

2023

Northern Middlesex Regional Transportation Improvement Program Federal Fiscal Years 2024-2028

PREPARED FOR
NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION (NMMPO)

BY
NORTHERN MIDDLESEX COUNCIL OF GOVERNMENTS (NMCOCG)



DRAFT FFY 2024-2028 TRANSPORTATION IMPROVEMENT PROGRAM
(OCTOBER 1, 2023 – SEPTEMBER 30, 2028)

Federal Title VI/Nondiscrimination Protections

The Northern Middlesex Metropolitan Planning Organization (NMMPO) operates its programs, services and activities in compliance with federal nondiscrimination laws including Title VI of the Civil Rights Act of 1964 (Title VI), the Civil Rights Restoration Act of 1987, and related statutes and regulations. Title VI prohibits discrimination in federally assisted programs and requires that no person in the United States of America shall, on the grounds of **race, color** or **national origin** (including **limited English proficiency**) be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal assistance. 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 with NMMPO's Title VI Programs consistent with federal interpretation and administration. Additionally, NMMPO provides meaningful access to its programs, services, and activities to individuals with limited English proficiency, in compliance with UD Department of Transportation policy and guidance on federal Executive Order 13166.

State Nondiscrimination Protections

The NMMPO also complies with the Massachusetts Public Accommodation Law, M.G.L. c 272 §§92a, 98, 98a, Prohibiting making any distinction, discrimination, or restriction in admission to or treatment in a place of public accommodation based on **race, color, religious creed, national origin, sex, sexual orientation, disability, or ancestry**. Likewise, NMMPO complies with the Governor's Executive Order 526, section 4 requiring all programs, activities, and services provided, performed, licensed, chartered, funded, regulated, or contracted by the state shall be conducted without unlawful discrimination based on **race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status** (including Vietnam-era veterans), or **background**.

Additional Information

To request additional information regarding Title VI and related federal and state nondiscrimination obligations, please contact:

Justin Howard
NMCOG Title VI Specialist
Northern Middlesex Council of Governments
40 Church Street, Suite 200
Lowell, MA 01852
(978) 454-8021
jhoward@nmcog.org

Complaint Filing

To file a complaint alleging a violation of Title VI or related federal nondiscrimination law, contact the Title VI Specialist (above) within 180 days of the alleged discriminatory conduct.

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

Massachusetts Commission Against Discrimination (MCAD)
One Ashburton Place, 6th Floor
Boston, MA 02109
617-994-6000
TTY: 617-994-6296

For additional copies of this document or to request a copy in an accessible format, please contact:

Mail: Justin Howard
Northern Middlesex Council of Governments
40 Church Street, Suite 200

Lowell, MA 01852

Phone: (978) 454-8021

Fax: (978) 454-8023

Email: jhoward@nmcog.org

The document is also available for download on our website at www.nmcog.org

If this information is needed in another language, please contact the NMCOG Title VI Specialist at 978-454-8021.

Caso esta informação seja necessária em outro idioma, favor contar o Especialista em Título VI do NMCOG pelo telefone 978-454-8021.

ប្រសិនបើលោក-អ្នកត្រូវការបកប្រែព័ត៌មាននេះ សូមទាក់ទងអ្នកឯកទេសលើជំពូកទី6 របស់NMCOG តាមរយៈលេខទូរស័ព្ទ 978-454-8021

Si necesita esta información en otro idioma, por favor contacte al especialista de NMCOG del Título VI al 978-454-8021.

Si yon moun vle genyen enfòmasyon sa yo nan yon lòt lang, tanpri kontakte Espesyalis NMCOG Title VI la nan nimewo 978-454-8021.

如果需要使用其它语言了解信息，请联系马萨诸塞州交通部 (NMCOG) 《民权法案》第六章专员，电话978-454-8021。

THE PREPARATION OF THIS DOCUMENT WAS FUNDED THROUGH A CONTRACT WITH THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, SUPPORTED IN PART WITH FUNDS FROM THE FEDERAL HIGHWAY ADMINISTRATION AND THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION. ITS CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS AND POLICIES OF THE U.S. DEPARTMENT OF TRANSPORTATION (USDOT).

ENDORSEMENT OF THE FFY 2024 – 2028 TRANSPORTATION IMPROVEMENT PROGRAM FOR THE NORTHERN MIDDLESEX REGION

FFY 2024-2028 Northern Middlesex Transportation Program Air Quality Endorsement Statement

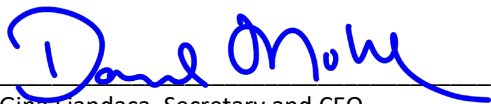
This document certifies that the Northern Middlesex Metropolitan Planning Organization hereby endorses the FFY 2024-2028 Transportation Improvement Program for the Northern Middlesex Region. The TIP is being endorsed in accordance with the 3C Transportation Planning Process and complies with the requirements in the Infrastructure Investment and Jobs Act (IIJA), also known as the “Bipartisan Infrastructure Law” (BIL).

Air Quality Conformity

Whereas, the 1990 Clean Air Act Amendments (CAAA) require Metropolitan Planning Organizations within non-attainment areas and/or attainment areas with maintenance plans to perform air quality conformity determinations prior to the approval of transportation plans and transportation improvement programs, and at such other times as required by regulation;

Whereas, the air quality conformity analysis prepared for the FFY 2024-2028 Transportation Improvement Program also demonstrates air quality conformity of the Northern Middlesex Regional Transportation Plan (RTP), and that all regionally significant transportation projects in the FFY 2024-2028 Transportation Improvement Program are contained in the Regional Transportation Plan, and that all regionally significant projects in the 2020 to 2040 timeframe of the Regional Transportation Plan are modeled in the FFY 2024-2028 Transportation Improvement Program's air quality conformity analyses;

Whereas, the NMMPO has completed its review in accordance with Section 176(c) (4) of the Clean Air Act as amended in 1990 [42 U.S.C. 7251 (a)], and hereby certifies that the FFY 2024-2028 TIP is financially constrained and that the implementation of the RTP satisfies the conformity criteria specified in both 40 CFR Part 51 and 93 (8/15/1997) and 310 CMR 60.03 (12/30/1994). Based on the results of the conformity analyses, the RTP and FFY 2024-2028 TIP is consistent with the air quality goals of, and in conformity with, the Massachusetts State Implementation Plan; Therefore, in accordance with 23 CFR Part 450.326 (Development and content of the Transportation improvement Program) and the Northern Middlesex MPO Regional Public Participation Plan (23 CFR 450.316), the MPO hereby endorses the FFY 2024-2028 Transportation Improvement Program.



Gina Fiandaca, Secretary and CEO
Massachusetts Department of Transportation

for

May 24, 2023

Date

310 CMR 60.05: GLOBAL WARMING SOLUTIONS ACT REQUIREMENTS FOR THE TRANSPORTATION SECTOR AND THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION

Self-Certification Compliance Statement for Metropolitan Planning Organizations

This will certify that the FFY 2024-2028 Transportation Improvement Program (TIP) for the Northern Middlesex Metropolitan Planning Organization (NMMPO) complies with all applicable requirements in the State Regulation 310 CMR 60.05: Global Warming Solutions Act Requirements for the Transportation Sector and the Massachusetts Department of Transportation. The regulation requires the Metropolitan Planning Organizations (MPOs) to:

1. 310 CMR 60.05, 5(a)(1): Evaluate and report the aggregate transportation GHG emissions and 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 (NMCOG) 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 analysis of RTPs and TIPs;
8. 310 CMR 60.05, 8(a)(2)(d): Calculate aggregate transportation GHG emissions for RTPs and TIPs;
9. 310 CMR 60.05, 8(a)(2)(e): Develop public consultation procedures for aggregate transportation GHG 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.
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 or projects within 30 days of endorsement to the Department for review of the GHG assessment.

 for May 24, 2023
Gina Fiandaca, Secretary and CEO Date
Massachusetts Department of Transportation

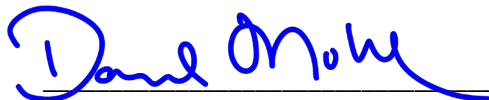
SELF-CERTIFICATION OF THE 3C PLANNING PROCESS

FFY 2024-2028 Northern Middlesex Transportation Program 3C Process Statement

This certifies that the Comprehensive, Continuing, Cooperative Transportation Planning Process being undertaken by the Northern Middlesex Metropolitan Planning Organization is addressing major issues facing the region and is being conducted in accordance with the requirements of:

1. 23 U.S.C. 134, 49 U.S.C. 5303, and this subpart;
2. Sections 174 and 176 (c) and (d) of the Clean Air act, as amended (42 U.S.C. 7504, 7506 (c) and (d) and 40 CFR part 93;
3. Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d-1) and 49 CFR part 21;
4. 49 U.S.C. 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 USDOT funded projects;
6. 23 CFR 230, regarding the implementation of an Equal Employment Opportunity Program on Federal and Federal- aid Highway construction contracts;
7. The provisions of the USDOT and of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) and 49 CFR parts 27, 37, and 38;
8. The Older Americans Act, as amended (42 U.S.C. 6101) prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance;
9. Section 324 of Title 23 U.S.C. regarding the prohibition of discrimination based on gender; and
10. Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 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.

The currently endorsed Unified Planning Work Program, Regional Transportation Plan, and Transportation Improvement Program, together with any amendments, were developed in accordance with FHWA/FTA regulations governing the implementation of IIJA, and EPA regulations governing the implementation of the Clean Air Act Amendments of 1990, and fully incorporate the applicable requirements of the Civil Rights Act of 1964 and the Americans with Disabilities Act of 1990.

 for May 24, 2023

Gina Fiandaca, Secretary and CEO
Massachusetts Department of Transportation

Date

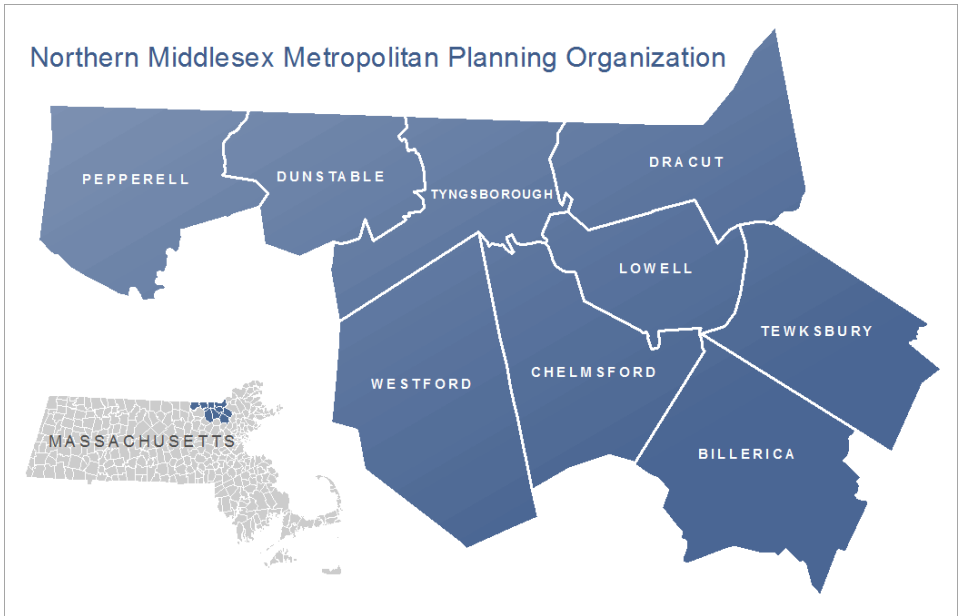
CONTENTS

Executive Summary.....	ES1
Introduction.....	1
TIP Organization	18
TIP Development Process.....	18
Role of the Northern Middlesex Metropolitan Planning Organization.....	19
Role of the Northern Middlesex Council of Governments.....	21
Project Prioritization.....	22
TIP Public Participation Process	25
Amendments/Adjustments to the TIP	28
Relationship between the TIP, the Congestion Management Process and the Regional Transportation Plan.....	33
TIP Project Funding.....	36
Regional Equity: TIP Projects – 2014-2028.....	40
Highway and Transit Project Listings.....	45
Regional Financial Plan.....	69
Status of NMMPO TIP Projects.....	72
Air Quality Conformity Determination – NMMPO	74
Appendix A: Project Description for FFY 2024-2028 TIP Projects	80
Appendix B: Greenhouse Gas Monitoring Summary	89
Appendix C: NMMPO Public Comment Summary.....	93
Appendix D: TIP Program Summaries	96
Appendix E: Transportation Evaluation Criteria Information.....	101
Appendix F: Statewide Funding Targets.....	105
Appendix G: System Preservation, Operations and Maintenance.....	112
Appendix H: Public Participation Plan	119
Appendix I: Glossary of Acronyms.....	120

Northern Middlesex MPO FFY 2024-2028 Transportation Improvement Program – Executive Summary

The Transportation Improvement Program (TIP) is the programming and management document containing all federally funded transportation projects planned in the Northern Middlesex region over the next five years (2024-2028). The TIP is consistent with recommendations of the Northern Middlesex Regional Transportation Plan (RTP) and includes projects for all modes of transportation, including highways, streets, bridges, public transportation and walking and bicycling. The TIP must be financially constrained by estimated revenues available.

