Final 2018-2022 CIP Update
Joint Board presentation

June 19, 2017

Overview

- **Since last Joint Board meeting:**
  - Held public meetings and opened comment period
  - Finished equity analysis
  - Updated programs
  - Updated projects / spending

- **Today:**
  - Need vote on the 2018-2022 CIP Update

Follow-up from June 13th CPC meeting

|	
Public engagement – *a future process improvement*	**Conduct an after action review of engagement efforts in fall**
	Implement improvements for next year's CIP Update
Equity analysis – *a future process improvement*	**Review methods employed, establish a tracking process, and link to asset conditions**
Capital outcomes – *a future process improvement*	**Push forward on linking asset management to capital planning; more clearly indicate outcomes anticipated from investments; and continue PfP Tool enhancements**
	Review performance forecasting of bridge metrics related to CIP Update
Highway pay-go sources – *a future presentation*	**Future briefing on 1) what has changed in operating budget, 2) schedule of drawdown including anticipated major investments such as I-90/I-495 and Allston Interchange**
South Coast Rail – *a future presentation*	**Future briefing on South Coast Rail**

Public engagement

- Pre-draft comment period January through March
  - Over 1,100 comments from online tool, letters, and emails
- During draft comment period
  - 12 public meetings across the Commonwealth –
    - Low to modest turnout at each meeting; approximately 100 participants statewide
  - Two comment tools – few comments received
  - Letters and emails – 17 letters received

- **Future updates:**
  - Will review process and make improvements for next CIP update to achieve more participation

Breakdown of comment topic

|	
5%	Aeronautics
63%	Highway
11%	MBTA
16%	Rail
5%	Transit
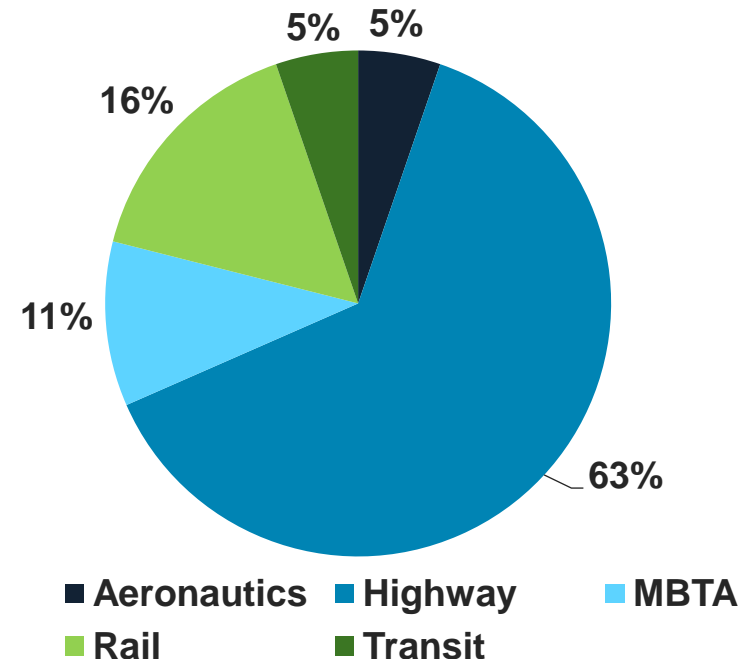
Major project changes from engagement

- Highway Division
  - **Middleborough Rotary** - funded for design up to 25%; no construction funding identified
- MBTA
  - **Arborway Garage** – broader maintenance facilities plan will consider next steps
  - **Auburndale Commuter Rail Station** – redoing design and construction funding identified
- Rail
  - **South Coast Rail** – accelerated spending in FY 2018

Geographic equity analysis

► Overall finding is that the CIP update does not imply any significant geographic equity concerns
  ► However due to the nature of funding eligibility, particularly federal highway aid and investments related to transit, rural areas need to be monitored in each annual update

► Geographic equity is analyzed in the following ways:
  ► All MassDOT investments per capita;
  ► All MassDOT investments per capital compared to Chapter 90 allocations (map shown on prior slide);
  ► Highway projects per lane mile;
  ► Highway projects per lane mile compared to Chapter 90 allocations; and
  ► RTA ridership ratio

