

CENTRAL MASSACHUSETTS
METROPOLITAN PLANNING ORGANIZATION



CMMPO Endorsed 2023 – 2027 Transportation Improvement Program (TIP)

May 18, 2022



Document Prepared by:
Staff of the Central Massachusetts Metropolitan Planning Organization
1 Mercantile Street, Worcester MA 01608

Prepared in cooperation with the Massachusetts Department of Transportation and the U.S. Department of Transportation – Federal Highway Administration and the Federal Transit Administration. The views and opinions of the Central Massachusetts Metropolitan Planning Organization expressed herein do not necessarily reflect those of the Massachusetts Department of Transportation or the U.S. Department of Transportation.

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Related federal nondiscrimination laws administered by the Federal Highway Administration, the Federal Transit Administration, or both prohibit discrimination on the basis of age, sex, and disability. These protected categories are contemplated within the CMMPO's Title VI Programs consistent with federal and state interpretation and administration. Additionally, the CMMPO provides meaningful access to its programs, services, and activities to individuals with limited English proficiency, in compliance with US Department of Transportation policy and guidance on federal Executive Order 13166.

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Individuals who feel they have been discriminated against in violation of Title VI or related Federal nondiscrimination laws, must file a complaint within 180 days of the alleged discriminatory conduct to:

To file a complaint alleging violation of the State's Public Accommodation Law, contact the Massachusetts Commission Against Discrimination within 300 days of the alleged discriminatory conduct at:

Ms. Janet Pierce, Executive Director
Central Massachusetts Regional Planning
Commission
1 Mercantile Street, Suite 520
Worcester, MA 01608
(508) 756-7717

Massachusetts Commission Against
Discrimination (MCAD)
One Ashburton Place, 6th floor
Boston, MA 02109
(617) 994-6000
TTY: (617) 994-6196

Translation

English: If this information is needed in another language, please contact the CMRPC/CMMPO Title VI Specialist at (508) 756-7717.

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Vietnamese: Nếu bạn cần thông tin bằng ngôn ngữ khác, xin vui lòng liên lạc với Tiêu đề VI Chuyên CMRPC/CMMPO tại (508) 756-7717.

Chinese: 如果用另一种语言需要的信息，请联系第六章专门CMRPC/CMMPO (508) 756-7717.

Afrikaans: As jy inligting nodig het in 'n ander taal, kontak asseblief die Titel VI Spesialis CMRPC/CMMPO by (508) 756-7717.

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The CMMPO does not discriminate on the basis of disability in admission to its programs, services, or activities; in access to them; in treatment of individuals with disabilities; or in any aspect of their operations. The CMMPO also does not discriminate on the basis of disability in its hiring or employment practices.

This notice is provided as required by Title II of the American with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973. Questions, complaints, or requests for additional information regarding ADA and Section 504 may be forwarded to:

Ms. Janet Pierce, Executive Director
Central Massachusetts Regional Planning Commission
1 Mercantile Street
Suite 520
Worcester, MA 01608
(508) 756-7717

This notice and document are available from the CMMPO in large print, on audio tape, and in Braille upon request.

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Also, See the TIP's [Technical Appendix](#)(*separate document*)

- TIP Development Partner Agencies
- Public comments, MassDOT & Federal Agency comments
- Supplemental Project Listing
- Operations & Maintenance charts
- STIP Investment Report
- List of completed highway & transit projects (FFY 2015-present, including Associated GHG emissions analysis
- Regionally Prioritized 2023-2027 TIP Project Locus Maps
- Environmental Justice Project Maps
- List of advertised projects at the time of TIP endorsement
- Listing of transportation-related acronyms

Executive Summary

The Transportation Improvement Program (TIP) of the Central Massachusetts Metropolitan Planning Organization (CMMPO) is a federally-required planning document that lists all highway, bridge, transit, bicycle & pedestrian, and intermodal projects in the Central Massachusetts planning region that are programmed to receive federal-aid funding. In this most current TIP, projects are listed for federal fiscal years 2023 through 2027. Projects that improve air quality and safety are also listed in the TIP as well as projects of regional & statewide significance. Non federal-aid (NFA) projects, fully funded by the state, are also included for information purposes. Aware of limited statewide transportation funding resources, the annual program of projects *must* demonstrate financial constraint within the federal-aid funding targets provided to each of the state's MPOs by the Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning (OTP). The TIP document consists of three sections. These sections include the Introduction, Federal Requirements, and Regional Transportation Projects Information. Brief descriptions of each section are as follows.

Part A gives an introduction as well as discusses the development of the TIP. A summary of how the 10 Federal Transportation Planning Factors are reflected in the TIP is included as well the development schedule which lists important dates and meetings. The Public Outreach process is also highlighted as to how all populations, stakeholders and interested parties can participate in the development of the TIP. Next, the Federal Performance Management (PM) requirements are discussed and analyzed for both highway and transit. In addition to the PM, the regional projects are listed in a table showing the relationship of the TIP projects to other state, regional, and local plans as well as to performance measures and regional goals. Next, Project Scoring & Selection is discussed, which includes the Performance-Based criteria used to score the projects and the total scores of all target projects. Additionally, other information used in selecting which projects are programmed is discussed. The last two topics in this section include a list of the various Transportation Funding Programs and the required procedures for when an Amendment or Adjustment must occur for either the highway or transit project listings.

Part B includes information that is federally-required. First, there is an overview of the TIP's financial plan for both highway and transit followed by both project listings. Next, there is an Environmental Justice (EJ) review of the target highway projects. The review lists the projects within EJ neighborhoods as well as the amount of funding associated with those projects. Following EJ, an equity analysis was also completed that lists the number of projects, number of EJ projects, and the total allocated funds for each community in the CMMPO region.

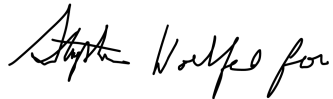
Additionally, the Air Quality Conformity Determination for the 2023-2027 TIP is included in this section. Lastly, there are current status updates for the FFY 2022 highway and transit projects.

Part C contains additional information about the projects listed in the TIP. Shown first is a Greenhouse Gas (GHG) monitoring and evaluation analysis that was completed for all highway and transit projects. Here, the amount of qualitative or quantitative GHG savings is shown for each project. Next, a list of regionally significant projects is shown accompanied by a locus map of those projects. A summary of Advance Construction is then included based on guidance provided by MassDOT and the Federal Highway Administration (FHWA). Finally, a Highway Safety Improvement Program (HSIP) analysis was completed for the highway target projects using HSIP funds. A table that shows the HSIP-identified intersections within each project are included in this section.

Endorsement of the 2023-2027 Federal Transportation Improvement Program Listing

***The Central Massachusetts Metropolitan Planning Organization (CMMPO) hereby endorses
the 2023 – 2027 Transportation Improvement Program (TIP) document.***

May 18, 2022

A handwritten signature in black ink, appearing to read "Jamey Tesler for".

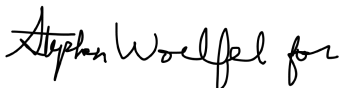
Jamey Tesler, Secretary and Chief Executive Officer
Massachusetts Department of Transportation
Chair, Central Massachusetts MPO

Certification of the Central Massachusetts MPO Transportation Planning Process

The Central Massachusetts Metropolitan Planning Organization certifies that its conduct of the metropolitan transportation planning process complies with all applicable requirements, which are listed below, and that this process includes activities to support the development and implementation of the Regional Long-Range Transportation Plan and Air Quality Conformity Determination, the Transportation Improvement Program and Air Quality Conformity Determination, and the Unified Planning Work Program.

1. 23 USC 134, 49 USC 5303, and this subpart.
2. Sections 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 USC 7504, 7506 (c) and (d) and 40 CFR part 93 and for applicable State Implementation Plan projects.
3. Title VI of the Civil Rights Act of 1964, as amended (42 USC 2000d-1) and 49 CFR Part 21.
4. 49 USC 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity.
5. Section 1101 (b) of the Fast Act (Pub. L. 114-357) and 49 CFR Part 26 regarding the involvement of disadvantaged business enterprises in U.S. DOT-funded projects.
6. 23 CFR part 230, regarding implementation of an equal employment opportunity program on Federal and Federal-aid highway construction contracts.
7. The provisions of the US DOT and of the Americans with Disabilities Act of 1990 (42 USC 12101 et seq.) and 49 CFR Parts 27, 37, and 38.
8. The Older Americans Act, as amended (42 USC 6101), prohibiting discrimination on the basis of age in programs or activities receiving federal financial assistance.
9. Section 324 of Title 23 USC regarding the prohibition of discrimination based on gender.
10. Section 504 of the Rehabilitation Act of 1973 (29 USC 794) and 49 CFR Part 27 regarding discrimination against individuals with disabilities.
11. Anti-lobbying restrictions found in 49 USC Part 20. No appropriated funds may be expended by a recipient to influence or attempt to influence an officer or employee of any agency, or a member of Congress, in connection with the awarding of any federal contract.

April 20, 2022



Jamey Tesler, Secretary and Chief Executive Officer
Massachusetts Department of Transportation
Chair, Central Massachusetts MPO

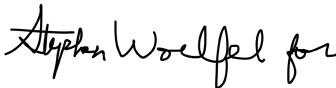
Certification of the Central Massachusetts MPO Transportation Planning Process

310 CMR 60.05: Global Warming Solutions Act Requirements for the Transportation

This will certify that the Transportation Improvement Program and Air Quality Conformity Determination for the Central Massachusetts Metropolitan Planning Organization (MPO) is in compliance with all applicable requirements in the State Regulation 310 CMR 60.05: Global Warming Solutions Act Requirements for Transportation. The regulation requires MPO to:

1. 310 CMR 60.05(5)(a)1.: Evaluate and report the aggregate transportation GHG emissions impacts of RTPs and TIPs;
2. 310 CMR 60.05(5)(a)2.: In consultation with MassDOT, develop and utilize procedures to prioritize and select projects in RTPs and TIPs based on factors that include aggregate transportation GHG emissions impacts;
3. 310 CMR 60.05(5)(a)3.: Quantify net transportation GHG emissions impacts resulting from the projects in RTPs and TIPs and certify in a statement included with RTPs and TIPs pursuant to 23 CFR Part 450 that the MPO has made efforts to minimize aggregate transportation GHG emissions impacts;
4. 310 CMR 60.05(5)(a)4.: Determine in consultation with the RPA that the appropriate planning assumptions used for transportation GHG emissions modeling are consistent with local land use policies, or that local authorities have made documented and credible commitments to establishing such consistency;
5. 310 CMR 60.05(8)(a)2.a.: Develop RTPs and TIPs;
6. 310 CMR 60.05(8)(a)2.b.: Ensure that RPAs are using appropriate planning assumptions;
7. 310 CMR 60.05(8)(a)2.c.: Perform regional aggregate transportation GHG emissions impact analysis of RTPs and TIPs;
8. 310 CMR 60.05(8)(a)2.d.: Calculate aggregate transportation GHG emissions impacts for RTPs and TIPs;
9. 310 CMR 60.05(8)(a)2.e.: Develop public consultation procedures for aggregate transportation GHG emissions impact reporting and related GWSA requirements consistent with current and approved regional public participation plans;
10. 310 CMR 60.05(8)(c): Prior to making final endorsements on the RTPs, TIPs, STIPs, and projects included in these plans, MassDOT and the MPOs shall include the aggregate transportation GHG emission impact assessment in RTPs, TIPs, and STIPs and provide an opportunity for public review and comment on the RTPs, TIPs, and STIPs; and
11. 310 CMR 60.05(8)(a)1.c.: After a final GHG assessment has been made by MassDOT and the MPOs, MassDOT and the MPOs shall submit MPO-endorsed RTPs, TIPs, STIPs or projects within 30 days of endorsement to the Department for review of the GHG assessment.

April 20, 2022



Jamey Tesler, Secretary and Chief Executive Officer
Massachusetts Department of Transportation
Chair, Central Massachusetts MPO

Central Massachusetts Metropolitan Planning Organization

Listing of CMMPO Members

1. **Jamey Tesler**, Secretary of Transportation, MassDOT
2. **Jonathan Gulliver**, Administrator, MassDOT-Highway
3. **Robert Hassinger**, CMRPC Chairperson
4. **Dennis Lipka**, WRTA Administrator
5. **Edward M. Augustus, Jr.**, Worcester City Manager
6. **Barur Rajeshkumar**, North Subregion Representative
7. **Shelby Marshall**, Westborough Selectmen, Northeast Subregion Representative
8. **Jesse Limanek**, Southeast Subregion Representative
9. **Dennis Lamarche**, Southwest Subregion Representative
10. **Julie Quink**, Hardwick Selectmen, West Subregion Representative

Ex-Officio Members (Non-Voting):

1. **Leah Sirmin**, FTA Liaison
2. **Chris Timmel**, FHWA Liaison
3. **Adam Menard**, MPO Advisory Committee Designee

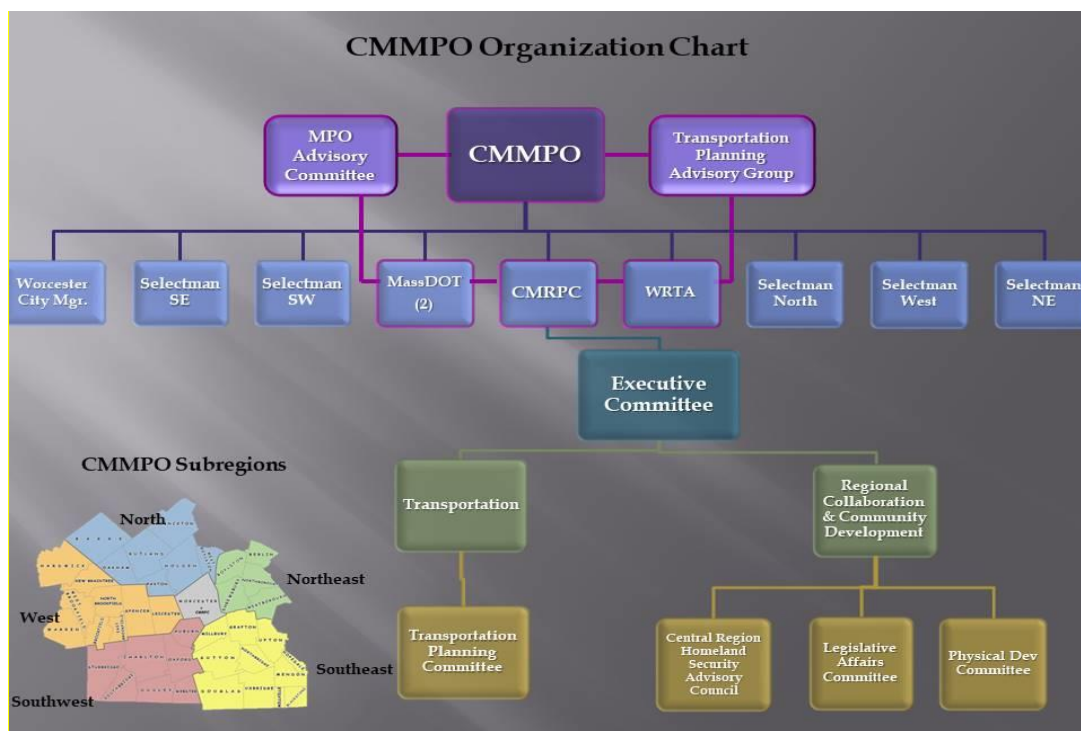
Listing of MPO Advisory Committee Members and Organizations:

1. **Alaa Abusalah**, Leicester Town Planner
2. **Daryl Amaral**, MassDOT District #2
3. **Sandy Amoakohene**, Worcester Division of Public Health
4. **Ethan Belding**, Central Mass Agency on Aging
5. **Sarah Bradbury**, MassDOT-H District 3 (alternate)
6. **Tom Coyne**, WRTA
7. **Maritza Cruz**, Main South Beacon Brightly Neighborhood Association
8. **Adam Menard**, Auburn Town Planner
9. **Chris Payant**, Westborough DPW Director
10. **Gina Plata-Nino**, Central West Justice Center
11. **Paula Simmons**, MassDOT-H District 2 (alternate)
12. **Ann Sullivan**, Projects Engineer, MassDOT-H District 3
13. **Jeremy Thompson**, 495/MetroWest Partnership
14. **Karen Valentine Goins**, WalkBike Worcester

Ex-Officio Members (Non-Voting):

1. **Chris Klem**, MassDOT OTP
2. **Derek Krevat**, MassDOT OTP
3. **Chris Timmel**, FHWA Liaison

A Metropolitan Planning Organization (MPO) is a transportation policy-making body made up of representatives from local government and transportation agencies with authority and responsibility in metropolitan planning areas. The CMMPO is made up of 10 voting members. The members include MassDOT Secretary of Transportation, MassDOT Highway Administrator, WRTA, CMRPC, the Worcester City Manager, and one selectman from each of the remaining five subregions. Below is a chart of the CMMPO organization as well as the relationships to other boards or committees. The Transportation and Regional Collaboration & Community Development departments of the CMRPC provide recommendations and knowledge to the Executive Committee chair, which is the CMRPC representative to the MPO. The Transportation Planning Advisory Group, which advises the WRTA representative of transit-related issues. The MPO Advisory Committee provides recommendations to the CMMPO on specific strategies or projects. The Advisory Committee may also provide technical analysis, specialized knowledge, and stakeholder input on specific issues. This committee is made up of town officials and a number of representatives from various agencies. Often, Advisory Committee members have expertise in areas other than transportation, such as public health or environmental protection.



Part A: Introduction

The Transportation Improvement Program (TIP) of the Central Massachusetts Metropolitan Planning Organization (CMMPO) is a federally-required planning document that lists all highway, bridge, transit, bicycle & pedestrian, and intermodal projects in the Central Massachusetts planning region that are programmed to receive federal-aid funding. In this most current TIP, projects are listed for federal fiscal years 2023 through 2027. Projects that improve air quality and safety are also listed in the TIP as well as projects of regional & statewide significance. Non federal-aid (NFA) projects, fully funded by the state, are also included for informational purposes. Aware of limited statewide transportation funding resources, the annual program of projects *must* demonstrate financial constraint within the federal-aid funding targets provided to each of the state's MPOs by the Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning (OTP).

The transportation staff of the Central Massachusetts Regional Planning Commission (CMRPC), planning staff to the CMMPO, updates the TIP project listing on an annual basis. Amendments and adjustments to the TIP also occur periodically. The CMMPO's local members are the Commission, the Worcester Regional Transit Authority (WRTA) and six locally-elected officials, while the state members are MassDOT Secretary and MassDOT-Highway Division. Serving as counselors to the CMMPO, the CMMPO Advisory Committee, working with staff, conducts a performance-based screening assessment and prioritizes candidate TIP projects for full consideration by the CMMPO.

The project prioritization and selection processes combine an analysis of project information, an evaluation of project importance and also considers funding equity. Performance Management standards used by staff measure the likely results of TIP investments in the transportation network that, among a range of goals, reduce congestion, improve pavement condition, and increase safety. Further, projects that encourage the use of public transit, bicycling and walking are also included in the TIP. The CMRPC transportation staff, working with MassDOT OTP and the MassDOT-Highway Division District #2 & #3 offices, reviews engineering design, right-of-way acquisition and environmental status information for each candidate project. This occurs on "TIP Readiness Day" which was held 2/8/22 this year. If necessary, community officials and/or engineering consultants are also contacted to obtain design status updates. Throughout the development of the TIP, the CMMPO oversees a comprehensive outreach effort, following the CMMPO endorsed Public Participation Plan (PPP) that provides numerous opportunities for public involvement. Typically beginning in January, the TIP development process ends in May when the CMMPO acts to endorse the finalized project listing and associated documentation.

Once endorsed, the CMMPO TIP is forwarded to MassDOT OTP where it is combined with the TIP listings produced by all of the state's planning regions. The resulting document, the State Transportation Improvement Program (STIP), is forwarded to the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA) and the Environmental Protection Agency (EPA) for their approval. Once these approvals are obtained, federal-aid transportation funds can be made available to construct the projects programmed in the TIP.

Summarized below are some of the major aspects of the CMMPO's annual TIP development effort:

- **Performance Management:** Reaffirmed by the new Bipartisan Infrastructure Law (BIL), the CMMPO is continuing the evolution of the development of performance-driven TIP project listings. Performance-Based Planning and Programming (PBPP) is intended to improve public transparency, fiscal accountability, and the investment decisions affecting the condition and performance of the transportation system. US DOT provides guidance for safety (PM1), pavement and bridge (PM2), and system performance, freight and air quality (PM3). The national criteria, accepted by the CMMPO and MassDOT, will continue to be used to measure the likely results of TIP investments. Similarly, for the RTA's, the Transit Asset Management (TAM) Plans pertain to the condition of the vehicles, equipment, and facilities while the Public Transportation Agency Safety Plans (PTASP) measure the ongoing safety aspects of the RTA's.
- **Congestion Mitigation Air Quality (CMAQ) Improvement Program:** The completion of required calculations and the compilation of other standard materials necessary to support projects programmed under the "CMAQ" funding category. Staff attends the periodically scheduled meetings of the statewide CMAQ Consultation Committee in order to determine project eligibility as necessary and to stay informed on other state air quality planning activities.
- **Highway Safety Improvement Program (HSIP):** Projects analytically derived through the "Top 200" HSIP listing will strongly be considered for TIP programming by the CMMPO.
- **Intelligent Transportation Systems (ITS):** The CMMPO fully considers the potential for "ITS" applications, both stand-alone and project-specific, throughout the development of the TIP project listings for highway and transit.
- **Environmental Justice (EJ), Title VI & Limited English Proficiency (LEP):** Staff continues participation in statewide efforts to refine standard approaches to assessing both the benefits and adverse impacts resulting from TIP projects that will be implemented in identified "EJ" areas. Similarly, staff works to assure that minority, low-income and LEP populations are included in the planning process for the TIP project listings for both highway & transit along with necessary associated documentation.

- **Environmental Consultation:** An annual effort, staff continues to engage the environmental community, town officials and other stakeholders in discussions regarding key areas of environmental concern associated with the overall TIP program, focusing on avoiding, minimizing and mitigating potential adverse impacts. Further, staff continues to refine an ongoing process that considers a broad range of environmental aspects when projects are being considered for TIP programming. GIS-based “Environmental Profiles” are used to provide an analytical aspect to environmental advantages and challenges. These maps, compiled by the CMMPO staff, provide data on the status of culverts, general land use in the region, wetlands, flood zones, vernal pools and habitats of rare species.
- **GIS Analysis Techniques:** Staff’s GIS capabilities are used to indicate project locations as well as aerial photography, drone imagery or digital photographs taken in the field. Project locus maps and EJ maps for programmed projects are included in the TIP document and Technical Appendix.
- **Implementing Agencies:** As deemed necessary, meeting with MassDOT OTP and the Highway Division District #2 and #3 staff as needed to obtain project information. Similarly, meeting with the WRTA Administrator and staff concerning transit-related projects also occurs periodically.
- **Technical Assistance:** Staff provides technical assistance to host communities and public agencies as necessary by holding informational “TIP Development” meetings. Presently, all new projects must be initiated through the Massachusetts Project intake Tool (MaPIT), a web-based application designed to help both state and municipal proponents map, create, and initiate transportation projects, while screening against all relevant in-house GIS resources. Available to all communities, the MaPIT application streamlines the project initiation procedure and serves as the primary interface for all MassDOT Highway Division projects. This tool automatically screens against all relevant GIS layers, maps the project location for DOT and public viewing, quickly transferring information to MassDOT, while also expediting project initiation, environmental permitting, scoring, and project delivery.
- **Public Outreach:** The CMMPO’s formal PPP encourages early involvement of local legislators, chief local officials, stakeholders, citizens and other interested parties with full consideration of the principles of Environmental Justice. Host communities are periodically contacted by staff, on behalf of the CMMPO, for TIP project information and status updates. Also, due to the COVID-19 pandemic, all public and committee meetings have been held virtually. Hybrid virtual/in-person meetings are also used when needed.

1.) 2023-2027 TIP Development Effort: How the CMMPO addresses the 10 Federal Transportation Planning Factors

Consideration of the 10 federal transportation planning factors shall be reflected, as appropriate, in the metropolitan transportation planning process. The degree of consideration and analysis of the factors is based on the scale and complexity of many issues, including multimodal transportation system development, land use, employment, economic development, human & natural environment, and housing & community development.

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.

- TIP process encourages those projects that enhance economic vitality & bring efficiency to the system.
- Public participation activities and emphasizing Title VI/EJ communities supports global, balanced competitiveness.
- Established Performance Measures include reducing delays & increasing safety along freight routes and improving accessibility to jobs in the CMMPO region for all modes of travel.

2. Increase the safety of the transportation system for motorized and non-motorized users.

- The TIP programming process considers projects that improve safety for all users.
- Public participation activities help in understanding safety concerns from the user's perspective.
- Eligible HSIP target projects are included in the TIP.
- TIP has a multimodal vision: highways, transit, bicycle and pedestrian.

3. Increase the security of the transportation system for motorized and non-motorized users.

- ITS is considered an important measure to increase network security.
- Primary evacuation routes are fully considered as the TIP includes projects on major NHS highways identified as "Vital Links".
- TIP scoring also considers projects that have potential hazardous locations listed in the host community's Hazard Mitigation Plan.
- TIP has a multimodal vision: highways, transit, bicycle and pedestrian.

4. Increase accessibility and mobility of people and freight.

- The TIP programming process considers projects that increase accessibility and mobility for all users.
- The TIP includes projects that improve travel time reliability and increase safety on major freight routes.

- MassDOT's Healthy Transportation Initiative encourages mode shift with transit, bicycle and pedestrian amenities.
- Transportation Alternatives Program (TAP) funding is targeted for improved bicycle & pedestrian access.

5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.

- The TIP programming process encourages projects that protect the environment and promote quality of life.
- Sustainability Performance Measures are used to screen TIP projects.
- The TIP considers and includes projects that reduce congestion and emissions. Federal CMAQ project eligibility is determined; similarly, state GHG analyses are completed.
- TIP development process includes annual Environmental Consultation session. Early in project development seek ways to avoid, minimize & effectively mitigate, limiting adverse impacts.
- Performance Measures & Targets include Priority Development Areas (PDA). Land use aspects identified working with the CMRPC Regional Collaboration and Community Planning (RCCP) staff.
- Transportation Alternatives Program (TAP) funding is targeted for improved bicycle & pedestrian access.

6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

- The TIP includes improvements on major roadways serving the region including the Interstate System, Route 9, Route 146 and US Route 20.
- TIP has a multimodal vision: highways, transit, bicycle and pedestrian.

7. Promote efficient system management and operation.

- The TIP programming process seeks projects that promote efficient system management, such as ITS.
- Regional highway and WRTA M&O financial summaries are provided in the TIP's accompanying Technical Appendix.
- The TIP reflects and highlights the FTA funding for WRTA transit operations.

8. Emphasize the preservation of the existing transportation system.

- The TIP process prioritizes projects that preserve the existing system.
- The TIP includes projects derived from ongoing Pavement Management Systems (PMS) data collection and analysis.

- Future envisioned TIP projects could address filling inventoried gaps in in the region's sidewalk networks.

9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts on surface transportation.

- Annual TIP development process considers aging vulnerable culverts identified in the planning region. Replacement of the aging culvert pipes/structures often a TIP project aspect.
- Further GIS analysis planned concerning vulnerable infrastructure on the region's federal-aid highway system.
- Nature-Based Solutions (NBS) are encouraged for stormwater management.

10. Enhance travel and tourism.

- The TIP includes improvements on major roadways serving region, including the Interstate System, Route 9, Route 146 and US Route 20.
- Performance-based TIP project screening considers major adjacent tourist attractions including federal lands, state parks and, as examples, agri-tourism and a range of active & passive recreation opportunities.

2.) 2023 to 2027 Transportation Improvement Program (TIP): Development Schedule

December 2021: Annual outreach effort for TIP begins with invitations for community presentations, currently programmed project progress updates, new project proposals or previously submitted active projects status updates.

January 19, 2022: **CMMPO meeting 4:00 PM.** TIP project presentations by invited communities. CMMPO Advisory Committee members invited to attend.

January 26, 2022: CMMPO Advisory Committee meeting, 3:00 PM.

January 28, 2022: MassDOT provides 2023 to 2027 regional federal-aid funding targets for TIP development purposes.

February 8, 2022: “TIP Readiness Day” to be held at the MassDOT Highway Division District #3 office. The status of eligible TIP projects will be reviewed to inform the MPO’s programming efforts. *(This is a MassDOT/CMRPC-only working session.)*

February 16, 2022: **CMMPO meeting 4:00 PM.** Annual TIP development continues. Additional TIP project presentations, if needed.

February 23, 2022: CMMPO Advisory Committee Meeting, 3:00 PM. TIP project scoring for recommendation to CMMPO.

March 16, 2022: **CMMPO meeting 4:00 PM.** Annual TIP development continues – TIP Workshop. CMMPO Advisory Committee TIP project recommendations discussed.

March 23, 2022: CMMPO Advisory Committee Meeting, 3:00 PM.

April 7, 2022: “TIP Environmental Consultation Session” held virtually, 10:00 AM.

April 20, 2022: **CMMPO meeting 4:00 PM.** MPO finalizes draft listing of programmed projects for highway and transit. Approved *Draft* TIP listings released for public review and comment; listings available on CMRPC website. 21-day public review & comment period begins, legal ad appears in the *T&G* and regionwide mailing invites all interested parties to attend public meeting.

April 27, 2022: CMMPO Advisory Committee Meeting, 3:00 PM. Comments on Draft TIP.

May 10, 2022:	2023 to 2027 TIP Virtual Public Meeting, 5:00 PM.
May 11, 2022:	Public comment period on <i>Final Draft</i> TIP closed, 4:30 PM.
May 18, 2022:	CMMPO meeting 4:00 PM. Endorsement of <i>Final</i> TIP document considered after review of all submitted comment. TIP documentation subsequently finalized for federal agency review with accompanying Technical Appendix materials.

August/Sept 2022:	Federal agency review of CMMPO <i>Endorsed</i> TIP underway.
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October 1, 2022:	Federally approved CMMPO <i>Endorsed</i> TIP is in effect and available for distribution to interested parties.
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3.) Public Outreach

The CMMPO employs a comprehensive, proactive Public Participation Plan (PPP)¹ throughout the annual TIP development effort and associated implementation activities. The PPP, recently updated in December 2021, guides the CMMPO staff's outreach and engagement of all interested stakeholders, particularly by offering a wide variety of participation opportunities, responsiveness and the reporting outcomes. The TIP Development Schedule indicates that the 2023-2027 TIP development process began in December 2021 and ended with the CMMPO's endorsement of this TIP in May 2022. Due to the COVID-19 pandemic, all of the below listed meetings were held virtually through ZOOM. Instructions on how to attend the meeting using Zoom and all meeting materials being presented are posted on the [CMRPC website](#) prior to the meeting.

