



Finance and Capital Committee

Information Item IV-A

October 14, 2021

Capital Program Update

Washington Metropolitan Area Transit Authority
Board Action/Information Summary

Action Information

MEAD Number:
202306

Resolution:
 Yes No

TITLE:

Capital Improvement Program Overview

PRESENTATION SUMMARY:

Staff will provide an overview of the capital improvement program featuring accomplishments from FY2021, upcoming FY2022 projects, and a review of upcoming major project outages. The presentation also includes an update on the maintenance backlog and an overview of baseline state of good repair needs.

PURPOSE:

To communicate progress and achievements of the Capital Improvement Program and to provide insight on how safety, state of good repair, and resiliency projects are scheduled to move forward in the both the near and long term.

DESCRIPTION:

Please see the attachment for a list of major vendors associated with the Metro Capital Improvement Program.

With the help of Dedicated Funding backed debt, Federal Passenger Rail Infrastructure Improvement Act (PRIIA) Funding, and local government contributions, Metro has embarked on an aggressive rehabilitation program to improve state of good repair, safety, and reliability across all modes of service. Progress is being made, and there is both more to do and on-going effort required to maintain a safe, reliable, and efficient system.

Key Highlights:

- FY2021 capital programs and projects invested over \$1.8B in safety, state of good repair, and resiliency projects.
- FY2022 capital programs and projects are on-pace to invest approximately \$2 billion across all components of the Metro System.
- Fiscal 2023 through 2028 Capital Improvement Program is planning investments between \$11 and 13 billion in safety, state of good repair, and resiliency programs and projects.

Background and History:

In 2018, the Compact Signatories – the State of Maryland, the District of Columbia, and the Commonwealth of Virginia – passed legislation creating a cumulative \$500M in

annual dedicated funding for Metro. This funding stream provided Metro the ability to issue the debt needed to fund overdue capital needs. These needs, the 'backlog' of projects previously unfunded, were impacting safety and reliability of Metro's services. Today, the backlog has been reduced, and is shrinking rather than growing. Metro projects a backlog of approximately \$3.2B after implementing projects and programs planned for FY2022 through FY2027. Work on reducing the backlog is in addition to investing approximately \$1.2B per year to maintain assets and prevent accumulation of additional unfunded needs.

In the Fall, Metro will present the Board with a FY2023 Capital Budget and a Six-Year CIP. Metro anticipates continued Jurisdictional funding, including up to 3% increases in Jurisdictional Capital Contributions, and continuation of state and Federal PRIIA funding through the planning period. In addition to these baseline assumptions, Metro anticipates leveraging Dedicated-Funding backed debt to address additional funding needs and continue to address previously unfunded needs in the CIP in the near term.

Discussion:

The programs and projects funded in FY2022 focus on safety and state of good repair anticipated to enhance system safety, reliability, and convenience for customers.

As Metro prepares the FY2023 Capital Budget and Six-Year Capital Improvement Program (CIP) for consideration by the Board this fall, the focus remains the provision of safe, reliable, and affordable transit. To achieve this goal, Metro's CIP invests in safety, state of good repair, and resiliency projects across all Metro operations and departments: Rail; Bus/Paratransit; and Operations and Business Support.

CIP investments promote reliability, improve asset performance, and increase the overall safety of WMATA's infrastructure. Examples include, but are not limited to, maintaining average fleet age in bus, paratransit, and rail fleets; improving reliability of elevators and escalators; modernizing bus garages, rail overhaul facilities, and administrative offices; and providing a more comfortable, safer ride to customers. Some capital investments reduce future operating costs by updating equipment to more efficient models, reducing energy consumption, or changing to a less impactful fuel.

Since Fiscal Year 2019, Metro has issued Dedicated-Funding backed debt each year to providing funding to address previously unmet needs. Of the \$500M of dedicated funding provided each year, approximately \$470M is available for use as debt service due to restrictions placed on the use of the remaining funds. The current funding plan, as approved by the Board in April 2021, fully leverages the dedicated funding as a source for debt service by approximately FY2027. Metro staff will continue to work collaboratively and cooperatively with internal and external stakeholders in developing the FY2023 to 2028 CIP in an effort to balance the availability of dedicated funding as a source for debt service, the need to address previously unfunded needs, and the ability to deliver quality, on-time projects and programs.

Near Term Projects Updates

- Design & Procurement

- o Yellow Line Tunnel & Bridge Rehabilitation
- Construction
 - o Platform Rehabilitation – Phase 4
 - o Northern Bus Garage Replacement
 - o Tunnel Ventilation Pilot

Major Outage Schedule

Fall/Winter 2021

- Rockville Platform Canopy Replacement
- Aerial Structure Rehabilitations at Minnesota Avenue Structure (D&G), Grosvenor Aerial Structure, West Hyattsville Aerial Structure, Branch Avenue A&B Bridges, Cameron Run Bridge, Eisenhower Avenue Bridge, Naylor Road Aerial Structure, and South Van Dorn Street Bridge

Spring/Summer 2022

- Tunnel Leak Mitigation between Silver Spring and Forest Glen and Tenleytown/AU and Friendship Heights
- Phase 4 of the Platform Rehabilitation Program (3-month shutdown from Minnesota Ave to New Carrollton including the Cheverly Aerial Structure rehabilitation)

Fall/Winter 2022

- Potomac Yard Station
- Yellow Line Tunnel and Bridge Rehabilitation

FUNDING IMPACT:

There is no funding impact from providing this information.

TIMELINE:

Previous Actions	N/A
Anticipated actions after presentation	Fall 2021 – Present General Manager Proposed Capital Budget and Six-Year Capital Improvement Program

RECOMMENDATION:

No recommendation is associated with this information item.