Geographic equity analysis

Legend

All Transportation Spending

AllRatio_F

> 1.37

0.71

< 0.1
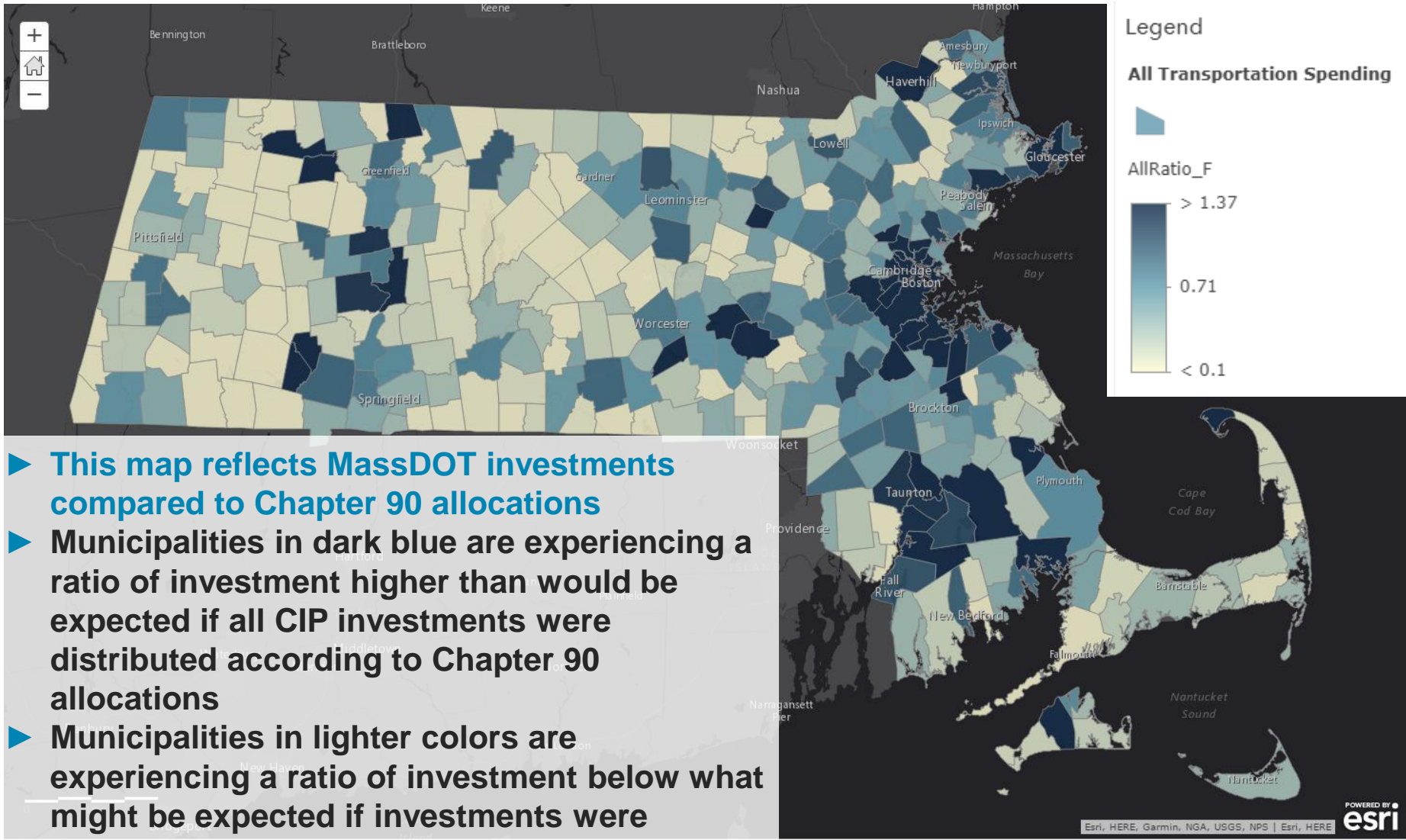
► **This map reflects MassDOT investments compared to Chapter 90 allocations**

► **Municipalities in dark blue are experiencing a ratio of investment higher than would be expected if all CIP investments were distributed according to Chapter 90 allocations**

► **Municipalities in lighter colors are experiencing a ratio of investment below what might be expected if investments were distributed according to Chapter 90 allocations**

Social equity analysis

Social Equity in Massachusetts

Legend

Social Equity Populations
- Minority
- Low Income
- Limited English
- Minority - Limited English
- Low Income - Limited English
- All Groups
- Below thresholds
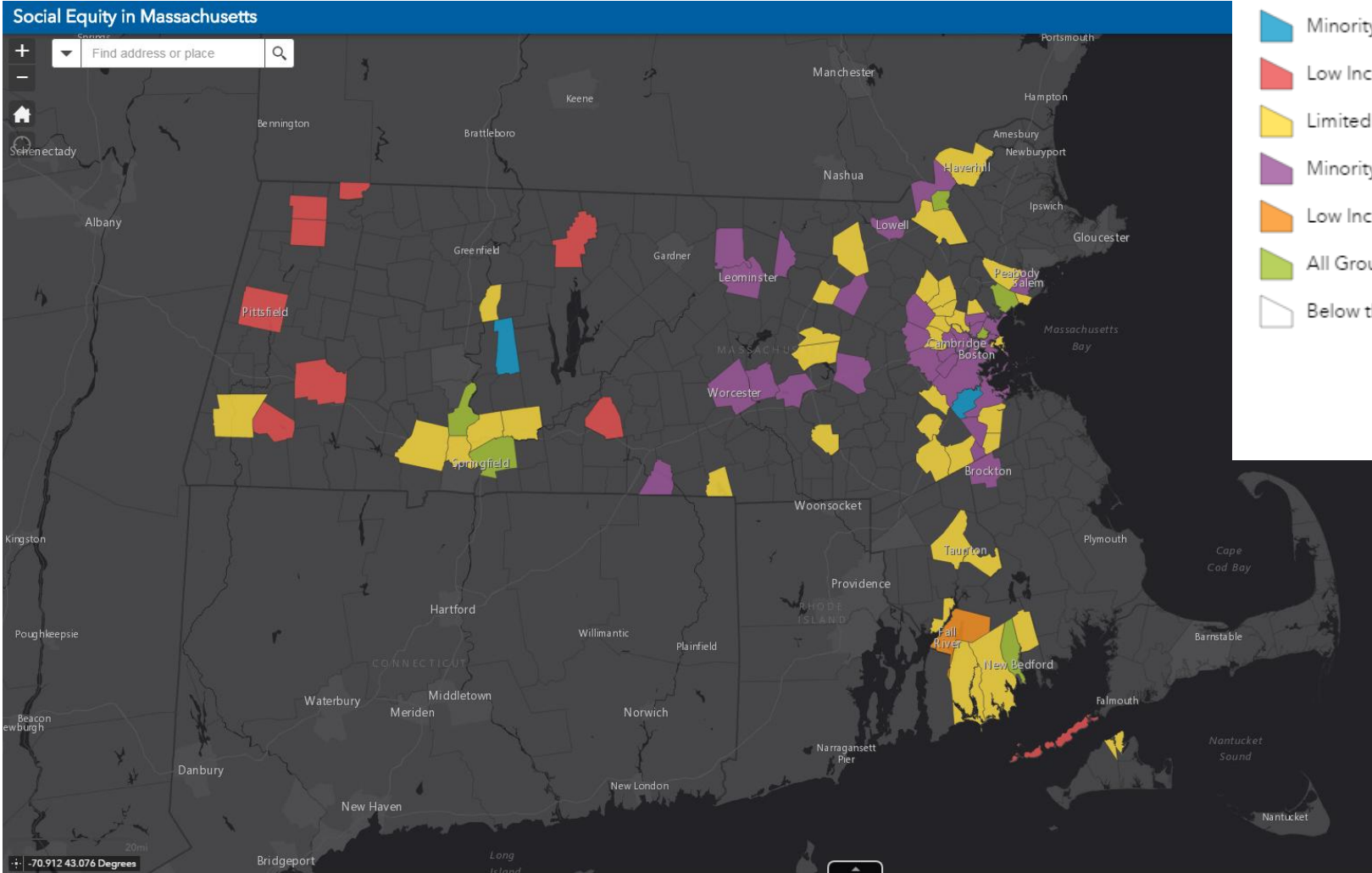
Minority communities