The development of a regional TIP is required by federal regulation as part of the transportation planning process. This process is carried out under the authority of the Northern Middlesex Metropolitan Planning Organization (NMMPO), which reviews and endorses all federal certification documents. The Northern Middlesex Area consists of the City of Lowell and the surrounding eight communities of Billerica, Chelmsford, Dracut, Dunstable, Pepperell, Tewksbury, Tyngsborough and Westford. The NMMPO consists of the following members:



NMMPO Voting Members	Current Member
Chairman of the Northern Middlesex Council of Governments (NMCOG)	Andrew Deslaurier
Chairman of the Lowell Regional Transit Authority (LRTA)	Tom Bomil
Secretary of Transportation and the Chief Executive Officer of the Massachusetts Department of Transportation (MassDOT)	Gina Fiandaca
Administrator of the Highway Division of MassDOT	Jonathan Gulliver
Chief elected official from the City of Lowell elected to serve as the City’s representative to NMCOG	Dan Rourke
Selectman elected to serve on the Council and further elected by the Council to serve as that town’s representative to the Northern Middlesex MPO	Pat Wojtas
LRTA Advisory Board member representing a community within the Northern Middlesex MPO boundaries other than the City of Lowell, who may also be an elected official	Karyn Puleo

NMMPO Non-Voting Ex-Officio Members	
Federal Highway Administration	Joi Singh
Federal Transit Administration	Peter Butler

NMCOG staff serves as the planning staff of the NMMPO. In this capacity, NMCOG staff produces the TIP document in cooperation with the Massachusetts Department of Transportation (MassDOT) and the Lowell Regional Transit Authority (LRTA). The document is developed by updating information from the previous TIP, with input solicited from local communities, the LRTA, the state and federal transportation agencies, and the public. Following local and public review, the document is submitted to the NMMPO for endorsement.

Project Prioritization

Project prioritization is a performance driven process. The Bipartisan Infrastructure Law continues FAST Act regulations, outlining a performance management approach to encourage investment of resources in projects that make progress toward national goals. Performance measure categories, developed as part of the NMMPO’s continuing performance based planning effort, are used in scoring and prioritizing TIP eligible projects. The Transportation Evaluation Criteria (TEC) method, developed by the state transportation agencies and the former Office for Commonwealth Development (OCD), is used to score highway projects. The NMMPO staff apply the criteria to all highway projects considered viable for FFY 2023-2027. TEC scores range from -18 for a project that would have adverse impacts to the transportation system, to +18 for a project with highest priority. The TEC score projects based on the following categories and take into account all users of the regional transportation network.

- **Infrastructure Condition** – Does the project benefit roadway infrastructure conditions?
- **Mobility** – Does the project reduce congestion or have benefits to regional access?
- **Safety** – Does the project reduce number and rate of crashes for vehicles, bicycles or pedestrians?
- **Community Effects and Support** – Does the project have local support and does it have Impacts to Environmental Justice or Title VI communities?
- **Land Use and Economic Development Impacts** – Does the project impact sustainable development and is it consistent with Land Use plans?
- **Environmental Impacts** – Does the project impact air quality, water quality, historical resources or wildlife?

While the TEC score serves to prioritize TIP eligible projects, programming determination must also take into account several factors, including project design readiness and financial constraints, given the estimated funding allocations to the Commonwealth and the MPO.

Regional Equity of TIP Funding

Addressing Environmental Justice (EJ) is a goal of the NMMPO and distribution of TIP funding visualizes how the region’s Federal transportation dollars address that goal. To illustrate regional equity, TIP projects were mapped relative to identified Environmental Justice areas across the region, thereby comparing the number of projects and funding amounts programmed located inside and outside of these designated areas. EJ areas include geographical locations where census figures show a concentration greater than the regional average for minority groups or a population with a median income of less than 65% of the statewide median. Fifty-Seven percent (57 %) of all TIP projects programmed between 2014 and 2028 are located in EJ areas.

Transportation Improvement Program Financial Plan

Title 23 CFR section 450.326 (j) and 310 CMR 60.03(9) requires the TIP to be “financially constrained by year to include a financial plan that demonstrates which projects can be implemented using the current revenue sources and which projects are to be implemented using proposed revenue sources (while the existing transportation system is being adequately operated and maintained).” Moreover, regulations define financial constraint to exclude a state’s unspent federal balances. Projects can only be programmed up to an amount that the Congress is expected to allow the State to spend in any individual fiscal year.

Projections of federal resources are based upon the apportionments of the federal authorizations contained in FAST, as allocated to the region by the State, or as allocated among the various MPOs, according to federal formulae or MPO agreement, and adjusted to reflect obligation authority or priority. The projects programmed for this region meet the funding estimates for each federal fiscal year. These estimates were provided by the Massachusetts Department of Transportation and were refined as part of the State Transportation Improvement Program development process. The transit program of projects is determined cooperatively by the Lowell Regional Transit Authority and MassDOT Rail and Transit Division.

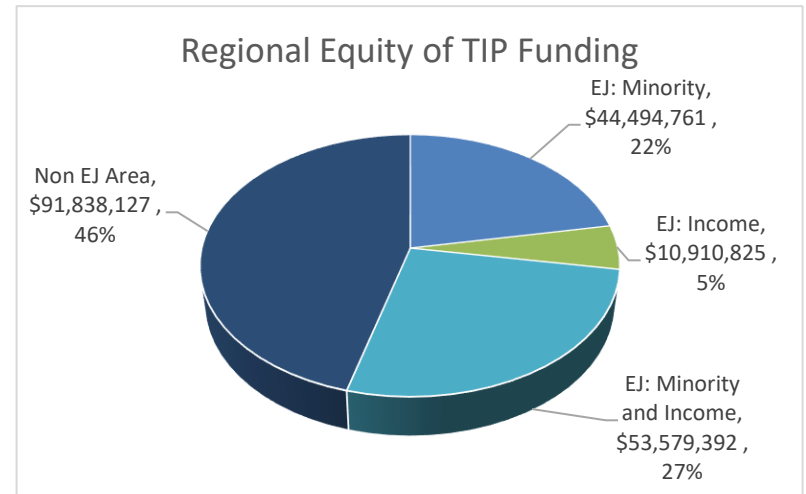


FIGURE 1: REGIONAL EQUITY OF TIP FUNDING

TABLE 1: FFY 2024-2028 TIP HIGHWAY PROGRAMMED FUNDING/CONSTRAINT

Fiscal Year	Highway Program Regional Target (Federal + Non Federal)	Target Funding Programmed (Federal + Non Federal)	Target Funding unprogrammed	Regional Programmed Funding (Outside of Targets)	Total Amount Programmed (Federal + Non Federal)
2024	\$11,887,651	\$10,279,116	\$1,608,535	\$229,177,489	\$239,456,605
2025	\$11,685,706	\$11,685,706	\$0	\$8,552,400	\$20,238,106
2026	\$11,399,813	\$11,399,813	\$0	\$0	\$11,399,813

Fiscal Year	Highway Program Regional Target (Federal + Non Federal)	Target Funding Programmed (Federal + Non Federal)	Target Funding unprogrammed	Regional Programmed Funding (Outside of Targets)	Total Amount Programmed (Federal + Non Federal)
2027	\$14,115,559	\$12,611,017	\$1,504,542	\$0	\$12,611,017
2028	\$14,381,254	\$13,181,809	\$1,199,445	\$0	\$13,181,809
Total	\$63,469,983	\$59,157,461	\$4,312,522	\$237,729,889	\$296,887,350

TABLE 2: FFY 2024-2028 TIP TRANSIT PROGRAMMED FUNDING/CONSTRAINT

Fiscal Year	Federal Apportionment to LRTA (5307)	Federal Apportionment to LRTA (5339)	Other Federal (Cares ACT, ARPA, CRRSA, 5339b)	Federal Amount Programmed (5307, 5339, 5339b, CARES, ARPA, CRRSA)	Federal Apportionment vs Programmed	Federal Financial Constraint/ carryover funds
Prior years carryover	\$17,519,372	\$65,016	\$6,239,670	-	-	\$23,824,058
2024	\$5,104,158	\$15,867	-	\$23,546,591	(\$18,426,566)	\$5,397,492
2025	\$5,155,200	\$15,788	-	\$8,845,794	(\$3,674,806)	\$1,722,686
2026	\$5,206,752	\$15,709	-	\$13,292,764	(\$8,070,303)	(\$6,347,617)
2027	\$5,258,819	\$15,630	-	\$20,127,457	(\$14,853,008)	(\$21,200,625)
2028	\$5,311,408	\$15,552	-	\$8,736,920	(\$3,409,960)	(\$24,610,585)

Relationship between the TIP and the Regional Transportation Plan

All projects programmed in the TIP are included in the Northern Middlesex Regional Transportation Plan (RTP), which covers a period of at least twenty years and is updated every four years. The overall transportation goals and policies articulated in the Plan ensure that individual projects are considered within the context of established regional performance goals, as required by the Infrastructure and Investment Jobs Act. As projects advance, NMMPO staff identify how goals introduced in the RTP will be addressed within the TIP. Accordingly, each project in the RTP is categorized under one of five NMMPO investment programs, as described below.

- **Intersection Improvement/Safety Investment Program** – This category funds safety and mobility improvements for intersections throughout the region. Improvements include adding/upgrading traffic signals, intersection redesigns, and bicycle accommodations, adding curb cuts and improving sidewalks.
- **Roadway/Corridor Improvements Investment Program** – This category is aimed at enhancing, modernizing or addressing capacity issues on Federal Aid-eligible roadways. Projects in this program will use a Complete Streets approach to improve the mobility, accessibility and safety for of all users of the system. Improvements involve corridor upgrades including roadway rehabilitation, added/upgraded traffic signals along a corridor, new/upgraded sidewalks, and new/upgraded bicycle accommodations.
- **Bicycle and Pedestrian Investment Program** – This addresses expansion or the addition of bicycle and pedestrian facilities, in order to improve accessibility and safety for non-motorized users of the roadway network. Projects include construction of multi-use trails, off- and on-road bicycle facilities, and new sidewalks.
- **Bridge Rehabilitation/Reconstruction Investment Program** – This category includes improvements to area bridges, in order to reduce congestion, address functionality, or improve safety throughout the region. Improvements include rehabilitation or replacement of structurally deficient or regionally significant priority bridges.
- **Transit Facility Investment Program** – This category funds improvements to transit facilities and services, and the modernization of the Lowell Regional Transit Authority vehicle fleet.

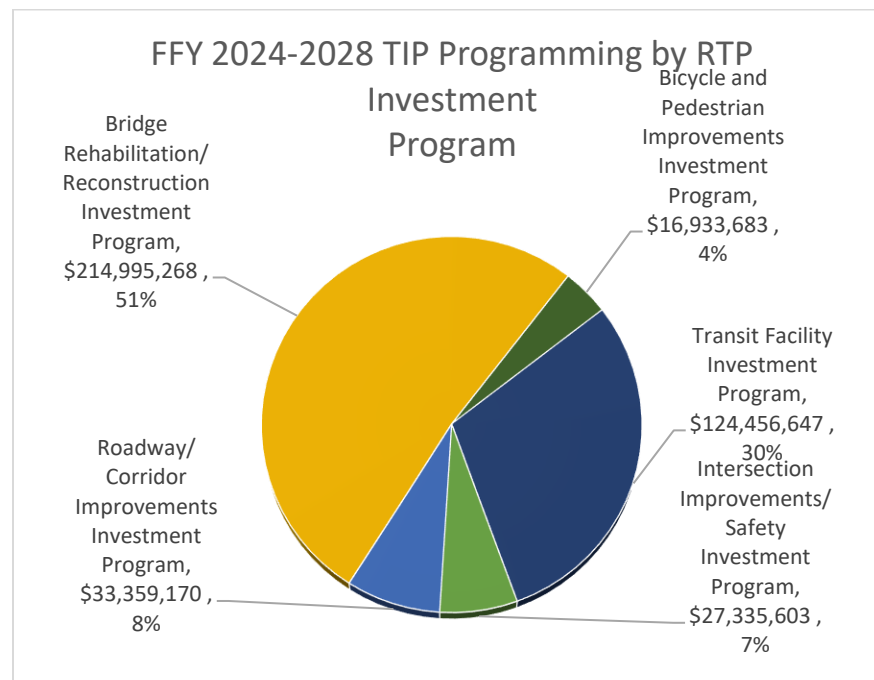


FIGURE 2: FFY 2022-2026 TIP PROGRAMMING BY RTP INVESTMENT PROGRAM

Amending/Adjusting the TIP

All Federal certification documents endorsed by the Northern Middlesex MPO follow standardized procedures regarding amendments and/or administrative adjustments as outlined in the regional Public Participation Plan. Amendments to the TIP require an endorsement by the MPO members after a public review and comment period. Administrative adjustments to the TIP can be made without formal MPO action and do not require a public comment period. However, the MPO can vote to release the adjustment for a public comment period if it feels it is in the best interest of the MPO and the transportation planning process.

Minor adjustments, such as moving a project from FFY '25 to FFY '24, may be accomplished through an agreed upon administrative adjustment. Significant changes, such as the addition or deletion of a project, require MPO action through the amendment process. Statewide and Metropolitan Transportation Planning regulations define an amendment as: "...a type of revision to a long-range statewide or metropolitan transportation plan, TIP, or STIP that is significant enough to require public review and comment, re-demonstration of fiscal constraint, or a conformity determination".

Public Participation

The 2024-2028 NMMPO TIP conforms to the requirements of the Northern Middlesex Public Participation Plan and Title 23 CFR Section 450.326 and 310 CMR 60.03(6)h which require adequate opportunity for public review and comment be provided during the development of the TIP. Section 450.316(b) established the outline for MPO public participation programs, guaranteeing public access to the TIP and all supporting documentation, providing for public notification of the availability of the TIP and the public's right to review the document and comment, and providing a 21-day public review and comment period prior to the adoption of the TIP by the MPO. It should be noted that virtual public engagement techniques were used in development of this document in response to safety guidelines related to the COVID-19 pandemic.

