



Capital and Strategic Planning Committee

**Item III - B
May 10, 2018**

Station Platform Reconstruction Capital Project

Washington Metropolitan Area Transit Authority
Board Action/Information Summary

Action Information

MEAD Number:
201993

Resolution:
 Yes No

TITLE:

Station Platform Reconstruction

PRESENTATION SUMMARY:

Update the Board on the FY19 Capital Program with information on the plan for a 3-year station platform reconstruction project to address structural deficiencies and improve passenger safety. Also provide information on two jurisdictional transportation projects that will impact passenger service during this period.

PURPOSE:

To provide information to customers and stakeholders about upcoming service adjustments that will be necessary to complete safety projects, and provide a year's advance notice during the contracting process to develop traffic mitigation and customer options.

DESCRIPTION:

Key Highlights:

- 20 of Metro's 45 outdoor stations in the Metro Rail System require near term repairs to platforms that are structurally deficient after decades of exposure to weather and de-icing agents
- While temporary measures have been installed where needed to stabilize the platforms and ensure rider safety until reconstruction can take place, over the next three summers, rebuilding platforms is a necessary safety project
- The rebuilding process will require shutting down Blue and Yellow Line stations in Alexandria (south of National Airport) from Memorial Day to Labor Day next year (2019)

Background and History:

Platforms at 10 of the 45 outdoor station were previously rebuilt and the process was neither efficient nor customer friendly.

- Extensive set-up and take down of work zones and temporary measures limited productivity and extended project duration

- Customer access was greatly restricted
- Bad weather (rain, excessive cold) create delays for concrete work

The most recent platforms were rebuilt at Minnesota and Deanwood Avenue Stations. The stations remained open during reconstruction (i.e. no rush-hour service impacts). Work occurred only during nights and weekends resulting in low productivity due to set up and take down time of protective measures at the work zones. The temporary measures to protect areas under construction also created terrible customer experiences. Many customer complaints were received. Rebuilding platforms at these two stations took three years.

Discussion:

Staff proposes to reconstruct the platforms at 20 stations, between May of 2019 and September 2021, utilizing a continuous work plan. This would be a \$300-\$400 million project over the three years.

The work would require extended shutdowns on portions of the system each year between Memorial Day and Labor Day (when ridership is lighter). Platform reconstruction would continue during the remainder of the year with limited single tracking or shorter duration shutdowns that minimize the service impacts for customers.

Extensive internal planning has occurred over the last several months with the goal of minimizing customer impact. Additionally, staff solicited industry input for rebuilding platforms to maximize efficiency and minimize the duration of customer inconvenience. The phases of the program were developed by:

- Grouping stations based on platform conditions and location
- Evaluating station configurations and service impacts (side platform vs. center platform)
- Examining cross-over proximity to stations and station proximity to the end of a line
- Considering impact of work at any one station on the remainder of the line
- Maximizing service across the whole system during the shutdown

The proposed phases are listed below:

Phase I

Summer 2019: Braddock Road, King Street & Eisenhower Ave (Shutdown BL/YL south of National Airport)

September 2019: Van Dorn Street (Continuous single tracking affecting Blue Line only)

October – December 2019: Franconia-Springfield (No significant service impacts expected)

January – May 2020: National Airport & Huntington (No significant service impacts expected)

Phase II

Summer 2020: West Hyattsville, College Park, Greenbelt
September 2020: Rhode Island Avenue

Phase III

Summer 2020: Vienna and Dunn Loring
September – December 2020: West Falls Church
Winter 2021: East Falls Church

Phase IV

Summer 2021: Cheverly, Landover & New Carrollton
September – December 2021: Addison Road
September 2021: Arlington Cemetery

While the stations are closed during the summer of 2019, below is a partial list of other work that will take place:

- Demolish Huntington Parking Garage
- Repair rail bridge near the Van Dorn Station
- Install a new crossover north of King Street Station
- Replace traction power equipment for three substations
- Conduct a repair blitz of the Alexandria Rail Yard
- Commence invasive work for the Potomac Yard Station
- Repair crossover at Huntington Station

Staff are also developing plans for station improvements to be implemented during the outages.

In preparation for the outages, staff will conduct advance planning with the jurisdictions and partnering agencies to develop traffic mitigations and customer travel alternatives. Additionally customers will be given at least three months advance notice of service impacts and alternatives.