- **Communities with 23.87% persons of color or more**

- **Investments between minority and non-minority communities are nearly even**

Low-income

- **Median income at or below $44,100**

- **Non-low-income communities receive 10% more of the investments per capita than low-income communities;**

- **However low-income communities receive 61% more transit investment per capita**

Limited English Proficiency

- **Communities with 5% or more of population that are LEP**

- **Non-LEP communities receive 27% more MassDOT funding per capita than LEP communities**

- **When MBTA is included LEP communities receive 33% more funding per capita**

Overall conclusion

- **Overall finding is that the CIP update does not imply any significant social equity concerns**

- **Future updates:**
  - Will develop methodology to track results on an annual basis and compare to asset conditions

Overview by priority

Overall program budget breakdown

6% · 6% · 13% · 19% · 57%
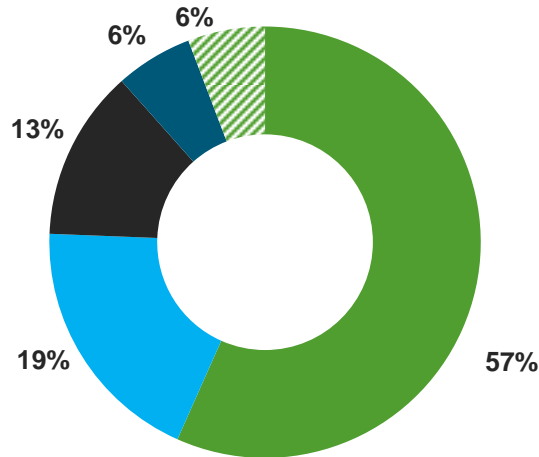
Overall program budget by priority

14% · 21% · 64%

◄ The chart on the left shows how all capital funds are spent including items such as pass-through uses, while the chart on the right shows how funds provided directly for capital construction/procurement breakdown across MassDOT and the MBTA
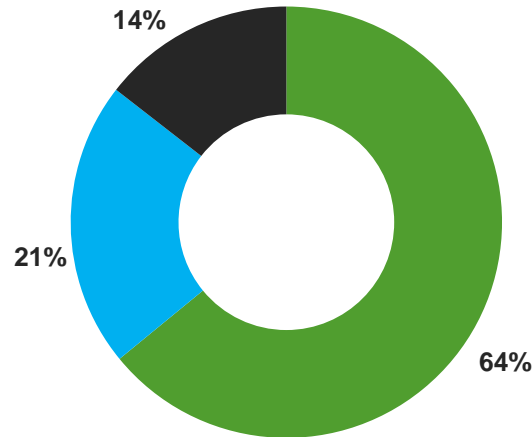
millions	FY 2017- 21	FINAL DRAFT FY 2018-22	Difference
Reliability	$8,798.0	$9,795.2	+$997.2
Modernization	$2,638.0	$3,278.6	+$640.6
Expansion	$2,147.0	$2,213.4	+$66.4
Chapter 90	$1,000.0	$1,000.0	-
Planning, Enterprises Services, & Other	$203.0	$1,001.0	+$798.0
Five-year total	$14,786.0	$17,288.2	$2,502.2

◄ This not only includes funding for transportation planning, but also:
- Pass-throughs for Massport and UMass Boston
- GANs payments for Accelerated Bridge Program
- Intergovernmental agreements
- Reserve amounts

• All items were not previously reflected in the FY 2017-21 CIP

Program updates

- MBTA has split the Stations and Facilities program into two separate programs to highlight customer facing investments versus internal investments such as maintenance facilities
  - **Facilities** - this program rehabilitates and upgrades maintenance and administrative facilities that support transit operations.
    - **Program size = $112.6 million over five-years**
  - **Stations** - This program rehabilitates and upgrades MBTA stations (e.g., commuter rail, commuter boat, subway and bus stations). Projects primarily include renovation and rehabilitation of stations, elevators, escalators, and parking garages.
    - **Program size = $400.8 million over five-years**
- Modest changes in program sizes from draft

