

Capital Investment Plan Update 2023-2027

MassDOT Board of Directors

April 13, 2022

CIP 2023-2027 Development

Agenda

CIP Process Recap

- Status update on CIP development activities

Programs

- Highlighted changes

Preliminary sources and uses for MassDOT

- Additional adjustments to sources and/or changes
- Proposed uses

Appendix

CIP Process Recap

- **Since last meeting:**
 - Reviewed and finalized programs and funding requests
 - CIP / STIP alignment underway and will influence final programs and draft project universe once federally funded projects are fully incorporated
 - CIP programs and prioritization has continued to focus on aligning with strategic priorities and performance targets and incorporates:
 - Reviewed and refined source assumptions
 - Initial bond cap targets provided by Executive Office for Administration and Finance (ANF) February 17
 - Additional bond cap provided to support increase in federal formula funds allotted to MassDOT
 - Additional funding requested to support ongoing and new strategic initiatives
 - MassDOT pay-go capital projections updated, as necessary, to align with FY 22 projections and draft FY23 operating budget assumptions
 - Incorporated new federal funding authorized under the Bipartisan Infrastructure Law (BIL) and other federal funding sources not captured in the 2022-2026 STIP including the \$150.8 million in Coronavirus Response and Relief Supplemental Appropriations Act CRRSAA)
 - Planning is underway for virtual CIP public meetings
- **Today:**
 - Need feedback on preliminary sources and uses
 - Feedback and discussion on proposed new programs

MassDOT 2023-2027 CIP – Representative Projects

Spending on major projects/programs reflected in this CIP update

- **Road and Bridge / Bicycle & Pedestrian Investments:**

- Westborough/Hopkinton - I-90 / I- 495 Interchange Reconstruction (construction commences FY 2023); funding incorporates BUILD grant for \$21 million
- Charlton-Oxford - Reconstruction of Route 20
- Newton-Weston - I-90/Route 128 Bridges/ramps – 7 bridges (5 replacements, 1 superstructure replacement, and 1 rehabilitation)
- Corridor Improvements on Route 79/Davol Street in Fall River
- Lowell – Rourke Bridge Replacement
- Taunton - Route 24/Route 140 Interchange Improvements
- Bedford - Minuteman Bikeway Extension
- Brockton-Abington – Pedestrian and Bicycle Improvements on Route 123
- Easthampton-Northampton – Shared use path along Mount Tom Road (between Manhan Trail to Atwood Drive)

- **Tunnel investments:**

- Sumner Tunnel Rehabilitation (construction commences in FY 2022)

- **Rail and Transit:**

- Track and Right of Way corridor modernization for New England Central Rail
- Positive Train Control installation on the Knowledge Corridor
- Modernization of the East Deerfield Intermodal Facility (state and federal funding)
- Vehicle replacement program (primarily buses both electric and hybrid) for the Regional Transit Authorities

- **Aeronautics:**

- Rehabilitation of the terminal apron at New Bedford Regional Airport (Phase 3)
- Relocate Taxiways C & F at Nantucket Memorial Airport

MBTA CIP State-funded Initiatives

Spending on major state-funded initiatives reflected in this CIP update

Green Line Extension

Total projected cost is approximately \$2.288 billion

Green Line Union Square Branch commenced service March 2022

Medford Branch scheduled to commence August 2022

South Coast Rail

Total projected cost \$1 billion

Substantial completion on track for 2023

Red Line/Orange Line Vehicles

Vehicle deliveries for Red and Orange Line in FY 22 are more consistent

6 married pairs (12 Orange Line Cars) delivered; production is stabilizing with ramp up in production anticipated through June 2022

Risks – parts shortages may lead to production impacts; MBTA working with CRCC to develop recovery strategy from the pandemic and production stabilization