FUNDING IMPACT:

This is an information item that does not impact the budget	
Project Manager:	John Thomas
Project Department/Office:	COO/DECO

TIMELINE:

Previous Actions	Analyze different approaches for rebuilding platforms
Anticipated actions after presentation	May 2019 - Commence reconstruction

Station Platform Reconstruction Capital Project

Capital and Strategic Planning Committee
05/10/2018



Purpose

- Updating the FY19 Capital Program with plan for 3-year station platform reconstruction project to address structural deficiencies and improve passenger safety
- Inform the Board of two jurisdictional projects that will also impact passenger service during this period

State of Platforms

- 45 outdoor stations – concrete platforms have been exposed to weather and de-icing agents for decades
- Platforms built 35-40 years ago are now deteriorating
 - 10 stations already have rebuilt platforms
 - 15 stations have platforms in good condition
 - 20 stations have platforms requiring immediate attention; temporary measures installed where needed to stabilize and ensure safety until reconstruction occurs
- Concrete repair is a necessary safety project

State of Platforms



Braddock Road Station



King St Station



Van Dorn Station

Platform Rebuilding – Challenges

- Extensive set-up and take down of work zones and temporary measures limits productivity and extends project duration
- Customer access restrictions if stations remain open
- Bad weather (rain, excessive cold) delays concrete work



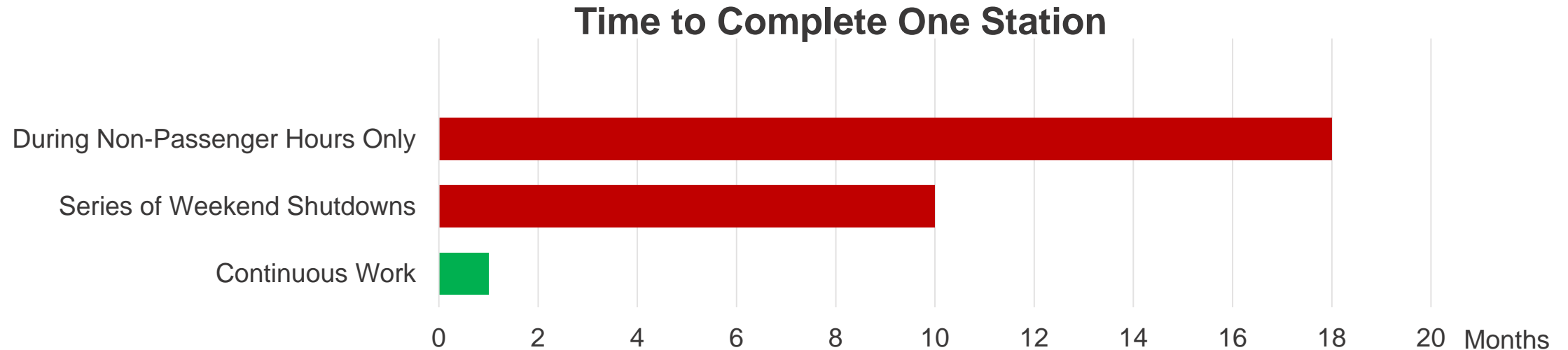
Platform Rebuilding – Recent Experience

- Minnesota Avenue and Deanwood
 - Stations remained open, no rush-hour service impacts
 - Work occurred during nights and weekends
 - Negative Customer Experience
 - Limited available platform space for customers
 - Difficult to maneuver around work zone
 - Construction site with equipment blocking access
 - Clutter and mess
 - Low daily productivity due to set up and take down time
 - Rebuilding platforms at just two stations took three years





Efficiency Comparison



- Working overnight only would take up to **30 years** to complete 20 stations
- Providing 24/7 track access **cuts project duration by up to 94%**, is **safer**, and **costs less**