The TIP Development Schedule included:

- A series of five (5) CMMPO meetings open to project host communities, stakeholders, and the general public – each offering a formal opportunity for public comment;
- A series of four (4) CMMPO Advisory Committee monthly meetings during TIP development, offering attendees (including community project proponents) the opportunity to assess ongoing technical analysis and to directly participate in the screening and ranking of candidate projects, and
- The annual Environmental Consultation Session for the TIP held virtually on April 7, 2022. Community officials, stakeholders, and the general public, along with targeted outreach to the environmental community for their participation, were all encouraged to attend.

The CMMPO maintains oversight of the planning staff's work as the TIP's highway and transit project listings evolve, including the compilation of the required, and extensive, supporting documentation.

The TIP development process offers extensive participation opportunities for the CMMPO region's underserved populations. Working with oversight provided by MassDOT's Office of Diversity and Civil Rights (ODCR), the CMMPO staff conducts GIS analyses and utilizes other key information to identify and conduct outreach to Title VI/Limited English Proficient (LEP) and Environmental Justice (EJ) populations. When needed, both the CMMPO staff and the project host communities can use MassDOT's GeoDOT Engage tool to identify languages spoken, community organizations, and accessible meeting locations in a given project area. These efforts are undertaken to ensure that underserved populations share in the benefits of

¹ The most recent PPP can be viewed at [Public Participation Plan](#)

CMMPO-funded transportation services and improvement projects while project impacts are mitigated to the maximum extent feasible.

As shown in the TIP Development Schedule, the CMMPO released the draft 2023-2027 TIP project listings and supporting documentation for the federally-required 21-day public review & comment period on **4/20/22**. A virtual public meeting was held during the public review & comment period on **5/10/22** to discuss TIP development and to allow an additional opportunity for public comment. Finally, on **5/18/22**, after considering all submitted comment from federal & state agencies, stakeholders and interested parties, the CMMPO voted to endorse the 2023-2027 TIP. After CMMPO endorsement, the US DOT's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) will have the opportunity for review and to take any potential action prior to the effective target date of 10/1/22, the start of FFY '23.

CMMPO staff public outreach efforts continue in the TIP "off-season" that typically occurs between June-November of each TIP year. Notably, the staff has conducted over 20 "TIP Development" meetings for community officials and other stakeholders in the past decade. The CMMPO staff continues working with its member communities to assist their officials in understanding the TIP development process, and to engage their active participation. Customized materials are prepared and circulated as necessary as part of ongoing outreach activities.

All comments, project status updates, and other correspondence received during the development of the 2023-2027 TIP are included in the Technical Appendix (*separate document*), while a brief summary is included below. Project proponents did provide status updates for their projects and MassDOT OTP and the FHWA provided comments on the Draft 2023-2027 TIP document. Based on their comments, additional text was added and some was updated to provide more details. The changes made to the TIP were discussed at the May CMMPO meeting prior to endorsement.

January 2022 CMMPO Meeting: The communities of Shrewsbury, Uxbridge, and Worcester gave presentations for their potential FFY 2027 candidate TIP projects.

CMMPO Project Status Updates: Project status updates were received from the communities of Holden, New Braintree, Northbridge, Shrewsbury, Southbridge, Spencer, Sturbridge, Upton, Uxbridge, Webster, West Brookfield, Worcester.

Comments Received: MassDOT OTP and FHWA provided comments on the Draft TIP document. Additionally, the 495/MetroWest Partnership provided a letter of support for the TIP projects within their region. Again, all comments and materials received are located in the Technical Appendix document.

4.) Performance Measures

Overview of Performance-Based Planning and Programming

Performance-Based Planning and Programming (PBPP) refers to a transportation agency's application of performance management in their planning and programming processes. The foundation of PBPP was initially federally-legislated through Moving Ahead for Progress in the 21st Century (MAP-21) and reaffirmed in the new Bipartisan Infrastructure Law (BIL). The requirement for PBPP transformed the federal-aid highway program by establishing new requirements for performance management to ensure the most efficient investment of federal transportation funds that support the following National Goals:

1. Safety
2. Infrastructure Condition
3. Congestion Reduction
4. System Reliability
5. Freight Movement and Economic Activity
6. Environmental Sustainability
7. Reduced Project Delays

In addition to the federal requirements for Metropolitan Planning Organizations (MPOs) to integrate PBPP into their transportation processes, MPOs are required to adhere to the federal Continuing, Cooperative, and Comprehensive ("3C") Metropolitan Transportation Planning Process. For MPOs, this includes activities and products that address a range of planning emphasis areas typically undertaken by a transportation agency together with other agencies, interested stakeholders and the public. The planning emphasis areas of particular interest to the CMMPO are: Safety, Security, State of Good Repair, Congestion, Multimodal, Sustainability, Equity, Economic Vitality & Freight Movement, Stormwater Management & Infrastructure Resiliency and Travel & Tourism. Each of these emphasis areas are fully considered when the CMMPO is developing strategies, projects, plans or initiatives. Examples include the following:

- Long-Range Transportation Plans (LRTPs)
- Other plans and processes, including those that are federally-required, such as Strategic Highway Safety Plans, Asset Management Plans, the Congestion Management Process
- Transit Agency Asset Management Plans and Transit Agency Safety Plans as well as others that are not required by regulation
- Programming documents, including state and metropolitan Transportation Improvement Programs (STIPs and TIPs)

The CMMPO's PBPP process is guided by both the federal transportation performance management requirements and the MPO's own customized goals and objectives, which were established as part of the CMMPO's current LRTP, *Mobility 2040: Update for 2020*. These goals and objectives have been integrated through the various planning emphasis areas when

developing transportation plans. By addressing the planning emphasis areas in all aspects of the transportation process, the CMMPO has been able to produce balanced and well-rounded transportation products for the region. Further, the overall intent of PBPP is to ensure that transportation investment decisions—both long-term planning and short-term programming—are based on the ability to meet the established goals.

Federal Performance Management Requirements

The US Department of Transportation had previously published three performance rules that require all States, MPOs and public transit providers to interactively coordinate and set performance targets. Collectively, the three published performance measure rulemakings establish the regulations necessary to more effectively evaluate and report on safety, infrastructure condition, on-road mobile source emissions, and surface transportation performance across the Nation. State DOTs and MPOs should use the information and data subsequently generated to inform ongoing and future transportation planning and programming decisions. In turn, the FHWA and FTA use the information to more reliably assess and report on the impacts of federal funding investments.

Table 1 shows the federally-required performance measures for highway and Table 2 shows the federally-required performance measures for transit.

TABLE 1: FEDERALLY-REQUIRED HIGHWAY PERFORMANCE MEASURES				
National Goal	Highway Performance Area	FHWA Rule	Performance Measure	MPO Goal Area
Safety	Injuries & Fatalities	Safety (PM1)	<ul style="list-style-type: none"> • # of fatalities • Fatality rate per 100 million vehicle-miles traveled • # of serious injuries • Serious injury rate per 100 million vehicle-miles traveled • # of non-motorized fatalities and non-motorized serious injuries 	Safety
Infrastructure Condition	Pavement Condition	Pavement & Bridge (PM2)	<ul style="list-style-type: none"> • % of pavements on the Interstate system in <i>good</i> condition • % of pavements on the Interstate system in <i>poor</i> condition • % of pavements on the non-Interstate NHS in <i>good</i> condition • % of pavements on the non-Interstate NHS in <i>poor</i> condition 	State of Good Repair

TABLE 1: FEDERALLY-REQUIRED HIGHWAY PERFORMANCE MEASURES				
National Goal	Highway Performance Area	FHWA Rule	Performance Measure	MPO Goal Area
Infrastructure Condition	Bridge Condition	Pavement & Bridge (PM2)	<ul style="list-style-type: none"> • % of NHS bridges by deck area classified as in <i>good</i> condition • % of NHS bridges by deck area classified as in <i>poor</i> condition 	State of Good Repair
System Reliability	Performance of the National Highway System	System Performance, Freight & CMAQ (PM3)	<ul style="list-style-type: none"> • % of person-miles traveled on the Interstate system that are reliable • % of person-miles traveled on the non-Interstate NHS that are reliable 	Congestion / Mobility
Freight Movement & Economic Vitality	Freight Movement on the Interstate System	System Performance, Freight & CMAQ (PM3)	<ul style="list-style-type: none"> • Truck travel time reliability on the Interstate system (average truck reliability index) 	Economic Vitality / Freight
Congestion Reduction	Traffic Congestion	System Performance, Freight & CMAQ (PM3)	<ul style="list-style-type: none"> • Percent of non-single-occupant vehicle travel • Annual hours of peak-hour excessive delay per capita 	Congestion / Mobility
Environmental Sustainability	On-Road Mobile Source Emissions	System Performance, Freight & CMAQ (PM3)	<ul style="list-style-type: none"> • Total emissions reduction 	Reduce GHG / Promote Sustainability

The CMMPO has and will continue to set targets on a periodic basis for the three federally-required performance rules and will also continue to coordinate on PBPP activities with MassDOT, the WRTA, other MPOs and stakeholders. To date, the CMMPO has consistently decided to adopt MassDOT's performance targets as they essentially match the CMMPO's trends, which has resulted in the creation of an effective, integrated, and informative PBPP process.

Safety Performance Measures (PM1)

The CMMPO has consistently voted to adopt the statewide safety performance measure targets set by MassDOT, most recently for Calendar Year (CY) 2022 at their February 16, 2022 meeting. In setting these targets, MassDOT has followed FHWA guidelines by using statewide crash data

and Highway Performance Monitoring System (HPMS) data for vehicle miles traveled (VMT) in order to calculate 5-year, rolling average trend lines for all FHWA-defined safety measures. For CY 2022 targets, four of the five safety measures—total number of fatalities, rate of fatalities per 100 million vehicle miles traveled (VMT), total number of incapacitating injuries, and rate of incapacitating injuries per 100 million VMT—were established by extending earlier MassDOT trend lines into the 2018-2022 period. All four of these measures reflect a modest decrease in statewide trends. The fifth safety measure, the total number of combined incapacitating injuries and fatalities for non-motorized modes, is projected to decrease from last year’s target. The likely projected decrease from the CY 2021 target is directly related to a number of implementation strategies from the Statewide Bike Plan, Statewide Pedestrian Plan, and Strategic Highway Safety Plan. In recent years, MassDOT and the CMMPO have also invested in the “Complete Streets” program, bicycle & pedestrian infrastructure, intersection & safety improvements in both the Capital Investment Plan (CIP) and Statewide Transportation Improvement Program (STIP) to address an increasing mode share and to incorporate safety mitigation elements into projects. Looking ahead, the CMMPO, in coordination with MassDOT, is actively seeking to improve the data collection methodology for bicycle & pedestrian counts while also continuing to analyze crash clusters and crash counts that include both motorized and non-motorized modes to address safety issues at identified locations.

In all safety categories, MassDOT has established a long-term target of “Toward Zero Deaths” through their Performance Measures Tracker² and will continue to establish safety targets for the MPOs to consider for adoption each calendar year. While the MPOs are not required by FHWA to report on annual safety performance targets, FHWA guidelines require MPOs to either adopt MassDOT’s annual targets or to establish their own customized targets each year.

The safety measures MassDOT has established for CY 2022, recently adopted by the CMMPO, are as follows:

- 1) Fatalities: MassDOT’s long-term goal is zero deaths and injuries. With that preface, for federal reporting purposes, the estimated five-year average target number of fatalities in CY 2022 based on historical data, reported as part of this exercise, is 340, down from an average of 354 fatalities for the years 2016–2020. [See Figure 1 for the CMMPO vs. statewide comparison of the trend for this performance measure.]
- 2) Rate of Fatalities per 100 million VMT: The target fatality rate for CY 2022 is 0.56, down from a 0.57 average for the years 2016–2020. [See Figure 1 for the CMMPO vs. statewide comparison of the trend for this performance measure.]

² [MassDOT Annual Performance Management Tracker Reports](#)

- 3) Serious Injuries: The target number of serious injuries for CY 2022 is 2504, down from the average of 2641 for the years 2016–2020. [See Figure 2 for the CMMPO vs. statewide comparison of the trend for this performance measure.]
- 4) Rate of Serious Injuries per 100 million VMT: The serious injury rate target for CY 2022 is 4.11 per year, down from the 4.28 average rate for the years 2016–2020. [See Figure 2 for the CMMPO vs. statewide comparison of the trend for this performance measure.]
- 5) Total Number of Combined Incapacitating Injuries and Fatalities for Non-Motorized Modes: The CY 2022 target number of fatalities and incapacitating injuries for non-motorists is 471 per year, down from 484 during the years 2016–2020. [See Figure 3 for the CMMPO vs. statewide comparison of the trend for this performance measure.]

Figure 1
Total Fatalities and Fatality Rate comparison between MassDOT and CMMPO

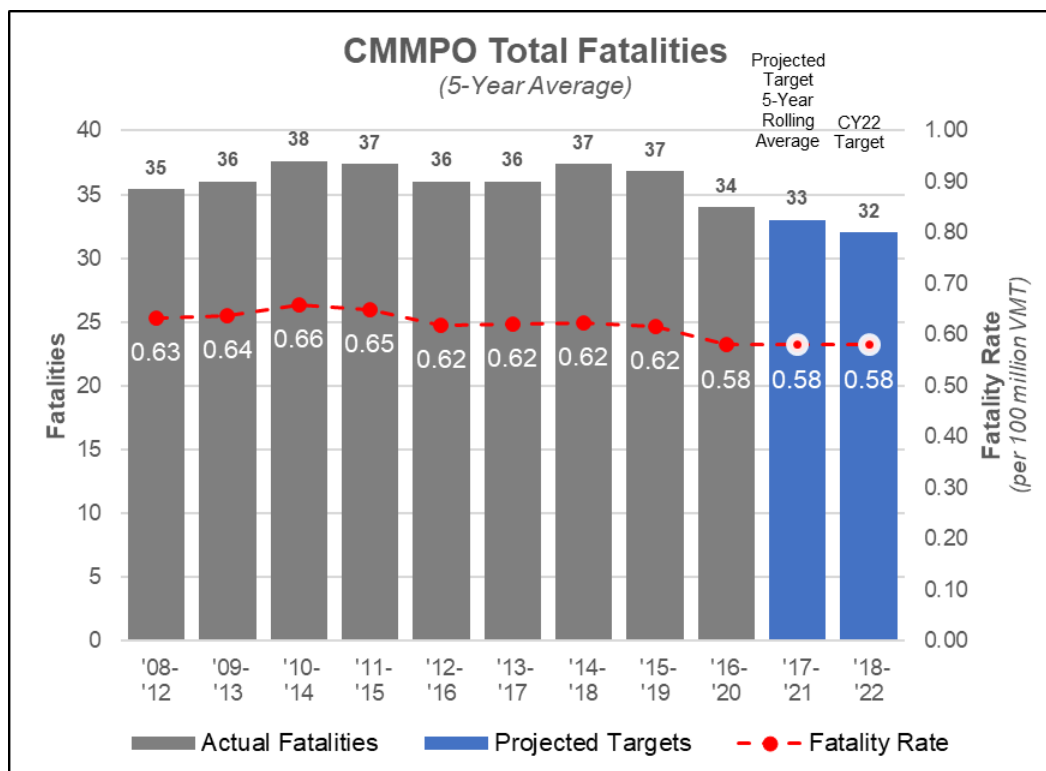
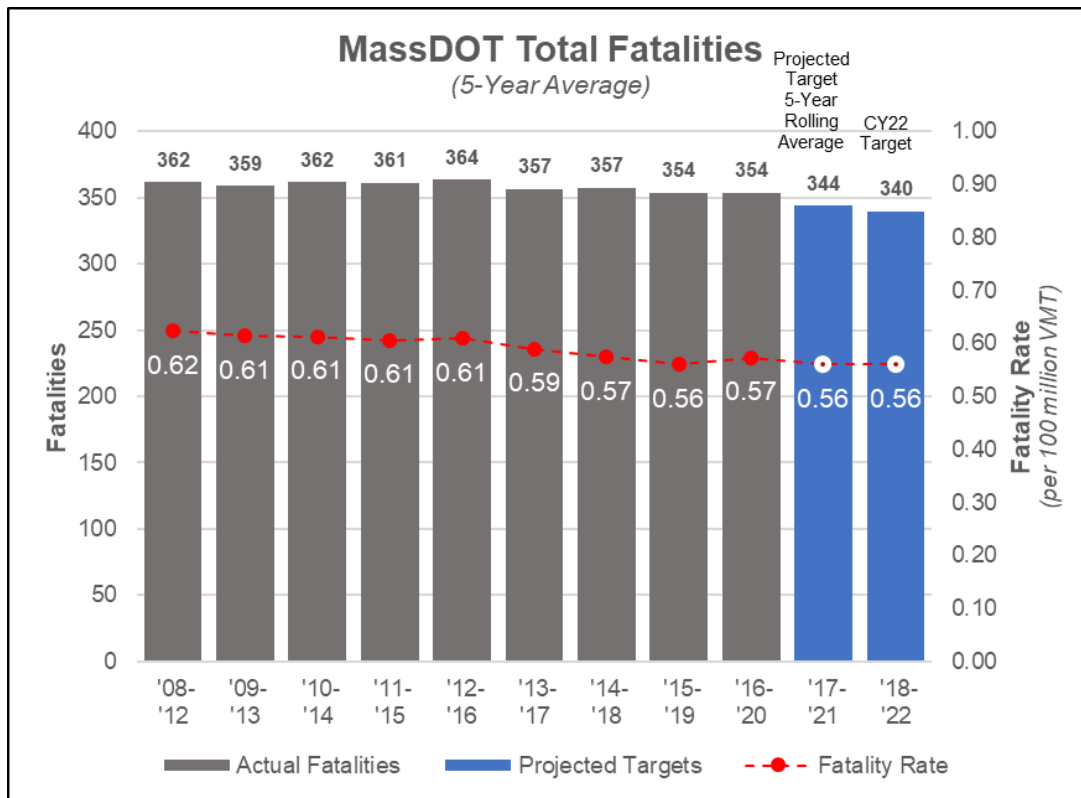


Figure 2

Total Serious Injuries and Serious Injury Rate comparison between MassDOT and CMMPO

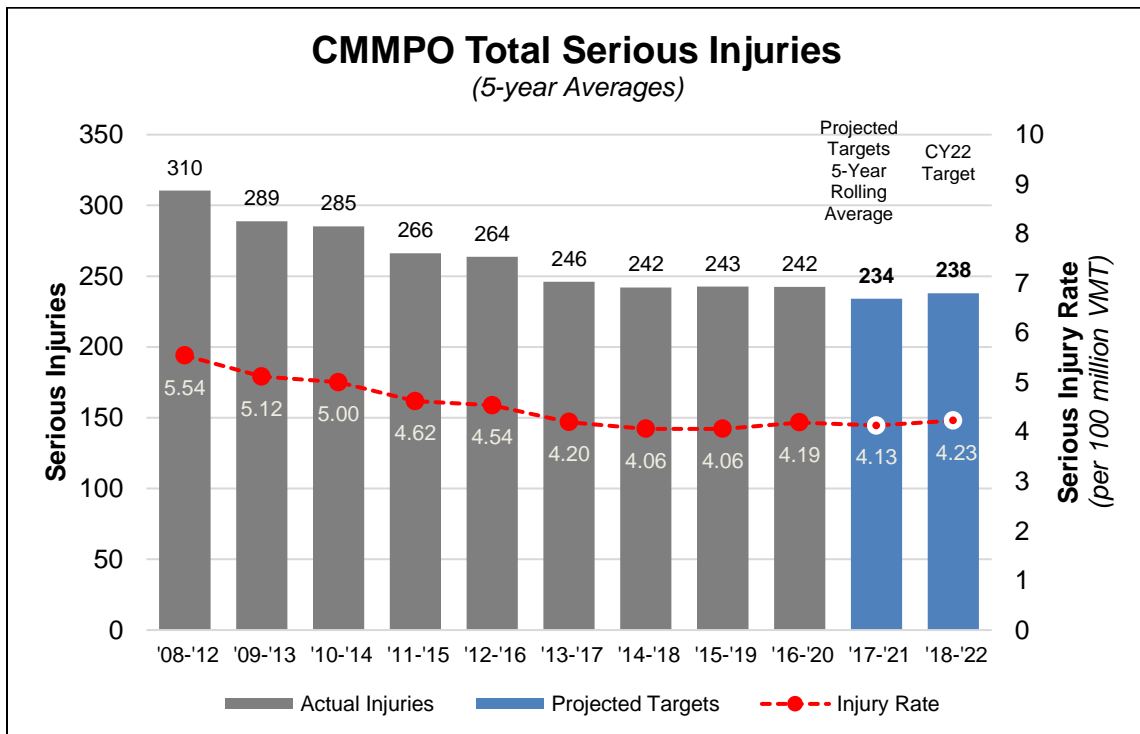
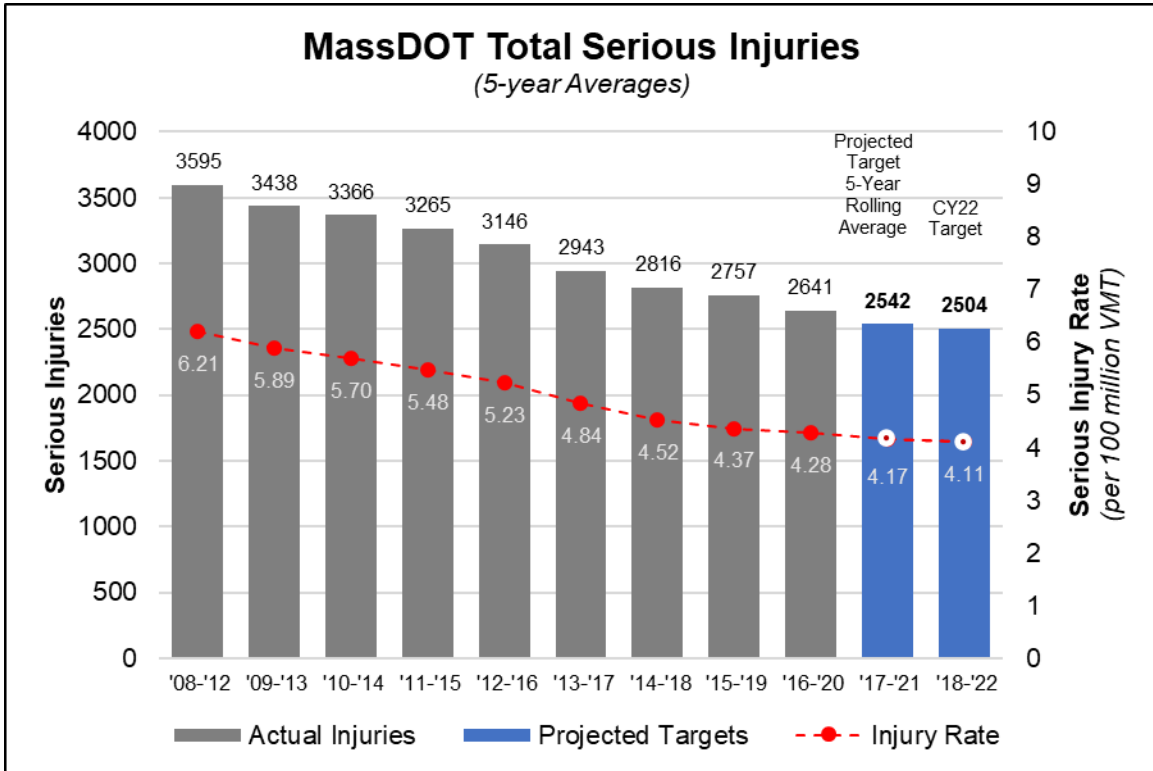
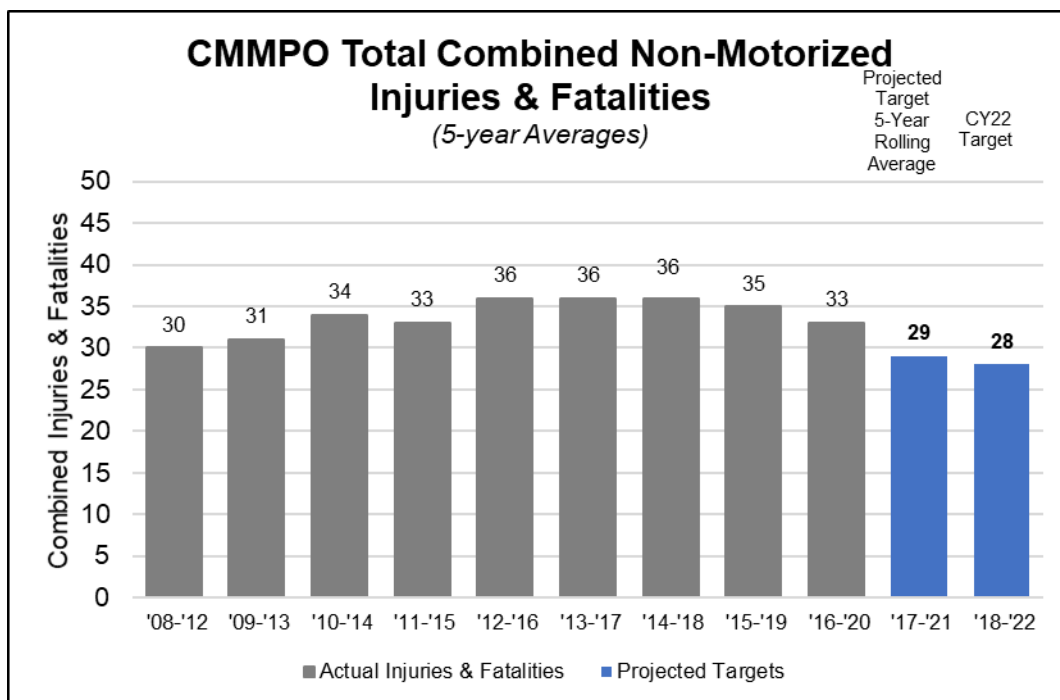
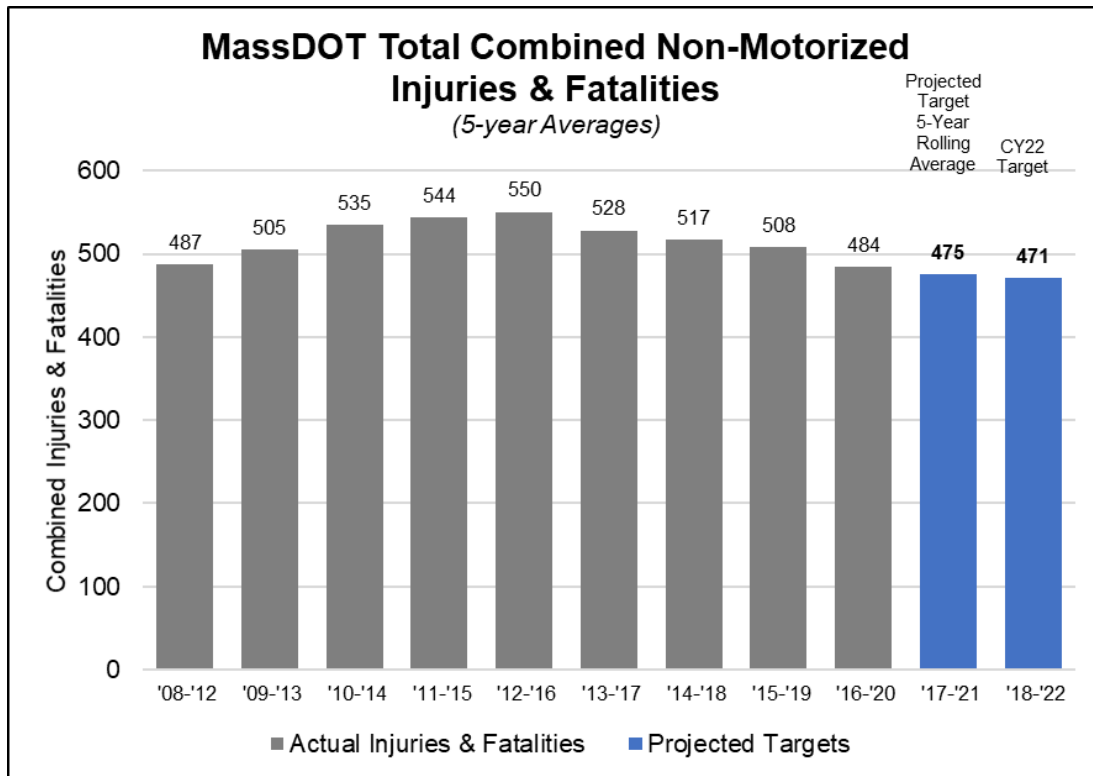


Figure 3
Total Combined Non-Motorized Injuries & Fatalities comparison
between MassDOT and CMMPO



Bridge & Pavement Performance Measures (PM2)

Previously, the CMMPO voted to adopt the 2-year (2020) and 4-year (2022) statewide bridge and pavement performance measure targets set by MassDOT. MassDOT was required to adopt statewide targets by 5/20/18, with the MPOs either adopting the statewide targets or establishing their own by November 2018. The CMMPO adopted the established MassDOT statewide targets at their October 17, 2018 meeting. In 2020, MassDOT performed a mid-performance review of the targets and decided to reaffirm the 2022 targets. When originally setting the targets, MassDOT followed FHWA guidelines by measuring bridge and pavement condition using the 9-point National Bridge Inventory Standards (NBIS); the International Roughness Index (IRI); the presence of pavement rutting; and the presence of pavement cracking. 2-year and 4-year targets were set for the following six (6) individual performance measures:

1. percent of bridges in good condition
2. percent of bridges in poor condition
3. percent of Interstate pavement in good condition
4. percent of Interstate pavement in poor condition
5. percent of non-Interstate pavement in good condition
6. percent of non-Interstate pavement in poor condition

All of the above listed performance measures are tracked in greater detail in [MassDOT's Transportation Asset Management Plan \(TAMP\)](#), which was finalized in September 2019. The performance measures can also be found in MassDOT's Performance Management Tracker.³

Targets for bridge-related performance measures were determined by identifying which bridge projects are programmed and projecting the rate of bridge condition deterioration. The bridge-related performance measures consider the percentage of deck area, as opposed to the total number of bridges. There are numerous bridge projects programmed in the 2023 – 2027 TIP.

Performance targets for pavement-related performance measures were based only on a single year of valid data, following the guidance from FHWA, and thus will remain steady. These measures were revisited at the 2-year mark (2020), when three years of data was available, for better-informed target setting. At that time, MassDOT decided to keep the original 4-year (2022) targets.

MassDOT continues to measure pavement quality and to set both statewide short and long-term targets in the MassDOT Performance Management Tracker using the Pavement Serviceability Index (PSI), which differs from IRI. These measures and targets are used in conjunction with federal measures to inform program sizing and project selection.

