



Finance Committee

Information Item IV-A

December 1, 2016

**GM/CEO Proposed FY2018 Capital Budget
and FY2018-2023 Capital Improvement
Program (CIP)**

Washington Metropolitan Area Transit Authority
Board Action/Information Summary

Action Information

MEAD Number:
201826

Resolution:
 Yes No

TITLE:

Proposed FY2018-2023 Capital Improvement Program

PRESENTATION SUMMARY:

Staff will provide information to the Board on the General Manager/Chief Executive Officer's (GM/CEO) proposed \$1.25 billion FY2018 capital budget and proposed \$7.2 billion FY2018-2023 Capital Improvement Program (CIP).

PURPOSE:

To present the Board with the GM/CEO's proposed \$1.25 billion FY2018 capital budget and proposed \$7.2 billion FY2018-2023 Capital Improvement Program (CIP) ahead of the planned budget adoption in March 2017.

DESCRIPTION:

Key Highlights:

- The proposed \$1.25 billion FY2018 capital budget and \$7.2 billion FY2018-2023 six-year CIP focus Metro's capital investment on the safety, state of good repair, and reliability of Metrorail, Metrobus, and MetroAccess assets.
- CIP investment priorities include the acquisition of new 7000 railcars, construction of infrastructure to support radio and wireless communications, replacement of old buses and paratransit vehicles, rehabilitation and maintenance of existing railcars and buses to improve and sustain safety and reliability, continued investment in rail and bus system infrastructure to improve safety and address state of good repair backlogs, and reinvestment in rail stations.
- The proposed budget also includes the establishment of a Development and Evaluation (D&E) program for major capital needs, including: Red Line Water Remediation; 2000/3000 Series Railcar Replacement; Red Line Core Capacity; Tunnel Ventilation; Bladensburg/Northern Bus Garage Rebuild or Replacement; and Metro Office Facilities.
- Metro's rate of capital program investment continues to improve. Over \$1 billion was invested through the FY2016 CIP, and management forecasts that between \$1.1 and \$1.2 billion will be invested in FY2017.
- The FY2018-2023 CIP Financial Plan assumes continued federal grant funding at current levels (\$2.8 billion over the six-year period) and \$4.2 billion of jurisdictional investment and long-term financing.

Background and History:

Through the Capital Improvement Program (CIP), Metro advances major capital projects and capital reinvestment programs to improve the safety, state of good repair and reliability of

Metrorail, Metrobus, and MetroAccess assets. In April 2016, the Board of Directors adopted a \$950 million FY2017 capital budget and a \$6 billion FY2017-2022 six-year CIP.

FY2017 Capital Investment Forecast

Based on the investment progress through the first quarter, total capital program expenditures for FY2017 are now forecast to be between \$1.1 and \$1.2 billion. In order to ensure uninterrupted delivery and acceptance of new 7000 series railcars and continuation of the SafeTrack program, the Board recently approved an additional \$150 million in FY2017 budget authority across two program areas: \$90 million for Railcar Acquisition and \$60 million for Fixed Rail (which includes the SafeTrack program). This additional investment will be financed in FY2017 with Metro's existing lines of credit (LOC) or other short-term debt instruments. This short-term financing will be repaid during FY2018 either by a long term debt issuance or by additional jurisdictional contributions.

Capital Improvement Program Structure

Metro's CIP is grouped into six major investment categories: Railcars, Rail Systems, Track & Structures, Stations & Passenger Facilities, Bus & Paratransit, and Business Support. These investment categories are further subdivided into a total of 22 program areas. The FY2018 and six-year investments by category are described below, and the investment by program area is detailed in the presentation.

Within these CIP categories and programs are three types of capital investments:

Major Capital Projects: These are large, multi-year construction and acquisition projects, such as the construction of a new maintenance facility or the acquisition of railcars. Several major capital projects are currently underway, including the 7000 series railcar acquisition, construction of the Cinder Bed Road and Andrews Federal Center Bus Maintenance facilities, the Radio and Wireless Infrastructure project, and the construction of Silver Line Phase 2 to Dulles Airport and Loudoun County, which is funded and managed by the Metropolitan Washington Airports Authority (MWAA).

