
FY2019-2023 CIP update: draft program sizes

March 19, 2018

Joint Board Meeting Presentation



Overview

- Each Division has reviewed their program sizes from the FY2018-2022 CIP
- Programs have been created, redefined, reconfigured or renamed in some instances
- Sizes are forecasted and preliminary but expected to iterate
- **Slides 3-5** – MassDOT and MBTA sources highlights and bond cap target
- **Slides 6-7** – Highlight of changes in program sizes by Division
- **Slides 8-11** – Program sizes for discussion by Priority
- **Slide 12-14** – Potential mega-projects as CIP Programs
- **Slide 15** – Comparison of program sizes by Division
- **Slide 16** – Discussion and next steps



Sources

- **MassDOT**

- **Bond Cap** –Administration and Finance has provided initial bond cap targets; targets are in line with final targets from last plan; no significant increase in bond cap allocated to MassDOT; slight increase in 2020 (\$5 million) and in 2023 (\$28.4 million) ; MBTA allocated \$60 million per year in lieu of operating assistance (same as last plan); bond cap for Harbor Dredging same as last plan; additional funding for South Coast Rail is in addition to annual bond cap target
 - **ABP** – this source is trailing off as projects conclude
 - **FAST Act** – appropriations have only been passed through March 23; plan assumes FAST Act funding levels continue
 - **Gaming revenue** – no revenue assumptions provided except for 2020 (\$30 million)
 - **Toll revenue** – Based on post-AET actuals and reserve balances (if available)
 - **P3** – Looking towards these opportunities to supplement available sources
- As sources are confirmed, this may impact preliminary program sizes



Sources

- **MBTA**

- **FAST Act** – appropriations have only been passed through March 23; plan assumes Fast Act funding levels continue
- **GLX FFGA** – same assumptions as last plan
- **PAY-GO** – annual \$60 million bond cap from Administration and Finance in lieu of operating transfer in addition to annual operating savings (\$90 million)
- **PTC loans** – loans for PTC investments need approval
- **Municipal and Local funds** – represent contributions from Cambridge and Somerville to GLX project
- **Reimbursable and 3rd parties** – funds received via reimbursable agreements with RIDOT and Amtrak
- **REP** – reflects spending for MBTA projects eligible for funding under the Rail Enhancement Program
- As sources are confirmed, this may impact preliminary program sizes

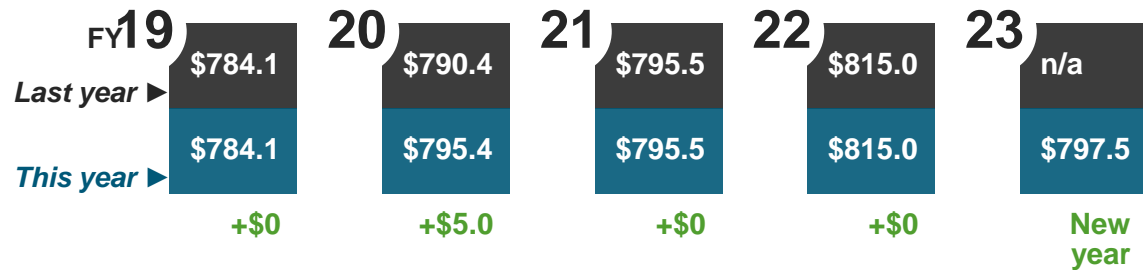


Bond Cap Comparison (2019-2023 vs 2018-2022)

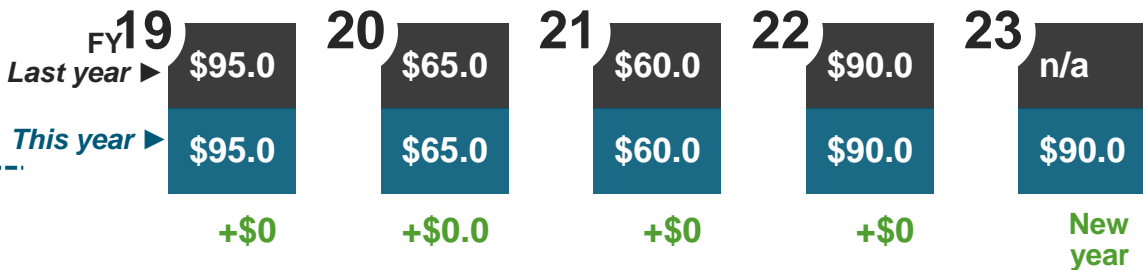
Changes from year to year

- MassDOT Bond Cap
 - \$5 million additional in 2020
 - \$28.4 million additional in 2023 (as compared to 2018 target)
 - Program sizes and budgets/funding by fiscal year are under review for fiscal constraint and adjustments needed to manage to annual ANF bond cap targets
 - Request from Aeronautics for additional bond cap cannot be accommodated
 - Request from IT for additional bond cap can be only partially accommodated (\$3.6M)

Year to year comparison – MassDOT Bond Cap



Year to year comparison – MBTA + Commonwealth



FY2019 impacts on source

- Level funded for MassDOT for 2019
 - No additional funds available to allocate to requests to increase program sizes in 2019
 - Need to scrub program sizes and budgets by FY to manage to targets provided by ANF
- No change in funding for Commonwealth Projects
 - \$100 million allocated to Harbor Dredging
 - \$0 million for UMass Boston Infrastructure (complete)
- MBTA funding remains at \$60 million/year
 - \$300 million total over 2019-2023

Overall impacts on 2019-2023 update

- An additional \$33.4 million in bond cap allocated to MassDOT
 - \$5 million in 2020
 - \$28.4 million more provided in 2023 than 2018 cap amount
 - 2023 reflects an average of 2018 - 2022 amounts
- Bond Cap funds for SCR in 2019 separate from annual target

Draft program size highlights

Aeronautics

- **Reliability** – Initially requested \$98.5 million more than last plan
- **Resized** programs to 2018-2022 levels based on funds available

2018-2022 = \$294.3 million

2019-2023 = \$294.3 million

IT

- **Reliability** –\$5.4 million in additional for Cyber / Information Security
 - To comply with recent passage of Article 87 (EOTSS MGL) investment program to secure the Commonwealth's digital assets
- IT to resize programs to minimize requested increase based on bond cap targets for 2019-2023

2018-2022 = \$97.8 million

2019-2023 = \$103.2 million

Highway

Major change is in Reliability – Administrative reallocation of design/project management costs (\$243.5 million) to modernization and expansion programs and Pre-Apprenticeship (\$4.6M) to Planning

Expansion – Transferred \$60 million related to bond cap to new Bicycle/Pedestrian Modal Implementation program under Planning & Shared Services

2018-2022 = \$6,710.0 million

2019-2023 = \$6,653.1 million

MBTA

- Increase of 10.4% (769.2 million) over last plan

2018-2022 = \$7,409.6 million

2019-2023 = \$8,178.8 million



Rail

- **Major change is in Expansion** - \$64.8 million more is forecasted than last plan
 - Reflects additional spending for South Coast Rail (\$165.8M) vs last plan (\$100M)
 - Dedicated bond cap funds for South Coast Rail in 2019 in addition to previously programmed REP funds

Transit

- Overall program is approximately \$10 million less than last plan
- Program sizes shifted to focus on vehicle replacement and maintenance program based on asset conditions

2018-2022 = \$222.0 million

2019-2023 = \$212.6 million

RMV

- **Major change is in Modernization** - \$42.1 million less is forecasted than last plan reflecting progress on ATLAS project

2018-2022 = \$110.5 million

2019-2023 = \$68.6 million

Summary

Reliability

51%

- 2018-2022 = \$9,795.3 million
- **2019-2023 = \$9,024.1**

Modernization

27%

- 2018-2022 = \$3,280.5
- **2019-2023 = \$4,906.6**

Expansion

12%

- 2018-2022 = \$2,213.4
- **2019-2023 = \$2,169.0**

Total

w/ Ch. 90 5.6%

- 2018-2022 = \$16,289.2
- **2019-2023 = \$17,099.7**



Program size requests for mandated spending

Modernization	FY 2018-2022 program size <i>(five-year total)</i>	FY 2019-2023 program size <i>(five-year request)</i>	Notes
MBTA / Accessibility	\$224.2 million	\$268.8 million	20% additional investment for PATI
MBTA / Risk Management and Mitigation (formerly Federal programs and mandates)	\$538.8 million	\$189.1 million	Renamed to reflect proactive approach to safety, security and risk management; PTC moved to new Commuter Rail Safety and Resiliency Program

* Combined as System Improvements for 2018-2022 plan



Program size requests for new programs

Modernization	FY 2018-2022 program size (five-year total)	FY 2019-2023 program size (five-year request)	Notes
MBTA / Commuter Rail Safety and Resiliency		\$657.5 million	Includes investments to improve safety and resiliency of Commuter Rail network
MBTA / Capacity enhancements*	\$622.25 million	\$0.0 million	Includes investments that increase system capacity
MBTA / Process Improvements & innovation*		\$15.0 million	Includes investments in innovations to enhance productivity/quality of MBTA services
MBTA / AFC 2.0*		\$168.2 million	Program to focus solely on AFC 2.0 and future technologies
MBTA / Customer Experience and Technology		\$124.0 million	Program to focus on enhancing customers' experience
MBTA / Red Line/Orange Line Improvements	\$0.0 million	\$1,476.9 million	Includes vehicle and infrastructure investments to modernize the fleet and achieve 3 minute headways

* Combined as System Improvements for 2018-2022 plan

Program size requests for discussion

Reliability	FY 2018-2022 program size (five-year total)	FY 2019-2023 program size (five-year request)	Justification (see appendix for detail)
IT / Cyber/ Information Security	\$9.6 million	\$15.0 million	Compliance with Article 87 – EOTSS initiatives
Transit / RTA facility and vehicle maintenance	\$10 million	\$17.45 million	Increased costs to address asset condition; funds reprioritized from other CIP programs
Transit / RTA vehicle replacement	\$58 million	\$92.3 million	Increased costs to address asset condition; funds reprioritized from other CIP programs
Rail / Facility reliability	\$15 million	\$16.7 million	Increased need to address asset conditions
Rail / Vehicle reliability	\$5.3 million	\$4.7 million	Adjusted program size to shift funds to other programs since bond cap funds level with last plan
MBTA / Facilities	\$112.6 million	\$388.0 million	Additional investments for bus maintenance facilities and fleet/facilities plan
MBTA / Revenue vehicles	\$1,703.0 million	\$1,289.9 million	Additional investment based on requirements in approved fleet plan
MBTA / Track, signals and power	\$1,285.6	\$1,011;0 million	Additional investment in ATC (\$279M)
Modernization	FY 2018-2022 program size (five-year total)	FY 2019-2023 program size (five-year request)	Justification (see appendix for detail)
Rail / Facility Modernization	\$10.5 million	\$13.25 million	Delay in Platform “C” for Springfield Union Station
RMV / ATLAS	\$102.1 million	\$61.5 million	Reflects remaining spending on project; funded by MassIT bond cap

Program size requests for discussion

Modernization	FY 2018-2022 program size (five-year total)	FY 2019-2023 program size (five-year request)	Justification (see appendix for detail)
Transit / RTA facility and system modernization	\$36.8 million	\$ 26.3 million	RTAs reallocated/reprioritized funds to focus on asset conditions in facility and vehicle maintenance and vehicle replacements
Transit /RTA replacement facilities	\$55.8 million	\$16.4 million	Bond cap funds in program were dedicated in 2017-2021 plan for new PVTA maintenance facility; project will be complete in 2019; 2019-2023 program sized based on asset condition
MBTA / Risk management and mitigation	\$538.8 million	\$528.0 million	Renamed program; includes investments in OSHA and security upgrades
Expansion	FY 2018-2022 program size (five-year total)	FY 2019-2023 program size (five-year request)	Justification (see appendix for detail)
MBTA / Expansion Projects – non-GLX	\$81.0 million	\$50 million	Reflects remaining spending on non-GLX programs (excludes SCR)
MBTA / Expansion Projects – GLX	\$1,506.0 million	\$1,364.5 million	Reflects current project cash flows; tied to approved finance plan for GLX
Highway / Bicycle and Pedestrian	\$220.5 million	\$180.6 million	Includes allocation of \$20.1.5M in design/project management costs + transfer of \$60M to new program
OTP / Bicycle and Pedestrian Modal Implementation	\$0 million	\$60 million	Transfer of programs funds and scope from Highway division to new program
Rail / Track & ROW Expansion (renamed South Coast Rail Program)	\$100.0 million	\$165.8 million	Program reflects funding for SCR project; 2019 funding provided as separate ANF bond cap target for MassDOT; program size reflects additional funds for 2019 only and 2018-2022 funding levels; discussions ongoing with ANF regarding additional funding for 2020-2023.



Potential Projects as CIP Programs

- MassDOT is proposing that mega projects be treated as their own CIP program
 - Determination of what qualifies for consideration:
 - Project size
 - Funding sources
 - Includes multiple subcomponents / projects
 - Proposed new programs:
 - Highway / Allston project – Allston Multi-Modal Program
 - Rail / South Coast Rail project – South Coast Rail Program
 - MBTA / GLX project – GLX Program
 - MBTA / PTC/ATC projects – Commuter Rail Safety and Resiliency Program
 - MBTA / Red Line / Orange Line Vehicle Procurement, Signal Upgrades and Infrastructure Improvements projects – RL/OL Program
 - MBTA / AFC 2.0 projects – AFC 2.0 Program



New MassDOT project-based programs

The proposed FY2019-2023 MassDOT CIP will include two new investment programs that represent large (>\$500M), complex, cross-cutting projects tied to specific strategic goals or outcomes

Allston Multi-Modal

- **Goal:** reconstruction and realignment of the Allston interchange to improve safety for all transportation modes: walking, cycling, driving, transit and to create a vibrant Allston neighborhood reconnecting sections to each other and the Charles River
- **Investments:** Viaduct, Multi-modal Bus and Rail Station, Rail Layover & Yard, Connector Roadways, and Pedestrian / Open Space

South Coast Rail

- **Goal:** More fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, and to enhance regional mobility while supporting smart growth planning and development strategies in the affected communities
- **Investments:** Vehicles, Signals, Rail, Stations, Infrastructure



New MBTA project-based programs

The proposed FY2019-2023 MBTA CIP will include four new investment programs that represent large (>\$500M), complex, cross-cutting projects tied to specific strategic goals or outcomes

Green Line Extension

- **Goal:** Extend the Green Line from Lechmere to College Ave
- **Investments:** Stations, Infrastructure, and Vehicles

Red Line/Orange Line Improvements

- **Goal:** Replace the Red Line and Orange Line fleet and build the infrastructure necessary to meet three minute headways goals
- **Investments:** Vehicles, Signals, Infrastructure

AFC 2.0

- **Goal:** Implement a new integrated, reliable, and convenient fare payment and collection system to replace CharlieCards/Tickets
- **Investments:** Systems Integrator, Technology, Infrastructure

Commuter Rail Safety and Resiliency (PTC)

- **Goal:** Meet and exceed federal requirements to install PTC and ATC systems while improving overall resiliency of the CR network
- **Investments:** PTC Implementation, ATC Implementation, fiber installation, vegetation management



Comparison of Program Sizes 2018-2022 vs 2019-2023 (\$millions)

Division	2018-2022*	2019-2023*	Increase / (Decrease)*
Aeronautics	\$294.3M	\$294.3M	\$ -
Highway	\$6,710.0M	\$6,653.1M	(\$57.6M)
Information Technology	\$97.8M	\$103.2M	\$5.4M
Rail	\$439.7M	\$508.5M	\$68.8M
Registry of Motor Vehicles	\$110.5M	\$68.6M	(\$41.9M)
Transit	\$222.0M	\$212.6M	(\$9.4M)
MBTA	\$7,409.6M	\$8,178.8M	\$769.2M
Chapter 90	\$1,000.0M	\$1,000.0M	\$ -
Planning & Shared Services	\$915.1	\$844.9M	(\$70.2M)
TOTAL	\$17,204.3M	\$17,868.6M	\$664.3

*Totals may not add due to rounding

Discussion / Next steps

• Discussion

- Feedback on new/refined/renamed programs
- Input on proposed program sizes
 - Recognizing that this is an update of the CIP, but also an opportunity to make some changes, are there any areas that the CIP team should focus on with regard to policy based investments?
 - *Example:* last year we shifted investments towards Non-Interstate Pavement to improve assets and away from Interstate Pavement
- Proposal that mega projects (e.g. GLX, Allston, RL/OL, PTC, and SCR) be treated as separate programs

• Next steps

- Submit program sizes to Administration and Finance
- Iterate based on available/confirmed sources
- Project readiness and spending analysis
- April CPC meeting
 - Discuss initial delivery and spending analysis
 - Update on stakeholder engagement



Appendix: Significant Program Changes

- MassDOT
- MBTA



Program Sizes: Significant Changes (non-MBTA) 2019-2023 (\$ millions)

CIP Program	Program Size 2019-2023	Increase / (Decrease)	Reason
Highway / All Electronic Tolling	(\$0)	(\$66.6)	Program dedicated to completed AET implementation; funded from annual toll pay-go capital
Highway / Design, ROW, Environmental*	(\$0)	(\$660.0)	Program costs reallocated to individual CIP programs that efforts support
Highway / Retainage and utility payments*	(\$0)	(\$50.0)	Program costs reallocated to individual CIP programs that efforts support
Highway / Bicycle and Pedestrian	\$180.6	(\$39.9)	Includes allocation of \$26.5 million in design/project managements costs and a transfer of \$60 million to new Bicycle and Pedestrian Modal Implementation program
OTP / Bicycle and Pedestrian Modal Implementation	\$60.0	\$60.0	Transferred from Highway Bicycle and Pedestrian program with bond cap funding
RMV / ATLAS	\$61.5	(\$40.6)	Program size dedicated to one project funded by MassIT bond cap; funds not available for other DOT programs; project complete in 2021
Rail / Track and ROW expansion (renamed South Coast Rail Program)	\$165.8	\$65.8	Program reflects funding for South Coast Rail project; 2019 funding to be provided as separate ANF bond cap target funds for MassDOT; program size change reflects additional funds for 2019 only; 2020-2023 funding under discussion with ANF
Transit / RTA replacement facilities	\$16.4	(\$39.4)	Program included dedicated bond cap (\$53.4M) for new PVRTA Maintenance Facility approved in 2017-2021 plan; project to be completed in 2019
Transit / RTA vehicle replacement	\$92.3	\$34.3	Adjusted other Transit program sizes (downward) to focus on asset conditions and RTA needs; funds allocated to vehicles for 2019-2023 CIP
Grand Total	\$576.6	(\$736.4)	

*Costs reallocated to individual CIP programs supported by efforts; net adjustment in program sizes from reallocation (\$2.4 million, (0.04%)); see separate chart on cost reallocations by Highway CIP Program

Program Sizes: Significant Changes (MBTA) 2019-2023 (\$ millions)

CIP Program	Program Size 2019-2023	Increase / (Decrease)	Reason
MBTA / Expansion Projects - GLX	\$1,364.5	(\$222.5)	Program reflects GLX project cash flows; dedicated funding sources (REP, CMAQ, FFGA, Municipal)
MBTA / Expansion Projects – non-GLX	\$59.0	\$59.0	Reflects non-GLX project cash flows funded under REP (dedicated Special Obligation Funds; funding committed under program)
MBTA / Revenue Vehicles	\$1,289.9	(\$412.8)	Reflects investments aligned with Integrated Fleet and Facilities plan (IFFP) requirements; RL/OL moved to new program – MBTA funds
MBTA / Facilities	\$388.0	\$275.4	Additional commitment for bus maintenance & IFFP – MBTA funds
MBTA / System Upgrades	\$245.0	(\$145.9)	Adjusted size to focus on core systems and equipment reliability
MBTA / Risk Management & Mitigation	\$189.1	(\$349.7)	Adjusted size to reflect transfer of PTC to new Commuter Rail program
MBTA / Track, Signals, Power	\$987.4	(\$298.2)	Adjusted for RL/OL costs; moved to new program
MBTA / Accessibility	\$268.8	\$44.6	20% increase for additional PATI investments – MBTA funds
MBTA / Process Improvements and Innovation	\$15.0	(\$607.3)	Combined in 2018-2022 under System Improvements; now four different programs; net decrease is \$315.1M – MBTA funds
MBTA / AFC 2.0	\$168.2	\$168.2	
MBTA / Customer Experience and Technology	\$124.0	\$124.0	
MBTA / Red Line / Orange Line Improvements	\$1,476.9	\$1,476.9	Program includes vehicle procurements, signals works and infrastructure investments
MBTA / Commuter Rail Safety and Resiliency	\$657.5	\$657.5	Program reflects various safety and resiliency efforts underway on Commuter Rail network, primarily PTC
Grand Total	\$7,233.3	\$769.2	

- Change from 2018-2022 – Increase of 10.4 %; Program size changes to be funded from available MBTA sources