³ [MassDOT Annual Performance Management Tracker Reports](#)

PERFORMANCE MEASURE	CURRENT DATA*	2-YEAR TARGET (2020)	4-YEAR TARGET (2022)
Bridges in good condition	15.6%	15%	16%
Bridges in poor condition	13.1%	13%	12%
Interstate Pavement in good condition	75.6%	70%	70%
Interstate Pavement in poor condition	0.1%	4%	4%
Non-Interstate Pavement in good condition	34.1%	30%	30%
Non-Interstate Pavement in poor condition	31.4%	30%	30%

*Current data is from Mid Performance Period Progress Report

Reliability, Congestion, & Emissions Performance Measures (PM3)

Previously, the CMMPO voted to adopt the 2-year (2020) and 4-year (2022) statewide reliability, congestion, and emissions performance measure targets set by MassDOT. MassDOT was required to adopt statewide targets by 5/20/18, with the MPOs either adopting the statewide targets or establishing their own by November 2018. The CMMPO adopted the original statewide targets at their October 17, 2018 meeting. In 2020, MassDOT performed a mid-performance review of the targets and at that time decided to update the Non-SOV and Emission Reduction 4-year (2022) targets. The CMMPO voted to adopt the updated targets at their February 17, 2021 meeting.

MassDOT followed FHWA regulation in measuring Level of Travel Time Reliability (LOTTR) on both the Interstate and non-Interstate NHS as well as Truck Travel Time Reliability (TTTR) on the Interstate System using the National Performance Management Research Dataset (NPMRDS) provided by FHWA. These performance measures aim to identify the predictability of travel times on the highway network by comparing the average travel time along a given segment against longer travel times. For LOTTR, the performance of all segments of the Interstate and non-Interstate NHS are defined as either “reliable” or “unreliable” based on a comparison between the 50th percentile travel time and the 80th percentile travel time, thus determining the proportion of reliable segments. For TTTR, the ratio between the 50th percentile travel time and the 90th percentile travel time for trucks only along the Interstate System is reported as a statewide measure. The following two tables compare the LOTTR and TTTR between Statewide and the CMMPO planning region. The following Statewide and CMMPO interstate and non-interstate percentages are from the Probe Data Analytics Suite of the Regional Integrated Transportation Information System (RITIS) website.

Year	Statewide		CMMPO		Interstate Target	Non-Interstate Target
	Interstate %	Non-Interstate %	Interstate %	Non-Interstate %		
2017	70.4%	80.1%	89.7%	87.1%	68%	80%
2018	69.8%	80.4%	87.3%	89.6%		
2019	69.1%	82.8%	84.6%	88.9%		
2020*	94.4%	91.3%	99.1%	94.1%		
2021	84.2%	87.9%	96.4%	92.9%		

**COVID-19 pandemic occurred during 2020*

Year	Statewide Interstate TTTR Ratio	CMMPO Interstate TTTR Ratio	Interstate TTTR Target
2017	1.81	1.71	1.85
2018	1.88	1.79	
2019	1.84	1.77	
2020*	1.44	1.22	
2021	1.61	1.59	

**COVID-19 pandemic occurred during 2020*

The CMMPO—whose planning area includes communities in the Boston Urbanized Area (UZA), and as a signatory to the 2018 Boston UZA Memorandum of Understanding (MOU)—has also adopted 2-year (2020) and 4-year (2022) Boston UZA-wide congestion performance measure targets. These performance measures are the percentage of non-single occupancy vehicle (SOV) travel and Peak Hour Excessive Delay (PHED). Targets were developed in coordination with MassDOT and those neighboring MPOs that have the transportation planning responsibility for portions of the Boston UZA.

The percentage of non-SOV travel is approximated using the US Census Bureau’s American Community Survey (ACS) Journey-to-Work data. In the Boston UZA, the proportion of non-SOV travel has been steadily increasing and is projected to continue to increase annually. Accordingly, in October 2020, MassDOT updated the 4-year (2022) target from 35.1% to a revised target of 35.8% based on new available data.

PHED is measured by totaling the number of hours spent in excessive delay (defined as travel time at 20 miles per hour or at 60% of the posted speed limit, whichever is greater) in peak hours (between 6:00 AM and 10:00 AM, and between 3:00 PM and 7:00 PM) divided by the total UZA population. When targets initially needed to be set, there was only one year of data available. As such, the performance targets for PHED will remain flat until further data becomes available.

Emissions reduction targets are measured as the sum total of all emissions reductions anticipated through CMAQ-funded projects in non-attainment or air quality maintenance areas (currently the cities of Lowell, Springfield, Waltham, and Worcester, and the town of Oak Bluffs) identified in the Statewide Transportation Improvement Program (STIP). This anticipated emissions reduction total is calculated using existing CMAQ processes. This 4-year (2022) target was also updated in October 2020. The new targets are 0.559 (VOC), 1.71 (NOx), and 6.53 (CO).

PERFORMANCE MEASURE	CURRENT DATA*	2-YEAR (2020)	4-YEAR (2022)
Non-Interstate LOTTR	82.4%	80%	80%
Interstate LOTTR	69.1%	68%	68%
TTTR	1.86	1.85	1.85
PHED (Boston UZA)	25.6%	18.31	18.3
% non-SOV (Boston UZA)	34.6%	34.5%	35.8%

*Current data is from Mid Performance Period Progress Report

Table 2 contains the federally-required performance measures for transit in regards to safety and infrastructure condition.

TABLE 2: FEDERALLY-REQUIRED TRANSIT PERFORMANCE MEASURES			
National Goal	Transit Performance Area / Asset Category	Performance Measure	MPO Goal Area
Safety	Fatalities	<ul style="list-style-type: none"> Total # of reportable fatalities and rate per total vehicle revenue miles by mode Total # of reportable injuries and rate per total vehicle revenue miles by mode Total # of reportable events and rate per total vehicle revenue miles by mode Mean distance between major mechanical failures by mode 	Safety
	Injuries		
	Safety Events		
	System Reliability		
Infrastructure Condition	Equipment	<ul style="list-style-type: none"> % of vehicles that have met or exceeded their Useful Life Benchmark (ULB) % of revenue vehicles within a particular asset class that have met or exceeded their ULB % of track segments with performance restrictions % of facilities within an asset class rated below 3.0 on the FTA Transit Economic Requirements Model Scale 	State of Good Repair
	Rolling Stock		
	Infrastructure		
	Facilities		

Transit Asset Condition

The CMMPO and Worcester Regional Transit Authority (WRTA) originally developed a Transit Asset Management Plan (TAM Plan) in October 2018. All transit agencies that own, operate, or manage capital assets used in the provision of public transportation and that receive federal financial assistance under 49 U.S.C. Chapter 53 - either as recipients or subrecipients - must develop a TAM Plan. A TAM Plan is a necessary tool that assists transit providers in:

1. Assessing the current condition of its capital assets
2. Determining what the condition and performance of its assets should be (if they are not already in a state of good repair)
3. Identifying the unacceptable risks, including safety risks, in continuing to use an asset that is not in a state of good repair
4. Deciding how to best balance and prioritize reasonably anticipated funds (revenues from all sources) towards improving asset condition and achieving a sufficient level of performance within those means
5. TAM Plans must include at a minimum an asset inventory, condition assessments of inventoried assets, and a prioritized list of investments to improve the state of good repair of their capital assets.

One provision of the TAM Plan is for transit agencies to work with MPOs to set performance targets for each four-year cycle. On an annual basis, the RTAs must submit an annual condition report of assets to the National Transit Database (NTD). RTAs must also set targets every four years for the performance of assets. Each asset category has its own performance measure by which to set targets:

- Rolling stock: % of revenue vehicles exceeding Useful Life Benchmark (ULB)
- Equipment: % of nonrevenue service vehicles exceeding ULB
- Facilities: % of facilities rated under 3.0 on the Transit Economic Requirements Model (TERM) scale
- Infrastructure: % of railroad track segments under performance, or speed, restriction

Included in the below table, the CMMPO coordinated with the WRTA to develop an initial set of TAM targets for the region for CY 2018.

WRTA ASSET CONDITION PERFORMANCE TARGETS		
Category	Class	Performance Target
Rolling Stock	Buses	100% of fleet meets or exceeds ULB of 12 years
	Short Buses	100% of fleet meets or exceeds ULB of 10 years

WRTA ASSET CONDITION PERFORMANCE TARGETS		
	Vans	100% of fleet meets or exceeds ULB of 5 years
Equipment	Automobile	100% of fleet meets or exceeds ULB of 4 years
Facilities	Admin/Maintenance Facility	0% of facilities rated under 3.0 on TERM scale
	Passenger/Parking Facility	0% of facilities rated under 3.0 on TERM scale

FTA defines ULB as “the expected lifecycle of a capital asset for a particular transit provider’s operating environment, or the acceptable period of use in service for a particular transit provider’s operating environment.” For example, FTA’s default ULB value for a bus is 14 years. FTA’s Transit Economic Requirements Model (TERM) scale, which pertains to the facilities measure, is a rating system that describes asset condition. The scale values are 1 (poor), 2 (marginal), 3 (adequate), 4 (good), and 5 (excellent). Because each measure is intended to represent the share of transit assets that are not in a state of good repair, the goal is to minimize the value for all four required measures.

Within the 2023-2027 Transit TIP, projects include the purchase of support vehicles and new buses (35’ & 40’). By purchasing the new support vehicles and buses, the WRTA will maintain their rolling stock in excellent condition and meet the performance targets within the TAM Plan. Additionally, other projects in the transit TIP include the rehabilitation and renovation of both the bus terminal “Hub” and the maintenance facility which will help maintain the good to excellent conditions suggested by the current TAM Plan targets.

Public Transportation Agency Safety Plan (PTASP)

The FTA has adopted the principals and methods of Safety Management Systems (SMS) as the basis for enhancing the safety of public transportation in the United States. Each Public Transportation Agency Safety Plan (PTASP) will incorporate SMS principals and methods tailored to the size, complexity, and scope of the public transportation system and the environment in which it operates. Transit agencies were required to develop, certify, and implement an Agency Safety Plan by 12/31/20 while the CMMPO had up to 180-days after the Plan is certified to adopt the included targets. The WRTA PTASP was finalized and subsequently endorsed by the WRTA Advisory Board in November 2020. The Plan utilizes existing agency safety practices as well as identifies industry best practices to be implemented in order to meet the new regulation in 49 CFR Part 673 of the federal guidelines. Later, the CMMPO adopted the WRTA’s PTASP targets at their February 17, 2021 meeting. The following seven (7) measures must be included in the PTASP:

1. Total number of injuries
2. Injury rate per total vehicle revenue miles
3. Total number of fatalities
4. Fatality rate per total vehicle revenue miles
5. Total number of safety events
6. Safety events rate per total vehicle revenue miles
7. System reliability mean distance between major mechanical failures

The below targets are based on a review of the previous five years (FY15-FY19) of the WRTA's safety performance data for both Fixed-Route and Demand Response transit services. Rates are calculated per 1,000,000 vehicle revenue miles. Below are the targets that were set for FY 2021. New targets will be updated annually based on 5-year rolling averages.

FY 2021 WRTA Safety Targets							
Mode of Transit Service	Fatalities (Total)	Fatalities (Rate)	Injuries (Total)	Injuries (Rate)	Safety Events (Total)	Safety Events (Rate)	System Reliability (Miles between Failures)
Fixed Route	0	0	10	5.1	9	4.6	10,000
Demand Response	0	0	1	0.8	1	0.8	100,000

Similar to the WRTA's TAM Plan, new bus and support vehicle purchases included in the 2023-2027 Transit TIP is also anticipated to help reach the safety targets listed in the PTASP. The new buses and support vehicles replacing the older vehicles are expected to be more reliable and safer on the roadways. In addition, the purchasing of support equipment and associated capital maintenance item will assist in the repair of older vehicles. Further, the purchase of a new bus shelter will help keep the transit riders safe while waiting for the bus.

CMMPO Regionally-Customized Performance Measures

In addition to the federally-required performance measures, the CMMPO has established regionally-customized measures for the region. These measures are based on a range of transportation planning emphasis areas that are not part of the federal PM1, PM2, or PM3 requirements. The planning areas addressed with regionally-customized measures are security, multimodality, sustainability, equity, economic, stormwater management, and travel & tourism. Although some measures may continue to be refined as the program continues to evolve, the following summarizes those measures currently used by the CMMPO:

- Condition of Sidewalks
- Condition of ADA Ramps
- Miles of Bicycle Lanes
- WRTA Ridership
- Jobs-to-Housing Ratio
- Percent of EJ & Vulnerable Populations Intersecting WRTA Fixed Route Service
- Percent of CMMPO Subregion Costs Per Capita that Benefit from a TIP Project so as to Provide Equal Opportunity to All Communities
- Accessibility to Jobs
- Culvert Assessments

Annual System Performance reports have been produced since 2016. The results of the above listed regionally-customized performance measures are included in the reports along with the federally-required performance measures. The reports can be found on the CMRPC website at <http://www.cmrpc.org/performance-management>.

Performance and Project Selection

The CMMPO's selection of projects for the TIP has evolved into a collaborative process involving both the CMMPO's Advisory Committee and the CMRPC Transportation Planning Committee. The overall intent is to select projects that will advance the region towards the both the federal and regionally-customized targets adopted by the CMMPO. As such, the CMMPO uses a TIP Project Screening Scoresheet (shown in the Section 6) to inform the transportation investment decision making process within the PBPP framework. The TIP Project Screening Scoresheet includes a checklist for assessing how a certain project might potentially meet the established targets. Each candidate project eligible for TIP programming is analyzed and subsequently scored by the CMMPO staff working with both the aforementioned committees.

5.) Regional Target Project Relationship to Regional Planning Efforts & Performance Management

This section contains regional target project information regarding their relationship to regional planning efforts and performance measures as well as other regional goals. As other state, regional, or local plans reflect the TIP projects, it indicates that the selected projects are considered a priority on all levels. The following table lists a number of these planning efforts and plans associated with the TIP target projects. Some of the categories include regional or state modal plans, corridor studies, MPO technical assistance, and any other associated plans. In addition to the listing of related studies and plans, the table also includes the relationship to the federally-required and regionally-customized performance measures. Numerous anticipated performance measure improvements are listed for each project as they pertain to both the federal and regional targets.

Mobility2040: The Update for 2020 Programs

The following table also includes a column for the CMMPO Long-Range Transportation Plan (LRTP) and whether the TIP target projects are reflected in the document. Further, it is also noted in this column which LRTP program area the project is included. The five program areas included in the LRTP are 1) Asset Management & System Operations (AMSO), 2) Livability & Healthy Transportation (LHT), Climate Change & Resiliency (CCR), 4) Transit Planning & Mobility Management (TPMM), and 5) Major Infrastructure (MI). As shown in the table, all projects are contained within the LRTP and have been assigned a program area.

Regional Target Projects' Relationship to Regional Planning Efforts and Performance Management

TIP Year	Project Description	Plans in Which Project is Included					Project's Relationship to Performance Measures / Other Regional Goals
		Long Range Transportation Plan*	Regional or State Modal Plan	Corridor Study	MPO Technical Assistance	Other (Please Specify)	
<i>Year</i>	<i>Project description, as programmed in the TIP</i>	<i>Yes/No</i>	<i>Specify the specific plan here</i>	<i>Specify the Corridor Study</i>	<i>Specify if the project resulted from a technical assistance request</i>	<i>Specify the specific plan here (e.g. local Master Plan, CEDS, etc.)</i>	<ul style="list-style-type: none"> <i>Please describe, in bullet point format, how the project advances regional and/or state performance measures</i> <i>Use this space for any other notes on connections between the project and regional planning efforts</i>
2022 - 2025	CHARLTON-OXFORD – RECONSTRUCTION ON ROUTE 20, FROM RICHARDSON'S CORNER EASTERLY TO ROUTE 12, INCLUDES REHAB OF C-06-023 & REPLACEMENT OF O-06-002	Yes (MI)	Regional Safety Plan, CMRPC Bicycle Plan, CMP	Route 20 Corridor Profile in Auburn/Oxford		MassDOT EIR process and resulting design, MVP, Central 13 Prioritization Study	<ul style="list-style-type: none"> Contains an HSIP intersection, project will improve safety. Project also improving pavement, bridges, congestion, and bike and pedestrian infrastructure. CMAQ eligible.
2023	NEW BRAINTREE – RECONSTRUCTION & IMPROVEMENTS ON RAVINE ROAD AND HARDWICK ROAD FROM HARDWICK TL TO ROUTE 67 (BARRE ROAD) (2.6 MILES)	Yes (CCR)	CMRPC Bicycle Plan, CMMPO Asset Management Report			Town defined ROW, MVP	<ul style="list-style-type: none"> Improve stormwater (culverts). Improve pavement.
2023	HOLDEN – PAVEMENT REHABILITATION ON MAIN STREET, SHREWSBURY STREET, AND DOYLE ROAD, FROM STATE POLICE BARRACKS TO BRATTLE STREET	Yes (LHT)	CMRPC Bicycle Plan, CMP		TIP Development Meeting	MVP, Central 13 Prioritization Study	<ul style="list-style-type: none"> Improve bike and pedestrian infrastructure. Improve congestion and pavement. Potential new roundabout. CMAQ potential. Stormwater improvements, culvert.
2023	SPENCER – ROADWAY REHABILITATION OF MEADOW ROAD	Yes (LHT)		Route 31 Corridor Profile		Complete Streets, MVP, Central 13 Prioritization Study	<ul style="list-style-type: none"> Improve bike and pedestrian infrastructure. Improve pavement and culverts. CMAQ potential.
2024	WEST BROOKFIELD – RESURFACING & RELATED WORK ON ROUTE 9, FROM WARE TL TO 850' WEST OF	Yes (MI)	CMMPO Bicycle Plan		TIP project status Meeting	MVP	<ul style="list-style-type: none"> Improve stormwater and pavement. Improve mobility to Travel & Tourism area. Provide interregional connectivity.

*LRTP Programs – Asset Management & System Operations (AMSO), Livability & Healthy Transportation (LHT), Climate Change & Resiliency (CCR), Transit Planning & Mobility Management (TPMM), and Major Infrastructure (MI)

	WELCOME ROAD (1.1 MILES – PHASE 1)						
2024	UXBRIDGE – RECONSTRUCTION OF ROUTE 122 (SOUTH MAIN STREET), FROM SUSAN PARKWAY TO ROUTE 16	Yes (AMSO)	CMRPC Bicycle Plan, CMMPO Asset Management Report		Traffic growth rates	MVP, Blackstone Valley Prioritization Study	<ul style="list-style-type: none"> • Improve bike and pedestrian infrastructure. • Improve pavement.
2024	SOUTHBRIDGE – INTERSECTION IMPROVEMENTS AT CENTRAL STREET, FOSTER STREET, HOOK STREET, AND HAMILTON STREET	Yes (LHT)	CMMPO Regional Safety Plan, CMMPO Asset Management Report, CMP			Central 13 Prioritization Study	<ul style="list-style-type: none"> • Improve bike and pedestrian infrastructure, including segment of Quinebaug River Rail Trail. • CMAQ potential. • EJ population within project limits. • Improve mobility and access to transit.
2025	WEBSTER – INTERSECTION IMPROVEMENTS AT I-395 RAMP (EXIT 2) AT ROUTE 16 (EAST MAIN STREET) AND SUTTON ROAD	Yes (AMSO)	CMMPO Regional Safety Plan, CMMPO Bicycle Plan, CMP	Route 12/16/193 Corridor Profile		MVP, Central 13 Prioritization Study	<ul style="list-style-type: none"> • Stormwater improvement, major culvert. • Improve congestion, potential roundabout, CMAQ potential. • Project will improve safety, HSIP eligible intersection. • Improve economic activity and freight movement.
2025	WORCESTER – INTERSECTION IMPROVEMENTS ON CHANDLER STREET AND MAY STREET	Yes (TPMM)	CMMPO Regional Safety Plan, CMMPO Bicycle Plan, CMP				<ul style="list-style-type: none"> • Improve bike and pedestrian infrastructure. • Improve safety, congestion and pavement (adjacent Worcester State University). • EJ population within project limits. • Improve access to transit.
2025	WEST BROOKFIELD – RESURFACING & RELATED WORK ON ROUTE 9, FROM 850' WEST OF WELCOME ROAD TO PIERCE ROAD (1 MILE – PHASE 2)	Yes (MI)	CMMPO Bicycle Plan		TIP Project Status Meeting	MVP	<ul style="list-style-type: none"> • Improve stormwater and pavement. • Travel & Tourism enhancements. • Provide interregional connectivity.
2026	WORCESTER – INTERSECTION IMPROVEMENTS AND RESURFACING ON CHANDLER STREET, FROM MAIN STREET TO QUEEN STREET	Yes (TPMM)	CMMPO Regional Safety Plan, CMRPC Bicycle Plan		Provided Traffic Data and Growth Rate Information	Central 13 Prioritization Study	<ul style="list-style-type: none"> • Improve bike and pedestrian infrastructure. • Improve safety, multiple HSIP crash clusters. • Improve congestion and pavement. • EJ population within project limits. • Improve access to transit and potential transit signal priority corridor.
2026	NORTHBRIDGE – INTERSECTION IMPROVEMENTS AT ROUTE 122 (PROVIDENCE ROAD), SCHOOL STREET, SUTTON STREET, AND UPTON STREET	Yes (AMSO)	CMMPO Regional Safety Plan, CMRPC Bicycle Plan, CMMPO Asset Management Plan		TIP Development Meeting, Traffic Growth Rate Request	MVP, Blackstone Valley Prioritization Study	<ul style="list-style-type: none"> • Improve safety, HSIP eligible intersection. • Improve bike and pedestrian infrastructure.
2026	STURBRIDGE – ROUNDABOUT CONSTRUCTION AT THE INTERSECTION OF ROUTE 20 AND ROUTE 131	Yes (ASMO)	CMMPO Bicycle Plan, CMMPO Asset Management Report, CMP	Route 20 Corridor Profile	TIP Development Meeting	Sturbridge Commercial Tourist District Plan, MVP	<ul style="list-style-type: none"> • Improve congestion, CMAQ potential. • Improve safety and pavement. • Improve bike and pedestrian infrastructure. • Travel & Tourism mobility enhancements.

*LRTP Programs – Asset Management & System Operations (AMSO), Livability & Healthy Transportation (LHT), Climate Change & Resiliency (CCR), Transit Planning & Mobility Management (TPMM), and Major Infrastructure (MI)

2026	UPTON – CULVERT REPLACEMENT, MILFORD STREET (ROUTE 140) OVER UNNAMED TRIBUTARY TO CENTER BROOK	Yes (CCR)				MVP, Blackstone Valley Prioritization Study	<ul style="list-style-type: none"> Improve stormwater, culverts.
2026 & 2027	CMMPO MICRO-PROJECTS	Yes					<ul style="list-style-type: none"> Funding (\$400,000) is reserved for this program starting in 2026 & 2027. Type of projects unknown at this time. More information available in the future.
2027	UXBRIDGE – REHABILITATION OF ROUTE 16 (DOUGLAS STREET), FROM TAFT HILL ROAD TO 200 FT WEST OF MAIN STREET	Yes (LHT)	CMMPO Bicycle & Pedestrian Plans			Blackstone Valley Prioritization Study	<ul style="list-style-type: none"> Improve bike and pedestrian infrastructure. Improve stormwater and pavement
2027	WORCESTER – INTERSECTION IMPROVEMENTS AND RESURFACING ON CHANDLER STREET, FROM QUEEN STREET TO PARK AVENUE	Yes (TPMM)	CMMPO Regional Safety Plan, CMRPC Bicycle Plan		Provided Traffic Data and Growth Rate Information	Central 13 Prioritization Study	<ul style="list-style-type: none"> Improve bike and pedestrian infrastructure. Improve safety, multiple HSIP crash clusters. Improve congestion and pavement. EJ population within project limits. Improve access to transit and potential transit signal priority corridor.

*LRTP Programs – Asset Management & System Operations (AMSO), Livability & Healthy Transportation (LHT), Climate Change & Resiliency (CCR), Transit Planning & Mobility Management (TPMM), and Major Infrastructure (MI)

6.) Project Scoring & Selection

Introduction

The Central Massachusetts Metropolitan Planning Organization (CMMPO), by endorsing the 2023-2027 Transportation Improvement Program (TIP), agrees that the inclusion of projects in FFY 2023 (first year of the TIP) is sufficient for project selection purposes as allowed by US DOT. Any project listed within FFY 2023 can proceed with programming during FFY 2023 without any additional action on the part of the CMMPO. The projects included in the TIP were selected through the region's ongoing federal Comprehensive, Continuous, and Cooperative (3C) Transportation Planning Process with full consideration of the principles of Environmental Justice (EJ), Limited English Proficiency (LEP), and Title VI.

Overview

Before projects are considered for programming on the TIP, they must first be reviewed and deemed eligible by MassDOT's Project Review Committee (PRC). Once approved and assigned a project number, a given federal-aid eligible project can be considered as a candidate for potential programming on the TIP. A range of criteria are considered by the CMMPO when selecting projects for TIP programming. This section provides further detail concerning the criteria used by the CMMPO. Primarily, consistency with the priorities of the Long-Range Transportation Plan (LRTP) *Mobility2040-Update for 2020* is most important. *Mobility2040* encompasses the region's entire multimodal transportation network so that a range of improvement projects and initiatives can be implemented through the detailed and lengthy TIP development process. The current goals, objectives, measures and targets of the region's Performance Management-based planning process are detailed in *Mobility2040*.

Included in the Unified Planning Work Program (UPWP), the Management Systems maintained by the CMMPO staff include Congestion, Pavement, Safety and MassDOT Bridge data. The data from each of these Management Systems serve as the measures for the region's Performance Targets under the CMMPO's Performance Management-based approach to transportation planning and programming. Performance Management-based planning highlights the type of improvement projects that will likely provide the best return on investment as well as maintain the CMMPO in alignment with national goals and targets.

Further, projects selected for TIP programming follow the vision and goals of the Statewide Modal Plans. It is the goal of the state's Bicycle and Pedestrian Plans to increase safety of the users while encouraging more use of bicycles and a greater frequency of pedestrians walking for short trips. As for the State Rail Plan, projects for this mode are not programmed within the CMMPO TIP. However, the State Freight Plan's goals of improving safety and infrastructure

condition can be attained with highway projects that improve safety and create better travel time reliability for both people and goods moving through and within the region.

Project Scoring Criteria Summary

This section includes the Performance Management criteria used by the CMMPO in the scoring of both new and currently programmed TIP projects. Performance-based planning is a major deciding factor for project programming and is a practice where targets and goals must meet regional objectives while also aligning with statewide and national objectives. Evolving over the past several years, the CMMPO has fully incorporated Performance Measures into the TIP development process.

Accordingly, the CMMPO staff participates in MassDOT's Performance Management Subcommittee. The Subcommittee, which meets on an as-needed basis, leads the statewide cooperative effort for the sharing of performance data, selection of performance targets, and the reporting and tracking of performance targets as required under FHWA's Performance Management regulations. At the regional level, those projects with the best potential to improve key performance aspects of the multimodal & intermodal transportation network are considered for TIP inclusion.

All regional funding target projects considered for programming in the 2023 – 2027 TIP were scored using the CMMPO's Performance Management-based goals, objectives, measures and targets. As goals and targets evolve and improved data becomes available, the scoring criteria has, and will, continue to be refined. However, during the 2023 – 2027 TIP's development effort, there were no changes made to the project scoring criteria.

Project scoring is especially important for those federal-aid eligible projects that are not yet programmed on the TIP. After staff scores the new potential projects, the results are then discussed at the CMMPO Advisory Committee and the CMRPC Transportation Committee meetings. Notably, this year the proponents for the new TIP candidate projects were invited to an Advisory Committee meeting to directly participate in the project scoring review. The CMMPO Advisory Committee membership consists of a diverse mix of individuals with broad expertise representing a number of regional stakeholders. The Transportation Committee is comprised of CMRPC delegates and technical members from communities in each of the transportation planning subregions. During these meetings, the criteria and the corresponding scores are summarized and discussed. Based on project scorings, project "tiering" recommendations are suggested to the CMMPO by both committees as to which new projects should be prioritized.

As its scoring criteria, staff uses the Performance Measures to address ten transportation planning areas of safety, security, state of good repair, congestion, multi-modality,

GHG/sustainability, equity, economic vitality, resiliency and travel/tourism. The current criteria are summarized below and are followed by a table that shows the scores of each project.

- **Safety:** This category is based on whether the project will reduce crashes and whether the project roadway has an identified HSIP crash cluster.
- **State of Good Repair:** This category is based on whether the project will improve roadway pavement, especially pavement that is currently in poor condition. Further criteria includes whether the project is rehabilitating or replacing one or more bridges.
- **Congestion:** This category has multiple criteria. It includes whether the project is improving an existing intersection or installing a new signal, roundabout or adding ITS components. Other criteria includes whether the project roadway is considered unreliable and if a project is eligible for CMAQ funding to help reduce emissions. The last two criteria are whether the project is along a primary freight route and reducing delays to freight movement.
- **Security:** This category is based on whether the project roadway is considered a primary evacuation route and if the project roadway is listed in the host community's Hazard Mitigation Plan or Municipal Vulnerability Preparedness Plan.
- **Multimodality:** This category also has multiple criteria. It includes whether a project is improving or building new sidewalks and/or ADA ramps. Other criteria includes whether the project is increasing bicycle lane mileage or related infrastructure and if the project is improving accessibility to fixed-route public transit service. The last of the criteria is whether the project roadway is included in the host community's Complete Streets approved prioritization plan.
- **Sustainability:** This category is for projects within a designated Priority Development Area (PDA) and if a project includes extensive environmental mitigation work.
- **Equity:** This category is based on whether the project is within an identified EJ or vulnerable population area and if the project is within a community that is below the average per capita of distributed TIP target funds.
- **Economic:** This category is based on whether the project improves mobility in an area that is losing access to jobs. The criteria analyze the 45-minute travel time difference between 2:00 AM and 8:00 AM. This data reflects the number of jobs lost because of recurring congestion.
- **Stormwater Management:** This category is based on whether the project is improving stormwater infrastructure such as drainage or culverts and if the project is within an identified 100 or 500-year flood zone.
- **Travel & Tourism:** This category is based on whether the project is improving mobility to/from a significant tourist attraction or recreational area.

In regards to COVID-19 impacts, the project scoring was not affected. For the criteria quantified using data collected by the CMMPO staff, older data would have been used if more recent data could not be collected. One example would be pavement data, as pavement data was not collected in 2020 and only minimal data collected in 2021. As such, the most recent data was used for scoring the State of Good Repair category which considers pavement condition. Although minimal in-house analysis has been conducted to determine how COVID-19 affected the region's overall transportation network, the priorities of the CMMPO have remained unchanged. However, with potentially less vehicles on the roadways and an increasing number of people working from home, bicycle & pedestrian infrastructure and safety appears to be an ever increasingly important aspect of TIP projects.