The full TIP document is located on our website www.nmcog.org. For more information or to sign up for our MPO email distribution list, please contact:

Justin Howard
Transportation Director
Northern Middlesex Council of Governments
40 Church Street
Lowell, MA 01852
978-454-8021 ext. 121
jhoward@nmcog.org

Northern Middlesex Regional TIP: Projects Programmed in Federal Fiscal Years 2024-2028

Community	MassDOT Project #	Project Description	Programmed TIP Year	Total Federal Participating Construction Cost (as of March 17, 2023)
Federal Fiscal Year 2024				
Westford	609035	WESTFORD- REHABILITATION OF BOSTON ROAD	2024	\$10,279,116
Billerica	608227	BILLERICA-YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE I)	2024	\$15,818,583
Lowell	607887	LOWELL- ROURKE BRIDGE REPLACEMENT, L-15-088, WOOD STREET EXTENSION OVER BOSTON AND MAINE RAILROAD AND MERRIMAC RIVER	2024	\$169,000,000
Chelmsford	612631	CHELMSFORD-BRIDGE REPLACEMENT, C-08-039, GORHAM STREET (ST 3A) OVER I-495 AND REHABILITATION OF C-08-036, WESTFORD STREET OVER I-495 (DB)	2024	\$44,358,906
Federal Fiscal Year 2025				
Billerica	609250	BILLERICA-INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	2025	\$5,220,880
Lowell	605966	LOWELL-RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	2025/2026	\$12,008,044
Chelmsford	607401	CHELMSFORD-TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	2025	\$1,209,760
Dracut	605910	DRACUT-IMPROVEMENTS AT GEORGE ENGLSEBY ELEMENTARY SCHOOL (SRTS)	2025	\$1,115,100
Westford	608861	WESTFORD - BRIDGE REPLACEMENT, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK	2025	\$1,636,362

Northern Middlesex Regional TIP: Projects Programmed in Federal Fiscal Years 2024-2028

Community	MassDOT Project #	Project Description	Programmed TIP Year	Total Federal Participating Construction Cost (as of March 17, 2023)
Westford	612096	WESTFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-495	2025	\$5,472,000
Federal Fiscal Year 2026				
Lowell	605966	LOWELL-RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	2025/2026	\$12,008,044
Chelmsford	609317	CHELMSFORD-IMPROVEMENTS ON CHELMSFORD STREET (ROUTE 110)	2026 / 2027	\$10,950,000
Federal Fiscal Year 2027				
Chelmsford	609317	CHELMSFORD-IMPROVEMENTS ON CHELMSFORD STREET (ROUTE 110)	2026 / 2027	\$10,950,000
Tewksbury	612609	TEWKSBURY-INTERSECTION IMPROVEMENTS AT MAIN STREET/PLEASANT STREET & NORTH STREET/EAST STREET	2027	\$4,919,345
Federal Fiscal Year 2028				
Lowell	604694	LOWELL-CONNECTOR RECONSTRUCTION FROM THORNDIKE STREET TO GORHAM STREET	2028	\$5,600,010
Chelmsford	612977	CHELMSFORD-VINAL SQUARE SAFETY IMPROVEMENTS	2028	\$5,763,618

Northern Middlesex Regional TIP: Transit Projects Programmed in Federal Fiscal Years 2024-2028

Community/RTA	Project Description	Total Funding Request
Federal Fiscal Year 2024		
LRTA	LRTA - OPERATING ASSISTANCE 2024 (5307)	\$10,380,194

Northern Middlesex Regional TIP: Transit Projects Programmed in Federal Fiscal Years 2024-2028

Community/RTA	Project Description	Total Funding Request
LRTA	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	\$200,000
LRTA	LRTA - PURCHASE CAPITAL SPARE PARTS	\$100,000
LRTA	LRTA -SHORT RANGE TRANSIT PLANNING 2024	\$110,000
LRTA	LRTA - REVENUE VEHICLE REPLACEMENT - 35FT HYBRIDS (1)	\$817,000
LRTA	LRTA - IT EQUIPMENT & MAINTENANCE	\$10,000
LRTA	LRTA - LOWELL - GALLAGHER PARKING GARAGE UPGRADES	\$250,000
LRTA	LRTA - OPERATING ASSISTANCE 2024 (CARES ACT)	\$1,700,000
LRTA	LRTA - OPERATING ASSISTANCE 2024 (ARPA)	\$1,815,711
LRTA	LRTA - PURCHASE BACKUP GENERATOR FOR ADMIN/GALLAGHER TERMINAL	\$300,000
LRTA	LRTA - Purchase AVL/APC/Annunciators system for Fixed Route	\$1,000,000
LRTA	LRTA - Lowell - Rehab ADA/Commuter Access Way	\$15,000,000
LRTA	LRTA - LOWELL - MAGUIRE & PARATRANSIT MAINTENANCE FACILITY IMPROVEMENTS	\$3,600,000
Federal Fiscal Year 2025		
LRTA	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	\$200,000
LRTA	LRTA - IT EQUIPMENT & MAINTENANCE	\$10,000
LRTA	LRTA - PURCHASE CAPITAL SPARE PARTS	\$100,000
LRTA	LRTA - OPERATING ASSISTANCE 2025 (5307)	\$13,362,649

Northern Middlesex Regional TIP: Transit Projects Programmed in Federal Fiscal Years 2024-2028

Community/RTA	Project Description	Total Funding Request
LRTA	LRTA - SHORT RANGE TRANSIT PLANNING 2025	\$110,000
LRTA	LRTA - OPERATING ASSISTANCE 2025 (CARES)	\$645,424
LRTA	LOWELL - GARAGE DECKING REPAIRS	\$200,000
LRTA	LRTA - LOWELL - FACILITY UPGRADES & CHARGING INFRASTRUCTURE FOR ELECTRIC VEHICLES - DISCRETIONARY	\$2,500,000
Federal Fiscal Year 2026		
LRTA	LRTA - OPERATING ASSISTANCE 2026	\$14,358,275
LRTA	LRTA - SHORT RANGE TRANSIT PLANNING 2026	\$110,000
LRTA	LRTA - PURCHASE CAPITAL SPARE PARTS	\$100,000
LRTA	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	\$200,000
LRTA	LRTA - IT EQUIPMENT & MAINTENANCE	\$10,000
LRTA	LRTA - REVENUE VEHICLE REPLACEMENT - BATTERY ELECTRIC BUSES (6)	\$6,600,000
LRTA	LRTA - LOWELL - SOLAR ARRAY AT GALLAGHER INTERMODAL CENTER	\$1,500,000
Federal Fiscal Year 2027		
LRTA	LRTA - SHORT RANGE TRANSIT PLANNING 2027	\$110,000
LRTA	LRTA - PURCHASE CAPITAL SPARE PARTS	\$100,000
LRTA	LRTA - IT EQUIPMENT & MAINTENANCE	\$10,000
LRTA	LRTA - OPERATING ASSISTANCE 2027	\$14,717,232
LRTA	LRTA - REVENUE VEHICLE REPLACEMENT - BATTERY ELECTRIC BUSES (12)-DISCRETIONARY	\$16,430,000

Northern Middlesex Regional TIP: Transit Projects Programmed in Federal Fiscal Years 2024-2028

Community/RTA	Project Description	Total Funding Request
LRTA	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	\$200,000
LRTA	LRTA - NONREVENUE VEHICLE REPLACEMENT - ADMINISTRATIVE VEHICLE	\$40,000
Federal Fiscal Year 2028		
LRTA	LRTA - OPERATING ASSISTANCE (2028)	\$15,085,162
LRTA	LRTA - IT EQUIPMENT & MAINTENANCE	\$15,000
LRTA	LRTA - PURCHASE CAPITAL SPARE PARTS	\$150,000
LRTA	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	\$200,000
LRTA	LRTA - LOWELL - HALE ST SOLAR ROOF REHAB	\$2,000,000
LRTA	LRTA - SHORT RANGE TRANSIT PLANNING 2028	\$110,000

INTRODUCTION

The Transportation Improvement Program (TIP) is a programming and management document containing all federally funded transportation projects planned in the Northern Middlesex region over the next five years. This document is prepared by the Northern Middlesex Council of Governments (NMCOG) providing staffing support to the Northern Middlesex Metropolitan Planning Organization (NMMPO). All transportation projects that will be funded under Title 23, U.S.C., or with Federal Transit Act funds, must be included in the document. In addition, projects requiring FHWA or FTA approval, but not funded under Title 23, U.S.C., or with Federal Transit Act funds, must also be listed in the TIP. Similarly, transportation projects funded with federal funds from other federal agencies, as well as projects funded with local and private monies should be described in the document for informational purposes, in order to reflect the integrated and intermodal nature of the metropolitan transportation planning process.

The TIP is the implementation arm of the Regional Transportation Plan (RTP) for the Northern Middlesex region. The RTP identifies and analyzes transportation infrastructure and service improvement needs in the Northern Middlesex region. Covering a 20-year planning horizon, the plan includes strategies for developing an integrated multi-modal transportation network including pedestrian, biking and motorized travel. The RTP is updated every four years in accordance with federal requirements. The updated plan identifies existing and projected transportation needs and prioritizes federal transportation investments. The RTP helps to determine how Federal and State funding will be spent on transportation infrastructure and services in the region. The NMMPO is currently updating its regional transportation plan, Envision 2050, which plans to be presented to the MPO in June and endorsed in July 2023. Since endorsement of Envision 2050 will occur after this TIP is finalized, the TIP follows the vision and goals set in the current 2020-2040 Regional Transportation Plan. Both the 2024-2028 TIP and Envision 2050 will be in effect on October 1, 2023.

COVID-19 pandemic demonstrated changes in how people work and travel in the region. With stay-at-home orders in place, many workers shifted to telecommuting, schools implemented remote learning, consumers purchased goods online for home delivery and conventional peak travel periods changed. This TIP continues to reflect the goals in the existing RTP and strives to meet performance targets adopted by the MPO. Meeting the goals set by the MPO, its nine member communities and the Lowell Regional Transit Authority (LRTA) continues to shape how federal transportation dollars are programmed. One such example included past programming of Coronavirus Aid, Relief, and Economic Security (CARES) Act and American Rescue Plan Act (ARPA) funding provided to the LRTA. These funds provided financial relief to the LRTA to help offset lost fare revenues resulting from the pandemic. The TIP also reflects regional economic development planning trends and targets, including the potential economic growth and expansion, as outlined in other regional plans prepared by NMCOG and endorsed by its Council. These plans include the four-year Comprehensive

Economic Development Strategy (CEDS) and the Economic Recovery and Resiliency Plan for Greater Lowell both funded in part by the US Economic Development Administration.

The TIP has been prepared in accordance with the provisions of the Infrastructure Investment and Jobs Act (IIJA) Act and with Federal Highway Administration (FHWA) and Federal Transit Authority (FTA) planning emphasis areas and guidance.

The IIJA has not significantly changed the Federal planning factors originally outlined under the Fixing America's Surface Transportation (FAST) Act. In developing the FFY 2024-2028 TIP, the NMMPO has considered these planning factors, which include the following:

- “Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
- Increase the safety of the transportation system for all motorized and non-motorized users;
- Increase the ability of the transportation system to support homeland security and to safeguard the personal security of motorized and non-motorized users;
- Increase accessibility and mobility of people and freight;
- 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;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation;
- Emphasize the preservation of the existing transportation system;
- Improve transportation system resiliency and reliability and reducing (or mitigating) the storm water impacts of surface transportation; and
- Enhance travel and tourism.”

[USDOT EQUITY ACTION PLAN](#)

The USDOT in 2022, published their [Equity Action Plan](#), outlining the agency's commitment to “pursuing a comprehensive approach to advancing equity for all”. In response to Executive Order 13985, this plan outlines actions to expand access and opportunity to all communities, while focusing on underserved, overburdened, and disadvantaged communities. This plan is designed to “place people and communities at the center of USDOT's equity efforts”.

These include the following focus areas:

- Wealth Creation;
- Power of Community;
- Interventions; and
- Expanding access.

Wealth Creation: This action item is to build capital, expand direct contract dollars to small, disadvantaged businesses to an aspirational goal of 20% by FY25. Three root drivers identified are – restrictive procurement practices, uneven resource distribution, and limited networks. USDOT launched a procurement dashboard to drive accountability for small and disadvantaged business goals in January 2022. Some ongoing efforts include promoting technical assistance to small, disadvantaged businesses, providing internal training regarding acquisition policy updates and incorporating performance standards for program leaders.

Power of Community: This action item focuses on providing individuals and communities a greater voice in transportation decisions affecting them. This also addresses critical gaps like broadband infrastructure in areas making it difficult to participate in virtual public involvement activities. An interesting finding is that age, income, and education are some of the factors that influence public meeting attendance. Three root drivers identified are – status quo thinking, one-size-fits-all methods, and lack of accountability. Some upcoming efforts are to conduct an assessment of MPO and State DOT on inclusion of quantitative equity screenings and meaningful and representative public participation in STIPs and TIPs, issue guidance for USDOT funding recipients to meet requirements of meaningful public participation under Title VI, NEPA, and other existing requirements, accompanying with best practices and trainings, and to establish Department-wide monitoring of USDOT funding recipient compliance with their meaningful public participation obligations.

Interventions: This action item focuses on providing historically overburdened and underserved communities in urban and rural areas with benefit from access to a generational investment in the nation’s infrastructure through technical support for transportation projects with local impact. This addresses the critical gap in BIL transportation funding allocated to underserved, overburdened and disadvantaged communities. Three root drivers identified are – limited resources, systemic barriers remain, and income and wealth disparities. USDOT published a toolkit for planning and funding rural and tribal electric mobility infrastructure in January 2022. Some upcoming efforts are to launch federal partnerships with key agencies making place based investments, re-launch Advisory Committee on Transportation Equity to provide independent advice on USDOT equity programs, a pilot that will reduce administrative burden for applicants considering applying for multiple discretionary grant programs, launch a national

equity accelerator to provide hands-on support to underserved and overburdened communities accessing USDOT funds, and issue a call for projects for place-based initiatives that are co-designed with communities most impacted by poor access and climate change.

