



Finance and Capital Committee

Information Item IV-A

July 11, 2024

Capital Improvement Program Update

Washington Metropolitan Area Transit Authority

Board Action/Information Summary

<input type="radio"/> Action <input checked="" type="radio"/> Information	Document Number: 208817	Resolution: <input type="radio"/> Yes <input checked="" type="radio"/> No
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Presentation Name:

Capital Improvement Program Update

Project Manager:

Jim Sullivan

Project Department:

Planning and Performance

Purpose/Key Highlights:

Staff will present an overview of accomplishments of the FY2024 Capital Improvement Program and a look ahead to investments anticipated to be made in FY2025 to continue Metro's efforts to provide safe, modern, world-class transit services.

- Metro estimates, subject to final adjustments and audit, that \$2 billion has been invested through the capital improvement program in FY2024
- The approved FY2025 Capital Improvement Program anticipates continuing this trend by investing \$2.3 billion next year.

Interested Parties:

There are no interested parties associated with presenting this information for purposes of conflicts of interest.

Background:

Metro's Capital Strategy is to:

- Address state of good repair needs
- Invest in the system to modernize and provide safe, efficient, and reliable service for customers, employees, and the region

- Sustain safety and reliability through recurring maintenance, rehabilitation, and replacement programs
- Support a sustainable and more equitable future for the region

Metro's capital program focuses on providing safe and reliable service while maintaining the system in a state of good repair. After decades of deferred maintenance and underinvestment, Metro accumulated a significant backlog of overdue safety and state of good repair needs. Capital investments implemented over the last several years such as track rehabilitation, replacement of legacy vehicles and equipment, and the Platform Improvement Program have successfully reduced the backlog, improved performance and reliability and have started to address the impact of years of underinvestment. As a result, Metro is seeing a significant improvement in our performance, including a nearly 30% decline systemwide in escalator unit failures and decreases in smoke and fire events in the rail system. As a result of these improvements in performance, Metro is seeing increased rail satisfaction and stable bus satisfaction.

Discussion:

The FY2025 Budget continues Metro's practice of preventive maintenance transfers – moving expenses from the operating to the capital budget. This practice allows Metro to better manage operating budget expenses but accelerates the use of debt in the capital program. Overall, these efforts are a small portion of the approximately \$2 billion capital program, though the practice can have real-world impacts on Metro's ability to issue debt in the future.

In June, Metro published the Approved [FY2025-FY2030 Capital Improvement Program & 10-Year Plan](#). The financially unconstrained 10-Year Plan provides a roadmap to restore and maintain safety, reliability and state of good repair of the system and prepare for a sustainable and equitable future of the region. Metro assesses capital needs over a long-term horizon and annually updates the 10-Year Capital Plan. The plan provides an outlook of needs and opportunities for Metro and the region. The 10-Year Capital Plan incorporates Metro's Six-Year Capital Improvement Program and the annual Capital Budget and extends beyond the current program.

The 10-Year Capital Plan is not financially constrained and projects over \$24 billion in future investments over the period. New capital funding sources will need to be identified to support the long-term state of good repair of the system and to advance improvements to support a sustainable and more equitable future for the region.

Zero-Emission Bus Implementation – Metro is advancing a Zero-Emission Bus Program to test and evaluate technology to prepare for a future large-scale deployment. Zero-emission buses have the potential to provide substantial value to the region by reducing greenhouse gas and local air pollution, providing a quieter, smoother ride, and supporting a more sustainable and livable region. Investments to enable Northern, Bladensburg, and Cinder Bed Road Bus Divisions to run electric vehicles are planned in the Six-Year Program. This large-scale deployment will require substantial investments in the 10-Year Plan and beyond and is currently delayed due to industry challenges which are impacting Metro's ability to proceed to contract award. The current estimated date for contract award is by the end of August 2024 and will

include the purchase of hybrid and fully battery-electric buses.

Metro's future depends on a system that is in a state of good repair and is trusted to provide safe and reliable transit. Metro's Capital Improvement Program is primarily funded by contributions from the region and federal grant programs. Current regional and federal funding sources are for restoring and sustaining safety, security, reliability, and state of good repair. However, the value of Metro's capital funding has eroded over time and Metro is approaching the end of its debt issuance capacity to support the capital program. DMVMoves is a joint initiative by the Metropolitan Washington Council of Governments (COG) and Metro to develop a unified vision and sustainable funding model for public transit in our region. Over the next year, a task force of officials appointed by COG and Metro will be guiding this initiative alongside two workgroups representing area jurisdictions, transit service providers and agencies, and business, labor, and community organizations.

Funding Impact:

No funding impact from presenting this information.

Previous Actions:

- April 25, 2024 -- Adoption of Fiscal Year 2025 Operating and Capital Budgets, Fare and Service Changes, and Fiscal Year 2025-2030 Capital Improvement Program, Approval of Title VI Equity Analysis and Public Participation Report, and Approval of Debt Management Policy Guidelines

Next Steps:

No follow up actions proposed at this time.

Recommendation:

Information Only

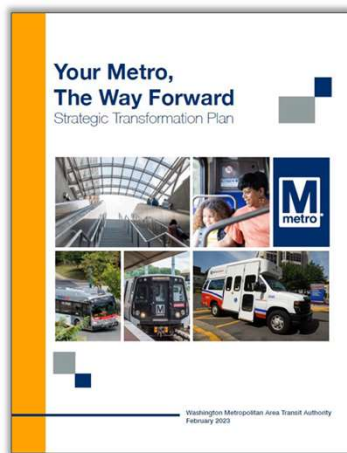
Capital Improvement Program Update

Finance & Capital Committee



Strategic Transformation Plan: Guides long term strategy and day-to-day decision making of Metro over the next five + years

Capital Improvement Program Update



Guiding



Day-to-day decisions

- Customer interactions
- Service schedules
- Communications



Long-term strategy

- Budget allocation
- Capital improvements
- Priority projects



Goals — Our priorities to achieve the vision

Service Excellence

Talented Teams

Regional
Opportunity
and Partnership

Sustainability

2



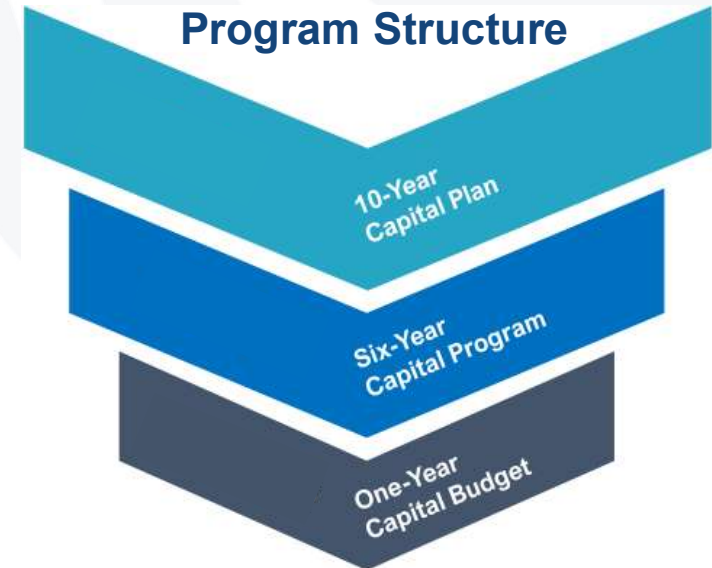
Metro's Capital Improvement Program

Metro advances capital projects and annual capital maintenance programs to restore, sustain, and modernize the system. The program also includes annual preventive maintenance transfers from the operating budget.

