

Washington Metropolitan Area Transit Authority

Board Action/Information Summary

☐ Action ☒ Information

MEAD Number:
201958

Resolution:
☐ Yes ☒ No

TITLE:

FY2018 Second Quarter Capital Program Update

PRESENTATION SUMMARY:

This presentation provides an overview of Metro's performance in executing the FY2018 Capital Program from both a project delivery and financial perspective.

The presentation highlights several key projects that were delivered or progressed significantly during FY2018.

PURPOSE:

Management will update the Capital and Strategic Planning Committee on the status, delivery and success of the FY2018 Capital Program.

DESCRIPTION:

Key Highlights:

- \$505 million of capital investments were made through the second quarter. Full year capital investment is forecasted between \$1.1 and \$1.2 billion, compared to a budget of \$1.25 billion.

Background and History:

Metro's original FY2018 capital budget of \$1.25 billion includes funding to repair, rehabilitate, and replace Metro's capital assets, including vehicles, stations, track and structures, power, yards and garages and business support.

Discussion:

Capital Investment Program

Metro invested \$505 million in its capital program thru December 2017, compared to a budget of \$578 million. Full year capital investment is forecasted between \$1.1 and \$1.2 billion, compared to a budget of \$1.25 billion.

Capital projects fall into one of the following phases: development and evaluation (D&E), design, or construction or implementation. We will highlight

projects in each phase.

D&E Phase

D&E phase provides funding for evaluation, planning, and development for potential capital projects. The D&E process helps to ensure that projects have clearly defined scopes, schedules, and cost estimates with appropriate consideration for risks and alternative solutions. Project funding is allocated when initiatives are sufficiently developed to advance to the next stage. The 27 projects in the D&E phase include rail yard phase II, bridges, red tag switching, Gallery Place station capacity improvement, and knowledge management repository.

Design Phase

The design phase develops scopes of works into biddable documents. There are 16 projects in the design phase, including Potomac Yard, 8000 series railcars, and Foggy Bottom and Farragut West station enhancements.

Construction and Implementation Phase

The construction and implementation phase is the project delivery process. Highlights of the 75 projects in construction and implementation include:

- 7000 Series Railcars: An investment of \$144.3 million was realized for the 7000 series railcars by the end of second quarter. The overall project was 63% complete with a total of 472 new railcars accepted through December 2017. Conditional acceptance of 100 replacement cars is expected to be completed by March 31, 2018.
- Railcar Rehabilitation: Railcar rehabilitation investment reached \$23.1 million year-to-date and the project is forecasting slightly below budget due to lower than expected spare parts costs. The project replaced railcar components, such as heating, ventilation, and air conditioning systems on the 2000/3000 series railcars, brake pads on the 2000/3000 series railcars, and battery assemblies on the 6000 series railcars.
- Track Rehabilitation: The Authority financed \$37.2 million in track rehabilitation year-to-date. Highlights include: crosstie renewal (12,227); fastener renewal (10,977); third rail rehab (1.1 miles); running rail (4.7 miles); switch rehabilitation (six); insulator renewal (3,573).
- Radio Infrastructure Replacement – T-band Relocation: Project implementation activities produced a \$12.1 million investment year-to-date. Major milestones include: College Park to Gallery Place cellular will be ready by June 2018; factory acceptance test for fixed network equipment, subscriber order and 95% of radio system design work will be completed by June 2018.
- Bus Replacement: The bus replacement project expended \$0.3 million year-to-date. Acceptance testing is expected to be completed in January

2018 and full scale of production to begin in February 2018.

- Bus Rehabilitation: Bus Rehabilitation investment year-to-date was \$22.3 million. Highlights include rehabilitation of 50 buses, replacement of 50 energy storage systems and the rebuilding of 60 transmission assemblies.
- Andrews Federal Center Bus Garage: Metro invested \$42.4 million in Andrews Federal Center Bus Garage through the second quarter. Retaining walls, membrane roofing installation and the precast concrete envelope have been completed.

FUNDING IMPACT:

This is an information item to present a progress report on the Capital Program. No specific action with a budget impact is requested at this time.