Reliability investments by program

Five-year program budget in millions

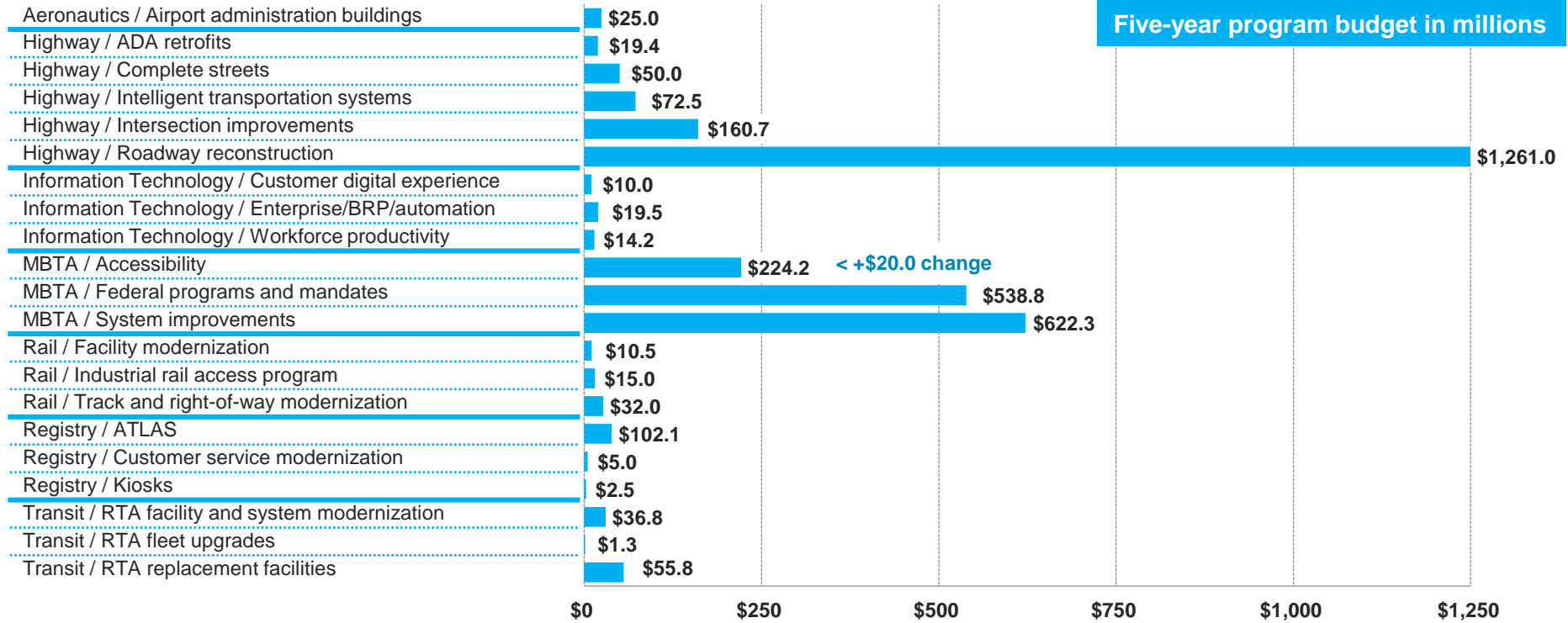| Program	Budget (millions)
Aeronautics / Airport pavement management system	$114.3
Aeronautics / Airport capital improvement	$155.0
Highway / All-electronic tolling	$66.6
Highway / Bridge	$2,028.2
Highway / Design, environment and right-of-way	$660.0 < -$6.6 change
Highway / Equipment	$75.0
Highway / Facilities	$161.5
Highway / Interstate pavement	$281.7
Highway / Municipal bridge	$50.0
Highway / Non-interstate pavement	$543.9
Highway / Pre-apprenticeship	$4.6
Highway / Retainage and utility payments	$50.0
Highway / Roadway improvements	$150.0
Highway / Safety improvements	$235.8
Highway / Tunnels	$350.0
Information Technology / Desktop experience	$9.1
Information Technology / Digital infrastructure	$19.9
Information Technology / Cyber/information security	$9.6
Information Technology / Asset management	$15.5
MBTA / Bridges and tunnels	$544.6
MBTA / Revenue vehicles	$1,702.7
MBTA / Facilities	$400.8
MBTA / Stations	$112.6
MBTA / System upgrades	$390.9 < +$16.9 change
MBTA / Track, signals, and power	$1,285.6
Rail / Bridges	$53.2
Rail / Facility reliability	$15.0
Rail / Grade crossings	$36.5
Rail / Vehicle reliability	$5.3
Rail / Track and right-of-way reliability	$138.3
RMV / Operations Management	$0.9
Transit / Mobility assistance program	$50.1
Transit / RTA facility and vehicle maintenance	$10.0
Transit / Technical assistance	$10.0
Transit / RTA vehicle replacement	$58.0

Aeronautics	Highway	IT	MBTA	Rail	RMV	Transit	Total FY18-22
$269.3 (millions)	$4,657.3	$54.1	$4,437.2	$248.3	$0.9	$128.1	$9,795.2

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Modernization investments by program

Five-year program budget in millions

Program	Budget ($M)
Aeronautics / Airport administration buildings	$25.0
Highway / ADA retrofits	$19.4
Highway / Complete streets	$50.0
Highway / Intelligent transportation systems	$72.5
Highway / Intersection improvements	$160.7
Highway / Roadway reconstruction	$1,261.0
Information Technology / Customer digital experience	$10.0
Information Technology / Enterprise/BRP/automation	$19.5
Information Technology / Workforce productivity	$14.2
MBTA / Accessibility	$224.2 < +$20.0 change
MBTA / Federal programs and mandates	$538.8
MBTA / System improvements	$622.3
Rail / Facility modernization	$10.5
Rail / Industrial rail access program	$15.0
Rail / Track and right-of-way modernization	$32.0
Registry / ATLAS	$102.1
Registry / Customer service modernization	$5.0
Registry / Kiosks	$2.5
Transit / RTA facility and system modernization	$36.8
Transit / RTA fleet upgrades	$1.3
Transit / RTA replacement facilities	$55.8

Aeronautics	Highway	IT	MBTA	Rail	RMV	Transit	Total FY18-22
$25.0 (millions)	$1,563.6	$43.7	$1,385.3	$57.5	$109.6	$93.9	$3,278.6

Expansion investments by program

Five-year program budget in millions

Program	Budget
Highway / Bicycle and pedestrian	$220.5
Highway / Capacity	$273.9
MBTA / Expansion projects	$1,587.0
Rail / Track and right-of-way expansion	$100.0
Rail / Vehicle expansion	$32.0

-$56.9 change

Axis: $0 $250 $500 $750 $1,000 $1,250 $1,500
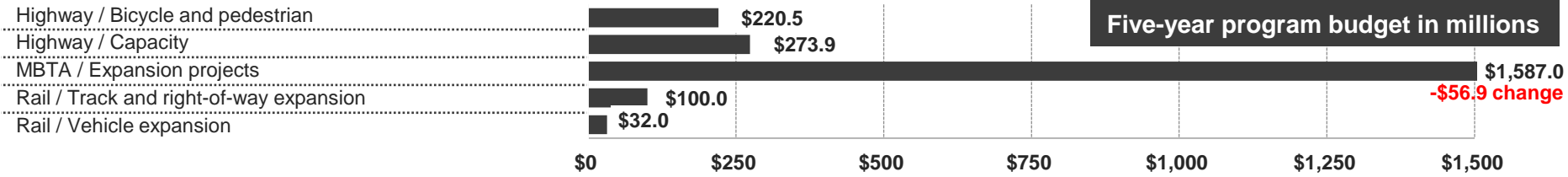
Highway	MBTA	Rail	Total *FY18-22*
$494.4 *(millions)*	$1,587.0	$132.0	$2,213.4