The following parties may have an interest in the decisions made by the Board with regard to these topics:

A-Connection, Inc.	Gannett Fleming Engineers and Architects
AECOM USA Inc.	Gannett Fleming-Parsons Joint Venture
AECOM-STV JV	Gannett Fleming-Parsons Joint Venture II
Aldridge Electric, Inc.	GENFARE
Alstom Transportation Inc.	Glebe Electronic
American Truck & Bus, Inc.	Habor Roofing
ANC Sports Enterprises LLC	HARSCO Metro Rail LLC
Badger Mills Supply Company	Helix Electric, Inc.
Birlasoft Consulting Inc.	Hensel Phelps Construction Co.
Biswas Information Technology Solutions	Hitachi Railcars Inc.
BoxBoat Technologies	HNTB Corporation
Brian Hoskins Ford	Hogan Lovell Law Firm
C3M Power Systems, LLC	HR&A Advisors
CH2M HILL, Inc.	Ideal Electrical Supply Corp.
CHKAMER	immixTechnology, Inc.
Cintas Corporation	InfraStrategies LLC
City Construction	Jacobs Engineering Group, Inc.
Clark Construction Group, LLC	Johnson, Mirmiran & Thompson Inc
Clever Devices Ltd.	Jones Lang LaSalle
Concrete Protection & Restoration, Inc.	K&J Consulting Services Inc.
Consolidated Construction & Engineering	Kawasaki Rail Car Inc.
Copper River Information Technology	Kiewit Infrastructure Company
Criswell Chevrolet	Kimley-Horn and Associates, Inc.
Crowe Horwath LLP	Kone
Cubic Transportation System Inc	KORBATO
Cummins Power Systems LLC	LDA 2395 Mill Rd LLC
CW Professional Services LLC Advanced	LDA 300 7th St LLC
Digital Systems, Inc.	Limbach Company LLC
Dell Marketing LP	Los Alamos Technical Associates, Inc.
DHA/RK&K Joint Venture	Louis Berger (DC)
DHK	LTK Engineering
Diversified Property Services	Luminator Mass Transit, LLC
DJB Contracting	Lytix, Inc
EastBanc Technologies, LLC	M & M Welding & Fabricators
ECS Corporation	M.C. Dean, Inc.
Edward Kocharian & Co Inc.	Merak North America
EnSCO Rail Inc.	Metro Paving Corporation
eVigilant Security	Motorola Solutions Inc.
F.H. Paschen, S.N. Nielsen & Assoc., LLC	Mott MacDonald I&E, LLC
Five Points Infrastructure Services, LLC	Mythics, Inc.

Networking for Future, Inc. (NFF, Inc.)
New Carrollton Parking LLC
New Flyer of America, Inc.
North Eastern Bus Rebuilders Inc.
Orion Management, LLC
Paramount Mechanical Corp.
Parkmobile USA, Inc.
Parsons Transportation Group Inc.
Patuxent Roofing and Contracting, Inc.
PLLC/Urban Engineers
Potomac Construction Co. Inc.
Potomac Yard Constructors
Power Test, Inc.
Precision Escalator Products
Racine Railroad Products
RailQuick
RK Chevrolet, Inc
Safeware Inc.
Schindler Elevator Corporation
Shred-IT USA LLC
Singleton Electric Company, Inc.
Software Information Resource
Corporation
Sonny Merryman
A Inc.

Source Inc.
Stand Steel
Stout & Teaque Management Corp
Straffice America, LLC
Susan Fitzgerald & Associates, Inc.
Swingmaster Corp
SyApps LLC
Systems Technology Group
T/A TMG Construction
The Aftermarket Parts Company
The Matthews Group, Inc.
TMAK Joint Venture
Transit Information Products
Transportation Management Service Inc.
Trapeze Software Group
Trigyn Technologies, Inc.
Urban Atlantic LLC
V Group Inc.
VHB - Vanasse Hangen Brustlin, Inc
Vivsoft Technologies LLC
W.M. Schlosser Co.
Whitaker Parking Systems Inc.
WSP US

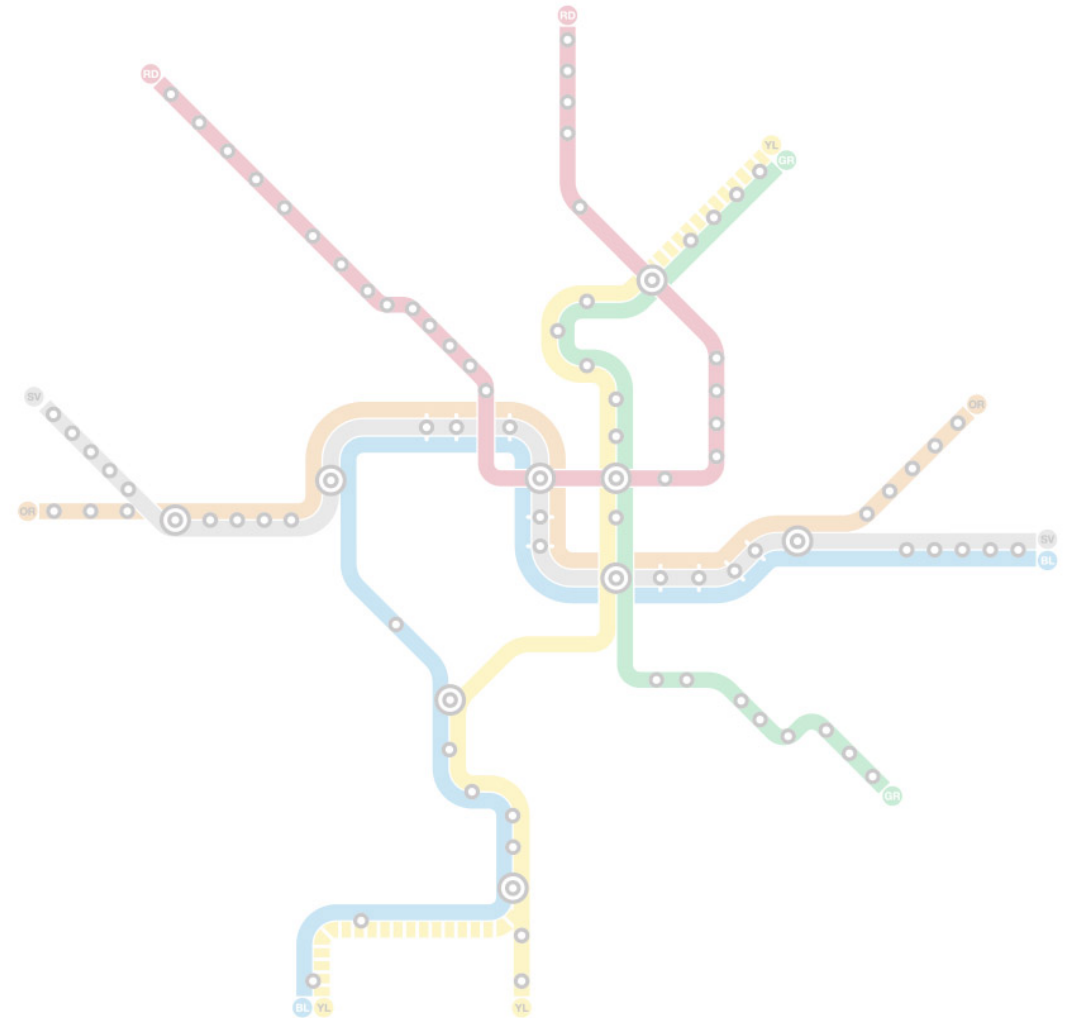
Capital Improvement Program Update

Finance & Capital Committee
October 14, 2021



Purpose

- Review Capital Program Strategy
- Capital Program Highlights
- Upcoming Major Projects