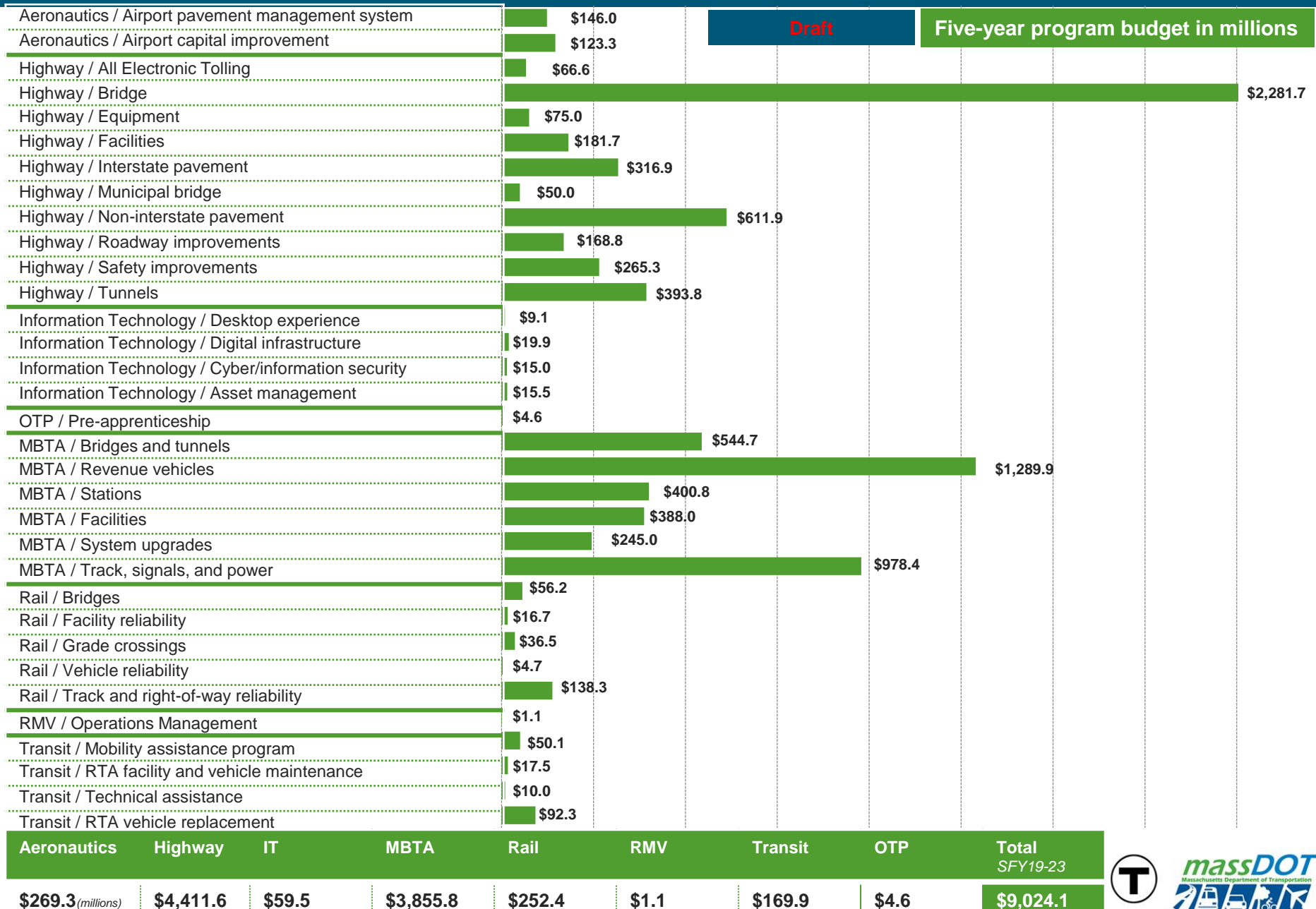
Highway Program Comparison (2018-2022 vs 2019-2023, \$000's)

CIP Program	2018-2022	2019-2023 Highway Proposed Program Sizes			
	Program Size	Base Program	Design/Project Mgmt. \$	Total	Change / %
AETs	\$66,600	\$66,600	\$0	\$66,600	0 / 0%
Bridge	2,028,200	2,028,200	253,525.0	\$2,281,725	253,525 / 12.5%
Design, Environ., ROW*	660,000	0	0	\$0	(660,000) / (100%)
Equipment	75,000	75,000	0	\$75,000	0 / 0%
Facilities	161,500	161,500	20,187.5	\$181,687.5	20,187.5 / 12.5%
Interstate Pavement	281,700	281,700	35,212.5	\$316,912.5	35,212.5 / 12.5%
Non-Interstate Pavement	543,900	543,900	67,987.5	\$611,887.5	67,987.5 / 12.5%
Municipal Bridge	50,000	50,000	0	\$50,000	0 / 0%
Pre-apprenticeship**	4,632	0	0	\$0	(4,632) / (100%)
Retainage/Utility Payments*	50,000	0	0	\$0	(50,000) / (100%)
Roadway Improvements	150,000	150,000	18,750	\$168,750	18,750 / 12.5%
Safety Improvements	235,800	235,800	29,475	\$265,275	29,475 / 12.5%
Tunnels	350,000	350,000	43,750	\$393,750	43,750 / 12.5%
ADA Retrofits	19,400	19,400	2,425	\$21,825	2,425 / 12.5%
Complete Streets	50,000	50,000	0	\$50,000	0 / 0%
ITS	72,500	72,500	9,062.5	\$81,562.5	9,062.5 / 12.5%
Intersection Improvements	160,700	160,700	20,087.5	\$180,787.5	20,087.5 / 12.5%
Roadway Reconstruction	1,261,000	1,261,000	157,625	\$1,418,625	157,625 / 12.5%
Bike/Ped***	220,500	***160,500	20,062.5	\$180,562.5	(39,937.5) / (17.9)%
Capacity	273,900	273,900	34,237.5	\$308,137.5	34,237.5 / 12.5%
Grand Total	\$6,715,332	\$5,940,700	\$712,387.5	\$6,653,087.5	(\$62,244.5) / (0.9%)

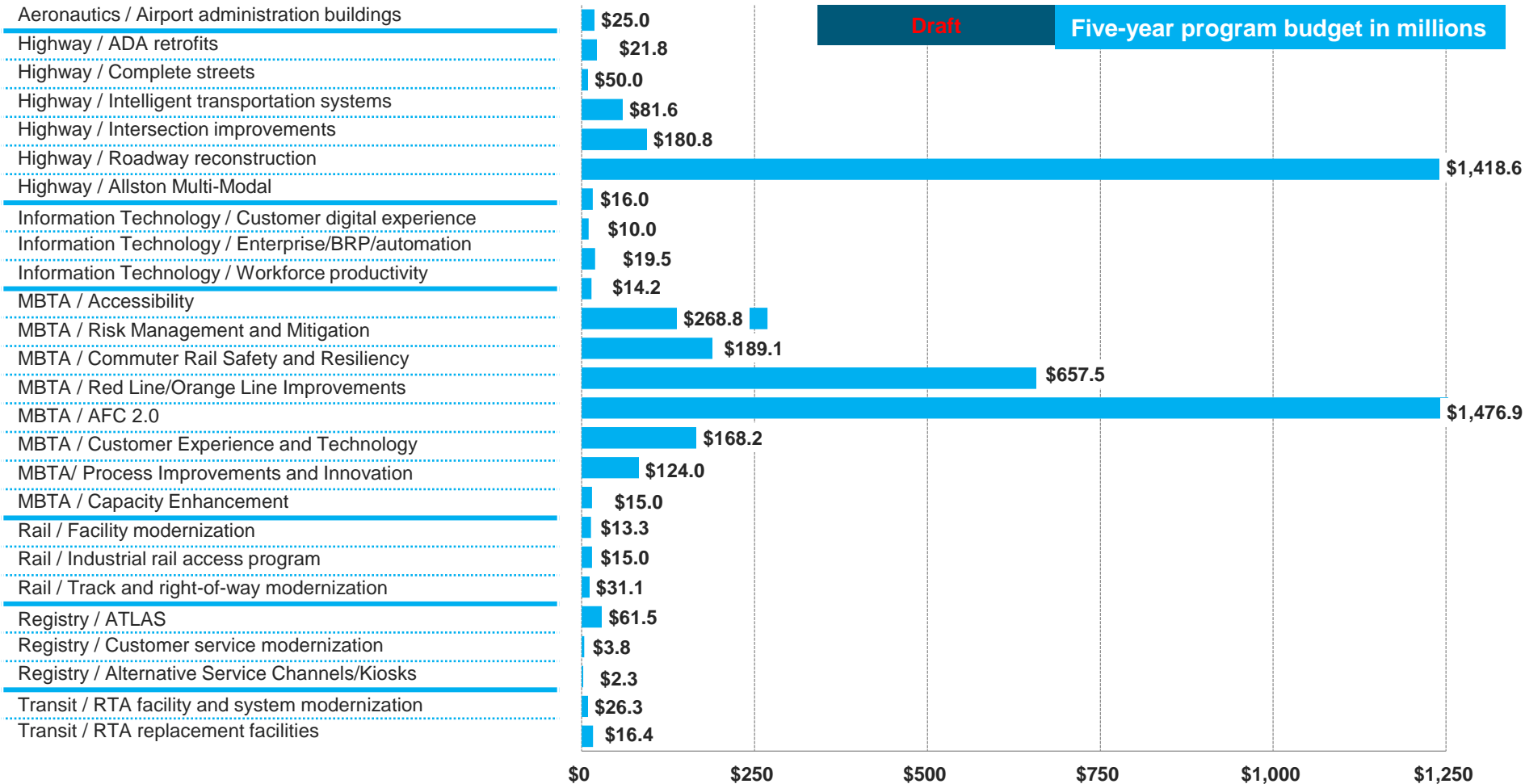
* Costs allocated to individual CIP programs; ** Program responsibility transferred to ODCR; *** \$60M transferred to new program under OTP (Bicycle and Pedestrian Modal Implementation)



Reliability investments by program

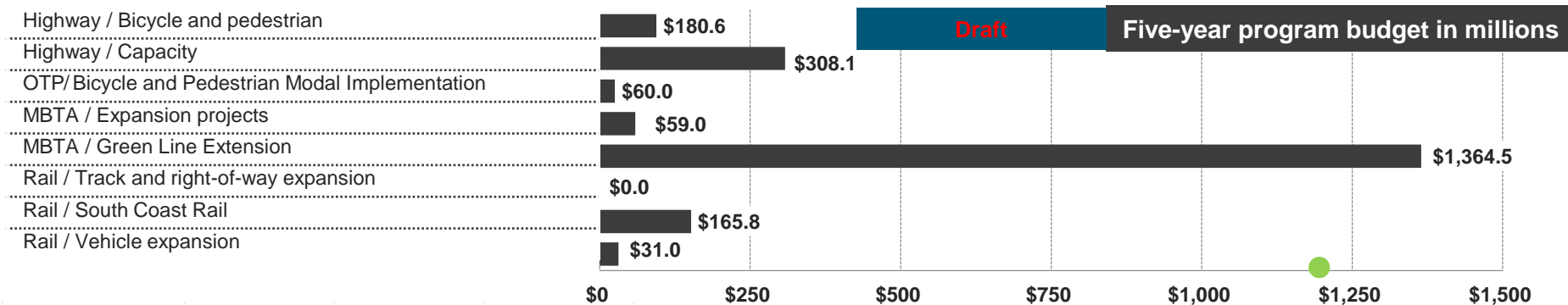


Modernization investments by program



Aeronautics	Highway	IT	MBTA	Rail	RMV	Transit	Total <small>SFY19-23</small>
\$25.0 <small>(millions)</small>	\$1,768.8	\$43.7	\$2,899.5	\$59.4	\$67.5	\$42.7	\$4,906.6

Expansion investments by program



Highway	MBTA	Rail	OTP	Total SFY19-23
\$488.7 (millions)	\$1,423.5	\$196.8	\$60.0	\$2,169.0

Name change



Appendix: Sources

- MassDOT
- MBTA

MassDOT sources (Preliminary Draft)

Projected sources (in millions)	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>Total</u>
Federal sources of funds						
Federal Highway (FHWA) reimbursements	\$620.6	\$689.1	\$821.1	\$841.3	\$632.0	\$3,604.2
Federal Transit (FTA) reimbursements**	\$6.0	\$6.0	\$6.0	\$6.0	\$6.0	\$30.1
Federal Aviation (FAA) reimbursements and grant draws	\$27.1	\$26.5	\$27.1	\$25.1	\$27.5	\$133.3
Federal Rail (FRA) reimbursements and grant draws	\$3.5	\$1.0	\$0.0	\$0.0	\$0.0	\$4.6
Subtotal federal sources*	\$657.2	\$722.6	\$854.3	\$872.5	\$665.6	\$3,772.2
Bond cap	\$818.9	\$800.3	\$795.4	\$845.0	\$827.5	\$4,087.0
Accelerated Bridge bonds	\$102.9	\$15.7	\$0.0	\$0.0	\$0.0	\$118.7
Rail enhancement bonds	\$55.4	\$34.5	\$34.9	\$20.0	\$0.0	\$144.8
CARM***	\$385.8					\$385.8
Metropolitan Highway system (MHS) pay-go	\$56.3	\$54.5	\$45.5	\$44.0	\$41.7	\$242.0
Western Turnpike (WT) pay-go	\$83.5	\$81.8	\$80.5	\$78.4	\$76.7	\$401.0
Tobin Bridge (Tobin) pay-go	\$29.9	\$30.2	\$30.6	\$30.8	\$31.0	\$152.5
Gaming****	\$0.0	\$30.0	TBD	TBD	TBD	\$30.0
Municipal and local funds	\$1.9	\$1.8	\$1.7	\$1.7	\$1.7	\$8.8
Reimbursable and 3 rd parties	\$0.4	\$0.2	\$0.1	\$0.1	\$0.1	\$0.7
Public private partnerships						
Subtotal of non-federal sources*	\$1,535.0	\$1,048.9	\$988.8	\$1,019.9	\$978.7	\$5,571.3
Total sources*	\$2,192.2	\$1,771.5	\$1,843.1	\$1,892.4	\$1,644.3	\$9,343.5

* Totals may not add due to rounding | ** FTA reimbursements for MassDOT projects only; RTA federal funds are not included | ***Assumes minimum balance of \$50 million plus reimbursement of \$100 million in prior eligible spending funded with MHS pay-go funds. | ****Awaiting further guidance.



MBTA funding sources (preliminary draft)

Projected sources (in millions)	Funds on Hand (as of 7/1/18)	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Total
Federal sources of funds							
Federal Highway (FHWA) reimbursements	\$25.4	\$32.4	\$28.2	\$23.8	\$0.0	\$0.0	\$109.9
Federal Transit (FTA) reimbursements (prospective)	\$521.6	\$292.7	\$297.7	\$297.7	\$297.7	\$297.7	\$2,005.1
Existing FTA reimbursements and grant draws	\$764.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$764.0
FTA Full funding grant agreement (GLX FFGA)	\$518.8	\$150.0	\$150.0	\$100.0	\$46.1	\$0.0	\$965.0
Other federal funds	\$11.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$11.9
Subtotal federal sources	\$1,841.8	\$475.1	\$475.9	\$421.5	\$343.8	\$297.7	\$3,855.9
Bond cap	\$0.0	\$0.2	\$0.1	\$0.1	\$0.0	\$0.0	\$0.5
Accelerated Bridge bonds	\$0.0	\$2.0	\$1.1	\$0.6	\$0.3	\$0.0	\$4.0
Rail enhancement bonds	\$0.0	\$287.6	\$267.1	\$265.9	\$176.8	\$202.9	\$1,200.3
Revenue bonds	\$0.0	\$250.0	\$254.0	\$337.0	\$432.0	\$440.0	\$1,713.0
Positive Train Control (PTC) bonds	\$263.5	\$0.0	\$0.0	\$69.0	\$83.7	\$0.0	\$416.2
Metropolitan Highway system (MHS) pay-go	\$0.0	\$0.7	\$0.4	\$0.2	\$0.1	\$0.0	\$1.3
Municipal and local funds (GLX)	\$0.0	\$0.0	\$37.4	\$22.6	\$15.0	\$0.0	\$75.0
Reimbursable and 3 rd parties	\$8.6	\$7.7	\$7.7	\$7.7	\$7.7	\$7.7	\$47.2
Additional State Assistance*	\$140.0	\$150.0	\$150.0	\$150.0	\$150.0	\$150.0	\$890.0
Capital maintenance fund	\$9.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$9.5
Subtotal of non-federal sources	\$421.6	\$698.2	\$717.8	\$853.1	\$865.8	\$800.6	\$4,357.0
Total Sources	\$2,263.4	\$1,173.3	\$1,193.7	\$1,274.7	\$1,209.6	\$1,098.3	\$8,212.9

Note: The use of Revenue Bonds in each year of the CIP includes both cash on hand and new issuances. It does not represent the amount of new issuances anticipated each year. *Includes \$60M in State bond cap each year. | ** Totals may not sum due to rounding



Appendix: Changed CIP programs

- CIP Size requests
- Justification statements
- Purpose and need statements



Reliability / Division / Program Name

FY2018-2022 size:

- \$xx million over five years

Funding in last CIP



FY2019-2023 size:

- \$ XX

Program size request in this update



Underway/available as we know it today

Justification for FY2019-2023 program size:

- Succinctly explain why the program size has stayed the same, increased or decreased

Justification statement

Program performance:

Tracker target

- 95% E-Zpass payment rate (vs. pay-by-plate)

PfP tool forecast

- Not forecasted in PfP tool

Performance information when available

Other comments:

- Provide any other comments here necessary to understand program sizing, such as: FY17 having impacts, project cost increases (though this will not likely be okay to increase size of program), etc.

Any other relevant information that needs to be shared to help decide on program sizes

Program purpose and need statement:

- A statement about the purpose and need of the program

These will be edited to provide a singular voice

Reliability programs



Reliability / IT / Cyber/Information security

FY2018-2022 size:

- \$9.6 million over five years

Justification for FY2019-2023 program size:

- The recent passing of Article 87 has increased focus on securing the Commonwealth's digital assets. MassDOT/ MBTA own many of these assets – driver records, train control systems, toll systems, ITS systems, among others.
- The rapidly evolving nature of data breaches, hacks, and cyber-warfare grows in variety and complexity necessitates additional investment in IT infrastructure.

Program performance:

Tracker target

- **Not established in Tracker**

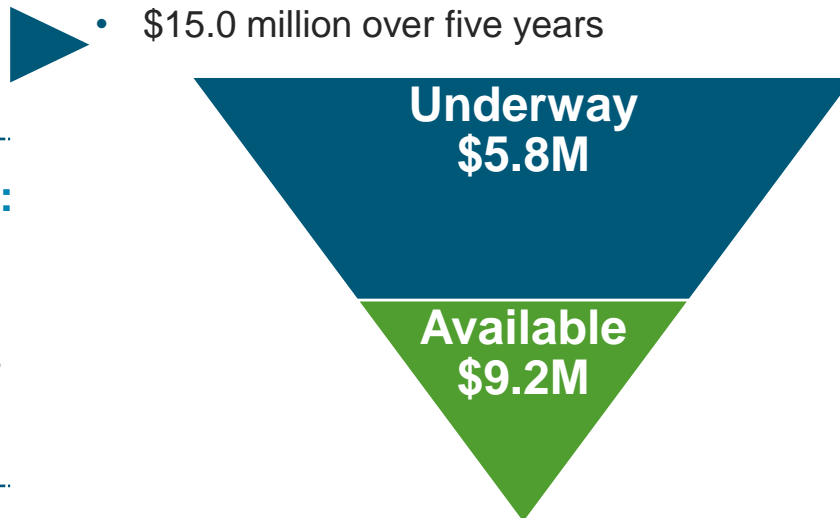
PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

FY2019-2023 size:

- \$15.0 million over five years



Program purpose and need statement:

- Projects in this category contribute to keeping IT infrastructure and software compliant with modern digital security standards.
- Protecting citizen data is becoming and increasing challenge for government systems across the country. Staying ahead in this area and adopting industry best practices is imperative to customer confidence in secure transactions.
- IT has requested an increase of \$5.4 million over 2018-2022 program size to address the needs.

Reliability / MBTA / Facilities

FY2018-2022 size:

- \$112.6 million over five years

Justification for FY2019-2023 program size:

- Increased program size due to Integrated Fleet and Facilities Plan requirements and commitment to maintain, upgrade, and improve bus maintenance garages consistent with the L264 agreement

Program performance:

Tracker target

- % of facilities with condition rating <3.0 in TERM scale

PfP tool forecast

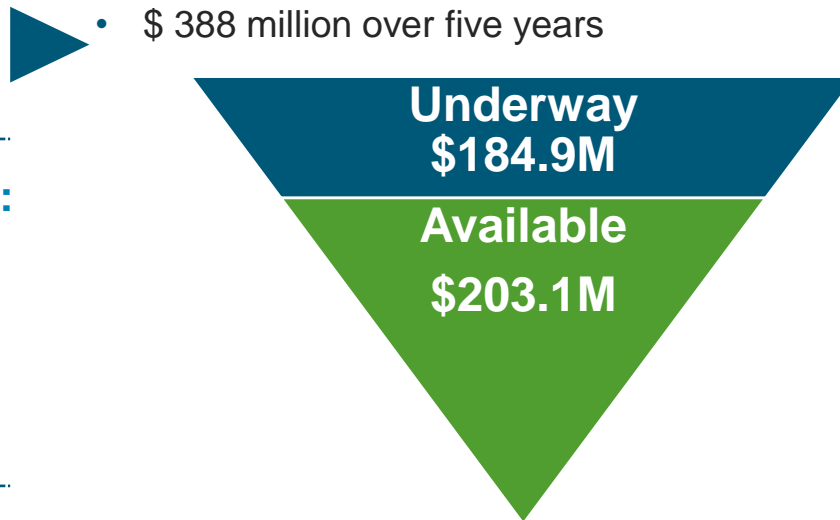
- Not forecasted in PfP tool

Other comments:

- Major projects currently underway are the Commuter Rail Iron Horse Operations Control Center, facility roof replacements, rail and bus lift upgrades, and upgrades to HVAC, exhaust, and fire safety systems
- Rebuild of Cabot and Wellington Yards is funded in the RL/OL Improvements program

FY2019-2023 size:

- \$ 388 million over five years



Program purpose and need statement:

This program rehabilitates and upgrades maintenance and administrative facilities that support MBTA operations.

