



Sumner Tunnel Comprehensive Rehabilitation

History and Request

- ❑ *MassDOT progressed a design in 2014 / 2015*
- ❑ *Withdrew the project in 2016 to better coordinate construction activities around other regional projects/needs*
- ❑ *Specific focus on Tobin/Chelsea Curves and North Washington Street Bridge*

- ❑ **MassDOT's request is to add this on the 2021 TIP**
 - ❑ The initial estimate is \$125 million but could change as design and constructability advances

Current Condition

MassDOT priorities repairs and investments on inspections, evaluations, and critical need. Our Metropolitan Highway System's Triennial Report identified the Sumner Tunnel as one of our top priorities.

Deck & Wearing Surface:

- *Roadway wearing surface (pavement) was in “poor” condition*
- *Tunnel repaved in December 2012 as a temporary*
- *Structurally inadequate for modern truck loading*

Curb Line & Gutter Inlets

- *Corrosion and impact damage to steel curb components*
- *Deterioration of concrete gutter*

Wall Panels

- *Deteriorated wall panels were removed in December 2012*
- *Panel failure due to the loss of stiffeners*
- *Significant corrosion to wall anchorage system*



Current Conditions

Deteriorated and Spalled Concrete

Delamination/Exposed Corroded Rebar in Arch



Delamination/Exposed Corroded Rebar in Ceiling



Current Conditions

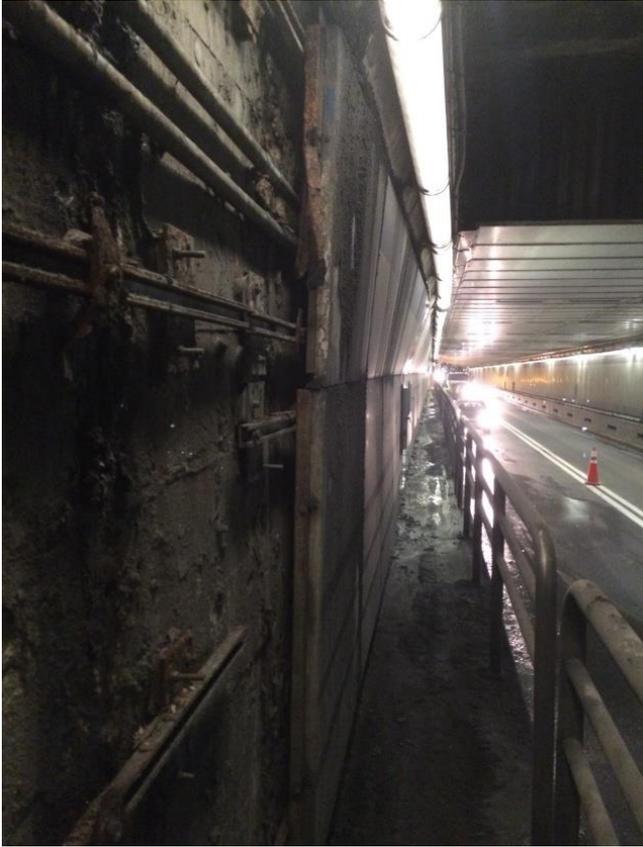


Damaged Light Fixtures



Damaged Wall Panels
in Boat Section

Current Conditions



Corroded Architectural Wall Panels/Supports



Delaminated Concrete & Corroded Ceiling Beams

Purpose and Need

Complete renovation of 1930s tunnel to address poor conditions and meet today's safety standards

- Structural repairs; roadway, walls, arch and invert
- Upgrade tunnel structure and systems to comply with current design and safety code NFPA 502
- Modify ventilation from traditional bottom supply and top exhaust plenum to modern Jet Fan Configuration
 - Utilize natural piston traffic action for normal operation
 - Jet Fans for traffic congestion and emergency ventilation



Rehabilitation Plans

- Remove and replace ceiling system
- Upgrade ventilation systems to modern standards
- Remove/repair ceiling in circular and box section
- Install NFPA 502-compliant fireproofing on all surfaces
- Demolish roadway deck, upgrade and repair, pave
- Remove and replace architectural wall panel system
- Remove granite curb and replace with suitable barrier
- Remove/replace and upgrade all systems:
 - LED lighting, CCTV, Fire Alarm, power, monitoring & control systems