\$12 Billion Safety & State of Good Repair CIP

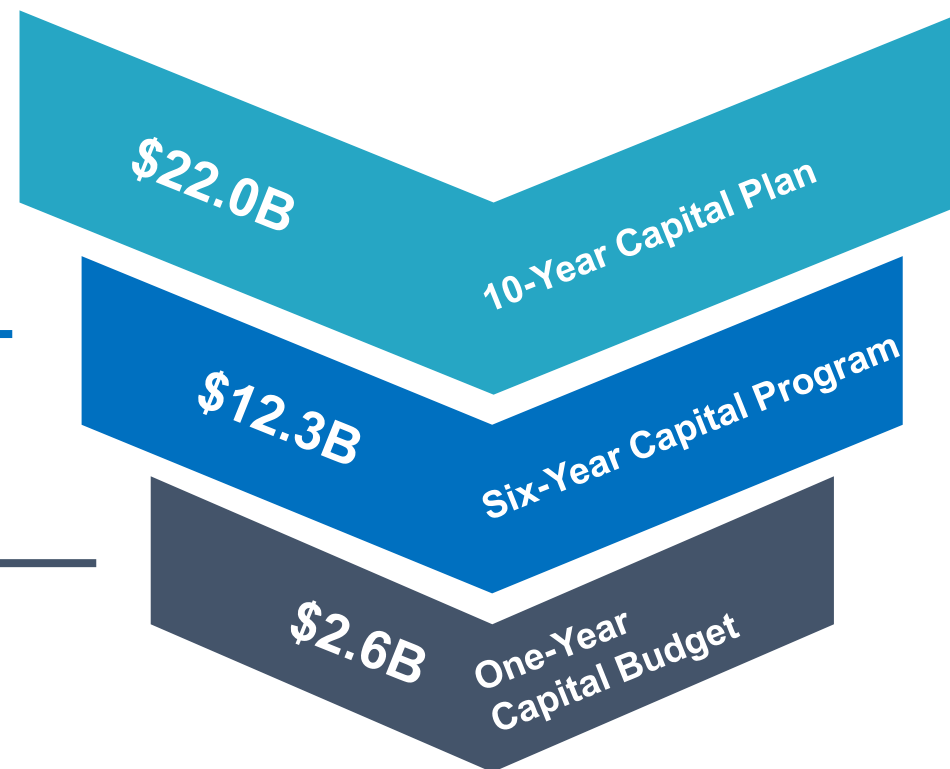
- Improve system safety, state of good repair, and reliability
- Rehabilitate, replace, and modernize the system
- Integrate resilience and sustainability
- Accelerate delivery of projects to address critical, long-standing needs
- Maintain fiscal accountability
 - 3% aggregate cap on jurisdictional capital assistance
 - Dedicated funding supported debt

Capital Program Development and Structure

10-Year Capital Plan
Identifies viable initiatives to address needs identified for next ~10 years; financially unconstrained

Six-Year Capital Improvement Program (CIP)
Capital investments planned for, or continuing in, six-year capital program

One-Year Capital Budget
Expenditure forecast for capital projects and programs in current budget year



Capital Program Overview

FY2021 Capital Program Progress

Advancing Safety & State of Good Repair Improvements

\$1.84B

Invested in FY2021

Largest Annual Capital Investment



Platform Phase 2 – two of four stations rehabilitated over Summer 2020 reopened ahead of schedule – East Falls Church and West Falls Church



Platform Phase 3 – two stations rehabilitated over Spring 2021 – completed 12 stations slated for platform reconstruction in Virginia



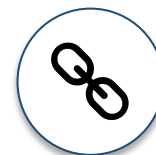
Faregate Modernization – new faregates installed at six pilot stations prior to systemwide replacement effort to improve safety and customer experience



Escalator Replacement – started new contract for 130 escalators across 32 stations – Gallery Place completed 6 weeks ahead of schedule



Signal System Rehabilitation in Alexandria Rail Yard – improves safety, reliability, and on-time rail service performance



Interlocking System Upgraded at Fort Totten – allows trains to safely cross tracks

Capital Program Outlook

- Over \$2 billion to be invested in FY2022
- Accelerating safety and state of good repair programs during period of lower ridership
- Advancing critical safety and state of good repair projects including next phases of platform program, bridge and tunnel structural rehabilitation, and tunnel ventilation pilot
- Continuing to develop project pipeline, needs identification, and delivery efficiencies

Safety
Reliability
State of Good Repair

Metrorail Capital Investments Safety, Reliability & State of Good Repair



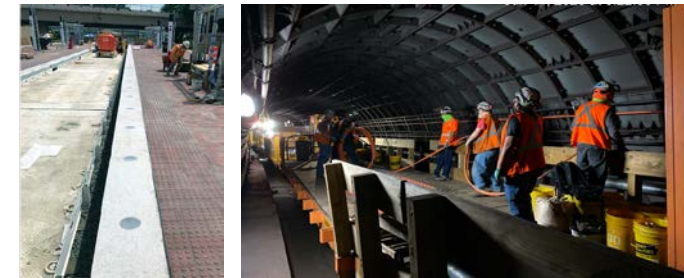
Rail

- Railcar Acquisition & Testing – 8000 Series
- Yellow Line Portal Tunnel Remediation
- Aerial Structure & Bridge Rehabilitation
- Radio Infrastructure Replacement
- Station Platform Rehabilitation
- Traction Power State of Good Repair
- Ventilation Improvements – Red Line Pilot
- Water Leak Mitigation in Tunnels
- Track Rehabilitation Program
- Train Control Rehabilitation
- Railcar Preventive Maintenance & Rehab
- Railcar Heavy Repair & Overhaul Facility
- Escalator & Elevator Replacement/Rehab