Reliability / MBTA / Revenue vehicles

FY2018-2022 size:

- \$1,703.0 million over five years

Justification for FY2019-2023 program size:

- RL/OL vehicle procurement moved to RL/OL Improvements program (-\$585M)
- Net increase to overall vehicles investment to align with estimated annual investment needed for fleet requirements identified in the Integrated Fleet and Facilities Plan

Program performance:

Tracker target

- % of units beyond Useful Life Benchmark

PfP tool forecast*

- Bus – 2.72 average TERM-lite SGR score by 2022
- Rapid transit – 3.61 average TERM-lite SGR score by 2022

Other comments:

- FY18-22 funding tagged “pending fleet plan” will be programmed in FY19-23

FY2019-2023 size:

- \$ 1,289.9 million over five years



Program purpose and need statement:

- This program rehabilitates and replaces the MBTA revenue fleet, which includes commuter rail, heavy rail, light rail, bus and ferry units.

* This PfP forecast needs to be verified, will do before CPC meeting

Reliability / MBTA / System upgrades

FY2018-2022 size:

- \$397.4 million over five years

Justification for FY2018-2022 program size:

- Updated program size to focus on core systems and equipment reliability
- Unallocated “capital maintenance” funds distributed to specific programs and projects

Program performance:

Tracker target

- **Non-revenue vehicles: % of vehicles beyond ULB**

PfP tool forecast

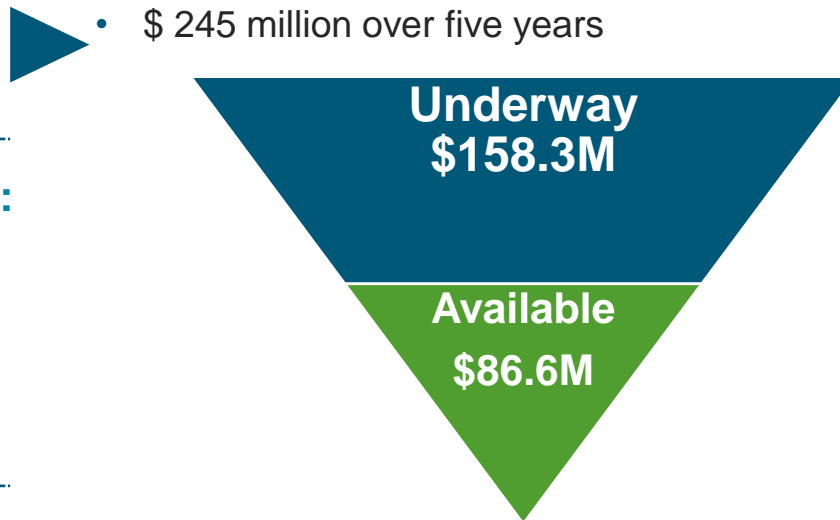
- **Not forecasted in PfP tool**

Other comments:

- Major projects underway are Systemwide radio upgrades, Non-Revenue Vehicles, and Transit Asset Management implementation

FY2019-2023 size:

- \$ 245 million over five years



Program purpose and need statement:

- This program upgrades a wide range of MBTA systems including communications, computer technology, fare collection, asset management and environmental remediation systems. It also rehabilitates non-revenue vehicles and equipment.

Reliability / MBTA / Track, signals, and power

FY2018-2022 size:

- \$1,285.6 million over five years

Justification for FY2019-2023 program size:

- Red/Orange Line Signal investments moved to RL/OL Improvements program (-\$332M)

Program performance:

Tracker target

- % of track segments with performance restrictions

PfP tool forecast

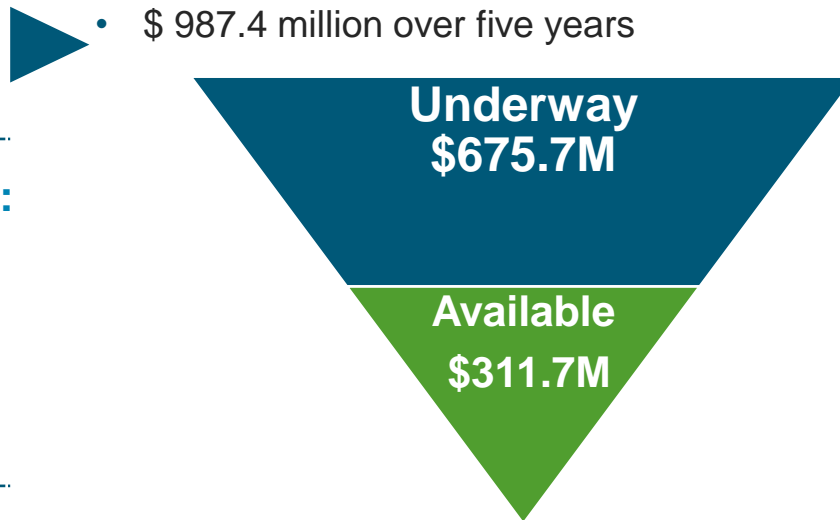
- Not forecasted in PfP tool

Other comments:

- Major projects underway include Green Line Signal Program, North Station Signals, Orange Line Traction Power, Commuter Rail Tracks, Ties, and Switches, and various projects executed on the Northeast Corridor/Providence/Stoughton Line in partnership with Amtrak
- Major Green Line track renewal in development

FY2019-2023 size:

- \$ 987.4 million over five years



Program purpose and need statement:

- This program rehabilitates, replaces and upgrades track, signal and power assets across the commuter rail and transit system.



Reliability / Highway / All-electronic tolling

FY2018- FY2022 size:

- \$66.6 million over five years



FY2019 - FY2023 size:

- \$66.6 million over five years



Justification for FY2019-2023 program size:

- Project has been completed

Program performance:

Tracker target

- 95% E-Z Pass payment rate (vs. pay-by-plate)

PfP tool forecast

- Not forecasted in PfP tool

Other comments:

Program purpose and need statement:

- This program converted the I-90 corridor from the New York border to Boston from a cash, toll booth system to a cashless system. Included in the program was the demolition of the former toll booths and realignment of exits and interchanges on the I-90 corridor.



Reliability / Highway / Bridge

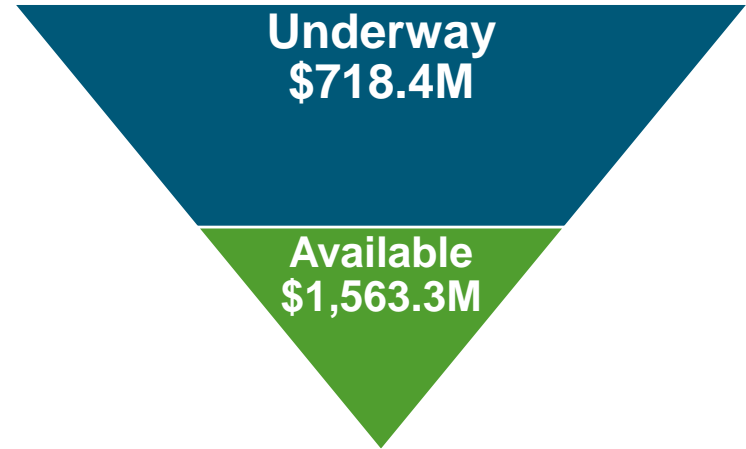
FY2018- FY2022 size:

- \$2,028.2 million over five years



FY2019 - FY2023 size:

- \$2,281.7million over five years



Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), and assumptions of carryforward spending from FY2018 and allocation of \$253.5M in design/project management costs
- Program size targets \$400 million per year to meet current PfP metric of 164 structurally deficient bridges by FY2022.
- Tracker structurally deficient deck area target is <13% in 2020 and <10% long term

Program performance:

Tracker target

- <10% NHS deck area in SD
- 95 Health Index

PfP tool forecast

- TBD (164?) bridges rated in structural deficient

Program purpose and need statement:

- This program maintains, reconstructs and replaces state and municipally owned bridges across the Commonwealth.

Other comments:

- Active construction (including complete and procurement) pipeline is \$523.1 million through FY2023.
- 75% or greater design pipeline is \$195.3 million through FY2023.
- 74% or less design pipeline is \$1.181.4 million through FY2023.



Reliability / Highway / Design, Environmental and Right of Way

FY2018 - FY2022 size:

- \$660.0 million over five years

Justification for FY2019-2023 program size:

- Costs associated with this program have been allocated to appropriate CIP programs supported by this effort
- Costs associated with this effort program include individual design, design phase and land taking contracts for approved projects.

Program performance:

Tracker target

- Not established in Tracker.

PfP tool forecast

- Not forecasted in PfP.

Other comments:

- This CIP line item has been the subject of extensive work in developing budget to actual reports.
- Goal for 2019-2023 is to budget the total cost of a project from design, ROW, project management, etc. through construction and completion

FY2019 - FY2022 size:

- \$0.0 million over the next five years



Program purpose and need statement:

Reliability / Highway / Facilities

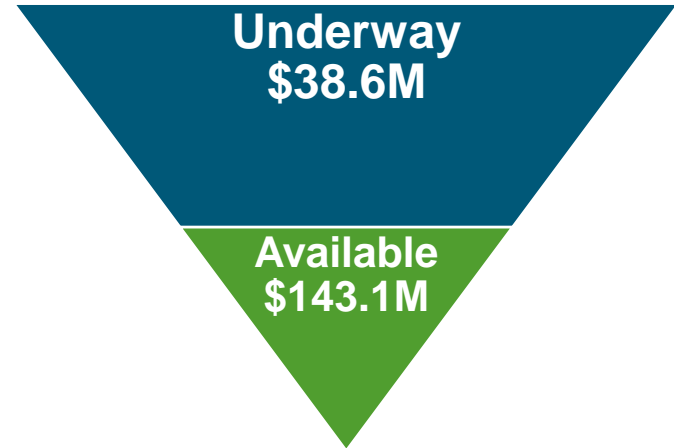
FY2018-2022 size:

- \$161.5 million over five years



FY2019-2023 size:

- \$181.7 million over the next five years



Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), assumptions of carryforward spending from FY2018 and allocation of \$20.2 million for design/project management costs.
- Program size should increase based on needs within districts, including District 6 relocation, Greenway facilities, ADA retrofits to district headquarters and depots or other projects in preliminary discussions

Program performance:

Tracker target

- Not established in Tracker

PfP tool forecast

- Not forecasted in PfP tool

Program purpose and need statement:

- This program maintains, repairs and replaces buildings, salt sheds, garages, vent buildings, and telecommunications and other systems owned by the Highway Division

Other comments:

- Active construction (including complete and procurement) pipeline is \$36.47 million through FY2023.
- 75% or greater design pipeline is \$1.2 million through FY2023.
- 74% or less design pipeline is \$15.9 million through FY2023.



Reliability / Highway / Interstate Pavement

FY2018-2022 size:

- \$281.7 million over five years



FY2019-2023 size:

- \$316.9 million over the next five years

Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), assumptions of carryforward spending from FY2018 and allocation of \$35.2 million for design/project management costs.
- \$49 million average annual spend produces 97% in good to excellent condition with 2% in poor condition per PfP. [confirm]
- \$68 million average annual spend in FY2017 CIP produced nearly same result per PfP.

Program performance:

Tracker target

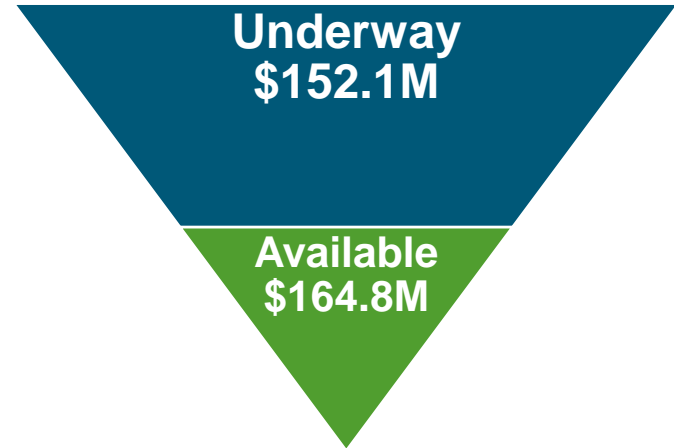
- 90% of pavement in good or excellent condition.

PfP tool forecast

- 95% of pavement in good or excellent condition.

Other comments:

- Construction pipeline is \$123.7 million through FY2023.
- 75% or greater design pipeline is \$28.4million through FY2023.
- 74% or less design pipeline is \$203.5 million through FY2023.



Program purpose and need statement:

- This program resurfaces and performs related work on the interstate system.
- This program is necessary to improve pavement conditions.



Reliability / Highway / Non-Interstate Pavement

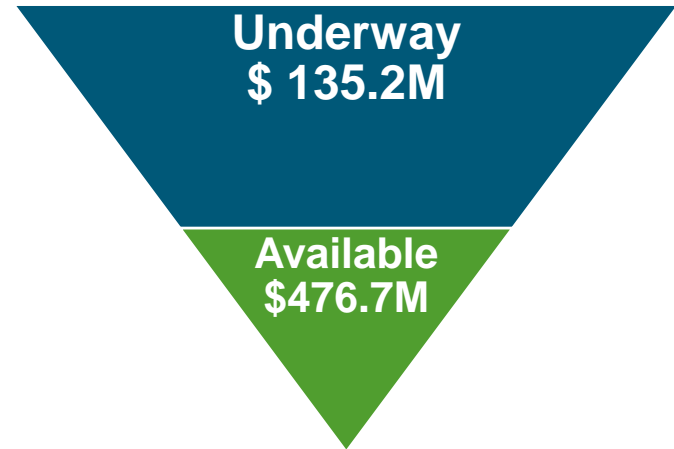
FY2018-2022 size:

- \$543.9 million over five years



FY2019-2023 size:

- \$ 611.9 million over the next five years



Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), assumptions of carryforward spending from FY2018 and allocation of \$68.0M for design/project management costs.
- Program is sized to address established PfP targets.

Program performance:

Tracker target

- 62% of pavement in good or excellent condition

PfP tool forecast

- 49% of pavement in good or excellent condition.

Other comments:

- Construction pipeline (all phases) is \$98.7 million through FY2023.
- 75% or greater design pipeline is \$36.4 million through FY2023.
- 74% or less design pipeline is \$391.9 million through FY2023.

Program purpose and need statement:

- This program resurfaces and performs related work on non-interstate roads owned by MassDOT.
- This program is necessary to fulfill system wide maintenance contracts to improve pavement condition, and also includes site-specific projects.



Reliability / Highway / Retainage and Utility Payments

FY2018-2022 size:

- \$50.0 million over five years



FY2019-2023 size:

- \$ 0 million over the next five years



Justification for FY2019-2023 program size:

- Costs associated with this program have been allocated to appropriate CIP programs supported by this effort
- Costs associated with this program fund the payments for utilities and close-out costs, typically at the end of a project.

Program performance:

Tracker target

- Not established in Tracker

PfP tool forecast

- Not forecasted in PfP

Program purpose and need statement:

Other comments:

- Highway is working with Budget to scrub MMARs data and encumbrances to set an appropriate target for the next CIP
- Project Delivery improvement process has recommended new estimation tools to eliminate the need for this line item.



Reliability / Highway / Roadway Improvements

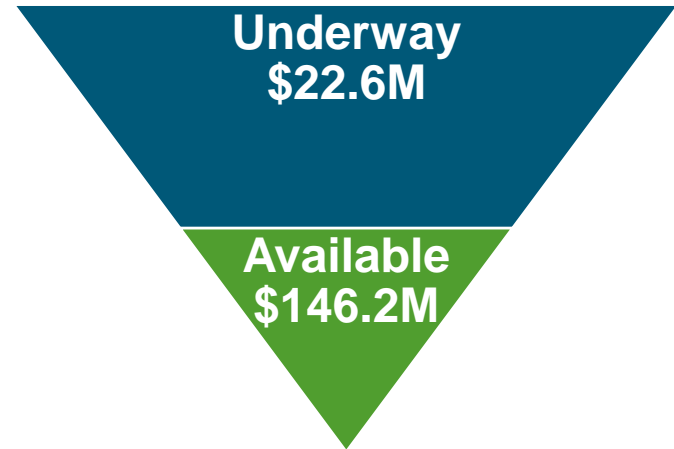
FY2018-2022 size:

- \$150.0 million over five years



FY2019-2023 size:

- \$168.8 million over the next five years



Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), assumptions of carryforward spending from FY2018 and allocation of \$18.8M for design/project management costs.
- Program supports necessary and critical contracted services throughout the Commonwealth.

Program performance:

Tracker target

- Not established in Tracker

PfP tool forecast

- Not forecasted in PfP

Other comments:

- Active construction (including procurement) pipeline is \$22.5 million through FY2023.
- 75% or greater design pipeline is \$0 million through FY2023.
- 74% or less design pipeline is \$447.3 million through FY2023.

Program purpose and need statement:

- This program performs pot hole, fencing, guardrail, and sidewalk maintenance, repairs and other related improvements on non-interstate state owned roadways. This program also includes federally funded storm water retrofit projects.
- This program is preventative in nature, and is necessary to maximize the useful life and condition of roadways.



Reliability / Highway / Safety Improvements

FY2018-2022 size:

- \$235.8 million over five years



Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), assumptions of carryforward spending from FY2018 and allocation of \$29.5M for design/project management costs.
- Program includes Work Zone Safety Program
-

Program performance:

Tracker target

- Move to 0 fatalities
- Move to 0 injuries

PfP tool forecast

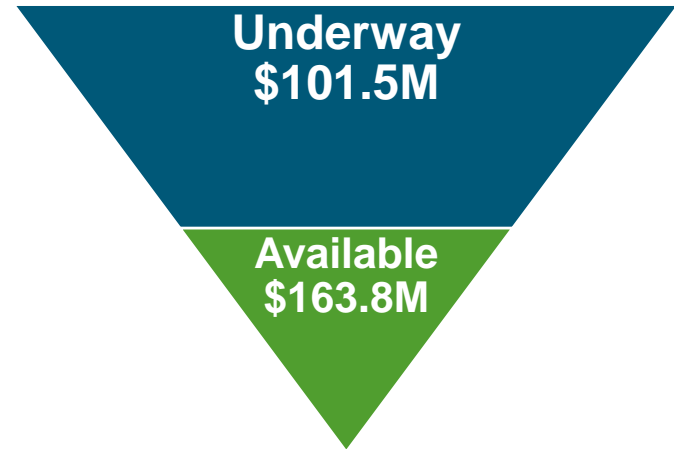
- Not yet forecasted in PfP

Other comments:

- Active construction (including procurement) pipeline is \$101.5 million through FY2023.
- 75% or greater design pipeline is \$223.4million through FY2023.
- 74% or less design pipeline is \$103.7 million through FY2023.

FY2019-2023 size:

- \$265.3 million over the next five years



Program purpose and need statement:

- This program, which is both state and federally funded, repairs traffic signals, highway lighting systems, impact attenuators, traffic signs and pavement markings.
- This program is necessary to provide a safe roadway network for Commonwealth residents and visitors.



Reliability / Highway / Tunnels

FY2018-2022 size:

- \$350.0 million over five years



FY2019-2023 size:

- \$393.8 million over the next five years

Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), assumptions of carryforward spending from FY2018 and allocation of \$43.8M for design/project management costs.
- Updated needs assessment for the MHS Tunnel system is underway, including focus on critical safety improvements.
- Tunnel Lighting P3 and CARM projects will be included in this program once the procurements are finalized.

Program performance:

Tracker target

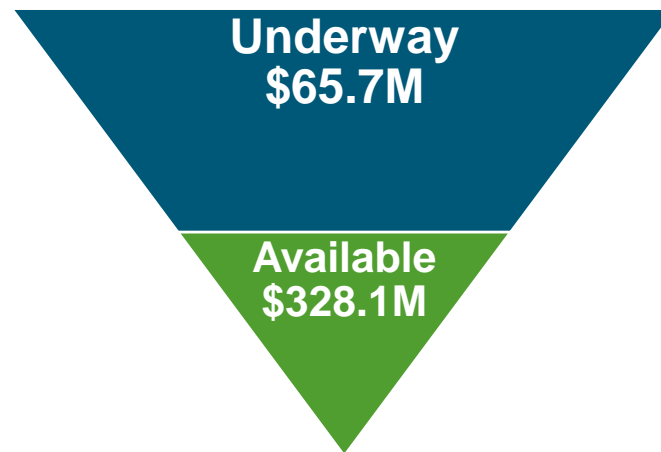
- Move to 0 fatalities
- Move to 0 injuries

PfP tool forecast

- Not yet forecasted in PfP

Other comments:

- This program reconstructs and maintains the regional tunnel network with state and federal funds and private-public partnerships. This program improves lighting, life safety systems and tunnel infrastructure.
- Underway million represents \$21.2 million in construction projects (all phases) and a pipeline of \$51.4 million of projects in design.