Spending updates

- **Aeronautics Division**
  - Modest shifts in projects; slightly less spend than draft
- **Highway Division**
  - MPOs have endorsed all TIPs and they are reflected in the final draft CIP Update
  - Reduction in pay-go capital spending in coordination with operating budget on tolled facilities
- **IT** – no changes
- **MBTA**
  - Auburndale commuter rail station included
  - Modest shifts in two programs related to timing of spending
- **Rail and Transit Division**
  - Modest shifts in funding between projects to provide additional funds for an accessible platform at Springfield Union Station
  - South Coast Rail – additional $28.6 million provided for spending in FY2018
  - Transit – no changes
- **RMV** – no changes

MassDOT spending by source (Draft vs. Final)

Projected sources (in millions)	Draft FY18	Final FY 18	Delta	Draft 5-year Total	Final 5-year Total	Delta
Federal sources of funds						
Federal Highway (FHWA) reimbursements	$647.00	$616.90	**$(30.10)**	$3,543.80	$3,525.10	**$(18.70)**
Federal Transit (FTA) reimbursements**	$7.10	$7.10	**$ -**	$31.20	$31.20	**$ -**
Federal Aviation (FAA) reimbursements and grant draws	$42.40	$38.00	**$(4.40)**	$205.50	$205.90	**$0.40**
Federal Rail (FRA) reimbursements and grant draws	$4.90	$4.90	**$ -**	$5.00	$6.50	**$1.50**
Subtotal federal sources*	**$701.40**	**$666.90**	**$(34.50)**	**$3,785.50**	**$3,768.70**	**$(16.80)**
Bond cap	$830.70	$823.30	**$(7.40)**	$4,085.20	$4,077.90	**$(7.30)**
Accelerated Bridge bonds	$99.10	$153.20	**$54.10**	$144.20	$273.70	**$129.50**
Rail enhancement bonds	$63.70	$91.20	**$27.50**	$187.10	$214.00	**$26.90**
CARM	$ 37.30	$37.90	**$0.60**	$438.30	$391.20	**$(47.10)**
Metropolitan Highway system (MHS) pay-go	$118.70	$92.50	**$(26.20)**	$338.80	$219.00	**$(119.80)**
Western Turnpike (WT) pay-go	$109.10	$75.50	**$(33.60)**	$402.80	$343.80	**$(59.00)**
Tobin Bridge (Tobin) pay-go	$30.00	$59.90	**$29.90**	$121.80	$178.60	**$56.80**
Gaming	$3.80	$4.00	**$0.20**	$4.00	$4.00	**$ -**
Municipal and local funds	$2.60	$2.50	**$(0.10)**	$14.20	$14.40	**$0.20**
Reimbursable and 3rd parties	$0.90	$0.90	**$ -**	$19.40	$2.00	**$(17.40)**
Public private partnerships	$ -	$ -	**$ -**	$ -	$ -	**$ -**
Subtotal of non-federal sources*	**$1,295.90**	**$1,340.90**	**$45.00**	**$5,755.60**	**$ 5,718.60**	**$(37.00)**
Total sources*	**$1,997.30**	**$2,007.20**	**$9.90**	**$9,541.10**	**$ 9,487.30**	**$(53.80)**

* Totals may not add due to rounding | ** FTA reimbursements for MassDOT projects only; RTA federal funds are not included | *** These are gaming funds not spent in FY 2017 for FY 2017 grants.

MBTA spending by source (Draft vs. Final)

Projected sources (in millions)	Draft FY18	Final FY 18	Delta	Draft 5-year Total	Final 5-year Total	Delta
Federal sources of funds						
Federal Highway (FHWA) reimbursements	$67.4	$67.4	$ -	$157.1	$157.1	$0.0
Federal Transit (FTA) reimbursements (prospective)	$107.5	$106.4	$(1.1)	$1,793.4	$1,798.6	$5.2
Existing FTA reimbursements and grant draws	$168.6	$168.6	$ -	$652.0	$652.0	$0.0
FTA Full funding grant agreement (GLX FFGA)	$62.6	$62.6	$ -	$996.1	$996.1	$0.0
Other federal funds	$1.3	$1.3	$ -	$4.2	$4.2	$0.0
Positive Train Control (PTC) loans	$78.2	$78.2	$ -	$365.0	$365.0	$0.0
Subtotal federal sources	**$485.6**	**$484.5**	**$(1.1)**	**$3,967.8**	**$3,973.0**	**$5.2**
Bond cap	$0.8	$0.8	$ -	$1.2	$1.2	$0.0
Accelerated Bridge bonds	$6.4	$6.4	$ -	$10.4	$10.4	$0.0
Rail enhancement bonds	$165.1	$151.5	$(13.6)	$1,295.7	$1,238.6	($57.1)
Revenue bonds	$134.0	$135.1	$1.1	$1,324.1	$1,338.7	$14.6
Metropolitan Highway system (MHS) pay-go	$1.1	$1.1	$ -	$2.5	$2.4	($0.1)
Gaming funds	$2.3	$2.3	$ -	$2.3	$2.3	$0.0
Municipal and local funds (GLX)	$0.0	$0.0	$ -	$75.0	$75.0	$0.0
Reimbursable and 3rd parties	$5.0	$5.0	$ -	$8.5	$8.4	($0.1)
Additional State Assistance*	$150.0	$150.0	$ -	$750.0	$750.0	$0.0
Capital maintenance fund	$5.4	$5.4	$ -	$9.4	$9.5	$0.1
Subtotal of non-federal sources	**$470.1**	**$457.6**	**$(12.5)**	**$3,479.0**	**$3,436.6**	**$(42.6)**
Total Sources	**$955.7**	**$942.1**	**$(13.6)**	**$7,446.7**	**$7,409.6**	**$(37.4)**

* Totals may not add due to rounding | ** FTA reimbursements for MassDOT projects only; RTA federal funds are not included | *** These are gaming funds not spent in FY 2017 for FY 2017 grants.