Capital Program Outlook

FY2023 Projected
Capital Budget
Range **~\$2.3 - \$2.5B**

FY2023-FY2028
Projected Capital
Program Range **~\$12 - \$13B**



Metrobus & MetroAccess Capital Investments Safety, Reliability & State of Good Repair

Capital Program Outlook

FY2023 Projected
Capital Budget
Range **~\$2.3 - \$2.5B**

FY2023-FY2028
Projected Capital
Program Range **~\$12 - \$13B**



Bus & Paratransit

- Bus Acquisition/Replacement
- MetroAccess Vehicle Acquisition
- Bus Preventive Maintenance & Rehabilitation
- Bus Garage Replacements – Northern & Bladensburg
- Bus priority – Roadway & Signal Improvements (with jurisdictions)
- Zero Emission Bus Implementation



Operations & Support Capital Investments Safety, Reliability & State of Good Repair



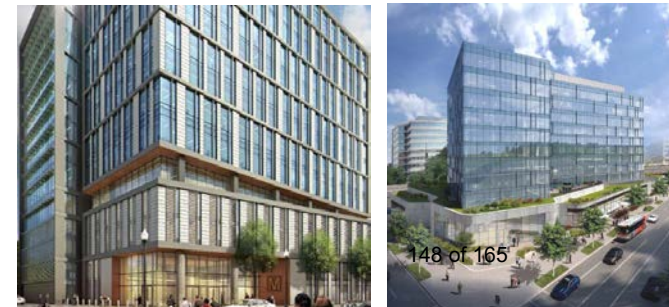
Operations & Admin Support

- IT System Preservation
- Office Consolidation – DC, MD, VA
- New Data Center IT Infrastructure & Equipment
- Roof Replacement
- Financial System Replacement
- Fare Collection System Replacement

Capital Program Outlook

FY2023 Projected
Capital Budget
Range **~\$2.3 - \$2.5B**

FY2023-FY2028
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Program Range **~\$12 - \$13B**



Addressing Overdue Needs and Sustaining Safety & SGR

Regional & Federal Investment Addressing Overdue Needs & Supporting Programs to Sustain Safety and SOGR

ADDRESSING OVERDUE CAPITAL NEEDS

Substantial Progress (*Highlights*)

- Replacement of Legacy Railcars with 7000 Series
- Track Rehab & SafeTrack
- Platform Program – 17 Stations Complete

More To Do to Catch Up (*Priority Needs*)

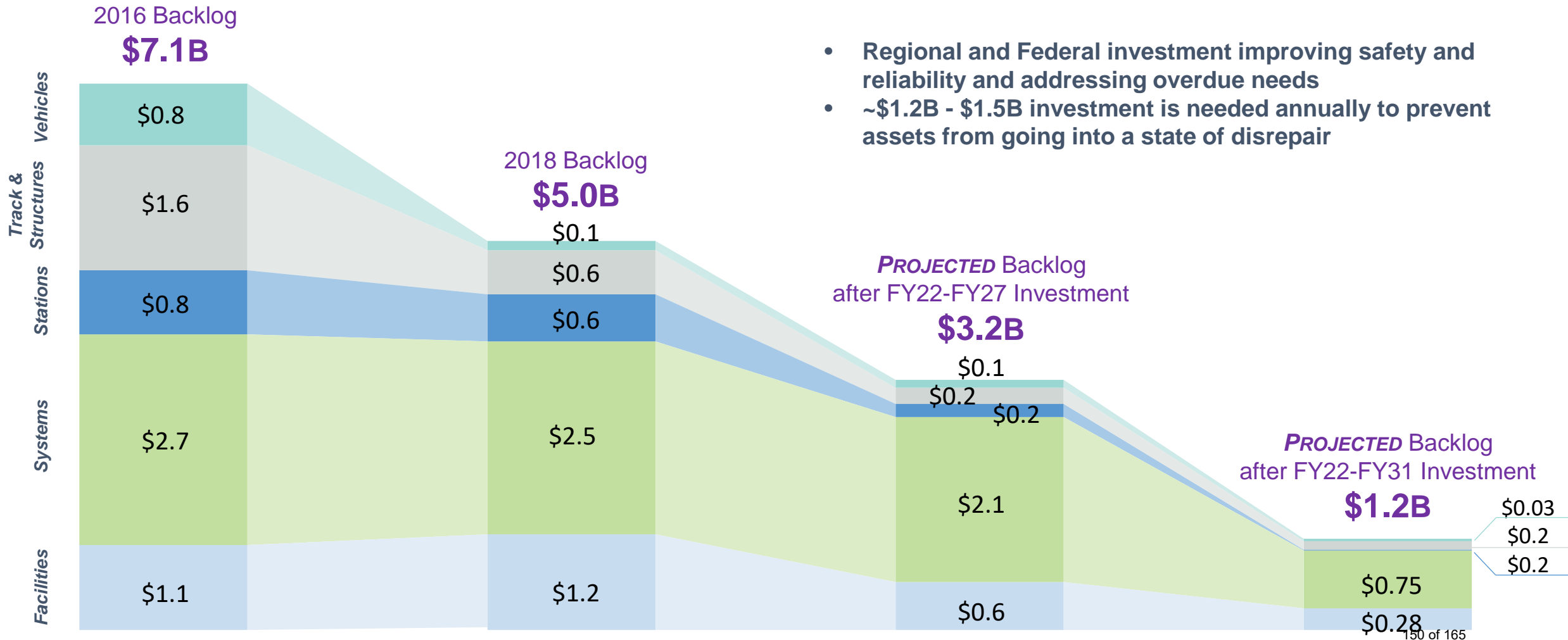
- Structures - Bridges, Platforms, Tunnels
- Systems - Train Control, Radio and Comms, Power
- Facilities - Bus Divisions, Rail Maintenance, Offices

INVESTING IN ONGOING PROGRAMS TO SUSTAIN SAFETY & SOGR

Recurring & Cyclical Maintenance, Rehabilitation & Replacement Programs

- | | | | |
|------------------------|--------------------------|--------------------|---------------------------|
| • Buses | • Track | • Traction Power | • Bus Customer Facilities |
| • Railcars | • Parking Facilities | • Signal Systems | • Bus, Rail & Admin |
| • Paratransit Vehicles | • Elevators & Escalators | • Lighting Systems | Maintenance Facilities |
| • Service Vehicles | • Mechanical Systems | • Cooling Systems | |

Investment Reducing State of Good Repair Backlog (\$B)

