



Finance and Capital Committee

Information Item III-A

September 12, 2019

Capital Improvement Program Update

Washington Metropolitan Area Transit Authority

Board Action/Information Summary

☐ Action ☒ Information

MEAD Number:
202107

Resolution:
☐ Yes ☒ No

TITLE:

Capital Improvement Program Update

PRESENTATION SUMMARY:

In this session, staff will provide information on progress in advancing Metro's Capital Improvement Program and introduce the FY2021-2030 Capital Program Strategy.

PURPOSE:

Staff will provide the Committee with a financial overview of actual capital investment in FY2019, highlight major capital program activities in FY2019 and FY2020, and introduce the program strategy for FY2021-2030 including outlining program objectives and previewing upcoming publications of detailing planned investments.

DESCRIPTION:

Key Highlights:

- Metro capital program investments totaled \$1.525 billion in FY2019, which was 99% of the FY2019 Amended Budget of \$1.544 billion.
- Capital investments are having a positive impact on key performance measures including safety, on-time performance, infrastructure availability, and railcar reliability.
- A strategic transformation of the capital program is underway including active capital planning, bolstered project delivery, and improved tracking of the performance of capital investments.
- The FY2021-FY2030 Capital Program will continue to prioritize rehabilitation and replacement of infrastructure, equipment, and vehicle assets that improve passenger and worker safety, service reliability, and financial sustainability.

Background and History:

Since FY2015, Metro has doubled its pace of capital investment to meet critical needs. The amended FY2019 budget included \$1.544 billion in capital program spending and was grounded in the principles set forth Metro's strategic plan, Keeping Metro Safe, Reliable and Affordable. These investments contributed to positive movement in key performance measures in FY2019, examples include:

- Investments in Track Rehabilitation have increased infrastructure availability. Due to improved conditions, 97.4% of rail infrastructure was available during passenger hours in FY2019, up from 94.8% in FY2018.
- Railcar investments have improved railcar performance to the highest in eight years, with 160,985 miles between delays in FY2019.
- A decrease in rider offloads was also seen in FY2019 with an average of 35 per month, which represented a 41% improvement over FY2018.

The FY2020 capital budget includes \$1.74 billion in capital investments that continue to support replacement of vehicles and rehabilitation of facilities and equipment on the rail, bus, and MetroAccess systems. Sample ongoing projects funded in the FY2020 Capital Program include: station platforms, track rehabilitation, railcars, and investments in bus garages.

Discussion:

The Capital Program is demonstrating progress in rehabilitating, replacing and modernizing our system to meet the needs of customers. The presentation highlights major ongoing projects that have a large impact on addressing longstanding challenges. These include:

- Station Platform reconstruction for customer safety
 - o FY2019 – Contract awarded for six stations south of National Airport. Completion of field work, surveys, platform demolition, concrete, and initiation of vital infrastructure renewal
 - o FY2020 – Planning and contracting for Phase II underway to address deteriorating conditions of eight above-ground station platforms:
East Falls Church, West Falls Church, Dunn Loring, Vienna, West Hyattsville, Prince George's Plaza, College Park and Greenbelt
- Track rehabilitation to safely keep trains moving
 - o FY2019 – Replaced/rehabilitated track components to include railcar ride quality, track system, third rail system
 - o FY2020 – Continued reinvestment to improve railcar rides and third rail infrastructure
- Railcar procurement for customer safety, comfort and reliability
 - o FY2019 – Purchased 7000 Series railcars to replace 1000, 4000 and 5000 Series railcars
 - o FY2020 – Received 8000 Series railcar proposals, currently under technical evaluation
- Bus Garage construction to increase productivity and improve efficiency
 - o FY2019 – Opened Andrews Federal Center (June 2019) and Cinder Bed Road (December 2018), both built to LEED Silver standards
 - o FY2020 – Anticipate award for demolition and replacement of Bladensburg and Northern Bus Garages, intended to be LEED Platinum facilities

- Replace Radio infrastructure to increase public safety. Will also provide customers with access to wireless services throughout the rail system
 - o FY2019 – Approximately two-thirds of Metro’s tunnels were wired for cellular and data service, continued installation of snake trays and cabling, completed system installation at Braddock Rd and King St.
 - o FY2020 – Continue the installation of the infrastructure necessary to support the new radio system and enable cellular service within tunnels. Anticipate completing installations to enable cellular service availability from Gallery Place to Southern Avenue, Suitland to Branch Avenue, Dupont Circle to Medical Center and Grosvenor to White Flint rail stations.