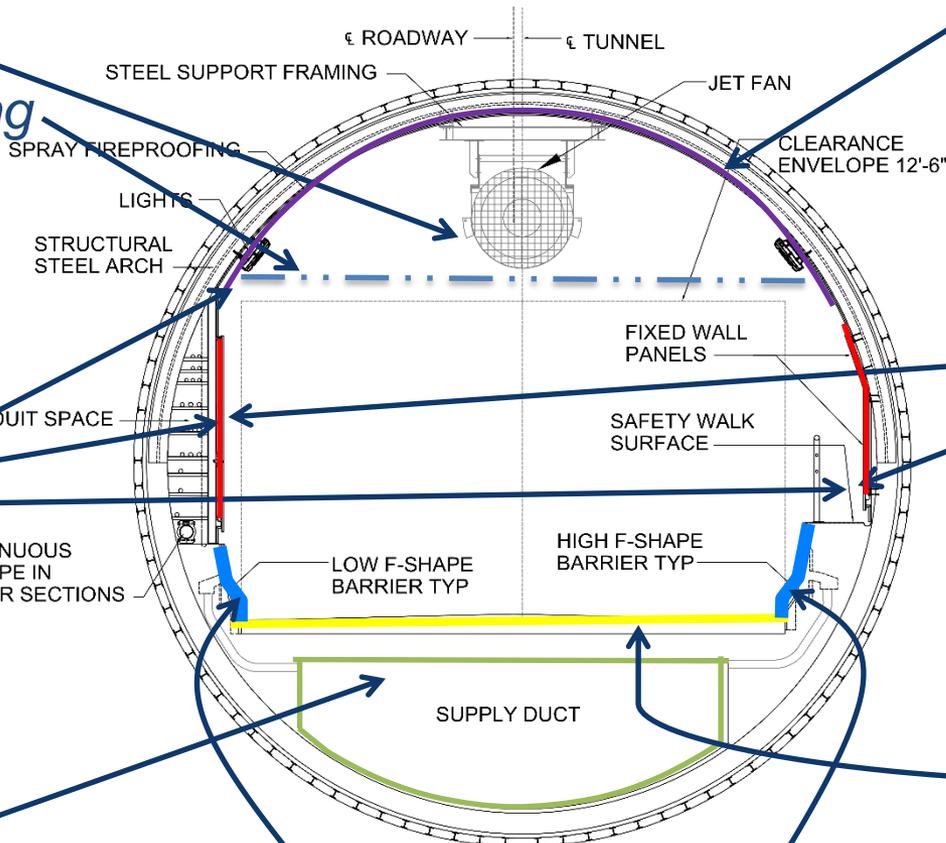


Sumner Tunnel Concept Section

Install new
Systems, Devices
& jet fans

Repair Tunnel
Arch

Remove Ceiling
System



Wall Panel
System

NFPA-502-
compliant
fireproofing
protection of
structure

New concrete
composite deck
slab with asphalt
wearing surface

Repair Supply
Plenum Invert
and Walls

New F shape
polymer panels



Next Steps

Status April 2019

*Initiate needs assessment based on latest condition inspection
Independent assessment of previous concept design*

Fall 2019-Spring 2021

*Advance final design, cost and schedule documents
Prepare construction phasing and management plan*

Fall 2019-Spring 2021 (Quarterly Updates)

Comprehensive Public Outreach and Stakeholder Engagement

To Be Determined

Construction Phasing and Schedule



Thank you



FFYs 2020-24 Draft TIP Programming Summary

April 25, 2019

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Transportation Improvement Program Manager

Boston Region Metropolitan Planning Organization

Presentation Outline

- **Remaining TIP Cycle Timeline**
- **TIP Document Updates**
- **Overview of FFY 2020-24 Programming**
- **Regional Target Funded Projects**
- **Unfunded Projects**
- **Key Takeaways**
- **Questions**