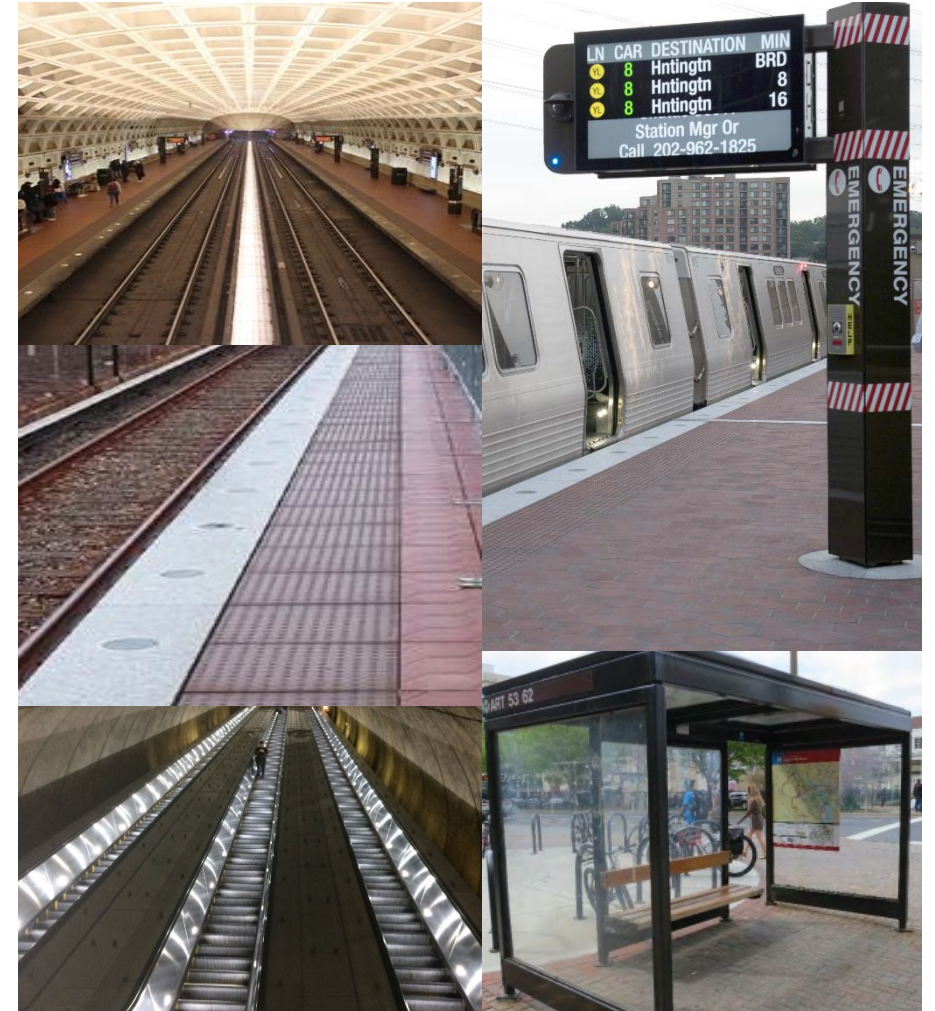


- Regional and Federal investment improving safety and reliability and addressing overdue needs
- ~\$1.2B - \$1.5B investment is needed annually to prevent assets from going into a state of disrepair

Progress assumes full implementation of the Six-year CIP and 10-Year Plan. Excludes expansion and major enhancements.

Next Steps

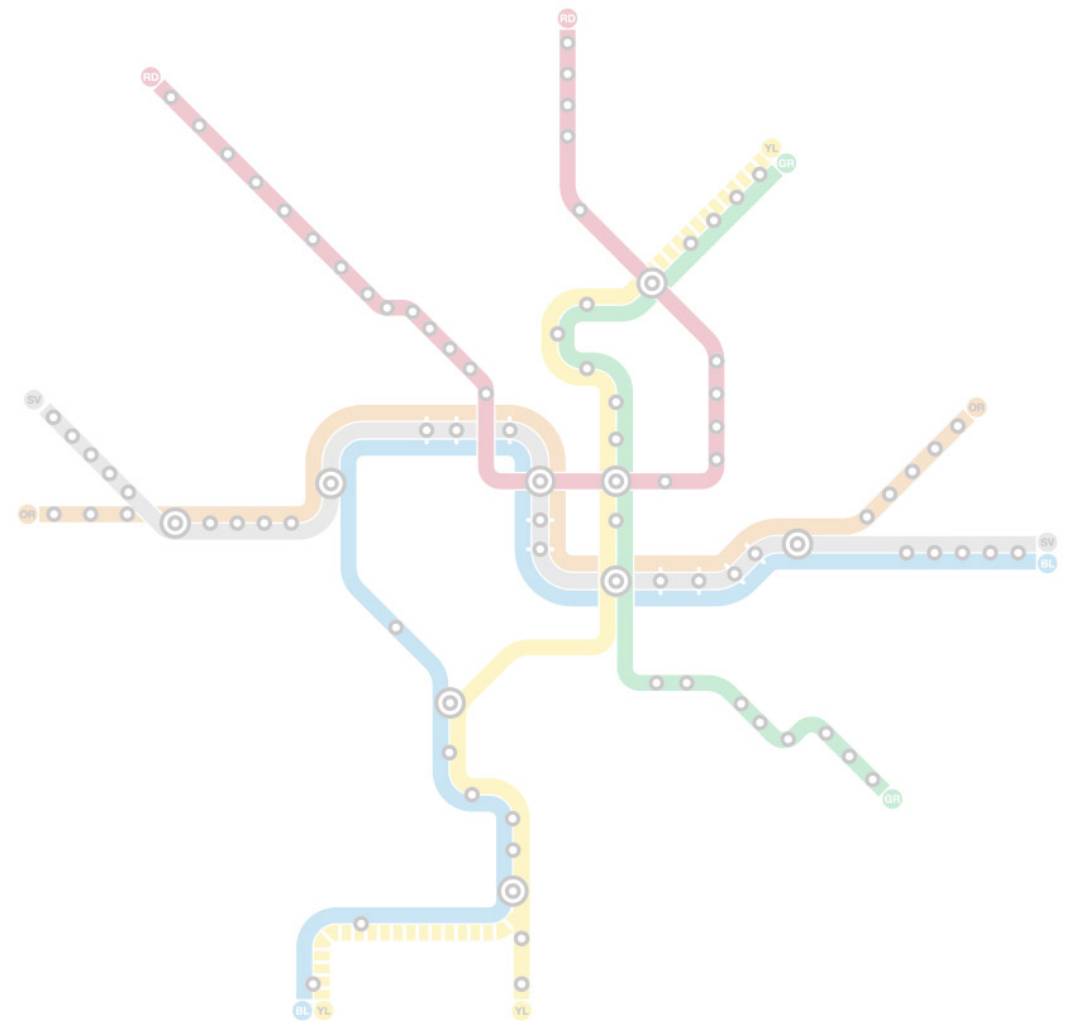
- **Fall:**
 - Propose Six-Year CIP, FY2023 Capital Budget, and 10-Year Capital Plan
- **Winter:**
 - Budget work sessions & public hearings
- **Spring:**
 - Board adoption of CIP & Capital Budget (March)