Red Line/Orange Line Infrastructure Improvements

Cabot yard contractor's progress slower than forecast

Wellington Yard contractor – no issues

MBTA Expansion Projects

Fairmount Line Improvements (Blue Hill Ave Station) – project closeout

Salem Station Garage – Project Closed

Green Line Tracking – on track to be complete in FY 24

Energy Efficiency – anticipated completion by FY 27

Funding Assumptions and Considerations

- **State Bond Cap**
 - Bond cap sources based on estimates provided by the Executive Office of Administration and Finance (ANF) and are subject to change pending finalization of the Commonwealth's capital plan
 - ANF committed to providing the additional state funds required to match our increase in federal formula funds
 - Our (non-BIL related) requests for additional bond cap are under consideration by ANF
- **Federal Funds**
 - 2023-2027 CIP incorporates the new funding levels provided under BIL
 - MassDOT and the MPOs have actively been working to develop a pipeline of projects that will utilize the new formula funding
 - CIP does include the \$150.8 million in CRRSAA funds that were allocated to MassDOT in 2021
- **Pay-Go Capital Funds - MassDOT**
 - Availability and amount of pay-go capital funds to address the long-term capital needs of the toll facilities depend on operating budget assumptions and toll revenue projections
 - Assumptions will be adjusted if necessary to align with the final FY2023 operating budget

CIP Federal Sources

- **Federal Sources included:**
 - New federal formula funds authorized under the Bipartisan Infrastructure Law including:
 - \$1.125 billion in new federal Highway Infrastructure Program (HIP) bridge formula funds
 - \$106.6 million for new PROTECT (resiliency) program
 - \$93.7 million for new Carbon Reduction program
 - \$63.5 million for Electric Vehicle Charging Infrastructure
 - \$9.1 million for the ferry and terminal facilities
 - \$3.5 million increase in Federal Transit Administration grants to support MassDOT Transit's Mobility Assistance Program
 - \$449 million in additional core formula Federal Highway funding
 - Federal Highway BUILD grant (\$21 million) for I-90/I-495 Interchange reconstruction project
 - Federal Coronavirus Response and Relief Supplemental Appropriations Act (CRRSAA) funds (\$150.8 million)

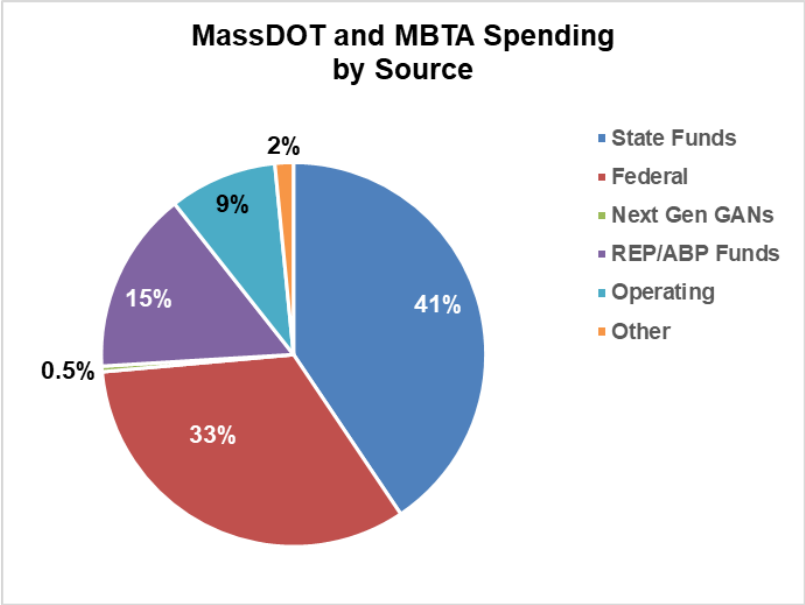
CIP Federal Sources – HIP Bridge Formula Funds

- Massachusetts will receive \$225 million ***annually*** of new bridge formula funds under HIP that were authorized and appropriated in BIL
- HIP funds are not subject to the obligation authority limitation that applies to the other FHWA formula funding
 - \$1.125 billion HIP bridge formula funds are programmed in the 2023-2027 STIP/CIP to support a number of new bridge projects, including:
 - Systematic Bridge Maintenance
 - Rourke Bridge Replacement project in Lowell
 - I-195 Superstructure and Ramps Replacement in New Bedford
 - Bridge Preservation on I-93 from Rt. 28 to Temple Street in Somerville
 - Storrow Drive Bridge Replacement over Bowker Ramps in Boston
 - St. James Avenue Bridge Replacement in Springfield