Development and Evaluation (D&E) of Major Capital Projects: Before major capital projects are funded for the construction or acquisition phase, it is critical that sufficient planning, development, and evaluation occur to ensure that capital investments are efficient and effective and that project risks are mitigated. This process helps to ensure that projects have clearly defined scopes, schedules, and cost estimates and that appropriate consideration has been given to risks and alternative solutions.

The GM/CEO proposes to establish a formalized D&E Program as part of the FY2018-2023 CIP to advance identified major capital needs to deliverable capital projects. Proposed needs to be developed and evaluated include:

- Red Line Water Remediation
- 2000/3000 Series Railcar Replacement
- Red Line Core Capacity
- Tunnel Ventilation
- Bladensburg/Northern Bus Garage Rebuild or Replacement
- Metro Office Facilities

Additional capital investment needs can be added to the D&E program in the future as the program matures, subject to the availability of funding and regional and system capacity to advance major capital projects.

Safety and State of Good Repair Programs and Minor Projects: A significant amount of Metro's capital investment advances the maintenance, rehabilitation, and replacement of elements and components of Metro's existing infrastructure and vehicle assets and components. These safety and state of good repair reinvestments are advanced through annual, recurring programs. The programs are informed by safety and compliance recommendations and requirements, and they typically rely on the age or the condition of the specific assets to determine work plan prioritization. Examples include, but are not limited to: railcar component maintenance and rehabilitation; bus and paratransit vehicle repair, rehabilitation, and replacement; rail, crosstie, and track fastener replacement; track circuit replacement; power cable replacement; and elevator and escalator repair, rehabilitation, and replacement.

Jurisdictional Projects

Beginning in FY2018, management proposes to begin including capital reimbursable projects within the CIP, rather than as a separate program. Capital reimbursable projects are sponsored by jurisdictions and other entities in the region. Incorporating these projects into the CIP will improve awareness and oversight but will have no impact on regional funding requirements, as the projects are fully funded by the sponsoring entity. Current active jurisdictional projects include the Silver Line extension and the associated expansion railcars (MWAA), Potomac Yard station (Alexandria), King Street Bus Loop (Alexandria), support for the Purple Line (Maryland), and the jurisdictional project development program.

Capital Needs Inventory

Metro recently completed a Capital Needs Inventory (CNI) update that estimates Metro's unconstrained capital needs to be approximately \$25 billion over the next ten years. While the proposed FY2018 capital budget is primarily comprised of projects that are already underway, this first phase of the CNI informed the formulation of the proposed six-year plan with respect to both state of good repair priorities and the identification and prioritization of major needs that are proposed for the Development and Engineering program. Information on the CNI process and results will be provided separately to the Board through the Capital Program, Planning, and Real Estate Committee.

Capital Funding Agreement

The current Capital Funding Agreement (CFA) among Metro and the funding jurisdictions expires on June 30, 2017. The CFA provides the framework for jurisdictional investment in the CIP, including match to federal formula and discretionary grants, additional state and local contributions, and Metro's short- and long-term debt strategies. The agreement must be renewed or replaced prior to July 1, 2017, to avoid significant disruption to the capital program.

Discussion:

FY2018-2023 Proposed CIP

The priorities and highlights of the proposed \$1.25 billion FY2018 budget and \$7.2 billion FY2018-2023 CIP are summarized below by major investment category:

- **Railcars (FY2018 \$523 million; FY2018-2023 \$2.5 billion):** Investment priorities include the acquisition of new 7000 series railcars (224 in FY2018) to replace the 1000, 4000, and 5000 series cars; preventive maintenance; repair and rehabilitation to improve and sustain the safety and reliability of the existing railcar fleet; and rehabilitation and repair of rail yard maintenance facilities and equipment.
- **Rail Systems (FY2018 \$117 million; FY2018-2023 \$858 million):** Investment priorities include the construction and implementation of a new radio and wireless

communication infrastructure for improve safety, security, efficiency, and customer convenience; safety, state of good repair and capacity improvements in rail propulsion power systems; and safety and state of good repair rehabilitation and replacement of automatic train control equipment and systems.