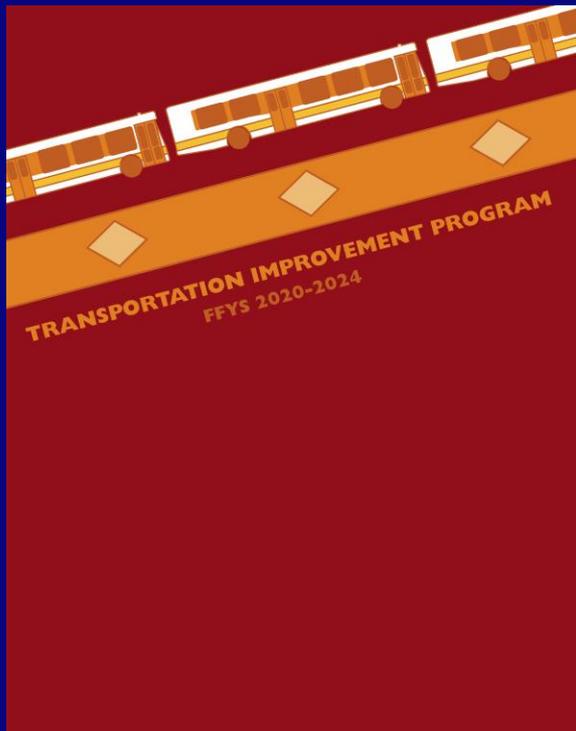
FFYs 2020-2024 TIP Development Timeline

Deadline: Identify New TIP Contacts	October 19, 2018
Outreach and Initial Universe of Projects	October 22 and 24, 2018
Key MPO Meeting: TIP and LRTP Draft Universe	November 15, 2018
Deadline: Municipalities Confirm Projects in Universe	November 22, 2018
Deadline: Submit Information for Project Evaluations	December 3, 2018
MassDOT Quarterly PRC Meeting	December 6, 2018
Complete Initial Project Evaluations	January 2019
Key MPO Meeting: Initial Evaluation Results	February 7, 2019
Deadline: Submit Feedback on Project Evaluations	February 15, 2019
Post Revised Evaluation Scores and First-Tier List	February 18, 2019
Key MPO Meeting: First-Tier List	February 21, 2019
Key MPO Meetings: Staff Recommendation	March 7, 21, and 28, 2019
→ Key MPO Meeting: Release Draft TIP for Public Review	April 25, 2019
Key MPO Meeting: Endorse Final TIP	May 30, 2019

FFYs 2020-24 TIP Report Highlights

- **New portrait layout**
- **New chapter transition graphics**
- **Expanded Table of Contents**
- **Simplified Chapter 1**
- **New Appendix F**
- **New Chapter 3 project pages and maps**
- **Expanded Chapter 4**

FFYs 2020-24 TIP Report Highlights



CHAPTER 3 SUMMARY OF HIGHWAY AND TRANSIT PROGRAMMING

The Transportation Improvement Program (TIP) tables included in this chapter present a listing of all the projects and programs funded with federal highway and transit aid in the Boston region during federal fiscal years (FFYs) 2020–24. These funding tables are also included as part of the State Transportation Improvement Program (STIP).

Table 3-1 presents a summary of the Boston Region Metropolitan Planning Organization's (MPO) share of Regional Target funds from the Federal-Aid Highway Program. The allocation of these funds is constrained by projections of available federal aid. As shown in Table 3-1, the MPO has programmed these discretionary funds within the limits of projected funding for highway funding programs. As such, the FFYs 2020–24 TIP Regional Target Program complies with financial constraint requirements. The details of this funding and the specific projects programmed with Regional Target funding are shown in Section 1A of each annual element of the TIP tables (Table 3-2). Section 1A includes the regionally prioritized projects funded during a given federal fiscal year. The other sections in Table 3-2 (sections 1B, 2A, 2B, 2C, 3, and 4) list the following:

- Projects funded with earmarks or discretionary grant funds
- State-prioritized bridge repairs and rehabilitation, pavement maintenance, safety improvements, retrofits for accessibility (as required by the Americans with Disabilities Act), intersection improvements, roadway reconstruction, and bicycle and pedestrian projects
- Projects funded by sources other than federal aid

Ashland: Rehabilitation and Rail Crossing Improvements on Cherry Street

Proponent: Ashland

ID Number: 608436

Project Type: Intersection Improvements

Cost: \$1,148,400



Scoring Summary

Category	Safety	Sys Pres	CM/M	CA/SC	TE	EY	Total
Score	12 out of 30	10 out of 29	5 out of 29	2 out of 16	1 out of 12	8 out of 18	38 out of 134

Project Description

The primary purpose of the project is to improve the safety features for the roadway corridors of Cherry Street and Main Street in order to establish a Federal Railroad Administration Quiet Zone surrounding the railroad crossings on those two roadways. This goal will primarily be accomplished through the installation of roadway medians and the enhancement of existing railroad crossing signals and gates. In addition, the project addresses a critical gap in the pedestrian sidewalk network through the construction of new sidewalks. The project's other goals include improving the existing roadway condition through pavement reconstruction and enhancing stormwater drainage in the project area.

