

Massachusetts Bay Transportation Authority

Capital Investment Plan Update

Preliminary source estimates and asset management performance measures

Audit and Finance Subcommittee

January 20, 2022

FY23-27 CIP | Capital Funding Sources and Initial Estimates



Capital Sources | Overview (1 of 2)

Federal Funding

Formula

- Urbanized Area Program (Section 5307) – Capital and operating assistance in urbanized areas with a population of 50,000 or more. For UZAs with a population of 200,000 or more, 5307 cannot be used for operating assistance. Split with other RTA's within the Boston UZA.
- Buses and Bus Facilities (Section 5339) – Funds for buses and related equipment, including facilities. Split with other RTA's within the Boston UZA.
- State of Good Repair (Section 5337) – Capital assistance for state of good repair work on fixed guideway and high intensity motorbus. Also eligible for developing and implementing TAM plans.

Discretionary

- Funding awarded based on competitive application processes. MBTA is eligible for discretionary funds distributed by several Federal agencies – either as a primary or sub-applicant – including FTA, FRA, FHWA, and FEMA.

State Funding

Project-Specific

- Commonwealth Rail Enhancement Program (REP) and Commonwealth General Obligation bond proceeds for South Coast Rail Phase 1, Green Line Extension, Red Line/Orange Line improvements.

Additional Assistance

- Annually, \$60 million of Commonwealth General Obligation bond proceeds, or State Bond Cap, are typically made available to the MBTA for eligible capital project costs.

Capital Sources | Overview (2 of 2)

MBTA Sources

Bond

- Taxable and Tax-exempt Bonds – Relative levels of taxable and tax-exempt bonds made available each year based on the type of work being delivered. Includes sustainability bonds which are utilized for projects that meet certain environmental or social benefit criteria.

Loans

- Loans available through the Build America Bureau (BAB) for specific, typically large, projects, which must be Federally eligible
 - TIFIA – Loans for transit projects, up to 33% of project cost
 - RRIF – Loans for railroad projects, up to 100% of project cost

Operating Budget Transfer (previously referred to as Pay-Go/Lockbox)

- Funding passed through from the MBTA's operating budget to the capital program.

Capital Maintenance Fund (CMF)

- A limited fund held by the Authority, that may be used at the discretion of the CFO, to pay a portion of unexpected costs of maintenance, improvement, and replacement of the equipment, facilities, and assets of the authority.

Note - The sum of MBTA bonds and loans is limited by the overall coverage ratio in order to maintain the MBTA's credit rating.