TIMELINE:

Anticipated actions after presentation	May 2018 – FY2018 third quarter capital progress report delivered to the Committee
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Capital and Strategic Planning Committee

Item III - A

February 8, 2018

FY2018 Second Quarter Capital Program Update



Washington Metropolitan Area Transit Authority

FY2018 Second Quarter Capital Program Update

Capital and Strategic Planning Committee
February 8, 2018

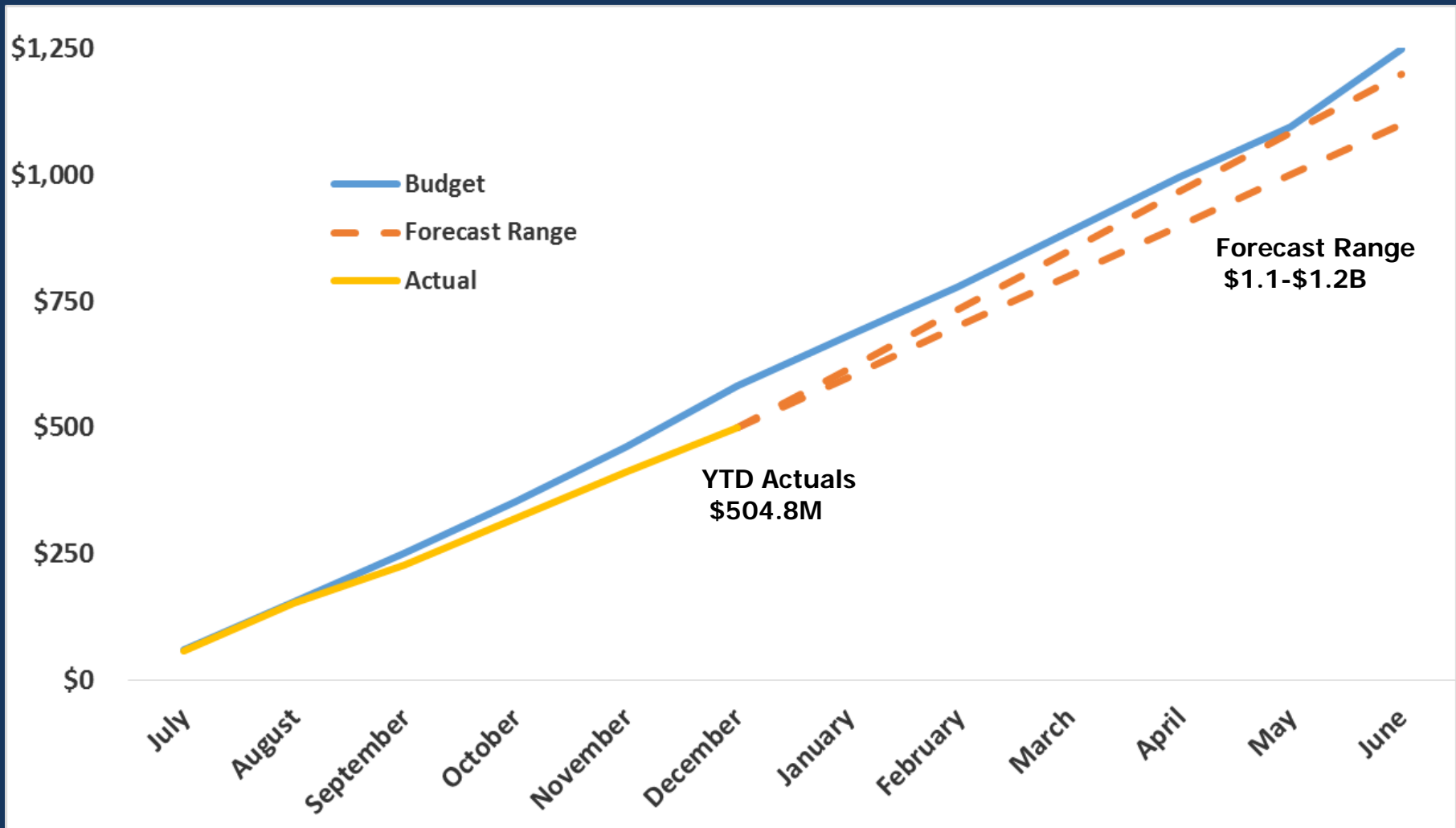


Purpose

- Provide FY2018 Second Quarter Capital Program update and highlight key capital projects