- Invest in the system to modernize and provide safe, efficient, and reliable service for customers, employees and the region
- Address the backlog of overdue state of good repair needs
- Sustain safety and reliability through recurring maintenance, rehabilitation, and replacement programs
- Maintain financial stewardship and ensure audit compliance
- Reduce capital administrative expenses
- Support a sustainable and more equitable future for the region

Capital Improvement Program Update

Metro's Capital Program Structure



10-Year Capital Plan

Identifies viable initiatives to address needs identified for next ~10 years; financially unconstrained

Six-Year Capital Improvement Program

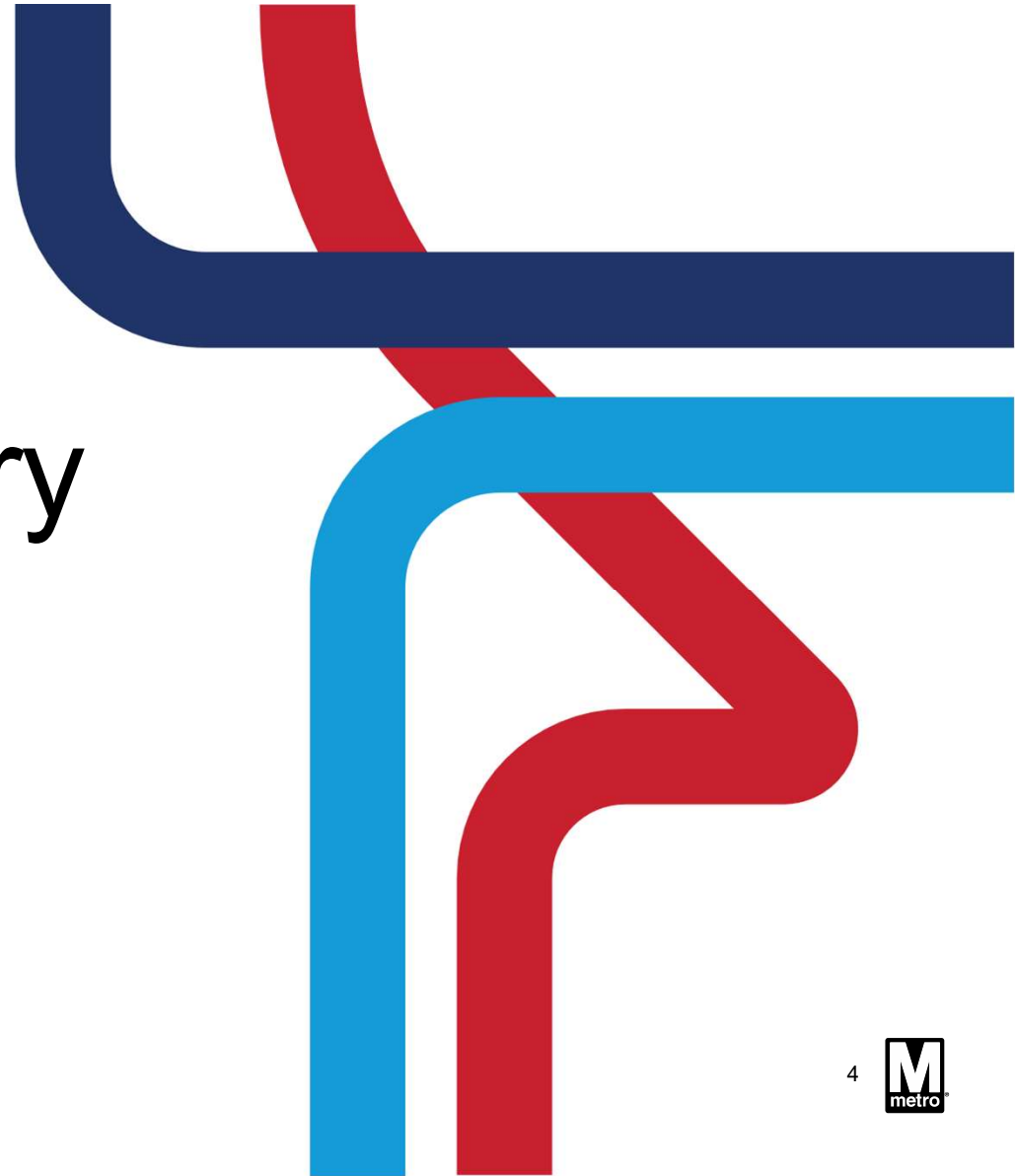
Capital investments anticipated for, or continuing in, six-year capital program

One-Year Capital Budget

Expenditure forecast for capital projects and programs in current budget year



FY2024 Capital Program Summary & Highlights



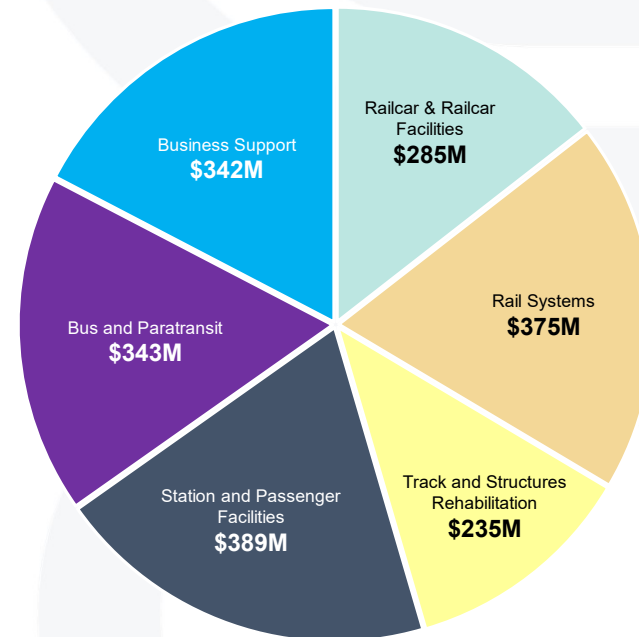
FY2024 Capital Investments Improve State of Good Repair, Reliability, and Modernization

Major reinvestment across ongoing programs and projects, including:

- Northern and Bladensburg Bus Divisions
- Rail Infrastructure, Equipment and Systems Rehabilitation
- Railcar and Bus Vehicle Rehabilitation and Maintenance
- Wayfinding and Passenger Information Modernization
- Metro Integrated Command and Communications Center
- Radio, Communications, and Signaling System State of Good Repair

Capital Improvement Program Update

~\$2 billion FY2024 Investment by Category*



*Estimates subject to change

FY2024 Capital Investments

Some major programs delayed in FY2024, will advance in FY2025:

- Bus Vehicle Procurements
 - Industry backlog for buses has impacted Metro's ability to procure buses
- Heavy Repair and Overhaul Facility
 - Decision to reduce and rescope the previously planned railcar heavy repair and overhaul facility
 - Scope in development for smaller-scale rail car facility improvements and equipment for railcar repair and maintenance
- Next Phase of Aerial Structure Rehabilitation
 - Delayed for systemwide structural assessment to prioritize needs before next round of structural rehabilitation work

