Rail	\$22,134
Bus/Silver Line	409	320	Commuter Rail	\$2,174	Paratransit	\$15,151
Commuter Rail	121	98	Bus/Silver Line	\$1,192	Ferry	\$10,480
Paratransit	6	4	Paratransit	\$58	Rapid Transit	\$9,081
Ferry	5.9	5	Ferry	\$53	Bus/Silver Line	\$3,724

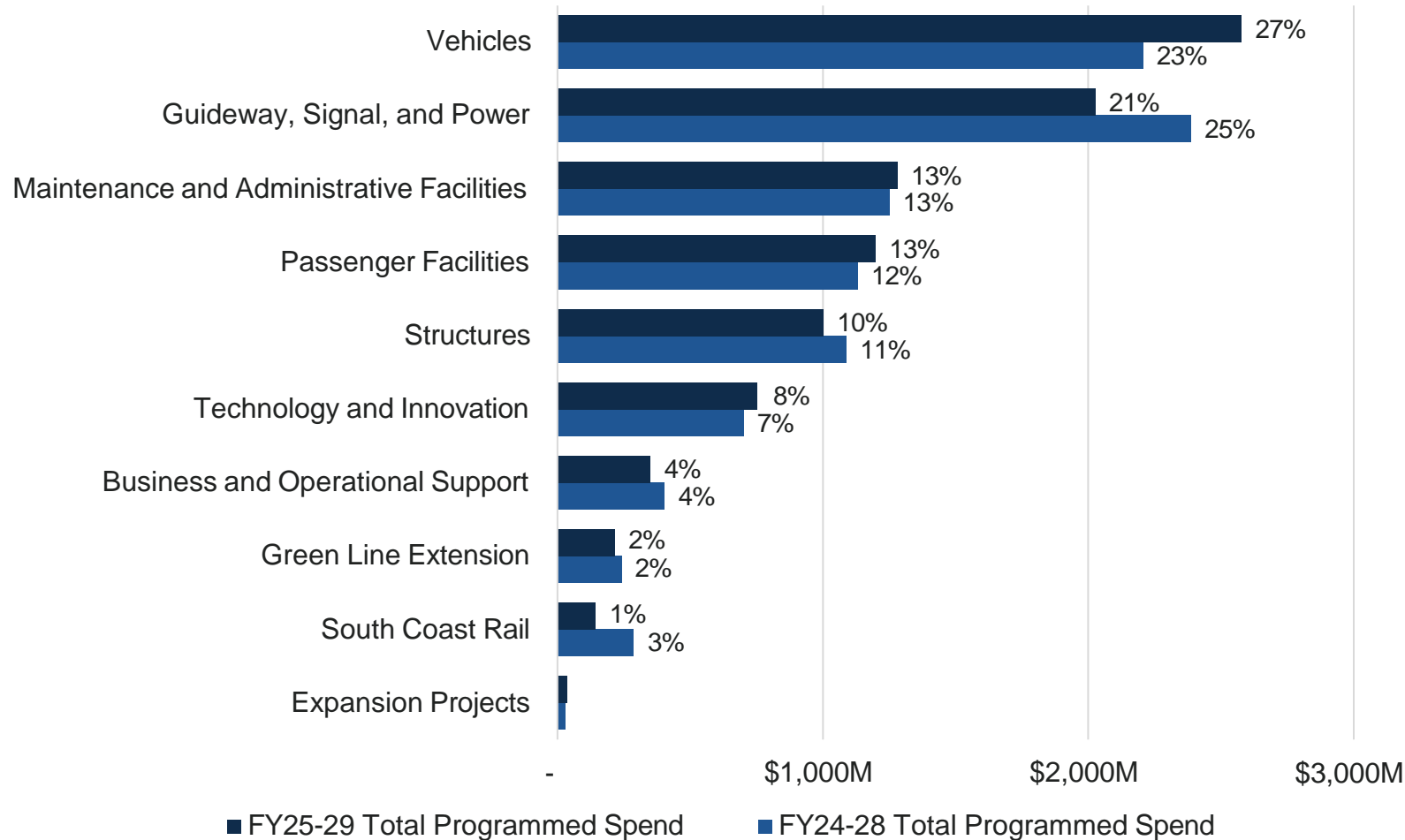
<sup>1</sup> In addition to the modes listed above, the CIP allocates investments to multimodal projects that can be equally attributed to more than one specific mode, and to systemwide projects that cannot be linked to one or more specific modes.