Upcoming Projects

Project Execution Planning

- Near Term Focus (FY2022)
 - Design & Procurement
 - Yellow Line Tunnel & Bridge Rehabilitation
 - Construction
 - Platform Rehabilitation – Phase 4
 - Northern Bus Garage Replacement
 - Tunnel Ventilation Pilot



Yellow Line Tunnel & Bridge Rehab

- Steel lined tunnel has excessive corrosion and section loss from stray current impacts and water penetration
- Scope includes tunnel liner, dry standpipe, and bridge repair
- First Construction Manager At Risk (CMAR) – construction anticipated in Spring 2022
- Additional scope identified – bridge corrosion control, tunnel crack repairs, and systems cable replacement



L-Line Tunnel

Platform Improvement Project – Phase 4

- Final phase of 20 outdoor stations
 - 17 complete; remaining three stations in Summer 2022
- Scope includes:
 - Platform rehabilitation and station upgrades at Cheverly, Landover, and New Carrollton
 - Station upgrades at Minnesota Ave. and Deanwood
- Additional scope includes five bridges & aerial structures
- Contract awarded in Summer 2021
- Awarded contract value – \$267M



Northern Bus Garage Replacement

- Garage closed in July 2019
- Scope of new facility includes:
 - Support of 100% electric vehicles at opening
 - 590K SF with storage for 150 buses
 - Commercial/retail and community space
 - LEED certified
- Contract awarded in Summer 2019
 - Progressive D/B converted to Hybrid Design-Build CMAR in March 2020



Façade of existing Northern Bus Garage

Northern Bus Garage Replacement

- Mayor's Agent approval September 2021
- 90% designs due late Fall 2021
- Demolition/construction anticipated to start Spring 2022 and take approximately four years
- Service impacts include bus routes adjustments
- Bus storage/maintenance moved to other garages
- Art-in-Transit fencing during construction for community aesthetics



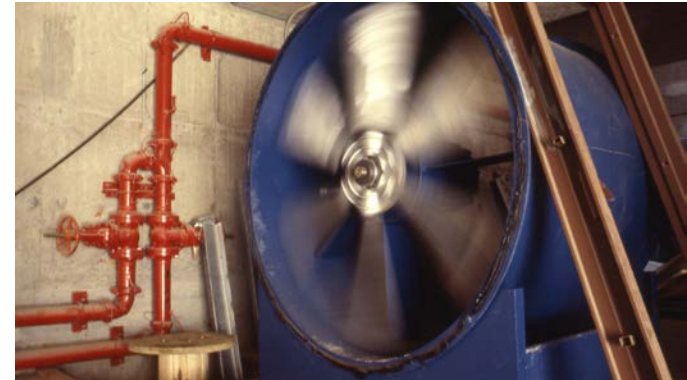
Proposed design for new Northern Bus Garage



Proposed AIT fencing

Tunnel Ventilation System Modifications – Pilot

- NTSB recommendation to upgrade ventilation
- Pilot project in tunnel shafts between Woodley Park and Cleveland Park stations to add fans and platform dampers
- Leveraged advanced computational models to assess location and inform designs
- Awarded contract value – \$34M
- Construction underway – expected completion by Summer 2022



Tunnel ventilation fan



Construction of fan platform in tunnel shaft

Public Outreach

- WMATA website, news releases, and project websites inform customers about:
 - Planned service impacts
 - Alternate travel routes
 - Engagement opportunities
 - Expected project outcomes and benefits for riders and communities
- Visit wmata.com/initiatives/plans

Northern Bus Garage Project Updates

Meetings and Events

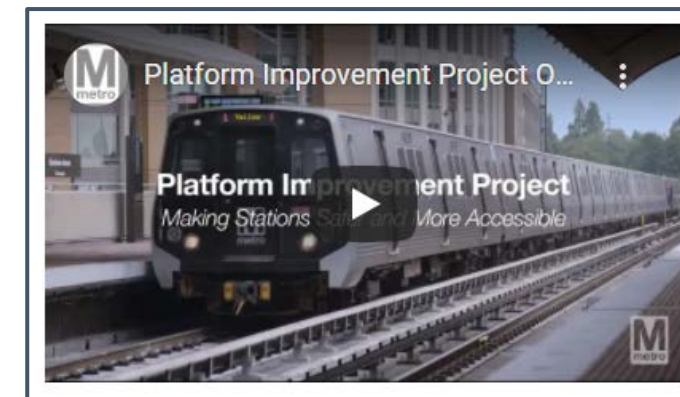
To join the project's community contact list or request additional information, please send an email to MCAP_NBG_Reconstruction_Project@wmata.com

Event	Date	Documents
Virtual Fall Community Engagement Meeting	September 21, 2021	Presentation
Virtual Summer Community Engagement Meeting	June 15, 2021	Video recording Q & A
Virtual Spring Community Engagement Meeting	March 16, 2021	Presentation Video recording Q & A
Community update (email)	January 29, 2021	Email
DC Historic Preservation Review Board Meeting	December 17, 2020	Presentation Presentation
Virtual Community Engagement Meeting #4 Final Design Presentation	November 17, 2020	Video recording Q&A