- **Track & Structures (FY2018 \$113 million; FY2018-2023 \$770 million):** Investment priorities include the safety and state of good repair of the Metrorail system track components (e.g. rail, crossties, fasteners, etc.) and structures (e.g. bridges, tunnels, etc.).
- **Stations & Passenger Facilities (FY2018 \$207 million; FY2018-2023 \$1.4 billion):** Investment priorities include repair, rehabilitation and replacement of elevators and escalators; renewal of lighting in stations; rehabilitation and replacement of station cooling infrastructure and equipment; modernization of fare collection equipment and systems; and rehabilitation of parking garages.
- **Bus & Paratransit (FY2018 \$225 million; FY2018-2023 \$1.3 billion):** Investment priorities include the acquisition of new buses and paratransit vans to replace vehicles that have reached the end of their useful life; repair and rehabilitation to improve and sustain the safety and reliability of the existing bus fleet; construction of new bus facilities at Cinder Bed Road and Andrews Federal Center to replace old facilities; and rehabilitation of existing bus maintenance facilities to improve safety and reliability.
- **Business Support (FY2018 \$65 million; FY2018-2023 \$326 million):** Investment priorities include Metro Transit Police (MTPD) equipment for public safety and security; system-wide facility roof replacement; and information technology investments to support operations and business support needs and improve efficiency and effectiveness.

Proposed Funding Sources

The proposed FY2018-2023 CIP assumes that federal formula and PRIIA grant funding continue at current levels and that jurisdictional investment increases significantly to address more of the system’s safety, state of good repair, and reliability needs. The funding sources for the FY2018 proposed capital budget and the six-year (FY2018-2023) CIP are provided in the table below (in millions):

Funding Source	FY2018 Proposed Budget	FY2018-FY2023 CIP
Federal Grants	\$461	\$2,757
State & Local Investment (including required match, other capital investment, and debt)	\$801	\$4,240
Metropolitan Washington Airports Authority (MWAA)	\$118	\$293
Jurisdictional Requested Projects	\$14	\$29
Other	\$6	\$15
Total Funding	\$1,400	\$7,333

The FY2018 funding plan includes \$150 million of planned repayment for short-term debt proceeds to be used in FY2017 to support the CIP.

Metro expects to receive approximately \$313 million from federal formula grants and other smaller discretionary grant programs, as well as \$148.5 million from the Passenger Rail Investment and Improvement Act (PRIIA). The formula and discretionary grants generally require a 20 percent local match, while the PRIIA funds require a 50 percent match, so the total required match to federal grants in FY2018 will be approximately \$226 million.

In addition to providing the required match to federal grants, Metro’s funding jurisdictions also contribute unmatched capital funds (referred to as system performance funds) and participate in Metro’s long-term debt issuances. The proposed FY2018 capital budget includes \$801 million in total state and local investment and debt. The proposed budget currently assumes that \$441 million of this \$801 million is long-term debt. Metro and the jurisdictions will make a final determination on the use of long-term debt versus system performance funding as part of the broader discussions regarding the renewal of the Capital Funding Agreement (CFA).

The proposed CIP financial plan assumes that federal grant funding will continue to be appropriated by Congress at a level consistent with Federal Fiscal Year 2016, amounting to a total of \$2.76 billion over six year. The financial plan also assumes that PRIIA funding will be reauthorized at its current annual funding level.

Projected MWAA funding in support of railcar acquisition and the construction of the Silver Line will total \$293 million over the six-year period.

Additional information on the GM/CEO’s proposed FY2018-2023 CIP will be included in Metro’s FY2018 Proposed Budget publication which will be available in mid-December.