Appendix

Program details

Reliability programs for Aeronautics

Airport Pavement Management System

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-use airports.

Program performance:

Tracker target	75 average PCI for airport pavement
PfP tool forecast	83 average PCI for airport pavement by 2022

FY2018-2022 program budget:

$114.3 million over five years

Airport Capital Improvement

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP tool
Other indicators	80% of vegetation management work planned is completed each year.

FY2018-2022 program budget:

$155.0 million over five years

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Reliability programs for Highway

All-electronic tolling

Program purpose and need statement:

This program converts 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 is the demolition of the former toll booths and realignment of exits and interchanges on the I-90 corridor.

Program performance:

Tracker target	95% E-Z Pass payment rate (vs. pay-by-plate)
PfP tool forecast	Not forecasted in PfP tool
Other indicators	To be determined

FY2018-2022 program budget:

$66.6 million over five years

Bridge

Program purpose and need statement:

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

Program performance:

Tracker target	- <10% NHS deck area is SD - 95 Health Index
PfP tool forecast	181 bridges rated as structurally deficient
Other indicators	Number of structurally deficient bridges

FY2018-2022 program budget:

$2,028.2 million over five years

Design, Environmental and Right of Way

Program purpose and need statement:

This program procures consultant services for the project development program, including design, environmental permitting, and other necessary services forecasted for construction. This program also procures all required external legal reviews, and pays for costs associated with temporary and permanent land takings.

Program performance:

Tracker target	Not established in Tracker

PfP tool forecast	Not forecasted in PfP tool

Other indicators	To be determined

FY2018-2022 program budget:

$660.0 million over five years

It is anticipated this program's spending will be associated with programmed projects in future CIP updates and that this program will be eliminated. This is similar to how other Division's represent design costs.

Equipment

Program purpose and need statement:

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

Program performance:

Tracker target	Not established in Tracker

PfP tool forecast	Not forecasted in PfP

Other indicators	To be determined

FY2018-2022 program budget:

$75.0 million over five years

Facilities

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP tool
Other indicators	To be determined

FY2018-2022 program budget:

$161.5 million over five years

Interstate Pavement

Program purpose and need statement:

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

Program performance:

Tracker target	90% of pavement in good or excellent condition
PfP tool forecast	96% of pavement in good or excellent condition
Other indicators	To be determined; set in accordance w/ federal performance requirements

FY2018-2022 program budget:

$281.7 million over five years

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Municipal Bridge

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.

Program performance:

Tracker target	Not established in Tracker

PfP tool forecast	Not forecasted in PfP

Other indicators	Number of inspections completed

FY2018-2022 program budget:

**$50.0 million over
five years**

Non-Interstate pavement

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.

Program performance:

Tracker target	62% of pavement in good or excellent condition

PfP tool forecast	49% of pavement in good or excellent condition

Other indicators	To be determined; set in accordance w/ federal performance requirements

FY2018-2022 program budget:

**$543.9 million over
five years**

Pre-apprenticeship

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.

Program performance:

| Tracker target | Not established in Tracker |

| PfP tool forecast | Not forecasted in PfP |

| Other indicators | To be determined |

FY2018-2022 program budget:

$4.6 million over five years

Retainage and utility Payments

Program purpose and need statement:

This program is an administrative program that reserves funds for close-out costs associated with all types of projects. This program is necessary to ensure funding for costs that are typically hard to forecast and predict.

Program performance:

| Tracker target | Not established in Tracker |

| PfP tool forecast | Not forecasted in PfP |

| Other indicators | To be determined |

FY2018-2022 program budget:

$50.0 million over five years

Roadway Improvements

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	To be determined

FY2018-2022 program budget:

$150.0 million over five years

Safety Improvements

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.

Program performance:

Tracker target	Move to zero fatalities Move to zero injuries
PfP tool forecast	Not forecasted in PfP
Other indicators	Crash clusters; crash data

FY2018-2022 program budget:

$235.8 million over five years

Tunnels

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.

Program performance:

Tracker target	**Not established in Tracker**
PfP tool forecast	**Not forecasted in PfP**
Other indicators	**To be determined**

FY2018-2022 program budget:

$350.0 million over five years

Reliability programs for IT

Desktop Experience

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	Monitor level of state of good repair – age of equipment, engineering performance, latest software releases, help desk support requests.

FY2018-2022 program budget:

$9.1 million over five years

Digital Infrastructure

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	Monitor level of state of good repair – age of equipment, engineering performance, latest software releases, equipment uptime statistics.

FY2018-2022 program budget:

$19.9 million over five years

Cyber/Information security

Program purpose and need statement:

This program keeps IT infrastructure and software compliant with best practices and digital security standards to protect both agency and customer data. This program is necessary to maintain customer confidence when making secure transactions.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	Security Awareness Training taken by all employees annually. Comprehensive policies and controls in place. 100% PCI compliance.

FY2018-2022 program budget:

$9.6 million over five years

Asset Management

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	All DOT assets recorded and monitored for state of good repair. Minimize incident reports.

FY2018-2022 program budget:

$15.5 million over five years

Reliability programs for MBTA

Bridges and tunnels

Program purpose and need statement:

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

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	Number of structurally deficient bridges that have a condition rating under 4 points on the Pontis Scale

FY2018-2022 program budget:

$544.7 million over five years

Revenue vehicles

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.

Program performance:

Tracker target	Not established - Average facility SGR score / Average non-revenue vehicle SGR score
PfP tool forecast	SGR model needs to be updated
TAM requirement*	% of revenue vehicles that meet or exceed the useful life benchmark**

FY2018-2022 program budget:

$1,702.7 million over five years

Federally Mandated Transit Asset Management (TAM) Requirement
*** Useful Life Benchmark (ULB) is defined as the expected lifecycle or the acceptable period of use in service of a capital asset for a particular transit provider's operating environment.*

Facilities

Stations

Program purpose and need statement:

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

Program purpose and need statement:

This program rehabilitates and upgrades MBTA stations (e.g., commuter rail, commuter boat, subway and bus stations), Projects primarily include renovation and rehabilitation of stations, elevators, escalators, and parking garages.