Public engagement calendar



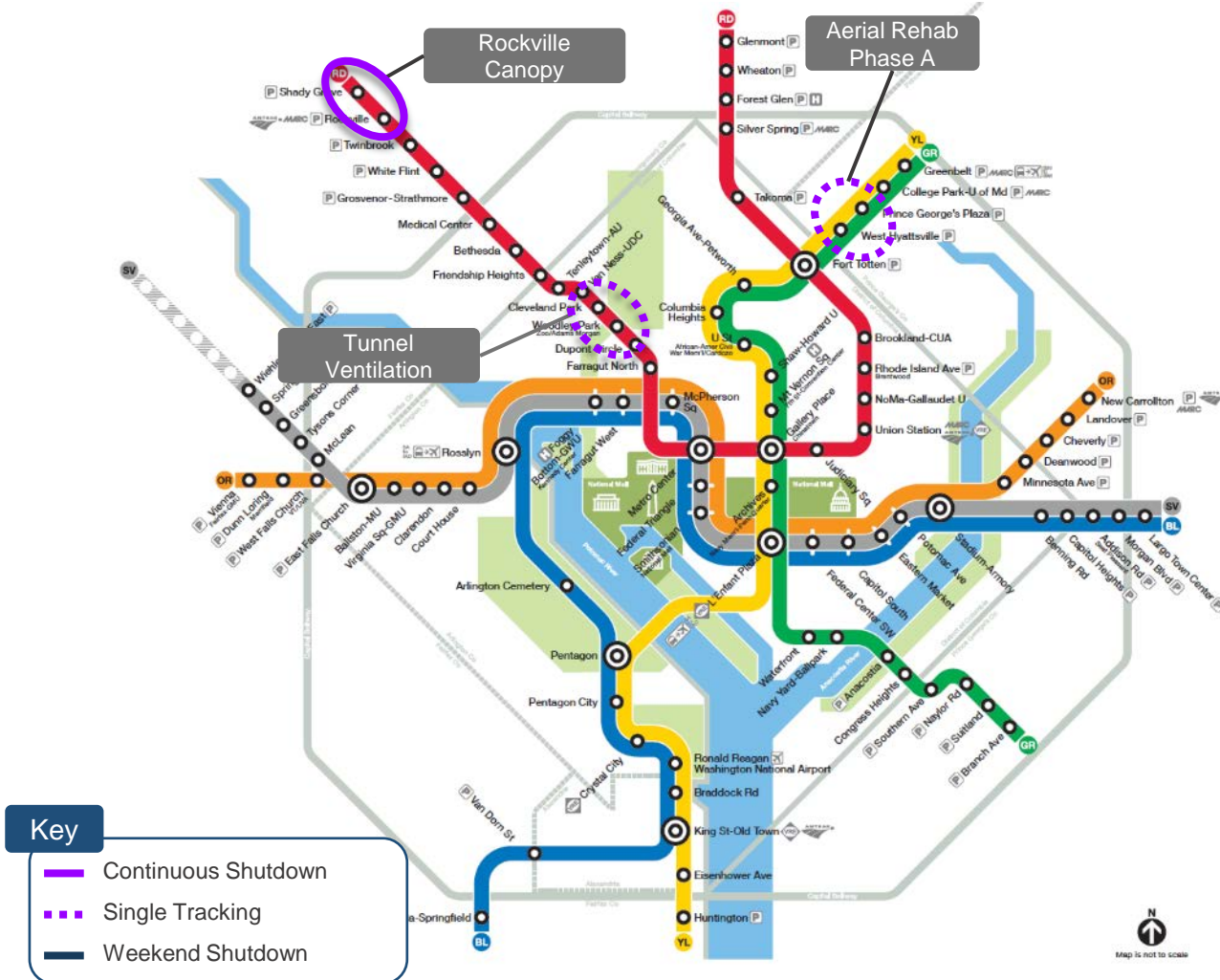
Customer information video



Customer information video

Major Outage Schedule

September 2021 through December 2021



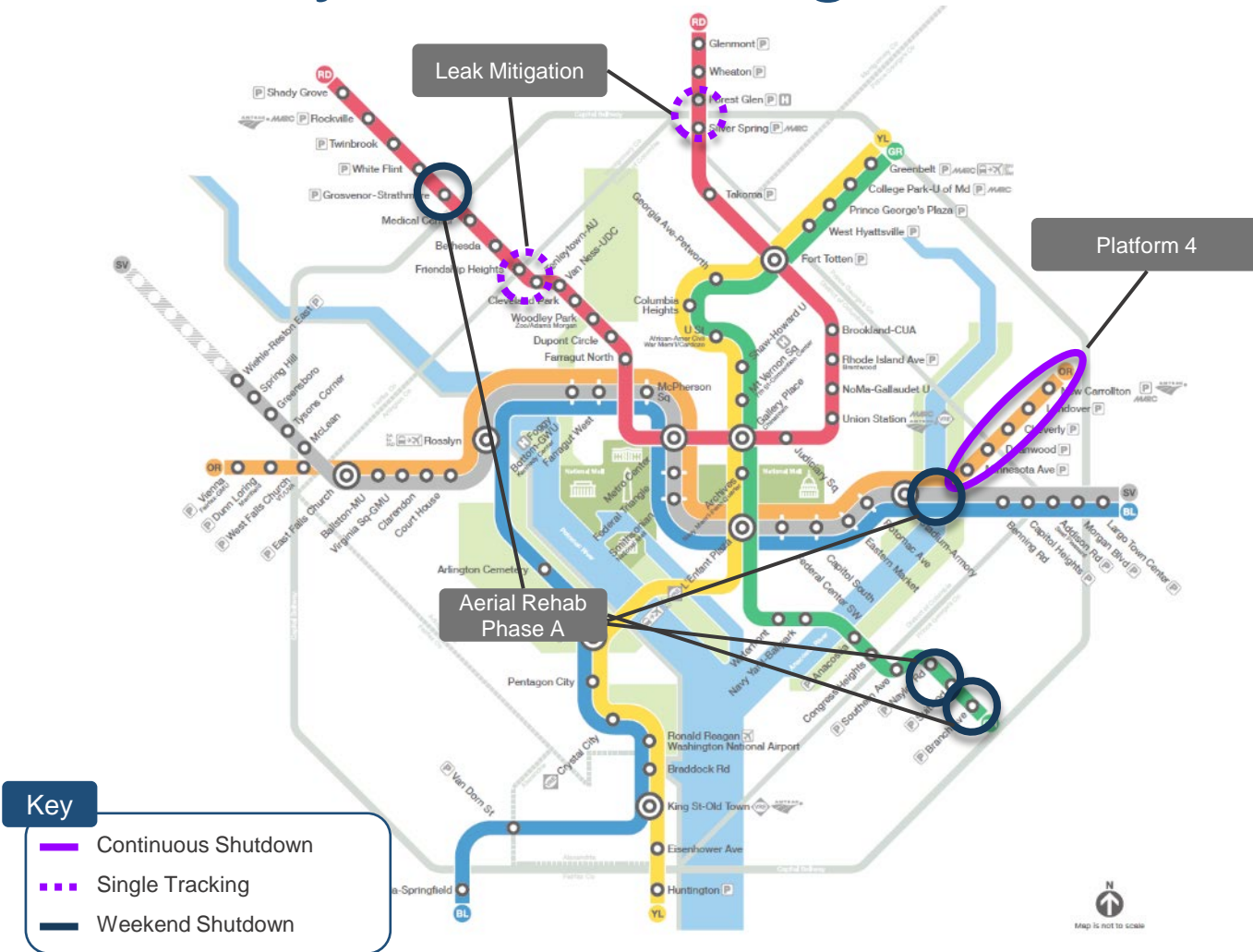
Tunnel Ventilation Pilot – Dupont Circle to Van Ness