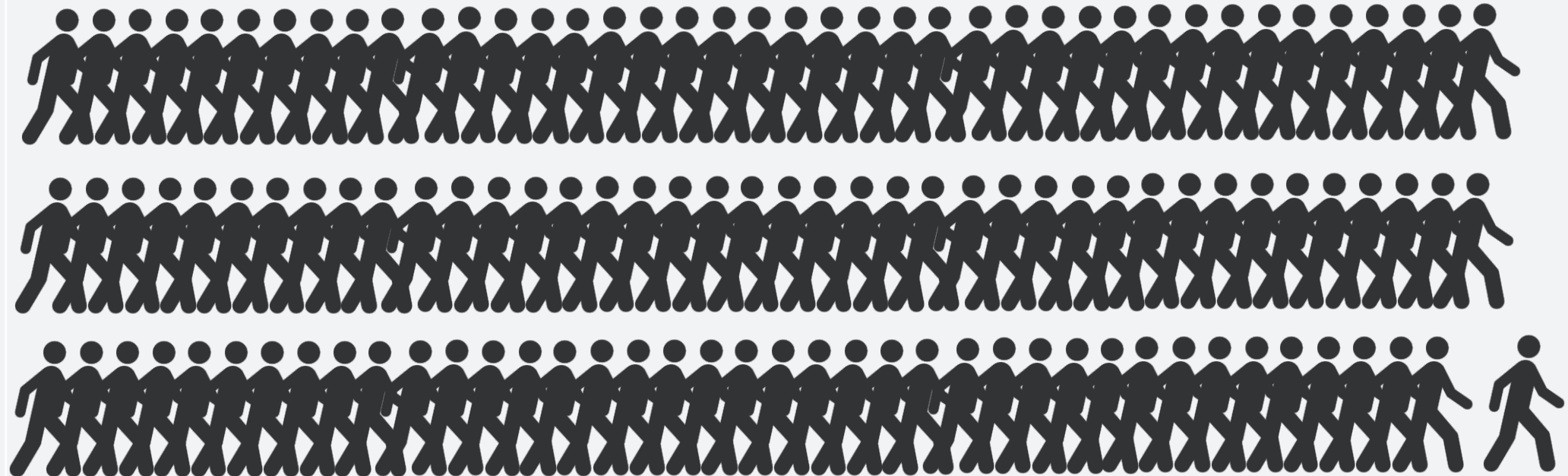


Minimizing Commuter Impact

Three months



Three Years



If Federal Employee John takes Metro to work and back home five days/week, he'll be inconvenienced by platform repairs at his station during 130 trips in three months vs. 1,560 trips in 3 years.

Project Plan

- Complete 20 stations between May 2019 – September 2021 utilizing continuous work plan
- \$300-\$400 million in capital funding over three years
- Extended summer shutdowns on portions of the system each year between Memorial Day and Labor Day (when ridership lighter)
- Work continues at other times of year with limited single tracking or shorter track outages to minimize service impacts
- Advance planning to coordinate with jurisdictions and partner agencies; provide customers at least three months advance notice of service impacts and mitigation options for riders

Implementation Strategy

- **Extensive internal planning has occurred for months with the goal of minimizing customer impact**
- Solicited industry input for rebuilding platforms
 - Two responses agreed – 3 stations in 90 days
- Grouping stations based on platform conditions and location
- Evaluating station configurations and service impacts:
 - Side platform vs. center platform
 - Examining cross-over proximity to stations and station proximity to the end of a line
 - Considering impact of work at any one station on the remainder of the line
 - Goal is to maximize service across the whole system

Implementation Strategy

- Complete work on nearby tracks and infrastructure:
 - Demolish Huntington Parking Garage
 - Repair rail bridge near the Van Dorn Station
 - Install a new crossover north of King Street Station
 - Replace traction power equipment for three substations
 - Conduct a repair blitz of the Alexandria Rail Yard
 - Commence invasive work for the Potomac Yard Station
 - Repair crossover at Huntington Station
- Improve stations during shutdowns

Phase I

Planning/contracting underway for the following:

- **Summer 2019:** Braddock Road, King Street & Eisenhower Ave (Memorial to Labor Day)
Shutdown BL/YL south of National Airport
- **September 2019:** Van Dorn Street
Continuous single tracking affecting Blue Line only
- **October – December 2019:** Franconia-Springfield
No significant service impacts expected
- **January – May 2020:** National Airport & Huntington
No significant service impacts expected