FUNDING IMPACT:

Information item only - no impact on funding.	
Project Manager:	Thomas J. Webster
Project Department/Office:	CFO/OMBS

TIMELINE:

Previous Actions	November 2016 - FY2017 CIP amendment and outlook for FY2018
Anticipated actions after presentation	January-February 2017 - public hearing and outreach activities March 2017 - adoption of FY2018-2023 CIP and approval of renewed six-year Capital Funding Agreement (CFA)

RECOMMENDATION:

No action required - information item only.



Washington Metropolitan Area Transit Authority

Proposed FY2018-FY2023 Capital Improvement Program

Finance Committee
December 1, 2016



Capital Investment Priorities

Safety, State of Good Repair, and Reliability

- New 7000 series railcars to replace 1000, 4000 and 5000 series cars
- New buses and paratransit vehicles to replace old vehicles
- Rehabilitate and maintain existing railcar and bus fleets to improve and sustain safety and reliability
- Address deferred infrastructure rehabilitation/replacement backlog
 - Track and Structures rehabilitation
 - Rail power replacement and rehabilitation
 - Radio and wireless infrastructure upgrade
 - Replace bus garages with modern maintenance facilities
- Reinvest in stations – replace/rebuild escalators, elevators, lighting
- Development and Evaluation (D&E) program for new investments including Red Line water mitigation and core capacity improvements



Proposed Capital Budget and Six-Year Plan

FY2018 Proposed Capital Budget:

- Proposed investment of \$1.25 billion
- Over 85 percent of planned investment already underway
- Includes jurisdiction sponsored projects within CIP

Six Year Plan:

- Based on ongoing projects and prioritized state of good repair investments from Capital Needs Inventory
- Proposed \$7.2 billion six-year investment acknowledges regional funding constraints and Metro commitment not to request more than can be delivered



FY2018 – FY2023 Proposed Investment Summary

Investment Category (\$M)	FY2017 Forecast	FY2018 Proposed	6 Year Proposed
Railcars	\$489	\$523	\$2,535
Rail Systems	\$98	\$117	\$858
Track & Structures	\$152	\$113	\$770
Stations & Passenger Facilities	\$175	\$207	\$1,425
Bus & Paratransit Vehicles	\$230	\$225	\$1,270
Business Support	\$63	\$65	\$326
TOTAL	\$1,207	\$1,250	\$7,183



Railcars

Program (\$M)	FY2017 Forecast	FY2018 Proposed	6 Year Proposed
Acquisition	\$332	\$344	\$1,567
Maintenance/Overhaul	\$116	\$139	\$698
Maintenance Facilities	\$41	\$40	\$269
Total	\$489	\$523	\$2,535

FY2018 Key Deliverables

- Acquisition of 224 new 7000 series railcars
- Continue railcar preventive maintenance and rehabilitation activities
- Increased local funding for parts for railcar rehabilitation
- Complete repairs at Alexandria and Brentwood rail yards; rehab railcar lifts

6 Year Highlights

- 748 new 7000 series railcars in service
- 1000, 4000, and 5000 fleets replaced
- Accelerate replacement of 2000/3000 fleets
- Complete replacement of railcar lifts and other equipment at rail yard facilities
- Focused investment in existing railcar fleet to improve safety and reliability



Rail Systems

Program (\$M)	FY2017 Forecast	FY2018 Proposed	6 Year Proposed
Propulsion	\$32	\$33	\$307
Signals & Communications	\$66	\$84	\$551
Total	\$98	\$117	\$858

FY2018 Key Deliverables

- Complete underground installation of radio infrastructure on Green Line and acquire sites for above ground radio towers
- Install 15 power quality meters, and replace 6 transformers
- Install 6 tie-breaker stations
- Design and begin work on Generation Three track circuit replacement
- Pilot wayside-worker protection system

6 Year Highlights

- Complete upgrades to radio system and underground wireless infrastructure
- Full implementation of wayside-worker protection system
- Complete power upgrades on Orange and Blue Line; begin Red Line power upgrades
- Rail power system repair and rehabilitation
- Complete replacement of Generation three track circuits



Track & Structures

Program (\$M)	FY2017 Forecast	FY2018 Proposed	6 Year Proposed
Fixed Rail	\$144	\$100	\$554
Structures	\$8	\$13	\$206
Track Maintenance Equipment	<\$1	\$1	\$10
Total	\$152	\$113	\$770