Program performance:

Tracker target	**Not established in Tracker**
PfP tool forecast	**Not forecasted in PfP**
TAM requirement*	**New program – to be determined**

Program performance:

Tracker target	**Not established in Tracker**
PfP tool forecast	**Not forecasted in PfP tool**
Other indicators	**New program – to be determined**

FY2018-2022 program budget:

**$112.6 million over
five years**

FY2018-2022 program budget:

**$400.8 million over
five years**

System upgrades

Program purpose and need statement:

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

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP tool
TAM requirement*	New program – to be determined

FY2018-2022 program budget:

$374.0 million over five years

* Federally Mandated Transit Asset Management (TAM) Requirement
** Transit Economic Requirements Model

Track, signals, and power

Program purpose and need statement:

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

Program performance:

Tracker target	Not established - average commuter rail track SGR score / average rapid transit track SGR score
PfP tool forecast	Not forecasted in PfP tool
Other indicators	Percentage of track segments with performance restrictions

FY2018-2022 program budget:

$1,285.6 million over five years

Reliability programs for Rail

Bridges

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	To be determined

FY2018-2022 program budget:

$53.2 million over five years

Facility Reliability

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP tool
Other indicators	To be determined

FY2018-2022 program budget:

$15.0 million over five years

Grade crossings

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	Approximately 20 grade crossings per year can be improved at this funding

FY2018-2022 program budget:

$36.5 million over five years

Vehicle reliability

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP tool
Other indicators	To be determined

FY2018-2022 program budget:

$5.3 million over five years

Track and right-of-way reliability

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.

Program performance:

Tracker target	Not established in Tracker

PfP tool forecast	Not forecasted in PfP

Other indicators	To be determined

FY2018-2022 program budget:

$138.3 million over five years

Reliability programs for RMV

Operations Management

Program purpose and need statement:

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

Program performance:

Tracker target	Not established in Tracker

PfP tool forecast	Not forecasted in PfP

FY2018-2022 program budget:

$0.9 million over five years

Reliability programs for Transit

Mobility Assistance Program

Program purpose and need statement:
This program purchases vans and related equipment used to provide transportation for the disabled and elderly by Councils on Aging, the RTAs and non-profits.

Program performance:

Tracker target	Not established in Tracker

PfP tool forecast	Not forecasted in PfP
Other indicators	Number of organizations who attended a training to participate in M.A.P.

FY2018-2022 program budget:

$50.1 million over five years

RTA facility and vehicle maintenance

Program purpose and need statement:
The program addresses the maintenance, rehabilitation and upkeep of existing RTA facilities or vehicles.

Program performance:

Tracker target	Not established in Tracker - facility condition (range)

PfP tool forecast	Not forecasted in PfP tool
Other indicators	To be determined

FY2018-2022 program budget:

$10.0 million over five years

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Technical assistance

Program purpose and need statement:

This program is used to provide technical assistance to support the transit program (grants management systems, vehicle inspections, etc).

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	To be determined

FY2018-2022 program budget:

$10.0 million over five years

RTA vehicle replacement

Program purpose and need statement:

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

Program performance:

Tracker target	Not established - demand response vehicle age / revenue vehicle condition
PfP tool forecast	7.4 average fleet age in years (up from 4.9)

FY2018-2022 program budget:

$58.0 million over five years

massDOT
Massachusetts Department of Transportation

Modernization program for Aeronautics

Airport Administration Buildings

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 sufficient administrative spaces in airports, which is integral to improving the safety, efficiency, and business growth of the airport asset.

Program performance:

Tracker target	**Not established in Tracker**
PfP tool forecast	**Not forecasted in PfP**
Other indicators	**Goal is to address one building per year with this funding level**

FY2018-2022 program budget:

$25.0 million over five years

Modernization programs for **Highway**

ADA Retrofits

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.

Program performance:

| **Tracker target** | 0 failed or missing curb ramps |

| **PfP tool forecast** | 58% decrease in failed curb ramps |

| **Other indicators** | Status of statewide inventory of curb ramps |

FY2018-2022 program budget:

$19.4 million over five years

Complete Streets

Program purpose and need statement:

This program rewards communities that demonstrate a commitment to embedding Complete Streets in their policies and practices by providing them with technical assistance and funding.

Program performance:

| **Tracker target** | Not established in Tracker |

| **PfP tool forecast** | Not forecasted in PfP |

| **Other indicators** | Number of complete streets policies enacted |

FY2018-2022 program budget:

$50.0 million over five years

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Massachusetts Department of Transportation

Intelligent Transportation Systems

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	Travel time from RTTM

FY2018-2022 program budget:

$72.5 million over five years

Intersection Improvements

Program purpose and need statement:

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

Program performance:

Tracker target	Move to zero fatalities Move to zero injuries
PfP tool forecast	1,530 economic-weighted EPDO* crashes reduced
Other indicators	To be determined

FY2018-2022 program budget:

$160.7 million over five years

Equivalent Property Damage Only

Roadway Reconstruction

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.

Program performance:

Tracker target	**Not established in Tracker**
PfP tool forecast	**Not forecasted in PfP**
Other indicators	**Pavement condition; crash data**

FY2018-2022 program budget:

$1,261.0 million over five years

Modernization programs for **IT**

Customer Digital Experience

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.

Program performance:

Tracker target	**Not established in Tracker**
PfP tool forecast	**Not forecasted in PfP**
Other indicators	**Monitor budgets and scheduled deliverables. Help Desk and Incident Report activity 100% of websites updated and aligned with Commonwealth standards.**

FY2018-2022 program budget:

$10.0 million over five years

Enterprise / BPR* / Automation

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.