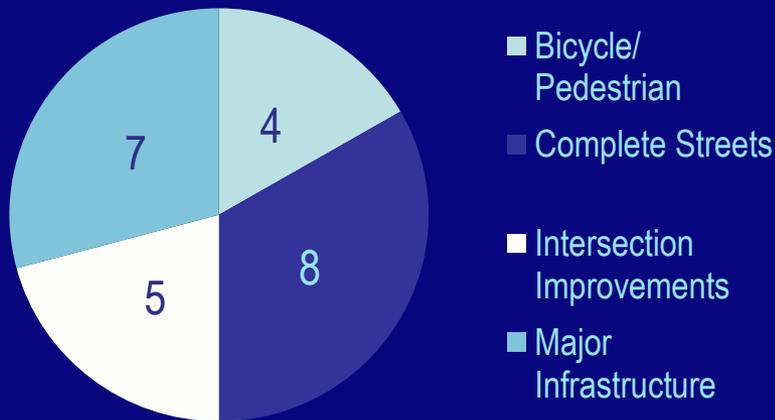
Source	(FFY) 2020	2021	2022	2023	2024	Total
Federal Funds	---	---	---	---	\$918,720	\$918,720
Non-Federal Funds	---	---	---	---	\$229,680	\$229,680
Total Funds	---	---	---	---	\$1,148,400	\$1,148,400



TIP Programming Overview: MPO-Evaluated Projects

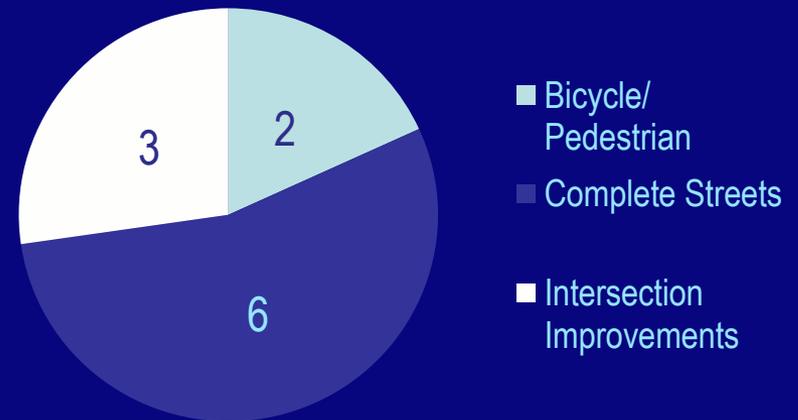
- In total, 24 projects were evaluated in FFY19
 - 11 projects proposed for funding with Regional Target funds
 - 3 proposed for funding with MassDOT funds

FFY 2019 Projects Evaluated



N=24 projects evaluated

FFY 2019 Projects Funded



N=11 Regional Target projects

TIP Programming Overview: Additional Notes

- **Four projects moved into later programming years:**
 - **Intersection Improvements in Beverly (2019 to 2020)**
 - **Rutherford Avenue in Boston (2020 to 2022)**
 - **Lynnfield Street in Lynn (2020 to 2021)**
 - **Atlantic Avenue in Hull (2021 to 2022)**

TIP Programming Overview: Additional Notes

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- **Three projects moved into earlier programming years:**
 - **South Main Street in Bellingham (2023 to 2022)**
 - **Route 2A in Littleton/Ayer (2023 to 2021)**
 - **Route 28/Hopkins Street in Reading (2023 to 2021)**

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 - **Route 2A in Littleton/Ayer (2023 to 2021)**
 - **Route 28/Hopkins Street in Reading (2023 to 2021)**
- **Two new projects programmed early:**
 - **Route 38 in Wilmington (2023)**
 - **Edgell Road/Central Street in Framingham (2022)**