Other

Reimbursable

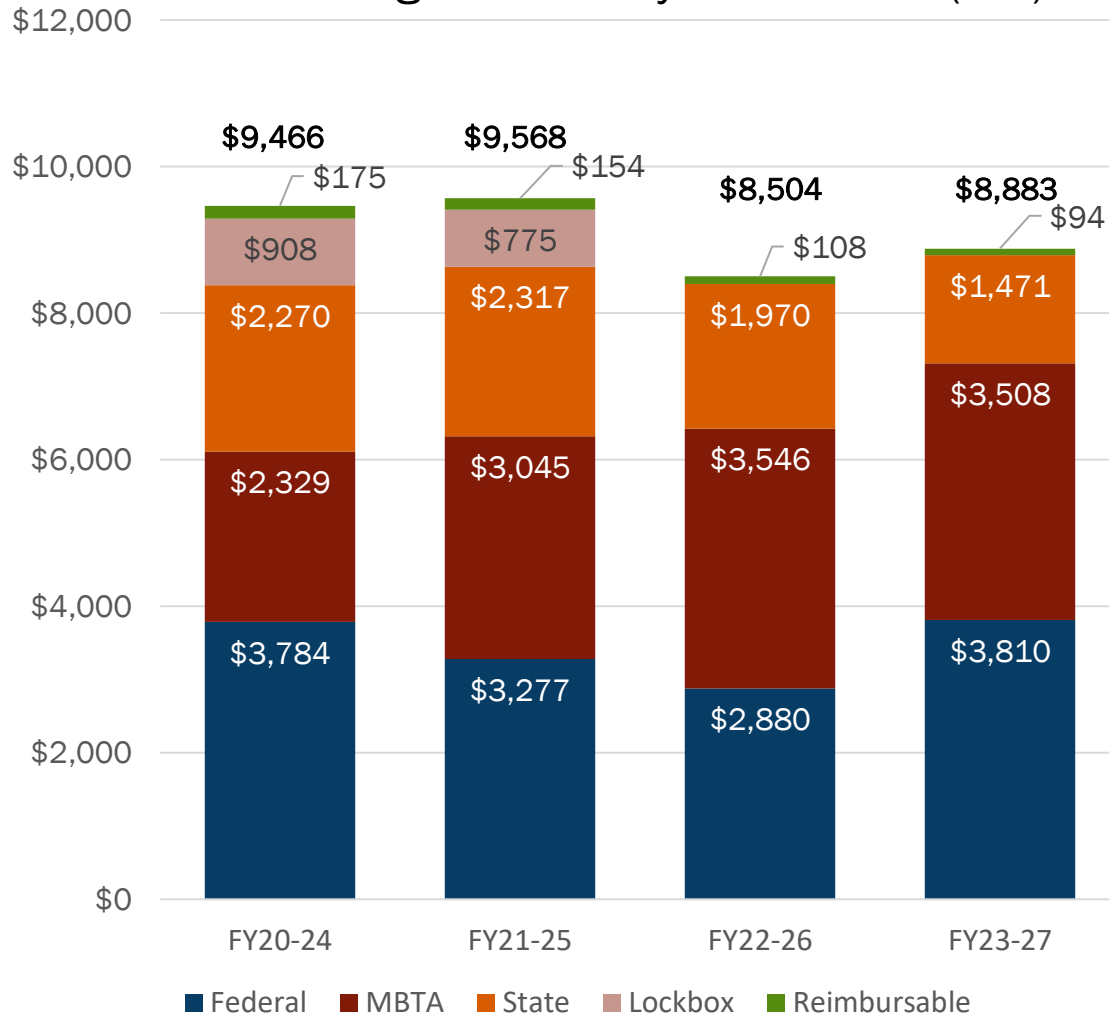
- Funding from outside sources through partnerships and formal agreements, as with developers and municipalities, to fund work completed on their behalf.

Capital Sources | Characteristics

Funding Type	Funding Source	Limited to Specific Projects	Assumptions that Drive Available Amount Per Year	Funding Source Behavior: Available versus Programmed
Federal	Formula	Once obligated	Established in Federal legislation	Available in the Federal Fiscal Year they are appropriated to the MBTA, then programmed over subsequent years
	Discretionary	Yes	Aligns with awarded competitive funding grants	After award, programmed to align with project cashflows
State	Project-based	Yes	Aligns with specific project cashflows	Programmed to align with project cashflows
	Additional assistance	No	\$60 million annually	Consistent annual amount, does not roll from year to year
MBTA	Bonds	No	Aligned with the MBTA's bonding capacity and coverage ratio. Currently set at \$590 million per year until FY25, and then \$500 million per year in FY26 and beyond	Funds are programmed in the year they are made available, but roll if not spent
	Loans (TIFIA and RRIF)	Yes		Aligned with project cashflows
	Operating Transfer	No	Based on committed operating budget transfers	Funds are programmed in the year they are made available, but roll if not spent
Reimbursable	Various	Yes	Based on agreements with outside entities	Programmed based on agreements and aligned with project cashflows

FY23-27 CIP Funding Sources | Initial Estimate

Funding Available by CIP Window (\$M)



Source Highlights:

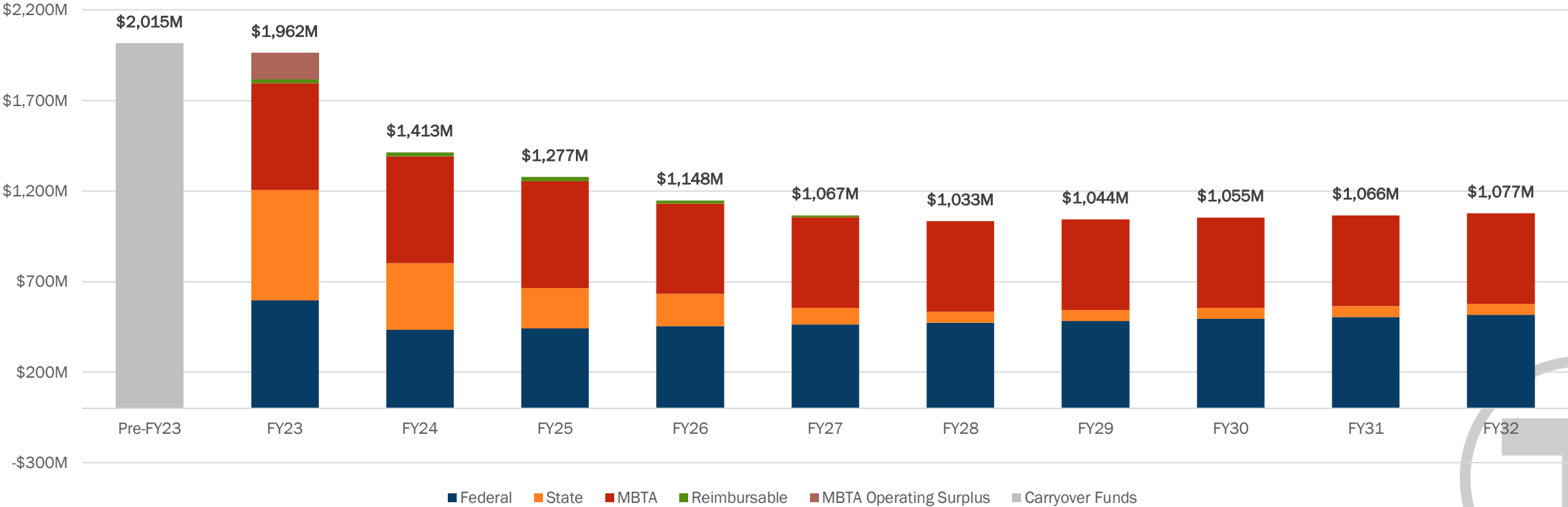
- Federal** funds increase from prior CIP window due to Bipartisan Infrastructure Law
- MBTA** sources includes \$590M/\$500M a year in planned new money (bonds and commercial paper) and existing USDOT loans (RRIF and TIFIA)
 - Initial assumptions include \$590M/year FY23-25 and \$500M/year FY26-27
 - Sources support the 20% match for Federal projects, as well as MBTA-only funded projects
 - \$145M of the potential \$500M transfer from the operating budget is included in these estimates
- State** funds include Bond Cap and Rail Enhancement Program special obligation bonds for GLX, Red Line/Orange Line improvements, South Coast Rail, and other projects
 - Sources are tied to project cashflows, so overall sources continue to decline as these projects approach completion

Source	FY20-24	FY21-25	FY22-26	FY23-27
Federal	40%	34%	34%	43%
MBTA	25%	32%	42%	39%
State	24%	24%	23%	17%
Lockbox	10%	8%	0%	0%
Reimburs.	2%	2%	1%	1%
Total	100%	100%	100%	100%

Capital Source Assumptions | 10 Year Outlook

Source Assumptions

- Federal Funding – includes FTA formula funds, FTA funds for GLX, ferry funds, and Homeland Security Funds; Formula Funding assumes 2.22% annual increase in FY27 and beyond
- State Funding – reflects funds for South Coast Rail, GLX, and REP bonds, as well as \$60M in annual bond cap
- MBTA Sources – assumes bond issuance of \$590M per year until FY25, and then \$500M for FY26 and FY27; also includes future RRIF and TIFIA loans and CMF funding
- MBTA Operating Surplus – included \$145M of the potential \$500M transfer from the operating budget