<sup>2</sup>Rapid Transit encompasses the Red, Orange, Blue, Green, and Mattapan Lines.



# Proposed FY25-29 CIP: Spend by Program

Programmed Spend by CIP Program - Proposed FY25-29 CIP vs. Final FY24-28 CIP



- This chart shows projected spending in the proposed FY25-29 CIP by program, compared to the FY24-28 CIP.
- In the proposed FY25-29 CIP, the Vehicles program makes up the largest percentage of spend at 27%, followed by Guideway, Signal, and Power at 21%
- This marks a shift from the FY24-28 CIP, where the Guideway, Signal, and Power program made up the highest percentage programmed spend (25%), and is the result of a number of ongoing, large-scale vehicle procurements and overhauls.
- Because the Green Line Extension has opened to the public and substantial progress has been made on the construction of South Coast Rail, less spending is anticipated in our expansion programs compared to past CIPs.





# Advancing the Transportation System of the Future

New funding in the FY25-29 CIP keeps the MBTA on a path to better safety, service, and sustainability, with investments focused on, but not limited to:



## **Safety, reliability, and modernization to give riders the system they deserve**

Keeps the T on a path to reliable operations, project delivery, and fewer diversions in the long-term



## **Enhanced and improved accessibility for the communities that we serve**

Keeps the T on a path to accessible service across all modes



## **Climate action in line with the Commonwealth's decarbonization and climate resilience goals**

Keeps the T on a path to address sustainability and resilience



## **Modal Initiatives, including Bus and Rail Modernization, to give riders the system they expect**

Keeps the T on a path to advance the transportation system of the future



# Proposed FY25-29 CIP Highlights

## Major Investments



### Stations and Structures

- Full funding for North Station Draw 1 Bridge Replacement
- Life-extending repairs on multiple bridges
- Station accessibility projects along the Green Line
- Urgent station repairs, from stairs to lighting



### Commuter Rail & Ferry

- 20-minute decarbonized service along the Fairmount Line
- Ferry infrastructure, including accessibility improvements



### Equity and Diversity

- Regional Rail service along the EJ Corridor
- Bus station and stop accessibility improvements
- Improvements to maintenance and field facilities



### Track

- Vital track improvement work on rapid transit lines
- Hi-Rail access tunnel on the Red Line
- Washout prevention along the Commuter Rail system



### Bus Network

- Bus Network Redesign implementation
- New bus procurement
- Transit priority quick build and major corridor projects



### Sustainability and Resilience

- Climate change vulnerability and adaptation planning
- Energy efficiency improvements
- Increased number of EV charging stations



# Equity, Diversity, and Employee Morale

**Per our Strategic Plan, CIP investments seek to promote equity and diversity by investing in the infrastructure necessary to support our diverse ridership and workforce:**



## **Representing nearly 40% of our ridership, our bus initiatives support disadvantaged populations**

- Funding to advance Bus Network Redesign, Transit Signal Priority, and electrified bus service benefitting Title VI and Environmental Justice communities in our service area, as well as providing service improvements to bus routes with a high proportion of low-income riders, low-vehicle households, and riders protected on the basis of race and ethnicity.



## **Investments to advance Rail Modernization enhance regional mobility and access to opportunity**

- The CIP includes capital investments to support the delivery of electrified, all-day, bidirectional Regional Rail and high-frequency urban rail service on the Commuter Rail system, targeting equity priority areas such as the Fairmount Line and the Environmental Justice Corridor.



## **Accessibility is a key CIP investment objective to support older adults and people with disabilities**

- Ranging from station improvements to new fleet with improved accessibility features, the MBTA remains committed to advancing towards a fully accessible and equitable transit system across our modes.



## **Systemwide investments support dependable, frequent, and accessible service**

- Improvements to our maintenance facilities and field facilities; procurement of new equipment; and funds to perform critical maintenance to our assets (stations, elevators, track, power, among others) can improve riders' experience when riding the T.



# Equity, Diversity, and Employee Morale

Projects in the CIP target locations with a high proportion of riders that are low income, protected on the basis of race and ethnicity, low vehicle households, older adults, and riders with disabilities. Investments also focus on our frontline workers. CIP projects help support:

## Title VI and Environmental Justice Communities



Commuter Rail temporary platform at Lynn to continue supporting service on the EJ Corridor.