CIP State sources

- Additional bond cap required as state match to support the increase in federal formula funds (approximately \$616 million over the five years) will be provided by ANF above our baseline bond cap targets
- \$570.6 million in new Grant Anticipation Notes (estimated spending) to support the Highway bridge program is assumed for 2023-2027 which will include the state match (anticipated to be special obligation bonds)
- MassDOT has requested additional bond cap that will be utilized to improve the condition of transportation assets across the Commonwealth over the next five years
 - \$15 million for Municipal Pavement program
 - \$25 million for Complete Streets
 - \$25 million for Municipal Bridge
- Other additional bond cap requests include:
 - \$15 million for Highway Equipment to enhance the Commonwealth's snow removal capacity (new snow plows and loaders)
 - \$16.1 million for IT to replace key backbone systems/networks for Highway (Project Info) and develop Crash System for RMV
 - \$18.2 million for Security and Property Services to address building infrastructure issues and improve security access throughout the building
 - \$50 million to implement positive train control on the Knowledge Corridor
 - Rail group is actively pursuing federal funding from Amtrak that may be available for the project
 - \$74.8 million for renovation or reconstruction of Highway Districts 4 and 5 administration buildings to accommodate new staffing needed to deliver the federal aid program, a hybrid work environment and address the facilities that are beyond their useful life
 - \$11 million for Aeronautics to support their Unmanned and Autonomous Aviation System (UAS)

Projected Spend (2023-2027) for MassDOT and MBTA (state funding only)



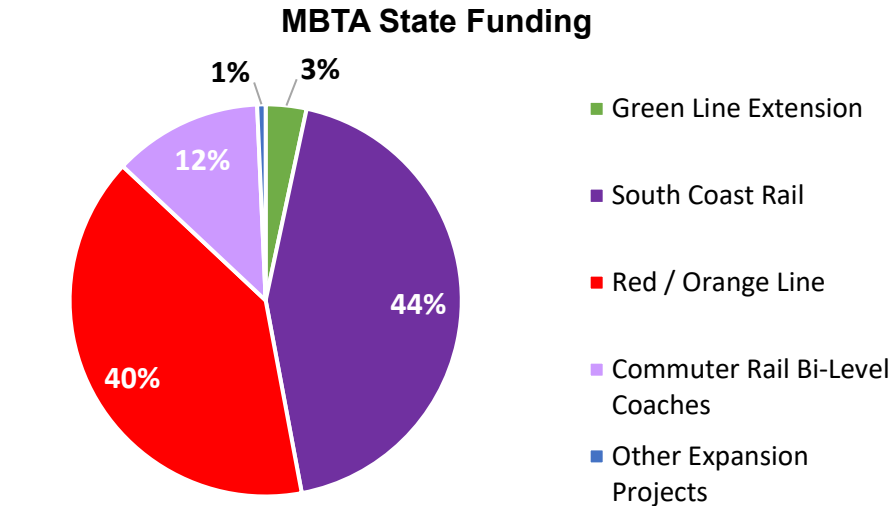
- State Funds:**
- **\$5,262.2 M** for FY 23-FY27 (\$1,089.3 in FY23); *including:*
 - \$102.4 M for SCR (MBTA)
 - \$200 M for Chapter 90
 - \$786.9 M for MassDOT
 - **REP/ABPs Funds:**
 - **\$1,125.1 M** for FY23-FY27 (\$1,094.7 M for MBTA)
 - \$411.6 M for FY 23 (\$400.1 M for MBTA)

- Federal: \$885.1 M** in FY 23; (\$5.6 B over 5-year)
- Highway/Planning (FHWA): \$854.9 M in FY 23 (\$5.3 B over 5 year)
 - Transit (FTA): \$6.5 M for FY 23 (\$32.4 M over 5-year)
 - Rail/ (FRA): \$5.8 M in FY 23 (\$8.8 M over 5-year)
 - Aviation (FAA): \$17.9 M in FY 23 (\$227.9 M over 5-year)