Program purpose and need statement:

- This program reconstructs and maintains the regional tunnel network with state and federal funds and private-public partnerships. This program improves lighting, life safety systems and tunnel infrastructure.



Reliability / Rail / Facility reliability

FY2018-2022 size:

- \$15.0 million over five years

Justification for FY2018-2022 program size:

- FY 2018-FY2023 program reflects amount needed to repair and/or facility replacements for SGR

Program performance:

Tracker target

- Not established in Tracker

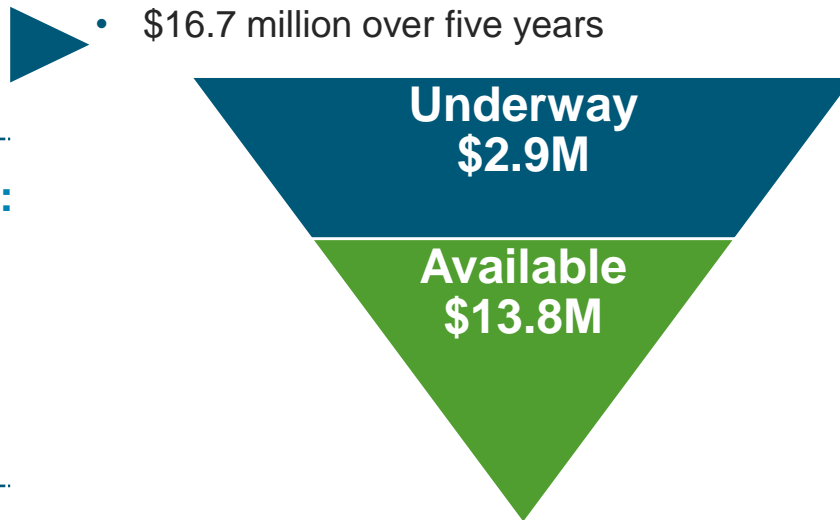
PfP tool forecast

- Not forecasted in PfP tool

Other comments:

FY2019-2023 size:

- \$16.7 million over five years



Program purpose and need statement:

- This program repairs or replaces rail facilities, specifically rail yards and stations, to avoid deterioration or maintain the facility's utility. Prioritization of program projects will reflect condition reports, type of risk/usage, and any contractual or regulatory requirements for action.
- This program is necessary to maintain a safe and reliable rail system.

Reliability / Transit / RTA facility and vehicle maintenance

FY2018-2022 size:

- \$10.0 million over five years

FY2019-2023 size:

- \$ 17.45 million over five years

Justification for FY2019-2023 program size:

- Updated project lists for all five years were submitted by the RTAs accounts for changes in the overall program size.

Program performance:

Tracker target

- Not established in Tracker

PfP tool forecast

- Not forecasted in PfP tool

Other comments:

- N/A



Program purpose and need statement:

- The program addresses the maintenance, rehabilitation and upkeep of existing RTA facilities or vehicles.

Reliability / Transit / RTA vehicle replacement

FY2018-2022 size:

- \$58.0 million over five years

Justification for FY2018-2022 program size:

- The updated program size reflects the total need as identified by the RTAs for vehicle replacements over the next five years.

Program performance:

Tracker target

- Not established - demand response vehicle age
- Not established - revenue vehicle condition

PfP tool forecast

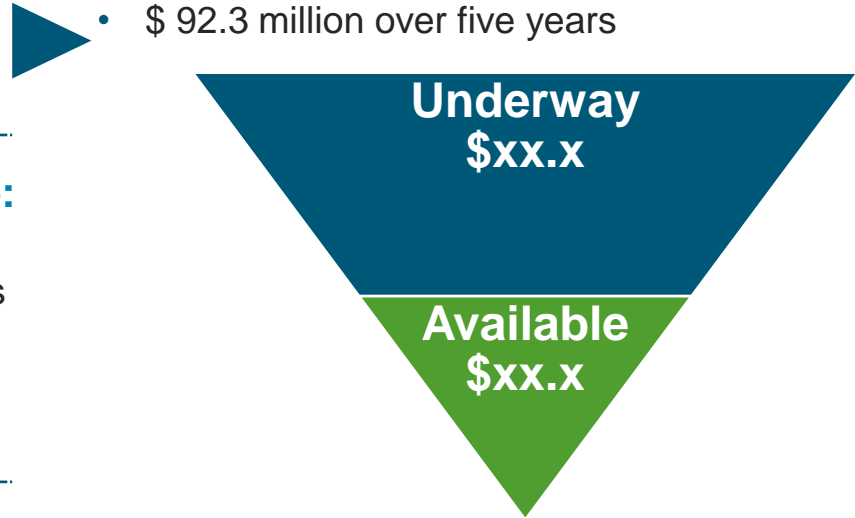
- 7.4 average fleet age in years (up from 4.9)

Other comments:

- N/A

FY2019-2023 size:

- \$ 92.3 million over five years



Program purpose and need statement:

- This program replaces existing Regional Transit Authorities' (RTA) vehicles so that they meet state of good repair standards.

Modernization programs



Modernization / Highway / ADA Retrofits

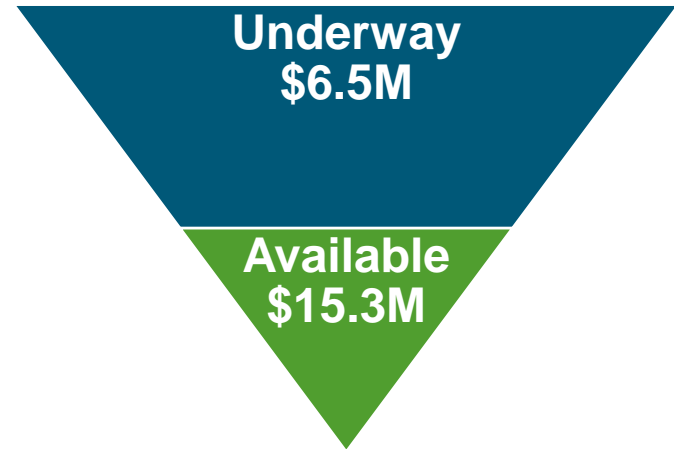
FY2018-2022 size:

- \$19.4 million over five years



FY2019-2023 size:

- \$ 21.8 million over five years



Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), assumptions of carryforward spending from FY2018 and allocation of \$2.4 million for design/project management costs.
- PfP forecasts a 57% [confirm] decrease in failed curb ramps based on the average annual spending provided over the next five years.

Program performance:

Tracker target

- 0 failed or missing curb ramps.

PfP tool forecast

- 24% decrease in failed curb ramps

Other comments:

- Active construction (including procurement) pipeline is \$5.0 million through FY2023.
- 75% or greater design pipeline is \$1.4 million through FY2023.
- 74% or less design pipeline is \$16.5 million through FY2023.

Program purpose and need statement:

- This program improves the condition and accessibility of state owned sidewalks.
- This program is necessary to meet obligations identified under the MassDOT ADA Transition Plan.



Modernization / Highway / Allston Multi-Modal (preliminary draft)

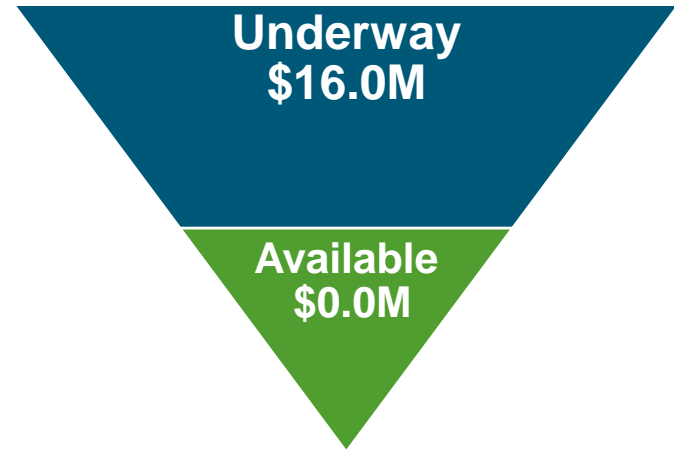
FY2018-2022 size:

- 16.0 million over five years



FY2019-2023 size:

- \$16 million over five years



Justification for FY2019-2023 program size:

- Includes Allston viaduct, rail and layover facilities, new transit and bus station, pedestrian and open space, new connector roadways, among other components
- Initial program size for design effort; further details to be provided

Program performance:

Tracker target

- Not established in Tracker

PfP tool forecast

- Not forecasted in PfP

Program purpose and need statement:

- This program reconstructs and realigns the Allston interchange to improve safety for all transportation modes: walking, cycling, driving, transit and to create a vibrant Allston neighborhood reconnecting sections to each other and to the Charles River.

Other comments:



Modernization / Highway / Intelligent Transportation Systems

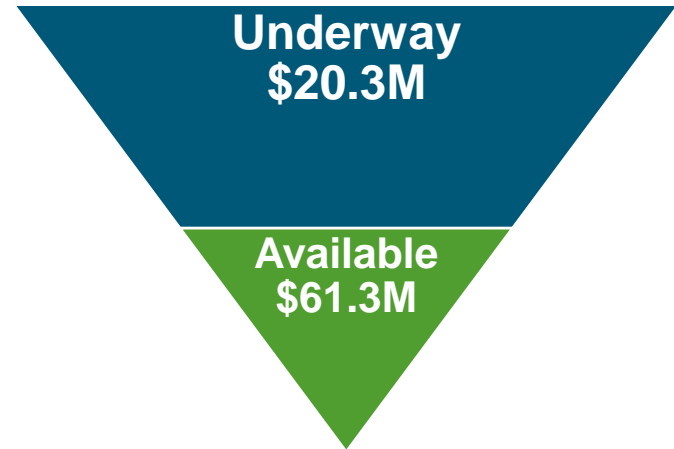
FY2018-2022 size:

- \$72.5 million over five years



FY2019-2023 size:

- \$81.6 million over five years



Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), assumptions of carryforward spending from FY2018 and allocation of \$9.1 million for design/project management costs.
- Program staff are focusing on project development and implementation in the next CIP cycle.

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

- **Not forecasted in PfP**

Other comments:

- Active construction (including all phases) pipeline is \$20.3 million through FY2023.
- 75% or greater design pipeline is \$0 million through FY2023.
- 74% or less design pipeline is \$54.7 million through FY2023.

Program purpose and need statement:

- This program supports innovative and new communication equipment and information technology systems (signs, cameras, sensors, etc.) designed to provide real time traffic information to residents and visitors.
- This program is necessary to improve our network of communication tools, to allow drivers to make better informed decisions regarding travel options.



Modernization / Highway / Intersection Improvements

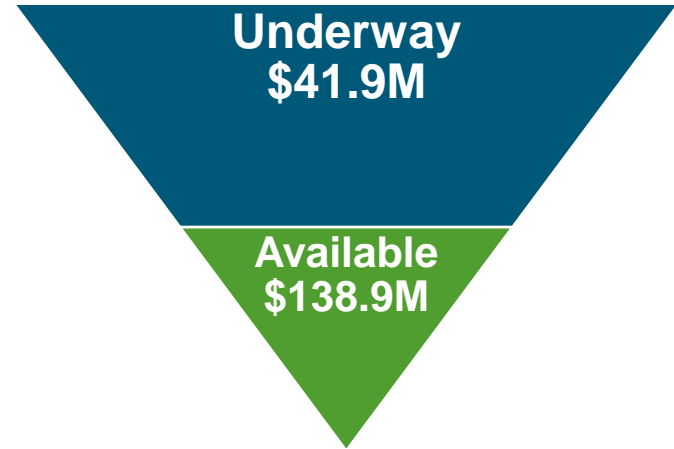
FY2018-2022 size:

- \$160.7 million over five years



FY2019-2023 size:

- \$180.8 million over five years



Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), assumptions of carryforward spending from FY2018 and allocation of \$20.1 million for design/project management costs.
- Average annual spend will result in 1,530 less crashes per PfP tool forecast. **[Confirm]**

Program performance:

Tracker target

- Move to zero fatalities
- Move to zero injuries

PfP tool forecast

- 1,530 economic-weighted EPDO crashes reduced.

Other comments:

- Active construction (including all phases) pipeline is \$15.5 million through FY2023.
- 75% or greater design pipeline is \$26.5 million through FY2023.
- 74% or less design pipeline is \$162.0 million through FY2023.

Program purpose and need statement:

- This program upgrades and improves traffic signals and intersections.
- This program is necessary to meet safety improvement targets.



Modernization / Highway / Roadway reconstruction

FY2018-2022 size:

- \$1,261.0 million over five years



FY2019-2023 size:

- \$1,418.6 million over five years

Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023), assumptions of carryforward spending from FY2018 and allocation of \$157.6 million for design/project management costs.
- Recommend program size is due construction spending on Charlton/Oxford, Route 97 and I-495/I-90 interchange
- Forecasted program size does not include construction spending on the I-90 Viaduct based on the current ad date of October 2022.

Program performance:

Tracker target

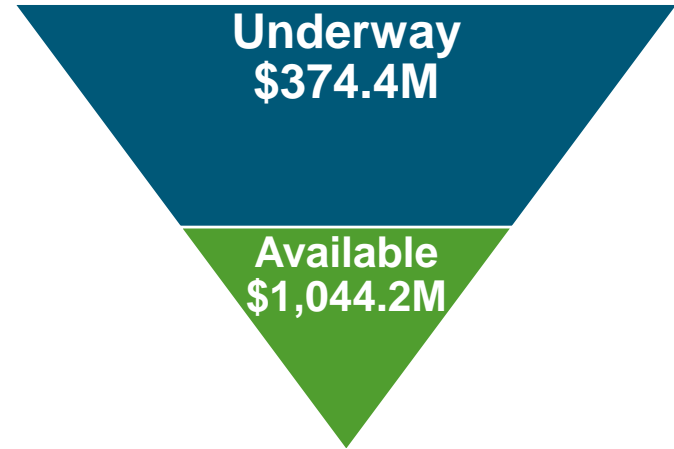
- Move to zero fatalities
- Move to zero injuries

PfP tool forecast

- 1,530 economic-weighted EPDO crashes reduced.

Other comments:

- Active construction (including all phases) pipeline is \$151.0 million through FY2023.
- 75% or greater design pipeline is \$223.4 million through FY2023.
- 74% or less design pipeline is \$847.5 million through FY2023.



Program purpose and need statement:

- This program improves the overall condition of roads, by supporting both large and small state and municipal investments. Nearly all of the projects in this program include improvements to bicycle and pedestrian user spaces.



Modernization / MBTA / Accessibility

FY2018-2022 size:

- \$224.2 million over five years

Justification for FY2019-2023 program size:

- Increase in program size to reflect additional PATI priority investments in station reconstruction (e.g. high-level platforms) and vertical transportation (e.g. elevators)

Program performance:

Tracker target

- **Not established - platform accessibility**

PfP tool forecast

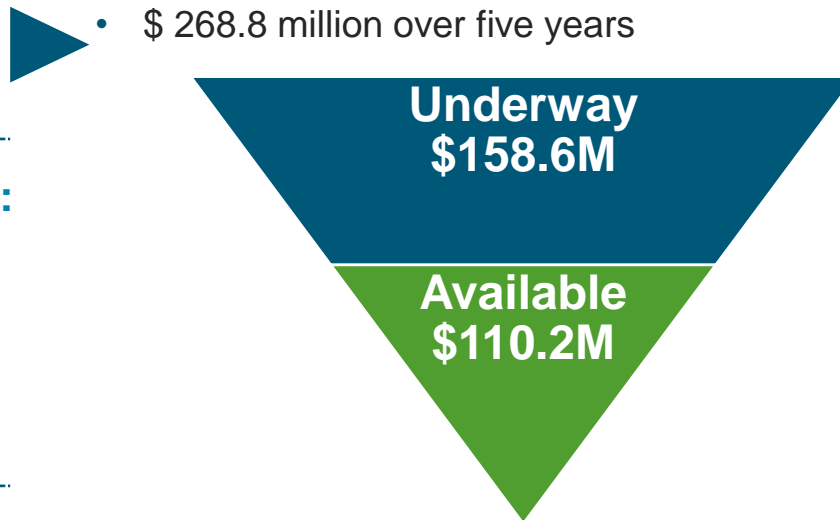
- **87% of stations ADA compliant by 2022**

Other comments:

- Major projects underway include elevator program and Symphony Station
- Accessibility projects often involve SGR improvements to stations as well

FY2019-2023 size:

- \$ 268.8 million over five years



Program purpose and need statement:

- This program improves accessibility at MBTA commuter rail, subway and bus stations.
- This program is necessary to meet the goals of the Authority's Plan for Accessible Transit Infrastructure ("PATI").



Modernization / MBTA / Risk Management and Mitigation

FY2018-2022 size:

- \$538.8 million over five years (as Federal Programs and Mandates)

Justification for FY2019-2023 program size:

- Renamed program to reflect proactive approach to safety, security, and risk management
- PTC moved to Commuter Rail Safety and Resiliency Program (-\$339M)

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

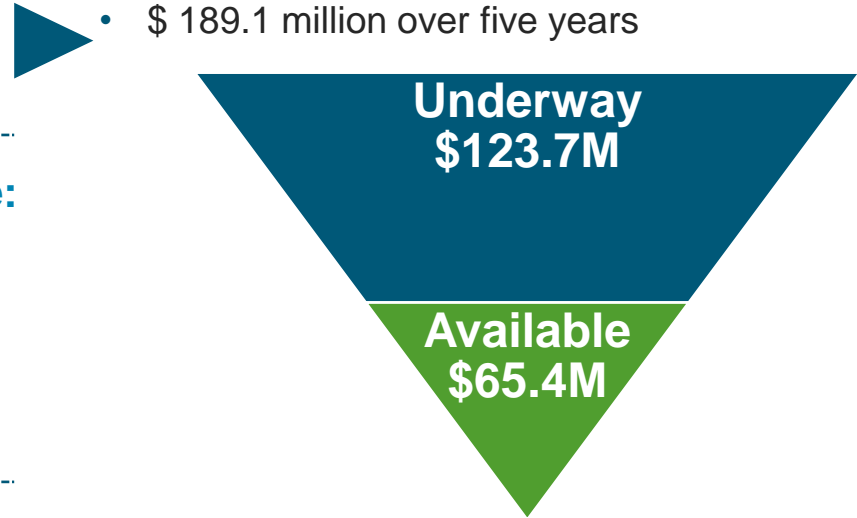
- **Not forecasted in PfP tool**

Other comments:

- Program name was Federal Programs and Mandates in FY2018-2022 CIP
- Major projects underway are Green Line Train Protection and systemwide security upgrades

FY2019-2023 size:

- \$ 189.1 million over five years



Program purpose and need statement:

- This program implements risk management initiatives as well as proactive efforts to improve workplace safety and system security

Modernization / MBTA / Process Improvements and Innovation

FY2018-2022 size:

- \$0.0 million over five years (part of \$622M System Improvements)

Justification for FY2019-2023 program size:

- Renamed from “System Improvements” to reflect projects that introduce technology or other tools to improve or modernize MBTA business processes

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

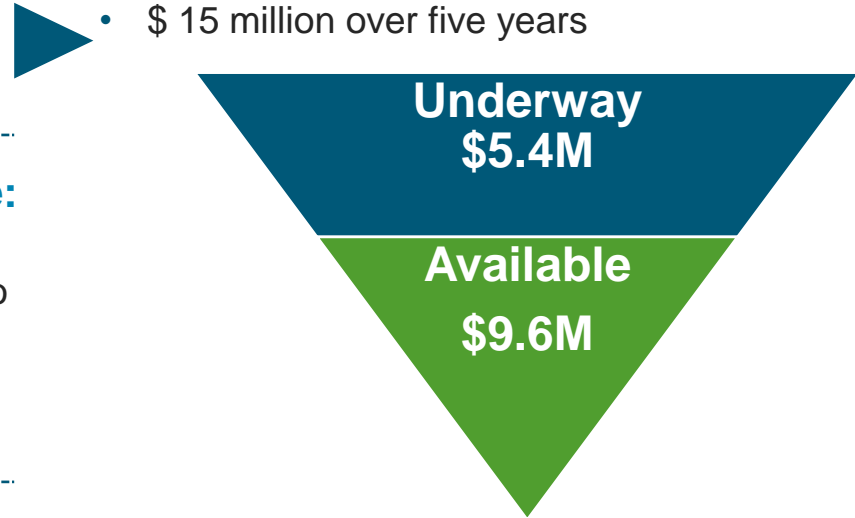
- **Not forecasted in PfP tool**

Other comments:

- Major projects underway are Green Line LEAN study, Commuter Rail vision, PMIS eBuilder implementation

FY2019-2023 size:

- \$ 15 million over five years



Program purpose and need statement:

- This program includes investments in innovations that enhance productivity or quality of MBTA services and capital programs.