FY2024 Fleet Investment Highlights

Capital Improvement Program Update

Zero Emission Bus

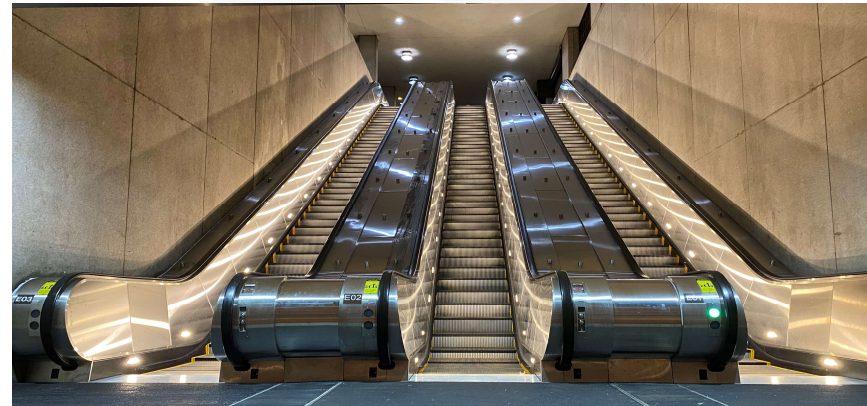
- Two 60-foot battery electric buses in service for customers starting November 2023
- First two of five 40-foot buses delivered in May
- Continued commissioning and testing 17 chargers at Shepherd Parkway Bus Garage



FY2024 Station Investment Highlights

Escalator Replacement

- Replaced four entrance and three high rise escalators at Tenleytown-AU
- Replaced nine entrance escalators at Metro Center's East, West & South entrances



Fare Modernization

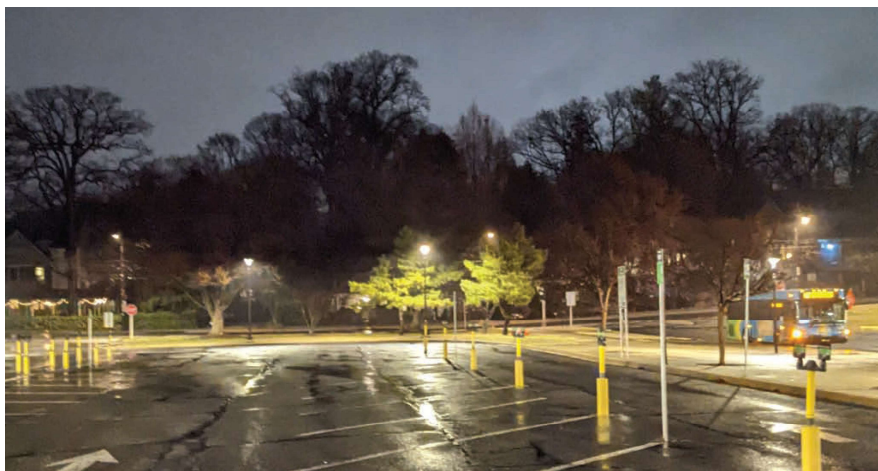
- Installation of taller, stronger faregates completed at 59 stations, all stations expected by end of summer; fare evasion dropped from 13% to 4%



FY2024 Station Upgrade Accomplishments

Capital Improvement Program Update

- Installed Passenger Information Displays at 3 transfer stations (22 screens on 11 mezzanine levels, 3 double-sided screens on 6 platforms, 2 mini-mezz screens at L'Enfant)
- Installed complete edge lighting systems at 21 of 52 stations (66% overall program completion)
- Completed Takoma lighting at the street level, yielding 10x increase in illumination



9



FY2024 Accomplishments: Major Rail System Infrastructure Programs

Summer Shutdown

- Installed 26 miles of new rail on the Orange Line, improving reliability
- Installed 72 miles of fiber-optic cables
- Installed new switch box machines to prevent customer delays
- Cleared vegetation
- Improved customer experience with edge lighting and upgraded Passenger Information Displays at core transfer stations

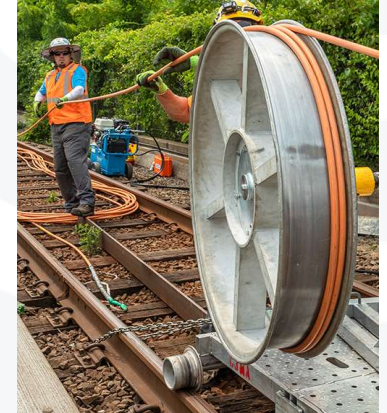
Winter Shutdown

- Rebuilt tunnel ceiling with eight tons of concrete, 466 pounds of rebar
- Replaced 3,159 linear feet of running rail
- Installed extra insulation to electrified third rail power cables to provide moisture barrier
- Installed fiber optic cables (SCADA and train control) to prepare for next generation train signaling system
- Improved customer experience with edge lighting
- Reopened early and \$250,000 under budget

Capital Improvement Program Update



Track Replacement



Fiber Installation



Tunnel Ceiling (Before Construction)



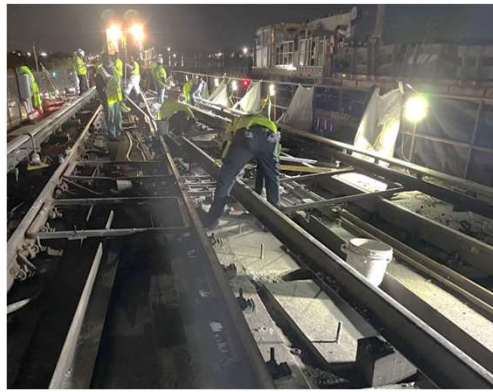
Tunnel Ceiling (After Construction)

Ongoing state of good repair needs

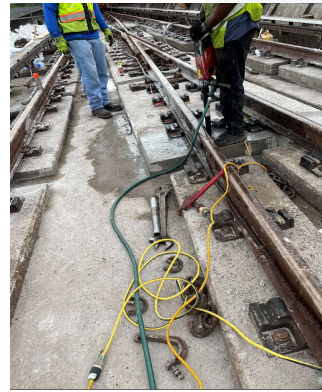
Capital Improvement Program Update



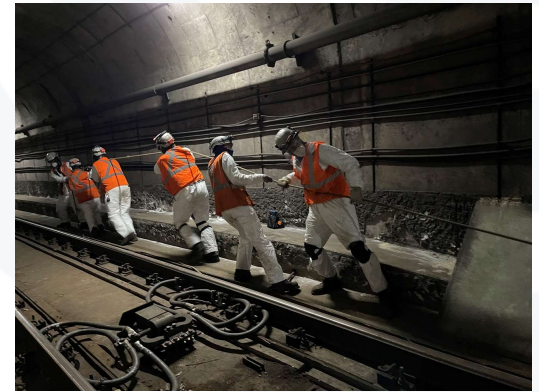
**Track Repair at Takoma
(Mud Spot Remediation)**



**Grout Pad Replacement at Stadium
Armory Bridge**



**Grout Pad Replacement at
Largo**



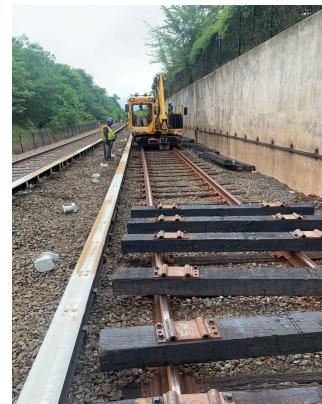
Cable Pulling at Rosslyn



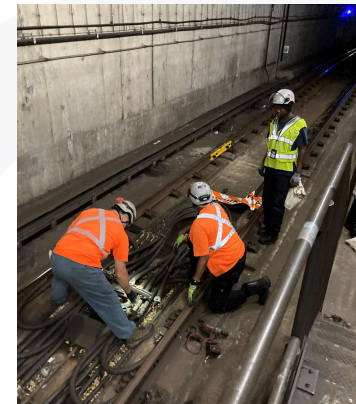
**Switch Machine
Replacement at Takoma**