### The CIP includes funding for:

- Design efforts to support decarbonized rail service on the EJ Corridor as well as construction of Rail Modernization early actions for increased service frequency via Chelsea and Lynn.
- Design of accessibility and circulation improvements at Nubian Square Bus Station.<sup>1</sup>

## Field facilities and employee morale



Maintenance-of-way crew performing work at our ROW.

### The CIP includes funding for:

- Improved facilities on the Commuter Rail, Rapid Transit, and Bus systems to prioritize and promote the safety of our frontline workers.
- New facilities on the ROW and procurement of new equipment to support our maintenance-of-way crews.



<sup>1</sup>Funding for construction of improvements at Nubian Square Station is included in the Boston Region MPO's draft FFY25-29 TIP and will be added to the CIP if approved in the final TIP.

# Bus and Rail Modernization

## Bus Modernization



Left: North Cambridge bus facility retrofit; Right: transit priority service (dedicated bus ROW).

### The CIP includes new funding for:

- Phase 2 implementation of Bus Network Redesign.
- Transit priority to continue bus service modernization.

### Additionally, current funding supports:

- Construction of new Quincy Facility and retrofit of North Cambridge bus garages for battery-electric buses (BEBs).
- Procurement of BEBs and overhaul of existing fleet to support ongoing electric fleet transition.

## Rail Modernization



Conceptual designs of potential decarbonized Commuter Rail trains provided by Stadler & Alstom

### The CIP includes new funding for:

- Infrastructure to support 20-minute decarbonized service in the future on the Fairmount Line.
- Planning funds to continue advancing Rail Modernization.

### Additionally, current funding supports:

- Design activities for decarbonized service on the Environmental Justice Corridor through Lynn and the Beverly section of the Rockport Line.
- Infrastructure improvements to deliver modernized 30-minute frequencies in the future on the Framingham/Worcester Line.

# Safety, Reliability, and Modernization

Significant funding, including FY24 Fair Share funding, is programmed to projects that will help bring our system into a State of Good Repair and modernize our assets. The FY25-29 CIP will bolster our track, power, structures, vehicles, and asset management programs; enhance ROW access to improve project delivery; and strengthen efforts to inspect, repair, and modernize facilities. Major initiatives include:

## North Station Draw 1 Bridge Replacement (new funding)



Existing 1930's North Station Draw 1 Bridge.

- Replacement of the deficient 1930's drawbridge that will ensure continuity of all service on the North Side of the Commuter Rail and Amtrak's Downeaster.
- The project will also provide new tracks to improve on-time performance and additional arrival/departure capacity for the North Station Terminal.

## Green Line Type 10 Vehicle Procurement (current funding)



Rendering of the future Type 10 Green Line light rail vehicle.

- Replacement of the aging Type 7 and Type 8 Green Line fleets with modernized vehicles.
- The new fleet will feature increased capacity, upgraded comms systems, improved accessibility, and the latest generation of crash-safety technology, prioritizing safety and reliability.

# Accessibility

The FY25-29 CIP includes funding for improved accessibility across the system through upgrades to passenger facilities, vehicles, and wayfinding, continuing to work toward the goal of providing equitable access to all riders. Specific upgrades include, but are not limited to:

## Green Line and Bus Improvements



Upgraded accessible grade crossing on the Green Line's C Branch.

**The MBTA is proposing to fully fund, through construction, major accessibility improvements at:**

- Waban, Beaconsfield, Elliott, Chestnut Hill, Newton Highlands, and Symphony Green Line Stations.
- Priority bus stops in accordance with the Plan for Accessible Transit Infrastructure (PATI).

## Commuter Rail and Ferry Improvements



Rider on a wheeled mobility device accessing a ferry vessel.

**The CIP includes funding for:**

- Construction of accessibility upgrades at Winchester Center, Natick Center, and North Wilmington Commuter Rail Stations.
- Design activities to capitalize on potential federal funding for Commuter Rail Stations in Newton and other key locations.
- Infrastructure and accessibility improvements to our ferry system.

# Sustainability and Resilience

Sustainability and Resilience initiatives in the CIP support the Commonwealth and MBTA's climate and mobility goals and increase the sustainability and resilience of our transit system. New and current funding in the CIP includes vulnerability assessments, adaptation planning, and decarbonization actions tied to our lighting and heating systems, as well as our revenue vehicles:

## Climate planning and action



Flood plank deployment for flood mitigation at Aquarium Station.