FY2018 Key Deliverables

- Replace 8 switches and 13 miles of running rail
- 23,500 direct fixation fasteners
- Remove and replace 13,000 crossties
- Replace 7,000 insulators
- Repair, mitigate, and eliminate tunnel leaks; rehabilitate 110,000 linear feet of drainage

6 Year Highlights

- Maintain track in a state of good repair with annual program to replace components including crossties, fasteners, switches, and insulators based on condition
- Development & Evaluation of Red Line Water Mitigation Project



Stations & Passenger Facilities

Program (\$M)	FY2017 Forecast	FY2018 Proposed	6 Year Proposed
Platforms & Structures	\$89	\$88	\$551
Vertical Transportation	\$51	\$61	\$323
Fare Collection	\$9	\$20	\$259
Station Systems	\$22	\$30	\$202
Parking Facilities	\$4	\$8	\$90
Total	\$175	\$207	\$1,425

FY2018 Key Deliverables

- Replace 14 escalators, rehabilitate 12 escalators, rehabilitate 14 elevators
- Drainage improvements at 8 locations
- Replace station chillers and cooling towers
- Start College Park parking garage rehab
- Design for Huntington parking garage
- Complete development of new Potomac Yard Station (jurisdictional project)

6 Year Highlights

- Continue reinvestment in elevators and escalators
- Replace and modernize existing fare collection assets
- Rehabilitation of parking facilities
- Station lighting renewal



Bus & Paratransit

Program (\$M)	FY2017 Forecast	FY2018 Proposed	6 Year Proposed
Bus Acquisition	\$62	\$63	\$543
Bus Overhaul & Maintenance	\$89	\$67	\$414
Bus Maintenance Facilities	\$58	\$70	\$227
Bus Passenger Facilities	\$5	\$8	\$13
Paratransit	\$14	\$17	\$74
Total	\$230	\$225	\$1,270

FY2018 Key Deliverables

- 100 replacement CNG buses
- Continue bus rehabilitation and repair
- 225 Paratransit vans
- Complete construction of Cinder Bed Road, continue construction of Andrews Federal, begin CNG equipment installation at Shepherd Parkway

6 Year Highlights

- Sustain bus and paratransit fleet through annual replacement and rehabilitation
- Complete construction of Cinder Bed Road, Andrews Federal, & CNG equipment installation at Shepherd Parkway
- Development & Evaluation for rebuild/replacement of Bladensburg and Northern garages



Business Support

Program (\$M)	FY2017 Forecast	FY2018 Proposed	6 Year Proposed
IT	\$43	\$48	\$261
MTPD	\$6	\$1	\$3
Support Equipment & Services	\$14	\$16	\$63
Total	\$63	\$65	\$326

FY2018 Key Deliverables

- Begin roof rehabilitations and replacements
- Complete Phase II of timekeeping system upgrade
- Begin development of new bus scheduling system
- Complete upgraded right-of-way scheduling system Phase I and II

6 Year Highlights

- Rehabilitate and repair facility roofs across Metro system to reduce deferred backlog
- Complete timekeeping system upgrade
- Enterprise financial system upgrade
- Annual investment in hardware and required software improvements to support business operations



Proposed Development & Evaluation Program

Develop major capital investment needs into capital projects before programming for construction/acquisition

Development & Evaluation Program:

- ✓ Red Line Water Remediation
- ✓ 2000/3000 Series Railcar Replacement
- ✓ Red Line Core Capacity
- ✓ Tunnel Ventilation
- ✓ Bladensburg/Northern Garage Rebuild/Replacement
- ✓ Office Facilities/JGB