Expanding access: This action item focuses to increase social and economic opportunity for disadvantaged and underserved communities from the provision of affordable multi-modal transportation options and the development of a transportation cost burden measure. Critical gaps identified are that the commute by bus is 1.7x longer than commuting alone by car, and the lowest income households spend on average 37% of their after-tax income on transportation when compared to 19% by middle-income households. Two root drivers identified are – higher transportation costs and lack of transportation options and access. Some efforts are to introduce racial equity and barriers to opportunity as a consideration for awarding discretionary grants, require discretionary grant projects to report on benefits such as expanded access to disadvantaged communities, a pilot transportation cost burden measure using existing data sources to screen transportation projects for funding, National Transit Map to improve data on transit access, system quality, and performance, develop new data collection method focused on capturing individual and household cost, travel time, trips not taken, accessibility, and access to key resources across different demographic groups, and launch enhanced transportation cost burden measure as part of a transportation disadvantage index.

PERFORMANCE BASED APPROACH TO PLANNING

The IJJA continues to focus on performance-based and outcome-based programs to address the many challenges facing the U.S. transportation system. The objective of these performance-based programs is to invest resources in projects that collectively advance the achievement of national goals.

The USDOT continues to develop performance goals for each emphasis area. MassDOT and the NMMPO are currently developing performance measures and targets to include in project evaluation and prioritization. The TIP development process considers these performance measures in making transportation investment decisions that address the achievement of performance goals.

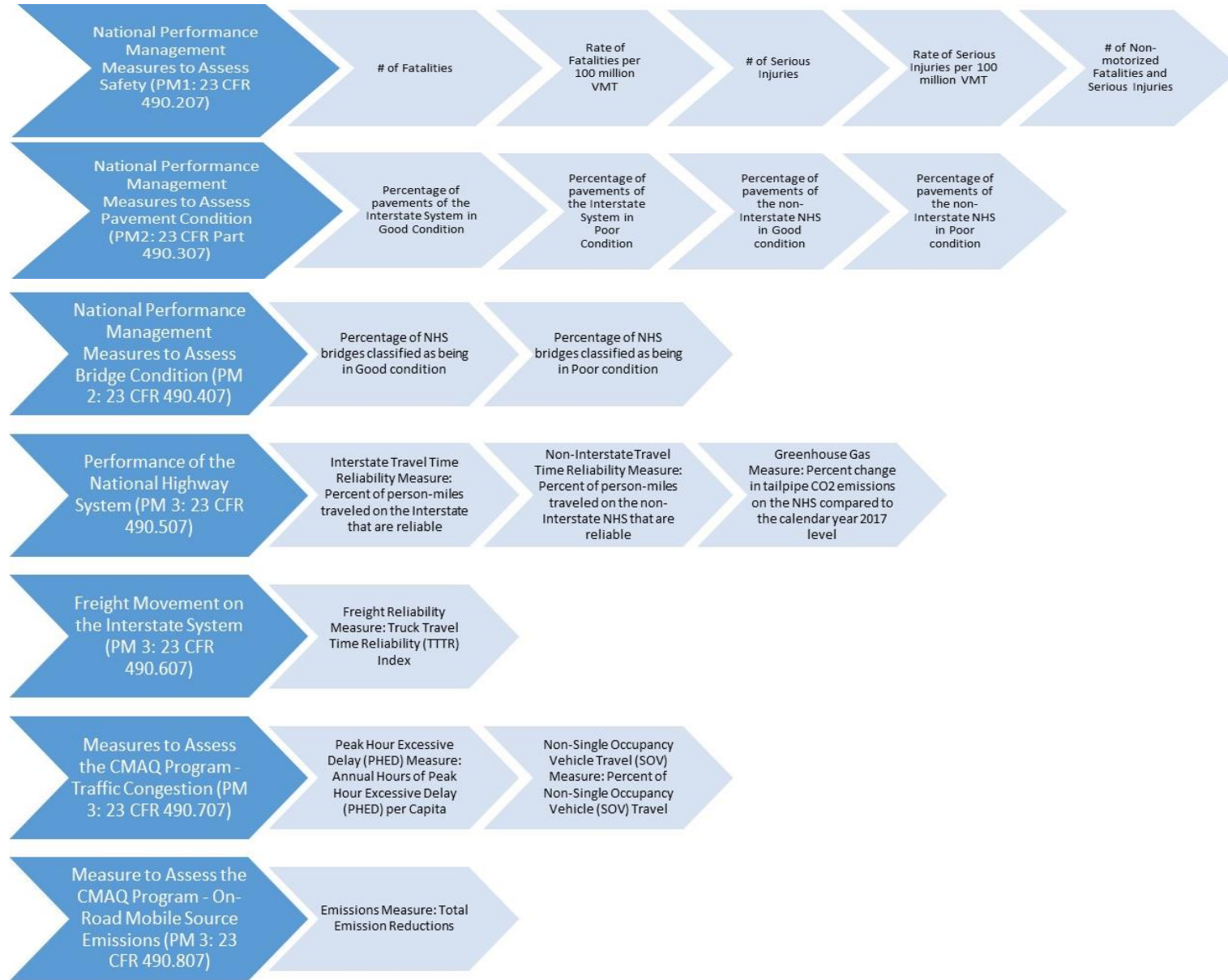
The IJJA includes the following national goal areas:

- Safety;
- Infrastructure Condition;
- Congestion Reduction;
- System Reliability;

- Freight Movement and Economic Vitality;
- Environmental Sustainability;
- Accelerated Project Delivery

FHWA released Final Rules establishing performance measures regarding safety, pavement condition, bridge condition, the National Highway System, Freight Movement, Congestion, and Congestion Mitigation Air Quality (CMAQ), as shown in Chart 1 and 2. Each rule has an effective date. Once effective, MassDOT established performance targets for each national performance measure outlined in the rulemakings. The NMMPO then worked with MassDOT and regional partners to establish regional targets, either adopting state targets or developing its own. MassDOT monitors and summarizes overall performance on an annual basis through the Department's [Tracker Report](#).

FIGURE 1: NATIONAL PERFORMANCE MANAGEMENT RULES AND PERFORMANCE MEASURE.



Prior to establishment of the national rulemakings, the NMMPO worked with MassDOT on performance management activities. The [Unified Planning Work Program \(UPWP\)](#) includes an ongoing task on development and assessment of performance measures. The [2020-2040 Northern Middlesex Regional Transportation Plan](#) provides a system performance report, providing progress aimed at achieving targets outlined in the plan. Other regional activities in performance-based planning are categorized under Safety, Travel Time Reliability and Peak Hour Excessive Delay, Bridge Performance, pavement condition, Air Quality and State of Good Repair, as discussed in this section. The LRTA monitors transit safety and asset management on an ongoing basis as part of their work program.

SAFETY MEASURES AND TARGETS

In 2016, FHWA published the Safety Performance Management Measures Final Rules (PM1) with an effective date of April 14, 2016. The Safety PM rule supports the Highway Safety Improvement Program final rule (23 CFR Part 490 Subpart A, B and Part 924), as it established performance measures to carry out the HSIP and to assess serious injuries and fatalities on all public roads. Massachusetts set initial statewide safety measures and targets in August 2017 and the NMMPO considered and adopted those statewide targets in January 2018. With Safety targets updated on an annual basis, the NMMPO voted to adopt State updated targets in January 2022.

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. Per Federal Highway Administration (FHWA) guidance, the CY22 target setting process began with a trend line projection based on the most recent available data. Due to reduced VMT related to the pandemic, actual 2020 fatalities did not follow this trend, so CY21 projections were based on trends from CY19 with CY20 data disregarded given the unique circumstances surrounding data from that year.

In 2020, during the COVID-19 pandemic, Massachusetts experienced a steep decline in both non-motorized fatalities and serious injuries. Because of the high fluctuations in the data, to establish MassDOT's CY22 target, CY21 non-motorist fatalities and suspected serious injuries were set to be equal to the average of CY17, CY18 and CY19 data. To project the non-motorist fatality and serious injuries for CY22, a 2% reduction was estimated.

For CY 2022 targets, four of the five safety measures—total number of fatalities, rate of fatalities per 100 million vehicle miles traveled, total number of serious injuries, and rate of serious injuries per 100 million VMT—were established by projecting a trend line based on available data (up to 2019). All four of these measures reflect a modest decrease in statewide trends.

The fifth safety measure, the total number of non-motorized serious injuries and fatalities also depicts a slight decrease in trend lines. In recent years, MassDOT and the NMMPO have invested in “Complete Streets,” bicycle and pedestrian infrastructure, intersection and safety improvements in both the Capital Investment Plan (CIP) and Statewide Transportation Improvement Program (STIP) to address increasing mode share and to incorporate safety mitigation elements into projects. Moving forward, the NMMPO, alongside MassDOT, is actively seeking to improve data collection and methodology for bicycle and pedestrian VMT counts and to continue analyzing crash clusters and crash counts that include both motorized and non-motorized modes in order to address safety issues at these locations.

In all safety categories, MassDOT has established a long-term target of “Toward Zero Deaths” through MassDOT’s Performance Measures Tracker¹ and will be establishing safety targets for the MPO to consider for adoption each calendar year. While the NMMPO is not required by FHWA to report on annual safety performance targets, FHWA guidelines require MPOs to adopt MassDOT’s annual targets or to establish their own each year. The NMMPO adopted 2023 state targets at its January 25, 2023 meeting. Adoption of these targets means that the NMMPO agrees to plan and program projects designed to achieve the State’s goals. Table 1 outlines the currently adopted safety performance measures and targets.

TABLE 1: NORTHERN MIDDLESEX SAFETY PERFORMANCE MEASURES AND TARGETS

Performance Measures	Current Performance Rolling Five Year Average 2017-2021	Calendar Year 2023 Performance Target - Rolling Five Year Average 2019-2023
Fatalities	360	355
Rate of Fatalities per 100 million VMT	0.47	0.59
Serious Injuries	2,626	2,569

¹ <https://www.mass.gov/lists/tracker-annual-performance-management-reports>

Performance Measures	Current Performance Rolling Five Year Average 2017-2021	Calendar Year 2023 Performance Target - Rolling Five Year Average 2019-2023
Rate of Serious Injuries per 100 million VMT	4.30	4.25
Total Number of Non-Motorized Serious Injuries and Fatalities	467	437

On July 19, 2018, FTA published the Public Transportation Agency Safety Plan (PTASP) Final Rule (49 CFR Part 673), which requires certain operators of public transportation systems that receive federal funds under FTA's Urbanized Area Formula Grants to develop safety plans that include the processes and procedures to implement Safety Management Systems (SMS). The LRTA developed a plan outlining the agency's existing safety practices and best practices to be implemented to meet Federal regulations. The LRTA board voted to adopt their initial plan on October 29, 2020 with set performance measures and targets included. The MPO then took action on December 2, 2020 to adopt the safety performance measures for both fixed route and demand response vehicles, which includes the following:

- Fatalities and Fatality Rate;
- Injuries and Injury Rate;
- Safety Events and Safety Event Rate; and
- System Reliability (miles between major mechanical failures)

On July 22, 2022, the NMMPO adopted updated LRTA safety performance measures as shown in Table 2.

TABLE 2: NMMPO ADOPTED LRTA PTASP PERFORMANCE MEASURES AND TARGETS

Mode of Transit Service	Fatalities (Total)	Fatalities (Rate*)	Injuries (Total)	Injuries (Rate)	Safety Events (Total)	Safety Events (Rate)	System Reliability (Miles between Failure)
Fixed Route	0	0	3	2	30	23	39,400
Demand Response	0	0	1	2	4	15	71,700

* Rates are per 1,000,000 vehicle revenue miles

PAVEMENT AND BRIDGE CONDITION MEASURES

The final rule on pavement condition and bridge condition performance measures (PM2) was made effective on May 20, 2017 (23 CFR Part 490 Subparts A, C and D), with Massachusetts setting targets in May of 2018. In setting these targets, MassDOT has followed FHWA guidelines by measuring bridges 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 six individual performance measures: percent of bridges in good condition; percent of bridges in poor condition; percent of Interstate pavement in good condition; percent of Interstate pavement in poor condition; percent of non-Interstate pavement in good condition; and percent of non-Interstate pavement in poor condition. All of the above performance measures are tracked in detail in MassDOT’s [Transportation Asset Management Plan \(TAMP\)](#).

Targets for bridge-related performance measures were determined by identifying which bridge projects are programmed and projecting at what rate bridge conditions deteriorate. The bridge-related performance measures analyze the percentage of deck area in poor condition, rather than the total number of bridges that are considered structurally deficient across the State.

Originally, performance targets for pavement-related performance measures were based on a single year of data collection, and thus were set to remain steady under the guidance of FHWA. These measures were revisited at the 2-year mark (2020), when three years of data were made available, for more informed target setting. MassDOT decided to keep the original 4-year targets at that time. The

new performance period, as presented in Table 3, sets the current baseline conditions for interstates at 72% of pavement in good condition and 0% in poor condition. Targets in this second performance period show that the good percentage decreases to 70% based on the marginal decreasing trend of pavement condition statewide between 2019 and 2021. The poor condition targets for 2023 and 2025 are more aggressive than the last performance period (4%). For non-interstates, the targets set in this performance period utilize the full distress condition measurement, which differs from previous periods that used the International Roughness Index (IRI). The targets determined by the state are conservative in nature due to federal pavement conditions currently not available at the regional level. There are 88.23 lanes miles of interstate pavement and 283.61 lane miles of non interstate pavement in the Northern Middlesex region.

The NMMPO originally considered and adopted statewide performance measures and targets at the October 24, 2018 meeting, agreeing to program projects aimed at achieving the State’s goals. With the first performance period data fully available, the second performance period targets were presented by MassDOT, and the MPO voted to adopt at their February 22, 2023 meeting. Table 3 describes the pavement measures and targets adopted.

TABLE 3: PAVEMENT AND BRIDGE CONDITION PERFORMANCE MEASURES AND TARGETS

Performance Measures	Current Conditions	2023 Performance Target	2025 Performance Target
Interstate Pavement Condition			
% of pavement in Good Condition ²	72%	70%	70%
% of pavement in Poor Condition	0%	2%	2%
Non-Interstate Pavement Condition			
% of pavement in Good Condition	33.9%	30%	30%

² Pavement condition on National Highway System Roads is based on International Roughness Index (IRI) value and one or more pavement distress metrics. FHWA sets thresholds to determine whether metric value is good or poor.