- **The CIP includes new funding for:**

- A sustainability assessment across our modes and assets to identify actions items and a critical path for a sustainable and resilient transit system.
- This funding will help support the climate action work to be developed by our new Climate Policy and Planning Office.

## Electric charging and vehicle fleet



Non-revenue electric fleet at our Cabot maintenance facility.

- **The CIP includes funding for:**

- Electric charging stations at our maintenance and parking facilities to support non-revenue electric vehicles.
- Continued design and procurement of decarbonized revenue vehicle fleets and supporting infrastructure.



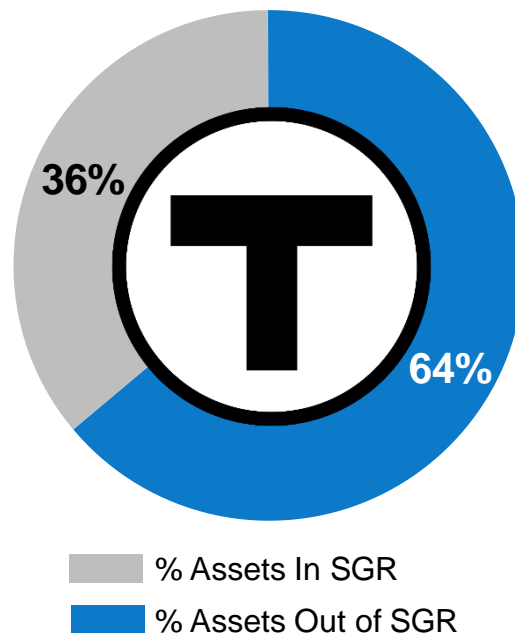
# What challenges do we face to meet this vision?

## Significant State of Good Repair Needs

The 2023 Capital Needs Assessment (CNAI) identified baseline capital needs to bring our system into a State of Good Repair (SGR).

While these needs are being addressed through our Reliability and Modernization programs, there's a significant amount of work to be done.

**\$24.5B SGR Index**  
(Total Value of Assets Out of SGR)



## Declining CIP funding sources

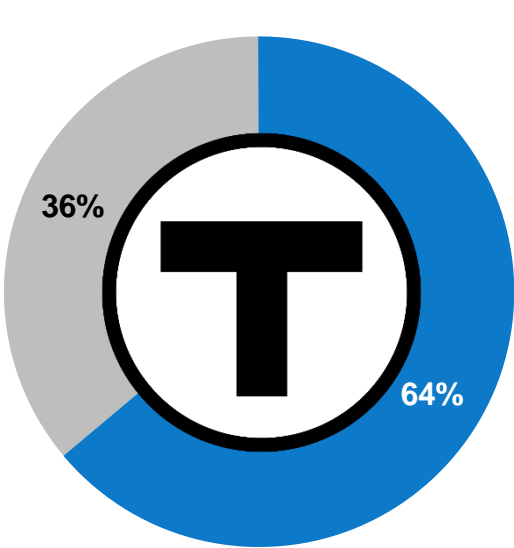
The FY24-28 CIP included \$9.7B in programmed spend. Future capital plans may be roughly half that size (\$5.2M over 5-years) given declining funding sources tied to:

- Uncertainty on Federal funding levels beyond FY26,
- Absence of State funds as existing sources, which are tied to specific projects, continue to be drawn down, and,
- Projections that assume a relatively consistent level of MBTA revenue bond issuance in the out-years.

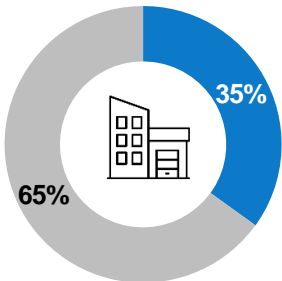


# The T has significant State of Good Repair Needs

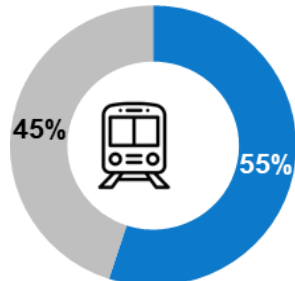
The MBTA's 2023 Capital Needs Assessment (CNAI) identified an estimated SGR Index, or baseline SGR need, of **\$24.5B**. Approximately 64% of the assets included in this analysis have been identified as being out of SGR\*. The analysis relied on updated asset inventory data, condition ratings, and cost estimates (in 2022 dollars).