Water Leak Mitigation on Red Line



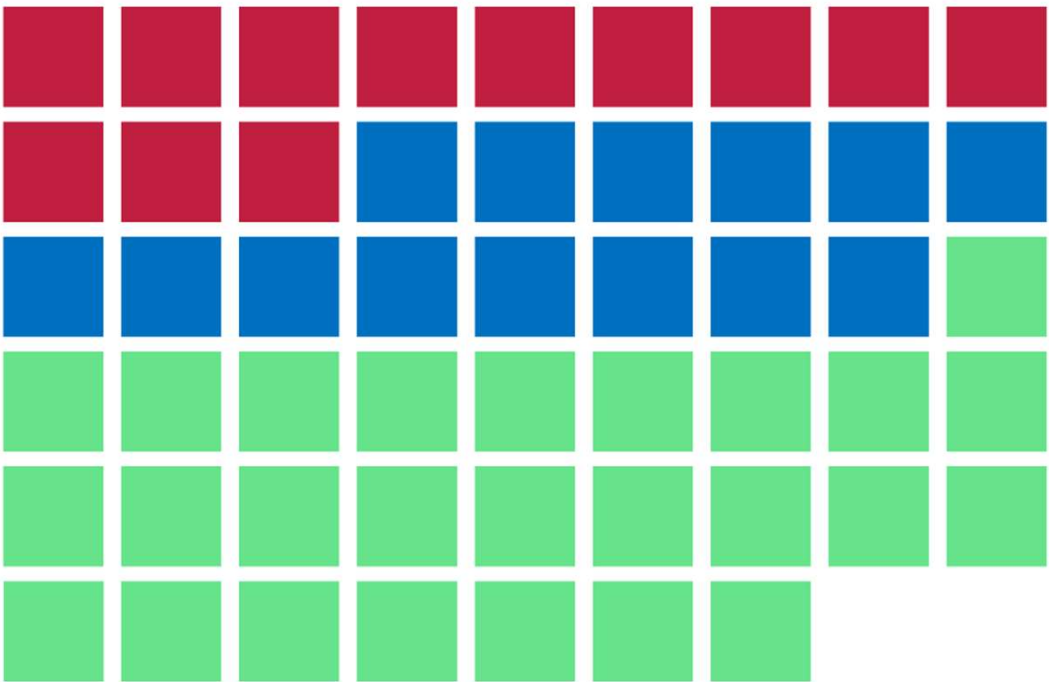
**Tie Replacement on
Green Line**



**Meggering (Rail Cable
Installation and Testing)**

Weekend work only scheduled for 26 of 52 weekends per year

14 weekends occur during the Summer and Winter Extended Outages when additional shutdowns are not scheduled



- 12 weekends high-passenger volume events
- Army 10 Miler
 - Marine Corp Marathon
 - Thanksgiving travel
 - March for Life
 - MLK & Inauguration
 - Memorial Day
 - World Pride
 - Cherry Blossoms



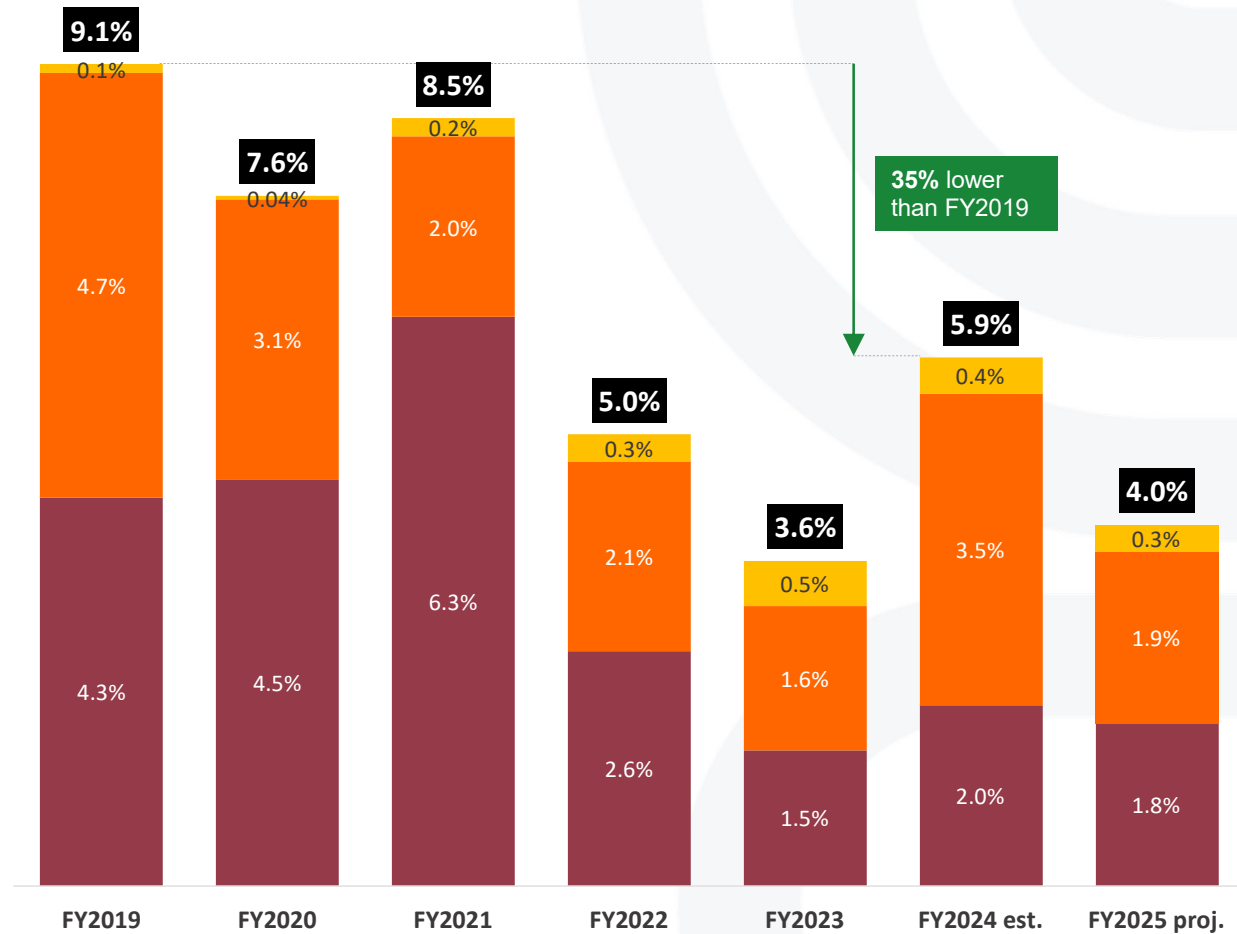
26 weekends available for extended work

Planned infrastructure work impacts less service

■ Total shutdowns
 ■ Weekend outages
 ■ Early out (service change starts at 10pm)

Notes:

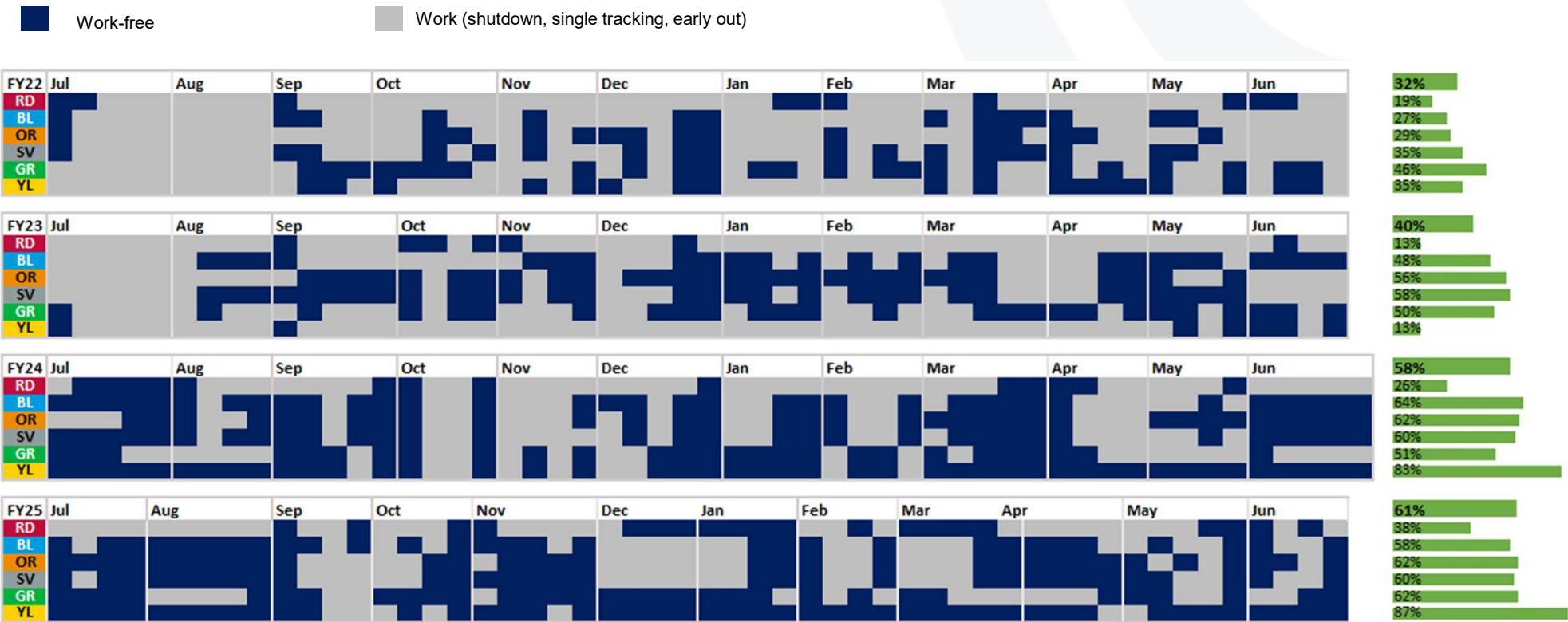
1. Percentage of estimated budgeted revenue service stops not delivered due to planned infrastructure work.
2. FY2024 YTD data as of Jun 16, 2024.



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY



Work-free weekends nearly doubled since FY2022



Note: Graph colors to be updated prior to Board presentation

FY2025-2030 Capital Program Look Ahead



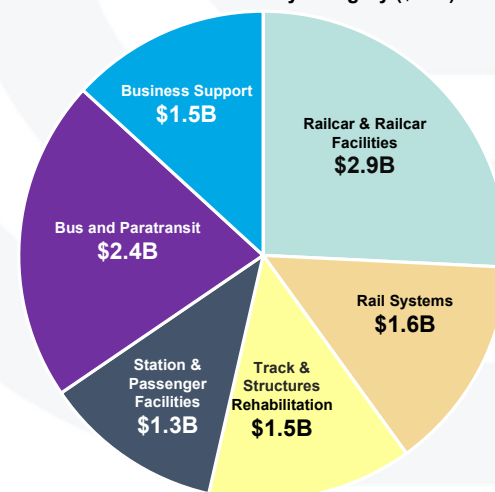
FY2025-2030 Capital Program Continues Investment in State of Good Repair, Reliability, and Modernization

Major reinvestment will continue across ongoing programs and projects, including:

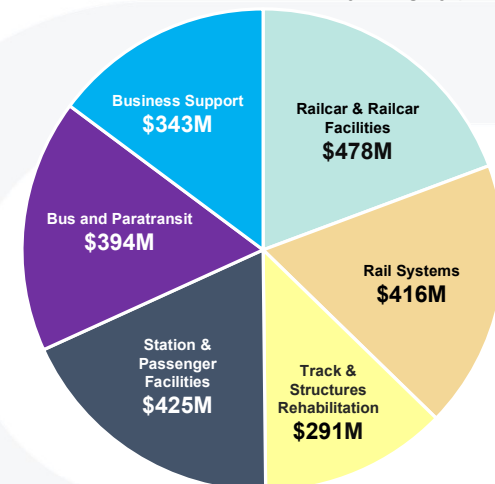
- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| • Bus Vehicle Replacement and Rehabilitation | • Critical structural and bridge rehabilitation |
| • Bladensburg & Northern Bus Division Replacements and Zero Emission Conversion | • Track rehabilitation |
| • Zero emission bus conversion at Cinder Bed | • Fare systems modernization |
| • Bus shelter replacements | • Radio replacement and fiber installations |
| • MetroAccess vehicle replacement | • Water leak mitigation on Red Line |
| • 8000 Series Railcars (legacy vehicle replacement) | • Enterprise Resource Planning System Modernization |
| • State of good repair investments in signaling system | • Stadium Armory Bridge/Junction Pocket Track |
| • Planning, engineering and pilots for signal system modernization and platform screen doors | • Railcar maintenance facility rehabilitation and modernization |

Capital Improvement Program Update

Six-Year Investment* by Category (\$11B)



FY2025 Forecasted Investment by Category (\$2.3B)

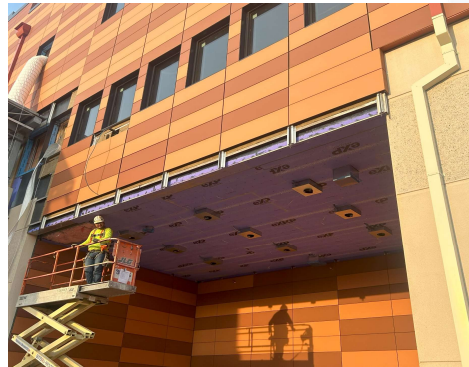


Bus Divisions: FY2025 Planned Work

Capital Improvement Program Update

Bladensburg

- Connect permanent power and gas lines
- Complete commissioning of Phase 1
- Complete systems testing
- Transfer personnel to the Operations & Maintenance Building
- Complete parking garage and battery electric bus design
- Start construction on new parking garage



Bladensburg Maintenance Building Terracotta



Bladensburg Maintenance Bays and Entrances

Northern

- Start structural steel erection
- Start elevated concrete deck placements
- Start interior wall installation
- Start building exterior walls & roof installation
- Start mechanical and electrical equipment installation and rough-in work
- Complete foundation walls