Regional Performance Measures TIP Project Scoring Criteria			
	OBJECTIVE	TARGET/MEASURE	Scoring
SAFETY	(PM1) Reduce Number and Rate of Fatal and Serious Injury Crashes in the Region. Move towards Zero Deaths.	Reduction of Fatalities, Fatality Rates, Serious Injuries, Serious Injury Rates, and Non-Motorized Fatalities & Serious Injuries based on 5-year Rolling Averages.	X - project will help reduce all types of crashes X - project roadway has an identified HSIP crash cluster
STATE OF GOOD REPAIR	(PM2) Maintain the Highway Infrastructure Asset System in a State of Good Repair	Increase % of Non-Interstate & Interstate NHS Pavement in Good Condition and Decrease % of Non-Interstate & Interstate NHS Pavement in Poor Condition	X - project is improving roadway pavement (or) XX - project is improving roadway pavement in poor condition
		Increase % of Bridges by Deck Area in Good Condition & Reduce % of Bridges by Deck Area in Poor Condition	X - project is rehabilitating or replacing a bridge (or) XX - project is rehabilitating or replacing multiple bridges
CONGESTION	(PM3) Achieve a Significant Reduction in Congestion on the National Highway System	Increase Travel Time Reliability, % of Non-Single Occupancy Vehicle (SOV) Travel, and Reduce Peak Hour Excessive Delay (PHED)	X - project is improving an existing signalized intersection, installing new signalized control or roundabout, or adding ITS components X - project roadway is considered unreliable
		Reduce On-Road Mobile Source Emissions	X - project is potentially eligible for CMAQ funding (reduce emissions)
		Improve Truck Travel Time Reliability on both Interstate and Non-Interstate NHS	X - project is along an established primary freight route (or) XX - project is on a primary freight route and reducing average freight delay
SECURITY	Enhance the Transportation Security Coordination and Preparedness Regionwide	Evacuation Routes Established as Primary; Vulnerable roadway specified within Hazard Mitigation/MVP Plan	X - project roadway is a primary established evacuation route X - project roadway is listed in the town's Hazard Mitigation Plan as a potential hazardous location
MULTIMODALITY	Improve and/or Expand Transportation Accessibility for all Modes (Bicycle, Pedestrian, Transit) in the Region	Increase # of ADA-Compliant Ramps and Reduce Mileage of Sidewalks in Poor Condition	X - project is improving existing sidewalks or building new sidewalks X - project is improving existing ADA ramps or building new ADA ramps
		Increase Bike Lane Mileage and Infrastructure; Improve accessibility to Bus Routes	X - project is increasing bike lane mileage and infrastructure X - project is improving accessibility to fixed route transit
	Increase the Number of Communities with Complete Streets Policies	Incorporate Complete Streets Prioritization Plan Roadways into TIP Projects	X - the project roadway is included in the community's approved prioritization plan
SUSTAINABILITY	Combat sprawl and its effects	Project provides opportunities to avoid, minimize, or mitigate environmental effects in a PDA area	X - project is within a PDA area X - project includes extensive environmental mitigation work
EQUITY	Assure that Improvements are Fairly Distributed among Populations, Towns and Subregions	Equitable TIP Project Distribution; Increase Percent of EJ and Vulnerable Population that can Access Transit Service	X - project is within an identified EJ or vulnerable population area X - project is within a community that is below the average per capita of distributed TIP target funds.
ECONOMIC	Make Employment Opportunities Accessible and Available Allowing for Job Expansion and Reducing Transportation Costs	Improving the accessibility to jobs in the CMMPO region.	X - project improves mobility in an area that is losing jobs access between 33rd and 66th percentile of other areas in the region (or) XX - project improves mobility in an area that is losing jobs access greater than 66th percentile of other areas in the region
STORMWATER MGMT	Create a Transportation Network that is Resilient to the Impacts of Stormwater	Consider Nature-Based Solutions for Stormwater Management; Improve Drainage or Replace/Retrofit Culverts that have either Moderate, Significant, or Severe Barriers	X - project is improving stormwater infrastructure (i.e. - drainage, culverts) (or) XX - project is improving stormwater infrastructure within a identified 100 or 500 year flood zone
TRAVEL & TOURISM	Enhance region's travel and tourism opportunities	To improve traveler access, mobility and linkages to sites of touristic value and balance the travel demand needs of area residents and visitors	X - project is improving the mobility to/from these tourist attractions/recreational areas
<p>Each X = 1pt (max total of 27)</p> <p>For the PM scoring that has a choice of either "X" or "XX", only one of the two choices can be chosen for up to a total of 2pts</p>			

CMMPO
PERFORMANCE MANAGEMENT ASSESSMENT FOR 2023-2027 TARGET PROJECTS*
Highest possible score is 27

Prog Year**	Proj ID#	Project	Sub- Region***	State of									Travel & Tourism	TOTAL SCORE
				Safety	Good Repair	Congestion	Security	Multimodality	Sustainability	Equity	Economic	Stormwater		
23-26	602659	Oxford/Charlton-Route 20	SW	2	3	5	2	4	2	1	1	2	0	22
2026	608990	Worcester - Chandler St (Phase I)	C	2	2	4	2	3	1	2	1	0	0	18
2025	608433	Webster-I-395/Rte 16/Sutton Rd	SW	2	1	4	2	3	2	1	1	1	0	17
2023	609219	Holden - Shrewsbury St/Doyle Rd	N	1	1	5	2	3	1	2	1	0	1	17
2026	610825	Shrewsbury - Route 20 Rehab	NE	2	1	4	2	4	0	2	2	0	0	17
2027	612011	Worcester - Chandler St (Phase II)	C	2	1	4	2	4	1	2	1	0	0	17
2026	609441	Northbridge - 122/Sutton/School	SE	2	1	2	2	5	1	2	1	0	0	16
2023	608873	Spencer - Meadow Rd	W	1	1	3	2	4	1	1	0	2	1	16
2026	611933	Sturbridge - R 20/131 Roundabout	SW	1	2	5	1	3	0	1	0	0	1	15
2024	608778	Southbridge - Downtown Improv	SW	2	1	3	0	4	1	2	0	0	1	14
2025	608961	Worcester - Chandler/May Sts	C	2	1	4	1	2	0	2	1	0	0	14
2027	610931	Uxbridge - Route 16 Rehab	SE	1	2	2	1	4	1	0	1	1	0	13
2024	608171	Uxbridge - Route 122 (S Main St)	SE	1	1	0	2	3	1	0	1	2	0	11
2025	609049	West Brookfield - Route 9 (Phase II)	W	1	1	1	2	2	1	0	0	2	1	11
2024	606517	West Brookfield - Route 9 (Phase 1)	W	1	1	1	2	2	1	0	0	1	1	10
2026	608456	Upton - Culvert Replacement	SE	0	1	1	1	0	2	0	2	2	0	9
2023	605035	New Braintree - Ravine/Hardwick	W	1	2	0	2	0	0	0	0	2	1	8

* Includes all ranked projects considered for programming.

** "NP" means that the project is not currently programmed.

*** Each of the 40 CMMPO communities are assigned to a subregion; C = Central, N = North, NE = Northeast, SE = Southeast, SW = Southwest, and W = West.

Project Selection Information

TIP project priorities, as recommended by the CMMPO Advisory Committee, allow for the selection of projects that can most effectively and efficiently utilize the defined federal-aid target funding available to the region to improve system performance while maintaining financial constraint. These priorities are derived from the ongoing public outreach efforts conducted by the CMMPO and brought forth from both the CMMPO Advisory Committee and the WRTA's Advisory Board. Justification is often supported by various planning studies, completed either by staff or hired consultants, which provide both quantitative and qualitative data. The following is a summary of the additional information used in the selection and programming of projects.

- **Regional Equity:** All communities within the CMMPO region are provided equal opportunity to be included in the annual TIP development process. Staff strongly considers communities that have had none or very few programmed projects over time as well as the total amount of federal funds allocated towards their recent projects.
- **Long Range Transportation Plan (LRTP):** The scope of *Mobility2040: Update for 2020* encompasses the region's entire multimodal transportation network. Projects included in the CMMPO TIP are consistent with LRTP priorities. Revised every four years, the current LRTP was updated in FFY 2019, received federal approval, and went into effect on 10/1/19. Notably, an extensive, targeted public outreach process accompanied the development of the LRTP update. Reflective of the current LRTP, this TIP includes improvement projects that are intended to meet established Performance Targets that reduce congestion, improve pavement and reduce vehicle crashes as well as support modal shift to healthy options such as public transit, bicycling and walking.

A range of listed transportation project needs are included in the comprehensive LRTP in order to be eligible for eventual inclusion in the TIP project listings. The LRTP provides an overview of both the existing and future projected condition of all major modes of transportation in the region, including intermodal activities. This allowed for the compilation of a listing of identified needs for all transportation modes in the planning region.

When developing *Mobility2040: Update for 2020*, the CMMPO established "Five Programs" to better address the region's identified transportation needs. In consideration of financial constraint, it is imperative to prioritize potential investments and scrutinize eligible projects based on their ability to advance both the state's and the region's goals. The Five Programs and expected financial percentages for target projects are 1) Asset Management & System Operations (50.2%), 2) Transit Planning & Mobility Management (3.8%), 3) Livability & Healthy Transportation (15.4%), 4) Climate Change

& Resiliency (7.7%), and 5) Major Infrastructure (22.8%). Based on the previously shown Regional Target Projects Relationship table, the federal-aid target projects programmed in the 2023-2027 TIP were assigned to one of the five LRTP-established program areas. The results showed that 23.1% of target funds were used in Asset Management & System Operations, 18.6% of the funds in Transit Planning & Mobility Management, 33.6% in Livability & Healthy Transportation, 5.9% in Climate Change & Resiliency, and 18.8% in Major Infrastructure.

- **Environmental Consultation:** An annual effort, staff engages the environmental community and other stakeholders in discussions regarding key areas of environmental concern associated with the TIP program, focusing on avoiding, minimizing and mitigating potential adverse impacts. Staff continues to consider existing conservation, economic, historic and land use plans when projects are being screened for TIP programming. Previously established GIS-based “Environmental Profile” maps are used to provide an analytical aspect to both the environmental advantages and challenges present in the planning region. There are five map layers commonly used. These layers are DEP (wetlands), DCR (land use), NHESP (vernal pools & rare species habitats), flood zones, and vulnerable culverts.

As part of the initiation process for new projects, MassDOT’s Massachusetts Project Intake Tool (MaPIT) allows authorized users to specify anticipated project limits in order to analyze the project area using various data layers, including environmental. This data helps to identify any concerns or deficiencies within the project area prior to beginning the design process.

- **Management Systems:** Materials available through the Management Systems maintained by the CMMPO planning staff and MassDOT are used to measure anticipated improvements from projects selected for the TIP programming:
 - **Congestion Management Process (CMP)** - The regional CMP monitors key roadway segments, critical intersections, identified bottlenecks, and MassDOT-maintained Park and Ride facilities. Staff produces a *CMP Progress Report* on an annual basis. Projects programmed on the TIP are often affirmed through this process. Since its inception, the support of the CMP has led to the programming of a significant number of projects funded and implemented through the TIP.
 - **Pavement** - MassDOT oversees the condition and repair needs of the state-maintained network of highways. The regional staff offers pavement services and assistance to member communities for town-maintained state numbered routes and locally-maintained roadways.
 - **Safety** - Data is maintained by MassDOT and supported by vehicle crash report information compiled from various statewide sources. For the state’s ongoing

Highway Safety Improvement Program (HSIP), a “Top 200 Crash Location” listing is compiled and provided to each planning region. Staff considers these top crash locations for HSIP funding on the TIP. Notably, the CMMPO staff regularly participates in Road Safety Audits (RSA) held throughout the region.

- **Bridge** - This information is maintained by MassDOT-Boston and supported by bridge inspection reports compiled by the five MassDOT District offices. Structurally Deficient (SD) bridges are highlighted within the bridge listing provided to the regions. MassDOT prioritizes identified “SD” structures in need of attention on a statewide basis, seeking programming in the regional TIPs.

Other related activities include:

- **Transit Planning** - Staff works closely with the WRTA to identify capital and operations needs for both fixed-route transit and complimentary paratransit services. The WRTA Advisory Board oversees this process. Statewide guidance concerning transit documentation is often provided by MassDOT OTP based on FTA regulation.
- **Freight Planning** – MassDOT’s State Rail Plan and State Freight Plan identified a number of freight-related issues and priorities. Regional staff is often requested to assist in such efforts, having forged relationships with a number of local freight transportation providers and intermodal facility operators. A regional *Freight Planning Progress Report* is compiled on a periodic basis.
- **Traffic Monitoring** - A comprehensive annual traffic count program is conducted by the planning staff. The regional count program is supplemented by traffic volume data collected by MassDOT on the Interstate System and other major roadways.
- **Travel Time Reliability:** Included in federally-required PM3, a Level of Travel Time Reliability (LOTTR) is calculated to determine the reliability of highway segments on the Interstate and non-Interstate National Highway System (NHS). Data is available on the RITIS platform and can be analyzed either statewide or regionally. RITIS data shows whether a roadway segment is reliable or unreliable. Identified unreliable segments could be considered candidates for potential TIP projects. (This data is used within the project scoring criteria that was previously discussed.)
- **Corridor Profiles:** Screened and prioritized by the CMMPO, these efforts utilize regional travel demand modeling in order to develop future traffic volume projections. Included in the UPWP, staff has completed a series of “Corridor Profile” efforts, streamlined studies that combine the results of the ongoing Management Systems. These studies result in the compilation of a comprehensive listing of improvement options to be considered by the host communities. In turn, a number of communities have sought TIP

programming to implement the improvements suggested in their respective Corridor Profile studies.

- **Competitive Programs:** As necessary, staff conducts the regional solicitation and eligibility screening process for a number of specially funded program categories, such as Transportation Alternatives Program (TAP). Projects selected through a regional process, overseen by the CMMPO and subsequently approved by MassDOT OTP, will be eligible for potential TIP programming.
- **Reliability of TIP Project Delivery:** MassDOT OTP and MassDOT Highway Division continue efforts to improve project delivery within the STIP. The CMMPO staff assists MassDOT in contacting project proponents and consultants, seeking current design status or other pertinent information. Also, if necessary, staff can facilitate virtual or in-person meetings to discuss project design, environmental or right-of-way concerns.
- **Ladders of Opportunity:** Access to essential services. As part of the TIP development process, candidate projects that address identified transportation connectivity gaps in access to essential services are, as applicable, considered by the CMMPO. Essential services include housing, employment, health care, schools/education, and recreation.
- **TIP Micro-Projects Program:** As mentioned above, the CMMPO established Five Programs in the LRTP to more fully address the region's transportation needs. In addition to using TIP funds for traditional projects such as roadway or intersection improvements, another approach currently being pursued is the further development of the "Micro-Projects" Program that enables the flexible use of regional federal-aid target funding for other "non-traditional" projects.

A Micro-Project is a low cost transportation improvement project that is aligned with the CMMPO's goals and objectives as outlined in Mobility2040. These projects address regional, sub-regional or local priorities. They are envisioned as a way to support congestion relief efforts, address connectivity gaps as well as first-last mile connections while reducing emissions. Micro-Projects present an opportunity to maximize the impact in our region's communities and distribute the benefits of transportation projects equitably in the region.

The CMMPO has set-aside \$400,000 in the 2026 and 2027 TIP years for these types of projects. These funds can be used for capital purchases and transit operation costs. Project proponents have to cover installation costs or administration costs.

Operation funds are only available for mobility management and new transit services, including new fixed-route, microtransit, on-demand transportation, carsharing services, transportation services for older adults, employer's shuttles and partnerships with

transportation network companies. Proponents can request funds for multiple years, but they need to show a path to financial sustainability by year 3, which is typical in transit operations grants. Project proponents need to prove the air quality benefits and evaluate service performance. Municipalities and transit authorities are the eligible entities that can apply for transit operation funds under the Micro-Projects category.

In terms of the types of projects that are eligible under this program for capital purchases are bikesharing stations and bikes, bicycle parking and shelters, transit signal priority (TSP), and low/no emission vehicle acquisitions. All these projects need to demonstrate a strong public benefit including reducing emissions.

7.) Summary of Transportation Funding Programs

Congestion Mitigation and Air Quality Improvement Program (CMAQ): These funds are directed towards transportation projects and programs which reduce transportation-related emissions. These funds are to assist areas designated as nonattainment and maintenance under the Clean Air Act Amendments of 1990. These projects will contribute to meeting the attainment of National Ambient Air Quality Standards (NAAQS). Funding is 80% federal and 20% state.

Interstate Maintenance (IM): Resurfacing, restoration and rehabilitation are eligible activities for maintaining Interstate facilities. Reconstruction is also eligible if it does not add capacity. However, high-occupancy-vehicle (HOV) and auxiliary lanes can be added. Funding is 90% federal and 10% state.

Surface Transportation Block Grant Program (STBG): This program is a flexible funding program that can be used for projects that preserve and improve the conditions and performance of any federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals. Funding is 80% federal and 20% state.

Transportation Alternatives Program (TAP): The TAP provides funding for programs and projects defined as transportation alternatives, including on and off road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways. Funding is 80% federal and 20% state.

Highway Safety Improvement Program (HSIP): The HSIP requires data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. The goal of HSIP is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands. Funding is 90% federal and 10% state.

Bridges (BR): Funds the replacement or repair of structurally deficient or unsafe bridges in urban and rural areas. All bridges, both on and off the federal-aid roadway system are eligible for funding. Funding is 80 % federal and 20% state.

National Highway Performance Program (NHPP): The NHPP provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of federal-aid funds in highway construction are

directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS. NHPP projects must be on an eligible facility and support progress toward achievement of national performance goals for improving infrastructure condition, safety, mobility, or freight movement on the NHS, and be consistent with Metropolitan and Statewide planning requirements. Funding is 80% federal and 20% state.

National Highway Freight Program (NHFP): The purpose, among other goals, of the NHFP is to improve efficient movement of freight on the National Highway Freight Network (NHFN). Funding is 80% federal and 20% state.

High Priority Projects (HPP): HPP are congressionally earmarked projects that have been deemed as a high priority for the state where the project is located. Funding is 80% federal and 20% state.

Earmarks: Certain funding categories are investment-specific, i.e., funds are "earmarked" only for use in the development of a particular investment. This practice has ended in Congress, though some earmarks are still available for certain designated investments, and there are continued discussions of their inclusion in future authorizations. Previous earmark funding included: Section 115, Section 117, Section 125, and Section 129

Highway Infrastructure Program (HIP): HIP is a flexible funding source with the same eligibility and similar sub-allocation to STBG funding, and also comes with its own obligation limitation.

Coronavirus Response and Relief Supplemental Appropriations Act (CRRSAA): This funding has been provided to address coronavirus disease 2019 (COVID-19) impacts related to Highway Infrastructure Programs. CRRSAA funding can be used for up to 100% of the federal share of a project.

Next Generation Bridge Program (NGBP): These projects are advertising construction in the MPO region during the five-year TIP window with state funding, and will be paid down by Grant Anticipation Notes (GANS) debt repayments in future years.

Non-Federal Aid (NFA): This funding category contains all those projects not receiving federal funds. Various categories of state funding are included in this group including bikeways, State Aid (Chapter 90), and highway construction and maintenance (Chapter 497). This category is included in the TIP for informational purposes only. Funding is 100% state.

Transportation Bond Bill Funding: The Massachusetts Legislature passes transportation bond bills to provide state resources for investments in our transportation system. This provides the Commonwealth with authorization to issue bonds to support transportation capital

expenditures. Such expenditures include matching funds for federally-funded STIP investments, both highway and transit, and Chapter 90 reimbursement funds for local transportation projects.

Section 5307 Urbanized Area Formula Funding Program: 5307 program funds are used for public transportation capital and operating assistance and for transportation-related planning. Eligible activities include planning, engineering design, capital investments in bus and bus-related activities, crime prevention and security equipment, construction of maintenance and passenger facilities, and capital investments in new and existing fixed route guideway systems including rolling stock, the overhaul and rebuilding of vehicles, track, signals, communications, and computer hardware and software.

Section 5337 State of Good Repair Grants: 5337 is formula-based State of Good Repair program that provides capital assistance for maintenance, replacement, and rehabilitation projects of high-intensity fixed guideway and bus systems to help transit agencies maintain assets in a state of good repair. Additionally, SGR grants are eligible for developing and implementing Transit Asset Management plans.

Section 5339 Bus and Bus Facilities: Section 5339 is formula-based capital program to replace, rehab, and purchase buses and related equipment; funds can also be used to construct bus related facilities.

8.) Amendment/Modification Procedures

Regional Overview

The TIP is considered a “living” document and, as such, often needs to be modified during the course of the year. The definitions and procedures outlined in this section are followed when project-based revisions to the TIP are necessary.

This section includes the definitions of the revision procedures for both highway and transit. These procedures are the same as what was included in the 2022-2026 TIP. The information in this section provides details about each type of revision so the public as well as the CMMPO are better informed of the process. The tables below describes MassDOT’s amendment and adjustment procedures that are used within the State Transportation Improvement Program (STIP), which the Central Massachusetts Metropolitan Planning Organization (CMMPO) by virtue of its endorsement of the FFY 2023 - FFY 2027 Transportation Improvement Program (TIP) agrees to the following definitions regarding *Amendments*, *Adjustments* and *Administrative Modifications* to the TIP when revisions are required for projects within the Central Massachusetts region:

Definitions of TIP Revision Procedures

Amendment: a revision to the Transportation Improvement Program (TIP) that requires public review and demonstration of financial constraint. The public process for a TIP amendment requires a publicly advertised 21-day public comment period and for the CMMPO to address any public commentary prior to forwarding to MassDOT – Office of Transportation Planning for review and approval.

Adjustment: a revision to the TIP that does not require a public process, but that is required to be included in a CMMPO TIP action with a demonstration of financial constraint for MassDOT – Office of Transportation Planning review and approval.

Administrative Modification: a revision to the TIP that is minor enough in nature to require neither a public process nor CMMPO approval, but that does involve a notification to MassDOT – Office of Transportation Planning.

Highway Project TIP Revision Definitions and Procedures

Type of Revision	Definition	Procedure	Notes
Major Project Cost Change	Increase or decrease of \$500,000 or greater for projects programmed under \$5,000,000 and greater than 10% of the total cost for projects programmed over \$5,000,000.	Amendment	The “increase” or “decrease” in cost is relative to the Total Federal Participating Cost (TFPC) of a project.
Minor Project Cost Change	Increase or decrease of \$499,999 or less for projects programmed under \$5,000,000 and less than 10% of the total cost for projects programmed over \$5,000,000.	Adjustment	See above.
Project Description Change	Change in the description of the project as it is listed in the STIP.	Adjustment or Administrative Modification	Project description changes are treated as administrative modifications for minor changes (e.g. spelling errors, more detailed descriptions, adding mile-markers, etc.).
Major Project Scope Change	A revision to the project scope large enough to necessitate an additional review by MassDOT’s Project Review Committee (PRC) – typically accompanied by major project cost change.	Amendment	In some cases, a major scope change will require the initiation of a new project through MassDOT’s Project Initiation Form (PIF), and review/approval by PRC. This would require deactivation and removal of the currently programmed project.
Minor Project Scope Change	A minor revision to the project scope that does not significantly alter the original PRC-approved scope of work.	Adjustment	In many cases, changes in this category will also include a minor cost change.
Project Addition	The programming of a new project in any federal fiscal year of the active TIP.	Amendment or Adjustment	Project additions are treated as amendments if the project was not part of any previously approved STIP that has been vetted through the public process.
Project Removal	The removal of a project in any federal fiscal year of the active TIP.	Amendment	Exception: if a project is removed from an active TIP or the STIP due to it being previously advanced/advertised, or is moved to the statewide list from a regional TIP, the action would be considered an adjustment.
Change in Funding Source	A change in the project’s funding source, including federal and non-federal sources which fall within the project cost change revisions listed above.	Adjustment	Changes in funding sources for projects are permissible for advertisement purposes if the FHWA Division Office has been consulted.
Change in Additional Information	A change in any item listed in the “Additional Information” column of the STIP not covered in any other item listed here (e.g. earmark details, project proponent, etc.)	Administrative Modification	N/A
Change in Year of Programming	Moving a currently programmed project earlier or later than an originally programmed year.	Amendment	Changes to a project delivery schedule (advancement or delay) requires an amendment for the change in programmed FFY.

Transit Project TIP Revision Definitions and Procedures

Type of Revision	Definition	Procedure	Notes
Major Project Cost Change	Increase or decrease of \$500,000 or greater for projects under \$5,000,000 and greater than 10% of the total cost for projects exceeding \$5,000,000.	Amendment	The “increase” or “decrease” in cost is relative to the combined federal and non-federal aid participating cost of the project.
Minor Project Cost Change	Increase or decrease of \$499,999 or less for projects under \$5,000,000 and less than 10% of the total cost for projects exceeding \$5,000,000.	Adjustment	See above.
Project Description Change	Change in the description of the project as it is listed in the STIP.	Adjustment or Administrative Modification	Project description changes are treated as administrative modifications for minor changes (e.g. spelling errors, more detailed descriptions, etc.).
Major Project Scope Change	A revision to the project scope deemed large enough to require public review and comment (e.g. changing the number of stations)	Amendment	In many cases, changes in this category will also include a major cost change.
Minor Project Scope Change	A minor revision to the project scope that does not significantly alter the original scope of work (e.g. changes to the bus model for vehicle replacement projects).	Adjustment	In many cases, changes in this category will also include a minor cost change.
Project Addition	The programming of a new project in any federal fiscal year of the current TIP.	Amendment or Adjustment	Project additions are treated as amendments if the project was not part of any previously approved STIP that has been vetted through the public process.
Project Removal	The removal of a project in any federal fiscal year of the current TIP.	Amendment	Exception: if a project is removed from a TIP or the STIP due to it being previously advanced/advertised, or is moved to the statewide list from a regional TIP, the action would be considered an adjustment.
Change in Funding Source	Change in the funding source, including federal and non-federal sources that fall within project cost change revisions listed in the first two rows.	Adjustment	Changes in funding sources for projects are permissible for obligation purposes with written notice from the FTA region office.
Change in Year of Programming	Moving a currently programmed project earlier or later than the originally programmed year.	Amendment or Adjustment	<p>Note: Federal funds shall be programmed in the federal fiscal year in which the award will occur.</p> <p>Changes in year of programming are only treated as adjustments if they involve advancing federal funds to align with the year of the grant award.</p>

Exceptions

Although MassDOT & CMMPO typically holds a 21-day public comment period for amendments, in the event of extenuating circumstances beyond the agency's control, the comment period may be shortened or waived in consultation with FHWA Division Office and/or the FTA Regional Office. Additionally, MassDOT may make exceptions to the procedures outlined above and treat amendments as adjustments and/or adjustments as administrative modifications, however these exceptions will also require coordination with and concurrence by MassDOT's federal partners and the affected MPO.

Part B: Federal Requirements

The first part of this section includes the financial plan which includes the project listing for both highway and transit. Following the financial plan, there is a description of Environmental Justice (EJ) and an equity analysis of programmed TIP projects between 2012 and 2027. Next, an Air Quality Conformity summary is provided which is then followed by status update tables for both FFY 2022 highway and transit TIP projects.

1.) Financial Plan

- Highway Related Project Listing (FHWA) – *YOE adjustments 4% per year*
- Transit Related Project Listing (FTA)

2.) Environmental Justice

3.) TIP Equity Analysis

4.) Air Quality Conformity Information

5.) Status of FY 2022 Projects: Highway & Transit

1.) TIP Financial Plan

Highway

MassDOT receives a funding “authorization” or estimate of total available federal funding from the Federal Highway Administration (FHWA). In recent years, this authorization has been approximately \$600 million, though this has increased under the new Bipartisan Infrastructure Law (BIL) authorization. Each year, Congress reviews the highway authorization during its budgeting process and sets a ceiling on how much can be spent from that authorization. This ceiling, called an “obligation limitation”, establishes the most MassDOT can spend in federal funding each year.

A portion of the federal highway funding allocated to Massachusetts is automatically held for the repayment of the Commonwealth’s Accelerated Bridge Program, which was a program that was established to significantly reduce the number of structurally deficient bridges statewide. Additionally, a certain amount of funding is dedicated for statewide activities such as planning and adjustments. Approximately one-third of the target funds available are dedicated to MPOs for regional priority projects. This distribution is determined according to a formula that is primarily based on each MPO’s road mileage and population. The formula for distribution among the MPOs was developed by the Massachusetts Association of Regional Planning Agencies (MARPA), and is known as the “MARPA formula”.

Below is a summary table covering the entire Central Massachusetts planning region which compares anticipated available funding (regional target funding through MassDOT OTP) to the total amount of funding programmed for CMMPO-prioritized projects included in the 2023-2027 TIP’s highway-related project listing. Additionally, a 4% “year of expenditure” cost increase per year has been calculated for each project after 2023. For example, projects in 2024 were increased 4% from the current estimated cost and, accordingly, in 2027 there was an increase of 16%. The following table, which was produced for inclusion in this TIP document based *only* on reasonably anticipated funding expected to be available to the planning region, fully demonstrates that the CMMPO TIP can be implemented while also maintaining necessary financial constraint for each of the TIP’s five (5) fiscal years. As can be seen in the table, the total programmed funds for each year is below the total funding targets allocated to the CMMPO, demonstrating financial constraint.

In the TIP highway project listing, the Next Generation Bridge Program (NGBP) projects are advertising construction during the five-year TIP window with state funding, and will be paid down by Grant Anticipation Notes (GANS) debt repayments in future years.