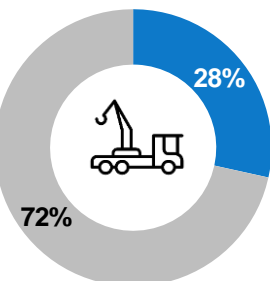
**\$24.5B SGR Index**  
(Total Value of Assets Out of SGR)



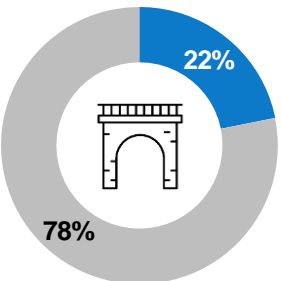
**Facilities**  
\$6.4B



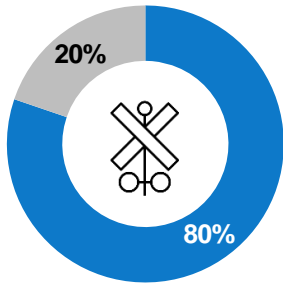
**Rolling Stock**  
\$2.4B



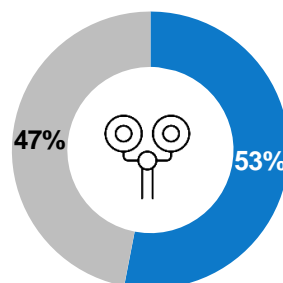
**Equipment**  
\$52M



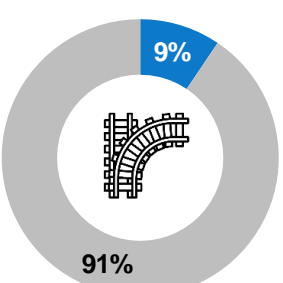
**Structures**  
\$5.3B



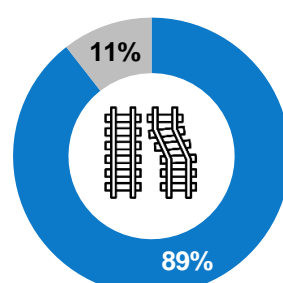
**Signals - CR**  
\$1.3B



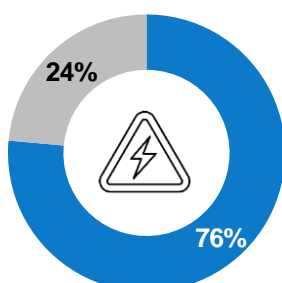
**Signals - Transit**  
\$753M



**Track - CR**  
\$1.2B



**Track - Transit**  
\$2.0B



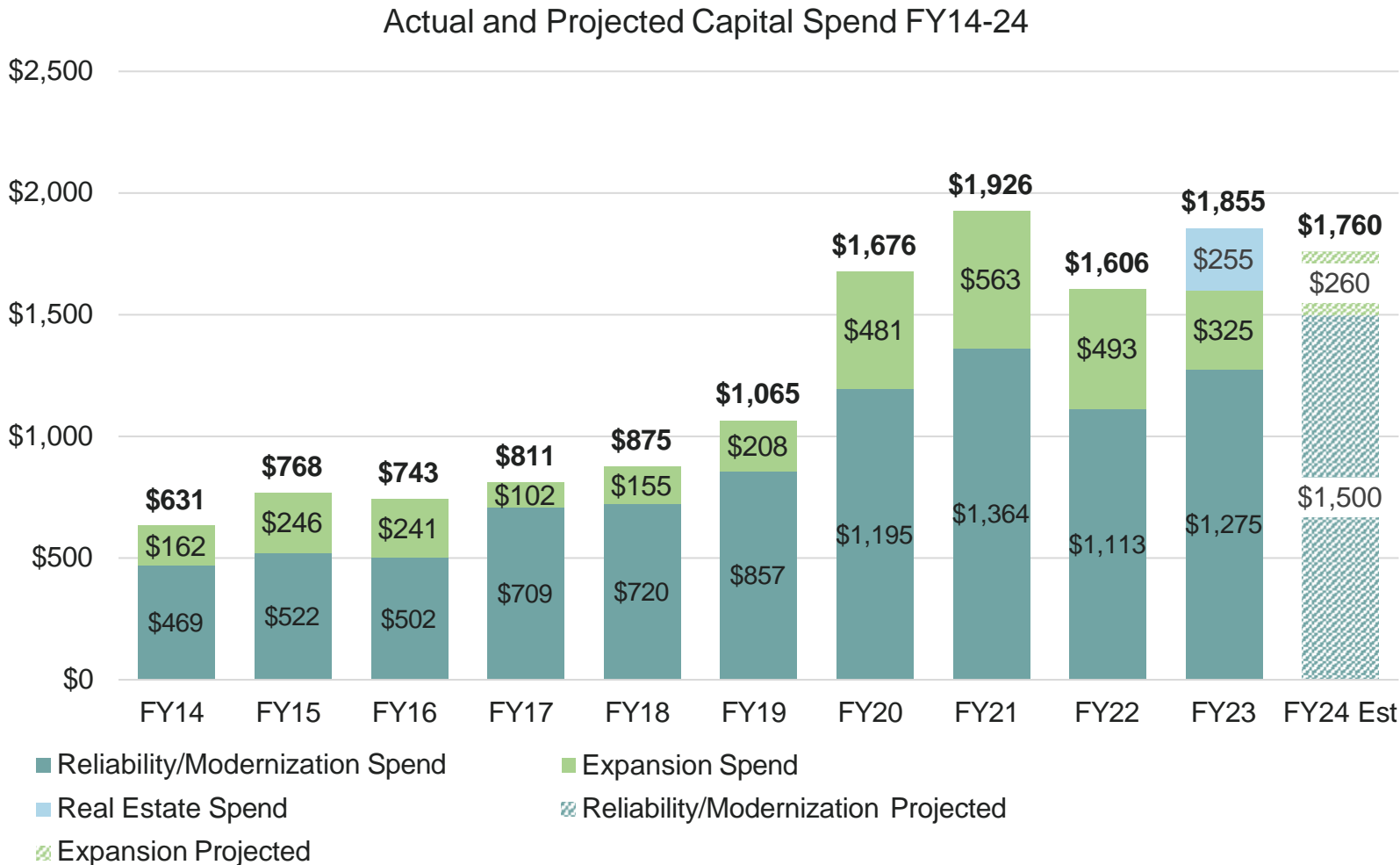
**Power**  
\$5.1B



% Assets In SGR  
 % Assets Out of SGR

\*Assets are counted differently depending on the functional asset class, e.g., some track elements are counted by mileage while others use a per-unit or per-site count.