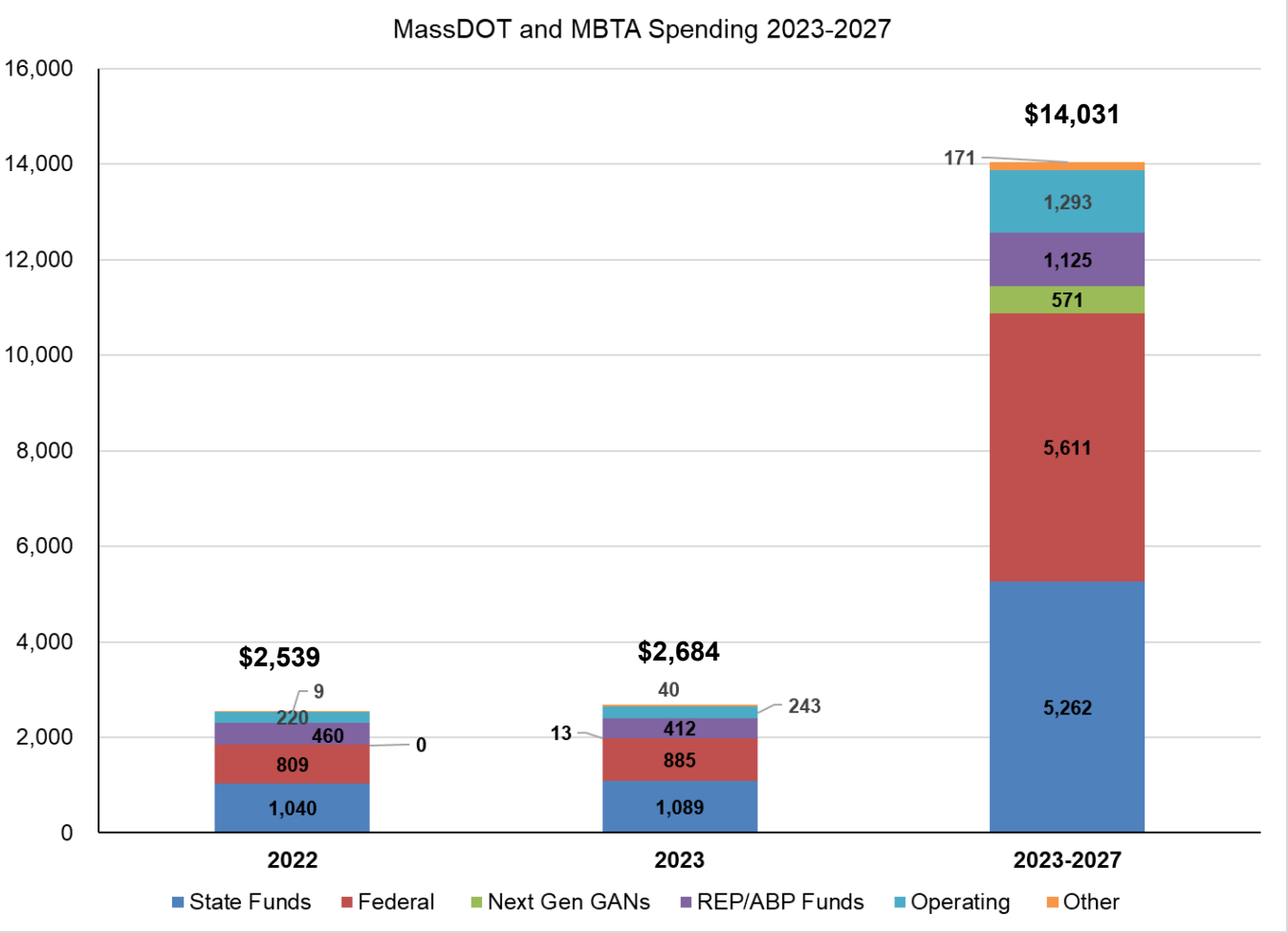
GANs: \$570.6 M for FY 23-FY 27 (\$12.6 M in FY 23)

- Operating:**
- Tolls Pay-Go Capital: **\$1,292.7 M** for FY 23-FY 27 (\$243.1 M for FY23)

- Other:**
- Local Funds, Reimbursements, Other State & CARM:
 - **\$171.5 M** for FY 23-FY 27 (\$39.9 M in FY 23)



MassDOT & MBTA¹ Spending: 2023-2027 (\$ millions)



Spending Highlights

Bond Cap/State Funds: Funds the state match for the federal aid projects (Highway/Planning) and IT, Rail, Transit (match for FTA funds received by RTAs), state match for FAA grants, Chapter 90 and Municipal Programs