2023 – 2027 TIP Highway Funding for Target Projects

Funding Source	2023	2024	2025	2026	2027
Highway Safety Improvement Program (HSIP)	\$0	\$883,756	\$1,000,000	\$7,254,280	\$4,877,800
Congestion Mitigation & Air Quality (CMAQ)	\$6,500,000	\$2,000,000	\$2,776,050	\$0	\$0
Transportation Alternatives Program (TAP)	\$0	\$488,386	\$0	\$400,000	\$400,000
Surface Transportation Block Grant (STBG)	\$18,956,891	\$17,642,536	\$14,771,423	\$10,176,392	\$7,250,696
Total Programmed Funds:	\$25,456,891	\$21,014,678	\$18,547,473	\$17,830,672	\$12,528,496
Total Funding Target:	\$26,080,166	\$26,423,388	\$25,974,513	\$25,339,043	\$26,706,171
Remaining Funds:	\$623,275	\$5,408,710	\$7,427,040	\$7,508,371	\$14,177,675



Central Mass Region Program

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds	Other Information
Federal Fiscal Year 2023							\$63,971,155	\$51,176,924	\$12,794,231	
Section 1A / Regionally Prioritized Projects							\$25,456,891	\$20,365,513	\$5,091,378	
Roadway Reconstruction							\$25,456,891	\$20,365,513	\$5,091,378	
2023	602659	Central Mass	Multiple	CHARLTON- OXFORD- RECONSTRUCTION ON ROUTE 20, FROM RICHARDSON'S CORNER EASTERLY TO ROUTE 12, INCLUDES REHAB OF C-06-023 & REPLACEMENT OF O-06-002	3	STBG	\$1,768,000	\$1,414,400	\$353,600	Construction, Total Project Cost = \$77,456,524, Project is AC'd between 2022 and 2025, PM Score = 22, Design Status = 25%
2023	605035	Central Mass	New Braintree	NEW BRAINTREE- RECONSTRUCTION & IMPROVEMENTS ON RAVINE ROAD AND HARDWICK ROAD FROM HARDWICK T.L. TO ROUTE 67 (BARRE RD) (2.6 MILES)	2	STBG	\$4,604,934	\$3,683,947	\$920,987	Construction, Total Project Cost = \$4,604,934, Design Status = 100%, PM Score = 8
2023	608873	Central Mass	Spencer	SPENCER- ROADWAY REHABILITATION OF MEADOW ROAD	3	CMAQ	\$2,500,000	\$2,000,000	\$500,000	Construction, CMAQ + STBG Total Project Cost = \$9,541,836, Design Status = 25%, PM Score = 16
2023	608873	Central Mass	Spencer	SPENCER- ROADWAY REHABILITATION OF MEADOW ROAD	3	STBG	\$7,041,836	\$5,633,469	\$1,408,367	Construction, CMAQ + STBG Total Project Cost = \$9,541,836, Design Status = 25%, PM Score = 16
2023	609219	Central Mass	Holden	HOLDEN- PAVEMENT REHABILITATION ON MAIN STREET, SHREWSBURY STREET AND DOYLE ROAD, FROM STATE POLICE BARRACKS TO BRATTLE STREET	3	CMAQ	\$4,000,000	\$3,200,000	\$800,000	Construction, CMAQ + STBG + Statewide STBG = \$10,542,121, Design Status = 25%, PM Score = 17
2023	609219	Central Mass	Holden	HOLDEN- PAVEMENT REHABILITATION ON MAIN STREET, SHREWSBURY STREET AND DOYLE ROAD, FROM STATE POLICE BARRACKS TO BRATTLE STREET	3	STBG	\$5,542,121	\$4,433,697	\$1,108,424	Construction, CMAQ + STBG + Statewide STBG = \$10,542,121, Design Status = 25%, PM Score = 17
CMAQ Programmed							\$6,500,000	\$5,200,000	\$1,300,000	
STBG Programmed							\$18,956,891	\$15,165,513	\$3,791,378	
Total Programmed for Central Mass Region Projects							\$25,456,891	\$20,365,513	\$5,091,378	
Program Target for Central Mass Region Projects							\$26,080,166	\$20,864,133	\$5,216,033	
Target Funds Available for Central Mass Region Projects							\$623,275	\$498,620	\$124,655	

Central Mass Region Program

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds	Other Information
Federal Fiscal Year 2023							\$63,971,155	\$51,176,924	\$12,794,231	
Section 1B / Earmark or Discretionary Grant Funded Projects							\$3,570,596	\$2,856,477	\$714,119	
Bridge Systematic Maintenance NB							\$3,570,596	\$2,856,477	\$714,119	
2023	612650	Central Mass	Worcester	WORCESTER- BRIDGE PRESERVATION, W-44-111, W-44-113, W-44-114, I -290 (EB/WB) OVER LINCOLN STREET, COLBY AVENUE AND PLANTATION STREET	3	HIP-BR	\$3,570,596	\$2,856,477	\$714,119	Construction, Total Project Cost = \$3,570,596, Design Status = Approved
Section 2A / State Prioritized Reliability Projects							\$3,143,668	\$2,514,934	\$628,734	
Safety Improvements							\$1,000,000	\$800,000	\$200,000	
2023	609219	Central Mass	Holden	HOLDEN- PAVEMENT REHABILITATION ON MAIN STREET, SHREWSBURY STREET AND DOYLE ROAD, FROM STATE POLICE BARRACKS TO BRATTLE STREET	3	STBG	\$1,000,000	\$800,000	\$200,000	Construction, CMAQ + STBG + Statewide STBG = \$10,542,121, Design Status = 25%, PM Score = 17
Bridge Off-system							\$2,143,668	\$1,714,934	\$428,734	
2023	610826	Central Mass	Sturbridge	STURBRIDGE- BRIDGE REPLACEMENT, S-30-019, CHAMPEAUX ROAD OVER LONG POND	3	STBG-BR-Off	\$2,143,668	\$1,714,934	\$428,734	Construction, Total Project Cost = \$2,143,668, Design Status = 75%
Section 2B / State Prioritized Modernization Projects							\$31,800,000	\$25,440,000	\$6,360,000	
Roadway Reconstruction							\$31,800,000	\$25,440,000	\$6,360,000	
2023	602659	Central Mass	Multiple	CHARLTON- OXFORD- RECONSTRUCTION ON ROUTE 20, FROM RICHARDSON'S CORNER EASTERLY TO ROUTE 12, INCLUDES REHAB OF C-06-023 & REPLACEMENT OF O-06-002	3	NHPP	\$31,800,000	\$25,440,000	\$6,360,000	Construction, Total Project Cost = \$77,456,524, Project is AC'd between 2022 and 2025, PM Score = 22, Design Status = 25%

Central Mass Region Program

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds	Other Information
Federal Fiscal Year 2024							\$126,055,916	\$102,038,840	\$24,017,076	
Section 1A / Regionally Prioritized Projects							\$21,014,678	\$16,900,118	\$4,114,560	
Roadway Reconstruction							\$15,597,165	\$12,477,732	\$3,119,433	
2024	606517	Central Mass	West Brookfield	WEST BROOKFIELD- RESURFACING & RELATED WORK ON ROUTE 9, FROM WARE T.L. TO 850' WEST OF WELCOME ROAD (1.1 MILES - PHASE I)	2	STBG	\$7,194,307	\$5,755,446	\$1,438,861	Construction, Total Project Cost = \$7,194,307, Design Status = 100%, PM Score = 10, YOE = 4%
2024	608171	Central Mass	Uxbridge	UXBRIDGE- RECONSTRUCTION OF ROUTE 122 (SOUTH MAIN STREET), FROM SUSAN PARKWAY TO ROUTE 16	3	STBG	\$7,914,472	\$6,331,578	\$1,582,894	Construction, STBG + TAP Total Project Cost = \$8,402,858, Design Status = 100%, PM Score = 11, YOE = 4%
2024	608171	Central Mass	Uxbridge	UXBRIDGE- RECONSTRUCTION OF ROUTE 122 (SOUTH MAIN STREET), FROM SUSAN PARKWAY TO ROUTE 16	3	TAP	\$488,386	\$390,709	\$97,677	Construction, STBG + TAP Total Project Cost = \$8,402,858, Design Status = 100%, PM Score = 11, YOE = 4%
Intersection Improvements							\$5,417,513	\$4,422,386	\$995,127	
2024	608778	Central Mass	Southbridge	SOUTHBRIDGE- INTERSECTION IMPROVEMENTS AT CENTRAL STREET, FOSTER STREET, HOOK STREET AND HAMILTON STREET	3	CMAQ	\$2,000,000	\$1,600,000	\$400,000	Construction, CMAQ + HSIP + STBG Total Project Cost = \$5,417,513, Design Status = 75%, PM Score = 14, YOE = 4%
2024	608778	Central Mass	Southbridge	SOUTHBRIDGE- INTERSECTION IMPROVEMENTS AT CENTRAL STREET, FOSTER STREET, HOOK STREET AND HAMILTON STREET	3	HSIP	\$883,756	\$795,380	\$88,376	Construction, CMAQ + HSIP + STBG Total Project Cost = \$5,417,513, Design Status = 75%, PM Score = 14, YOE = 4%
2024	608778	Central Mass	Southbridge	SOUTHBRIDGE- INTERSECTION IMPROVEMENTS AT CENTRAL STREET, FOSTER STREET, HOOK STREET AND HAMILTON STREET	3	STBG	\$2,533,757	\$2,027,006	\$506,751	Construction, CMAQ + HSIP + STBG Total Project Cost = \$5,417,513, Design Status = 75%, PM Score = 14, YOE = 4%
CMAQ Programmed							\$2,000,000	\$1,600,000	\$400,000	
HSIP Programmed							\$883,756	\$795,380	\$88,376	
STBG Programmed							\$17,642,536	\$14,114,029	\$3,528,507	
TAP Programmed							\$488,386	\$390,709	\$97,677	
Total Programmed for Central Mass Region Projects							\$21,014,678	\$16,900,118	\$4,114,560	
Program Target for Central Mass Region Projects							\$26,423,388	\$21,138,710	\$5,284,678	
Target Funds Available for Central Mass Region Projects							\$5,408,710	\$4,238,592	\$1,170,118	

Central Mass Region Program

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds	Other Information
Federal Fiscal Year 2024							\$126,055,916	\$102,038,840	\$24,017,076	
Section 1B / Earmark or Discretionary Grant Funded Projects							\$4,952,272	\$4,355,674	\$596,598	
Bridge On-system Non-NHS NB							\$2,982,990	\$2,386,392	\$596,598	
2024	609179	Central Mass	Spencer	SPENCER- BRIDGE REPLACEMENT, S-23-012, NORTH SPENCER ROAD (ROUTE 31) OVER THE SEVEN MILE RIVER	3	HIP-BR	\$2,982,990	\$2,386,392	\$596,598	Construction, Total Project Cost = \$2,982,990, Design Status = Approved, YOY = 4%
Earmark Discretionary							\$1,969,282	\$1,969,282	\$0	
2024	610535	Central Mass	Worcester	WORCESTER- PEDESTRIAN AND BICYCLE IMPROVEMENTS ON PLEASANT STREET	3	CRRSAA	\$1,969,282	\$1,969,282	\$0	Construction, Total Project Cost = \$1,969,282, Design Status = Approved, YOY = 4%
Section 2A / State Prioritized Reliability Projects							\$75,426,955	\$60,341,564	\$15,085,391	
Non-Interstate Pavement							\$35,059,482	\$28,047,586	\$7,011,896	
2024	608490	Central Mass	Upton	UPTON- RESURFACING AND RELATED WORK ON ROUTE 140 AND ROUNDABOUT CONSTRUCTION AT ROUTE 140, CHURCH STREET AND GROVE STREET	3	NHPP	\$8,050,057	\$6,440,046	\$1,610,011	Construction, Total Project Cost = \$8,050,057, Design Status = 25%, YOY = 4%
2024	608491	Central Mass	Mendon	MENDON- RESURFACING AND RELATED WORK ON ROUTE 16	3	NHPP	\$11,747,253	\$9,397,802	\$2,349,451	Construction, Total Project Cost = \$11,747,253, Design Status = 25%, YOY = 4%
2024	608814	Central Mass	Spencer	SPENCER- RESURFACING AND RELATED WORK ON ROUTE 9	3	NHPP	\$9,958,172	\$7,966,538	\$1,991,634	Construction, Total Project Cost = \$9,958,172, Design Status = 25%, YOY = 4%
2024	612098	Central Mass	Multiple	UPTON- HOPEDALE- RESURFACING AND RELATED WORK ON ROUTE 140	3	NHPP	\$5,304,000	\$4,243,200	\$1,060,800	Construction, Total Project Cost = \$5,304,000, Design Status = Approved, YOY = 4%
Bridge Off-system							\$23,085,294	\$18,468,235	\$4,617,059	
2024	608640	Central Mass	Sutton	SUTTON-GRAFTON- BRIDGE RECONSTRUCTION/REHABILITATION, S-33-004, CARRYING DEPOT STREET OVER THE BLACKSTONE RIVER	3	STBG-BR-Off	\$4,482,936	\$3,586,349	\$896,587	Construction, Total Project Cost = \$4,482,936, Design Status = 25%, YOY = 4%
2024	608862	Central Mass	Southbridge	SOUTHBRIDGE- BRIDGE REPLACEMENT, S-21-009, MILL STREET OVER MCKINSTRY BROOK & S-21-003, MILL STREET OVER THE QUINEBAUG RIVER	3	STBG-BR-Off	\$4,528,755	\$3,623,004	\$905,751	Construction, Total Project Cost = \$4,528,755, Design Status = Approved, YOY = 4%

Central Mass Region Program

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds	Other Information
Federal Fiscal Year 2024							\$126,055,916	\$102,038,840	\$24,017,076	
2024	609185	Central Mass	Worcester	WORCESTER- BRIDGE RECONSTRUCTION OF W-44-083, HARRISON STREET OVER I-290 & W-44-093, LAUREL STREET OVER I-290	3	STBG-BR-Off	\$14,073,603	\$11,258,882	\$2,814,721	Construction, Total Project Cost = \$14,073,603, Design Status = Approved, YOE = 4%
Bridge On-system NHS							\$11,302,179	\$9,041,743	\$2,260,436	
2024	609186	Central Mass	Dudley	DUDLEY - BRIDGE REPLACEMENT, D-12-026, STATE ROUTE 131 OVER THE QUINEBAUG RIVER	3	NHPP	\$11,302,179	\$9,041,743	\$2,260,436	Construction, Total Project Cost = \$11,302,179, Design Status = Approved, YOE = 4%
Interstate Pavement							\$5,980,000	\$4,784,000	\$1,196,000	
2024	612087	Central Mass	Auburn	AUBURN- RESURFACING AND RELATED WORK ON I-290 AND I-395	3	NHPP	\$5,980,000	\$4,784,000	\$1,196,000	Construction, Total Project Cost = \$5,980,000, Design Status = Approved, YOE = 4%
Section 2B / State Prioritized Modernization Projects							\$24,662,011	\$20,441,484	\$4,220,527	
Roadway Reconstruction							\$17,543,259	\$14,034,607	\$3,508,652	
2024	602659	Central Mass	Multiple	CHARLTON- OXFORD- RECONSTRUCTION ON ROUTE 20, FROM RICHARDSON'S CORNER EASTERLY TO ROUTE 12, INCLUDES REHAB OF C-06-023 & REPLACEMENT OF O-06-002	3	NHPP	\$15,000,000	\$12,000,000	\$3,000,000	Construction, Total Project Cost = \$77,456,524, Project is AC'd between 2022 and 2025, PM Score = 22, Design Status = 25%
2024	609528	Central Mass	Grafton	GRAFTON- MILLBURY STREET IMPROVEMENTS (SRTS)	3	TAP	\$2,543,259	\$2,034,607	\$508,652	Construction, Total Project Cost = \$2,543,259, Design Status = 25%, YOE = 4%
Intersection Improvements							\$7,118,752	\$6,406,877	\$711,875	
2024	607764	Central Mass	Shrewsbury	SHREWSBURY- INTERSECTION & SIGNAL IMPROVEMENT AT US 20 (HARTFORD TURNPIKE) AT GRAFTON STREET	3	HSIP	\$4,952,937	\$4,457,643	\$495,294	Construction, Total Project Cost = \$4,952,937, Design Status = 25%, YOE = 4%
2024	608757	Central Mass	Worcester	WORCESTER- INTERSECTION IMPROVEMENTS AT WEST MOUNTAIN STREET AT I-190 FRONTAGE ROAD & BROOKS STREET EXTENSION	3	HSIP	\$2,165,815	\$1,949,234	\$216,582	Construction, Total Project Cost = \$2,165,815, Design Status = 25%, YOE = 4%

Central Mass Region Program

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds	Other Information
Federal Fiscal Year 2025							\$83,845,908	\$31,767,351	\$52,078,557	
Section 1A / Regionally Prioritized Projects							\$18,547,473	\$14,937,978	\$3,609,495	
Roadway Reconstruction							\$8,793,242	\$7,034,594	\$1,758,648	
2025	602659	Central Mass	Multiple	CHARLTON- OXFORD- RECONSTRUCTION ON ROUTE 20, FROM RICHARDSON'S CORNER EASTERLY TO ROUTE 12, INCLUDES REHAB OF C-06-023 & REPLACEMENT OF O-06-002	3	CMAQ	\$2,776,050	\$2,220,840	\$555,210	Construction, Total Project Cost = \$77,456,524, Project is AC'd between 2022 and 2025, PM Score = 22, Design Status = 25%
2025	609049	Central Mass	West Brookfield	WEST BROOKFIELD- RESURFACING & RELATED WORK ON ROUTE 9, FROM 850' WEST OF WELCOME ROAD TO PIERCE ROAD (1 MILE - PHASE II)	2	STBG	\$6,017,192	\$4,813,754	\$1,203,438	Construction, Total Project Cost = \$6,017,192, Design Status = 75%, PM Score = 11, YOE = 8%
Intersection Improvements							\$9,754,231	\$7,903,385	\$1,850,846	
2025	608433	Central Mass	Webster	WEBSTER- INTERSECTION IMPROVEMENTS AT I-395 RAMPS (EXIT 2) AT ROUTE 16 (EAST MAIN STREET) AND SUTTON ROAD	3	STBG	\$3,273,663	\$2,618,930	\$654,733	Construction, STBG + Statewide HSIP Total Project Cost = \$7,593,663, Design Status = 25%, PM Score = 17, YOE = 8%
2025	608961	Central Mass	Worcester	WORCESTER- INTERSECTION IMPROVEMENTS ON CHANDLER STREET AND MAY STREET	3	HSIP	\$1,000,000	\$900,000	\$100,000	Construction, HSIP + STBG Total Project Cost = \$6,480,568, Design Status = 25%, PM Score = 14, YOE = 8%
2025	608961	Central Mass	Worcester	WORCESTER- INTERSECTION IMPROVEMENTS ON CHANDLER STREET AND MAY STREET	3	STBG	\$5,480,568	\$4,384,454	\$1,096,114	Construction, HSIP + STBG Total Project Cost = \$6,480,568, Design Status = 25%, PM Score = 14, YOE = 8%
CMAQ Programmed							\$2,776,050	\$2,220,840	\$555,210	
HSIP Programmed							\$1,000,000	\$900,000	\$100,000	
STBG Programmed							\$14,771,423	\$11,817,138	\$2,954,285	
Total Programmed for Central Mass Region Projects							\$18,547,473	\$14,937,978	\$3,609,495	
Program Target for Central Mass Region Projects							\$25,974,513	\$20,779,610	\$5,194,903	
Target Funds Available for Central Mass Region Projects							\$7,427,040	\$5,841,632	\$1,585,408	

Central Mass Region Program

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds	Other Information
Federal Fiscal Year 2025							\$83,845,908	\$31,767,351	\$52,078,557	
Section 2A / State Prioritized Reliability Projects							\$11,456,491	\$9,741,373	\$1,715,118	
Bridge Off-system							\$5,694,691	\$4,555,753	\$1,138,938	
2025	608851	Central Mass	Multiple	HARDWICK- NEW BRAINTREE- BRIDGE REPLACEMENT, H-08-003=N-07-002, CREAMERY ROAD OVER WARE RIVER	2	STBG-BR-Off	\$2,402,969	\$1,922,375	\$480,594	Construction, Total Project Cost = \$2,402,969, Design Status = 75%, YOE = 8%
2025	610769	Central Mass	Sutton	SUTTON- BRIDGE REPLACEMENT, S-33-002, MANCHAUG ROAD OVER MUMFORD RIVER	3	STBG-BR-Off	\$3,291,722	\$2,633,378	\$658,344	Construction, Total Project Cost = \$3,291,722, Design Status = Approved, YOE = 8%
Safety Improvements							\$5,761,800	\$5,185,620	\$576,180	
2025	610717	Central Mass	Multiple	UXBRIDGE TO WORCESTER- GUIDE AND TRAFFIC SIGN REPLACEMENT ON A SECTION OF ROUTE 146	3	HSIP	\$5,761,800	\$5,185,620	\$576,180	Construction, Total Project Cost = \$5,761,800, Design Status = Approved, YOE = 8%
Section 2B / State Prioritized Modernization Projects							\$8,320,000	\$7,088,000	\$1,232,000	
Roadway Reconstruction							\$4,000,000	\$3,200,000	\$800,000	
2025	602659	Central Mass	Multiple	CHARLTON- OXFORD- RECONSTRUCTION ON ROUTE 20, FROM RICHARDSON'S CORNER EASTERLY TO ROUTE 12, INCLUDES REHAB OF C-06-023 & REPLACEMENT OF O-06-002	3	NHPP	\$4,000,000	\$3,200,000	\$800,000	Construction, Total Project Cost = \$77,456,524, Project is AC'd between 2022 and 2025, PM Score = 22, Design Status = 25%
Intersection Improvements							\$4,320,000	\$3,888,000	\$432,000	
2025	608433	Central Mass	Webster	WEBSTER- INTERSECTION IMPROVEMENTS AT I-395 RAMPS (EXIT 2) AT ROUTE 16 (EAST MAIN STREET) AND SUTTON ROAD	3	HSIP	\$4,320,000	\$3,888,000	\$432,000	Construction, STBG + Statewide HSIP Total Project Cost = \$7,593,663, Design Status = 25%, PM Score = 17, YOE = 8%
Section 3B / Non-Federal Aid Funded							\$45,521,944	\$0	\$45,521,944	
Bridge On-system Non-NHS							\$4,316,485	\$0	\$4,316,485	
2025	612190	Central Mass	Holden	HOLDEN- BRIDGE REPLACEMENT, H-18-004, SALISBURY STREET OVER PW RAILROAD	3	NGBP	\$4,316,485	\$0	\$4,316,485	Construction, Total Project Cost = \$4,316,485, Design Status = Approved, YOE = 8%
Bridge On-system NHS							\$41,205,459	\$0	\$41,205,459	
2025	612192	Central Mass	Auburn	AUBURN- BRIDGE REPLACEMENT, A-17-038, US 20 (WB) WASHINGTON STREET OVER I-395	3	NGBP	\$13,529,400	\$0	\$13,529,400	Construction, Total Project Cost = \$13,529,400, Design Status = Approved, YOE = 8%
2025	612195	Central Mass	Worcester	WORCESTER- SUPERSTRUCTURE REPLACEMENT, W-44-091, I-290 OVER EAST CENTRAL STREET	3	NGBP	\$27,676,059	\$0	\$27,676,059	Construction, Total Project Cost = \$27,676,059, Design Status = Approved, YOE = 8%

Central Mass Region Program

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds	Other Information
Federal Fiscal Year 2026							\$82,252,738	\$48,881,034	\$33,371,704	
Section 1A / Regionally Prioritized Projects							\$17,830,672	\$14,989,966	\$2,840,706	
Roadway Improvements							\$1,003,800	\$803,040	\$200,760	
2026	608456	Central Mass	Upton	UPTON- CULVERT REPLACEMENT, MILFORD STREET (ROUTE 140) OVER UNNAMED TRIBUTARY TO CENTER BROOK	3	STBG	\$1,003,800	\$803,040	\$200,760	Construction, Total Project Cost = \$1,003,800, Design Status = Approved, PM Score = 9, YOE = 12%
Roadway Reconstruction							\$13,335,672	\$11,084,846	\$2,250,826	
2026	608990	Central Mass	Worcester	WORCESTER- INTERSECTION IMPROVEMENTS AND RESURFACING ON CHANDLER STREET, FROM MAIN STREET TO QUEEN STREET	3	HSIP	\$4,163,080	\$3,746,772	\$416,308	Construction, HSIP + STBG = \$6,163,080, Design Status = Approved, PM Score = 18, YOE = 12%
2026	608990	Central Mass	Worcester	WORCESTER- INTERSECTION IMPROVEMENTS AND RESURFACING ON CHANDLER STREET, FROM MAIN STREET TO QUEEN STREET	3	STBG	\$2,000,000	\$1,600,000	\$400,000	Construction, HSIP + STBG = \$6,163,080, Design Status = Approved, PM Score = 18, YOE = 12%
2026	611933	Central Mass	Sturbridge	STURBRIDGE- ROUNDABOUT CONSTRUCTION AT THE INTERSECTION OF ROUTE 20 AND ROUTE 131	3	STBG	\$7,172,592	\$5,738,074	\$1,434,518	Construction, Total Project Cost = \$7,172,592, Design Status = Approved, PM Score = 15, YOE = 12%
Intersection Improvements							\$3,091,200	\$2,782,080	\$309,120	
2026	609441	Central Mass	Northbridge	NORTHBRIDGE- INTERSECTION IMPROVEMENTS AT ROUTE 122 (PROVIDENCE ROAD), SCHOOL STREET, SUTTON STREET, AND UPTON STREET	3	HSIP	\$3,091,200	\$2,782,080	\$309,120	Construction, Total Project Cost = \$3,091,200, Design Status = Approved, PM Score = 16, YOE = 12%
Transit Grant Program							\$400,000	\$320,000	\$80,000	
2026	S12688	Central Mass		CMMPO LRTP MICRO-PROJECTS PROGRAM		TAP	\$400,000	\$320,000	\$80,000	Set aside for LRTP Micro-Projects Program
HSIP Programmed							\$7,254,280	\$6,528,852	\$725,428	
STBG Programmed							\$10,176,392	\$8,141,114	\$2,035,278	
TAP Programmed							\$400,000	\$320,000	\$80,000	
Total Programmed for Central Mass Region Projects							\$17,830,672	\$14,989,966	\$2,840,706	
Program Target for Central Mass Region Projects							\$25,339,043	\$20,271,234	\$5,067,809	
Target Funds Available for Central Mass Region Projects							\$7,508,371	\$5,281,268	\$2,227,103	

Central Mass Region Program

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds	Other Information
Federal Fiscal Year 2026							\$82,252,738	\$48,881,034	\$33,371,704	
Section 2A / State Prioritized Reliability Projects							\$38,193,189	\$33,348,509	\$4,844,680	
Safety Improvements							\$17,249,176	\$15,524,258	\$1,724,918	
2026	610825	Central Mass	Shrewsbury	SHREWSBURY- REHABILITATION & BOX WIDENING ON ROUTE 20, FROM ROUTE 9 TO SOUTH STREET	3	HSIP	\$17,249,176	\$15,524,258	\$1,724,918	Construction, Total Project Cost = \$17,249,176, Design Status = Approved, YOE = 12%
Bridge Off-system							\$6,005,619	\$4,804,495	\$1,201,124	
2026	612084	Central Mass	Barre	BARRE- BRIDGE REPLACEMENT, B-02-004, OLD COLD BROOK ROAD OVER PRINCE RIVER	2	STBG-BR-Off	\$1,339,632	\$1,071,706	\$267,926	Construction, Total Project Cost = \$1,339,632, Design Status = Approved, YOE = 12%
2026	612092	Central Mass	Uxbridge	UXBRIDGE- BRIDGE REPLACEMENT, U-02-051, HOMEWARD AVENUE OVER PROVIDENCE WORCESTER RAILROAD	3	STBG-BR-Off	\$4,665,987	\$3,732,790	\$933,197	Construction, Total Project Cost = \$4,665,987, Design Status = Approved, YOE = 12%
Interstate Pavement							\$10,690,400	\$9,621,360	\$1,069,040	
2026	612095	Central Mass	Oxford	OXFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-395	3	NHPP-I	\$10,690,400	\$9,621,360	\$1,069,040	Construction, Total Project Cost = \$10,690,400, Design Status = Approved, YOE = 12%
Bridge On-system NHS							\$4,247,994	\$3,398,395	\$849,599	
2026	612181	Central Mass	Charlton	CHARLTON- BRIDGE REPLACEMENT, C-06-019, US 20 STURBRIDGE ROAD OVER CADY BROOK	3	NHPP	\$4,247,994	\$3,398,395	\$849,599	Construction, Total Project Cost = \$4,247,994, Design Status = Approved, YOE = 12%
Section 2B / State Prioritized Modernization Projects							\$678,199	\$542,559	\$135,640	
Roadway Reconstruction							\$678,199	\$542,559	\$135,640	
2026	S12206	Central Mass	Sturbridge	STURBRIDGE - IMPROVEMENTS AT BURGESS ELEMENTARY SCHOOL (SRTS)	3	TAP	\$678,199	\$542,559	\$135,640	SRTS infrastructure project awarded in 2022. To be updated with project ID once approved by PRC. 12% inflation applied for FFY 2026.
Section 3B / Non-Federal Aid Funded							\$25,550,678	\$0	\$25,550,678	
Bridge On-system Non-NHS							\$25,550,678	\$0	\$25,550,678	
2026	612191	Central Mass	Auburn	AUBURN- BRIDGE REPLACEMENT, A-17-003, OXFORD STREET OVER KETTLE BROOK	3	NGBP	\$16,496,137	\$0	\$16,496,137	Construction, Total Project Cost = \$16,496,137, Design Status = Approved, YOE = 12%
2026	612510	Central Mass	Grafton	GRAFTON- BRIDGE REPLACEMENT, G-08-020, (SR 140) SHREWSBURY STREET OVER MBTA/CSX RAILROAD	3	NGBP	\$9,054,541	\$0	\$9,054,541	Construction, Total Project Cost = \$9,054,541, YOE = 12%

Central Mass Region Program

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Total Programmed Funds	Federal Funds	Non-Federal Funds	Other Information
Federal Fiscal Year 2027							\$24,041,496	\$18,749,477	\$5,292,019	
Section 1A / Regionally Prioritized Projects							\$12,528,496	\$10,510,577	\$2,017,919	
Roadway Reconstruction							\$12,128,496	\$10,190,577	\$1,937,919	
2027	610931	Central Mass	Uxbridge	UXBRIDGE- REHABILITATION OF ROUTE 16 (DOUGLAS STREET), FROM TAFT HILL ROAD TO 200 FT WEST ON MAIN STREET	3	STBG	\$7,250,696	\$5,800,557	\$1,450,139	Construction, Total Project Cost = \$7,250,696, Design Status = Approved, PM Score = 13, YOE = 16%
2027	612011	Central Mass	Worcester	WORCESTER- INTERSECTION IMPROVEMENTS AND RESURFACING ON CHANDLER STREET, FROM QUEEN STREET TO PARK AVENUE	3	HSIP	\$4,877,800	\$4,390,020	\$487,780	Construction, Total Project Cost = \$4,877,800, Design Status = Approved, PM Score = 17, YOE = 16%
Transit Grant Program							\$400,000	\$320,000	\$80,000	
2027	S12689	Central Mass		CMMPO LRTP MICRO-PROJECTS PROGRAM		TAP	\$400,000	\$320,000	\$80,000	Set aside for LRTP Micro-Projects Program
							HSIP Programmed	\$4,877,800	\$4,390,020	\$487,780
							STBG Programmed	\$7,250,696	\$5,800,557	\$1,450,139
							TAP Programmed	\$400,000	\$320,000	\$80,000
							Total Programmed for Central Mass Region Projects	\$12,528,496	\$10,510,577	\$2,017,919
							Program Target for Central Mass Region Projects	\$26,706,171	\$21,364,937	\$5,341,234
							Target Funds Available for Central Mass Region Projects	\$14,177,675	\$10,854,360	\$3,323,315
Section 2A / State Prioritized Reliability Projects							\$9,773,000	\$8,238,900	\$1,534,100	
Safety Improvements							\$4,205,000	\$3,784,500	\$420,500	
2027	611967	Central Mass	Multiple	STURBRIDGE- CHARLTON- INTERSECTION IMPROVEMENTS ON ROUTE 49 AT PUTNAM ROAD, WALKER POND ROAD & ROUTE 20	3	HSIP	\$4,205,000	\$3,784,500	\$420,500	Construction, Total Project Cost = \$4,205,000, Design Status = Approved, YOE = 16%
Non-Interstate Pavement							\$5,568,000	\$4,454,400	\$1,113,600	
2027	612089	Central Mass	Southbridge	SOUTHBRIDGE- DUDLEY- RESURFACING AND RELATED WORK ON ROUTE 131	3	NHPP	\$5,568,000	\$4,454,400	\$1,113,600	Construction, Total Project Cost = \$5,568,000, Design Status = Approved, YOE = 16%
Section 3B / Non-Federal Aid Funded							\$1,740,000	\$0	\$1,740,000	
Bridge On-system Non-NHS							\$1,740,000	\$0	\$1,740,000	
2027	605323	Central Mass	Oxford	OXFORD- BRIDGE REPLACEMENT, O-06-030, (ST 56) LEICESTER ROAD OVER THE FRENCH RIVER	3	NGBP	\$1,740,000	\$0	\$1,740,000	Construction, Total Project Cost = \$1,740,000, Design Status = Approved, YOE = 16%

Transit

Transit projects funded in the TIP allow the Worcester Regional Transit Authority to operate and maintain the fleet of vehicles and other infrastructure needed to meet the transportation needs of the Central Massachusetts region and WRTA's service area, which includes, 36 communities. The agency offers many types of services that cater to many different customer types including year-round fixed-route services and demand response services. The WRTA offers reliable, comfortable, and safe transportation for traveling to work, shopping, school, medical appointments, and leisure activities. The WRTA also provides Paratransit service for the elderly and disabled, as well as a variety of special services for those groups in the entire service area.