Historical Façade/Tower Bracing & Monitoring



Storm Water Management Tank



Slab on Grade Placement



Aerial Structure Rehabilitation: FY2025 Planned Work

Capital Improvement Program Update

Grosvenor Aerial Structure



Stadium Armory Junction Bridge



Green Line Bridges: Branch Ave Bridges A&B



Structural work required for Stadium Armory (D&G) Pocket Track underway in FY2025

Capital Improvement Program Update

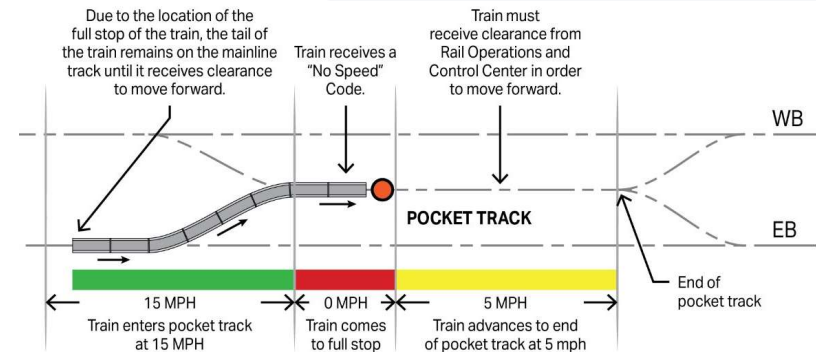
FY2025 Work

- Pier modifications through Spring 2025 to prepare for future pocket track deck support
- Project plan development



Future Pocket Track Extension

- 110 linear feet extension required to support reliable turnbacks
- Will provide flexibility to support new service patterns and manage work zones and service disruptions



19



Status of New Bus and Railcar Vehicle Programs

Capital Improvement Program Update

Bus Procurements

- Bus industry challenges and demand for electric buses have delayed new bus procurements
- 5-year procurement expected to be awarded FY2025 Q1
- Will include hybrid and full battery-electric buses

8000 Series Railcar Procurements

- Metro is completing preliminary design phase and plans to transition to final design phase in fall 2024
- Pilot cars scheduled for arrival winter of 2026



Capital Program Cost Reduction Update

Capital Improvement Program Update

Reducing Costs and Preserving Capacity for State of Good Repair

- Implemented cost reductions of \$25M in FY2025 and \$150M in FY2025-FY2030, without impacting project and program scope or outcomes
- *Examples:* Sharing resources; reducing reliance on contracted professional services
- Identifying structural recurring savings by simplifying standards, requirements and practices, and reducing customization
- Capital program cost reductions preserve funding capacity for future state of good repair program investments



Fort Totten Station Bus Shelter

10-Year Capital Improvement Plan

Capital Improvement Program Update

Major Investment Programs & Needs

State of Good Repair

*Reinvestment in Metro system
& existing assets*

- Infrastructure and systems renewal
- Vehicle replacements and rehabilitations
- Maintenance and support facility replacement and rehabilitations

Modernization

*Modernize, optimize & maximize
existing Metro system*

- Zero emission bus transition
- Signal system modernization
- Additional railcars for service frequency and capacity improvements

Expansion

*Future additions to
Metro system*

- New station entrances and infill stations
- Core and east-west capacity and reliability transit expansions
- Bus rapid transit

Total Estimated 10-Year Need

Estimated Funding

Unfunded Needs

~\$22B

–

~\$16B

=

~\$6B



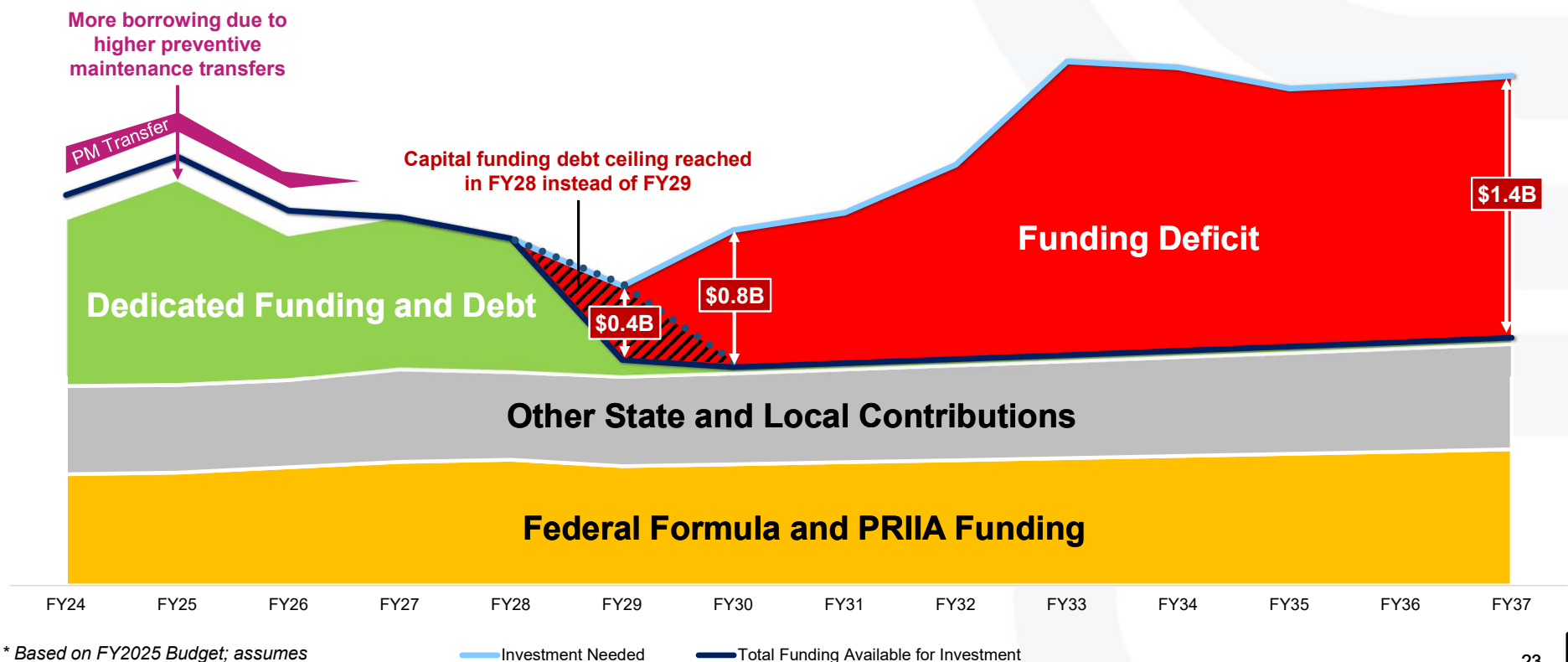
No Funding for Expansion

Based on FY2025-FY2030 planning and programing, updates underway for next program cycle

Region Faces Capital Program Deficits

Future Funding Plan

Dedicated capital funding borrowing capacity projected to be exhausted in FY2028 and new capital funding will be needed to address ongoing system safety, renewal and modernization needs