The Capital Program will continue Metro’s rebuilding of infrastructure through an agency-wide investment plan funded by historic levels of capital investment for the National Capital Region. Metro takes seriously the responsibility to be good stewards of capital funding. Metro will continue to move capital planning and programming to a more proactive approach with visible enterprise-wide capital planning, updated and consolidated capital asset inventory information, and incorporating performance measures to assess investments against baseline need and State of Good Repair targets.

FUNDING IMPACT:

Information Item

TIMELINE:

Previous Actions	<p>March 2019 - Board approved the FY2020-2025 Capital Improvement Program.</p> <p>June 2019 - Board amended the FY2020 capital budget to raise the approved total to \$1.74 billion.</p> <p>July 2019 – Metro began executing the FY2020 Capital Program with focus on successfully delivering the Capital Program and improving planning and programming capabilities</p>
Anticipated actions after presentation	<p>Fall 2019 – Release of Capital Program Strategy, 10-year Capital Plan.</p> <p>Winter 2019/Spring 2020 – Board Review of Proposed Capital Improvement Program and Capital Budget, Public Hearings on Capital Program.</p> <p>Spring 2020 – Board Approval of Capital Improvement</p>

	<p>Program and Capital Budget for FY2021, Mid-year update of Capital Plan Overview.</p> <p>July 2020 – Start of the 2021 fiscal year.</p>
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RECOMMENDATION:

The proposed FY2021-2030 Capital Program will continue Metro’s rebuilding of infrastructure through an agency-wide investment plan funded by historic levels of capital investment for the National Capital Region.

Capital Improvement Program Update

Finance and Capital Committee
September 12, 2019



Agenda

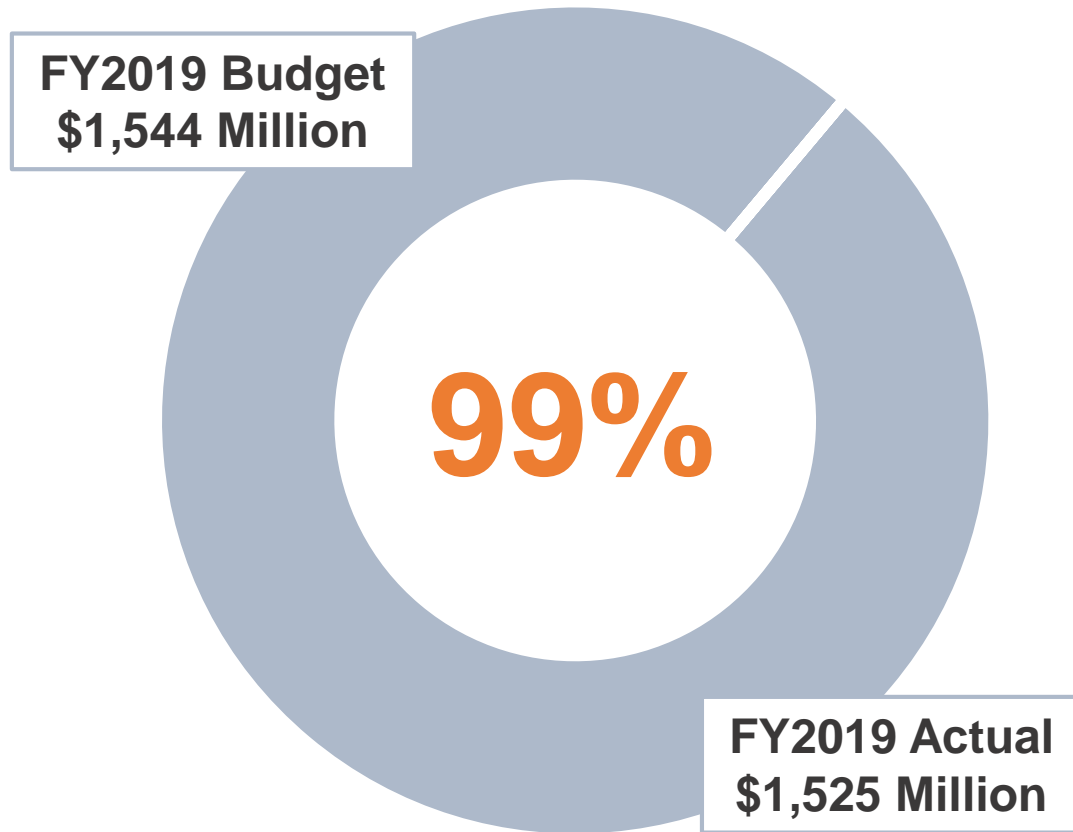
- Capital Program Objectives
- FY2019 Capital Improvement Program (CIP) Financial Results
- Highlight Major CIP Activities in FY2019 and FY2020
- Introduce FY2021-2030 Capital Program Strategy and Schedule