FY2018 Capital Investment



Project Phases



Development & Evaluation (D&E)

- Evaluation, planning and development for potential capital projects
- Development of scopes, schedules and cost estimates with appropriate consideration for risks and alternative solutions
- Current initiatives include rail yard phase 2 and bridges



Rail Yard Phase II

Budget (\$M): % Expended FY2018 – 1%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$0.9	\$0.0	\$0.9	\$0.0	\$0.9

Project Completion: 34%

Start Date		Finish Date
Planned	Actual	Planned
10/1/17	10/1/17	3/2/18



Milestones

- Review and prioritize rehabilitation needs at the yards to be completed January 2018
- Advertise Design/Build Procurement Package by March 2018

Bridge Structures

Budget (\$M): % Expended FY2018 – 0%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$0.6	\$0.0	\$0.6	\$0.0	\$0.6

Project Completion: 1%

Start Date		Finish Date
Planned	Actual	Planned
10/1/17	12/1/17	6/15/18



Milestones

- Review and evaluate expansion joint replacement January 2018
- Final evaluation review June 2018



Major Projects in Design

Scopes of works are progressed through design phase and developed into biddable documents

- Potomac Yard Station
- Foggy Bottom and Farragut West Station Enhancements
- 8000 Series Railcars

Potomac Yard

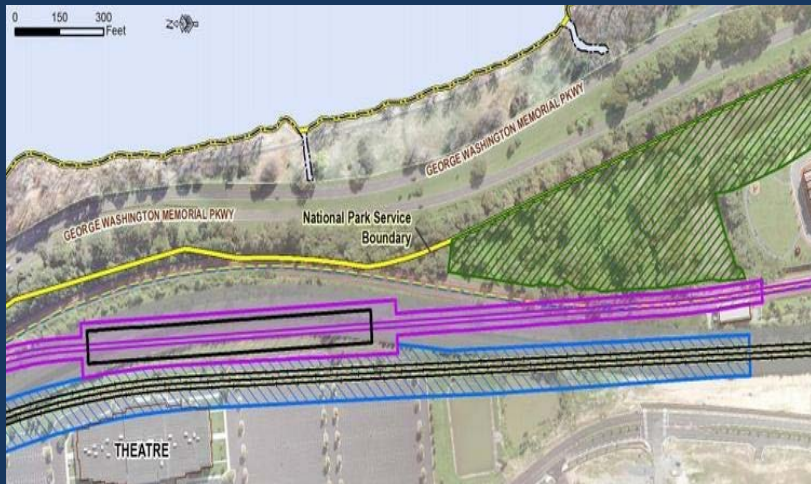
Budget (\$M): % Expended FY2018 – 12%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$16.3	\$9.2	\$5.3	\$0.8	\$2.3

Budget will be adjusted to meet contract award amount and memorandum of understanding (MOU)

Project Completion: 90%

Start Date		Finish Date
Planned	Actual	Planned
9/1/2010	9/1/2010	2/28/2018



Milestones

- Value engineering options complete January 2018
- Technical Proposals due February 2018

Foggy Bottom and Farragut West Station Enhancements

Budget (\$M): % Expended FY2018 – 12%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$0.8	\$0.1	\$0.6	\$0.1	\$0.6

Project Completion: 9%

Start Date		Finish Date
Planned	Actual	Planned
10/1/17	10/18/17	9/18/18



Farragut West Station AM Peak Period

Milestones

- Alternatives Development complete by February 2018
- Egress Analysis and Evaluation Scan complete by April 2018
- Engineering Feasibility and Constructability Analysis complete by July 2018
- Order of Magnitude Cost Estimates complete by September 2018



8000 Series Railcars

Budget (\$M): % Expended FY2018 – 19%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$2.0	\$0.4	\$1.7	\$0.4	\$1.5

Budget will be adjusted to meet forecast.