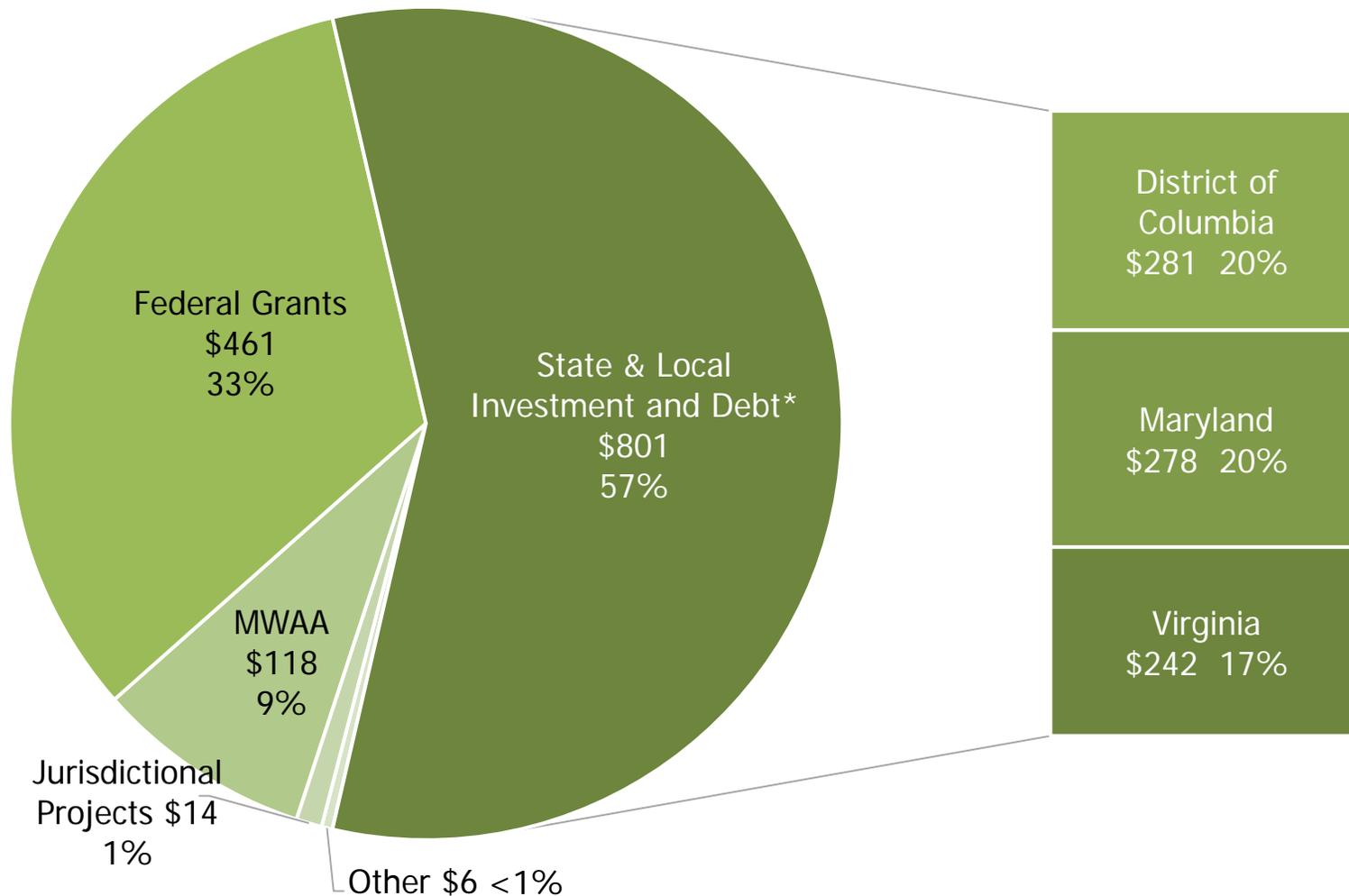


Rail Degradation from Tunnel Water Infiltration



FY2018 Proposed Capital Budget Funding Plan of \$1.4 Billion

in millions

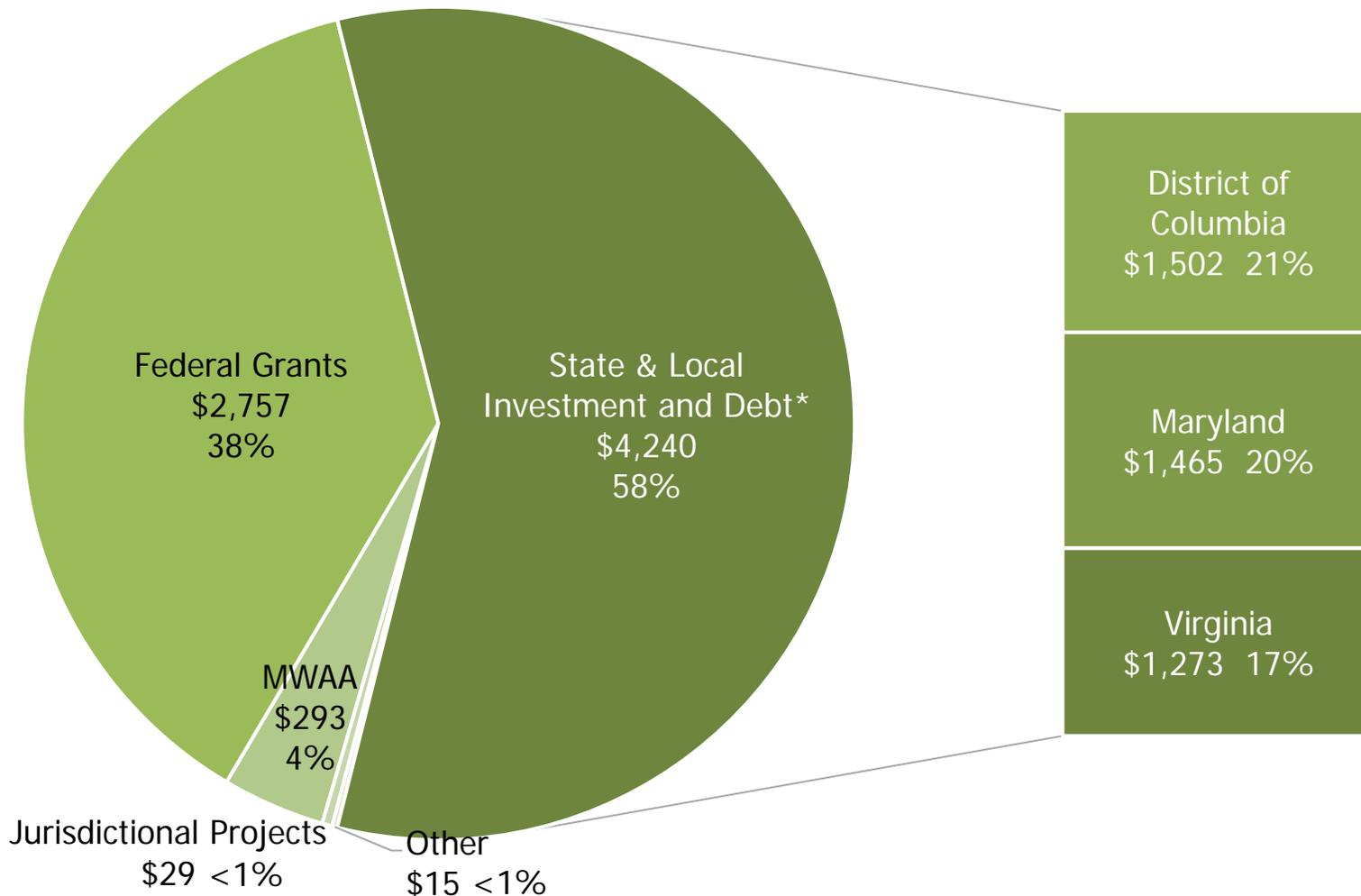


*Funding plan includes \$150 million in FY2018 to repay short-term debt projected to be used in FY2017



FY2018-2023 Proposed Six-Year Funding - \$7.3 Billion

in millions



*Funding plan includes \$150 million in FY2018 to repay short-term debt projected to be used in FY2017