The year-round fixed-route service provides transportation for the City of Worcester and numerous surrounding towns. The WRTA transit system includes 24 routes within the fixed-route bus service. In addition, there are multiple community shuttle flex van services in other communities in the CMMPO region that the fixed-route system does not serve. The WRTA also provides ADA Paratransit service for people whose disabilities prevent them from using the regular accessible WRTA fixed-route system. The ADA service area is available within ¾ mile area surrounding each of the WRTA's fixed routes.

Federal Transit Administration (FTA) Section 5307, 5337, and 5339 funds are directly apportioned to 12 of the 15 RTAs based on urbanized area population and the 20 agreed upon funding splits between other public transit agencies that fall into the Urbanized Zone Area (UZA). The other 3 "rural" RTAs are not direct recipients of FTA funding, instead receiving Section 5311 funds as sub recipients of MassDOT with funding splits based on formula.

Descriptions of the above funding programs are:

- **Section 5307 Urbanized Area Formula Funding Program** – 5307 program funds are used for public transportation capital and operating assistance and for transportation-related planning. Eligible activities include planning, engineering design, capital investments in bus and bus-related activities, crime prevention and security equipment, construction of maintenance and passenger facilities, and capital investments in new and existing fixed route guideway systems including rolling stock, the overhaul and rebuilding of vehicles, track, signals, communications, and computer hardware and software.
- **Section 5337 State of Good Repair Grants** – 5337 is formula-based State of Good Repair program that provides capital assistance for maintenance, replacement, and rehabilitation projects of high-intensity fixed guideway and bus systems to help transit agencies maintain assets in a state of good repair. Additionally, SGR grants are eligible for developing and implementing Transit Asset Management plans.

- **Section 5339 Bus and Bus Facilities** – Section 5339 is formula-based capital program to replace, rehab, and purchase buses and related equipment; funds can also be used to construct bus related facilities.

The following table shows the funding information for the 2023 – 2027 transit project listing. The table contains the FTA program, the total amount of expected apportioned federal funds, the total amount of programmed federal funds, and the remaining federal funds. This information is available for the 5307, 5337, and 5339 FTA programs. Since FTA only releases the apportionments for the current fiscal year, the 2023-2027 federal funds are the projected totals from what the WRTA expects to receive. In addition to the annual apportioned funds, the WRTA is also allowed to use carryover funding from the previous years of unspent funds. As the table show, all FTA programs are in fiscal constraint for all five years of the TIP. Carryover funds are used for 5339 if programmed funds exceed the apportioned amount. As shown in the below table, the available 2023 carryover funds is \$130,352.

2023 – 2027 TIP Transit Funding

FTA Program	2023	2024	2025	2026	2027
5307 Funds	\$13,424,046	\$13,746,223	\$14,076,133	\$14,413,960	\$14,558,099
Programmed Funds	\$12,389,574	\$11,606,759	\$12,762,448	\$10,921,479	\$11,616,362
Remaining Funds	\$1,034,472	\$2,139,464	\$1,313,685	\$3,492,481	\$2,941,737
5337 Funds	\$4,495,354	\$4,540,308	\$4,585,711	\$4,631,568	\$4,677,884
Programmed Funds	\$3,007,991	\$3,038,071	\$3,068,452	\$3,099,136	\$3,130,128
Remaining Funds	\$1,487,363	\$1,502,237	\$1,517,259	\$1,532,432	\$1,547,756
5339 Funds	\$538,973	\$544,363	\$549,807	\$555,305	\$560,858
Available Carryover Funds*	\$130,352	\$115,409	\$100,318	\$85,076	\$69,681
Programmed Funds	\$553,916	\$559,454	\$565,049	\$570,700	\$0
Remaining Carryover Funds	\$115,409	\$100,318	\$85,076	\$69,681	\$69,681

* - Available 5339 carryover funds from previous years are listed in the above table. They are used when the programmed funds are more than the apportioned funds. The last row shows the remaining balance of carryover funds as they are used for each year.



STIP Investments Report
Program Activity: Transit, Worcester Regional Transit Authority

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	Municipality	Program	MassDOT Project Description	Funding Source	Total Project Cost	Total Programmed Funds	Federal Funds	State Funds	Other Funds	Project Score	FTA Line Item	Other Information
Federal Fiscal Year 2023							\$24,874,116	\$15,951,481	\$8,170,637	\$751,998			
Worcester Regional Transit Authority							\$24,874,116	\$15,951,481	\$8,170,637	\$751,998			
2023	RTD0010853		Operating	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	5307	\$13,812,046	\$6,906,023	\$6,906,023				30.09.01	
2023	RTD0010853		Operating	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	SCA	\$13,812,046	\$6,906,023		\$6,906,023			30.09.01	
2023	RTD0010845		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	5307	\$599,440	\$479,552	\$479,552				11.42.20	
2023	RTD0010845		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	RTACAP	\$599,440	\$119,888		\$119,888			11.42.20	
2023	RTD0010849		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Fixed Route Bus Shelters	5307	\$60,000	\$48,000	\$48,000				11.32.10	
2023	RTD0010849		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Fixed Route Bus Shelters	RTACAP	\$60,000	\$12,000		\$12,000			11.32.10	
2023	RTD0010850		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	5307	\$5,000	\$4,000	\$4,000				11.32.09	
2023	RTD0010850		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	RTACAP	\$5,000	\$1,000		\$1,000			11.32.09	
2023	RTD0010846		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	5307	\$688,564	\$550,851	\$550,851				11.12.40	
2023	RTD0010846		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	RTACAP	\$688,564	\$137,713		\$137,713			11.12.40	
2023	RTD0010851		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	5307	\$5,000	\$4,000	\$4,000				11.34.01	
2023	RTD0010851		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	RTACAP	\$5,000	\$1,000		\$1,000			11.34.01	
2023	RTD0010852		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Rehabilitation of Union Station	5337	\$3,759,989	\$3,007,991	\$3,007,991				11.34.03	
2023	RTD0010852		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Rehabilitation of Union Station	LF	\$3,759,989	\$751,998			\$751,998		11.34.03	
2023	RTD0010877		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	5307	\$70,000	\$56,000	\$56,000				11.44.02	



STIP Investments Report
Program Activity: Transit, Worcester Regional Transit Authority

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	Municipality	Program	MassDOT Project Description	Funding Source	Total Project Cost	Total Programmed Funds	Federal Funds	State Funds	Other Funds	Project Score	FTA Line Item	Other Information
Federal Fiscal Year 2023							\$24,874,116	\$15,951,481	\$8,170,637	\$751,998			
Worcester Regional Transit Authority							\$24,874,116	\$15,951,481	\$8,170,637	\$751,998			
2023	RTD0010877		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	RTACAP	\$70,000	\$14,000		\$14,000			11.44.02	
2023	RTD0010843		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (8)	5307	\$4,341,148	\$4,341,148	\$4,341,148				11.12.02	
2023	RTD0010843		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (8)	TDC	\$4,341,148	\$868,230		\$868,230			11.12.02	
2023	RTD0010893		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (1)	5339	\$553,916	\$553,916	\$553,916				11.12.02	
2023	RTD0010893		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (1)	TDC	\$553,916	\$110,783		\$110,783			11.12.02	



STIP Investments Report

Program Activity: Transit, Worcester Regional Transit Authority

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	Municipality	Program	MassDOT Project Description	Funding Source	Total Project Cost	Total Programmed Funds	Federal Funds	State Funds	Other Funds	Project Score	FTA Line Item	Other Information
Federal Fiscal Year 2024							\$24,430,170	\$15,204,284	\$8,466,368	\$759,518			
Worcester Regional Transit Authority							\$24,430,170	\$15,204,284	\$8,466,368	\$759,518			
2024	RTD0010854		Operating	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	5307	\$14,466,170	\$7,233,085	\$7,233,085				30.09.01	
2024	RTD0010854		Operating	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	SCA	\$14,466,170	\$7,233,085		\$7,233,085			30.09.01	
2024	RTD0010857		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	5307	\$553,914	\$443,131	\$443,131				11.42.20	
2024	RTD0010857		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	RTACAP	\$553,914	\$110,783		\$110,783			11.42.20	
2024	RTD0010861		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Fixed Route Bus Shelters	5307	\$60,000	\$48,000	\$48,000				11.32.10	
2024	RTD0010861		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Fixed Route Bus Shelters	RTACAP	\$60,000	\$12,000		\$12,000			11.32.10	
2024	RTD0010862		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	5307	\$5,000	\$4,000	\$4,000				11.32.09	
2024	RTD0010862		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	RTACAP	\$5,000	\$1,000		\$1,000			11.32.09	
2024	RTD0010858		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	5307	\$789,993	\$631,994	\$631,994				11.12.40	
2024	RTD0010858		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	RTACAP	\$789,993	\$157,999		\$157,999			11.12.40	
2024	RTD0010863		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	5307	\$5,000	\$4,000	\$4,000				11.34.01	
2024	RTD0010863		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	RTACAP	\$5,000	\$1,000		\$1,000			11.34.01	
2024	RTD0010864		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Rehabilitation of Union Station	5337	\$3,797,589	\$3,038,071	\$3,038,071				11.34.03	
2024	RTD0010864		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Rehabilitation of Union Station	LF	\$3,797,589	\$759,518			\$759,518		11.34.03	
2024	RTD0010878		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	5307	\$75,000	\$60,000	\$60,000				11.44.02	



STIP Investments Report

Program Activity: Transit, Worcester Regional Transit Authority

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	Municipality	Program	MassDOT Project Description	Funding Source	Total Project Cost	Total Programmed Funds	Federal Funds	State Funds	Other Funds	Project Score	FTA Line Item	Other Information
Federal Fiscal Year 2024							\$24,430,170	\$15,204,284	\$8,466,368	\$759,518			
Worcester Regional Transit Authority							\$24,430,170	\$15,204,284	\$8,466,368	\$759,518			
2024	RTD0010878		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	RTACAP	\$75,000	\$15,000		\$15,000			11.44.02	
2024	RTD0010855		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (7)	5307	\$3,783,186	\$3,026,549	\$3,026,549				11.12.02	
2024	RTD0010855		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (7)	RTACAP	\$3,783,186	\$756,637		\$756,637			11.12.02	
2024	RTD0010856		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Support Vehicles (3)	5307	\$195,000	\$156,000	\$156,000				11.42.11	
2024	RTD0010856		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Support Vehicles (3)	RTACAP	\$195,000	\$39,000		\$39,000			11.42.11	
2024	RTD0010894		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (1)	5339	\$699,318	\$559,454	\$559,454				11.12.02	
2024	RTD0010894		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (1)	RTACAP	\$699,318	\$139,864		\$139,864			11.12.02	



STIP Investments Report

Program Activity: Transit, Worcester Regional Transit Authority

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	Municipality	Program	MassDOT Project Description	Funding Source	Total Project Cost	Total Programmed Funds	Federal Funds	State Funds	Other Funds	Project Score	FTA Line Item	Other Information
Federal Fiscal Year 2025							\$26,452,835	\$16,395,949	\$9,289,773	\$767,113			
Worcester Regional Transit Authority							\$26,452,835	\$16,395,949	\$9,289,773	\$767,113			
2025	RTD0010865		Operating	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	5307	\$15,887,730	\$7,943,865	\$7,943,865				30.09.01	
2025	RTD0010865		Operating	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	SCA	\$15,887,730	\$7,943,865		\$7,943,865			30.09.01	
2025	RTD0010868		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	5307	\$563,010	\$450,408	\$450,408				11.42.20	
2025	RTD0010868		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	RTACAP	\$563,010	\$112,602		\$112,602			11.42.20	
2025	RTD0010873		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	5307	\$5,000	\$4,000	\$4,000				11.32.09	
2025	RTD0010873		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	RTACAP	\$5,000	\$1,000		\$1,000			11.32.09	
2025	RTD0010869		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	5307	\$905,493	\$724,394	\$724,394				11.12.40	
2025	RTD0010869		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	RTACAP	\$905,493	\$181,099		\$181,099			11.12.40	
2025	RTD0010872		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Fixed Route Bus Shelters	5307	\$60,000	\$48,000	\$48,000				11.32.10	
2025	RTD0010872		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Fixed Route Bus Shelters	RTACAP	\$60,000	\$12,000		\$12,000			11.32.10	
2025	RTD0010874		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	5307	\$5,000	\$4,000	\$4,000				11.34.01	
2025	RTD0010874		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	RTACAP	\$5,000	\$1,000		\$1,000			11.34.01	
2025	RTD0010875		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	5307	\$100,250	\$80,200	\$80,200				11.44.02	
2025	RTD0010875		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	RTACAP	\$100,250	\$20,050		\$20,050			11.44.02	
2025	RTD0010876		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Rehabilitation of Union Station	5337	\$3,835,565	\$3,068,452	\$3,068,452				11.34.03	



STIP Investments Report

Program Activity: Transit, Worcester Regional Transit Authority

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	Municipality	Program	MassDOT Project Description	Funding Source	Total Project Cost	Total Programmed Funds	Federal Funds	State Funds	Other Funds	Project Score	FTA Line Item	Other Information
Federal Fiscal Year 2025							\$26,452,835	\$16,395,949	\$9,289,773	\$767,113			
Worcester Regional Transit Authority							\$26,452,835	\$16,395,949	\$9,289,773	\$767,113			
2025	RTD0010876		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Rehabilitation of Union Station	LF	\$3,835,565	\$767,113			\$767,113		11.34.03	
2025	RTD0010866		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (1)	5339	\$706,311	\$565,049	\$565,049				11.12.02	
2025	RTD0010866		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (1)	RTACAP	\$706,311	\$141,262		\$141,262			11.12.02	
2025	RTD0010867		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Support Vehicles (2)	5307	\$105,000	\$84,000	\$84,000				11.42.11	
2025	RTD0010867		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Support Vehicles (2)	RTACAP	\$105,000	\$21,000		\$21,000			11.42.11	
2025	RTD0010879		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Van (7)	5307	\$945,000	\$756,000	\$756,000				11.12.15	
2025	RTD0010879		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Van (7)	RTACAP	\$945,000	\$189,000		\$189,000			11.12.15	
2025	RTD0010895		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (6)	5307	\$3,334,476	\$2,667,581	\$2,667,581				11.12.02	
2025	RTD0010895		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (6)	RTACAP	\$3,334,476	\$666,895		\$666,895			11.12.02	



STIP Investments Report
Program Activity: Transit, Worcester Regional Transit Authority

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	Municipality	Program	MassDOT Project Description	Funding Source	Total Project Cost	Total Programmed Funds	Federal Funds	State Funds	Other Funds	Project Score	FTA Line Item	Other Information
Federal Fiscal Year 2026							\$24,722,696	\$14,591,315	\$9,356,597	\$774,784			
Worcester Regional Transit Authority							\$24,722,696	\$14,591,315	\$9,356,597	\$774,784			
2026	RTD0010880		Operating	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	5307	\$17,289,472	\$8,644,736	\$8,644,736				30.09.01	
2026	RTD0010880		Operating	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	SCA	\$17,289,472	\$8,644,736		\$8,644,736			30.09.01	
2026	RTD0010884		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	5307	\$607,231	\$485,785	\$485,785				11.42.20	
2026	RTD0010884		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	RTACAP	\$607,231	\$121,446		\$121,446			11.42.20	
2026	RTD0010889		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	5307	\$5,000	\$4,000	\$4,000				11.32.09	
2026	RTD0010889		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	RTACAP	\$5,000	\$1,000		\$1,000			11.32.09	
2026	RTD0010885		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	5307	\$875,709	\$700,567	\$700,567				11.12.40	
2026	RTD0010885		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	RTACAP	\$875,709	\$175,142		\$175,142			11.12.40	
2026	RTD0010888		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Fixed Route Bus Shelters	5307	\$60,000	\$48,000	\$48,000				11.32.10	
2026	RTD0010888		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Fixed Route Bus Shelters	RTACAP	\$60,000	\$12,000		\$12,000			11.32.10	
2026	RTD0010890		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	5307	\$108,275	\$86,620	\$86,620				11.44.02	
2026	RTD0010890		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	RTACAP	\$108,275	\$21,655		\$21,655			11.44.02	
2026	RTD0010891		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	5307	\$5,000	\$4,000	\$4,000				11.34.01	
2026	RTD0010891		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	RTACAP	\$5,000	\$1,000		\$1,000			11.34.01	



STIP Investments Report

Program Activity: Transit, Worcester Regional Transit Authority

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	Municipality	Program	MassDOT Project Description	Funding Source	Total Project Cost	Total Programmed Funds	Federal Funds	State Funds	Other Funds	Project Score	FTA Line Item	Other Information
Federal Fiscal Year 2026							\$24,722,696	\$14,591,315	\$9,356,597	\$774,784			
Worcester Regional Transit Authority							\$24,722,696	\$14,591,315	\$9,356,597	\$774,784			
2026	RTD0010892		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Rehabilitation of Union Station	5337	\$3,873,920	\$3,099,136	\$3,099,136				11.34.03	
2026	RTD0010892		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Rehabilitation of Union Station	LF	\$3,873,920	\$774,784			\$774,784		11.34.03	
2026	RTD0010881		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (2)	5307	\$1,074,714	\$859,771	\$859,771				11.12.02	
2026	RTD0010881		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (2)	RTACAP	\$1,074,714	\$214,943		\$214,943			11.12.02	
2026	RTD0010883		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Support Vehicles (2)	5307	\$110,000	\$88,000	\$88,000				11.42.11	
2026	RTD0010883		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Support Vehicles (2)	RTACAP	\$110,000	\$22,000		\$22,000			11.42.11	
2026	RTD0010896		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (1)	5339	\$713,375	\$570,700	\$570,700				11.12.02	
2026	RTD0010896		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (1)	RTACAP	\$713,375	\$142,675		\$142,675			11.12.02	



STIP Investments Report

Program Activity: Transit, Worcester Regional Transit Authority

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	Municipality	Program	MassDOT Project Description	Funding Source	Total Project Cost	Total Programmed Funds	Federal Funds	State Funds	Other Funds	Project Score	FTA Line Item	Other Information
Federal Fiscal Year 2027							\$25,490,153	\$14,746,490	\$9,961,131	\$782,532			
Worcester Regional Transit Authority							\$25,490,153	\$14,746,490	\$9,961,131	\$782,532			
2027	RTD0011186		Operating	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	5307	\$18,818,774	\$9,409,387	\$9,409,387				30.09.01	
2027	RTD0011186		Operating	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	SCA	\$18,818,774	\$9,409,387		\$9,409,387			30.09.01	
2027	RTD0011194		Operating	Worcester Regional Transit Authority: Rehabilitation of Union Station	5337	\$3,912,660	\$3,130,128	\$3,130,128				30.09.01	
2027	RTD0011194		Operating	Worcester Regional Transit Authority: Rehabilitation of Union Station	LF	\$3,912,660	\$782,532			\$782,532		30.09.01	
2027	RTD0011188		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	5307	\$640,020	\$512,016	\$512,016				11.42.20	
2027	RTD0011188		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	RTACAP	\$640,020	\$128,004		\$128,004			11.42.20	
2027	RTD0011190		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Fixed Route Bus Shelters	5307	\$60,000	\$48,000	\$48,000				11.32.10	
2027	RTD0011190		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority: Fixed Route Bus Shelters	RTACAP	\$60,000	\$12,000		\$12,000			11.32.10	
2027	RTD0011191		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority - Purchase Bus Stop and Electronic Signage for Fixed Route	5307	\$5,000	\$4,000	\$4,000				11.32.09	
2027	RTD0011191		RTA Facility & System Modernization	Worcester Regional Transit Authority Regional Transit Authority - Purchase Bus Stop and Electronic Signage for Fixed Route	RTACAP	\$5,000	\$1,000		\$1,000			11.32.09	
2027	RTD0011189		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	5307	\$971,245	\$776,996	\$776,996				11.12.40	
2027	RTD0011189		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	RTACAP	\$971,245	\$194,249		\$194,249			11.12.40	
2027	RTD0011192		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	5307	\$5,000	\$4,000	\$4,000				11.34.01	
2027	RTD0011192		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	RTACAP	\$5,000	\$1,000		\$1,000			11.34.01	
2027	RTD0011193		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	5307	\$104,454	\$83,563	\$83,563				11.44.02	



STIP Investments Report

Program Activity: Transit, Worcester Regional Transit Authority

STIP: 2023 - 2027 (D)

Year	MassDOT Project ID	Municipality	Program	MassDOT Project Description	Funding Source	Total Project Cost	Total Programmed Funds	Federal Funds	State Funds	Other Funds	Project Score	FTA Line Item	Other Information
Federal Fiscal Year 2027							\$25,490,153	\$14,746,490	\$9,961,131	\$782,532			
Worcester Regional Transit Authority							\$25,490,153	\$14,746,490	\$9,961,131	\$782,532			
2027	RTD0011193		RTA Facility & Vehicle Maintenance	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	RTACAP	\$104,454	\$20,891		\$20,891			11.44.02	
2027	RTD0011187		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Van (7)	5307	\$973,000	\$778,400	\$778,400				11.12.15	
2027	RTD0011187		RTA Vehicle Replacement	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Van (7)	RTACAP	\$973,000	\$194,600		\$194,600			11.12.15	

2) Environmental Justice

Environmental Justice was first noted on the Executive Order 12898 (1994) which mandated all federal agencies to ensure that their programs do not disproportionately cause high and adverse effects on minority and low-income populations and to ensure that all potentially affected populations have the opportunity to full and fair participation in the transportation decision-making process. Moreover, the US DOT Order 5610.2(a) presents DOT policy to consider Environmental Justice in all programs, policies, and activities with the US DOT. The guiding principles in the DOT policy are:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

To carry out the intent of the federal guidance, it was necessary to identify low income and minority communities or neighborhoods in the planning region. For this purpose, the CMMPO updated and approved in October 2013 the current Environmental Justice (EJ) definition to reflect regional characteristics and demographic changes based on the decennial US Census. The definition reads as follows:

- A US Census [updated with 2015 American Community Survey (ACS)] Block Group will be designated as a “Neighborhood of Environmental Concern” if the Block Group complies with any of the following criteria:
 - Block Groups where the median household income is less than or equal to 65% of the regional median as determined by the 2015 ACS ($65\% * \$69,078 = \$44,901$).
 - Block Groups where the percentage of minority population is greater than or equal to the regional proportion of minority population, 22.2%.
 - Households with a person 75 years or older, 9.3%.
 - Households without a vehicle available, 13.5%.
 - Linguistically isolated households, 9.45%.

In addition, the CMMPO identified other vulnerable populations as a means to expand project outreach activities and identify possible mitigation efforts. Still, the CMMPO reassures its intention to be flexible by adding more criteria if necessary, depending on a specific project’s characteristics or local knowledge of a particular location.

The TIP prioritizes projects that can most effectively and efficiently utilize the limited funding, both federal and state, that is available to the planning region while maintaining financial constraint. These priorities are derived from the comprehensive public outreach efforts conducted on behalf of the CMMPO, as guided by the CMMPO Advisory Committee and in cooperation with the WRTA Advisory Board.

In the development of the TIP project listings, the prioritization process is based on established Performance Management criteria. Potential federal-aid target-funded projects are evaluated using the criteria along with other critical benchmark data concerning project design status and readiness. During the evaluation process, the CMMPO identifies those projects located within areas that have minority and low-income populations as well as other defined vulnerable populations based on the established EJ definition. These factors are fully considered in the project screening process. In addition, maps are also produced showing the identified “EJ” areas in relation to the projects seeking TIP programming. Further, the CMMPO staff also prepares “Neighborhood Demographic Profiles” for each proposed project located in an identified Environmental Justice Neighborhood.

The results of the evaluation process, a numeric point scoring, are used to assist in the selection of TIP target projects for programming and eventual endorsement by the CMMPO. Notably, before the eligible projects are considered by the CMMPO, all candidates are thoroughly reviewed by the CMMPO Advisory Committee. The Advisory Committee provides a forum for broad public participation, providing technical and stakeholder commentary and suggesting recommendations to the CMMPO. The Committee’s purpose is to bring together representatives from public agencies, elected and appointed officials, transportation providers, environmental interests, technical experts, business persons and other stakeholders that wish to participate directly in the regional transportation planning process. Essentially, the CMMPO Advisory Committee membership consists of both the providers and users of all major modes of transportation. Representatives of Environmental Justice groups include elder transportation advocates, minority advocates, low-income advocates, citizens-at-large, and neighborhood representatives among others.

It should also be mentioned that the CMMPO staff conducts special meetings when necessary, such as community-targeted “TIP Information Sessions”. Further, open public meetings are often held throughout the planning region, tailored to times and locations that maximize the potential for public input and participation. All meetings are held in locations accessible to persons with disabilities and language interpreters or translation services are provided on an as needed/requested basis. Notably, due to the COVID-19 pandemic, most meetings have been held virtually since early 2020.

Once the various transportation improvement projects identified in EJ Neighborhoods are programmed on the endorsed CMMPO TIP , staff continues to encourage the project

proponents (the host communities, their consultants and MassDOT – Highway Division) to continue to employ additional effective and efficient outreach strategies. These may include, but not limited to, the use of multi-lingual radio announcements on commercial radio frequencies targeting impacted communities, multi-lingual notices in newspapers circulated widely within impacted communities, announcements in newsletters of community-based organizations serving the impacted communities, notices to neighborhood organizations serving the impacted communities, and any other practical and workable outreach strategy as reflected in the CMMPO’s recently updated Public Participation Plan (PPP). Further, MassDOT’s “Engage” tool can also be used to identify the languages spoken, community organizations, and accessible meeting locations in a particular project area.

The projects located in identified EJ neighborhoods and programmed on the 2023-2027 TIP are included in the following tables:

**Environmental Justice Review
2023-2027 Transportation Improvement Program
Federally Funded Projects Using Target Authority**

TIP Year	Hwy Projects Using Federal Target \$\$		Projects Located in Municipalities with Environmental Justice Neighborhoods		Projects Located in Environmental Justice Neighborhoods		EJ % of Total Federal Target \$\$
	#	\$\$	#	\$\$	#	\$\$	
		(in millions)		(in millions)		(in millions)	
2023	4	25.456	3	21.852	2	20.084	78.9%
2024	3	21.014	2	12.612	1	5.418	25.8%
2025	4	18.547	4	18.547	2	9.754	52.6%
2026	5	17.830	4	17.430	3	16.427	92.1%
2027	3	12.528	1	4.878	1	4.878	38.9%
Total	19	95.375	14	75.319	9	56.561	59.3%

TIP Target Projects Located in Neighborhoods of Environmental Justice Concern

Year	PRC#	Municipality	Facility	Description	Cost (in millions)	Funding	Environmental Justice		Vulnerable Populations		
							Low-Income	Minority	Zero-vehicle households	Linguistic isolated households	Households with pop 75+
2023	608873	Spencer	Meadow Rd	Rehabilitation	9.541	STBG / CMAQ	Y	N	Y	N	N
2023	609219	Holden	Shrewsbury St & Doyle Rd	Rehabilitation	10.542	STBG	N	N	N	N	Y
2024	608778	Southbridge	Hamilton St/Hook St/Central St/Foster St	Intersection improvements	5.418	STBG / HSIP / CMAQ	Y	Y	Y	Y	Y
2025	608433	Webster	Rt 16 / I-395 Ramps / Sutton Rd	Intersection improvements	3.274	STBG	Y	Y	N	N	Y
2025	608961	Worcester	May St & Chandler St	Intersection improvements	6.481	STBG / HSIP	N	Y	Y	Y	Y
2026	609441	Northbridge	Rt 122 / Sutton St / School St / Upton St	Intersection improvements	3.091	HSIP	N	N	N	N	Y
2026	611933	Sturbridge	Route 131 / Route 20	Intersection improvements	7.173	STBG	N	N	N	N	Y
2026	608990	Worcester	Chandler St (Phase 1)	Reconstruction	6.163	HSIP / STBG	Y	Y	Y	Y	Y
2027	612011	Worcester	Chandler St (Phase 2)	Reconstruction	4.878	HSIP	Y	Y	Y	Y	N

Maps of these areas which include census block group information are included in Technical Appendix.

Environmental Justice Criteria:

- 1) Block Groups where the median household income is less than or equal to 65% of the regional median as determined by the 2015 ACS (65%*\$69,078 = \$44,901)
- 2) Block Groups with the percentage of minority population is greater than or equal to the regional proportion of minority population, 22.2%
- 3) Households with a person 75 years or older, 9.3%
- 4) Households without an available vehicle, 13.5%
- 5) Linguistically-isolated households, 9.45%

3) CMMPO TIP Equity Analysis (2012 – 2027)

The following features a map of the CMMPO region that shows project distribution within the 40 member communities. The analysis includes the most recent 11 years of advertised projects (2012 – 2022) as well as the projects programmed within this current TIP (2023-2027). Project types include bridges, intersections, roadway segments, bikeways and other multi-modal projects. Both target and statewide projects are included in the analysis. Accompanying the map, a table provides a summary of the total number of projects in each community within each CMMPO transportation planning subregion as well as the total funding (in millions) that was allocated. The number of target projects and associated funding are also shown separately in the analysis.

There was a total of 143 TIP projects, advertised and programmed, between 2012 and 2027. A number of projects included multiple host communities. Funds for these projects were split between each participating community. In addition, there were projects funded by both target and statewide funds. There were 11 communities that had no target projects, eight communities with no statewide projects, and three communities had neither target nor statewide projects. The Northeast Subregion had the fewest number of target projects with a total of three. Over \$290 million in federal-aid target funds have been programmed by the CMMPO since 2012. Statewide funds applied to the region during the same timeframe totaled approximately \$582 million.