Modernization / MBTA / Customer Experience and Technology

FY2018-2022 size:

- \$0.0 million over five years (part of \$622M System Improvements)

Justification for FY2019-2023 program size:

- Renamed from “System Improvements” to reflect projects that enhance customer experience through technology, signage, or other improvements

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

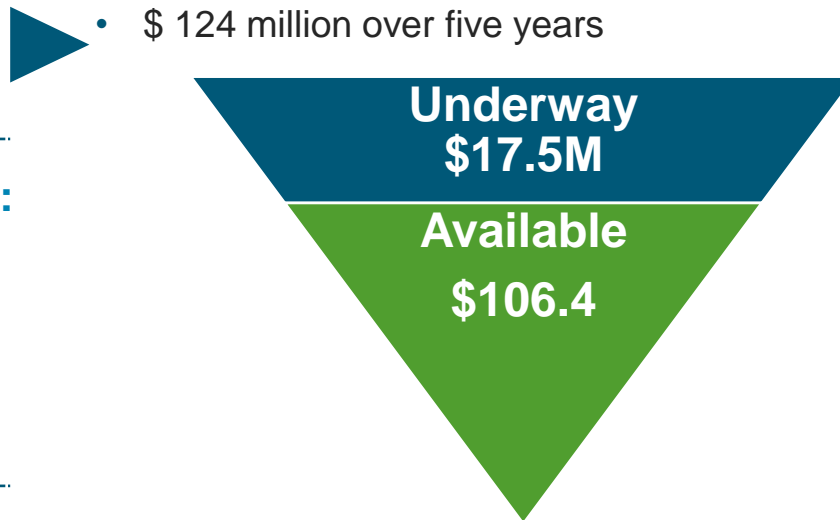
- **Not forecasted in PfP tool**

Other comments:

- Major projects underway are Park Street Wayfinding, T Digital Service, and Green Line Real Time Tracking.
- This program will be primarily funded with Pay-Go/Lockbox

FY2019-2023 size:

- \$ 124 million over five years



Program purpose and need statement:

- This program includes improvement projects that modernize the system and enhance customers' experience.

Modernization / MBTA / AFC 2.0

FY2018-2022 size:

- \$0.0 million over five years (part of \$622M System Improvements)

Justification for FY2019-2023 program size:

- AFC 2.0 is a high-profile and complex program that should be managed and monitored separately from other customer technology investments

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

- Total investment in \$407 million over life of the project; program size reflects MBTA payments within the five-year CIP window

FY2019-2023 size:

- \$ 168.2 million over five years



**Underway
\$168.2M**

Program purpose and need statement:

- AFC 2.0 is the MBTA's new integrated, reliable, and convenient fare payment and collection system to enable customers to pay fares by tapping contactless bank cards, mobile phones, and fare cards across the entire system

Modernization / MBTA / AFC 2.0

FY2018-2022 size:

- \$0.0 million over five years (part of \$622M System Improvements)

Justification for FY2019-2023 program size:

- AFC 2.0 is a high-profile and complex program that should be managed and monitored separately from other customer technology investments

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast


- **Not forecasted in PfP tool**

Other comments:

- Includes MBTA payments within the five-year CIP window

FY2019-2023 size:

- \$ 168.2 million over five years



**Underway
\$168.2M**

Program purpose and need statement:

- AFC 2.0 is the MBTA's new integrated, reliable, and convenient fare payment and collection system to enable customers to pay fares by tapping contactless bank cards, mobile phones, and fare cards across the entire system

Modernization / MBTA / Red Line/Orange Line Improvements

FY2018-2022 size:

- \$0.0 million over five years (part of multiple programs)

Justification for FY2019-2023 program size:

- The Red Line/Orange Line vehicle procurements, signals work, and infrastructure investments are a complex and high profile project with interdependencies across asset classes

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

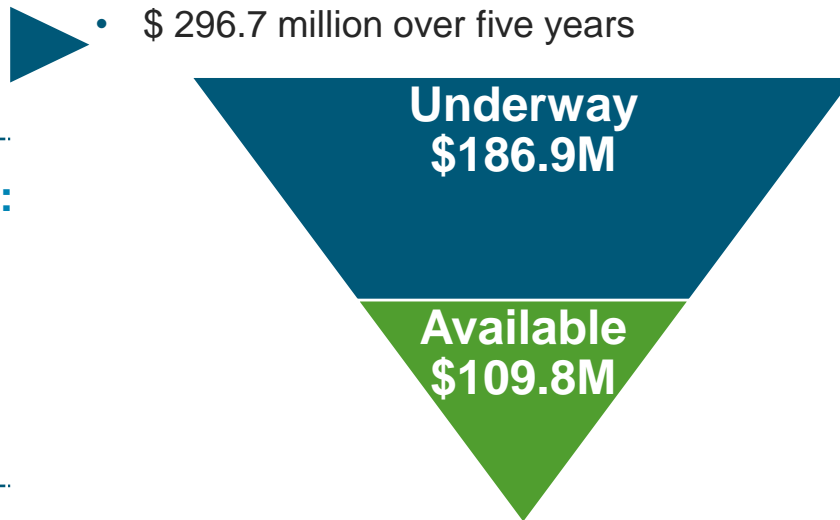
- **Not forecasted in PfP tool**

Other comments:

- Includes Red Line/Orange Line vehicle procurements previously in Revenue Vehicles program, Red Line Signals previously in Track, Signals, and Power program, and Cabot and Wellington Yard rebuild, previously in the System Improvements program

FY2019-2023 size:

- \$ 296.7 million over five years



Program purpose and need statement:

- The Red Line and Orange Line Improvements program includes the set of vehicle and infrastructure investments needed to fully modernize the fleet and achieve the service goal of three minute headways

Modernization / MBTA / Commuter Rail Safety and Resiliency

FY2018-2022 size:

- \$0.0 million over five years (part of \$538.8M Federal Programs and Mandates)

Justification for FY2019-2023 program size:

- New program to reflect various safety and resiliency efforts underway on the Commuter Rail network, primarily PTC

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

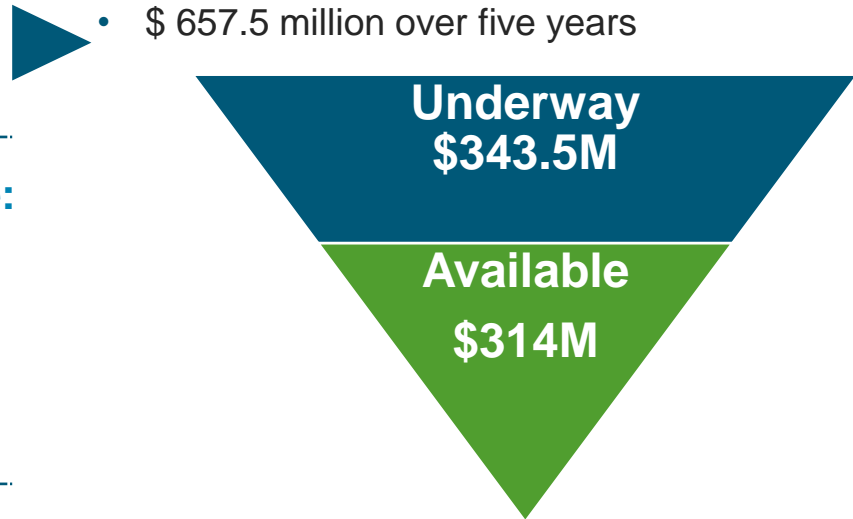
- **Not forecasted in PfP tool**

Other comments:

- Includes PTC Implementation from former Federal Programs and Mandates program, ATC implementation (new for FY19-23), vegetation management, and fiber installation (new for FY19-23).

FY2019-2023 size:

- \$ 657.5 million over five years



Program purpose and need statement:

- This program includes projects that improve the safety and resiliency of the Commuter Rail network, including the implementation of Positive Train Control.

Modernization / Rail / Track and right-of-way modernization

FY2018-2022 size:

- \$33.9 million over five years

Justification for FY2019-2023 program size:

- FY 2019-2023 program sized to continue effort to modernize rail track and ROW
- Program includes completion of work on the Knowledge Corridor and Patriot Double-Stack initiative

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

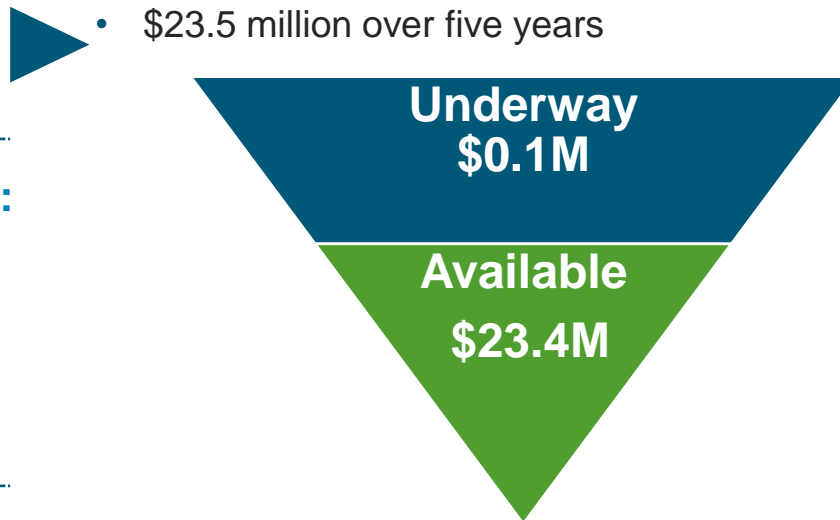
- **Not forecasted in PfP tool**

Other comments:

- May need to increase to address priorities outlined in the Statewide Rail Plan if certain lines need to accommodate 286,000 lb. capacity

FY2019-2023 size:

- \$23.5 million over five years



Program purpose and need statement:

- This program repairs or replaces assets within the rail right of way (typically ties, rail, ballast, switches, etc.) to upgrade their capacity to reflect current industry standards (ex: weight capacity to 286,000 lbs) for the line and maintain the line's utility. Prioritization of projects in this program will reflect economic opportunities for the line, most recent inspections, type of usage (ex: hazardous cargo), any contractual or regulatory requirements for action, and consistency with the Statewide Rail Plan.
- This program is necessary to maintain a safe, reliable, cost effective, and modern rail system.



Modernization / Registry / ATLAS

FY2018-2022 size:

- \$102.1 million over five years

Justification for FY2019-2023 program size:

- Program size reflects status of project and expected completion in 2021 and all costs associated with FAST Enterprises contract
- Includes Crash System implementation and International Registrations as part of ATLAS in FY2019-2023

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

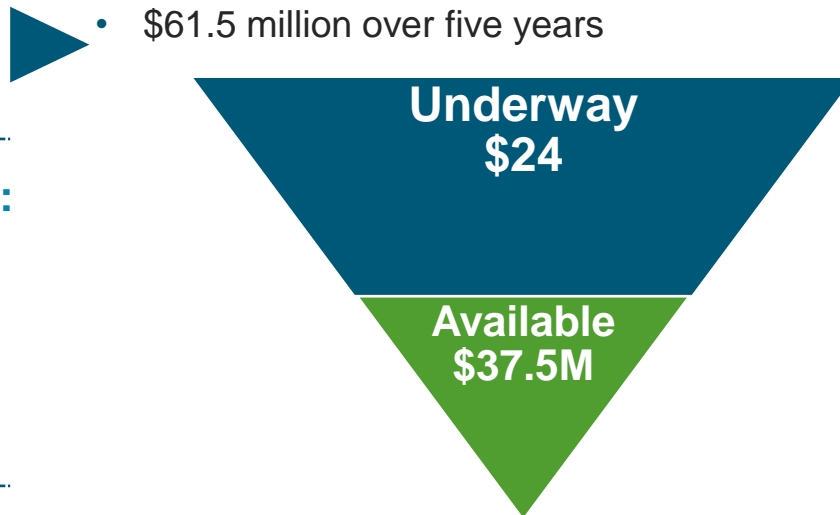
- **Not forecasted in PfP tool**

Other comments:

- Separate funding for ATLAS implementation provided by MassIT
- Total program size for ATLAS including prior years was \$125 million

FY2019-2023 size:

- \$61.5 million over five years



Program purpose and need statement:

- This program improves RMV service delivery options by replacing the ALARS system.
 - Increase business process efficiency through reduced wait times
 - Increase the number of transactions done via alternative customer service channels
 - Increase the capacity of third parties dependent on RMV data.

Modernization / Transit / RTA facility and system modernization

FY2018-2022 size:

- \$36.8 million over five years

Justification for FY2019-2023 program size:

- Updated project lists for all five years were submitted by the RTAs accounts for changes in the overall amount of funding forecasted.
- Program sizes adjusted to reflect RTA program priorities for Vehicle Replacements

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

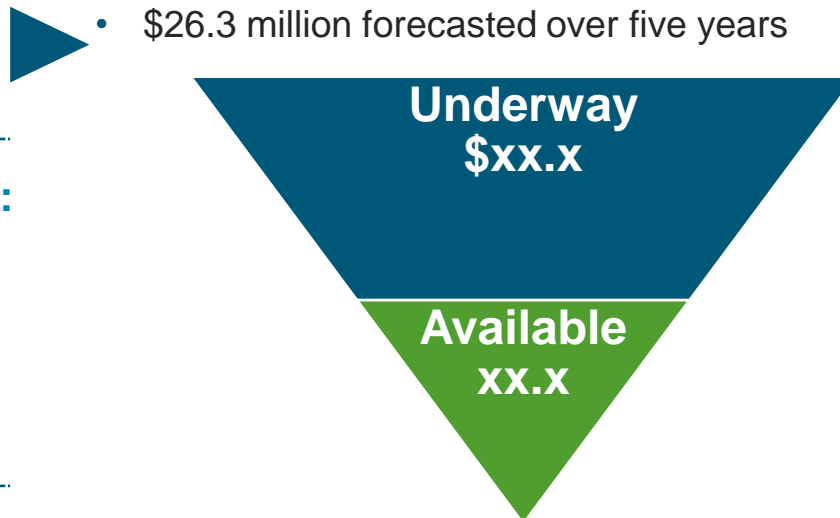
- **Not forecasted in PfP tool**

Other comments:

- In the FY17-21 CIP a placeholder of \$8.2 million was included in the out years of this program for future identification. The current FY18-22 program size includes this placeholder.

FY2019-2023 size:

- \$26.3 million forecasted over five years



Program purpose and need statement:

- This program improves or modernizes existing RTA facilities, systems or equipment.

Modernization / Transit / RTA replacement facilities

FY2018-2022 size:

- \$55.8 million over five years

FY2019-2023 size:

- \$16.4 million over five years

Justification for FY2019-2023 program size:

- These funds are for PVTA and FRTA maintenance facilities. PVTA facility will be completed in FY2019
- Significant additional bond cap was dedicated in FY2017-2021 plan towards the construction of the PVTA

Program performance:

Tracker target

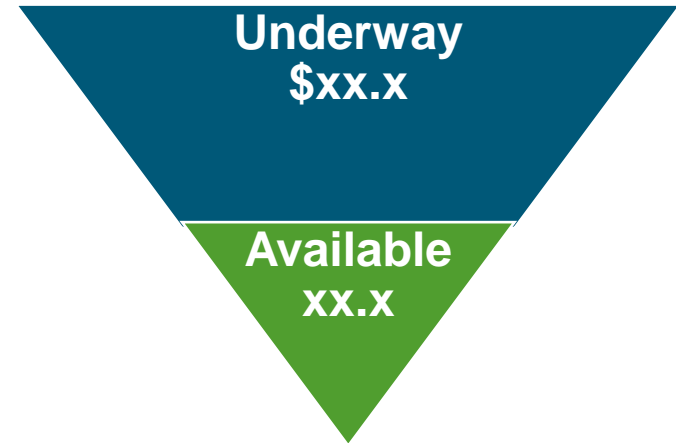
- **Not established in Tracker**

PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

- With completion of the PVTA facility, program sized to address more routine modernization efforts for RTA replacement facilities



Program purpose and need statement:

- This program constructs modernized RTA maintenance, administrative, operations or intermodal facilities.

Expansion programs



Expansion / Highway / Bicycle and Pedestrian

FY2018-2022 size:

- \$220.5 million over five years

FY2019-2023 size:

- \$180.6 million over five years

Justification for FY2019-2023 program size:

- In FY2018-2022 program combined Bicycle and Multi-Use Path programs. A portion of the Bicycle and Pedestrian Program funded by bond cap only (\$60 million) has been shifted into a new Bicycle and Pedestrian Modal implementation Program
- Program size is based on forecasted federal aid pedestrian and multi-use path projects

Program performance:

Tracker target

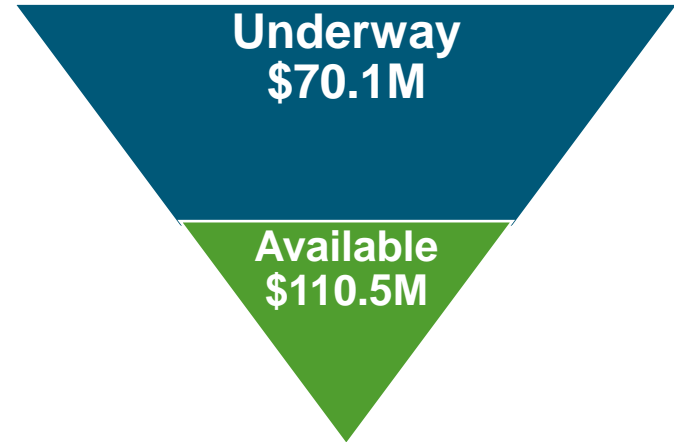
- Ped plan network completed.
- Bicycle plan network completed.

PfP tool forecast

- 1,041 miles of off-road bicycle and pedestrian facilities.

Other comments:

- Construction (all phases) pipeline is \$11.3 million through FY2023.
- 75% or greater design pipeline is \$58.8 million through FY2023.
- 74% or less design pipeline is \$142.2 million through FY2023.



Program purpose and need statement:

- This program constructs multi-use paths and other trails that are independent from a roadway. In addition, this program will meet future needs identified through the ongoing statewide bicycle and pedestrian planning effort.



Expansion / Highway / Capacity

FY2018-2022 size:

- \$273.9 million over five years

Justification for FY2019-2023 program size:

- Program size represents spend down on legacy projects that have ongoing commitments through FY2023; includes allocation of \$34.2 million for design/project management costs.
- Program also includes spending on South Coast Rail (Rail project) and Silver Line to Chelsea (MBTA projects) completed by Highway.

Program performance:

Tracker target

- Not established in Tracker; Average commute time is metric under development

PfP tool forecast

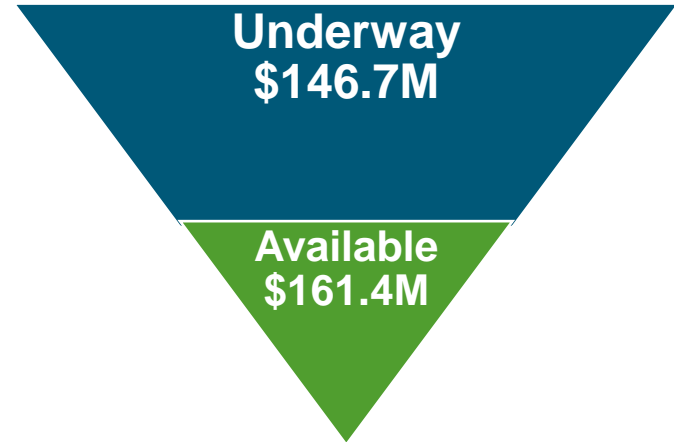
- Not forecasted in PfP.

Other comments:

- Construction (all phases) pipeline is \$139.0 million through FY2023.
- 75% or greater design pipeline is \$7.7 million through FY2023.
- 74% or less design pipeline is \$56.7 million through FY2023.

FY2019-2023 size:

- \$308.1 million over five years



Program purpose and need statement:

- This program adds new connections or expands the existing transportation network.



Expansion / MBTA / Green Line Extension

FY2018-2022 size:

- \$1,587.0 million over five years

Justification for FY2019-2023 program size:

- Green Line Extension is a complex and high-profile project with dedicated funding sources
- Overall program size decreased to reflect progress on Green Line Extension

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

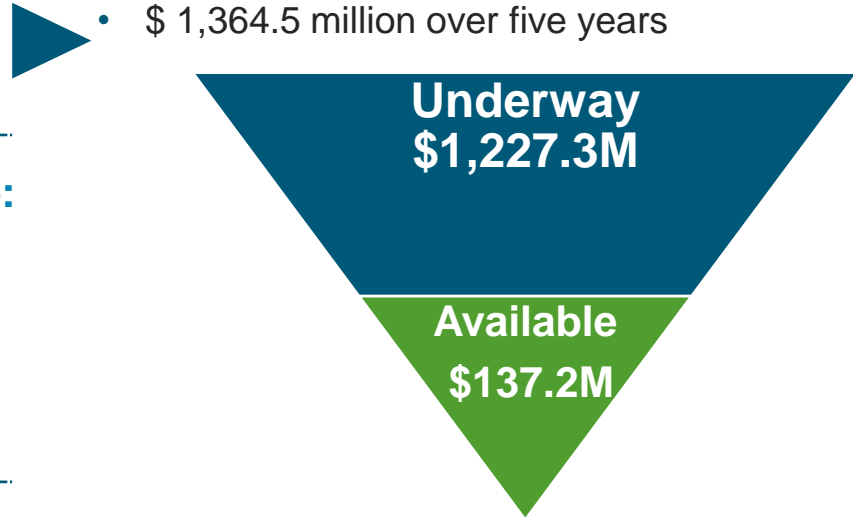
- **Not forecasted in PfP tool**

Other comments:

- Program size reflects funding sources for GLX.