Project Completion: 2%

Start Date		Finish Date
Planned	Actual	Planned
7/1/16	1/1/17	6/30/18



Milestones

- 2K/3K cars approaching 40 years.
- Timing of potential purchase and determination of quantity will be informed by fleet plan.
- Work with internal and external stakeholders to develop requirements for 8000 technical specification.
- Complete industry review to determine latest available technology.
- Develop specification for engineering support service.



Construction and Implementation Projects

Projects delivering planned scope of work

- 7000 Series Railcars
- Railcar Rehabilitation
- Track Rehabilitation
- Radio Infrastructure Replacement – T-Band Relocation
- Bus Replacement
- Bus Rehabilitation
- Andrews Federal Center Bus Garage

7000 Series Railcars

Budget (\$M): % Expended FY2018 42%

Project Completion: 63%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$1,709	\$978	\$326	\$144.3	\$325

Start Date		Finish Date
Planned	Actual	Planned
12/15/05	12/15/05	3/31/2024

Railcars Accepted	Railcars to be Accepted	Total Railcars to be Delivered
472	276	748



Milestones	Date
100 cars to replace 4000 series	3/2018
30 cars to partially replace 5000 series	12/2018
Remaining 146 cars to be delivered	7/2019



Railcar Rehabilitation

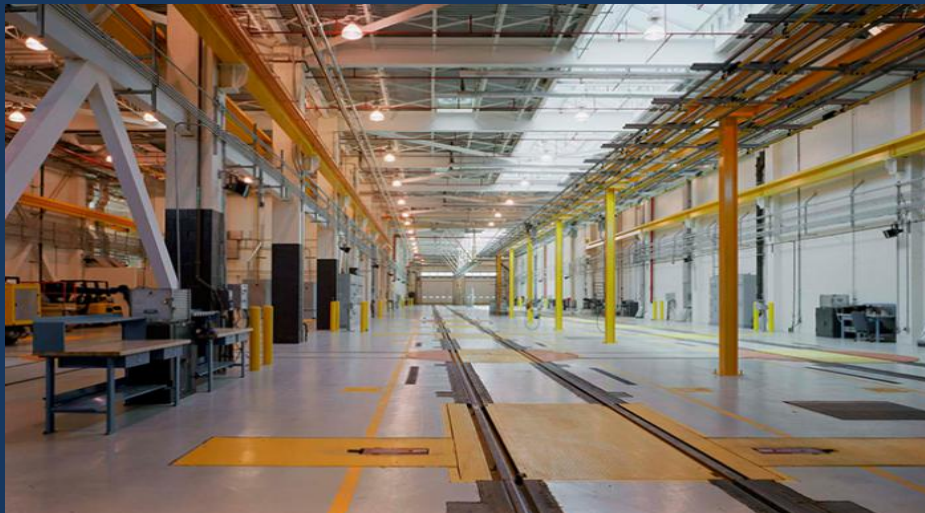
Budget (\$M): % Expended FY2018 - 41%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$55.9	\$23.1	\$55.9	\$23.1	\$52

Forecast reflects lower than budgeted costs for spare parts

Project Completion: 41%

Start Date		Finish Date
Planned	Actual	Planned
7/1/17	7/1/17	6/30/18



Components

- 2/3K HVAC Overhaul
- 2/3K Brake Pads
- 6K Railcar Battery Assemblies
- Railcar Exterior Vinyl Wrap Project
- Truck Repair

Track Rehabilitation

Budget (\$M): % Expended FY2018 - 45%

Project Completion: 45%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$81.8	\$37.2	\$81.8	\$37.2	\$69.5

Start Date		Finish Date
Planned	Actual	Planned
7/1/17	7/1/17	6/30/18

Forecast reflects low bid savings for new contracts and rescheduling of work due to manufacturing issues. Budget will be adjusted to meet forecast.



Component	Planned	Forecast	Q1&2 Actuals
Crosstie Renewal	13,000	15,000	12,227
Fastener Renewal	23,500	23,500	10,977
Third Rail Rehab.	2.5 miles	2.5 miles	1.1 miles
Running Rail	13.0 miles	13.0 miles	4.7 miles
Switch Rehabilitation	12	14	6
Insulator Renewal	14,000	14,000	3,573



Radio Infrastructure Replacement – T-Band Relocation

Budget (\$M): % Expended FY2018 - 25%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$333.4	\$47.3	\$47.6	\$12.1	\$73

Project was able to achieve a major milestone sooner than previously forecasted. Budget will be adjusted to meet forecast.