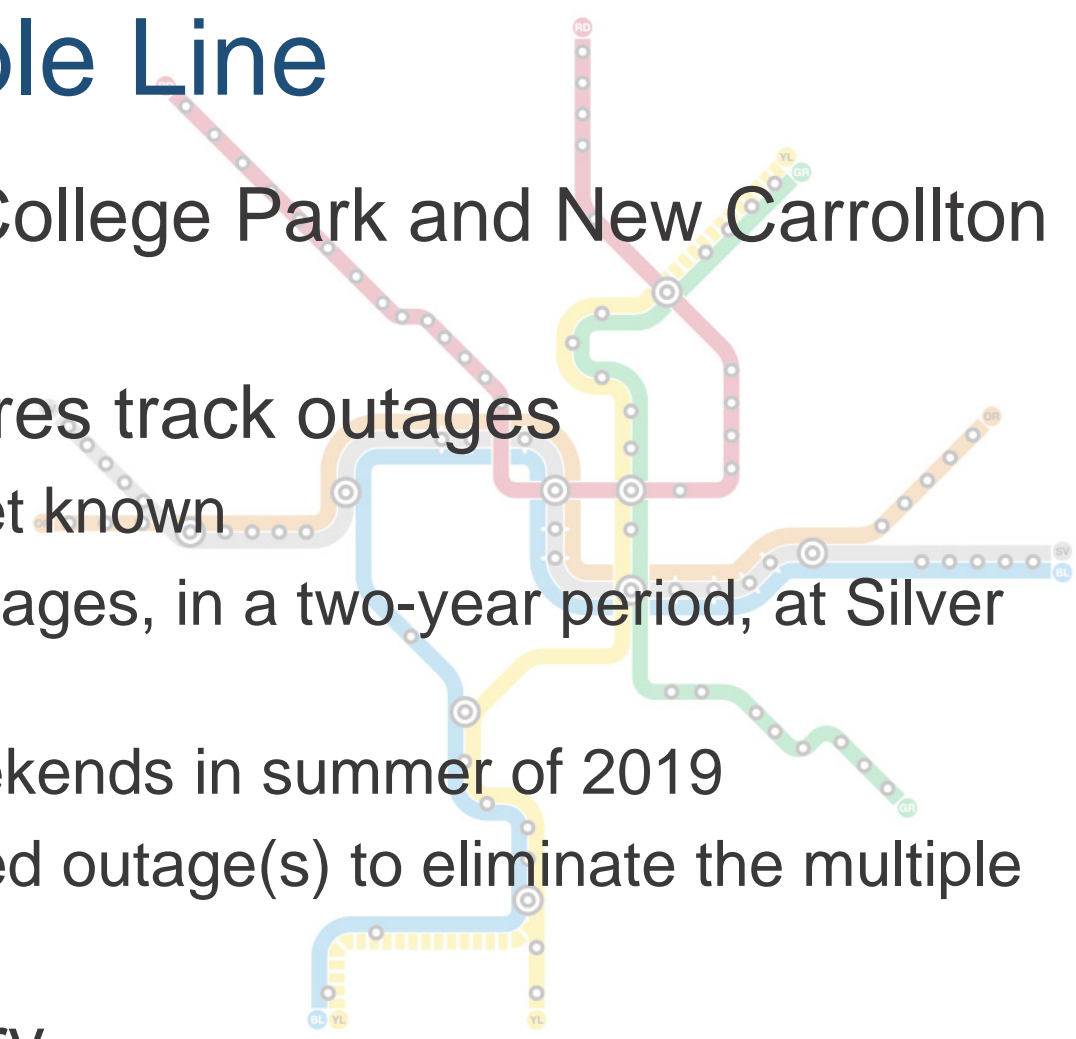


Phases II – IV

- **Phase II**
 - Summer 2020: West Hyattsville, College Park, Greenbelt
 - September 2020: Rhode Island Avenue
- **Phase III**
 - Summer 2020: Vienna and Dunn Loring
 - September – December 2020: West Falls Church
 - Winter 2021: East Falls Church
- **Phase IV**
 - Summer 2021: Cheverly, Landover & New Carrollton
 - September – December 2021: Addison Road
 - September 2021: Arlington Cemetery
- **Service impacts to be determined**