Program performance:

Tracker target	**Not established in Tracker**
PfP tool forecast	**Not forecasted in PfP tool**
Other indicators	**Monitor budgets & scheduled deliverables. Full implementation of critical finance, HR and legal systems.**

FY2018-2022 program budget:

$19.5 million over five years

Business Process Re-engineering

Workforce Productivity

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	Monitor budgets and scheduled deliverables. Full implementation of departmental business process and workflows.

FY2018-2022 program budget:

$14.2 million over five years

Modernization programs for MBTA

Accessibility

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").

Program performance:

Tracker target	Not established - platform accessibility
PfP tool forecast	Not forecasted in PfP tool
Other indicators	Reduce number of inaccessible stations

FY2018-2022 program budget:

$224.2 million over five years

Federal programs and mandates

Program purpose and need statement:

This program implements federally-mandated safety projects for the commuter rail system, including Positive Train Control (PTC). Projects undertaken with Homeland Security funds are also included here.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP tool
Other indicators	Fulfill mandates

FY2018-2022 program budget:

$538.8 million over five years

System improvements

Program purpose and need statement:

This program includes improvement projects such as AFC 2.0 or wayfinding. It also includes Red and Orange Line investments in track, infrastructure, and car houses. This program is necessary to increase capacity, modernize the existing system, and enhance customers' experience. It is also needed to ensure that vehicles scheduled for delivery in FY2019 will operate as intended and provide maximum benefits.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP tool
Other indicators	- Increase operational capabilities: AFC 2.0 (ability to collect fares, fewer station outages, fare policy flexibility) - Infrastructure ready to accept new vehicles: Red Line/Orange Line infrastructure improvements

FY2018-2022 program budget:

$622.3 million over five years

Modernization programs for Rail

Facility modernization

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.

Program performance:

| Tracker target | Not established in Tracker |

| PfP tool forecast | Not forecasted in PfP tool |

| Other indicators | To be determined |

FY2018-2022 program budget:

$10.5 million over five years

Industrial Rail Access Program

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.

Program performance:

| Tracker target | Not established in Tracker |

| PfP tool forecast | Not forecasted in PfP tool |

| Other indicators | To be determined |

FY2018-2022 program budget:

$15.0 million over five years

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Track and right-of-way modernization

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 (ie: 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 (ie: 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.

Program performance:

Tracker target	**Not established in Tracker**
PfP tool forecast	**Not forecasted in PfP tool**
Other indicators	**To be determined**

FY2018-2022 program budget:

$32.0 million over five years

Modernization programs for Registry

ATLAS

Program purpose and need statement:

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

Program performance:

Tracker target — Not established in Tracker for capital planning

PfP tool forecast — Not forecasted in PfP tool

Other indicators — ATLAS replaces the 30 year old mainframe system known as ALARS. ALARS is dated in technical and user interface terms, is expensive to maintain and lacks flexibility to update as business requirements change.

FY2018-2022 program budget:

$102.1 million over five years

Customer service modernization

Program purpose and need statement:

This program includes updating and upgrading leased branch locations to accommodate the new dual line queuing model, signage, furniture and fixtures.

Program performance:

Tracker target — Percent of Service Center customers served in 30 minutes or less. Reduces the percent of customers served in Service Centers statewide waiting 60 minutes or more to be served.

PfP tool forecast — Not forecasted in PfP tool

Other indicators — Modernizing the RMV's Service Centers through wayfinding, queuing systems, and appropriate layouts is a critical element in meeting wait time and customer service performance standards.

FY2018-2022 program budget:

$4.9 million over five years

Kiosks

Program purpose and need statement:

This program installs kiosks at RMV branches. This program is necessary to improve customer experience.

Program performance:

Tracker target	Percent of system-wide transactions conducted outside of Service Centers
PfP tool forecast	Not forecasted in PfP tool
Other indicators	Kiosks help to increase the number of customers served in Service Centers in 30 minutes or less by decreasing the customer volume of in-person visits.

FY2018-2022 program budget:

$2.5 million over five years

Modernization programs for Transit

RTA facility and system modernization

Program purpose and need statement:

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

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP tool
Other indicators	To be determined

FY2018-2022 program budget:

$36.8 million over five years

RTA fleet upgrades

Program purpose and need statement:

This program allows for Regional Transit Authority fleet growth. This program is necessary to meet service needs or expansion.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP tool
Other indicators	To be determined

FY2018-2022 program budget:

$1.3 million over five years

RTA Replacement Facilities

Program purpose and need statement:

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

Program performance:

Tracker target	**Not established in Tracker**
PfP tool forecast	**Not forecasted in PfP tool**
Other indicators	**To be determined**

FY2018-2022 program budget:

$55.8 million over five years

Expansion programs for Highway

Bicycle and Pedestrian

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.

Program performance:

Tracker target — Ped plan network completed / Bike plan network completed

PfP tool forecast — 1,041 miles of off-road bicycle and pedestrian facilities

FY2018-2022 program budget:

$220.5 million over five years

Capacity

Program purpose and need statement:

This program allows for Regional Transit Authority fleet growth. This program is necessary to meet service needs or expansion.

Program performance:

Tracker target — Not established in Tracker

PfP tool forecast — Not forecasted in PfP tool

Other indicators — To be determined

FY2018-2022 program budget:

$273.9 million over five years

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Massachusetts Department of Transportation

Expansion programs for **MBTA**

Expansion projects

Program purpose and need statement:

This program makes targeted expansions in order to improve access to transit and statewide rail. Examples of projects could include Green Line Extension, and Silver Line to Chelsea.

Program performance:

| Tracker target | Not established in Tracker |

| PfP tool forecast | Not forecasted in PfP tool |

| Other indicators | To be determined |

FY2018-2022 program budget:

$1,587.0 million over five years

Expansion programs for Rail

Track and right-of-way expansion

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, consistency with the statewide Rail Plan, and any contractual or regulatory requirements for action.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP
Other indicators	To be determined

FY2018-2022 program budget:

$100.0 million over five years

Vehicles expansion

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.

Program performance:

Tracker target	Not established in Tracker
PfP tool forecast	Not forecasted in PfP tool
Other indicators	To be determined

FY2018-2022 program budget:

$32.0 million over five years