Capital Program Objectives

- Keep it safe, reliable and affordable
 - Prioritize rehabilitation and replacement of assets to improve passenger and worker safety
 - Regularly evaluate asset condition for high performance to meet customer needs
 - Invest in technology to modernize how people travel
- Strategic transformation of the capital program
 - Active capital planning
 - Bolstering project delivery
 - Performance tracking







FY2019 Capital Program Investment



Investment Category (\$M)	FY2019 Actual
Railcar	\$378
Rail Systems	177
Track & Structures	164
Stations & Passenger Facilities	398
Bus & Paratransit	198
Business Support	210
TOTAL	\$1,525

Capital Program Progress

- Positive impact on key performance measures:
 - Safety 
 - On-time performance 
 - Infrastructure availability 
 - Railcar reliability 
- Addressing longstanding challenges:
 - Platform reconstruction for customer safety
 - Track rehabilitation to safely keep trains moving
 - Railcar procurement for customer safety, comfort and service reliability
 - Bus garage construction to increase productivity and improve efficiency
 - Radio and wireless infrastructure/equipment replacement for increased safety and customer satisfaction
- Metro will continue to rehabilitate, replace, and modernize the system

Station Platforms

FY2019 Highlights

- Awarded contract for major rehabilitation of platform concrete and metal structures at six stations south of National Airport (Phase I)
- Demolished platforms, constructed framework, poured concrete, installed slip-resistant tile
- Eliminated Braddock Road Station hump
- Initiated vital infrastructure renewal work to ensure safety
- Other non-platform work completed during the shutdown included upgrading and replacing customer information displays, LED interior lighting, fire alarms, intercoms, CCTVs and public address systems

FY2020 Highlights

- Planning and contracting for Phase II underway to address deteriorating conditions at eight stations:
 - East Falls Church
 - West Falls Church
 - Dunn Loring
 - Vienna
 - West Hyattsville
 - Prince George's Plaza
 - College Park
 - Greenbelt

Metro is investing in **Station Platforms** to increase customer safety and ensure state of good repair. In 2019, approximately 7,200 linear feet of platform edges were replaced and another approximately 9,600 linear feet are expected to be replaced in 2020.