Project Completion: 15%

Start Date		Finish Date
Planned	Actual	Planned
4/1/15	4/1/15	12/23/22

Milestones

- College Park to Gallery Place cellular ready - June 2018
- Factory Acceptance Test for fixed network equipment (Contract Milestone) – June 2018
- Subscriber Order (all mobiles and high-end portables) – June 2018
- Radio system design 95% complete – June 2018



Bus Replacement

Budget (\$M): % Expended FY2018 – 1%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$63	\$0.3	\$63	\$0.3	\$39.7

Forecast reflects delay in the delivery of buses due to EFA regulation to procure clean fuel technologies to reduce emissions and lower fuel costs

Project Completion: 1%

Start Date		Finish Date
Planned	Actual	Planned
7/1/17	7/1/17	9/30/18



Milestones

- Acceptance testing expected to be completed January 2018
- Full scale production to begin February 2018
- Deliver of 66 40ft CNG buses by June 2018
- Deliver of 100 40ft CNG buses by September 2018



Bus Rehabilitation

Budget (\$M): % Expended FY2018 - 43%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$51.8	\$22.3	\$51.5	\$22.3	\$47.4

Forecast reflects procurement delivery delay of bus component parts

Project Completion: 43%

Start Date		Finish Date
Planned	Actual	Planned
7/1/17	7/1/17	6/30/18

Component	Planned	Forecast	Quarter 1 & 2 Deliverables
Buses Rehabilitated	100	100	50
Energy Storage Systems Replaced (ESS)	100	100	50
Engine Assemblies Rebuilt	100	100	50
Transmission Assemblies Rebuilt	120	120	60

Andrews Federal Center Bus Garage

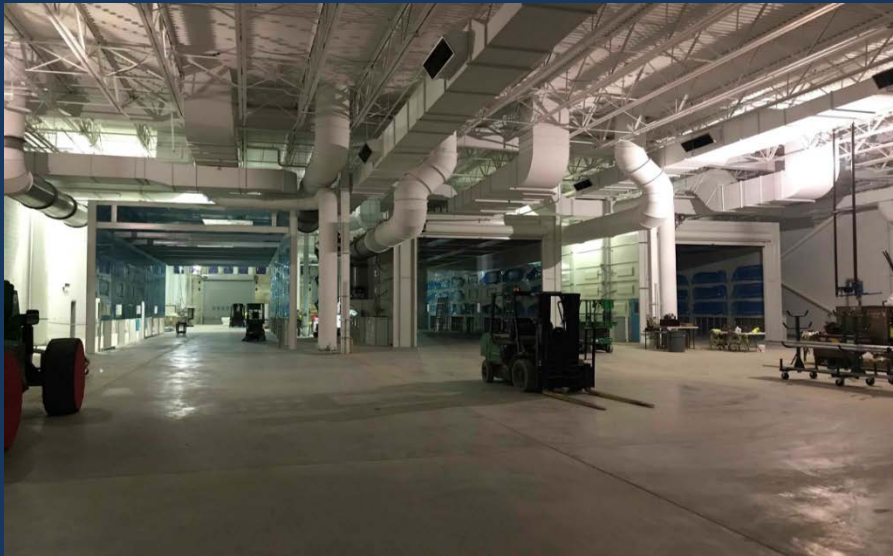
Budget (\$M): % Expended FY2018 - 79%

Total Project		FY2018		
Budget	Actual	Budget	Actual	Forecast
\$185	\$127	\$54	\$42.4	\$68.7

Forecast reflects project acceleration in FY2018

Project Completion: 72%

Start Date		Finish Date
Planned	Actual	Planned
9/15/14	9/15/14	2/14/19



Milestones

- Retaining walls completed
- Membrane roofing installation completed
- Precast concrete envelope completed
- Complete Interior Slab on grade