# Historic Levels of Capital Spending Continue



- The MBTA continues to sustain an unprecedented level of investment focused on the safety and reliability of our assets and the strategic expansion of the network.
- The FY25-29 CIP has programmed \$9.6B of programmed spend over the next five years, indicating that the MBTA anticipates this historic level of spend to continue.
- However, declining source availability in future years endangers the MBTA's ability to continue spending at this pace

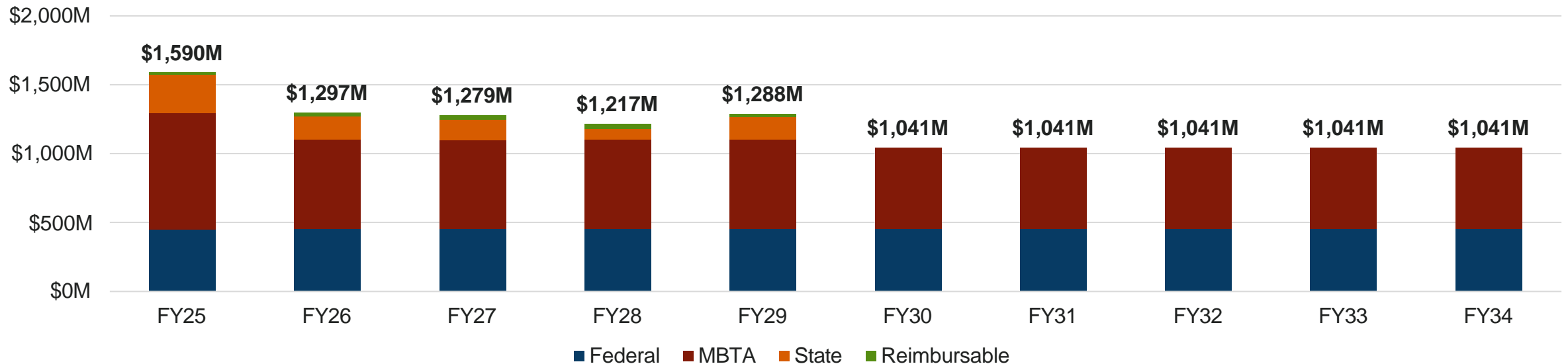


# Funding sources for capital projects are declining

The MBTA has increased capital spend significantly, growing from \$631M in FY14 to a record-high \$1.9B in FY22. However, in future CIPs, our funding sources are expected to decline:

- Uncertainty regarding Federal funding levels beyond FY26 (when BIL expires), and the continued draw-down of State sources tied to specific projects and initiatives, indicate future capital plans may be half the size of the \$9.6B FY25-29 CIP.
- The chart below does not account for potential Fair Share tax revenue, or other state sources, that could be made available in future years
- These projections account for a relatively flat annual MBTA revenue bond issuance

MBTA Sources When Available - FY25-34\*



# Unfunded or Partially Funded Project Requests

More capital projects are requested than can be fully or partially funded given available funding. This year, we were able to allocate \$843M in new funding. Unfunded requests and projects that were not fully funded totaled over \$11B across all CIP Programs.

CIP Program	Program Descriptions	Examples of Unfunded Project Requests	Total Unfunded <sup>1</sup>
<b>Structures</b>	Repairs, reconstructs, and replaces Commuter Rail and transit bridges, tunnels, culverts, and dams.	New funding for grade separations, and additional funding for retaining wall inspections.	\$101 M
<b>Business and Operational Support</b>	Investments in asset management, safety and security, communications, and other systems.	Additional funding for security upgrades at stations and ferry docks.	\$15 M
<b>Guideway, Signal, and Power</b>	Rehabilitates, replaces, and upgrades guideway, signal, and power assets across Commuter Rail, transit, and bus.	Signal and power sectionalization improvements on rapid transit lines, additional funding for systemwide track and ROW upgrades, and additional transit priority implementation work.	\$3,602 M
<b>Maintenance and Administrative Facilities</b>	Rehabilitates and upgrades maintenance and administrative facilities.	Increased funding for roofing and heating system upgrades and large-scale projects to upgrade and/or construct new facilities such as Arborway and Wellington Bus Maintenance Facilities.	\$2,370 M
<b>Passenger Facilities</b>	Rehabilitates and upgrades stations, stops, and parking facilities to improve accessibility and customer experience.	Additional accessibility projects such as upgrades at Nubian Square Station, improvements to station platforms, and large-scale station upgrades such as JFK/UMass on the Red Line.	\$1,762 M
<b>Technology and Innovation</b>	Investments in technology to enhance productivity, modernize the system, and improve the quality of service.	Communication system upgrades and major overhauls to in-station countdown clocks.	\$78 M
<b>Vehicles</b>	Rehabilitates and replaces the revenue and non-revenue fleet and equipment for reliable and safe operations.	Electrified bus fleet and non-revenue vehicle procurements as well as bus and rapid transit vehicle overhauls.	\$2,226 M
<b>Expansion</b>	Targeted expansion projects to increase system capacity or multimodal options.	Additional funding for system expansion projects such as Red-Blue Connector and Silver Line Extension.	Over \$1B <sup>2</sup>

<sup>1</sup> Estimated costs for all projects requested are preliminary, subject to change, and should not be considered final.

<sup>2</sup> Given different stages of design and project development, ongoing expansion initiatives are estimates and do not represent a final amount.



# Proposed FY25-29 CIP Book | Structure

The proposed FY25-29 CIP Book and project list will be available at:

[www.mbta.com/cip](http://www.mbta.com/cip)



The CIP Book defines the MBTA's Capital Plan and details investment priorities and key process considerations:

- It includes an overview of what the Capital Investment Plan is and its development process
- It summarizes our current context, challenges, and what are our investment objectives
- It details our key Modal Initiatives
- It highlights our capital program strategy beyond the CIP

# FY25-29 Proposed CIP Public Engagement

## The MBTA is seeking public comments on the proposed FY25-29 Capital Investment Plan (CIP)

The MBTA is announcing today multiple ways that the public can share feedback on the proposed FY25-29 CIP to be released on April 25, 2024, at [mbta.com/cip](https://mbta.com/cip).