Improving Safety



*New Platform at
Eisenhower Station*



*Decayed Platform at
King Street Station*

Track Rehabilitation

Improving Safety & Reliability



FY2019 Highlights

- Replaced/rehabilitated track components to improve:
 - Railcar Ride Quality: tamped 32 miles of track and repaired 1,393 open rail joints
 - Track System: replaced 11,905 crossties and 56,648 direct fixation fasteners
 - Third Rail System: replaced 9,465 insulators and 2.7 miles of third rail

FY2020 Highlights

- Continued reinvestment to improve the safety and quality of railcar rides and third rail infrastructure
- Goals for FY2020 track component replacement and rehabilitation:
 - Railcar Ride Quality: tamping 35 miles of track and repairing 1,100 open rail joints
 - Track System: replacing 9,000 crossties and 42,000 direct fixation fasteners
 - Third Rail System: replacing 9,000 insulators and 2.5 miles of third rail



Track Rehabilitation

Metro is investing in **Track Rehabilitation** to increase infrastructure availability. Due to improved conditions, 97.4% of rail infrastructure was available during passenger hours, up from 94.8%. Between 2017 and 2019, the condition of track assets has improved by 22%.

Railcars

Improving Safety & Reliability



FY2019 Highlights

- Purchased 7000 series railcars to replace legacy 1000, 4000 and 5000 series railcars
 - 696 of 748 planned total 7000 series railcars delivered by the end of June

FY2020 Highlights

- Delivery and acceptance of remaining 7000 series cars
- Received proposals in response to 8000 Series railcar request for proposals (RFP) - now under technical evaluation
 - 8000 series railcars would replace legacy 2000 & 3000 series cars
 - 8000 series railcar contract options will provide for flexibility to meet future fleet demands

Metro is investing in **Railcars** to continue to improve rail fleet safety and reliability. With over 160,000 miles between delays, railcar performance is the highest in eight years. In addition, rider offloads have declined 41% from FY2018.



1000 Series Railcar



7000 Series Railcar

Replacing Obsolete Bus Garages

Improving Safety, Reliability & Affordability



FY2019 Highlights

Andrews Federal Center



(Opened June 2019)

- Facility for up to 175 buses to serve Southern Prince George's County and Southeast D.C.
- Moved overhaul facility from Bladensburg to Andrews

Cinder Bed Road



(Opened December 2018)

- Facility for up to 160 buses to serve Northern Virginia

FY2020 Highlights

- Award Design-Build Contracts for replacement of Bladensburg & Northern garages
 - Bladensburg - Demolition and replacement on-site with facility to hold up to 300 buses
 - Northern - Demolition and replacement with facility to hold up to 150 buses
 - Both facilities intended to be LEED Platinum



Andrews Federal Center



Bladensburg



Cinder Bed Road



Northern

Metro is investing in replacement **Bus Facilities** to address longstanding challenges with deteriorated and functionally obsolete garages. Upon completion of Bladensburg and Northern garages, the average age of bus garages will be approximately 26 years. Without this program, the comparable age would have been approximately 67 years.

Replace Radio & Wireless Infrastructure & Equipment

Improving Safety & Reliability



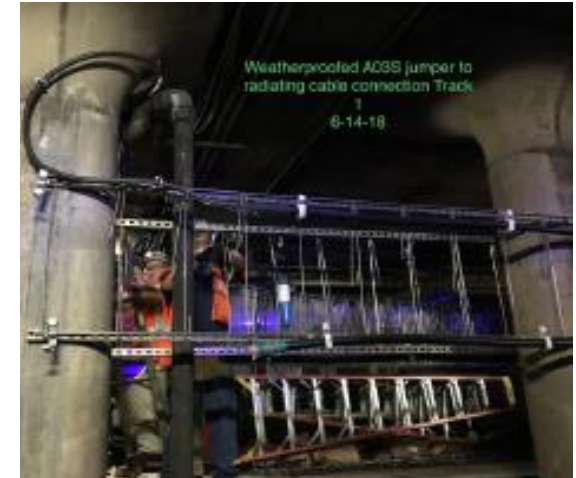
FY2019 Highlights

- As of June 30, 2019, 6 route segments, or approximately 67% of Metro's tunnels were wired for cellular and data service
- Continued cable installation
- Completed system installation at Braddock Rd and King St