Also shown in the table is the number of projects in each host community that are within an identified Environmental Justice (EJ) area. Out of the 143 total TIP projects, 96 of the projects were within an EJ neighborhood. As such, it appears that the majority of projects did provide benefit to identified EJ populations. The projects benefit these populations by improving the transportation infrastructure for all modal options. By improving bicycle, pedestrian and transit infrastructure, it allows the households without vehicles as well as the elderly population better and safer access to essential services. Projects that help reduce congestion address air quality issues by reducing the amount of Greenhouse Gases (GHG) in the area. In Worcester, 36 out of the city's 37 projects were within EJ neighborhoods. Of the 106 projects within the five other subregions, 60 were seen to benefit EJ populations. Most of the communities in the CMMPO region have EJ populations, but there are ten communities with none. The established TIP performance-based project evaluation scoring criteria gives a point to projects within an identified EJ or vulnerable population neighborhood and a potential additional point to projects in those communities that have had a minimal number of programmed TIP projects over time.

In addition to highway projects, the funding provided through the TIP is also used to purchase new buses, support vehicles, and improve transit infrastructure on an annual basis for the Worcester Regional Transit Authority (WRTA). New buses are used on all routes on a rotating

schedule so as to enable all populations within the transit network to have an equal opportunity. New bus shelters and signage are replaced or added where needed along all fixed bus routes. Occasionally, new shuttle services are funded through the TIP to serve various WRTA member communities.

Beyond funding projects through the TIP, there are other transportation-related grant programs available to the region's communities. Some of these opportunities include Workforce Transportation Grants, Shared Streets and Spaces, MassWorks, Complete Streets, Municipal Small Bridge Program, Culvert Replacement Program, and others. These grants can be applied either before or after the implementation of a TIP-funded project. Further, there are various projects that are either programmed on the TIP, or attempting to obtain funding through the TIP, that have been awarded grants to improve the roadway or related infrastructure adjacent to the TIP project boundaries. Since the region's annual allocation of TIP funding is limited, communities often need to consider other available funding opportunities in order to fully address identified needs through improved infrastructure.

2012 - 2027 CMMPO Transportation Improvement Program (TIP) Equity Analysis

Environmental Justice

- Population over 75 (Percent of population greater than 150% of regional average: 9.3%)
- Low Income (< 65% of Median Household Income: <\$44,901)
- Minority (>Regional Percent Minority: >22.2%)
- Minority and Low Income
- 2015 Zero Vehicle HH (+13.5%)
- 2010 Language Isolated HH (+9.45%)

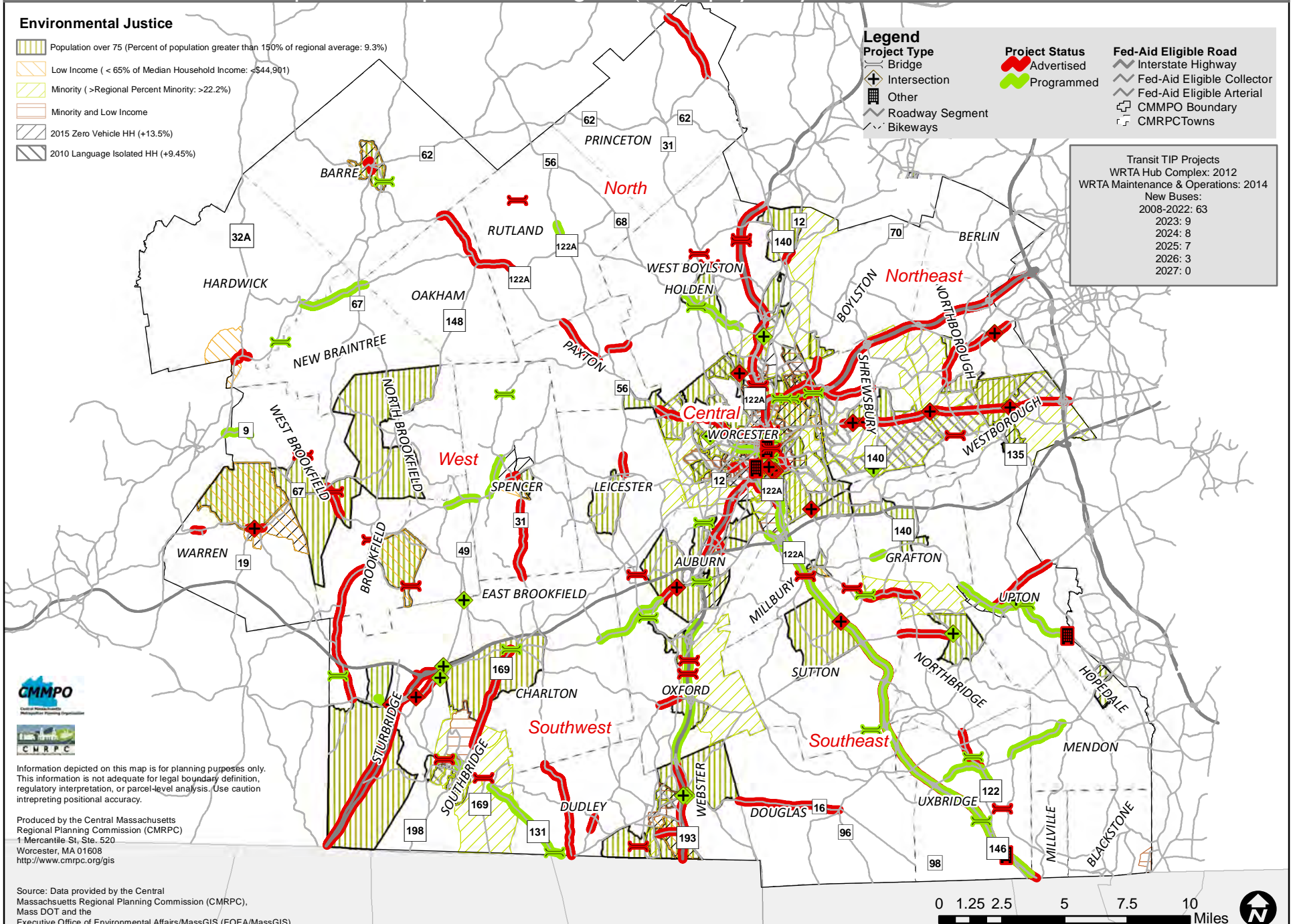
Legend

- Project Type**
- Bridge
 - Intersection
 - Other
 - Roadway Segment
 - Bikeways

- Project Status**
- Advertised
 - Programmed

- Fed-Aid Eligible Road**
- Interstate Highway
 - Fed-Aid Eligible Collector
 - Fed-Aid Eligible Arterial
 - CMMPO Boundary
 - CMRPC Towns

Transit TIP Projects
 WRTA Hub Complex: 2012
 WRTA Maintenance & Operations: 2014
 New Buses:
 2008-2022: 63
 2023: 9
 2024: 8
 2025: 7
 2026: 3
 2027: 0



Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.

Produced by the Central Massachusetts
 Regional Planning Commission (CMRPC)
 1 Mercantile St., Ste. 520
 Worcester, MA 01608
<http://www.cmrpc.org/gis>

Source: Data provided by the Central
 Massachusetts Regional Planning Commission (CMRPC),
 Mass DOT and the
 Executive Office of Environmental Affairs/MassGIS (EOEA/MassGIS).

2012 – 2027 CMMPO TIP Equity Distribution Analysis

CMRPC Sub-Region	Community	# of Target Projects	Target Funds	Total # of Projects	# of Projects In EJ Area	Total Funds Allocated
Central	Worcester	11	\$54.888	37	36	\$224.605
North	Barre	1	\$3.64	2	1	\$4.979
	Holden	1	\$10.542	6	2	\$24.568
	Oakham	1	\$1.533	1	0	\$1.533
	Paxton	2	\$5.904	2	0	\$5.904
	Princeton	1	\$7.984	1	0	\$7.984
	Rutland	2	\$7.767	3	0	\$9.942
	West Boylston	0	N/A	3	3	\$16.046
Northeast	Berlin	0	N/A	0	0	N/A
	Boylston	0	N/A	2	0	\$7.310
	Northborough	0	N/A	5	2	\$23.674
	Shrewsbury	1	\$6.278	8	5	\$44.482
	Westborough	2	\$9.378	4	4	\$25.106
Southeast	Blackstone	0	N/A	0	0	N/A
	Douglas	0	N/A	1	0	\$3.017
	Grafton	1	\$10.241	2	2	\$15.025
	Hopedale	0	N/A	2	0	\$3.010
	Mendon	0	N/A	1	0	11.747
	Millbury	2	\$14.334	4	3	\$29.421
	Millville	0	N/A	1	0	\$2.358
	Northbridge	2	\$10.531	2	2	\$10.531
	Sutton	1	\$3.024	6	2	\$20.277
	Upton	3	\$12.023	5	2	\$22.725
	Uxbridge	3	\$20.946	8	0	\$31.009
Southwest	Auburn	2	\$8.412	9	9	\$54.292
	Charlton	0	N/A	3	1	\$42.021
	Dudley	1	\$2.929	5	1	\$18.515
	Oxford	2	\$9.369	7	2	\$60.210
	Southbridge	1	\$5.417	4	4	\$16.897
	Sturbridge	4	\$15.606	11	6	\$41.677
	Webster	2	\$13.449	3	3	\$14.615
West	Brookfield	1	\$2.230	2	1	\$3.941
	East Brookfield	1	\$.911	2	1	\$2.622
	Hardwick	1	\$5.031	2	1	\$6.232
	Leicester	1	\$2.959	1	0	\$2.959
	New Braintree	1	\$4.604	2	0	\$5.805
	North Brookfield	0	N/A	0	0	N/A
	Spencer	4	\$18.533	6	3	\$31.473
	Warren	3	\$4.434	0	2	\$4.434
	West Brookfield	5	\$17.549	7	5	\$21.565
Totals		63	\$290.446	174	104	\$872.511

4.) Air Quality Conformity Determination Central Massachusetts MPO FFY 2023-2027 Transportation Improvement Program

This section documents the latest air quality conformity determination for the 1997 ozone National Ambient Air Quality Standards (NAAQS) in the CMMPO Region. It covers the applicable conformity requirements according to the latest regulations, regional designation status, legal considerations, and federal guidance. Further details and background information are provided below:

Introduction

The 1990 Clean Air Act Amendments (CAAA) require metropolitan planning organizations within nonattainment and maintenance areas to perform air quality conformity determinations prior to the approval of Long-Range Transportation Plans (LRTPs) and Transportation Improvement Programs (TIPs), and at such other times as required by regulation. Clean Air Act (CAA) section 176(c) (42 U.S.C. 7506(c)) requires that federally funded or approved highway and transit activities are consistent with (“conform to”) the purpose of the State Implementation Plan (SIP). Conformity to the purpose of the SIP means that means Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funding and approvals are given to highway and transit activities that will not cause or contribute to new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS or any interim milestones (42 U.S.C. 7506(c)(1)). EPA’s transportation conformity rules establish the criteria and procedures for determining whether metropolitan transportation plans, transportation improvement programs (TIPs), and federally supported highway and transit projects conform to the SIP (40 CFR Parts 51.390 and 93).

A nonattainment area is one that the U.S. Environmental Protection Agency (EPA) has designated as not meeting certain air quality standards. A maintenance area is a nonattainment area that now meets the standards and has been re-designated as maintaining the standard. A conformity determination is a demonstration that plans, programs, and projects are consistent with the State Implementation Plan (SIP) for attaining the air quality standards. The CAAA requirement to perform a conformity determination ensures that federal approval and funding go to transportation activities that are consistent with air quality goals.

Legislative and Regulatory Background

The entire Commonwealth of Massachusetts was previously classified as nonattainment for ozone, and was divided into two nonattainment areas. The Eastern Massachusetts ozone nonattainment area included Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and Worcester counties. Berkshire, Franklin, Hampden, and Hampshire counties comprised the Western Massachusetts ozone nonattainment area. With these

classifications, the 1990 Clean Air Act Amendments (CAAA) required the Commonwealth to reduce its emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO_x), the two major precursors to ozone formation to achieve attainment of the ozone standard.

The 1970 Clean Air Act defined a one-hour national ambient air quality standard (NAAQS) for ground-level ozone. The 1990 CAAA further classified degrees of nonattainment of the one-hour standard based on the severity of the monitored levels of the pollutant. The entire commonwealth of Massachusetts was classified as being in serious nonattainment for the one-hour ozone standard, with a required attainment date of 1999. The attainment date was later extended, first to 2003 and a second time to 2007.

In 1997, the EPA proposed a new, eight-hour ozone standard that replaced the one-hour standard, effective June 15, 2005. Scientific information had shown that ozone could affect human health at lower levels, and over longer exposure times than one hour. The new standard was challenged in court, and after a lengthy legal battle, the courts upheld it. It was finalized in June 2004. The eight-hour standard is 0.08 parts per million, averaged over eight hours and not to be exceeded more than once per year. Nonattainment areas were again further classified based on the severity of the eight-hour values. Massachusetts as a whole was classified as being in moderate nonattainment for the eight-hour standard, and was separated into two nonattainment areas—Eastern Massachusetts and Western Massachusetts.

In March 2008, EPA published revisions to the eight-hour ozone NAAQS establishing a level of 0.075 ppm, (March 27, 2008; 73 FR 16483). In 2009, EPA announced it would reconsider this standard because it fell outside of the range recommended by the Clean Air Scientific Advisory Committee. However, EPA did not take final action on the reconsideration so the standard would remain at 0.075 ppm.

After reviewing data from Massachusetts monitoring stations, EPA sent a letter on December 16, 2011 proposing that only Dukes County would be designated as nonattainment for the new proposed 0.075 ozone standard. Massachusetts concurred with these findings.

On May 21, 2012, (77 FR 30088), the final rule was published in the Federal Register, defining the 2008 NAAQS at 0.075 ppm, the standard that was promulgated in March 2008. A second rule published on May 21, 2012 (77 FR 30160), revoked the 1997 ozone NAAQS to occur one year after the July 20, 2012 effective date of the 2008 NAAQS.

Also on May 21, 2012, the air quality designations areas for the 2008 NAAQS were published in the Federal Register. In this Federal Register, the only area in Massachusetts that was designated as nonattainment is Dukes County. All other Massachusetts counties were designated as attainment/unclassified for the 2008 standard. On March 6, 2015, (80 FR 12264, effective April 6, 2015) EPA published the Final Rulemaking, “Implementation of the 2008 National Ambient Air Quality Standards (NAAQS) for Ozone: State Implementation Plan

Requirements; Final Rule.” This rulemaking confirmed the removal of transportation conformity to the 1997 Ozone NAAQS and the replacement with the 2008 Ozone NAAQS, which (with actually a stricter level of allowable ozone concentration than the 1997 standards) classified Massachusetts as “Attainment/unclassifiable” (except for Dukes County).

However, on February 16, 2018, the United States Court of Appeals for the District of Columbia Circuit in *South Coast Air Quality Mgmt. District v. EPA* (“*South Coast II*,” 882 F.3d 1138) held that transportation conformity determinations must be made in areas that were either nonattainment or maintenance for the 1997 ozone NAAQS and attainment for the 2008 ozone NAAQS when the 1997 ozone NAAQS was revoked. Conformity determinations are required in these areas after February 16, 2019. On November 29, 2018, EPA issued *Transportation Conformity Guidance for the South Coast II Court Decision* (EPA-420-B-18-050, November 2018) that addresses how transportation conformity determinations can be made in these areas. According to the guidance, both Eastern and Western Massachusetts, along with several other areas across the country, are now defined as “orphan nonattainment areas” – areas that were designated as nonattainment for the 1997 ozone NAAQS at the time of its revocation (80 FR 12264, March 6, 2015) and were designated attainment for the 2008 ozone NAAQS in EPA’s original designations rule for this NAAQS (77 FR 30160, May 21, 2012).

Current Conformity Determination

After 2/16/19, as a result of the court ruling and the subsequent federal guidance, transportation conformity for the 1997 NAAQS – intended as an “anti-backsliding” measure – now applies to both of Massachusetts’ orphan areas. Therefore, a conformity determination was made for the 1997 ozone NAAQS on the 2020-2040 Regional Transportation Plans. This conformity determination was finalized in July 2019 following each MPO’s previous endorsement of their regional transportation plan, and approved by the Massachusetts Divisions of FHWA and FTA on October 15, 2019. This conformity determination continues to be valid for the CMMPO FFY 2023-2027 Transportation Improvement Program, and Massachusetts’ FFY 2023-2027 STIP, as each is developed from the conforming 2020-2040 Regional Transportation Plans.

The transportation conformity regulation at 40 CFR 93.109 sets forth the criteria and procedures for determining conformity. The conformity criteria for TIPs and RTPs include: latest planning assumptions (93.110), latest emissions model (93.111), consultation (93.112), transportation control measures (93.113(b) and (c), and emissions budget and/or interim emissions (93.118 and/or 93.119).

For the 1997 ozone NAAQS areas, transportation conformity for TIPs and RTPs for the 1997 ozone NAAQS can be demonstrated without a regional emissions analysis, per 40 CFR 93.109(c). This provision states that the regional emissions analysis requirement applies one year after the

effective date of EPA's nonattainment designation for a NAAQS and until the effective date of revocation of such NAAQS for an area. The 1997 ozone NAAQS revocation was effective on April 6, 2015, and the *South Coast II* court upheld the revocation. As no regional emission analysis is required for this conformity determination, there is no requirement to use the latest emissions model, or budget or interim emissions tests.

Therefore, transportation conformity for the 1997 ozone NAAQS for the CMMPO FFY 2023-2027 Transportation Improvement Program and 2020-2040 Regional Transportation Plans can be demonstrated by showing that remaining requirements in Table 1 in 40 CFR 93.109 have been met. These requirements, which are laid out in Section 2.4 of EPA's guidance and addressed below, include:

- Latest planning assumptions (93.110)
- Consultation (93.112)
- Transportation Control Measures (93.113)
- Fiscal Constraint (93.108)

Latest Planning Assumptions:

The use of latest planning assumptions in 40 CFR 93.110 of the conformity rule generally apply to regional emissions analysis. In the 1997 ozone NAAQS areas, the use of latest planning assumptions requirement applies to assumptions about transportation control measures (TCMs) in an approved SIP (See following section on Timely Implementation of TCMs).

Consultation:

The consultation requirements in 40 CFR 93.112 were addressed both for interagency consultation and public consultation. Interagency consultation was conducted with FHWA, FTA, US EPA Region 1, MassDEP, and the Massachusetts MPOs on March 6, 2019 to discuss the latest conformity-related court rulings and resulting federal guidance. Regular and recurring interagency consultations have been held since on an (at least) annual schedule, with the most recent conformity consultation held on April 27, 2022. This ongoing consultation is conducted in accordance with the following:

- Massachusetts' Air Pollution Control Regulations 310 CMR 60.03 "Conformity to the State Implementation Plan of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 USC or the Federal Transit Act"
- The Commonwealth of Massachusetts Memorandum of Understanding among the Massachusetts Department of Transportation, Massachusetts Department of Environmental Protection, Massachusetts Metropolitan Planning Organizations, and Regional Transit Authorities, titled The Conduct of Air Quality Planning and Coordination for Transportation Conformity (dated September 16, 2019)

Public consultation was conducted consistent with planning rule requirements in 23 CFR 450. Title 23 CFR Section 450.324 and 310 CMR 60.03(6)(h) requires that the development of the TIP, RTP, and related certification documents provide an adequate opportunity for public review and comment. Section 450.316(b) also establishes the outline for MPO public participation programs. The CMMPO's Public Participation Plan was formally adopted in 2021. The Public Participation Plan ensures that the public will have access to the TIP and all supporting documentation, provides for public notification of the availability of the TIP and the public's right to review the document and comment thereon, and provides a 21-day public review and comment period prior to the adoption of the TIP and related certification documents.

The public comment period for this conformity determination commenced on April 20, 2022. During the 21-day public comment period, any comments received were incorporated into this Plan. This allowed ample opportunity for public comment and MPO review of the draft document. The public comment period will close on May 11, 2022 and subsequently, the CMMPO is expected to endorse this air quality conformity determination on May 18, 2022. These procedures comply with the associated federal requirements.

Timely Implementation of Transportation Control Measures:

Transportation Control Measures (TCMs) have been required in the SIP in revisions submitted to EPA in 1979 and 1982. All SIP TCMs have been accomplished through construction or through implementation of ongoing programs. All of the projects have been included in the Region's Transportation Plan (present or past) as recommended projects or projects requiring further study.

Fiscal Constraint:

Transportation conformity requirements in 40 CFR 93.108 state that TIPs and transportation plans must be fiscally constrained consistent with DOT's metropolitan planning regulations at 23 CFR part 450. The CMMPO 2023-2027 Transportation Improvement Program and 2020-2040 Regional Transportation Plan are fiscally constrained, as demonstrated in this document.

The requirement to perform a conformity determination for carbon monoxide (CO) for the city of Worcester has expired. On April 22, 2002, the EPA classified Worcester as being in attainment (in compliance) for CO emissions. Subsequently, a EPA-approved CO limited maintenance plan was set up through the Massachusetts SIP to ensure that emission levels did not increase. While the maintenance plan was in effect, past TIPs and RTPs included an air quality conformity determination against a "budget test" (using "hot spot" analyses as needed at the project level) for Worcester. As of April 22, 2022, however, the 20-year maintenance period for this CO area expired and transportation conformity is no longer required for this pollutant in this municipality. This ruling is documented in a letter from EPA dated April 26,

2022.

In summary and based upon the entire process described above, the CMMPO has prepared this conformity determination for the 1997 Ozone NAAQS in accordance with EPA's and Massachusetts' latest conformity regulations and guidance. This conformity determination process demonstrates that the FFY 2023-2027 Transportation Improvement Program and the 2020-2040 Regional Transportation Plan meet the Clean Air Act and Transportation Conformity Rule requirements for the 1997 Ozone NAAQS, and have been prepared following all the guidelines and requirements of these rules during this time period.

Therefore, the implementation of the CMMPO's FFY 2023-2027 Transportation Improvement Program and the 2020-2040 Regional Transportation Plan are consistent with the air quality goals of, and in conformity with, the Massachusetts State Implementation Plan.

5.) Status of FFY 2022 Projects: Highway & Transit

Status of FFY 2022 Highway Projects

Project #	Community	Description	Project Cost	Funding	Current Status
<i>Regional Target Projects</i>					
602659	Charlton / Oxford	Reconstruction on Route 20, from Richards Corner Road to Route 12	\$4,000,000	STBG	Project is AC'd between 2022 & 2025. Advertised on 4/23/22.
605377	Millbury	Reconstruction on McCracken Road & Greenwood Street	\$11,310,573	STBG	Advertised on 4/30/22
608432	Rutland	Reconstruction of Route 56 (Pommogussett Road)	\$6,234,490	STBG	100% Design Stage
<i>Statewide Projects</i>					
S12180	Sturbridge	Grand Trunk Trail Bikeway Construction from Sturbridge to Southbridge	\$61,649	HPP	Transfer was requested to Eastern Federal Lands
608815	Holden	Resurfacing and Related Work on Route 122A	\$2,978,029	NHPP	Advertised on 3/19/22
608907	Uxbridge	Superstructure Replacement, U-02-052, Route 146 Ramp over Emerson Brook	\$1,242,073	STBG-BR-OFF	100% Design Stage
602659	Charlton / Oxford	Reconstruction on Route 20, from Richards Corner Road to Route 12	\$12,000,000	NHPP	Project is AC'd between 2022 & 2025. Advertised on 4/23/22.

Worcester Regional Transit Authority
Status of FFY 2022 Transit Projects
(10/1/21 - 9/30/22)

Project	Project Number	Federal Program Name	Obligation Date	Fed. Funds Programmed in FFY 2022 TIP	Fed. Funds Obligated in FFY 2022	Remaining Balance	Grant/Contract Number
BUY REPLACEMENT VAN (5)	RTD0009775	5307		\$ 650,000	\$ 650,000	\$ -	Grant in Progress
PURCHASE SOFTWARE TO SUPPORT OPERATIONS	RTD0009778	5307		\$ 235,200	\$ 235,200	\$ -	Grant in Progress
RENOVATIONS AND MAINTENANCE TO WRTA HUB	RTD0009781	5307		\$ 20,000	\$ 20,000	\$ -	Grant in Progress
PURCHASE SPARE PARTS FOR REVENUE ROLLING STOCK	RTD0009776	5307		\$ 486,716	\$ 486,716	\$ -	Grant in Progress
PURCHASE FIXED ROUTE BUS SHELTERS	RTD0009779	5307		\$ 65,600	\$ 65,600	\$ -	Grant in Progress
BUY REPLACEMENT SUPPORT VEHICLES (2)	RTD0009774	5307		\$ 133,600	\$ 133,600	\$ -	Grant in Progress
PURCHASE COMPUTER HARDWARE EQUIPMENT	RTD0009777	5307		\$ 282,400	\$ 282,400	\$ -	Grant in Progress
OPERATING ASSISTANCE - FIXED ROUTE	RTD0009783	5307		\$ 3,632,571	\$ 3,632,571	\$ -	Grant in Progress
RENOVATIONS AND MAINTENANCE TO WRTA MAINTENANCE AND OPERATIONS FACILITY	RTD0009823	5307		\$ 36,000	\$ 36,000	\$ -	Grant in Progress
PURCHASE BUS STOP AND ELECTRIC SIGNAGE FOR FIXED ROUTE	RTD0009780	5307		\$ 18,432	\$ 18,432	\$ -	Grant in Progress
PURCHASE SUPPORT EQUIPMENT FOR FIXED ROUTE AND DEMAND RESPONSE	RTD0009772	5307		\$ 148,292	\$ 148,292	\$ -	Grant in Progress
BUY REPLACEMENT 35-FT BUS (9)	RTD0010327	5307		\$ 4,151,421	\$ 4,151,421	\$ -	Grant in Progress
WORCESTER: REHABILITATION OF UNION STATION	RTD0009782	5337		\$ 2,926,091		\$ 2,926,091	
BUY REPLACEMENT 35 FT BUS (9)	RTD0009773	5339		\$ 587,274	\$ 587,274	\$ -	Grant in Progress
Total:				\$13,373,597	\$10,447,506	\$ 2,926,091	

Part C: Regional Transportation Projects Information

The first part of this section includes the Greenhouse Gas (GHG) tracking results for 2023 to 2027 highway and transit projects. Following the GHG results, there is a listing of regionally significant projects and a summary of advanced construction. Lastly, the summary of the Highway Safety Improvement Program projects is listed for 2023 to 2027.

- 1. Greenhouse Gas (GHG) Tracking in the Central Massachusetts Planning Region: Highway & Transit**
- 2. Listing of Regionally Significant Projects**
- 3. Advanced Construction**
- 4. Highway Safety Improvement Program**

1) 2023 – 2027 Transportation Improvement Program Greenhouse Gas Monitoring and Evaluation

This section summarizes the greenhouse gas (GHG) impacts that are anticipated to result from the projects that are included in this FFY 2023 – 2027 Transportation Improvement Program (TIP). It includes a summary of the state laws and policies that call for reducing greenhouse gas in order to mitigate global climate change; actions that respond to these state laws and policies; the role of regional planning and TIP development in reducing GHG emission and tracking these reductions; and the projected GHG emission impacts from the projects programmed in the TIP.

State Policy Context

The Global Warming Solutions Act (GWSA), which was signed into law in August 2008, makes Massachusetts a leader in setting aggressive and enforceable GHG reduction targets, and implementing policies and initiatives to achieve these targets. In keeping with the law, on December 29, 2010 the Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA), in consultation with other state agencies and the public, released the Massachusetts Clean Energy and Climate Plan for 2020. In December 2014, DEP issued new regulations that require Metropolitan Planning Organizations to quantify impacts from project investments, track progress towards reductions, and consider impacts in the prioritization of project investments. The targets for overall statewide GHG emissions are:



The Role of MPOs

The Commonwealth's CMPs are integrally involved in supporting the GHG reductions mandated under the GWSA. The MPOs are most directly involved in helping to achieve the GH emission reductions through the promotion of healthy transportation modes through prioritizing and programming an appropriate balance of roadway, transit, bicycle and pedestrian investments – and assisting smart growth development patterns through the creation of a balanced multi-modal transportation system. This is realized through the transportation goals and policies espoused in the 2020 Regional Transportation Plans (RTPs); the major projects planned in those

RTPs; and the mix of new transportation projects that are programmed and implemented through the TIPs. GHG tracking and evaluation processes enable the MPOs to identify anticipated GHG impacts of planned and programmed projects, and also to use GHG impacts as a criterion in prioritizing transportation projects.

Project-Level GHG Tracking and Evaluation in the Transportation Improvement Program

It is also important to monitor and evaluate the GHG impacts of the transportation projects that are programmed in the MPOs' Transportation Improvement Programs (TIP). The TIPs include both the larger, regionally-significant projects from the RTPs, which are reported in the Statewide GHG report, as well as smaller projects that are not included in the RTP but that may nevertheless have impacts on GHG emissions. The primary objective of this tracking is to enable the MPOs to evaluate expected GHG impacts of different projects and to use this information as a criterion for prioritizing and programming projects.

Calculation of GHG Impacts for TIP Projects

MassDOT has adopted spreadsheets used by the MPOs to determine Congestion Management and Air Quality Improvement (CMAQ) eligibility and that also include CO₂ impacts. The data and analysis required for these calculations is available from functional design reports that are submitted for projects that would produce a measurable GHG impact.

Projects with Quantified Impacts

RTP Projects: Major capacity expansion projects are expected to have a significant impact on GHG emissions. These projects are included in each MPO's RTPs and analyzed using either the statewide model or the Boston MPO's regional model, which reflect GHG impacts. As a result, no independent TIP calculations are required.

Quantified Decrease in Emissions: For those projects that are expected to produce a measurable decrease in emissions, the approach for calculating these impacts is described below. These projects are categorized in the following manner:

- **Quantified Decrease in Emissions from Traffic Operational Improvement** – An intersection reconstruction or signalization project that is projected to reduce delay and congestion.
- **Quantified Decrease in Emissions from Pedestrian and Bicycle Infrastructure** – A shared-use path that enables increased walking and biking and decreases vehicle-miles traveled (VMT).
- **Quantified Decrease in Emissions from New/Additional Transit Service** – A bus or shuttle service that enables increased transit ridership and decreased VMT.

- **Quantified Decrease in Emissions from a Park and Ride Lot** – A park and ride lot that enables increased transit ridership/ increased ridesharing and decreased VMT.
- **Quantified Decrease in Emissions from Complete Streets Improvements** – Improvements to roadway networks that include the addition of bicycle and pedestrian accommodations where none were present before.
- **Quantified Decrease in Emissions from Alternative Fuel Vehicle Procurements** – A vehicle procurement where alternative fuel/advanced technology vehicles replace traditional gas or diesel vehicles.
- **Quantified Decrease in Emissions from Anti-Idling Strategies** – Implementation of policies such as limiting idling allowed, incorporating anti-idling technology into fleets and using LED lights on trucks for the purpose of illuminating worksites.
- **Quantified Decrease in Emissions from Bike Share Projects** – A new bike share project or capacity added to an existing project.
- **Quantified Decrease in Emissions from Induced Travel Projects** – A project that changes roadway capacity.
- **Quantified Decrease in Emissions from Speed Reduction Programs** – Programs that reduce speed to no less than 55 miles per hour.
- **Quantified Decrease in Emissions from Transit Signal Priority Projects** – A project that applies this technology to a signal intersection or along a corridor that impacts bus service.
- **Quantified Decrease in Emissions from Truck Stop Electrification Projects** – A new truck stop electrification project or capacity added to an existing project.
- **Quantified Decrease in Emissions from Other Improvement**

Quantified Increase in Emission: Projects expected to produce a measurable increase in emissions.