## Comments may be submitted between April 25th and May 16th by:

- Attending a virtual or in-person **public meeting**, as outlined to the right.
- Filling out our **online comment tool**, available at [mbta.com/cip](https://mbta.com/cip).
- Sending an **email** to [cipengagement@mbta.com](mailto:cipengagement@mbta.com).
- Mailing a **letter** to: MBTA Capital Investment Plan

c/o MBTA General Manager  
10 Park Plaza, Suite 3830  
Boston, MA 02116

## 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:

**May 2, 2024**

**6:30 P.M.**

### In-Person Public Meeting

MassDOT Conference Rooms #2 and #3,  
10 Park Plaza, Boston, MA 02116

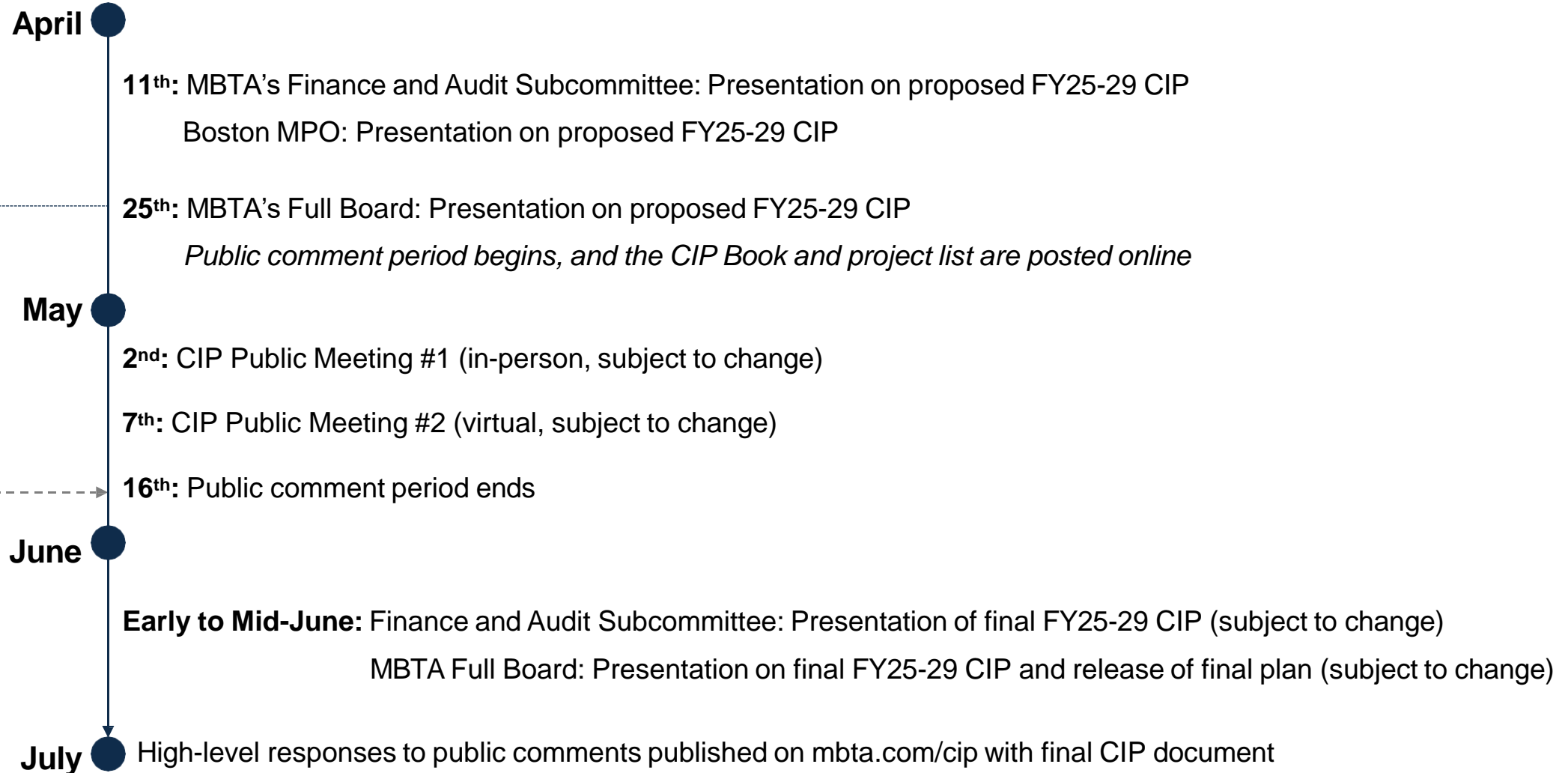
**May 7, 2024**

**6:30 P.M.**

### Virtual Public Meeting



# Next Steps for the FY25-29 CIP



CIP 21-day  
public comment  
period