Federal:

- FHWA reimbursements for projects underway and/or schedule to advertise in FY22-FY27
- Other federal funds includes FTA funds for MAP, BUILD grant for Rail (NECR project) and freight (FHWA) funds for East Deerfield Intermodal Facility

GANs: reflects spending anticipated for eligible projects; all projects are in the FY23-FY27 STIP

Operating:

- Spending for projects underway or scheduled to start (includes Sumner Tunnel, lighting projects, Newton/Weston I-90/I-95)
- Pay-go capital aligns with preliminary FY23 operating budget assumptions

CARM: spending on projects approved by FHWA

Other:

- Spending on transportation improvements in Seaport District funded with HED cap, VW settlement funds and/or local matching funds (Rail and Aeronautics)

¹ MBTA **state** spending includes \$102.4 million for SCR and \$1,094.7 in REP funds for FY23-FY27



CIP Public Engagement

Virtual Public Meeting Schedule

MassDOT will host a series of public meetings across the Commonwealth with participation from the Metropolitan Planning Organizations

Zoom details for public meetings, including registration links, will be available at <http://www.mass.gov/cip> when they are finalized. All meetings will begin at 6:00 pm, EST, and accommodation and language translation services will be provided upon request.

Tuesday, May 24th – Western Mass/Berkshires

Berkshire Regional Planning Commission / Pioneer Valley Metropolitan Planning Organization / Franklin Regional Council of Governments

Wednesday, May 25th – Northern Middlesex/Merrimack Valley

Northern Middlesex Planning Commission / Merrimack Valley Planning Commission

Thursday, May 26th – Central Mass

Central Massachusetts Regional Planning Commission / Montachusett Regional Planning Commission

Tuesday, May 31st – Boston

Boston MPO / Central Transportation Planning

Wednesday, June 1st – Southeastern Mass

Old Colony Planning Council / Southeastern Regional Planning & Economic Development District

Thursday, June 2nd – Cape and the Islands

Cape Cod Commission / Nantucket Planning and Economic Development Commission / Martha's Vineyard Commission

- **CIP Comment Tool:** Comments will be accepted directly through the [CIP Online Comment Tool](#). Members of the public can add general comments or project-specific comments.
- **Email:** Comments can be emailed to massCIP@state.ma.us
- **Letters:** Physical letters will be accepted from stakeholders and members of the public wishing to use non-virtual means to participate.
- MassDOT also encourages the public to engage with your municipal leaders about your priorities for transportation projects.
- Feedback from the general public helps to inform investment decisions and will be considered as MassDOT refines the final 2023-2207 CIP for release in June.
- All comments will be reviewed by MassDOT staff and shared with the MassDOT Board. A summary of the comments and MassDOT response will be shared on the mass.gov/dot/cip website.

Next Steps: Discussion of Project Changes in 2023-2027

- Analysis underway of proposed projects for 2023-2027 to determine any significant changes to cost and/or schedule primarily for previously programmed projects
- Analysis will be presented as part of discussion of proposed projects in May
 - We will identify the following:
 - For any projects \$15 million or greater in total cost, costs that have increased by 10% or more
 - Any changes in ad date by more than one year
 - Any projects that were programmed in the 2022-2026 STIP and 2022 CIP and not included in the 2023-2027 CIP and 2023-2027 STIP
- **Questions?**

Appendix

- Board Engagement Schedule
- Proposed New CIP Programs
- Bond Cap Spending by Priority
- Comparison of Bond Cap/State Funds
- Pay-go Capital Funds Comparison
- Comparison of Spending by Division
- Public Engagement Details