FY2019-2023 size:

- \$ 1,364.5 million over five years



Program purpose and need statement:

- The Green Line Extension program includes the vehicles, stations and infrastructure to extend the Green Line from a relocated Lechmere Station in East Cambridge to Union Square in Somerville and College Avenue in Medford.

Expansion / MBTA / Expansion projects

FY2018-2022 size:

- \$1,587.0 million over five years

Justification for FY2019-2023 program size:

- GLX moved to its own project

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

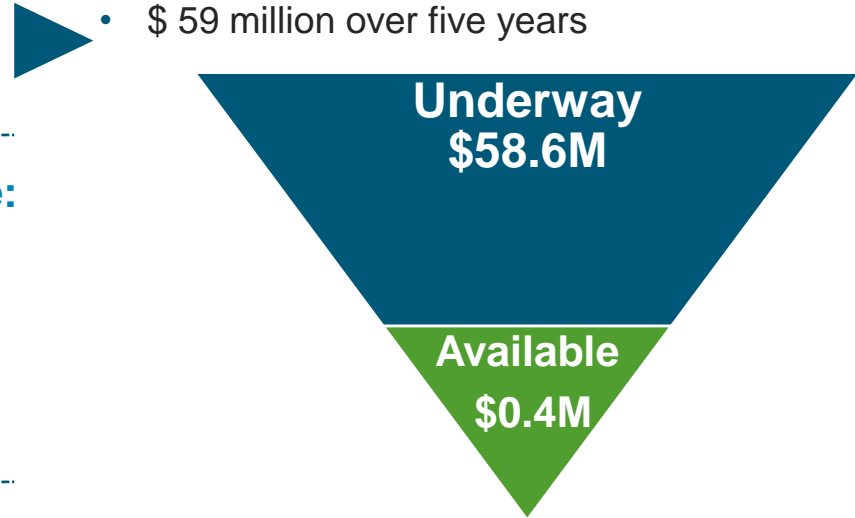
- **Not forecasted in PfP tool**

Other comments:

- Includes Silver Line Gateway, Blue Hill Ave Station, and MBTA related scope on South Coast Rail project

FY2019-2023 size:

- \$ 59 million over five years



Program purpose and need statement:

- This program makes targeted expansions in order to improve access to transit and statewide, including the Silver Line to Chelsea and Blue Hill Avenue Station on the Fairmount Line.

Expansion / Rail / South Coast Rail

FY2018-2022 size:

- \$100.0 million over five years

Justification for FY2019-2023 program size:

- FY2019-2023 program continues permitting, design and early action construction activities related to South Coast Rail and includes initial construction costs of the project in FY2019; funding for FY2020-2023 costs still under discussion with ANF. The total project costs are not yet reflected in the program size pending discussions with ANF.

Program performance:

Tracker target

- **Not established in Tracker**

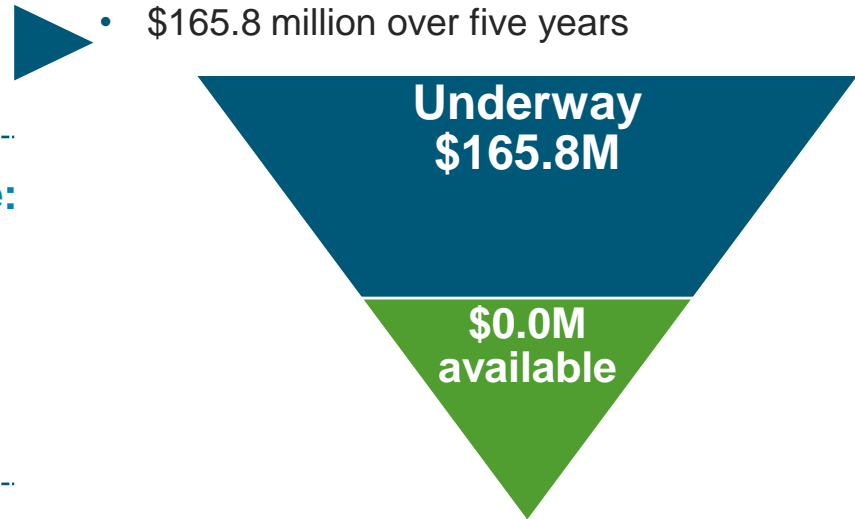
PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

FY2019-2023 size:

- \$165.8 million over five years



Program purpose and need statement:

- The Commonwealth is committed to moving forward with the South Coast Rail project to more fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, and to enhance regional mobility while supporting smart growth planning and development strategies in the affected communities.
- The project utilizes a phased approach to deliver the service while still proceeding with design and permitting of the Stoughton Electric Full Build alternative. Phasing will shorten the time by at least 10 years to implement service, minimize wetlands impacts and reduce the overall project costs by starting construction sooner. Phase 1 is projected to result in approximately 1,600 new daily inbound boardings at new stations along the route.



Expansion / Rail / Track and right-of-way expansion

FY2018-2022 size:

- \$100.0 million over five years for South Coast Rail project

Justification for FY2019-2023 program size:

- No project currently programmed;

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

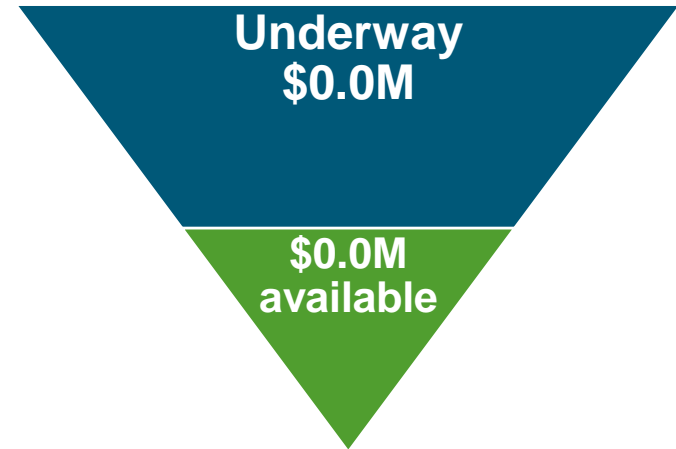
- **Not forecasted in PfP tool**

Other comments:

- FY2018-2022 program was focused primarily on the South Coast Rail project; project is now in a separate program

FY2019-2023 size:

- \$0.0 million over five years



Program purpose and need statement:

- This program repairs or replaces assets within the rail right of way (typically ties, rail, ballast, switches, etc.) to expand existing rail services, including the addition of passenger rail or freight rail. Prioritization of projects in the program will reflect economic opportunities for the new service, consistent with the statewide Rail Plan, and to comply with railroad contracts or FRA regulatory requirements.

Expansion / OTP / Bicycle and Pedestrian Modal Implementation

FY2018-2022 size:

- \$60 million over five years

Justification for FY2019-2023 program size:

- Existing program; no change in program size; in FY2018-2022 plan was combined with Multi-Use Paths under Highway / Bicycle and Pedestrian Program
- Spending will begin in FY19 as the Bicycle and Pedestrian Plans will be completed in FY18.
- Projects and programs will be informed by the final Bicycle and Pedestrian Plan

Program performance:

Tracker target

- Ped plan network completed and maintained.
- Bicycle plan network completed and maintained.

PfP tool forecast

- *In development*

Other comments:

FY2019-2023 size:

- \$60.0 million over five years



Program purpose and need statement:

- This program will meet needs identified through the statewide bicycle and statewide pedestrian planning efforts.
- The plans address critical needs around safety, accessibility, network connectivity and maintenance that are not already addressed in other programs.
- Priority projects and programs will meet current needs of our customers and work to attract more people to walk and bike to access destinations and transit.

Appendix: CIP programs (no substantive changes)

- CIP Size requests
- Justification statements
- Purpose and need statements

Reliability programs



Reliability / Aeronautics / Airport Pavement Management System

FY2018-2022 size:

- \$114.3 million over five years
(\$22.8 million per year)



FY2019-2023 size:

- \$123.3 million over five years is forecasted (Level Funded)
(\$24.7 million per year)

Justification for FY2019-2023 program size:

- Independent pavement analysis (2017) shows a decrease in the pavement condition index (PCI) at our public use airports (PCI 70 in FY13, PCI 68 FY17). Actual investment of \$17 million per year (\$23 million ask) not adequate to improve PCI and additional investment is warranted.

Program performance:

Tracker target

- 75 average PCI for airport pavement

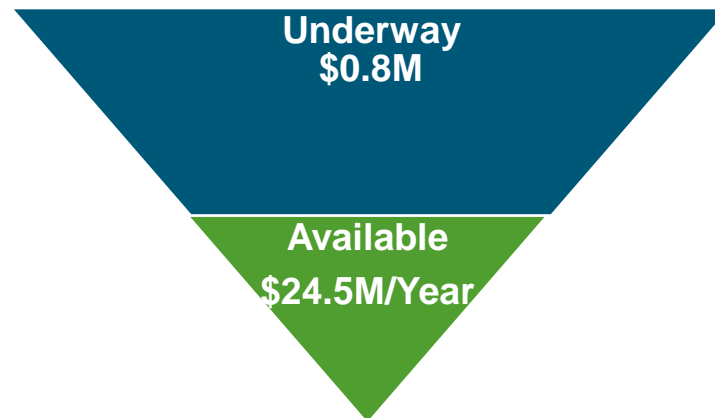
PfP tool forecast

- 83 average PCI for airport pavement by 2022*

Other comments:

- Pavement numbers are disappointing and lower than expected due to funding levels, faster degradation of the PCI life cycle curves than anticipated
- To supplement the 3 year independent analysis, MassDOT staff will perform yearly inspections. This will provide better data for the degradation curves and allow MassDOT to be able to more accurately predict the degradation of the pavement.
- \$9 million transferred from Airport Capital Improvements into Pavement Management for pavement crack sealing & markings

*This PfP forecast is based on new data collected from 2017



Program purpose and need statement:

- This program maintains the quality of pavement “inside the airport fence” at an adequate level.
- This program is necessary to continue safety and maintenance programs at public airports.
- Initial request to increase program size to \$210M (\$42M per year) to address new pavement condition assessments
 - Bond cap targets from ANF level with last plan; no additional funds available to fund increase
 - Actual dollars needed is \$130M for pavement plus \$80M for all other work associated with a pavement project (e.g. engineering design and construction phase services as well as earthworks, lighting, signing, markings, etc.)



Reliability / Aeronautics / Airport Capital Improvement

FY2018-2022 size:

- \$155.0 million over five years (\$29.2M per Year)

Justification for FY2019-2023 program size:

- Program dollars at 36 public-use airports is not adequate to maintain the existing airport system for the 10 (6 existing + 2 new) bucketed programs (3a-3h)
- Decreased preventative maintenance investment will result in the need for major future capital investment in the long run.
- Planned investments such as vegetation management (obstruction removal), and airport security cameras and fencing are necessary to ensure safe aircraft arrivals and departures.

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

- **Not forecasted in PfP tool**

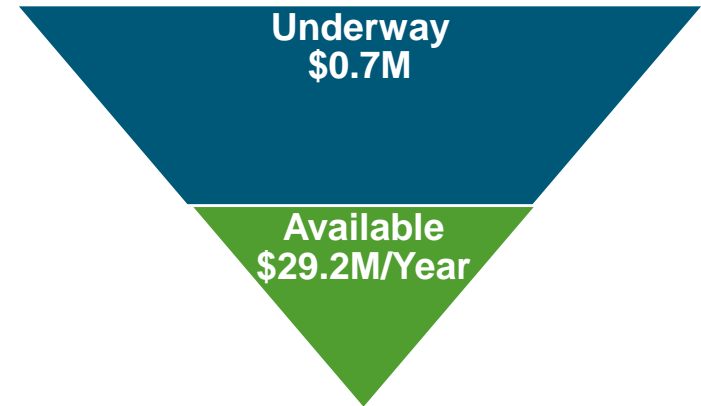
Other comments: *Total Program

- 3a – Vegetation Management
- 3b – Airport Security Camera Program
- 3c – Airport Security Fencing and Gates Program
- 3d – Navigational Aids (NAVAIDS) Maintenance Program
- 3e – Non-Pavement Airport Projects/FAA Projects State Match
- 3f – Airport System Planning Studies
- 3g – Airport Weather Observation Stations (AWOS) Program
- 3h – Airport Inspection Resolution Contingency Fund

*\$9 million transferred to Pavement Management for pavement crack sealing & markings scope

FY2019-2023 size:

- \$146.0 million over five years (Level Funded)
- (\$29.2M per Year)*



Program purpose and need statement:

- This program includes a full range of airport state of good repair projects.
- This program is necessary to continue safe and efficient airport operations and services.
- Initially requested an additional \$2.25M is requested to fund an Airport Weather Observation Station (AWOS) program for 10 airports over the next 5 years; and
- An additional \$1M over 5 years (\$200K/Year) to fund an airport inspection resolution contingency fund to resolve open airport inspection items that need to be resolved immediately to prevent the degradation of services provided at the 36 public use airports in the Commonwealth.
- Bond cap targets from ANF level with last plan; no additional funds available to fund increase



Reliability / Highway / Municipal Bridge

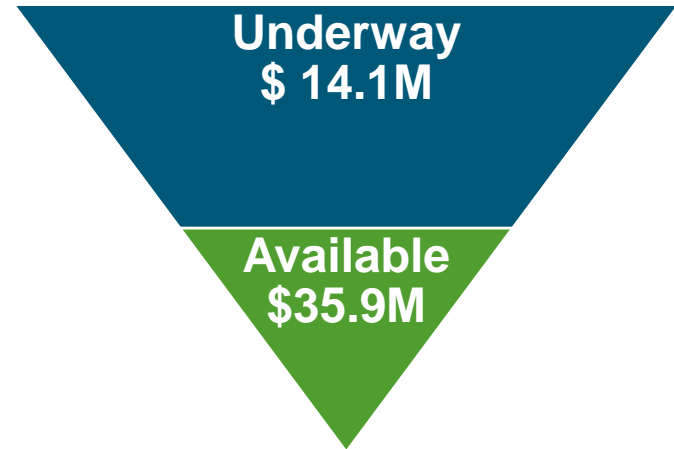
FY2018-2022 size:

- \$50.0 million over five years



FY2019-2023 size:

- \$50.0 million over the next five years



Justification for FY2019-2023 program size:

- Current recommendation is to level fund this grant program.
- Highway would like to increase the size of the program, but that is subject to available funds and trade offs.

Program performance:

Tracker target

- Not established in Tracker.

PfP tool forecast

- Not forecasted in PfP

Program purpose and need statement:

- This program assists municipalities in repairing and replacing town owned bridges with a span length of less than 20 feet

Other comments:

- Reimbursement program launched in FY2017.
- First two round of grants has been issued to municipalities.
- Sizing assumes level funding of the program budget.



Reliability / Highway / Equipment

FY2018-2022 size:

- \$75 million over five years



FY2019-2023 size:

- \$75 million over next five years



Justification for FY2019-2023 program size:

- Recommend level funding budget for the next CIP cycle.
- This program supports small equipment, vehicles and other capital assets.
- Current size is based on encumbrance values loaded into MMARS.

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

- Statewide program supporting all districts and services.
- These expenditures routinely occur in the capital plan
- Program size will likely be adjusted based on ongoing review of MMARS contracts and encumbrances.

Program purpose and need statement:

- This program makes routine purchases of, and replaces, vehicles, equipment and other capital assets.
- This program is necessary for the daily operation of the department.



Reliability / IT / Asset Management

FY2018-2022 size:

- \$15.5 million over five years

Justification for FY2019-2023 program size:

- All assets management investments including Highway, RMV and IT assets

Program performance:

Tracker target

- Not established in Tracker

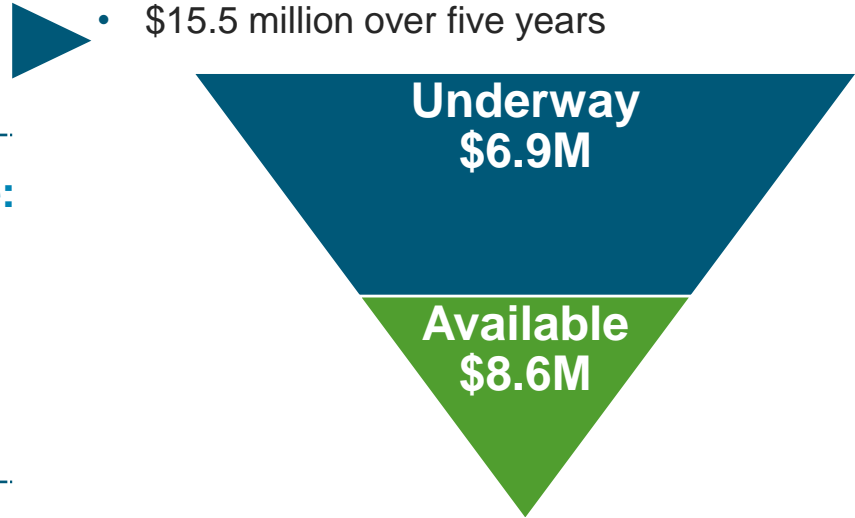
PfP tool forecast

- Not forecasted in PfP tool

Other comments:

FY2019-2023 size:

- \$15.5 million over five years



Program purpose and need statement:

- This program delivers tools and processes to document, report on and manage MassDOT assets. These tools provide data on the asset life cycle.
- This program is necessary to maintain the reliability of Commonwealth assets by supporting a consistent approach to asset review and remediation.

Reliability / IT / Desktop Experience

FY2018-2022 size:

- \$9.1 million over five years

Justification for FY2019-2023 program size:

- Institution of best practice state of good repair policies for hardware and software replacement and integration. Software distribution for production, network access and security.

Program performance:

Tracker target

- **Not established in Tracker**

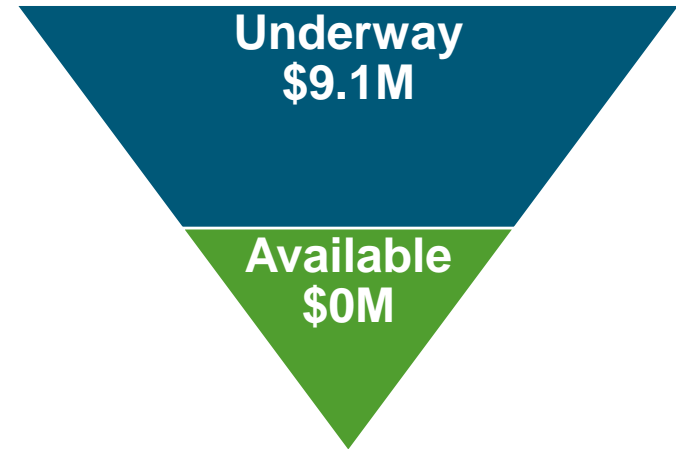
PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

FY2019-2023 size:

- \$9.1 million over five years



Program purpose and need statement:

- This program delivers best in class, highly resilient technologies and services related to desktop and personal computing, conformance and mobile solutions/devices, and network and internet connectivity.
- This program is necessary to maintain best practices and state of good repair in desktop IT at MassDOT.

Reliability / IT / Digital Infrastructure

FY2018-2022 size:

- \$19.9 million over five years

Justification for FY2019-2023 program size:

- Instituting best practice state of good repair policies for hardware and software replacement for servers, storage and networks. Migration to cloud hosting with integration, testing and security certification (2 projects annually). Support for remaining hybrid environments.

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

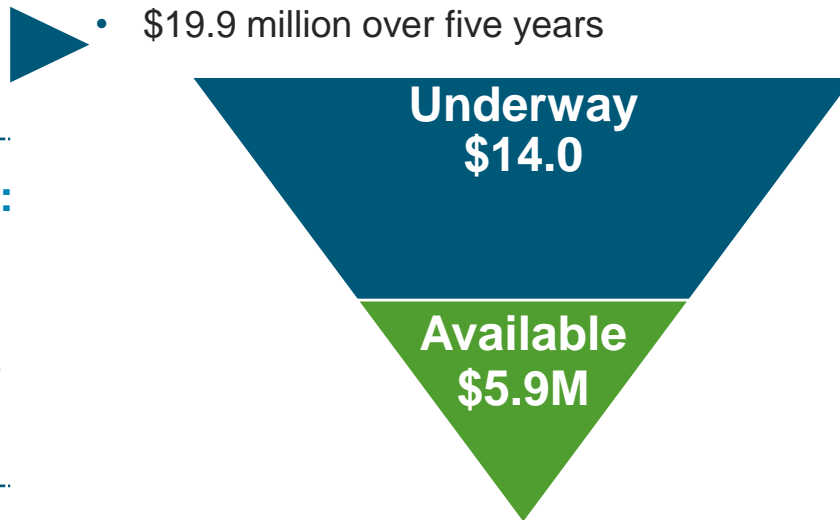
- **Not forecasted in PfP tool**

Other comments:

- Includes BRP for Highway Operations Center

FY2019-2023 size:

- \$19.9 million over five years



Program purpose and need statement:

- This program does a range of digital infrastructure work, including state of good repair hardware upgrades and support of operations in the Cloud. This program provides a modern, application-independent information architecture.
- This program is necessary to meet MBTA's and MassDOT's technology goals by sustaining the core computer, storage, telecommunications and network infrastructure.