Performance Measures	Current Conditions	2023 Performance Target	2025 Performance Target
% of pavement in Poor Condition	2.9%	5%	5%
Bridge Condition			
% of Bridges in Good Condition ³	27.04%	16%	16%
% of Bridges in Poor Condition	14.7%	12%	12%

SYSTEM PERFORMANCE MEASURES

As part of the Federal performance-based planning process, FHWA passed a systems performance measure rule aimed at improving the efficiency of the system and freight movement, reducing traffic congestion and reducing emissions. In May 2018, MassDOT adopted targets for the following measures:

- Level of Travel Time Reliability (LOTTR):** the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day. LOTTR is based on the amount of time it takes to drive the length of a road segment and is the percentage of person-miles traveled that are “reliable”. LOTTR is calculated by dividing the 80th/50th percentile travel time. If it falls below 1.50, the segment is “reliable”. The percentage of road segments that are “reliable” is used as the target.
- Level of Truck Travel Time Reliability (TTTR):** the consistency or dependability in truck travel times, as measured from day-to-day and/or across different times of the day. TTTR is based on the amount of time it takes trucks to drive the length of a road segment and is an index of 50th/95th percentile travel times. The TTTR index is reported as a weighted average of the largest period for each segment.

³ Bridge Condition on National Highway System roads is based on condition ratings of deck, superstructure and substructure. National Bridge Inventory data is used to rate these components. The worst component rating is the overall rating of the bridge.

The NMMPO planning area includes communities in the Boston Urbanized Area (UZA), and as a signatory to the 2018 Boston UZA Memorandum of Understanding (Boston UZA MOU), the NMMPO 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 the Peak Hour Excessive Delay (PHED). Targets were developed in coordination with state Departments of Transportation and neighboring MPOs with planning responsibility for portions of the Boston UZA.

- **Percentage of Non-Single Occupancy Vehicle (SOV) Travel:** The metric is based on the percentage of people commuting to work using a mode other than a single occupancy vehicle (e.g. carpool, van, public transit, walking, bicycling, or telecommuting). The targets are determined from available Census journey to work data in the Boston UZA, where the proportion of non-SOV travel has been steadily increasing and is projected to continue increasing at a rate of 0.32% annually.
- **Peak hour Excessive Delay (PHED):** a measurement of annual hours of excessive delay per capita on the National Highway System (NHS) between 6 am and 10 am, and 3 pm and 7 pm, divided by the total UZA population. As of target setting, there was only one year of data available. As such, the performance targets have been set flat until further data is available. The threshold is based on the travel time at 20 miles per hour or 60% of the posted speed limit, whichever is greater.
- **Emissions Reductions:** The on-road mobile source emissions measure is calculated by summing the 2 and 4-year totals of emissions reductions in kilograms per day. 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 is calculated using the existing CMAQ processes.

The NMMPO is required to report on performance of vehicle emission reductions for carbon monoxide because of Lowell’s non-attainment status and has done so in a November 2022 full period CMAQ Congestion and Emissions Performance report.

In October 2018, the NMMPO voted to adopt 2-year (2020) and 4-year (2022) statewide reliability, congestion, and emissions performance measures and targets set by MassDOT. At its meeting on March 22, 2023, the NMMPO voted to adopt updated 2- and 4-year targets for the percent non-single occupancy vehicle (SOV) travel measure. Table 4 summarizes each system performance measure and target adopted by the NMMPO.

TABLE 4: SYSTEM PERFORMANCE MEASURES AND TARGETS

Performance Measures	Current Conditions	2024 Target	2026 Target
Percentage of Travel Time Reliability	68% Interstate 80% Non-Interstate	74% Interstate 85% Non-Interstate	76% Interstate 87% Non-Interstate
Level of Truck Travel Time Reliability	1.85 (State)	1.80	1.75
Peak Hour Excessive Delay (annual hours per capita – Boston UZA)	18.31	24	22
Non-SOV Travel (Boston UZA)	33.6% (2022)	38.77%	39.81%
Emissions reduction (based on 2018-2021 TIP)	0	0	0

TRANSIT ASSET MANAGEMENT

The Federal Transit Administration’s (FTA) Final rule (49 CFR Part 625) outlined a requirement for transit providers to implement performance management through Transit Asset Management (TAM) Plans. LRTA, as a Tier II Provider⁴, adopted their respective TAM Plan on August 28, 2018. The NMMPO reviewed and adopted updated performance measures outlined in the Plan on December 2, 2020. The TAM Plan covers the horizon period of Federal Fiscal Years 2018-2022. The purpose of the plan is to:

- Provide implementation actions that offer enabling support and direction for management of transit assets; and
- Provide direction and expectations for asset class owners and department managers regarding lifecycle management planning and processes.

The TAM Plan uses transit asset condition to guide the management of capital assets and prioritizations of funding to improve/maintain a State of Good Repair (SGR). SGR performance measures and targets were set for rolling stock, equipment and facilities. On January 26, 2022, the NMMPO voted to adopt updated TAM performance measures and targets as outlined in Table 5.

TABLE 5: LRTA TAM PLAN PERFORMANCE MEASURES AND TARGETS

Asset Category -Performance Measure	Asset Class	2021 Target	FY 2021 Performance	Target Met	2022 Target
REVENUE VEHICLES					
Age -% of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark	Bus (BU)	10%	5.00%	Yes	5%
	Cutaway Bus (CU)	35%	40.00%	Yes	35%
	Minivan	0%	0.00%		0%
EQUIPMENT					

⁴ Tier II Provider: 100 or fewer vehicles across all fixed routes.

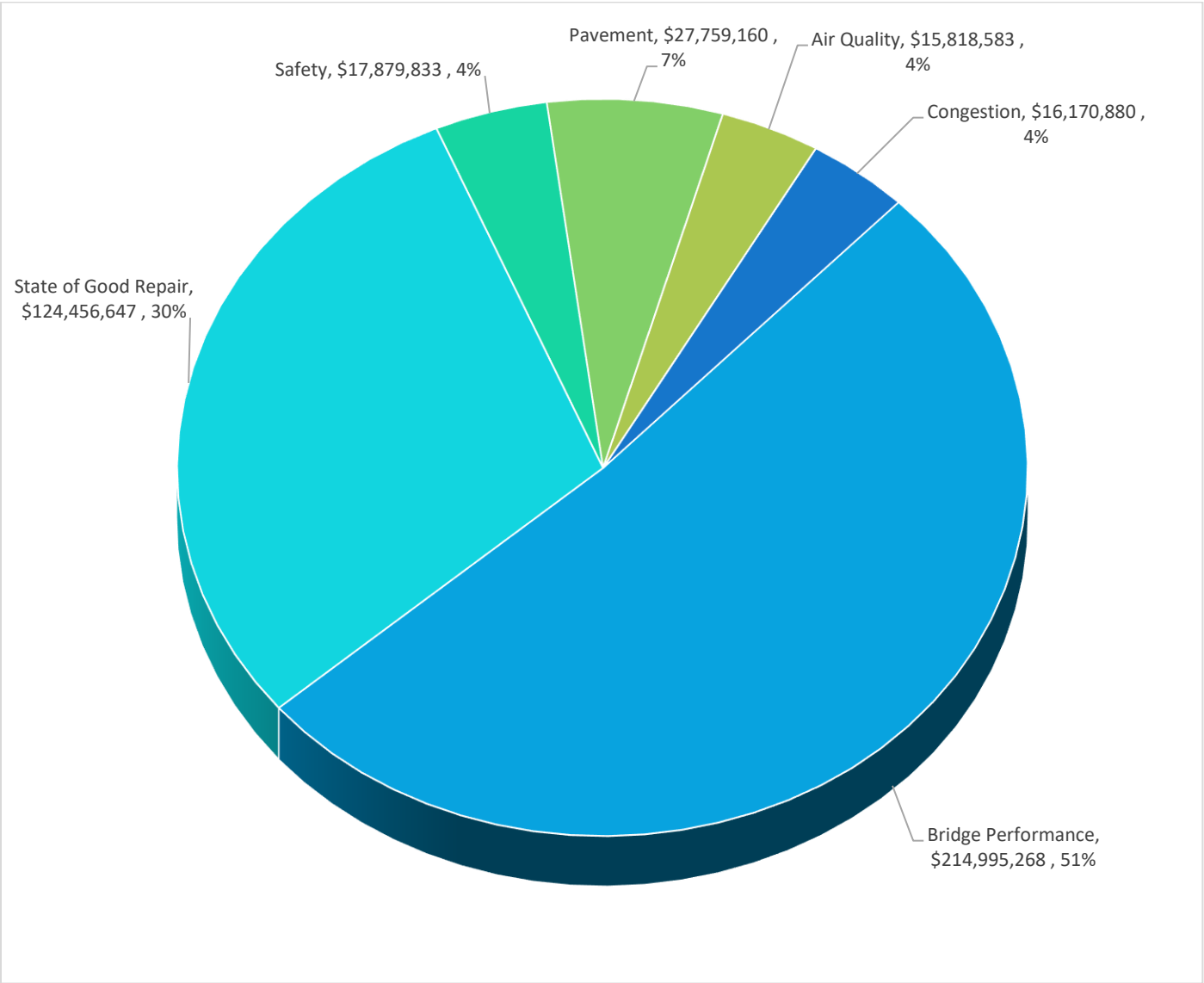
TABLE 5: LRTA TAM PLAN PERFORMANCE MEASURES AND TARGETS

Asset Category -Performance Measure	Asset Class	2021 Target	FY 2021 Performance	Target Met	2022 Target
Age -% of vehicles that have met or exceeded their Useful Life Benchmark	Non-Revenue/Service Automobile	33%	33.00%	Yes	33%
	Trucks and other Rubber Tire Vehicles	67%	75.00%	No	75%
	Maintenance Equipment*	63%	63.00%	Yes	0%
	Facilities Equipment*	0%	0.00%	Yes	0%
FACILITIES					
Condition -% of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	Administration/ Maintenance	0%	0.00%	Yes	0%
	Passenger Facilities/ Parking Structures	0%	0.00%	Yes	0%

* Maintenance Equipment and Facilities Equipment are tracked internally but not reported to NTD.

Figure 2 outlines FFY 2024-2028 TIP programming aimed at addressing targets adopted by the NMMPO. Transit projects address the state of good repair and targets outlined in the Transit Asset Management Plan and the LRTA Public Transit Agency Safety Plan. Highway projects programmed in this TIP address safety, air quality, pavement condition, bridge performance, and congestion performance measures and MPO adopted targets. Appendix B lists all projects programmed in the TIP by performance measure category.

FIGURE 2: FFY 2024-2028 TIP FUNDING BY PRIMARY PERFORMANCE MEASURE CATEGORY



TIP ORGANIZATION

Title 23 CFR 450.326 requires that the TIP cover a period of no less than 4 years and be updated at least every 4 years. If the TIP covers more than 4 years, the FHWA and FTA consider projects in the additional years as informational. The MPO may update the TIP more frequently, but the cycle for updating the TIP must be compatible with the STIP development and approval process. The NMMPO programs five years of projects in the TIP, which is consistent with MassDOT's Capital Investment Plan (CIP) and the STIP. This TIP document includes projects programmed in Federal Fiscal Years 2024 through 2028. In Massachusetts, the TIP is updated annually.

The listing for each fiscal year is divided into a highway section and a transit section. Each listing includes a project description, estimated total cost, Federal funds to be obligated for each program year, sources of Federal and Non-Federal funds, and the fund recipient. In order for a project to be considered for inclusion in the first five fiscal years of the TIP, a project or program must have an estimated advertising or implementation date within that fiscal year. At the request of the Federal Highway Administration, the highway project cost estimates reflect a 4% cost increase compounded annually after the first fiscal year to reflect Year of Expenditure (YOE) fiscal constraint. Thus, FFY 2025 projects include a 4% YOE increase, FFY 2026 includes an 8% YOE increase, FFY 2027 projects include a 12% YOE increase, and FFY 2028 projects include a 16% increase from their current cost estimates.

Transit projects are implemented through a cooperative process involving MassDOT Rail and Transit and the Lowell Regional Transit Authority (LRTA). The FTA provides financial assistance to states through a number of programs to develop new transit systems and improve, maintain and operate existing systems. The Governor of the Commonwealth has given MassDOT the authority to administer the funding to eligible organizations through Title 49 USC Sections 5310 and 5339 funding programs. MassDOT provides financial assistance through several programs by providing a state match for federally funded capital, operating, and planning projects. Additionally, NMMCOG provides a local match (20%) for transit planning, and the LRTA uses community assessments to match operations assistance funds. The LRTA provides MassDOT with a five-year capital plan outlining the funding needs of the organization as part of the TIP development process.

TIP DEVELOPMENT PROCESS

The development of a regional Transportation Improvement Program is required by federal regulation as part of the transportation planning process. This process is carried out under the authority of the NMMPO, which reviews and endorses all federal certification documents. The document is developed by updating information from the previous TIP, the RTP and is done so with input solicited

from local communities, the LRTA, state and federal transportation agencies, and the public. Following local and public review, the document is submitted to the NMMPO for endorsement.

ROLE OF THE NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION

Established through federal legislation, Metropolitan Planning Organizations (MPOs) exist throughout the United States in all urbanized areas of more than 50,000 people and have the authority to prioritize, plan, and program transportation projects in urban/metropolitan areas using federal funding. In Massachusetts, MPOs work in partnership with the Massachusetts Department of Transportation (MassDOT) to carry out the metropolitan planning activities.

The NMMPO was established to carry out the transportation planning process in accordance with federal and state regulations. Federal regulations require that the MPO be designated to carry out a comprehensive, continuing and cooperative (3-C) transportation planning process. The NMMPO is the federally-designated transportation planning and programming agency for the City of Lowell and the Towns of Billerica, Chelmsford, Dracut, Dunstable, Pepperell, Tewksbury, Tyngsborough, and Westford, all located in northern Middlesex County, Massachusetts. The MPO is staffed by the NMCOG Transportation team.