FY2020 Highlights

- By June 30, 2020, almost 80% of Metro's tunnels are expected to be wired for cellular and data service
- Cellular phone availability within tunnels from:
 - Gallery Place to Southern Ave stations
 - Suitland to Branch Ave stations
 - Dupont Circle to Medical Center stations
 - Grosvenor to White Flint stations
- Continue cable installation
- Delivery of handheld radio units

Metro is investing in **Radio and Wireless Infrastructure** to upgrade the system for workers and public safety, move the radio network to the 700 MHz band which has been established nationally for public safety use by the Federal Communications Commission (FCC), and provide customers with access to wireless services throughout the rail system.



Dupont Circle Jumper



Equipment Pad

Capital Program Components



Capital Program Strategy

High-level vision and goals for capital investments

- Establish priorities
- Expected outcomes

10-Year Capital Plan

Individual planned investments to accomplish strategy

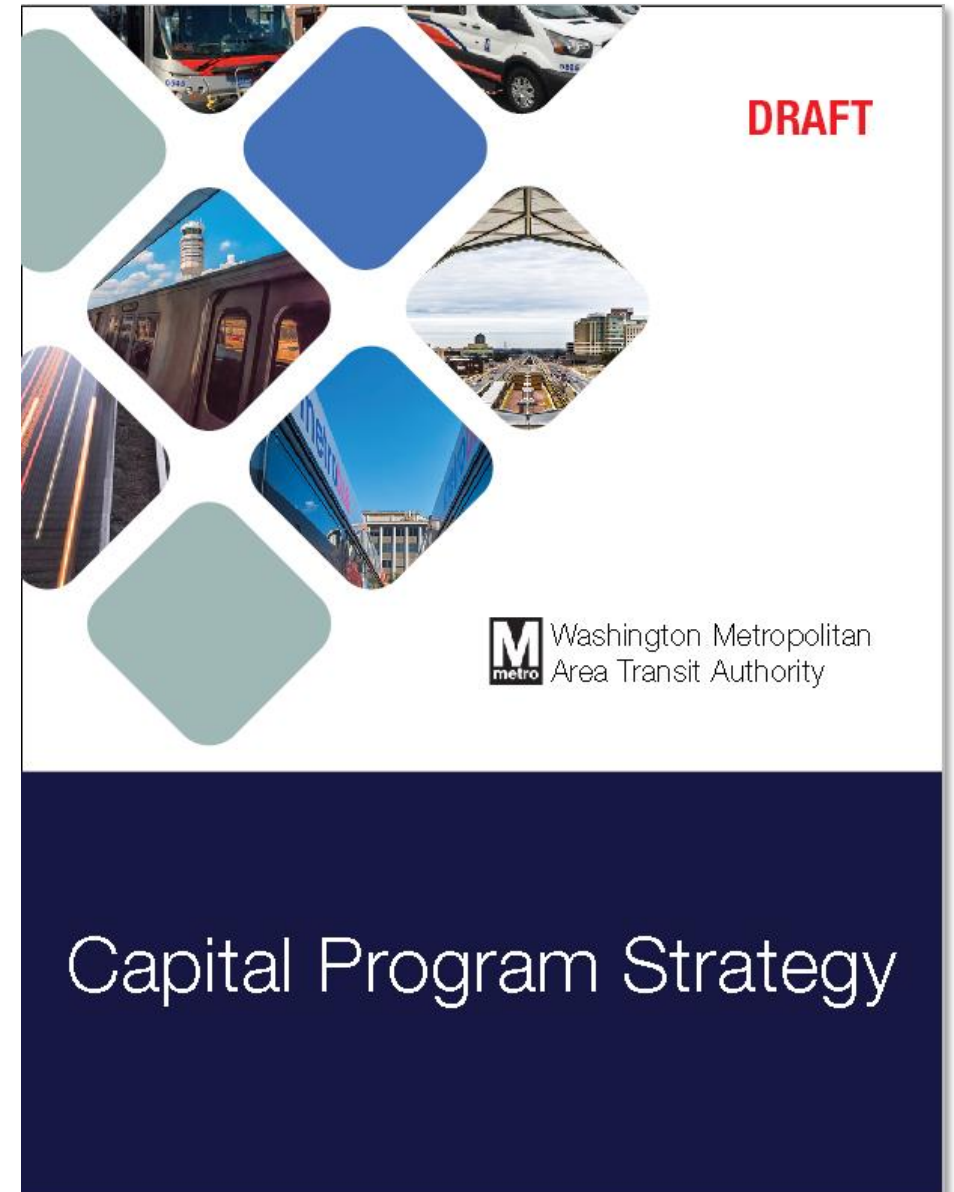
- Project-level detail
- Preliminary estimates and schedules