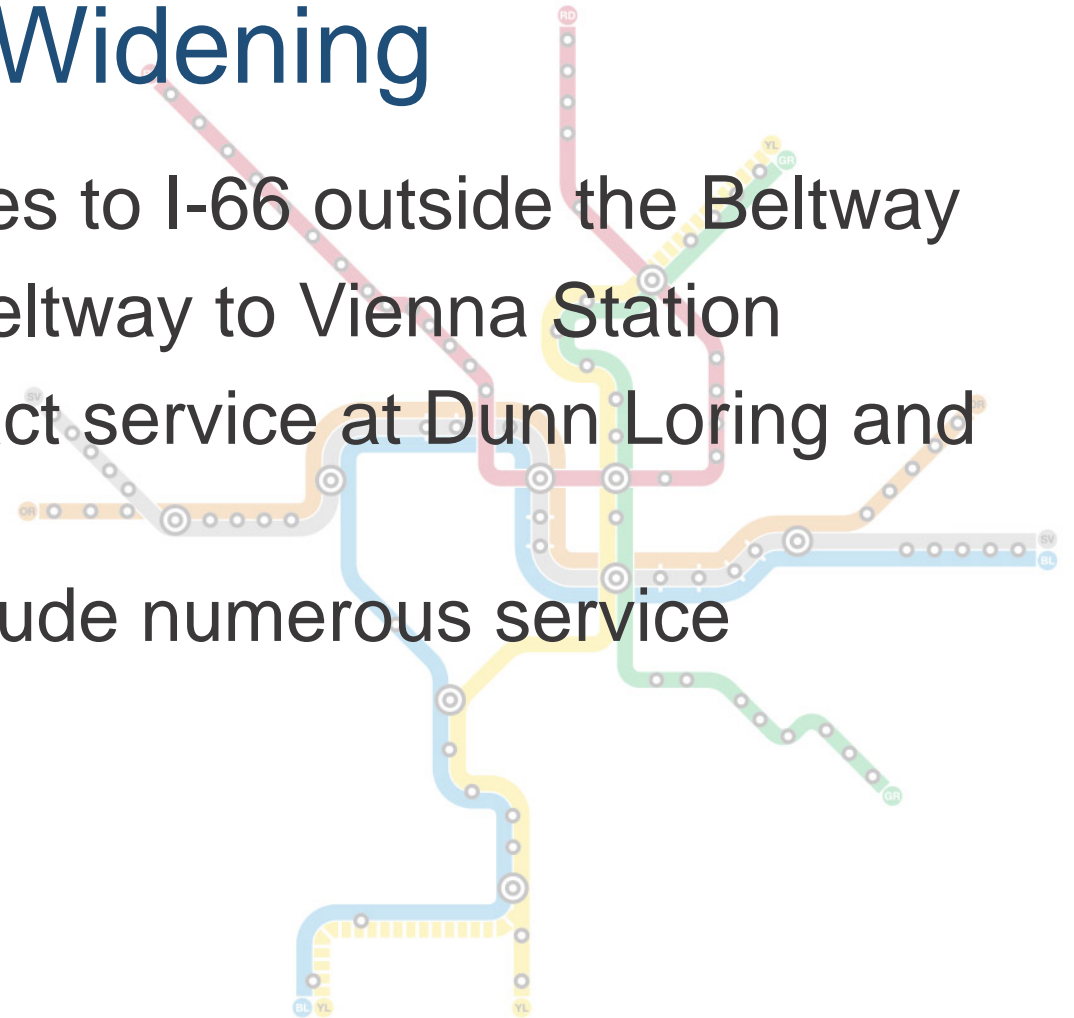
Other Service Impacts: Purple Line

- Connects to Bethesda, Silver Spring, College Park and New Carrollton Stations
- Bethesda and Silver Spring work requires track outages
 - Impacts to rail service at Bethesda not yet known
 - Contractor has identified 20 weekend outages, in a two-year period, at Silver Spring
 - Schedule includes eight consecutive weekends in summer of 2019
 - Discussions are underway about extended outage(s) to eliminate the multiple weekends currently proposed
- CSX and MDOT coordination necessary



Other Service Impacts: I-66 Widening

- Virginia (VDOT) contract to add toll lanes to I-66 outside the Beltway
- Widening will impact all bridges from Beltway to Vienna Station
- Bridge work over Orange Line will impact service at Dunn Loring and Vienna Stations
- Preliminary plans of I-66 contractor include numerous service shutdowns over three to four years



Next Steps

- Coordinate with jurisdictions and transportation partners to develop service alternatives for customers during Phase I
- Refine project schedules for six months advance public notice
- Continue contracting process for timely implementation