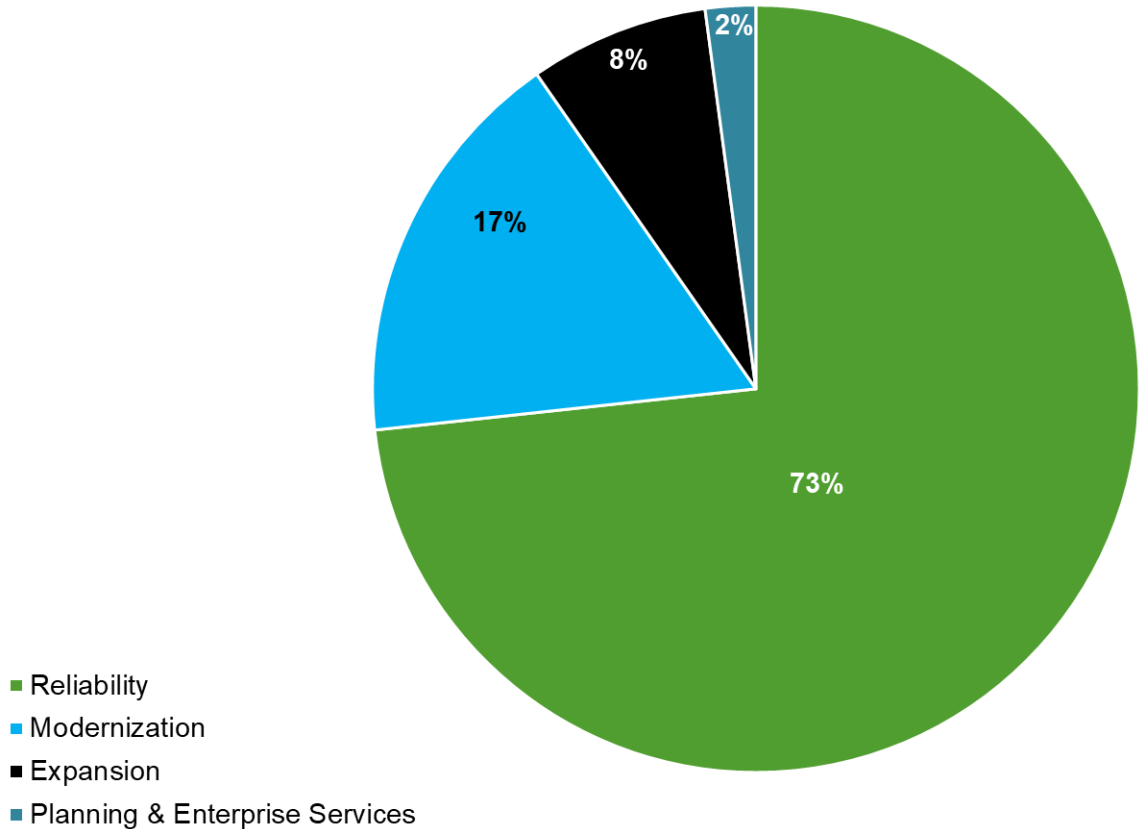
Proposed MassDOT Board Engagement for CIP / STIP Development

	Capital Program Committee	MassDOT Board
December	CIP strategic framework/federal funding update/initial estimate of federal sources / changes	
January	CIP / timeline / milestones / public engagement / proposed programs and/or changes / initial federal funding estimates (1/12/22)	
February	Status of CIP programs and size considerations / changes / preliminary sources estimates (2/9/22)	Status of CIP programs and size considerations / changes / preliminary sources estimates (2/16/22)
March	Final discussion on programs, sizes / prior CIP comparisons and initial fiscal constraint analysis / initial draft project lists for MPO engagement / begin drafting CIP (3/9/22)	
April	Final draft sources and uses; initial project lists and project changes from the 2022 CIP / MPOs release draft 5-year TIPs for 21-day public comment period (4/6/22)	Final draft sources and uses; initial project lists and project changes from the 2022 CIP / MPOs release draft 5-year TIPs for 21-day public comment period (4/13/22)
May	Draft CIP update including any updates to sources & uses / MassDOT Board vote to release for public comment / STIP released for public comment (5/11/22 and 5/18/22)	
June	Final CIP update / public outreach analysis / equity analysis / MassDOT Board vote to approve CIP / Final 5-year STIP submitted to FTA, FHWA, DEP & EPA (6/8/22 and 6/15/22)	