FY21 FTA Transit Asset Management Performance Measures



FTA Transit Asset Management Performance Measures

- The Transit Asset Management (TAM) Final Rule (49 CFR part 625) established performance measures to approximate the state of good repair of four categories of capital assets
- Beginning in FY18 transit agencies receiving federal funds must set and report targets for each performance measure, based on the current asset inventory and condition and anticipated capital investments or other improvements
- [2021 Performance Measures](#) report on the state of Asset Classes at the close of FY21, as reported to FTA's NTD
- [2022 Performance Targets](#) report on the projected state of Asset Classes with anticipated FY22 capital projects

Transit Asset Management Performance Measures

Asset Category	Measure	Measure Type
Rolling Stock	Percentage of revenue vehicles (by type) that have met or exceeded their Useful Life Benchmark	Age-based
Equipment	Percentage of non-revenue service vehicles (by type) that have met or exceeded their Useful Life Benchmark	Age-based
Facilities	Percentage of facilities (by group) that are rated less than 3.0 on FTA TERM scale	Condition-based
Infrastructure [Fixed Guideway]	Percentage of track segments (by mode) that have performance restrictions	Performance-based

Note: There is no penalty for missing a target and there is no reward for attaining a target.



TAM Performance: FY20 to FY22

- The percent of revenue vehicles at or beyond their ULB for articulated bus, bus, light rail, heavy rail, commuter rail coaches and paratransit automobiles decreased in FY21 over FY20, driven by the procurement of new vehicles to replace older ones.
- The percent of older revenue vehicles in the fleet did not change for trolleybus, vintage trolley, commuter rail locomotive, and ferry vehicles from FY20 to FY21.
- Paratransit vans are the only category with an increase in the percentage of vehicles at or beyond the useful life benchmark, due to delays in retiring older fleets at the end of FY21. A significant number of these older vehicles were instead retired in early FY22.
- FY22 targets for heavy rail, commuter rail locomotive, paratransit automobile, and paratransit van project a lower percentage of older vehicles in the fleet due to ongoing procurements.

Performance Measure	Asset Category	FY20 Actual	FY21 Actual	FY20-FY21 Trend	FY22 Target	FY21-FY22 Expected Trend
Revenue vehicle condition, beyond useful life	Heavy Rail	55%	53%	↓	51%	↓
	Paratransit Automobile	100%	33%	↓	28%	↓
	Articulated Bus	30%	0%	↓	0%	→
	Bus	28%	26%	↓	26%	→
	Commuter Rail Coach	13%	8%	↓	8%	→
	Light Rail	40%	0%	↓	0%	→
	Trolleybus	100%	100%	→	100%	→
	Vintage Trolley	100%	100%	→	100%	→
	Commuter Rail Locomotive	24%	24%	→	20%	↓
	Ferry	0%	0%	→	0%	→
	Paratransit Van	28%	43%	↑	14%	↓



TAM Performance: FY20 to FY22

- The percent of non-revenue transit and commuter rail vehicles at or beyond their ULB was reduced from 21% in FY20 to 19% in FY21, due in part to the retirement of older vehicles. However, the percentage of non-revenue vehicles beyond useful life is expected to increase back to 21% in FY22 as vehicles that are used sparingly continue to age.
- Although the MBTA is investing in state of good repair and modernization improvements to passenger, parking, maintenance, and administrative facilities, these improvements will not be reflected in condition assessment data until after FY22. Passenger facility condition will improve slightly in FY22 due to the completion of several station projects and the expected opening of new stations in the Green Line Extension.
- Track condition across heavy rail, light rail, and commuter rail is expected to improve in FY22 due to ongoing track work and the removal of construction-related speed restrictions. The FY22 target for light rail also accounts for the addition of 4.3 revenue service miles associated with the opening of the Green Line Extension.