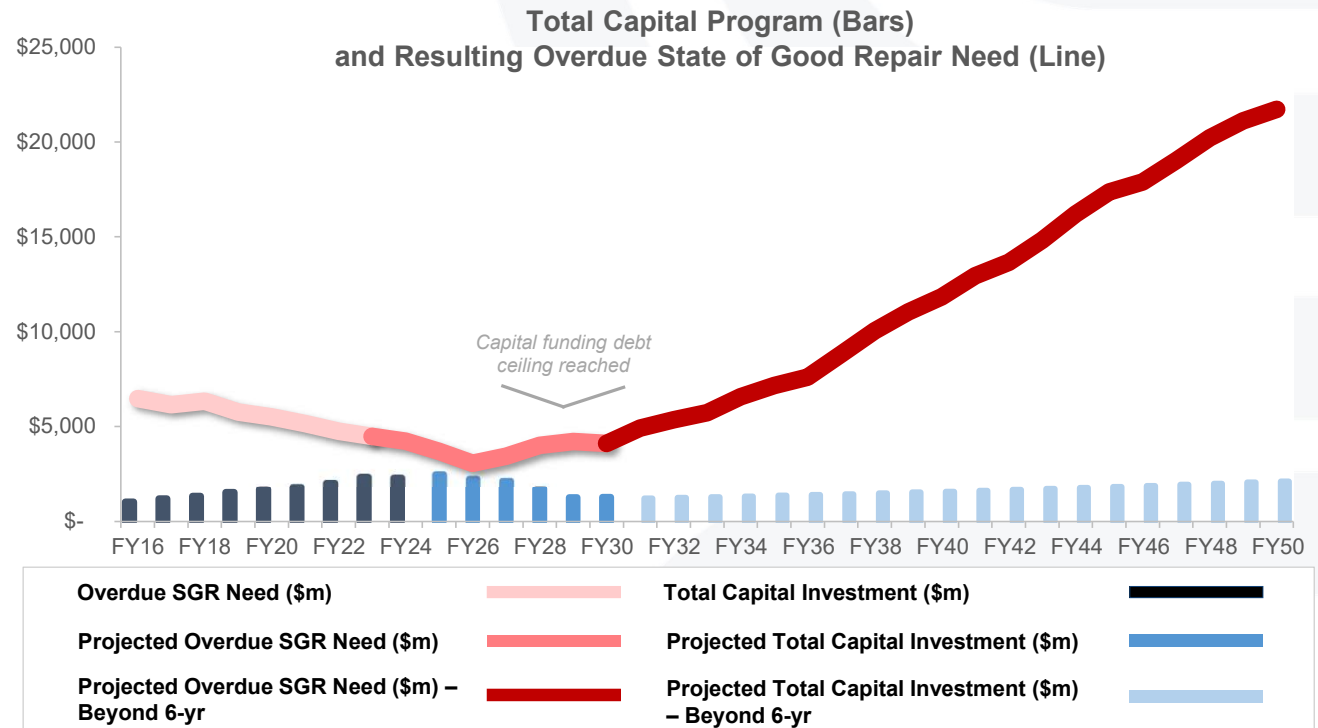


Capital Program Funding Challenges

Capital Improvement Program Update

Funding Deficits will Impact State of Good Repair Progress

- As backlog of state of good repair grows, performance and reliability decreases and risk increases
- Maintenance of essential state of good repair programs avoid asset failure experienced prior to SafeTrack and Platform Improvement projects
- Declining reliability, worsening customer experience and increased safety risk



Capital Planning and Programming Outlook

Capital Improvement Program Update

New predictable and sustainable capital funding required to continue state of good repair and modernization progress

- Near-term state of good repair and modernization efforts funded and underway
- Metro to continue identifying capital cost reduction opportunities to preserve funding capacity
- Funding constraints will force consideration of tradeoffs including deferrals of necessary state of good repair programs
- Major planned state of good repair and modernization programs are not funded
 - Facility state of good repair and zero emission modernization of bus garages (Including Western, Four Mile, Landover, Montgomery)
 - Better Bus Visionary Network fleet and facilities investments
 - Signal system modernization and platform screen doors
 - Additional 8000 series railcars and railcar facility capacity to support service frequency and capacity improvements



Capital Improvement Program

Next Steps

Fall:

- Update on capital needs and outlook
- Propose FY2026 Capital Budget, Six-Year CIP, and 10-Year Capital Plan

Winter:

- Budget work sessions & public hearings

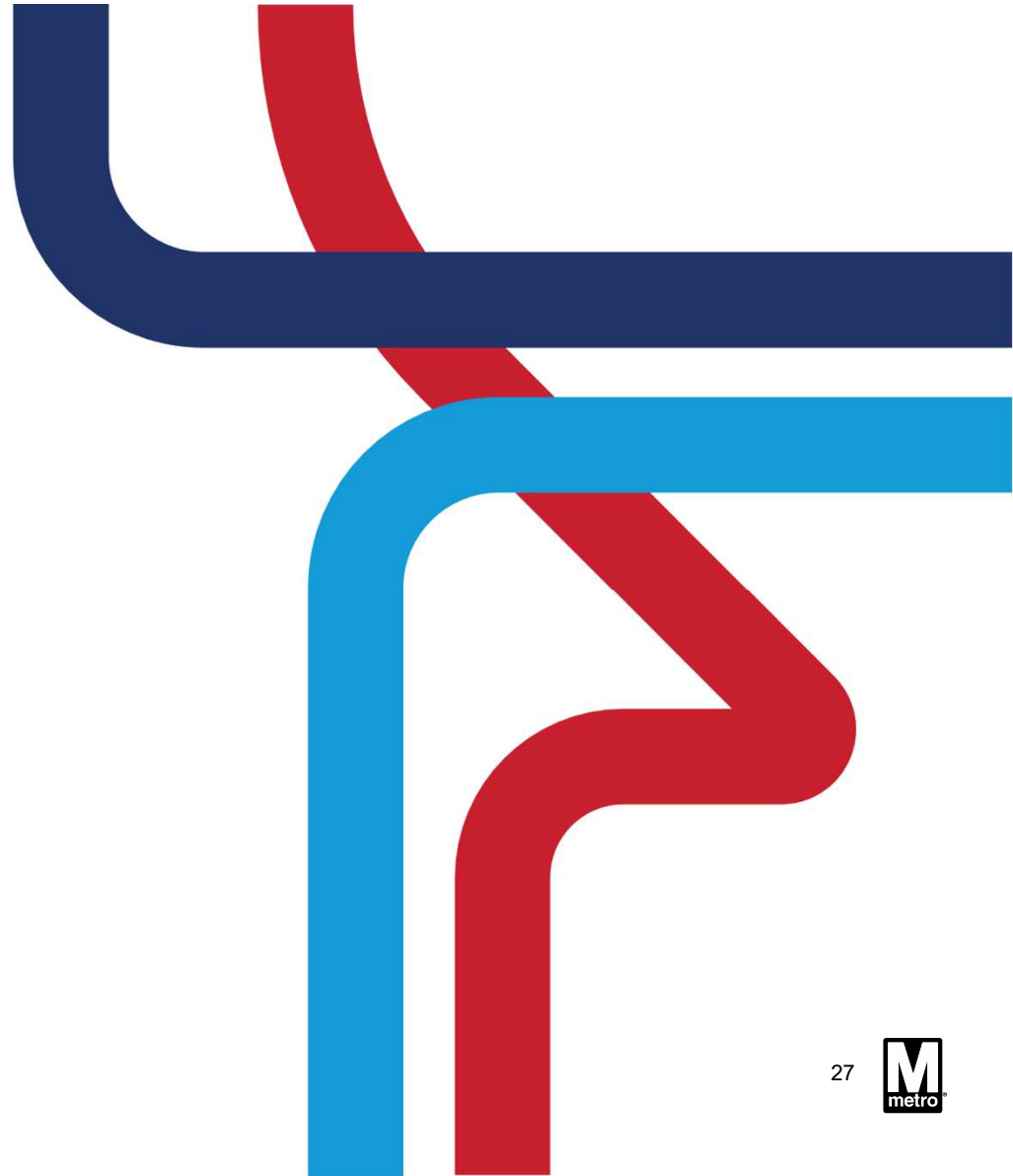
Spring:

- Board adoption of CIP & Capital Budget

Capital Improvement Program Update



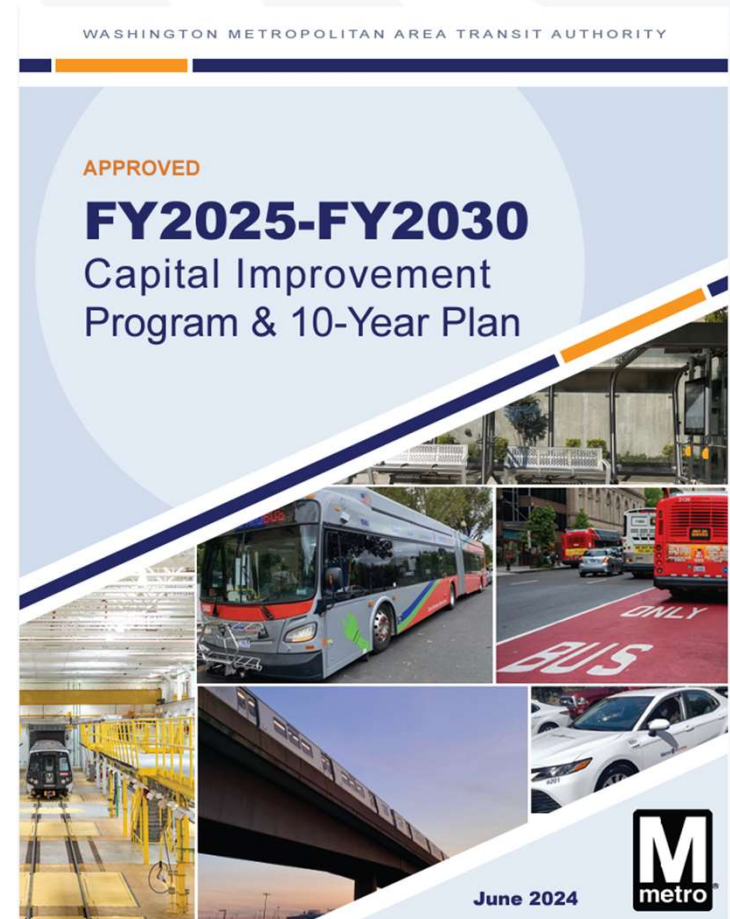
Appendix



Capital Program Resources

For more information, please visit: [Metro's Budget, Capital Improvement Program and 10-Year Plan](#)

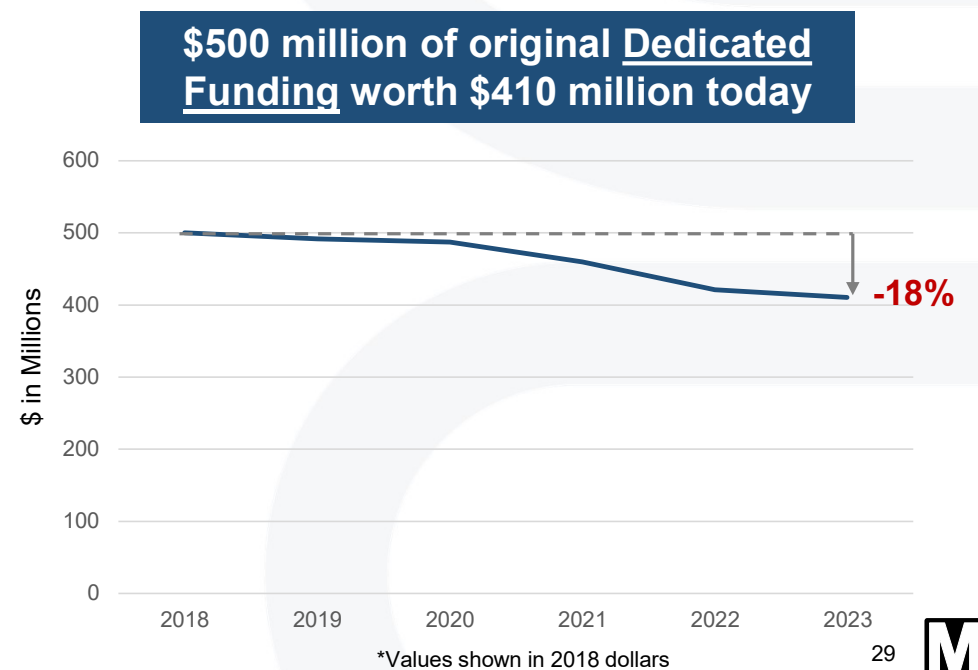
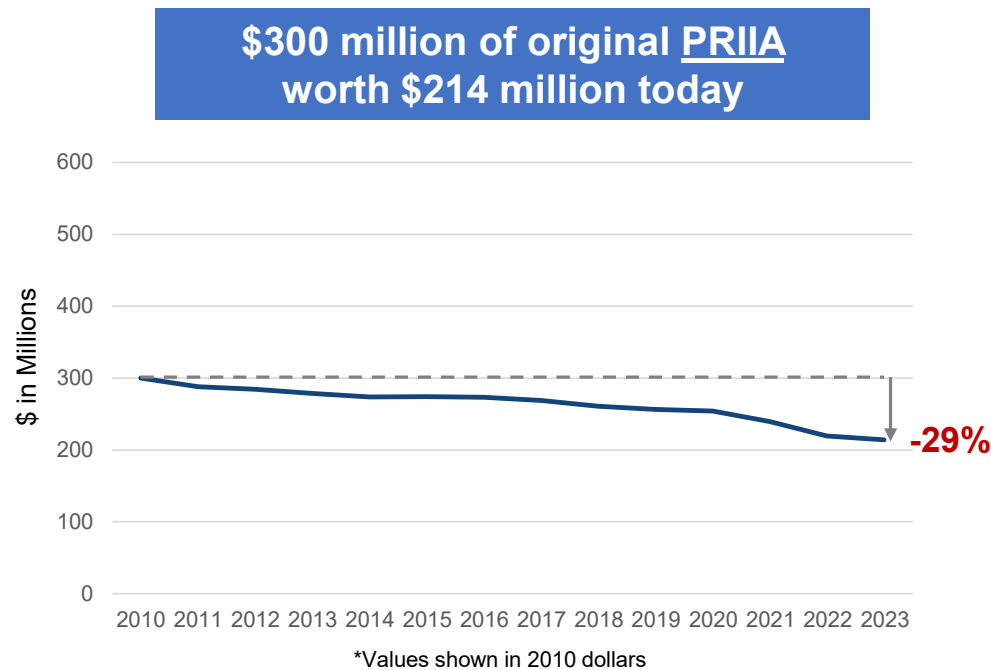
Capital Improvement Program Update



Buying Power of Metro's Capital Funding Has Eroded Over Time

Capital Improvement Program Update

Many of Metro's funding sources are not indexed to inflation; their buying power has fallen dramatically



29

Source: U.S. Bureau of Labor Statistics, Consumer Price Index for Urban Wage Workers and Clerical Workers (CPI-W)