CIP Proposed New Programs

Program	Description	Program Plan / Guidance	Measure / Project Selection	CIP spending assumptions
OTP/Highway / National Electric Vehicle Formula program (new federal formula funds)	Funds deployment of electric vehicle (EV) charging infrastructure and establishment of an interconnected network to facilitate data collection, access and reliability. Eligible uses include acquisition and installation of EV charging infrastructure, operations and maintenance costs related to EV infrastructure and data sharing about the EV infrastructure.	EV Infrastructure Charging Plan for use of funds to be developed by MassDOT and submitted to USDOT	Measure / N/A Selection / TBD	TBD for FY 23; \$63.5 million for FY 23-FY27
Highway / EV Charging Infrastructure (Municipal grant program)	This proposed new grant program would provide grant funding to municipalities and regional transit authorities (RTAs) for the integration of electric vehicles (EV) and EV equipment in communities. Eligible costs include the purchase of electric vehicles for municipal or RTA vehicle fleets, electric vehicle charging stations, related trainings, as well as studies and plans for the integration of EVs	2021 Transportation Bond Bill	Measure / N/A Selection / Municipalities propose projects; MassDOT confirms eligibility and awards grants via competitive selection process	\$2.5 million for FY 23; \$25 million in projected spending for FY23-FY27; funding under consideration by ANF
Aeronautics / Unmanned Autonomous Aviation Systems	This program collects, analyzes, stores and disseminates imagery data and derived data information and products using unmanned aircraft systems (UAS or drones). UAS data information systems will ensure the safety of airspace through the detection, tracking, and identification of unmanned and manned aircraft around airports and other transportation assets, while allowing long range state of good repair operations for air and surface transportation assets. Use of drones can allow for quick, efficient detail data collection about the conditions of the state's transportation system.	Statewide Airport System Plan; Supports MassDOT Divisions Asset Management Plans	Measure / N/A Selection / N/A	\$2.3 million for FY 23; \$11 million in projected spending for FY23-FY27; funding under consideration by ANF

MassDOT Bond Cap/State Funds Spending by Priority (2023-2027)



Strategy continues to emphasize investments in state of good repair and a strong focus on improving the current system.

Reliability

- **\$537.7 M in FY23; 3,860. in FY23-FY27**
- State of good repair projects
- Improving asset condition to an acceptable standard
- Chapter 90, Municipal Pavement, Municipal Bridge

Modernization

- **\$167.1 M in FY23; \$891.7 in FY23-FY27**
- Improvements beyond state of good repair
- Compliance with federal mandates
- Safety and accessibility
- Complete Streets, Local Bottleneck Reduction
- Transit Infrastructure Partnership

Expansion

- **\$162.4 M in FY23; \$398.3 in FY23-FY27**
- Expanding existing roadway, transit and rail system
- Bicycle and pedestrian improvements
- Shared Streets and Spaces

Bond Cap/State Funds Comparison for MassDOT and MBTA

(\$ millions)	FY 2022 ¹	FY 2023 ¹	FY 2023-2027
MassDOT	\$615.2	\$604.1	3,250.1
Chapter 90	200.0	200.0	1,000.0
SCR/MBTA	73.9	102.4	102.4
MBTA	60.0	0.0	0.0
Atlas	7.0	7.0	7.0
Port Projects	37.5	0.0	0.0
Municipal Programs (Base) ²	46.5	54.0	287.0
Subtotal Base Bond Cap	\$1,040.1	\$967.4	\$4,646.5
BIL Related State Match	0.0	\$121.9	\$615.7
Total State Funds	\$1,040.1	\$1,089.3	\$5,262.2
Proposed State Funds³			
Existing Municipal Programs		15.0	65.0
New Municipal EV Charging Program		2.5	25.0
Highway - Equipment		5.0	15.0
Highway – Facilities (D4 and D5 Admin Buildings)		0.0	74.8
IT and Enterprise Services		10.4	34.3
Rail Group – PTC		3.0	50.0
Aeronautics - UAS		2.2	11.0
Total Proposed New State Funding		\$38.1	\$271.1
Total Bond Cap/State Funding	\$1,040.1	\$1,127.4	\$5,533.3

¹Totals may not add due to rounding

² Municipal programs includes Complete Streets, Municipal Bridge, Municipal Pavement, Local Bottleneck Reduction, Shared Streets and Spaces, and Transit Infrastructure Partnership

³ Proposed and still under consideration by ANF.