Performance Measure	Asset Category	FY 20 Actual	FY21 Actual	FY20-FY21 Trend	FY22 Target	FY21-FY22 Expected Trend
Non-revenue service vehicle condition, beyond useful life	Non-Revenue Vehicles <i>(Includes Steel Wheel, Automobiles, Trucks, and Other Rubber Tire Vehicles)</i>	21%	19%	↓	21%	↑
Facility condition, % of assets <3 on TERM scale	Administrative and Maintenance	68%	66%	↓	66%	→
	Passenger and Parking	14%	14%	→	12%	↓
Track condition, % of miles with speed restrictions	Light Rail	7%	5%	↓	2%	↓
	Heavy Rail	3%	3%	→	2%	↓
	Commuter Rail	1%	4%	↑	2%	↓

FY23-27 CIP | Next Steps



Key Milestones for CIP Development

September

- CIP kick-off, CIP information sessions held with MBTA departments to detail the process

October

- Project proposals due via CIP intake process (October 15)

November

- Review of CIP requests in advance of scoring
- Develop initial estimate of capital funding sources using the outcome of the Q2 cashflow exercise

December

- CIP requests evaluated and scored (using PSAC criteria)
- Program sizing activities begin using asset condition report to help set priorities

January

- Prioritization of project proposals, based on scoring and evaluation
- Refine and finalize CIP public engagement approach with MBTA Community Outreach

February

- Develop initial project list – combine existing and new projects
- Refine sources and sequencing for draft project list

March

- Release draft MBTA-only 5 year CIP
- Conduct public engagement process to collect feedback on the draft plan

April

- Incorporate any CIP changes in response to public comments; submit draft project list to MassDOT
- Release 5-year TIP to the Boston Metropolitan Planning Organization (MPO)

May

- Finalize MBTA CIP, vote to approve and transmit to MassDOT
- MassDOT Board vote to release draft CIP and engage public through multiple avenues

June

- MassDOT Board vote to approve final MassDOT-wide CIP

CIP Process | Proposed Board Touchpoints

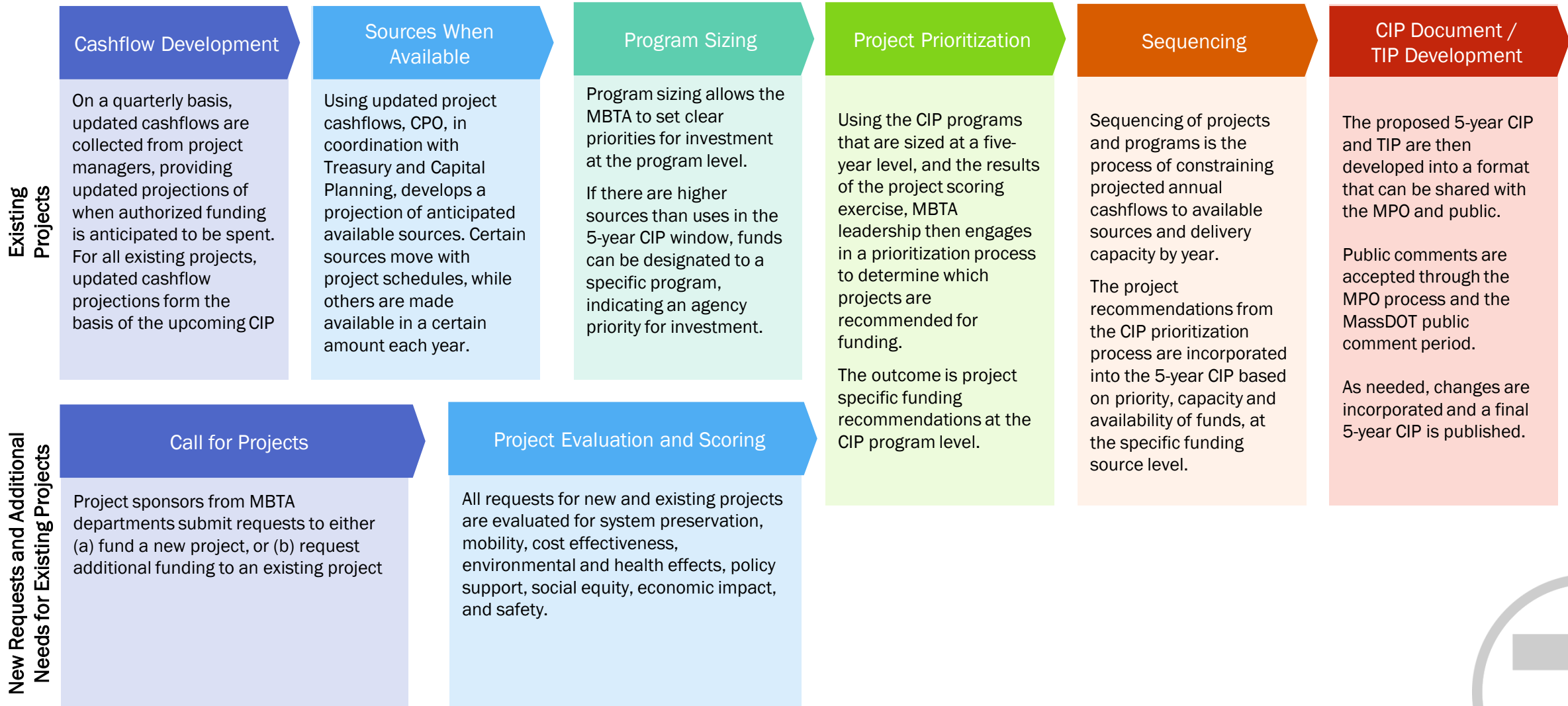
	Proposed MBTA Board Touch Points and Topics
NOVEMBER	Finance and Audit Subcommittee Meeting: Introduction to the CIP, preview upcoming touch points and approach MBTA Full Board: N/A
DECEMBER	Finance and Audit Subcommittee Meeting: N/A MBTA Full Board: N/A
JANUARY	Finance and Audit Subcommittee Meeting (20 th): Asset management performance measures and preliminary source estimates MBTA Full Board (27 th): N/A
FEBRUARY	Finance and Audit Subcommittee Meeting (10 th): FY23-27 initial program sizes and recap of existing programs/in-flight projects MBTA Full Board (24 th): N/A
MARCH	Finance and Audit Subcommittee Meeting (10 th): Present draft FY23-27 CIP and vote to release for public comment MBTA Full Board (24 th): Present the draft FY23-27 CIP and vote to release for public comment
APRIL	Finance and Audit Subcommittee Meeting (14 th): N/A – tentative MBTA Full Board (28 th): N/A
MAY	Finance and Audit Subcommittee Meeting (12 th): Present the final FY23-27 CIP and vote for approval MBTA Full Board (26 th): Present the final FY23-27 CIP and vote for approval
JUNE	Finance and Audit Subcommittee Meeting (9 th): N/A MBTA Full Board (23 rd): N/A