- Future Weekend Shutdown (WSD) events planned in 2022

Aerial Structure Rehab Phase A & Rockville Canopy

- Three-Month Continuous Shutdown from Rockville to Shady Grove
- Three-Weekend Single Tracking (WST) events on Green (E) Line north of Fort Totten to Prince George's Plaza

January 2022 through June 2022



Leak Mitigation

- Six Single Tracking (WST) weekends on Red Line between Silver Spring and Forest Glen

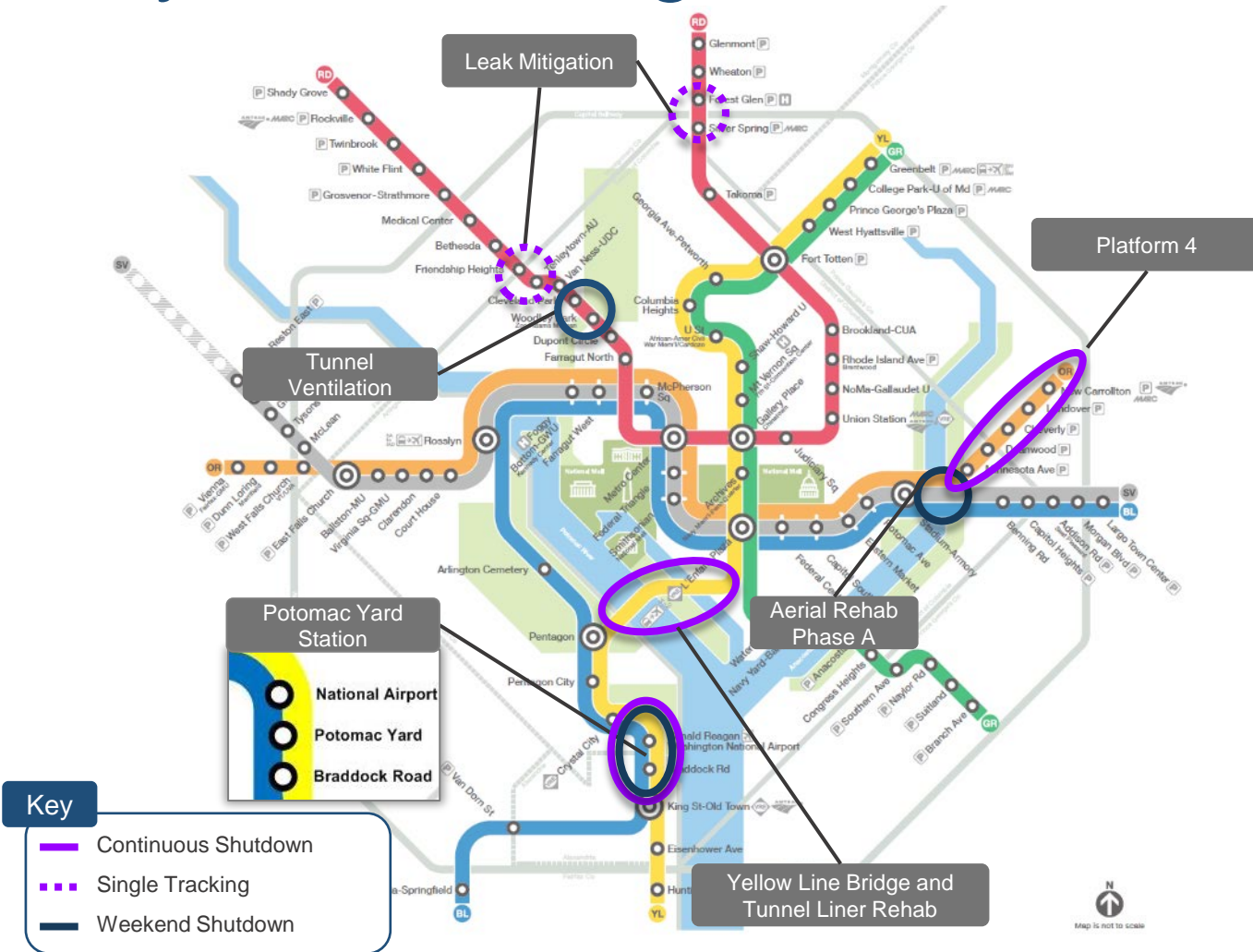
Platform 4

- Three Prep Weekend Shutdowns (WSD) on Orange Line from Minnesota Ave to New Carrollton
- Summer Shutdown from Minnesota Ave to New Carrollton

Aerial Structure Rehab Phase A

- Four Weekend Shutdowns (WSD) at Grosvenor
- D&G prep work during Platform four WSDs
- two WSD on F-Line

July 2022 through December 2022



Yellow Line Bridge and Tunnel Liner Rehab

- Extended Shutdown between Pentagon and L'Enfant anticipated Fall 2022, still working through specific construction duration

Tunnel Ventilation (Fans/Dampers)

- Four Weekend Shutdowns (WSD) between Cleveland Park and Woodley Park

Potomac Yard Station

- Late Summer/early Fall shutdown for track cutover

Platform 4

- Summer Continuous Shutdown from Minnesota Ave to New Carrollton

Aerial Structure Rehab Phase A

- D&G prep work during Platform 4 WSDs

Leak Mitigation

- Nine Single Tracking Weekends (WST) between Silver Spring and Forest Glen
- Three WST events between Tenleytown-AU and Friendship Heights