6-Year Capital Improvement Program

- FY2021-2026 Capital Improvement Program
- Capital Budget resource request for FY2021

Capital Program Strategy

- Program highlights, strategic direction, priorities
- FY2021-2030 capital plan will continue to rebuild infrastructure through agency-wide investment strategy
- Metro will be good steward of capital funding
- Proactive approach with added visibility and improved performance measures



10-Year Capital Plan

- FY2021 – FY2030 Look Ahead
- Fall 2019 Publication of Proposed 10-Year Capital Plan with major project details:
 - Description
 - Purpose & Outcome
 - Phase & Schedule
 - Strategic Drivers
 - Expected Cost by Phase
 - Anticipated Funding Source(s)
- Visibility into major planned investment
- Periodic updates of ongoing and planned projects



10-Year Capital Plan Appendices

- Detailed information on all projects & studies in plan sorted as follows:
 - Service Mode – Rail, Bus, Access
 - Project Phase – Initiation, Development & Evaluation, Project Development, Implementation, Commissioning, Closeout
 - Alphabetical
 - CIP Budget Crosswalk

Example: Potential Projects by Phase
RAIL in Development & Evaluation Status*

Project Name	Mode	Type	Description	Phase
Foggy Bottom Metrorail Station New East Entrance	RAIL	Study	Feasibility study for station improvements at the Foggy Bottom Station to include mezzanine extensions and new stairs and elevators to alleviate crowding/congestion and improve station capacity.	Development and Evaluation
Farragut North Station Vertical Circulation Improvements	RAIL	Study	Feasibility study for Farragut North Metrorail Station elevators and stairs. The goal of the study is to produce an engineering feasibility study to address station congestion and egress, including developing and evaluating conceptual design options to enhance capacity at the station.	Development and Evaluation
Farragut West, Farragut Passageway, and Farragut North Mezzanine Interface to Passageway	RAIL	Study	Feasibility study for additional transfer within Metrorail system between Farragut North and Farragut West Metrorail stations. Study will focus on reducing transfer congestion by creating a new transfer point West of Metro Center for transfers from Blue/Orange/Silver Lines to Red Line.	Development and Evaluation
Crystal City Metrorail Station New East Entrance	RAIL	Study	Feasibility study for new east entrance at the Crystal City Metrorail Station to include all elements associated with an underground station. Study in coordination with Arlington County will alleviate crowding/congestion and improve station capacity.	Development and Evaluation
New Carrollton Metrorail Station New West Entrance	RAIL	Study	Feasibility study for new west entrance at the New Carrollton Metrorail Station. The goal of the study is to produce an engineering feasibility study for the potential entrance, including developing and evaluating conceptual design options to enhance capacity at the station.	Development and Evaluation
Ballston Metrorail Station New West Entrance	RAIL	Study	Feasibility study for a potential new west entrance at the Ballston Station. Study is in coordination with Arlington County and the goal of the project is to produce updated design plans and associated documentation from 2005.	Development and Evaluation

*Development & Evaluation (D&E) projects are currently being explored. Decisions on project execution will be made at the conclusion of the D&E phase.

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Program Schedule