Appendix



CIP Development Process



FY23-27 CIP Programs

- New program structure will streamline program sizing and align with asset management strategies
- All individual CIP projects will be “tagged” by mode and impact area to better track modal investments and progress toward Authority goals

Reliability and Modernization	Bridge and Tunnel	Repairs, reconstructs and replaces MBTA commuter rail and transit bridges and tunnels system-wide to ensure safe and reliable service for commuter rail and heavy rail riders. Culvert and dam projects are also included in this program.
	Maintenance and Administrative Facilities	Rehabilitates and upgrades maintenance and administrative facilities that support MBTA operations.
	Guideway, Signal, and Power	Rehabilitates, replaces and upgrades all guideway, signal, and power assets across the commuter rail, transit, and bus systems to ensure safe and reliable service for riders.
	Passenger Facilities	Rehabilitates and upgrades MBTA stations, stops and parking facilities to improve accessibility, enhance the customer experience, and help make it easier for riders and visitors to navigate the MBTA system.
	Vehicles	Rehabilitates and replaces the MBTA revenue fleet and non-revenue equipment to allow the MBTA to improve service reliability and ensure safety for riders.
	Technology and Innovation	Includes investments in technology to enhance productivity, modernize the system and improve the quality of MBTA services.
	Business and Operational Support	Includes investments in a wide range of MBTA systems including communications, safety and security, and asset management .
Expansion	South Coast Rail	Extension of Commuter Rail service to Fall River and New Bedford on the South Coast of Massachusetts
	Green Line Extension	Extension of the Green Line from Lechmere to Somerville and Medford.
	Expansion Projects	Planning and design for other targeted expansion projects identified as next priorities.