MassDOT Pay-go Capital Funding Comparison (a/o February 2022)

Facility / Actuals & Projections		2022 ¹	2023 ²	2023-2027
Metropolitan Highway System	Revenues	338.6	376.8	1,859.1
	Expenses	123.6	121.1	657.6
	Debt Service	144.9	145.1	710.0
	Available for Capital	\$70.1	\$107.9	\$491.5
	Reserves	\$80.0	\$110.0	\$110.0
Western Turnpike	Revenues	190.6	\$189.5	\$964.8
	Expenses	86.6	\$86.8	460.8
	Available for Capital	\$104.0	\$102.7	\$504.0
	Reserves	\$120.0	\$130.0	\$130.0
Tobin Bridge	Revenues	42.3	43.6	229.3
	Expenses	11.9	12.5	66.6
	Available for Capital	\$30.4	\$31.1	162.7
	Reserves	\$70.0	\$90.0	\$90.0
Total Available for Pay-Go Capital	Total Available for Capital	\$204.5	\$241.7	1,158.2
	Total Reserves	\$270.0	\$330.0	\$330.0

¹ Projected revenues and expenses for FY 22; ² Includes \$24.8 CRRSAA funds available for COVID related impacts on the toll facilities

Comparison of 2022 vs 2023 and estimate for 2023-2027¹ (\$ millions)

Division	2022	2023 ²	2023-2027
Aeronautics	\$52.2M	\$43.9M	\$301.4
Highway ³	\$1,350.3M	\$1,537.5M	\$9,390.1
Highway/Office of Secretary	\$10.0M	\$12.0M	\$60.0
Information Technology	\$21.0M	\$21.0M	\$103.0
MassDOT Rail	\$84.2M	\$71.9M	\$336.3
Registry of Motor Vehicles ⁶	\$8.8M	\$8.7M	\$14.4
MassDOT Transit	\$54.2M	\$59.7M	\$238.5
Chapter 90	\$200.0M	\$200.0M	\$1,000.0
Commonwealth Projects ⁶	\$37.5M	\$0.0M	\$0.0
Planning	\$145.2M	\$190.5	\$1,130.1
Municipal Programs	\$46.5	\$54.0	\$287.0
Total MassDOT	\$2,009.9M	\$2,143.3M	12,834.4
MBTA ⁷	\$529.0M	\$502.4M	\$1,197.0
MassDOT + MBTA (Base)	\$2,538.9M	\$2,645.8M	\$14,031.1
Proposed Additional Funding ⁸		\$38.1	\$271.1
MassDOT + MBTA + New Programs	\$2,538.9M	\$2,683.9M	\$14,302.2

¹ Totals may not add due to rounding; does not include additional funding and spending under consideration by ANF but does include BIL funding

² 2023 and 2023-2027 estimates are preliminary and will be further updated once project lists finalized; does not include proposed additional funds request under consideration by ANF

³ Highway 2023 and 2023-2027 spending is preliminary; to be further updated as 2023-20237 STIP is finalized and incorporated in the CIP

⁴ Reflects anticipated spending for ATLAS and baseline RMV capital spending

⁵ Includes Complete Streets, Municipal Bridge, Municipal Pavement, Local Bottleneck Reduction, Shared Streets and Spaces and Transit Infrastructure Partnership

⁶ Reflects Commonwealth commitment to Massport Harbor Dredging project which was fulfilled in FY 22

⁷ Reflects Commonwealth's commitment (bond cap and REP funds) for SCR, GLX and other MBTA expansion projects

⁸ Additional funding requests under consideration by ANF and will be updated as the Commonwealth finalizes its capital plan

CIP Public Engagement

May 18th – June 8th: Public Comment Period on the Capital Investment Plan Draft Document is open

- This is the public's opportunity to review and provide feedback on the CIP draft document.
- The CIP document will be posted online in both PDF and an interactive format, and there are several ways that the public can provide input:
 - By emailing us at masscip@dot.state.ma.us
 - By leaving a comment on the interactive [CIP online comment tool](#) (link will be live at the start of the comment period)
 - By attending a virtual public meeting about the CIP. More details and registration links can be found on our website at <https://www.mass.gov/cip>
 - By sending us a letter addressed to: MassDOT Office of Transportation Planning, attn: Director of Capital Planning, 10 Park Plaza, Suite 4150, Boston, MA 02116

June 9th: Public Comment Period on the Capital Investment Plan Draft Document closes

June 15th: Presentation of initial comment feedback, and discussion and approval of final CIP at MassDOT Board