TIP Programming Overview: Additional Notes

- **Additional funding allocated to Community Transportation Program:**
 - \$2,000,000 in both FFYs 2022 and 2024
 - Specific projects for this program will be determined at a later date
- **Outstanding funding question resolved:**
 - \$22,116,687 in FFY 2021

Existing LRTP Investment Programs with Current Funding Goals

LRTP Investment Category	Percent Target Funding <i>Charting Progress to 2040</i>
Major Infrastructure	No more than 50%
Complete Streets	29%
Intersection Improvements	14%
Bicycle/Pedestrian	5%
Community Transportation	2%
TOTAL	100.0%

TIP Programming Overview: Funding Distribution (FFYs 2020-24)

L RTP Investment Category	Amount Proposed	Percent Target Funding FFYs 2020–24	Number of Projects	Average Funding/ Project
Complete Streets	\$229,652,049	43.1%	26	\$8,832,771
Major Infrastructure	\$166,689,562	31.3%	4	\$41,672,391
Intersection Improvements	\$58,867,483	11.0%	11	\$5,351,589
Flex to Transit	\$49,131,200	9.2%	1	\$49,131,200
Bicycle/Pedestrian	\$20,825,554	3.9%	4	\$5,206,389
Community Transportation	\$8,000,000	1.5%	N/A	N/A
TOTAL	\$533,165,848	100.0%	46	N/A

TIP Programming Overview: Funding Distribution (FFY 2024 Only)

L RTP Investment Category	Amount Proposed	Percent Target Funding FFY 2024	Number of Projects	Average Funding/Project
Major Infrastructure	\$53,860,492	48.8%	1	\$53,860,492
Complete Streets	\$46,231,275	41.9%	5	\$9,246,255
Intersection Improvements	\$5,092,400	4.6%	2	\$2,546,200
Bicycle/Pedestrian	\$3,256,471	2.9%	2	\$1,628,236
Community Transportation	\$2,000,000	1.8%	N/A	N/A
Flex to Transit	\$0	0%	0	\$0
TOTAL	\$110,440,638	100.0%	10	N/A

TIP Programming: Newly Funded Projects

Project Name	Amount Proposed	Project Type	Evaluation Score	Funding Year
MBTA Modernization/Highway Project	\$22,115,687	Flex/MI	N/A	2021
Community Transportation	\$2,000,000	CT	N/A	2022/ 2024
Framingham – Edgell Road/Central Street Intersection	\$1,814,400	INT	41	2022
Wilmington – Reconstruction of Route 38	\$12,098,594	CS	59	2023
Lynn – Rehabilitation of Essex Street	\$19,664,320	CS	66	2024
Hingham – Route 3A/Summer Street Rotary	\$8,700,001	CS	55	2024
Everett – Rehabilitation of Beacham Street	\$10,648,800	CS	54	2024
Wilmington – Lowell Street/Woburn Street Intersection	\$3,944,000	INT	53	2024
Milford – Rehabilitation of Route 16	\$3,132,000	CS	43	2024
Ashland – Rail Crossing on Cherry Street/Main Street	\$1,148,400	INT	38	2024
Littleton – Reconstruction of Foster Street	\$4,086,153	CS	38	2024
Peabody – Independence Greenway Extension	\$2,228,447	B/P	34	2024
Framingham – Pedestrian Beacon at Route 9/Maynard Rd.	\$1,028,024	B/P	26	2024

TIP Programming: Unfunded Projects

- **Primary reasons for not funding projects:**
 - **Projects are not currently municipal/state priorities (readiness)**
 - **Major infrastructure projects are not currently listed in LRTP**
 - **Projects are too high-cost, given fiscal constraints of existing programming obligations**
- **In total, there were 10 projects evaluated this year that remain unfunded**

Recap: Key Takeaways

- **14 out of 24 projects evaluated by the MPO this year have been proposed for funding**

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- **L RTP Investment Program Targets:**
 - **Over-funding Complete Streets**
 - **Under-funding Major Infrastructure**

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- **Community Transportation Program funding was restored in FFY 2022 and continued in FFY 2024**
- **Funding surplus in FFY 2021 resolved**
- **L RTP Investment Program Targets:**
 - **Funding Complete Streets over LRTP target**
 - **Funding Major Infrastructure under LRTP maximum**
- **Project readiness and cost change issues are primary drivers of degree of flexibility in TIP programming**

Questions?