Next Steps

- **December:** Continue jurisdictional discussions on Capital Funding Agreement (CFA) renewal
- **Jan 14-Feb 6:** Public outreach and public comment period begin
- **Week of Jan 30** (tentative): Public hearing
- **Feb 6:** Public comment period closes
- **March:** Adoption of FY2018 Budget and Execution of renewed CFA

Budget approval in March is recommended to ensure uninterrupted regional funding of the capital program and to allow for the timely application and award of FTA grants

Appendices



FY2018 – FY2023 Proposed Capital Investment by Year

in millions

Investment Category	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	6 Year
Railcars	\$523	\$517	\$557	\$502	\$228	\$208	\$2,535
Rail Systems	\$117	\$189	\$167	\$128	\$134	\$122	\$858
Track & Structures	\$113	\$122	\$119	\$122	\$133	\$161	\$770
Stations & Passenger Facilities	\$207	\$292	\$258	\$244	\$224	\$200	\$1,425
Bus & Paratransit Vehicles	\$225	\$125	\$201	\$252	\$248	\$219	\$1,270
Business Support	\$65	\$53	\$52	\$52	\$52	\$53	\$326
TOTAL	\$1,250	\$1,298	\$1,353	\$1,300	\$1,019	\$963	\$7,183



FY2018 – FY2023 Proposed Funding Sources by Year

in millions

Funding Source	FY2018*	FY2019	FY2020	FY2021	FY2022	FY2023	6 Year
Federal Grants	\$460	\$461	\$458	\$459	\$459	\$459	\$2,757
State & Local	\$361	\$571	\$646	\$646	\$521	\$495	\$3,240
Long Term Debt	\$441	\$222	\$212	\$124	--	--	\$1,000
MWAA	\$118	\$33	\$32	\$69	\$35	\$5	\$293
Other	\$6	\$8	\$1	--	--	--	\$15
Jurisdictional Projects	\$14	\$3	\$3	\$3	\$3	\$3	\$29
Total Funding	\$1,400	\$1,298	\$1,353	\$1,300	\$1,019	\$963	\$7,333

*Funding plan includes \$150 million in FY2018 to repay short-term debt projected to be used in FY2017



FY2018 Proposed Jurisdictional Contributions & Long Term Debt

Jurisdiction	FY2017 Budget	FY2018 Proposed*	Change
District of Columbia	\$144	\$282	\$138
Maryland	\$148	\$283	\$135
City of Alexandria	\$11	\$37	\$26
Arlington County	\$20	\$58	\$38
City of Fairfax	\$1	\$2	\$1
Fairfax County	\$36	\$101	\$66
City of Falls Church	\$1	\$2	\$1
Commonwealth of Virginia	\$50	\$50	--
Virginia Subtotal	\$119	\$250	\$131
Total Contribution	\$410	\$815	\$405

*Funding plan includes \$150 million in FY2018 to repay short-term debt projected to be used in FY2017 18



FY2018-2023 Proposed Jurisdictional Contributions & Long Term Debt By Year

Jurisdiction	FY2018*	FY2019	FY2020	FY2021	FY2022	FY2023	6 Year
District of Columbia	\$282	\$283	\$306	\$274	\$185	\$175	\$1,505
Maryland	\$283	\$274	\$297	\$266	\$179	\$170	\$1,469
City of Alexandria	\$37	\$31	\$34	\$30	\$18	\$17	\$167
Arlington County	\$58	\$56	\$62	\$54	\$32	\$30	\$292
City of Fairfax	\$2	\$2	\$2	\$2	\$1	\$1	\$9
Fairfax County	\$101	\$99	\$109	\$96	\$58	\$55	\$518
City of Falls Church	\$2	\$2	\$2	\$2	\$1	\$1	\$9
Commonwealth of Virginia	\$50	\$50	\$50	\$50	\$50	\$50	\$300
Virginia Subtotal	\$250	\$239	\$258	\$233	\$160	\$153	\$1,296
Total Contribution	\$815	\$796	\$861	\$773	\$524	\$498	\$4,269

*Funding plan includes \$150 million in FY2018 to repay short-term debt projected to be used in FY2017