Projects with No Assumed Impacts

No Assumed Impact/Negligible Impact on Emissions: Projects that do not change the capacity or use a facility (e.g. roadway median barrier or retaining wall replacement, or a bridge rehabilitation/replacement that restores the bridge to its previous condition) are assumed to have no/negligible GHG impact.

Qualitative Decrease in Emissions: Projects expected to produce a minor decrease in emissions that cannot be calculated with any precision. Examples of such projects include roadway repaving, signage improvement, ITS improvement, or transit marketing/customer experience improvement.

Qualitative Increase in Emissions: Projects expected to produce a minor increase in emissions that cannot be calculated with any precision.

Greenhouse Gas Impact Tables for FFY 2023 – 2027 TIP

The tables summarizing the calculated quantitative and assumed qualitative impacts of the projects included in the regional FFY 2023 – 2027 TIP are found on the following pages.

Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2023					
Central Mass					
602659	CHARLTON- OXFORD- RECONSTRUCTION ON ROUTE 20, FROM RICHARDSON'S CORNER EASTERLY TO ROUTE 12, INCLUDES REHAB OF C-06-023 & REPLACEMENT OF O-06-002	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	0	Emissions reduction also includes bicycle and pedestrian infrastructure. All CO2 emissions reductions are included within the last year of advanced construction (FFY 2025)
605035	NEW BRAINTREE- RECONSTRUCTION & IMPROVEMENTS ON RAVINE ROAD AND HARDWICK ROAD FROM HARDWICK T.L. TO ROUTE 67 (BARRE RD) (2.6 MILES)	Qualitative	No assumed impact/negligible impact on emissions	0	
608873	SPENCER- ROADWAY REHABILITATION OF MEADOW ROAD	Quantified	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	-2,462	
609219	HOLDEN- PAVEMENT REHABILITATION ON MAIN STREET, SHREWSBURY STREET AND DOYLE ROAD, FROM STATE POLICE BARRACKS TO BRATTLE STREET	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	-804,774	Emissions reduction also included bicycle and pedestrian infrastructure.
610826	STURBRIDGE- BRIDGE REPLACEMENT, S-30-019, CHAMPEAUX ROAD OVER LONG POND	Qualitative	No assumed impact/negligible impact on emissions	0	

Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2023					
Central Mass					
612650	WORCESTER- BRIDGE PRESERVATION, W-44-111, W-44-113, W-44-114, I -290 (EB/WB) OVER LINCOLN STREET, COLBY AVENUE AND PLANTATION STREET	Qualitative	No assumed impact/negligible impact on emissions	0	
Central Mass			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-807,236	
			Total GHG Difference (kg/year)	-807,236	
2023			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-807,236	
			Total GHG Difference (kg/year)	-807,236	

Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2024					
Central Mass					
602659	CHARLTON- OXFORD- RECONSTRUCTION ON ROUTE 20, FROM RICHARDSON'S CORNER EASTERLY TO ROUTE 12, INCLUDES REHAB OF C-06-023 & REPLACEMENT OF O-06-002	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	0	Emissions reduction also includes bicycle and pedestrian infrastructure. All CO2 emissions reductions are included within the last year of advanced construction (FFY 2025)
606517	WEST BROOKFIELD- RESURFACING & RELATED WORK ON ROUTE 9, FROM WARE T.L. TO 850' WEST OF WELCOME ROAD (1.1 MILES - PHASE I)	Quantified	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	-439	
607764	SHREWSBURY- INTERSECTION & SIGNAL IMPROVEMENT AT US 20 (HARTFORD TURNPIKE) AT GRAFTON STREET	Qualitative	No assumed impact/negligible impact on emissions	0	
608171	UXBRIDGE- RECONSTRUCTION OF ROUTE 122 (SOUTH MAIN STREET), FROM SUSAN PARKWAY TO ROUTE 16	Quantified	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	-489	

Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2024					
Central Mass					
608490	UPTON- RESURFACING AND RELATED WORK ON ROUTE 140 AND ROUNDABOUT CONSTRUCTION AT ROUTE 140, CHURCH STREET AND GROVE STREET	Qualitative	Qualitative Decrease in Emissions	0	
608491	MENDON- RESURFACING AND RELATED WORK ON ROUTE 16	Qualitative	Qualitative Decrease in Emissions	0	
608640	SUTTON-GRAFTON- BRIDGE RECONSTRUCTION/REHABILITATION, S-33-004, CARRYING DEPOT STREET OVER THE BLACKSTONE RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
608757	WORCESTER- INTERSECTION IMPROVEMENTS AT WEST MOUNTAIN STREET AT I-190 FRONTAGE ROAD & BROOKS STREET EXTENSION	Qualitative	No assumed impact/negligible impact on emissions	0	
608778	SOUTHBRIDGE- INTERSECTION IMPROVEMENTS AT CENTRAL STREET, FOSTER STREET, HOOK STREET AND HAMILTON STREET	Quantified	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	-4,357	
608814	SPENCER- RESURFACING AND RELATED WORK ON ROUTE 9	Qualitative	Qualitative Decrease in Emissions	0	



Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2024					
Central Mass					
608862	SOUTHBRIDGE- BRIDGE REPLACEMENT, S-21-009, MILL STREET OVER MCKINSTRY BROOK & S-21-003, MILL STREET OVER THE QUINEBAUG RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
609179	SPENCER- BRIDGE REPLACEMENT, S-23-012, NORTH SPENCER ROAD (ROUTE 31) OVER THE SEVEN MILE RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
609185	WORCESTER- BRIDGE RECONSTRUCTION OF W-44-083, HARRISON STREET OVER I-290 & W-44-093, LAUREL STREET OVER I-290	Qualitative	No assumed impact/negligible impact on emissions	0	
609186	DUDLEY - BRIDGE REPLACEMENT, D-12-026, STATE ROUTE 131 OVER THE QUINEBAUG RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
609528	GRAFTON- MILLBURY STREET IMPROVEMENTS (SRTS)	Qualitative	No assumed impact/negligible impact on emissions	0	
610535	WORCESTER- PEDESTRIAN AND BICYCLE IMPROVEMENTS ON PLEASANT STREET	Qualitative	Qualitative Decrease in Emissions	0	
612087	AUBURN- RESURFACING AND RELATED WORK ON I-290 AND I-395	Qualitative	Qualitative Decrease in Emissions	0	



Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2024					
Central Mass					
612098	UPTON- HOPEDALE- RESURFACING AND RELATED WORK ON ROUTE 140	Qualitative	Qualitative Decrease in Emissions	0	
Central Mass			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-5,285	
			Total GHG Difference (kg/year)	-5,285	
2024			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-5,285	
			Total GHG Difference (kg/year)	-5,285	

Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2025					
Central Mass					
602659	CHARLTON- OXFORD- RECONSTRUCTION ON ROUTE 20, FROM RICHARDSON'S CORNER EASTERLY TO ROUTE 12, INCLUDES REHAB OF C-06-023 & REPLACEMENT OF O-06-002	Quantified	Quantified Decrease in Emissions from Traffic Operational Improvement	-204,865	Emissions reduction also includes bicycle and pedestrian infrastructure. All CO2 emissions reductions are included within the last year of advanced construction (FFY 2025)
608433	WEBSTER- INTERSECTION IMPROVEMENTS AT I-395 RAMPS (EXIT 2) AT ROUTE 16 (EAST MAIN STREET) AND SUTTON ROAD	Qualitative	Qualitative Decrease in Emissions	0	
608851	HARDWICK- NEW BRAINTREE- BRIDGE REPLACEMENT, H-08-003=N-07-002, CREAMERY ROAD OVER WARE RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
608961	WORCESTER- INTERSECTION IMPROVEMENTS ON CHANDLER STREET AND MAY STREET	Qualitative	Qualitative Decrease in Emissions	0	
609049	WEST BROOKFIELD- RESURFACING & RELATED WORK ON ROUTE 9, FROM 850' WEST OF WELCOME ROAD TO PIERCE ROAD (1 MILE - PHASE II)	Quantified	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	-295	
610717	UXBRIDGE TO WORCESTER- GUIDE AND TRAFFIC SIGN REPLACEMENT ON A SECTION OF ROUTE 146	Qualitative	No assumed impact/negligible impact on emissions	0	



Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2025					
Central Mass					
610769	SUTTON- BRIDGE REPLACEMENT, S-33-002, MANCHAUG ROAD OVER MUMFORD RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
612190	HOLDEN- BRIDGE REPLACEMENT, H-18-004, SALISBURY STREET OVER PW RAILROAD	Qualitative	No assumed impact/negligible impact on emissions	0	
612192	AUBURN- BRIDGE REPLACEMENT, A-17-038, US 20 (WB) WASHINGTON STREET OVER I-395	Qualitative	No assumed impact/negligible impact on emissions	0	
612195	WORCESTER- SUPERSTRUCTURE REPLACEMENT, W-44-091, I-290 OVER EAST CENTRAL STREET	Qualitative	No assumed impact/negligible impact on emissions	0	
Central Mass			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-205,160	
			Total GHG Difference (kg/year)	-205,160	
2025			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-205,160	
			Total GHG Difference (kg/year)	-205,160	



Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2026					
Central Mass					
608456	UPTON- CULVERT REPLACEMENT, MILFORD STREET (ROUTE 140) OVER UNNAMED TRIBUTARY TO CENTER BROOK	Qualitative	No assumed impact/negligible impact on emissions	0	
608990	WORCESTER- INTERSECTION IMPROVEMENTS AND RESURFACING ON CHANDLER STREET, FROM MAIN STREET TO QUEEN STREET	Qualitative	Qualitative Decrease in Emissions	0	
609441	NORTHBRIDGE- INTERSECTION IMPROVEMENTS AT ROUTE 122 (PROVIDENCE ROAD), SCHOOL STREET, SUTTON STREET, AND UPTON STREET	Qualitative	Qualitative Decrease in Emissions	0	
610825	SHREWSBURY- REHABILITATION & BOX WIDENING ON ROUTE 20, FROM ROUTE 9 TO SOUTH STREET	Qualitative	Qualitative Decrease in Emissions	0	
611933	STURBRIDGE- ROUNDABOUT CONSTRUCTION AT THE INTERSECTION OF ROUTE 20 AND ROUTE 131	Qualitative	Qualitative Decrease in Emissions	0	
612084	BARRE- BRIDGE REPLACEMENT, B-02-004, OLD COLDBROOK ROAD OVER PRINCE RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	



Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2026					
Central Mass					
612092	UXBRIDGE- BRIDGE REPLACEMENT, U-02-051, HOMEWARD AVENUE OVER PROVIDENCE WORCESTER RAILROAD	Qualitative	No assumed impact/negligible impact on emissions	0	
612095	OXFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-395	Qualitative	Qualitative Decrease in Emissions	0	
612181	CHARLTON- BRIDGE REPLACEMENT, C-06-019, US 20 STURBRIDGE ROAD OVER CADY BROOK	Qualitative	No assumed impact/negligible impact on emissions	0	
612191	AUBURN- BRIDGE REPLACEMENT, A-17-003, OXFORD STREET OVER KETTLE BROOK	Qualitative	No assumed impact/negligible impact on emissions	0	
612510	GRAFTON- BRIDGE REPLACEMENT, G-08-020, (SR 140) SHREWSBURY STREET OVER MBTA/CSX RAILROAD	Qualitative	No assumed impact/negligible impact on emissions	0	
S12206	STURBRIDGE - IMPROVEMENTS AT BURGESS ELEMENTARY SCHOOL (SRTS)	Qualitative	Qualitative Decrease in Emissions	0	
Central Mass			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	0	
2026			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	0	



Greenhouse Gas (GHG) Analysis Report

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2027					
Central Mass					
605323	OXFORD- BRIDGE REPLACEMENT, O-06-030, (ST 56) LEICESTER ROAD OVER THE FRENCH RIVER	Qualitative	No assumed impact/negligible impact on emissions	0	
610931	UXBRIDGE- REHABILITATION OF ROUTE 16 (DOUGLAS STREET), FROM TAFT HILL ROAD TO 200 FT WEST ON MAIN STREET	Qualitative	Qualitative Decrease in Emissions	0	
611967	STURBRIDGE- CHARLTON- INTERSECTION IMPROVEMENTS ON ROUTE 49 AT PUTNAM ROAD, WALKER POND ROAD & ROUTE 20	Qualitative	No assumed impact/negligible impact on emissions	0	
612011	WORCESTER- INTERSECTION IMPROVEMENTS AND RESURFACING ON CHANDLER STREET, FROM QUEEN STREET TO PARK AVENUE	Qualitative	Qualitative Decrease in Emissions	0	
612089	SOUTHBRIDGE- DUDLEY- RESURFACING AND RELATED WORK ON ROUTE 131	Qualitative	Qualitative Decrease in Emissions	0	
Central Mass			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	0	
2027			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	0	
2023 - 2027			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-1,017,681	
			Total GHG Difference (kg/year)	-1,017,681	



Greenhouse Gas (GHG) Analysis Report Worcester Regional Transit Authority

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2023					
RTD0010843	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (8)	Quantified	Quantified Decrease in Emissions from Bus Replacement	-16,425	
RTD0010845	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010846	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010849	Worcester Regional Transit Authority Regional Transit Authority: Purchase Fixed Route Bus Shelters	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010850	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010851	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010852	Worcester Regional Transit Authority: Rehabilitation of Union Station	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010853	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	Qualitative	No assumed impact/negligible impact on emissions	0	



Greenhouse Gas (GHG) Analysis Report Worcester Regional Transit Authority

STIP: 2023 - 2027					
MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2023					
RTD0010877	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010893	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (1)	Quantified	Quantified Decrease in Emissions from Bus Replacement	-2,346	
Worcester Regional Transit Authority			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-18,771	
			Total GHG Difference (kg/year)	-18,771	
2023			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-18,771	
			Total GHG Difference (kg/year)	-18,771	



Greenhouse Gas (GHG) Analysis Report Worcester Regional Transit Authority

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2024					
RTD0010854	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010855	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (7)	Quantified	Quantified Decrease in Emissions from Bus Replacement	-16,425	
RTD0010856	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Support Vehicles (3)	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010857	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010858	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010861	Worcester Regional Transit Authority Regional Transit Authority: Purchase Fixed Route Bus Shelters	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010862	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010863	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010864	Worcester Regional Transit Authority: Rehabilitation of Union Station	Qualitative	No assumed impact/negligible impact on emissions	0	



Greenhouse Gas (GHG) Analysis Report Worcester Regional Transit Authority

STIP: 2023 - 2027					
MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2024					
RTD0010878	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010894	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (1)	Quantified	Quantified Decrease in Emissions from Bus Replacement	-2,346	
Worcester Regional Transit Authority			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-18,771	
			Total GHG Difference (kg/year)	-18,771	
2024			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-18,771	
			Total GHG Difference (kg/year)	-18,771	



Greenhouse Gas (GHG) Analysis Report Worcester Regional Transit Authority

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2025					
RTD0010865	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010866	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (1)	Quantified	Quantified Decrease in Emissions from Bus Replacement	-2,346	
RTD0010867	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Support Vehicles (2)	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010868	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010869	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010872	Worcester Regional Transit Authority Regional Transit Authority: Purchase Fixed Route Bus Shelters	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010873	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010874	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010875	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	Qualitative	No assumed impact/negligible impact on emissions	0	



Greenhouse Gas (GHG) Analysis Report Worcester Regional Transit Authority

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2025					
RTD0010876	Worcester Regional Transit Authority: Rehabilitation of Union Station	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010879	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Van (7)	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010895	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (6)	Quantified	Quantified Decrease in Emissions from Bus Replacement	-14,079	
Worcester Regional Transit Authority			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-16,425	
			Total GHG Difference (kg/year)	-16,425	
2025			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-16,425	
			Total GHG Difference (kg/year)	-16,425	



Greenhouse Gas (GHG) Analysis Report Worcester Regional Transit Authority

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2026					
RTD0010880	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010881	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement 35 FT Bus (2)	Quantified	Quantified Decrease in Emissions from Bus Replacement	-14,079	
RTD0010883	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Support Vehicles (2)	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010884	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010885	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010888	Worcester Regional Transit Authority Regional Transit Authority: Fixed Route Bus Shelters	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010889	Worcester Regional Transit Authority Regional Transit Authority: Purchase Bus Stop and Electronic Signage for Fixed Route	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010890	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010891	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	Qualitative	No assumed impact/negligible impact on emissions	0	



Greenhouse Gas (GHG) Analysis Report Worcester Regional Transit Authority

STIP: 2023 - 2027					
MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2026					
RTD0010892	Worcester Regional Transit Authority: Rehabilitation of Union Station	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0010896	Worcester Regional Transit Authority Regional Transit Authority - Buy Replacement 35 FT Bus (1)	Quantified	Quantified Decrease in Emissions from Bus Replacement	-2,346	
Worcester Regional Transit Authority			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-16,425	
			Total GHG Difference (kg/year)	-16,425	
2026			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-16,425	
			Total GHG Difference (kg/year)	-16,425	



Greenhouse Gas (GHG) Analysis Report Worcester Regional Transit Authority

STIP: 2023 - 2027

MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2027					
RTD0011186	Worcester Regional Transit Authority Regional Transit Authority: Operating Assistance - Fixed Route	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0011187	Worcester Regional Transit Authority Regional Transit Authority: Buy Replacement Van (7)	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0011188	Worcester Regional Transit Authority Regional Transit Authority: Purchase Support Equipment for Fixed Route and Demand Response	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0011189	Worcester Regional Transit Authority Regional Transit Authority: Purchase Spare Parts for Revenue Rolling Stock	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0011190	Worcester Regional Transit Authority Regional Transit Authority: Fixed Route Bus Shelters	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0011191	Worcester Regional Transit Authority Regional Transit Authority - Purchase Bus Stop and Electronic Signage for Fixed Route	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0011192	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Hub	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0011193	Worcester Regional Transit Authority: Renovations and Maintenance to WRTA Maintenance and Operations Facility	Qualitative	No assumed impact/negligible impact on emissions	0	
RTD0011194	Worcester Regional Transit Authority: Rehabilitation of Union Station	Qualitative	No assumed impact/negligible impact on emissions	0	



Greenhouse Gas (GHG) Analysis Report Worcester Regional Transit Authority

STIP: 2023 - 2027					
MassDot Project ID	MassDOT Project Description	GHG Analysis Type	GHG Impact Description	GHG CO2 Impact (kg/yr)	Additional Information
Federal Fiscal Year 2027					
Worcester Regional Transit Authority			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	0	
2027			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	0	
			Total GHG Difference (kg/year)	0	
2023 - 2027			Total GHG Increase (kg/year)	0	
			Total GHG Reduction (kg/year)	-70,392	
			Total GHG Difference (kg/year)	-70,392	

2) Listing of Regionally Significant Projects

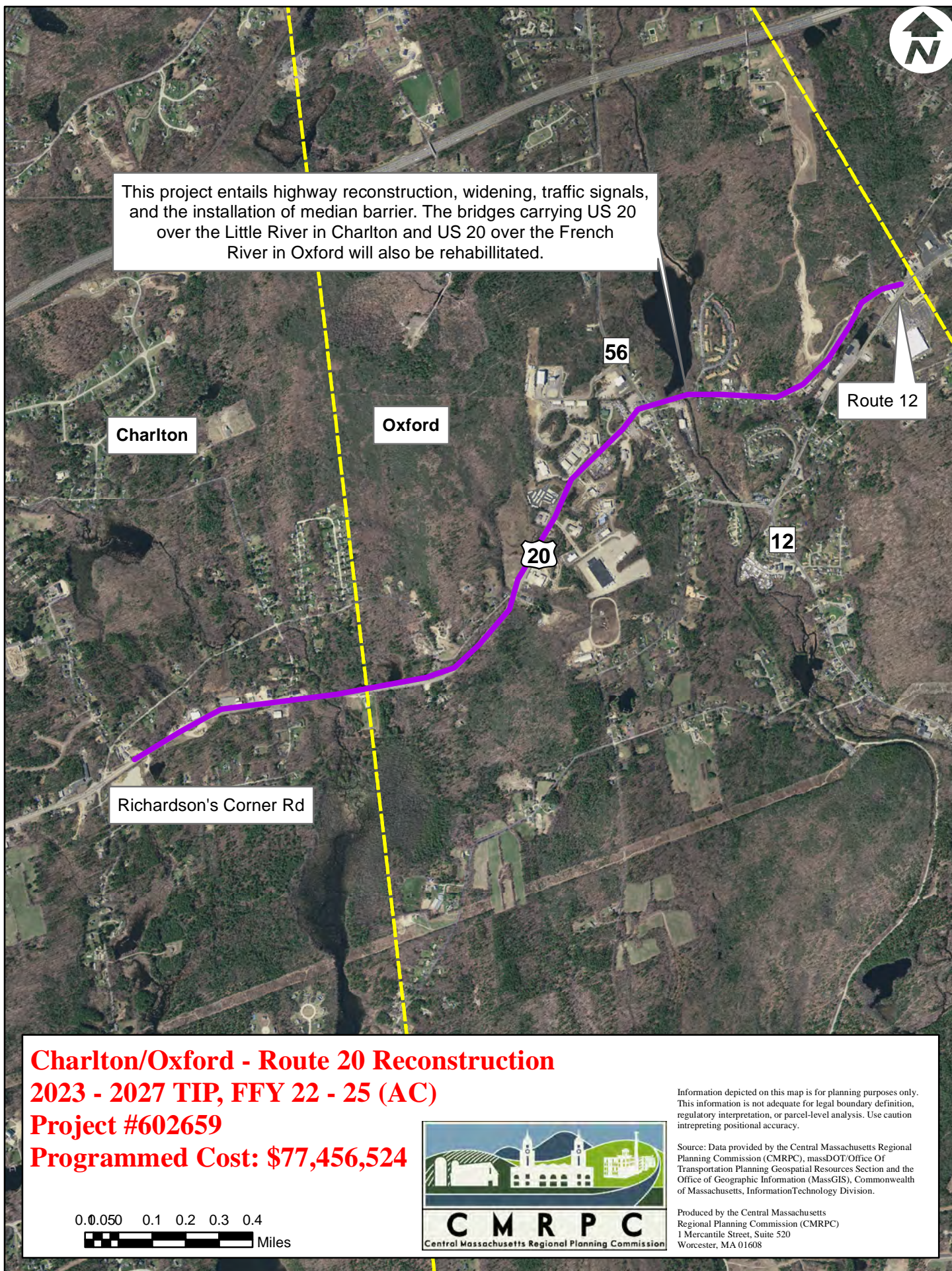
There are two projects included within the region's 2023 to 2027 Transportation Improvement Program has been identified as "regionally significant". These projects are as follows:

- 1.) Charlton/Oxford: Route 20
- 2.) West Brookfield: Route 9, Phases I & II

The Charlton/Oxford Route 20 reconstruction project is considered regionally significant as Route 20 is a major regional route through the CMMPO region. Route 20 runs parallel to the MassPike (I-90) and is heavily utilized, especially if there are traffic accidents or other congestion issues on the MassPike. The project area has substandard design and has a well-documented safety history, including multiple fatalities. This project is also included as a Major Infrastructure project in the Long-Range Transportation Plan (LRTP).

As for the West Brookfield Route 9 project, it is also considered regionally significant due to the interregional connectivity to the Pioneer Valley Planning Commission (PVPC) region. Route 9 also connects to the urban area of Ware. Route 9 is an east/west roadway that travels through Central Massachusetts from West Brookfield to Westborough. This project is also considered a Major Infrastructure project in the LRTP.

The following pages provide a map of the forthcoming projects.





Ware Town Line

Rock House
Reservation

This project includes pavement rehabilitation, roadway widening, drainage upgrades, new signing & striping, guard replacement, and slope stabilization.

9

West Brookfield- Reconstruction of Route 9 (Phase I)

2023 - 2027 TIP, FFY 24

Project #606517

Programmed Cost: \$7,194,307

0.00 0.0350 0.07 0.14 0.21 0.28
Miles



Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution interpreting positional accuracy.

Source: Data provided by the Central Massachusetts Regional Planning Commission (CMRPC), massDOT/Office Of Transportation Planning Geospatial Resources Section and the Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division.

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Worcester, MA 01608



9

Rock House
Reservation

Phase II of this project includes pavement rehabilitation,
roadway widening, drainage upgrades, new signing & striping,
and improving sight distances.

Pierce Road

West Brookfield- Reconstruction of Route 9 (Phase II)

2023 - 2027 TIP, FFY 25

Project #609049

Programmed Cost: \$6,019,317

0.00 0.0350 0.07 0.14 0.21 0.28
Miles



Information depicted on this map is for planning purposes only.
This information is not adequate for legal boundary definition,
regulatory interpretation, or parcel-level analysis. Use caution
interpreting positional accuracy.

Source: Data provided by the Central Massachusetts Regional
Planning Commission (CMRPC), massDOT/Office Of
Transportation Planning Geospatial Resources Section and the
Office of Geographic Information (MassGIS), Commonwealth
of Massachusetts, Information Technology Division.

Produced by the Central Massachusetts
Regional Planning Commission (CMRPC)
1 Mercantile Street, Suite 520
Worcester, MA 01608

3) Advanced Construction

MassDOT Guidance on Advance Construction (AC)

The AC method of project funding will *only* be used if project construction, due to MassDOT engineering decisions, would need to be scheduled to cover each of multiple years for which funding is programmed. The AC method will *not* be used solely as a means to simply fund a project.

Further, the AC method will be used *only* for projects that exceed an MPO annual funding target; projects that can be programmed in one year will *not* use AC funding. (In the Boston MPO, where the target is significantly greater than other MPOs, it may be possible, on a case-by-case basis, to use AC for projects that are less than the target, but are still significant in cost (over \$25 million) with prior discussion and approval by FHWA). In addition, MassDOT will consult with FHWA regarding potential special cases that may evolve in other regions. As an example, a region's funding target may not be sufficient to maintain consistency with a required project implementation schedule.

FHWA Guidance on Advance Construction (AC)

AC should only be used if: 1) Project construction, due to engineering decisions, would be scheduled to span the years for which the funding is programmed; 2) there is a program necessity that would make the impacts of not programming using AC significant, as compared to the financial impacts to the program considering the AC amount. AC should not be used solely as a means to fund a project.

With respect to MPO target programming, AC should generally be used for projects that exceed an MPO's annual target. For the Boston Region MPO and MassDOT, AC may be used for projects that are \$25 million or more.

Clear information should be provided for projects that are advance constructed in order to determine the timeframe of the AC. For example, if a project is advanced constructed over two years, a note should be included in the project description within the S/TIPs to indicate the AC year, such as "AC year1/2" or "AC year 2/2." The STIP should include a schedule of all AC funded projects and be updated based on any project changes. Any exceptions to AC guidance should be approved by the appropriate federal agency before programming occurs. Updated AC tables reflecting project changes should be submitted with each STIP amendment.

4) HSIP Documentation

The Highway Safety Improvement Program (HSIP) is a “core funding” program administered by Federal Highway Administration, which apportions funds to States under 23 U.S.C. 148(c)(1) for a range of eligible activities focused primarily on infrastructure-related safety improvements. The purpose of the HSIP is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

HSIP Selection Criteria:

Projects using Federal HSIP funding are required to be selected by a data driven process. To satisfy this requirement MassDOT obtains crash data from local police reports collected by the RMV Crash Records Section. Then with the assistance of Geonetics, they developed an automated procedure for processing, standardizing, matching and aggregating the crash data by geographical location using Geographic Information System (GIS) tools and procedures resulting in crash clusters, bike clusters and pedestrian clusters.

CMRPC used the data provided by MassDOT that includes crashes from 2017 -2019 and pedestrian/bicycle crashes from 2010-2019. The locations eligible for HSIP funding includes:

- a) The top 5 % of automobile crash clusters - They are derived from all crash clusters identified by MassDOT on local roads (excluding interstate highways).
- b) The top 5% of bicycle crash clusters – They are derived from all bicycle crash clusters identified by MassDOT.
- c) The top 5% of pedestrian crash clusters – They are derived from all pedestrian crash clusters identified by MassDOT.

The following target projects have been programmed for HSIP funding in the 2023-2027 TIP:

TIP Year	MassDOT Project ID	Project Description
2024	608778	Southbridge – Downtown Intersection Improvements
2025	608433	Webster – Intersection improvements at I-395 ramps at Route 16 and Sutton Road
2025	608961	Worcester – Intersection Improvements at Chandler St & May St
2026	608990	Worcester – Intersection Improvements on Chandler St (Phase 1)
2026	609441	Northbridge – Intersection Improvements @Rt 122/Sutton St/Upton St
2027	612011	Worcester – Intersection Improvements on Chandler St (Phase 2)

CMRPC has reviewed the project locations in the TIP and the following table lists the HSIP eligible crash locations that are along each project site by TIP year.

HSIP Eligible Crash Clusters

					Source: MassDOT				
*Crash Cluster: Individual Crashes are merged within a 25-meter radius.					2017-2019				
TIP Year	Project ID#	Municipality	Location	Route	Crash Count	Fatal & Serious Injury Crashes	Non-Serious & Possible Injury Crashes	Non-Injury Crashes	EPDO
2024	608778	Southbridge	Hamilton St @ Hook St		14	0	4	10	94
2025	608433	Webster	Route 16 @ Sutton Rd & I-395 NB Ramp	MA-16/I-395	25	0	7	18	165
2025	608961	Worcester	Chandler St @ May St	MA-122	15	0	7	8	155
2026	608990	Worcester	Chandler St @ Queen St	MA-122	13	1	6	6	153
2026	608990	Worcester	Chandler St @ Irving St	MA-122	21	0	8	13	181
2026	608990	Worcester	Chandler St @ Murray Ave	MA-122	21	0	7	14	161
2026	609441	Northbridge	Route 122 @ Sutton St, Upton St & School St	MA-122	41	0	7	34	181
2027	612011	Worcester	Chandler St @ Dewey St	MA-122	25	0	8	17	185

PDO = Property Damage Only

EPDO = Equivalent Property Damage Only, Fatal Crashes = 21,

Injury Crashes = 21, PDO = 1

Central Massachusetts Regional Planning Commission

Member Communities

Auburn	Northborough
Barre	Northbridge
Berlin	Oakham
Blackstone	Oxford
Boylston	Paxton
Brookfield	Princeton
Charlton	Rutland
Douglas	Shrewsbury
Dudley	Southbridge
East Brookfield	Spencer
Grafton	Sturbridge
Hardwick	Sutton
Holden	Upton
Hopedale	Uxbridge
Leicester	Warren
Mendon	Webster
Millbury	West Boylston
Millville	West Brookfield
New Braintree	Westborough
North Brookfield	Worcester

Central Mass Regional Planning Commission



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