A Memorandum of Understanding outlines the membership of the MPO, which includes representatives from the Northern Middlesex Council of Governments (NMCOG), MassDOT, and the Lowell Regional Transit Authority (LRTA). The membership consists of the Massachusetts Secretary of Transportation and Chief Executive Officer of MassDOT, the Administrator of the Highway Division of MassDOT, the Chair of NMCOG, the Chair of the LRTA, the chief elected official from the City of Lowell who serves as the City's representative to NMCOG, a Select Board Member elected to serve on the NMCOG Council and further elected by the Council to serve as that Town's representative to the NMMPO, and a LRTA Advisory Board member representing a community within the NMMPO boundaries other than the City of Lowell, who may also be an elected official. FHWA and FTA are non-voting Ex-Officio members of the NMMPO.

FIGURE 1: NMMPO MEMBERSHIP

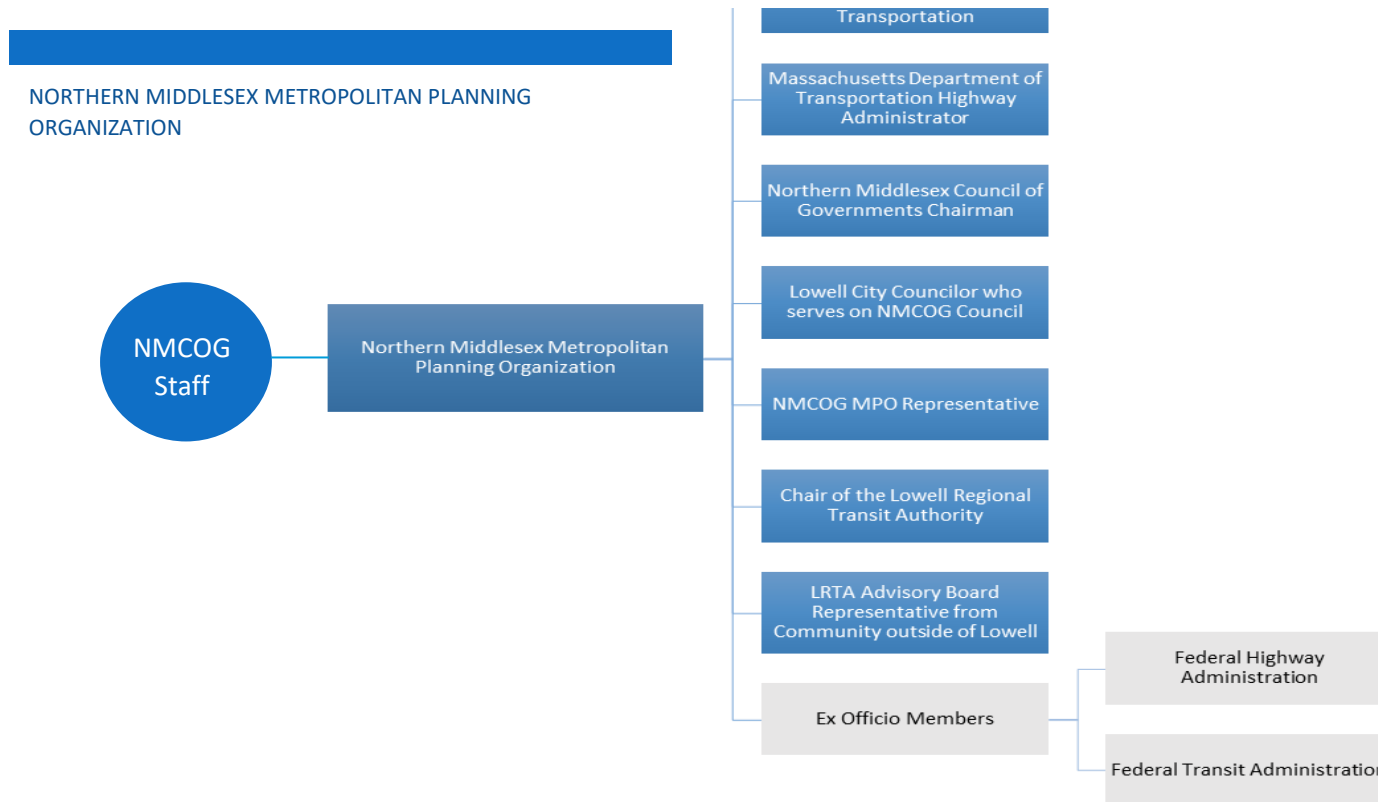


TABLE 6: NMMPO CURRENT MEMBERSHIP

NMMPO Member Position	Current Member
Secretary of Transportation and CEO of MassDOT	Gina Fiandaca
MassDOT Highway Administrator	Jonathan Gulliver
NMCOG Chair	Andrew Deslaurier
NMCOG MPO Representative	Pat Wojtas
LRTA Board Chair	Tom Bomil
LRTA MPO Representative	Karyn Puleo
Lowell City Council Representative to NMCOG and the MPO	Daniel Rourke

ROLE OF THE NORTHERN MIDDLESEX COUNCIL OF GOVERNMENTS

NMCOG is a regional planning agency established under Chapter 40B of the General Laws of Massachusetts. The NMCOG Council is comprised of a Selectman or City Councilor and Planning Board member from each of its nine member communities (including Billerica, Chelmsford, Dracut, Dunstable, Lowell, Pepperell, Tewksbury, Tyngsborough, and Westford). The Council meets monthly and provides direct input from local government regarding various transportation issues. The NMCOG also conducts the public participation process for all certification documents. NMCOG staff serves as the transportation planning staff for the NMMPO.



PROJECT PRIORITIZATION

Project prioritization is a performance driven process. The BIL continues the performance management approach, encouraging investment of resources in projects that make progress toward national goals. TIP eligible projects that make progress towards national goals receive priority for the limited funding available. As projects progress through the development process, funding must be identified in order for them to be constructed. MassDOT and MPO partners utilize an evaluation process to consider the merits of each project. MPOs use established Transportation Evaluation Criteria (TEC) developed by the state transportation agencies and the former Office for Commonwealth Development (OCD) to score projects, while MassDOT utilizes asset management systems for reliability projects and an evaluation system which was established in 2016. This evaluation system is multimodal and was developed by the Project Selection Advisory Council which was established by the Legislature. After evaluation, MPOs convene to choose projects for their respective regional TIPs. The NMMPO staff applied the TEC criteria to all highway projects considered viable for FFY 2024-2028. TEC scores ranges from -18 for a project that would have adverse impacts to the transportation system, to +18 for a project with the highest priority. The TEC scores projects based on the following categories and takes into account all users of the regional transportation network:

FIGURE 3: SIX TEC SCORING CATEGORIES

Condition	Mobility	Safety	Community effects and support	Land use and economic development	Environmental effects
<ul style="list-style-type: none"> • Magnitude of pavement condition Improvement • Magnitude of surface condition Improvement • Magnitude of improvement of other infrastructure elements 	<ul style="list-style-type: none"> • Effect on magnitude and duration of congestion • Effect on travel time and connectivity/access for existing users • Effect on other modes using facility • Effect on regional and local traffic • Number of New Users • Consistency with State Bicycle and/or Pedestrian Plans 	<ul style="list-style-type: none"> • Effect on crash rate compared to state average • Effect on bicycle and pedestrian safety • Effect on transportation security and evacuation routes • Effect on Bicycle Compatibility Index • Effect on pedestrian safety 	<ul style="list-style-type: none"> • Residential effects • Environmental Justice effects • Public, local government, legislative, and regional support • Effect on service to minority or low income neighborhoods • Other impact/benefits to minority or low income neighborhoods • Effect on development and redevelopment of housing stock 	<ul style="list-style-type: none"> • Business effects • Sustainable development effects • Consistent with regional land-use and economic development plans • Effect on job creation 	<ul style="list-style-type: none"> • Air Quality/ Climate effects • Water quality/supply/wetlands effects • Historic and cultural resource effects • Effect on wildlife and endangered species

Six TEC scoring categories to score the TIP projects include:

- **Infrastructure Condition** – Does the project benefit roadway infrastructure conditions?
- **Mobility** – Does the project reduce congestion or have benefits to regional access?
- **Safety** – Does the project reduce number and rate of crashes for vehicles, bicycles or pedestrians?
- **Community Effects and Support** – Does the project have local support, and does it have Impacts to Environmental Justice or Title VI communities?
- **Land Use and Economic Development Impacts** – Does the project impact sustainable development and is it consistent with regional Land Use plans?
- **Environmental Impacts** – Does the project impact air quality, water quality, historical resources or wildlife?

The BIL requires that the MPO conduct a competitive process for Transportation Alternatives Program (TAP) funding allocation. The TEC addresses this competitive process by focusing the funding on the highest priority projects. The full list of highway projects included in the TIP, with TEC scores, is summarized in Table 7. More in depth TEC Scoring and a Score Card is included in Appendix E.

TABLE 7: TRANSPORTATION EVALUATION CRITERIA (TEC) SCORING SUMMARY

Project ID	Project Description	Community	Project Cost Estimate (Current Dollars)	Design Status	Proposed TIP Year	TEC Score
607887	LOWELL- ROURKE BRIDGE REPLACEMENT, L-15-088, WOOD STREET EXTENSION OVER BOSTON AND MAINE RAILROAD AND MERRIMAC RIVER	Lowell	\$169,000,000	Approved	2024	13.45
608227	BILLERICA-YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE 1)	Billerica	\$15,818,583	75%	2024	12.00
612549	LOWELL-PAWTUCKET STREET CORRIDOR IMPROVEMENTS	Lowell	\$8,061,543	Approved	2028	9.60
612609	TEWKSBURY-INTERSECTION IMPROVEMENTS AT MAIN STREET/PLEASANT STREET & NORTH STREET/EAST STREET	Tewksbury	\$4,191,345	Approved	2027	9.25
612977	CHELMSFORD-VINAL SQUARE SAFETY IMPROVEMENTS	Chelmsford	\$5,763,618	-	2028	9.03

TABLE 7: TRANSPORTATION EVALUATION CRITERIA (TEC) SCORING SUMMARY

Project ID	Project Description	Community	Project Cost Estimate (Current Dollars)	Design Status	Proposed TIP Year	TEC Score
609050	LOWELL - CHURCH STREET 2 WAY CONVERSION	Lowell	\$3,050,000	Approved	2029	8.70
609038	WESTFORD - REHABILITATION OF BOSTON ROAD	Westford	\$10,279,116	75%	2024	8.60
609510	DRACUT- IMPROVEMENTS AT GEORGE ENGLSBY ELEMENTARY SCHOOL (SRTS)	Dracut	\$1,115,100	Approved	2025	8.00
610930	WESTFORD - ROUTE 110 (LITTLETON RD) FROM POWERS ROAD TO MINOT'S CORNER	Westford	\$7,560,105	Approved	2028	7.92
609250	BILLERICA-INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	Billerica	\$5,220,880	75%	2025	7.55
604694	LOWELL- CONNECTOR RECONSTRUCTION, FROM THORNDIKE STREET TO GORHAM STREET	Lowell	\$5,600,010	Approved	2028	7.47
607401	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	Chelmsford	\$1,209,760	Approved	2025	7.43
605966	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	Lowell	\$12,008,044	75%	2025	7.40
612535	CHELMSFORD- IMPROVEMENTS ON ROUTE 3A (PRINCETON STREET), FROM RICHARDSON ROAD TO TECHNOLOGY DRIVE	Chelmsford	\$4,489,511	Approved	2029	7.30
609317	CHELMSFORD-IMPROVEMENTS ON CHELMSFORD STREET (ROUTE 110)	Chelmsford	\$10,950,000	Approved	2026-2027	7.17
612631	CHELMSFORD-BRIDGE REPLACEMENT, C-08-039, GORHAM STREET (ST 3A) OVER I-495 AND REHABILITATION OF C-08-036, WESTFORD STREET OVER I-495 (DB)	Chelmsford	\$44,358,906	25%	2024	6.37
612096	WESTFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-495	Westford	\$5,472,000	Approved	2025	5.57
608861	WESTFORD - BRIDGE REPLACEMENT, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK	Westford	\$1,636,362	25%	2025	4.93

TEC Scoring Summary prepared by the NMCOG and MassDOT for the NMMPO

Following the scoring of each project, staff considered the design status and readiness of each project as part of programming activities. In addition to the application of the evaluation criteria, each project was also screened to ensure the following:

- That the project meets requirements set forth in BIL, the Clean Air Act and Amendments, and the Americans with Disabilities Act;
- Is consistent with local, regional, and state plans; and
- Complies with Title VI/Environmental Justice requirements.

The FTA provides assistance to Massachusetts to develop new transit systems and improve, maintain and operate existing systems. The Governor has designated MassDOT as the agency of authority, responsible for administering funding received (Title 49 USC). Programming of transit projects in the TIP is a result of consultation between the LRTA and MassDOT Rail and Transit Division. When applying for funding, the LRTA prioritizes projects based on state of good repair, safety, and facility upgrade criteria. MassDOT then reviews each project and applies scoring criteria to prioritize funding allocations to the applicants. The LRTA applies for funding through the Grants Plus program, with MassDOT Rail and Transit distributing the federal apportionment and providing a state match for capital and operating projects. Additionally, NMCOG provides a local match for planning programs and the LRTA provides a local match for operating assistance.

TIP PUBLIC PARTICIPATION PROCESS

The TIP is the official programming document for transportation projects using Federal funding sources. Upon NMMPO approval, the regional TIP is incorporated into the Statewide Transportation Improvement Program (STIP). The TIP is updated annually and may be amended more often, if necessary. The TIP is developed in consultation with the agencies and officials responsible for other planning activities within the metropolitan area that are affected by transportation, including state and local land use agencies, economic development, environmental protection, and freight interests, as set forth in 23 CFR 450.316, development of a regional public participation plan. This document was prepared in accordance with the Public Participation Plan (PPP) developed by the NMMPO in May 1994 and revised in June 2016. A copy of the PPP is contained in Appendix H. The following procedures and policies will be utilized to ensure adequate public review of the draft TIP document.