Reliability / MBTA / Bridges and tunnels

FY2018-2022 size:

- \$ 544.7 million over five years

Justification for FY2019-2023 program size:

- Maintain FY18-22 CIP Program Size

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

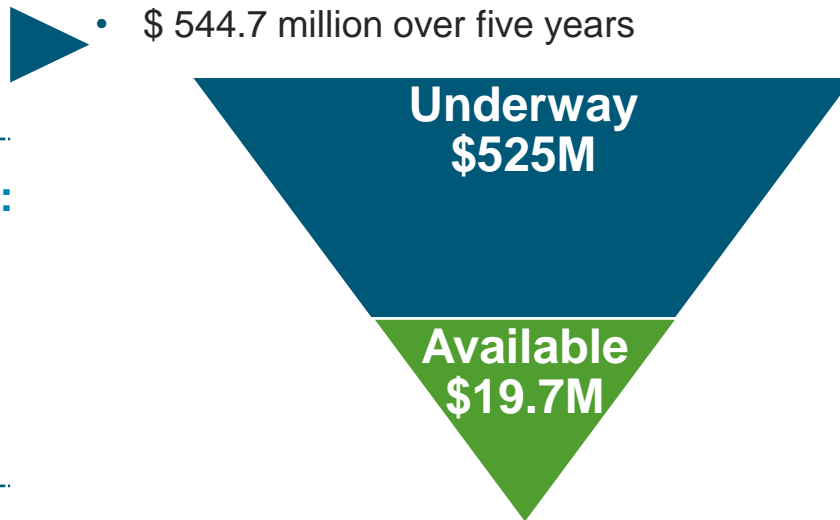
- **Not forecasted in PfP tool**

Other comments:

- Major projects currently underway are Gloucester Draw and Bridge Bundle Contract for six Commuter Rail bridges
- Also includes North Station Draw 1 and projects to inspect and repair bridges and tunnels system wide

FY2019-2023 size:

- \$ 544.7 million over five years



Program purpose and need statement:

- This program repairs, reconstructs and replaces MBTA commuter rail and transit bridges and tunnels system wide.

Reliability / MBTA / Stations

FY2018-2022 size:

- \$400.8 million over five years

Justification for FY2019-2023 program size:

- Maintain FY18-22 CIP program size

Program performance:

Tracker target

- % of stations with condition rating <3.0 in TERM scale

PfP tool forecast

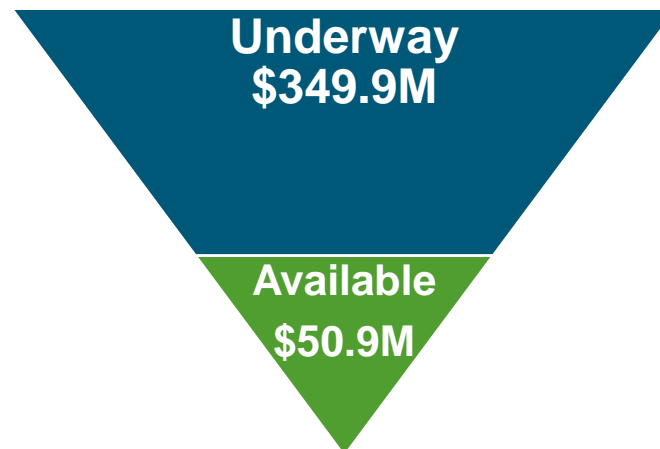
- Not forecasted in PfP tool

Other comments:

- Major projects underway include Wollaston Station, South Shore Garages, Ruggles Station Upgrade, Harvard Busway Repairs, and parking lot paving
- Projects primarily focused on SGR; accessibility-driven projects funded in Modernization/Accessibility program
- Updating station signage, wayfinding, and other customer improvements funded in Modernization/Process Improvements and Innovation program

FY2019-2023 size:

- \$ 400.8 million over five years



Program purpose and need statement:

- This program rehabilitates and upgrades MBTA stations (e.g., commuter rail, commuter boat, subway and bus stations)



Reliability / Rail / Bridges

FY2018-2022 size:

- \$53.2 million over five years

Justification for FY2019-2023 program size:

- Program sized to address number of identified bridge projects that require significant repair and/or replacement.

Program performance:

Tracker target

- Not established in Tracker

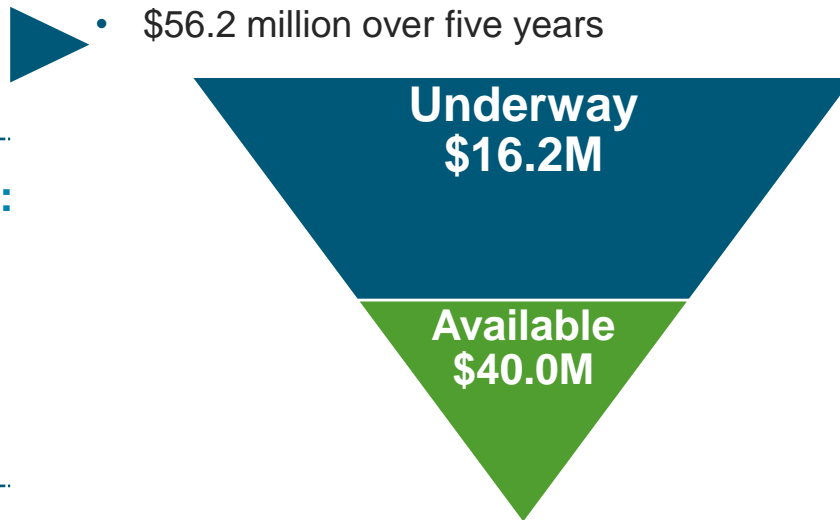
PfP tool forecast

- 9 bridge projects completed per year

Other comments:

FY2019-2023 size:

- \$56.2 million over five years



Program purpose and need statement:

- This program repairs or replaces bridges to avoid deterioration, keep or restore class of line, or maintain utility. Prioritization of projects within this program reflect most recent inspections, type of usage (ex: hazardous cargo), and any contractual or regulatory requirements for action.

Reliability / Rail / Vehicle reliability

FY2018-2022 size:

- \$5.3 million over five years

Justification for FY2018-2022 program size:

- 2019-2023 program maintains the similar funding level as last plan to address SGR issues to maintain or restore usage of the facilities

Program performance:

Tracker target

- Not established in Tracker

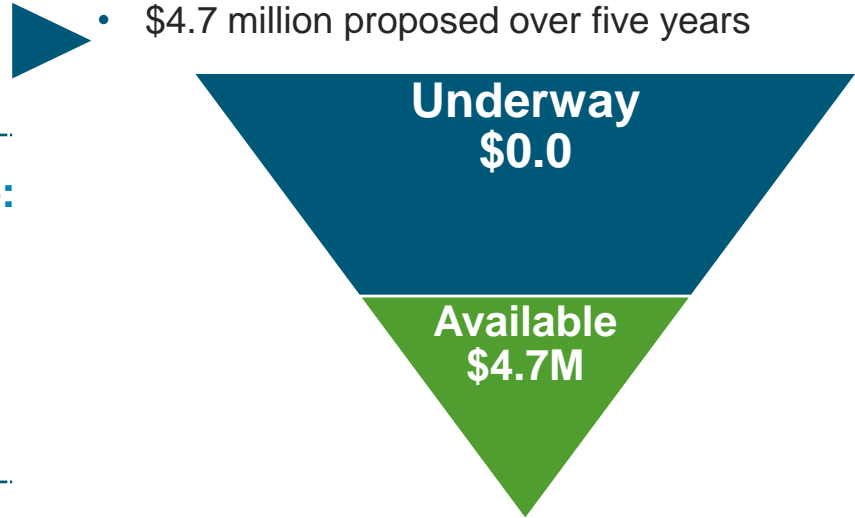
PfP tool forecast

- Not forecasted in PfP tool

Other comments:

FY2019-2023 size:

- \$4.7 million proposed over five years



Program purpose and need statement:

- This program repairs, replaces, or acquires rail equipment (locomotives, coaches, ballast cars, light duty vehicles, etc.) to facilitate reliable service, avoid deterioration, or support activities to maintain or restore class of line.
- This program is necessary to maintain the rail system in good condition.

Reliability / Rail / Track and right-of-way reliability

FY2018-2022 size:

- \$138.25 million over five years

Justification for FY2013-2023 program size:

- Program sized to address number of right of way projects that require maintenance or significant investment to maintain class of service

Program performance:

Tracker target

- Not established in Tracker

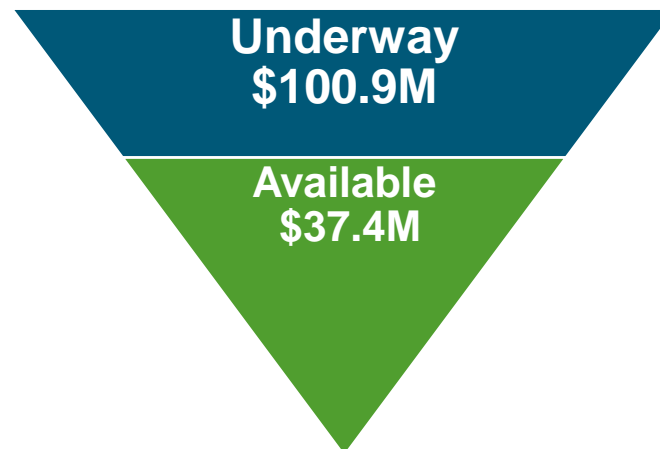
PfP tool forecast

- 26,096 ties repaired per year **[confirm]**

Other comments:

FY2019-2023 size:

- \$138.25 million over the next five years



Program purpose and need statement:

- This program repairs or replaces assets within the rail right of way (typically ties, rail, ballast, culverts, switches, etc.) to avoid deterioration, keep or restore class of line, or maintain the line's utility. Prioritization will reflect most recent inspections, type of usage (ex: hazardous cargo), and any contractual or regulatory requirements for action.
- This program is necessary to maintain a safe and reliable rail system.

Reliability / Rail / Grade crossing (Section 130 program)

FY2018-2022 size:

- \$36.5 million over five years

Justification for FY2019-2023 program size:

- Program size accounts for new federal OA spending available (plus state match) and other projects funded with solely with state funds
- Program sized to address number of identified grade crossing.

Program performance:

Tracker target

- Not established in Tracker

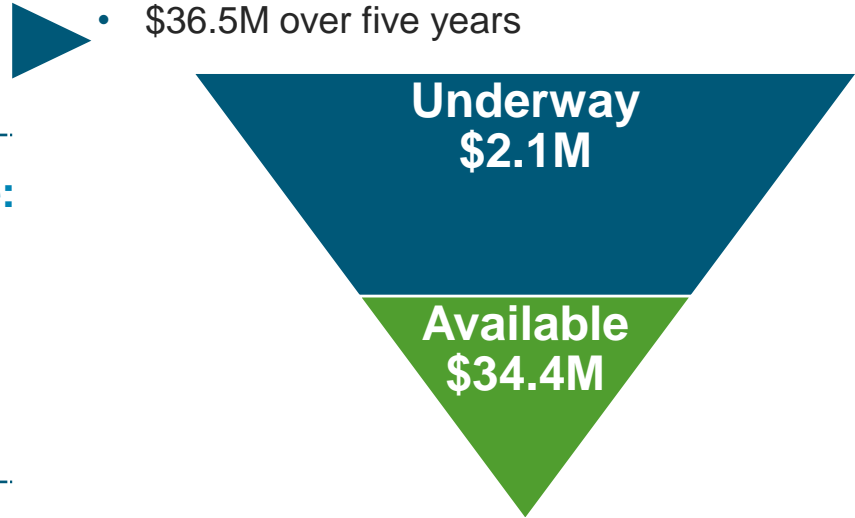
PfP tool forecast

- 54% of grade crossings in desired state

Other comments:

FY2018-2022 size:

- \$36.5M over five years



Program purpose and need statement:

- This program repairs or replaces grade crossings to avoid deterioration, keep or restore class of line, or maintain the crossing's utility. Prioritization of projects in this program will reflect Federal guidelines, most recent inspections, type of usage (ex: hazardous cargo), and any contractual or regulatory requirements for action.
- This program is necessary to maintain a safe and reliable rail system.

Reliability / Registry / RMV operations maintenance

FY2018-2022 size:

- \$0.9 million over five years

Justification for FY2019-2023 program size:

- Program adjusted for 2019-2023 to reflect activities programmed for 2019

Program performance:

Tracker target

- Not established in Tracker

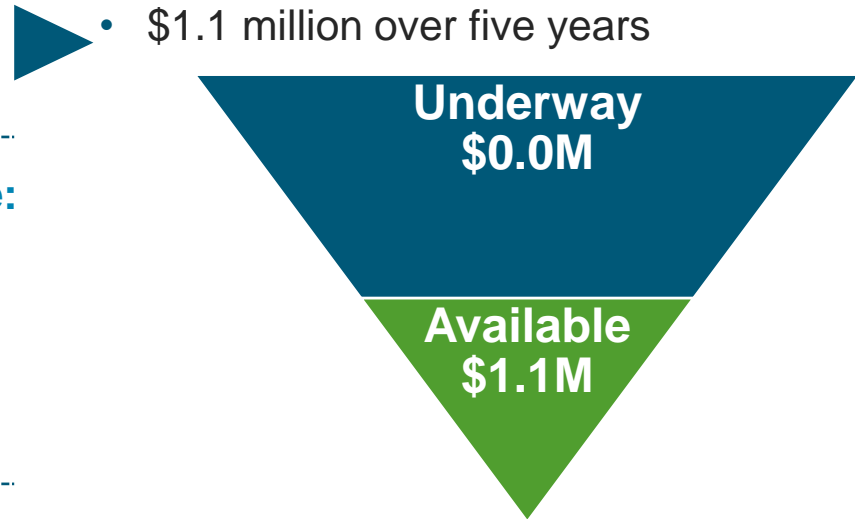
PfP tool forecast

- Not forecasted in PfP tool

Other comments:

FY2019-2023 size:

- \$1.1 million over five years



Program purpose and need statement:

- This program maintains and improves existing operating systems that support service delivery, application platforms, and electronic records retention.

Reliability / Transit / Mobility Assistance Program

FY2018-2022 size:

- \$50.1 million over five years (federal and state bond)

Justification for FY2019-2023 program size:

- Updated federal dollar estimates in the out years have resulted in a small increase in the program size. Bond cap amount remains flat for all five years.

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

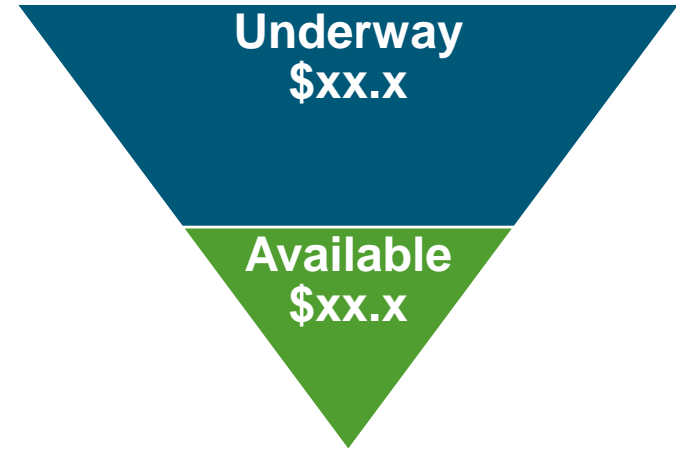
- **Not forecasted in PfP tool**

Other comments:

- N/A

FY2019-2023 size:

- \$50.1 million forecasted over five years



Program purpose and need statement:

- This program purchases vans and related equipment used to provide transportation for elderly people and individuals with disabilities of all ages. This program uses funds from Councils on Aging, RTAs and non-profits.

Reliability / Transit / Transit and technical assistance

FY2018-2022 size:

- \$10.0 million over five years

Justification for FY2019-2023 program size:

- This program is funded at a flat level for five years.

Program performance:

Tracker target

- Not established in Tracker

PfP tool forecast

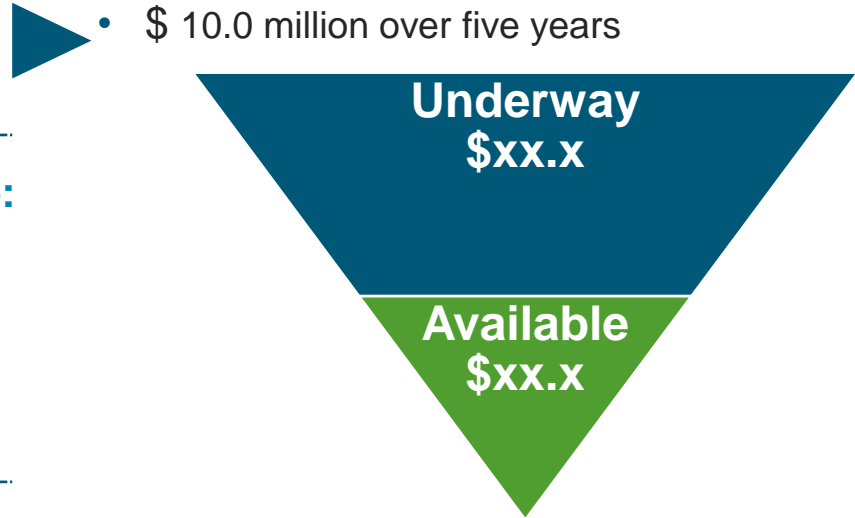
- Not forecasted in PfP tool

Other comments:

- N/A

FY2019-2023 size:

- \$ 10.0 million over five years



Program purpose and need statement:

- This program provides technical assistance to support the transit program (grants management systems, vehicle inspections, etc.).

Reliability / OTP / Pre-apprenticeship

FY2018-2022 size:

- \$4.6 million over five years



Justification for FY2019-2023 program size:

- This program is in development with stakeholders.
- Program launched FY2018.

Program performance:

Tracker target

- Not established in Tracker

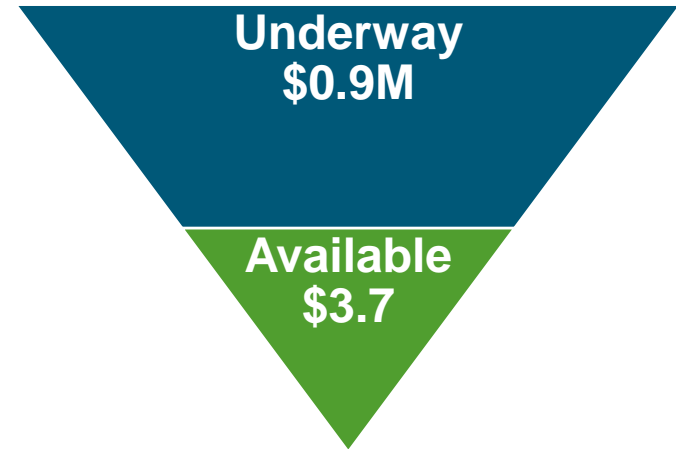
PfP tool forecast

- Not forecasted in PfP

Other comments:

FY2019-2023 size:

- \$ 4.6 million over the next five years



Program purpose and need statement:

- This program, for which MassDOT is partnering with a number of stakeholders, facilitates the introduction of additional pre-apprentices to skilled trades within our construction program.
- This program is necessary to provide low-income and other disadvantaged communities with access to training and employment opportunities within the construction trades.



Modernization programs



Modernization / Aeronautics / Airport Administration Buildings

FY2018-2023 size:

- \$25.0 million over five years

Justification for FY2019-2023 program size:

- The poor state of repair of legacy administration and terminal buildings are severely restricting the potential economic impact of successful airports with poor facilities, as well as impeding the positive momentum of marginal airports with poor facilities.
- Centralizing essential services provided by the administration buildings will position the facility as a true nerve center to improve safety, increase efficiency, promote business growth, attract and improve relations with the community, and overall optimization of the airport asset.

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

- Many airports have no buildings or were former military facilities built during WWII
- Funding level is inadequate, and amounts to less than three complete buildings over five-years
- We believe that ratcheting up the spend to fund at least five buildings in five years would be a reasonable target and provide an exponential return on investment (ROI)

FY2019-2023 size:

- \$25.0 million over five years
- Five buildings at \$5.0 million per year



Program purpose and need statement:

- This program builds or renovates airport administration buildings as recommended by the 2010 Statewide Airport System Plan, which identified 17 airports that did not have existing, or adequate administration buildings.
- This program is necessary to provide adequate administrative spaces at airports, which is integral to improving the safety, efficiency, and business growth of the airport asset.