All public meetings of the NMMPO continue to be virtual, though discussions of in person meetings are ongoing. Virtual Public Involvement tools such as Zoom meetings, email distributions, and the NMCOG website/social media are often used to disseminate

materials and information. Access to virtual meetings is made available via the NMCOG website, community websites and through email distribution lists. All meetings are posted to the NMCOG YouTube page for on demand viewing.

PUBLIC PARTICIPATION PROCEDURES FOR THE TRANSPORTATION IMPROVEMENT PROGRAM

Title 23 CFR Section 450.326(b) and 310 CMR 60.03(6) h require adequate opportunity for public review and comment during the development of the TIP. The NMMPO process for developing the TIP guarantees the following:

- Public access to the TIP and all supporting documentation;
- Public notification of the availability of the TIP;
- Respecting the public’s right to review the document and comment thereon; and
- A 21-day public review and comment period prior to adoption of the TIP by the NMMPO.

PUBLIC OUTREACH TOOLS

A number of public outreach tools are used to communicate with the public and allow for general input into the development of the TIP. These tools are also utilized to provide information on the progress of the TIP and include the following:

- NMCOG website;
- NMCOG social media;
- NMCOG and NMMPO meetings;
- Electronic mailings;
- Newspaper articles and advertisements;
- Project fact sheets;
- Virtual public meetings;
- Local meetings and public forums; and
- Virtual/in person meetings with neighborhood groups, non-profit organizations and special interest groups;

NOTICE OF THE AVAILABILITY OF THE TIP

Notice of the availability of the TIP and opportunity for public comment is published in *The Sun*, as well as other local news media, such as community-specific or foreign language newspapers, and is posted at the Town and City Clerk offices. The Public Meeting

Notice and the Draft and Final TIP documents are posted on the NMCOG website at: www.nmcog.org as well as on the TIP page at <https://www.nmcog.org/tip>. A notice and link is also posted on the LRTA website at: www.lрта.com. An email is sent to the NMMPO public outreach email list notifying interested stakeholders of the availability of the TIP. Notices are also made available on NMCOG's social media platforms. Copies of the Draft and Final TIP are forwarded to the NMMPO members and all stakeholders and interested parties prior to the NMMPO meeting.

A 21-day public comment period commences once a draft TIP document is approved by a vote of the NMMPO. A minimum of one virtual public meeting is held to receive comments on the draft document. Comments may also be submitted, in writing, through conventional mail, by email, phone or social media.

Upon conclusion of the comment period, all public comments are considered, and if appropriate, incorporated into the final TIP. The final TIP includes a summary of comments received and a report of responses/actions taken by the NMMPO. The NMMPO then votes on the endorsement of the final TIP document. The endorsed TIP document is posted on the NMCOG website at www.nmcog.org as well as on the TIP page at <https://www.nmcog.org/tip>, and disseminated to stakeholders through the NMMPO public outreach email list.

MILESTONES IN FFY 2024-2028 TIP DEVELOPMENT:

Endorsement of the FFY 2024-2028 Northern Middlesex TIP follows a specific schedule outlined by the NMMPO. Development consists of public outreach to the communities and presentation of TIP information to the MPO and NMCOG Council throughout the process. All NMCOG meetings are made accessible by providing accommodations upon request. Accessibility includes translations, sign languages, etc. The following lists key meeting dates where staff provided updated TIP development information. All meetings were or will be virtual due to the COVID-19 pandemic.

- January 25, 2023: Staff presents the TIP development schedule to the NMMPO
- January 27, 2023: MPO staff meets with State and Federal partners to discuss funding the TIP
- February 8, 2023: MPO staff meets with MassDOT partners to discuss potential programming of TIP Projects
- February 22, 2023: Staff presents TIP funding information and TIP readiness day recommendations to the NMMPO
- March 22, 2023: NMMPO votes on preferred TIP programming scenarios
- April 26, 2023: Staff presents the draft FFY 2024-2028 TIP to the NMMPO for a vote to release the document for a public comment period

- May 9, 2023: Staff hosts a public meeting to hear comments on the draft FFY 2024-2028 TIP
- May 24, 2023: Staff presents comments received on the draft TIP and the NMMPO votes to endorse the document
- June 1, 2023: The NMMPO-endorsed TIP is finalized and submitted for FHWA, FTA, and MassDOT approval
- October 1, 2023: The NMMPO FFY 2024-2028 TIP goes into effect on the first day of the new Federal Fiscal Year.

AMENDMENTS/ADJUSTMENTS TO THE TIP

All Federal certification documents endorsed by the NMMPO follow standardized procedures regarding amendments and/or administrative adjustments as directed in 23 CFR 450.104 and 23 CFR 450.218(n) and outlined in the Northern Middlesex regional Public Participation Plan. Amendments to the TIP require an endorsement by the MPO members after a public review and comment period. Administrative adjustments to the TIP can be made without formal MPO action and do not require a public comment period. However, the MPO can vote to release the adjustment for a public comment period if it feels it is in the best interest of the MPO and the transportation planning process. Tables 8 and 9 provide an overview of what constitutes an administrative adjustment versus an amendment to the TIP for both highway and transit projects.

TABLE 8: TIP ADMINISTRATIVE ADJUSTMENT/AMENDMENT SCENARIOS - HIGHWAY PROJECTS

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.

TABLE 8: TIP ADMINISTRATIVE ADJUSTMENT/AMENDMENT SCENARIOS - HIGHWAY PROJECTS

Highway Project TIP Revision Definitions and Procedures

Type of Revision	Definition	Procedure	Notes
Project Description Change	Change in the description of the project as it is listed in the STIP.	Adjustment	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.

TABLE 8: TIP ADMINISTRATIVE ADJUSTMENT/AMENDMENT SCENARIOS - HIGHWAY PROJECTS

Highway Project TIP Revision Definitions and Procedures

Type of Revision	Definition	Procedure	Notes
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 "addition Information" column of the TIP not covered in any other item listed here (e.g. earmark details, project proponent, etc.)	Adjustment	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.

TABLE 9: TIP ADMINISTRATIVE ADJUSTMENT/AMENDMENT SCENARIOS - TRANSIT PROJECTS

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 nonfederal 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	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 will also include a major cost change.

TABLE 9: TIP ADMINISTRATIVE ADJUSTMENT/AMENDMENT SCENARIOS - TRANSIT PROJECTS

Transit Project TIP Revision Definitions and Procedures

Type of Revision	Definition	Procedure	Notes
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 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 TIP 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	Note: Federal funds shall be programmed in the federal fiscal year in which the award will occur. 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.

EXCEPTIONS

Although the NMMPO 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 FTA Regional Office. Additionally the NMMPO may make exceptions to the procedures outlined above and treat amendments as administrative adjustments, but these exceptions will also require coordination with and concurrence by federal partners and MassDOT. All actions on the TIP must be taken in accordance with the region's public participation program.

RELATIONSHIP BETWEEN THE TIP, THE CONGESTION MANAGEMENT PROCESS AND THE REGIONAL TRANSPORTATION PLAN

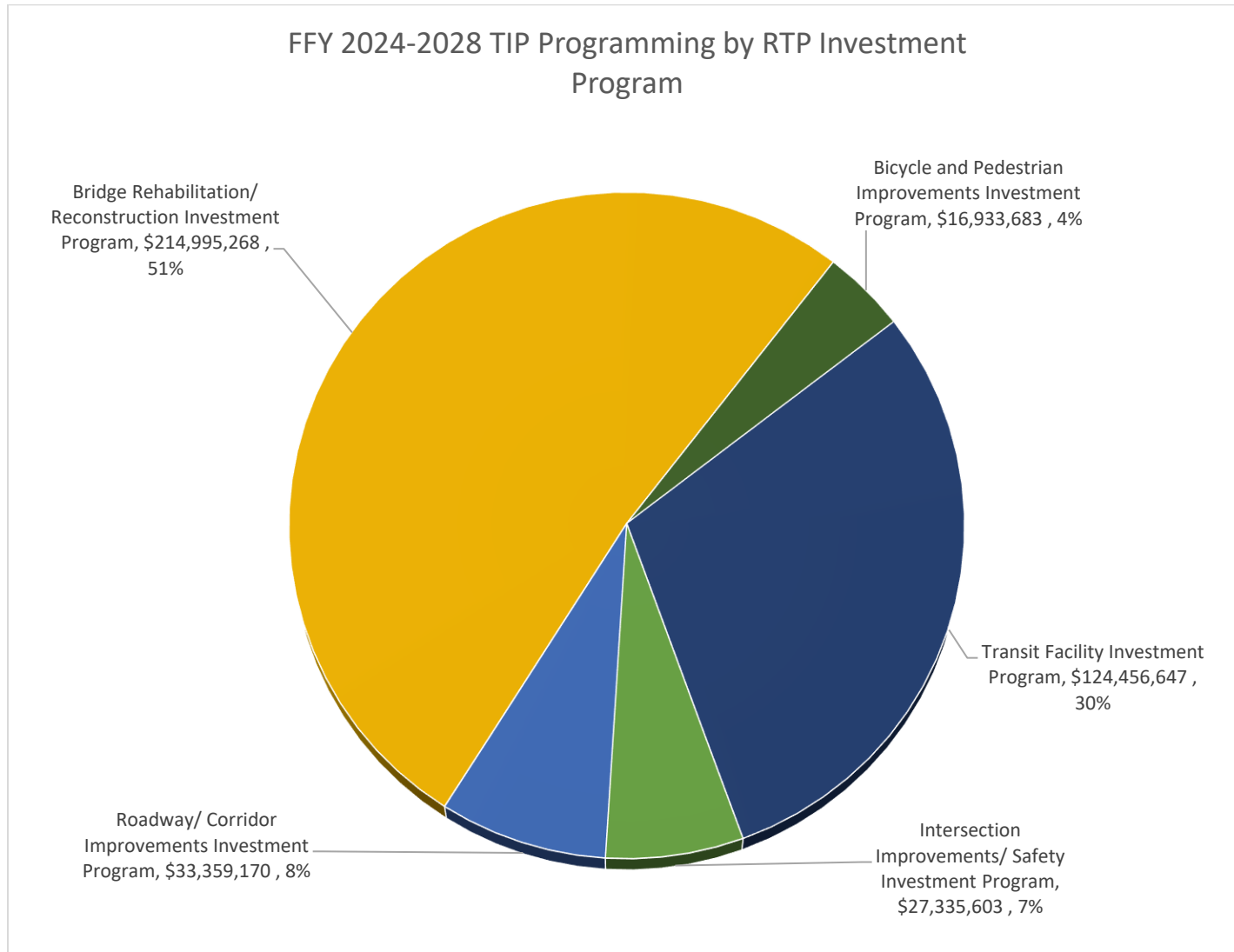
The Regional Transportation Plan (RTP) covers a period of at least twenty years and is updated every four years in accordance with federal requirements. The overall transportation goals and policies articulated in the Plan ensure that individual projects are considered within the context of established regional performance goals, as required by the Infrastructure and Investment Jobs Act. As projects advance, NMMPO staff will identify which goal areas introduced in the RTP will be addressed within the TIP. Accordingly, each project in the RTP is categorized under one of five NMMPO investment programs, as described below.

- **Intersection Improvement/Safety Investment Program** – This category funds safety and mobility improvements for intersections throughout the region. Improvements include adding/upgrading traffic signals, intersection redesigns, and bicycle accommodations, adding curb cuts and improving sidewalks.
- **Roadway/Corridor Improvements Investment Program** – This category is aimed at enhancing, modernizing or addressing capacity issues on Federal Aid-eligible roadways. Projects in this program will use a Complete Streets approach to improve the mobility, accessibility and safety for all users of the system. Improvements involve corridor upgrades including roadway rehabilitation, added/upgraded traffic signals along a corridor, new/upgraded sidewalks, and new/upgraded bicycle accommodations.
- **Bicycle and Pedestrian Investment Program** – This addresses expansion or the addition of bicycle and pedestrian facilities, in order to improve accessibility and safety for non-motorized users of the roadway network. Projects include construction of multi-use trails, off- and on-road bicycle facilities, and new sidewalks.

- **Bridge Rehabilitation/Reconstruction Investment Program** – This category includes improvements to area bridges, in order to reduce congestion, address functionality, or improve safety throughout the region. Improvements include rehabilitation or replacement of structurally deficient or regionally significant priority bridges.
- **Transit Facility Investment Program** – This category funds improvements to transit facilities and services, and the modernization of the Lowell Regional Transit Authority vehicle fleet.

Figure 4 outlines how each RTP Investment Program is reflected in funding of projects in the FFY 2024-2028 TIP. Bridge Rehabilitation/Reconstruction Investment Program makes up 51% of the programming and Transit Facility Investment Program makes up 30% of the programming. Highway programming invests in improvements along roadway corridors makes up 8%, Intersection Improvements/Safety Investment Program makes up 7%, bicycle and pedestrian improvements make up 4%. Appendix D lists individual project programming and their corresponding RTP Investment Program.

Figure 4: FFY 2024-2028 TIP PROGRAMMING BY RTP INVESTMENT PROGRAM



Performance measures will be used to monitor the regional transportation network and will serve to help prioritize how TIP projects are selected. The region also maintains a Congestion Management Process to monitor operating conditions within the regional transportation network. The TIP provides access to the funding necessary to transform the Plan’s policies and goals into finalized projects to help address congestion issues identified through the Congestion Management Process. TIP projects are drawn directly from the Plan. In addition to being drawn from the Plan, projects may be derived from special studies, such as corridor studies and traffic impact studies. The transit portion of the TIP may also contain routine capital equipment replacement projects.