Modernization / Highway / Complete Streets

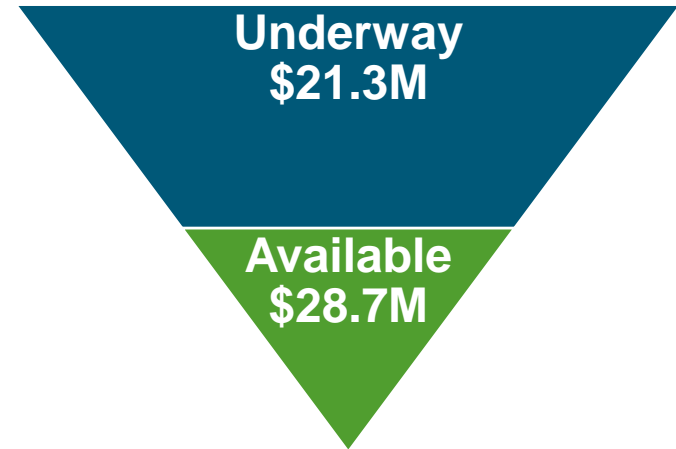
FY2018-2022 size:

- \$50.0 million over five years



FY2019-2023 size:

- \$ 50.0 million over five years



Justification for FY2019-2023 program size:

- Program size includes new fifth year (FY2023) and assumptions of carryforward spending from FY2018
- Initial recommendation is to level fund this grant program.
- Highway would like to increase the size of the program, but that is subject to available funds and trade offs.

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

- **Not forecasted in PfP**

Other comments:

- Reimbursement program launched in FY2017.
- First round of grants was issued to municipalities in FY2017.
- Sizing assumed an additional \$10 million in FY2022 to level fund the program budget to FY2017 CIP.

Program purpose and need statement:

- This program improves the condition and accessibility of state owned sidewalks.
- This program is necessary to meet obligations identified under the MassDOT ADA Transition Plan.



Modernization / IT / Customer Digital Experience

FY2018-2022 size:

- \$10 million over five years

Justification for FY2019-2023 program size:

- Beacon Installation (\$1M) and State Highway Access Permitting system (\$1.4M) currently under way.

Program performance:

Tracker target

- **Not established in Tracker**

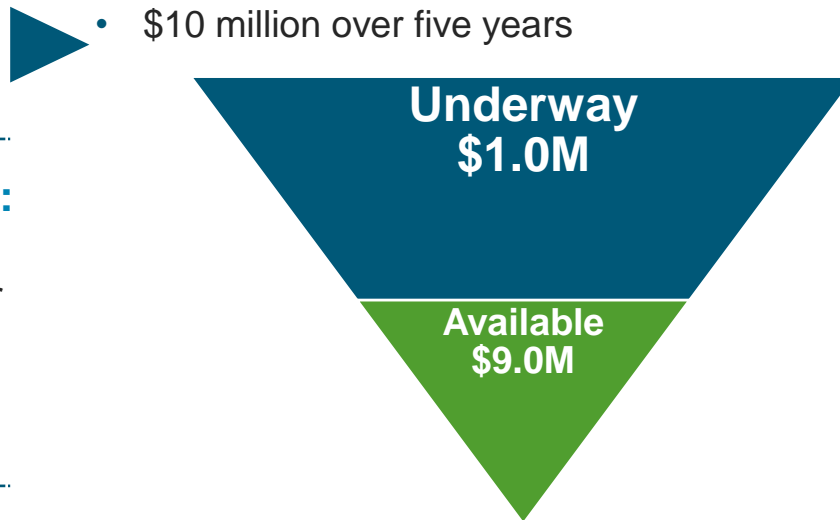
PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

FY2019-2023 size:

- \$10 million over five years



Program purpose and need statement:

- This program ensures that MassDOT and MBTA websites present clear, concise, and timely information to the public at all times.
- This program is necessary to ensure that transportation system users have successful interactions with MassDOT public facing websites.

Modernization / IT / Enterprise/BRP/Automation

FY2018-2022 size:

- \$19.5 million over five years

Justification for FY2019-2023 program size:

- Funding MBTA Financial Systems upgrades is under consideration.

Program performance:

Tracker target

- Not established in Tracker

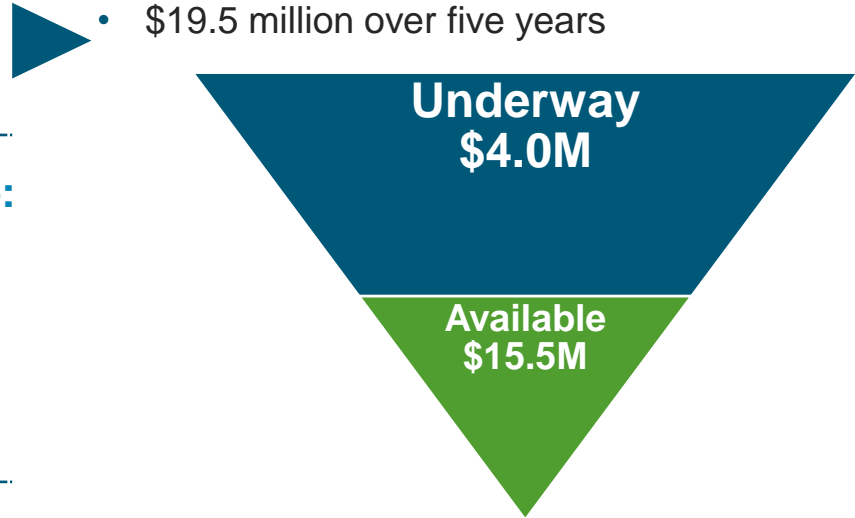
PfP tool forecast

- Not forecasted in PfP tool

Other comments:

FY2019-2023 size:

- \$19.5 million over five years



Program purpose and need statement:

- This program improves the ways that MassDOT manages and optimizes core functionality (such as document management, file shares, workflows, etc.) through business needs analysis and the implementation of enterprise solutions that are scalable, resilient and have an extensive ecosystem.

Modernization / IT / Workforce Productivity

FY2018-2022 size:

- \$14.2 million over five years

Justification for FY2019-2023 program size:

- CRASH, FAPRO and Highway Document Management underway. A number of other projects such as Aurigo's Capital Planning and Tracking System and Masterworks Module Implementations and HR Learning Management System under consideration.

Program performance:

Tracker target

- **Not established in Tracker**

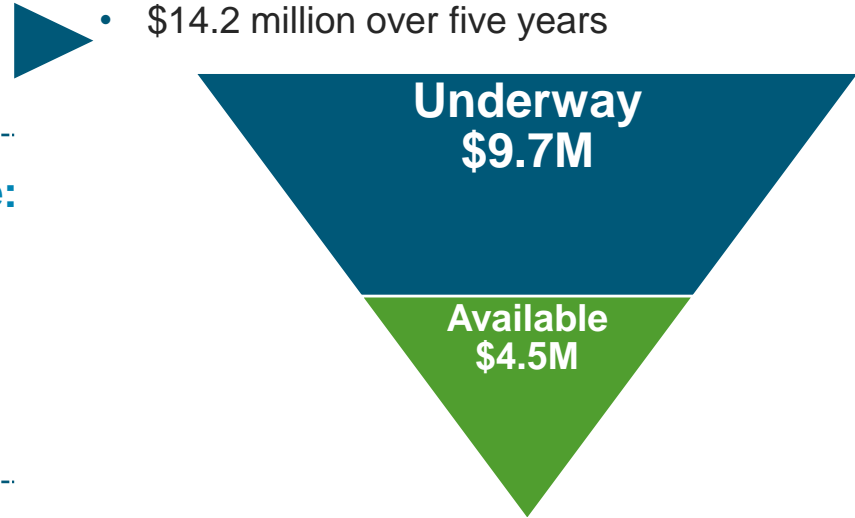
PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

FY2019-2023 size:

- \$14.2 million over five years



Program purpose and need statement:

- This program improves business processes through automated workflows and other electronic means at the department level. This program also may include investments that improve process timelines, reduce paperwork, and contribute to efficiency.

Modernization / Rail / Bridge modernization

FY2018-2022 size:

- \$0 over the next five years

Justification for FY2019-2023 program size:

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

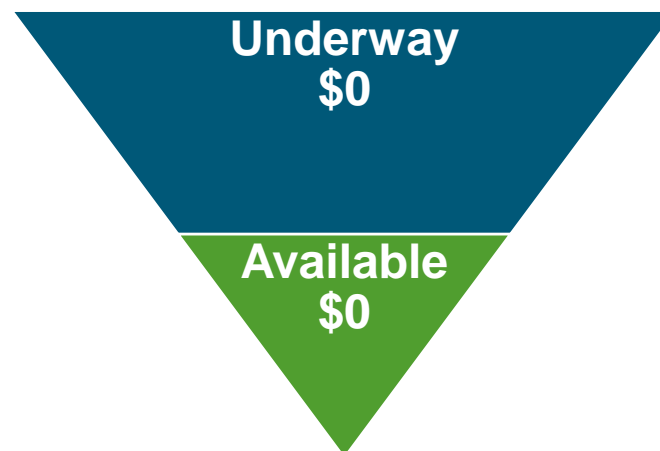
- **Not forecasted in PfP tool**

Other comments:

- Program size to be developed to address 286,000 lb. modernization initiative from the new Statewide Rail Plan

FY2019-2023 size:

- \$0 is proposed over the next five years



Program purpose and need statement:

- This program repairs or replaces bridges to upgrade capacity to current industry standards for the line or maintain their utility. Prioritization will reflect economic opportunities for the line, most recent inspections, type of usage (ex: hazardous cargo), any contractual or regulatory requirements for action and consistency with the Statewide Rail Plan.
- This program is necessary to maintain a safe, reliable, cost effective, and modern rail system (ex: 286,000 lbs).

Modernization / Rail / Facility modernization

FY2018-2022 size:

- \$10.5 million over five years

Justification for FY2019-2023 program size:

- FY 2019-2023 program sized to continue effort to modernize rail facilities to address regulatory and contractual requirements
- Includes completion of Springfield Union Station and Northampton and Greenfield Stations on the Knowledge Corridor

Program performance:

Tracker target

- **Not established in Tracker**

PfP tool forecast

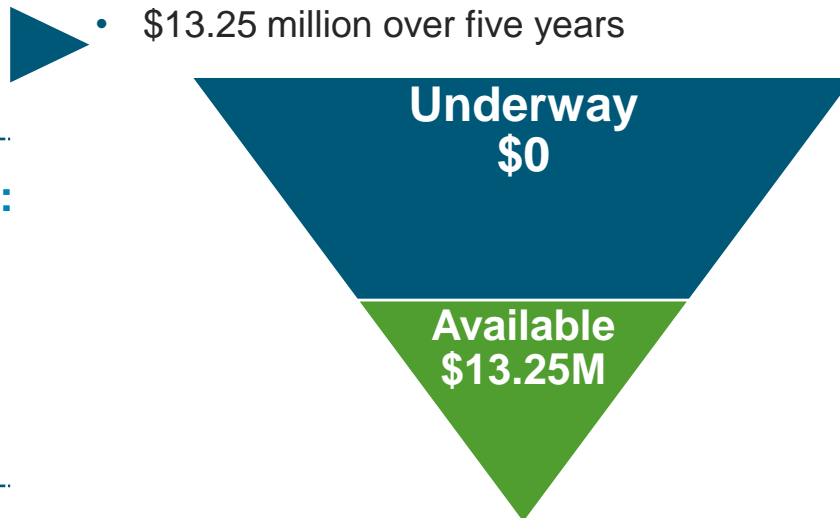
- **Not forecasted in PfP tool**

Other comments:

- \$6.5 million will be needed for Springfield Union Station's Platform "C" (\$10.5 million was included in FY2018)
- Delays with Amtrak approvals have extended the completion of the platform

FY2019-2023 size:

- \$13.25 million over five years



Program purpose and need statement:

- This program repairs or replaces rail facilities, specifically rail yards and stations, to upgrade them to current industry standards or maintain the facility's utility. Prioritization of projects in this program will reflect economic opportunities for the line served, condition reports, type of risk/usage, and any contractual or regulatory requirements for action and consistency with the Statewide Rail Plan.
- This program is necessary to maintain a safe, reliable, cost effective, and modern rail system.

Modernization / Rail / Industrial Rail Access Program

FY2018-2022 size:

- \$15 million over five years

Justification for FY2018-2022 program size:

- FY2019-2023 maintains existing program size

Program performance:

Tracker target

- Not established in Tracker

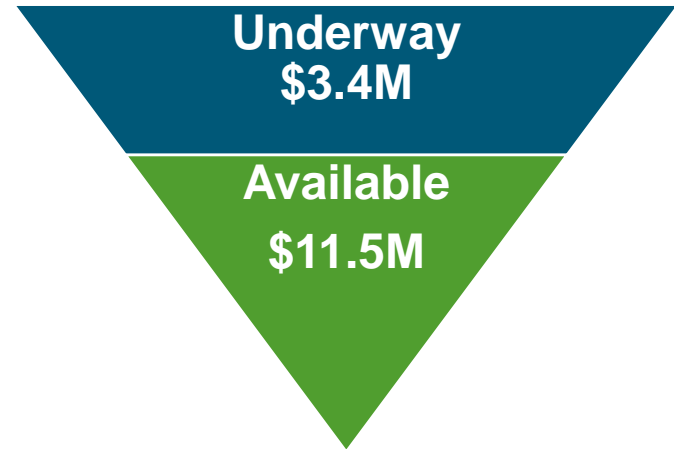
PfP tool forecast

- Not forecasted in PfP tool

Other comments:

FY2019-2023 size:

- \$15 million over five years



Program purpose and need statement:

- This program makes investments in private sector rail lines to leverage private investment that will increase freight rail usage or will modernize an active line to increase the utility to customers.



Modernization / Registry / Customer service modernization

FY2018-2022 size:

- \$4.975 million over five years

Justification for FY2019-2023 program size:

- Program size was adjusted to reflect expiring leases and necessary Service Center upgrades in FY 2019 and FY 2020

Program performance:

Tracker target

- **Not established in Tracker**

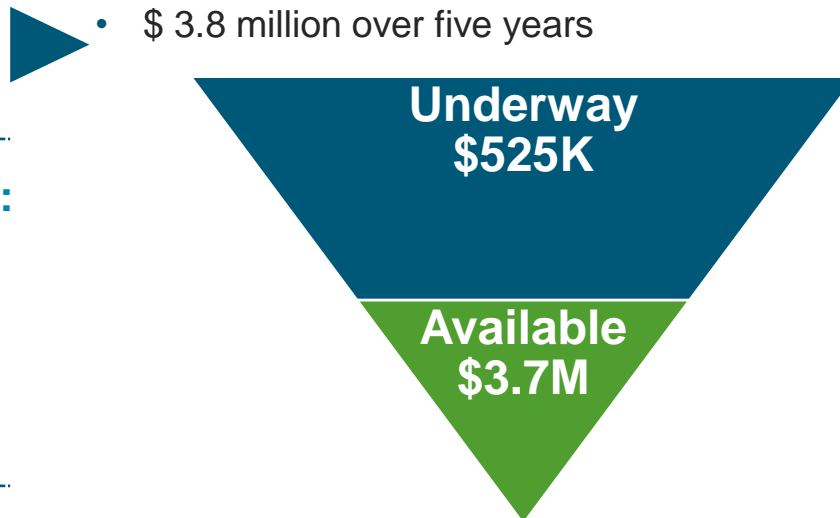
PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

FY2018-2022 size:

- \$ 3.8 million over five years



Program purpose and need statement:

- Strategy includes updating and upgrading leased branch locations to include the new dual line queuing model, signage, furniture and fixtures.

Modernization / Registry / Alternative Service Channels

FY2018-2022 size:

- \$2.5 million over five years

Justification for FY2018-2022 program size:

- Kiosk initiative will not be launched until FY2019-2023 plan
- Program size adjusted downward to reflect FY2019 adjustment

Program performance:

Tracker target

- **Not established in Tracker**

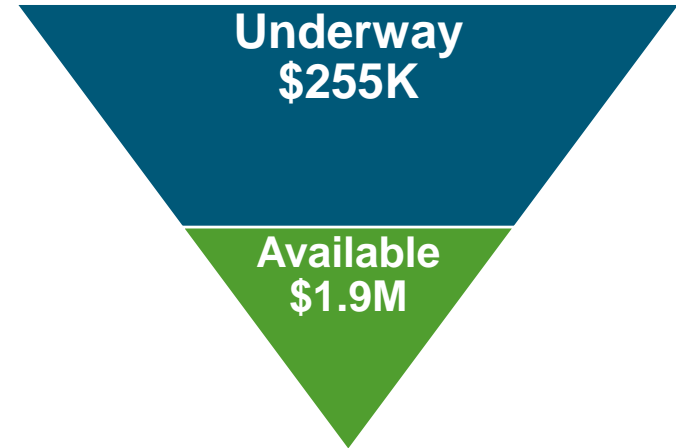
PfP tool forecast

- **Not forecasted in PfP tool**

Other comments:

FY2019-2023 size:

- \$2.25 million over five years



Program purpose and need statement:

- Customer service improvement through self-service kiosks and third party service channels including AAA.

Modernization / Transit / RTA fleet upgrades

FY2018-2022 size:

- \$1.3 million over five years

Justification for FY2019-2023 program size:

- Updated project lists for all five years were submitted by the RTAs
- No projects have been identified for this program
- RTA priorities have been shifted to vehicle replacements

Program performance:

Tracker target

- Not established - demand response vehicle age
- Not established - revenue vehicle condition

PfP tool forecast

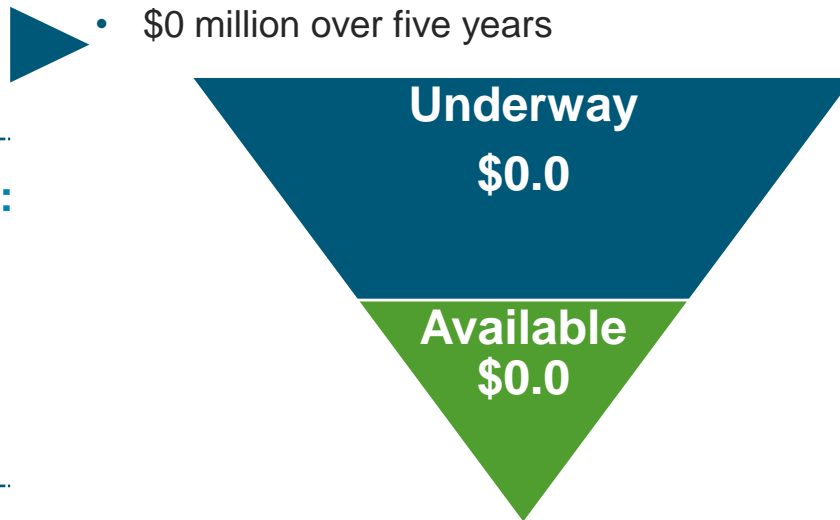
- 5.6 average fleet age in years (up from 4.9)

Other comments:

- N/A

FY2019-2023 size:

- \$0 million over five years



Program purpose and need statement:

- This program allows for Regional Transit Authority fleet growth.
- This program is necessary to meet service needs or expansion as identified by the RTAs.

Expansion programs

Expansion / Rail / Vehicles expansion

FY2018-2022 size:

- \$32.0 million over five years

Justification for FY2019-2023 program size:

- FY2019-2023 maintains existing program size as established in the FY2018-2022 plan

Program performance:

Tracker target

- Not established in Tracker

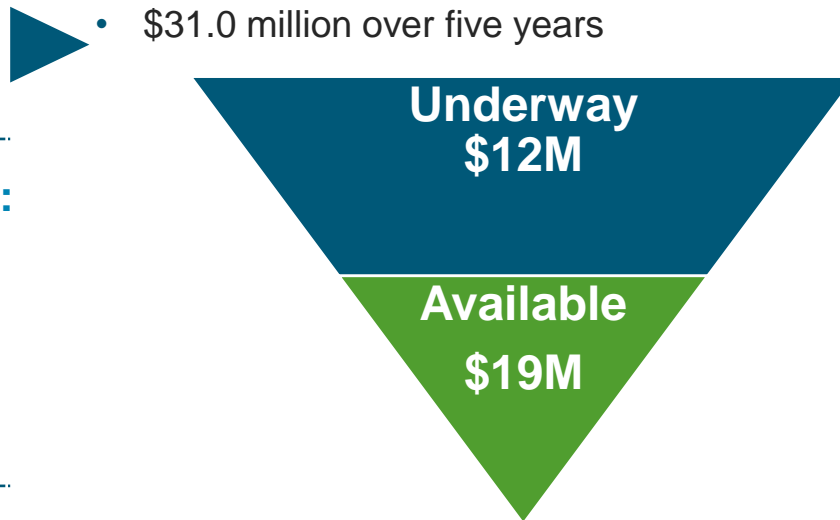
PfP tool forecast

- Not forecasted in PfP tool

Other comments:

FY2019-2023 size:

- \$31.0 million over five years



Program purpose and need statement:

- This program repairs, replaces, or acquires rail equipment (locomotives, coaches, ballast cars, light duty vehicles, etc.) to expand existing rail services, including the addition of passenger rail or freight rail. Prioritization will reflect economic opportunities for the new service, consistency with the statewide Rail Plan, and any contractual or regulatory requirements for action.