TIP PROJECT FUNDING

HIGHWAY FUNDING CATEGORIES

Non-Federal Aid (NFA): Non-Federal aid funds are typically state monies that are derived from various sources including the Transportation Bond Bill.

Bridge Formula Program (BR, NGBP, HIP, BR-On & BR-Off): Finances the replacement or repair of bridges classified as in poor condition and rehabilitation of bridges classified as in fair condition. On-system bridge monies are used for bridges impacting roadways on the federal aid system. Off-system bridge monies are used for bridges that impact roadways that are not part of the federal aid system (15% of state apportionment set aside for off-system” bridges). These types of projects are funded with 80% federal money matched with 20% state money.

National Highway Performance Program (NHPP): This funding is used to support condition and performance on the National Highway System (NHS), to construct 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 the State’s asset management plan for the NHS. The NHS is the network of the nation’s most important highways, including the Interstate and US highway systems. NHPP funded projects are 80% federally funded with 20% state match.

Surface Transportation Block Grant Program (STBG): Flexible funding that may be used by States and localities for projects to preserve or improve conditions and performance on any Federal-aid highway, bridge projects on any public road, facilities for non-motorized transportation, transit capital projects and public bus terminals and facilities. STBG funds are 80% federal monies requiring a 20% state match.

Transportation Alternatives (TA or “TAP”): The BIL continues the Transportation Alternatives set-aside from the Surface Transportation Block Grant (STBG) program. Eligible uses of the set-aside funds include all projects and activities that were previously eligible under the TAP under the Infrastructure Investment and Jobs Act (IIJA). TAP encompasses a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to storm water and habitat connectivity. In programming projects on the TIP, the “TAP” category is still used for tracking purposes. Transportation Alternatives funding provides for a variety of transportation projects that were previously eligible activities under separately funded programs. Eligible activities include:

- Pedestrian and Bicycle Facilities
- Recreational Trails Program
- Safe Routes to Schools Program
- Community improvements such as historic preservation and vegetation management
- Environmental mitigation related to storm water and habitat connectivity

Fifty percent of TAP funds are distributed to areas based on population. The NMMPO uses the transportation evaluation criteria to prioritize projects that receive TAP funding in the TIP.

Congestion Mitigation Air Quality (CMAQ): Programs and projects funded under this category must contribute to the attainment of National Ambient Air Quality Standards (NAAQS) or must be included in the State Implementation Plan pursuant to the Clean Air Act of 1990 and subsequent amendments. These funds may be utilized for both roadway and transit projects. CMAQ funds are 80% federal monies requiring a 20% state match.

Highway Safety Improvement Program (HSIP): Highway Safety Improvement Program funds are for the design and construction of highway projects that would reduce the number and severity of roadway crashes. Funding determination is based on crash data and engineering assessments of identified hazardous locations. HSIP funds are 90% federal monies requiring a 10% state match.

National Highway Freight Program (NHFP): National Highway Freight Program funds are for construction of highway projects designed to improve the efficient movement of freight on the National Highway Freight Network. NHFP funds are 80% federal monies requiring a 20% state match.

Carbon Reduction Program (CRP): The BIL establishes the Carbon Reduction Program (CRP), which provides funds for projects designed to reduce transportation emissions, defined as carbon dioxide (CO2) emissions from on-road highway sources. CRP funds are 80% federal monies requiring a 20% state match.

For more STIP funding sources and categories, please refer MassDOT’s STIP FFY 2023 Appendix D: Funding Categories and Assumptions⁵.

Table 11 provides an overview of regional target funding available for programming by the NMMPO in development of the FFY 2024-2028.

TABLE 10: FFY 2024-2028 FUNDING FOR REGIONAL PRIORITIES

Federal Fiscal Year	Federal Funding for Regional Priorities	Northern Middlesex Federal Aid Apportionment (3.9096%)	State Matching Funds	Northern Middlesex Regional Target Funding
2024	\$304,063,097	\$9,510,121	\$2,377,530	\$11,887,651
2025	\$298,897,735	\$9,348,565	\$2,337,141	\$11,685,706
2026	\$291,585,160	\$9,119,851	\$2,279,963	\$11,399,814
2027	\$361,048,668	\$11,292,447	\$2,823,112	\$14,115,559
2028	\$367,844,642	\$11,505,003	\$2,876,251	\$14,381,254
2024-2028	\$1,623,439,302	\$60,286,108	\$15,071,527	\$75,357,635

TRANSIT FUNDING CATEGORIES

Section 5307/Urbanized Area Formula Grants: The Urbanized Area Formula Funding program (49 U.S.C. 5307) provides grants to urbanized areas to support public transportation. Funding is distributed by formula based on the level of transit service provision,

⁵ STIP 2023 Appendix D: Funding Categories and Assumptions. <https://www.mass.gov/doc/stip-ffy-2023-2027-appendix-funding-category/download>

population, and other factors. Section 5307 funds are Federal Transit Administration monies used to finance capital, planning, and operating and maintenance expenses for the Lowell Regional Transit Authority (LRTA) urban service area. The funding ratios and match requirements for each sub-category are as follows:

- Funding for capital expenses: Federal 80%/State 20%
- Funding for planning expenses: Federal 80%/NMCOG 20%
- Funding for operating: Federal 46%/State 32%/LRTA 22% (varies annually)

Section 5310/Mobility Assistance Program (MAP): This program (49 U.S.C. 5310) finances capital expenses for private non-profit organizations to provide specialized transit services for the older adults and persons with disabilities. The Massachusetts Mobility Assistance Program (MAP) extends these provisions to public non-profit agencies. These awards are approved on a project-by-project basis, funding only capital expenses for the acquisition of specific types of vans and base station equipment and may not be used for operating expenses. Section 5310 incorporates the former New Freedom program. The program is funded with 80% MAP monies and 20% RTACAP (Capital Assistance Program) funds or other local funds, depending on the applicant.

Section 5311/Rural Area Formula Grant Program: 49 U.S.C. Section 5311 Formula Grants for Rural Areas program provide capital, planning, and operating assistance to states to support public transportation in rural areas with populations of less than 50,000, where many residents often rely on public transit to reach their destinations. The program also provides funding for state and national training and technical assistance through the Rural Transportation Assistance Program.

Federal share is 80% for capital projects, 50% for operating assistance, and 80% for Americans with Disability Act (ADA) non-fixed route paratransit service. Section 5311 funds are available to the states during the fiscal year of apportionment plus two additional years (total of 3 years). Eligible activities include planning, capital, operating, job access and reverse commute projects and the acquisition of public transportation services.

Section 5337/State of Good Repair: The State of Good Repair Grants Program (49 U.S.C. 5337) 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. This includes bus and bus-related assistance projects for sub-recipients that are public agencies, private companies engaged in public transportation, or private non-profit organizations. Additionally, the SGR Initiative makes funds available for Transit Asset Management systems, which provide a systematic process of operating, maintaining, improving, and expanding physical assets effectively throughout their life cycles.

Section 5339/Bus and Bus Facilities: This formula grant program (49 U.S.C. 5339) provides funding to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities. In addition to the formula allocation the Grants for buses and bus facilities program include two discretionary components: the Bus and Bus Facilities Discretionary Program and the Low or No Emissions Bus Discretionary Program.

Flexible funding: In some cases, funds allocated under the categories of Surface Transportation Block Grant Program (STBG), National Highway System (NHS), and Congestion Mitigation Air Quality (CMAQ) may be utilized for transit projects. All projects funded under this category are funded with 80% federal/20% state funds. Both CMAQ and STBG funds are 100% flexible in that an MPO may elect to allocate any portion of these to transit projects. In addition, the State may elect to transfer up to 20% of its Interstate Maintenance funds, 50% of its NHPP funds, and 40% of its Bridge funds to the STBG program. Once transferred, any such funds are as flexible as STBG funds.

REGIONAL EQUITY: TIP PROJECTS – 2014-2028

A geographic distribution analysis of TIP funded projects has been undertaken to assess regional equity in the transportation planning process. Environmental Justice (EJ) areas have been identified and TIP projects have been mapped based on minority populations, low-income populations and areas with both minority and low-income populations. Previous TIP funded projects (FFY 2014-2023) as well as programmed projects in this TIP (FFY 2024-2028) are included. Table 12 summarizes the number of TIP projects for each community and total project funding allocated. Based on 2020 Census population, funding per capita in each community is also provided.

TABLE 11: SUMMARY OF TIP FUNDING PER CAPITA (2014-2028)

Community	2020 Census Population	# of TIP Projects 2014-2028	Total Project funding	TIP Funding per capita per year
Billerica	42,119	6	\$382,049,780	\$605
Chelmsford	35,488	8	\$422,696,547	\$794
Dracut	32,617	2	\$319,242,205	\$653
Dunstable	3,358	2	\$128,858,938	\$2,558

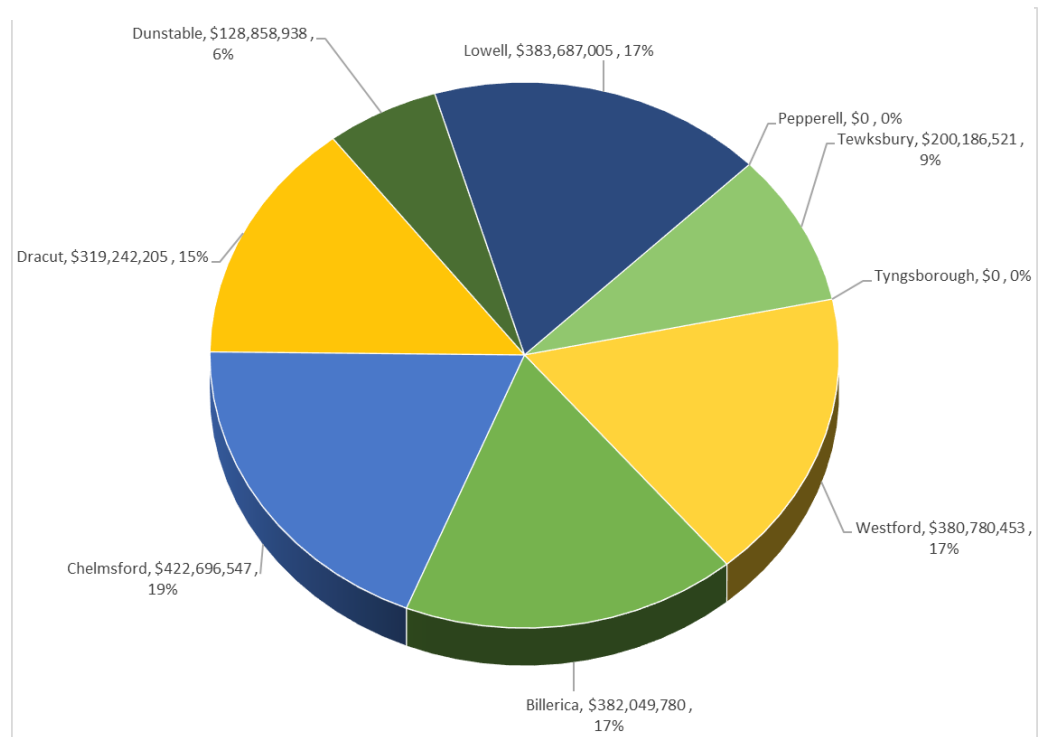
TABLE 11: SUMMARY OF TIP FUNDING PER CAPITA (2014-2028)

Community	2020 Census Population	# of TIP Projects 2014-2028	Total Project funding	TIP Funding per capita per year
Lowell	115,554	11	\$383,687,005	\$221
Pepperell	11,604	0	\$0	\$0
Tewksbury	31,342	9	\$200,186,521	\$426
Tyngsborough	12,380	0	\$0	\$0
Westford	24,643	8	\$380,780,453	\$1,030
Chelmsford/Tewksbury	67,734	1	\$12,489,120	\$12
Total	309,105	47	\$2,229,990,569	\$481

Forty-seven (47) projects have been funded since 2014 or are being programmed in this TIP. These projects include MassDOT Statewide Program projects, as well as community-initiated projects. The town of Chelmsford receives the highest percentage of TIP funds with about 19% of programming. The city of Lowell and towns of Billerica and Westford receive about 17% of the funding. The town of Dunstable receives about 6% and Tewksbury receives about 9% of the funding. The towns of Pepperell and Tyngsborough did not receive funding during this time period. The NMMPO will continue to work with each community to maintain regional equity in TIP funding allocation. Figure 5 shows the distribution of NMMPO TIP funding by community.

To illustrate regional equity, the identified TIP projects were mapped relative to identified Environmental Justice (EJ) areas across the region, thereby comparing the number of projects and funding amounts programmed located inside and outside of these designated areas (Table 13). EJ areas include geographical locations where census figures show a concentration greater than the regional average for minority groups or a population with a median income of less than 65% of the statewide median. Fifty-Seven percent (57 %) of all TIP projects programmed between 2014 and 2028 are located in EJ areas. Map 1 presents projects in the 2024-2028 TIP and Map 2 outlines projects programmed between 2014 and 2023. Each map displays the existing EJ areas and project locations relative to those EJ areas.

FIGURE 5: DISTRIBUTION OF TIP FUNDING BY COMMUNITY FFY 2014-2028



FFY 2024 - 2028 Transportation Improvement Program (TIP) Projects and Environmental Justice Areas



■ TIP Project 2024-2028
— Project Extent

2020 Environmental Justice Block Groups
 Environmental Justice Criteria:
 ■ Minority (40% or more of population)
 ■ Income (65% or less than statewide median)
 ■ Limited English Proficiency (25% or more lack proficiency)

Populations meeting two EJ criteria:
 ■ Minority and Income
 ■ Income and Limited English Proficiency
 ■ Minority and Limited English Proficiency

Populations meeting all three EJ criteria:
 ■ Minority, Income, and Limited English Proficiency

▭ Town Boundary

Sources:
 Executive Office of Energy and Environmental Affairs (EEA)/MassGIS (2020 Environmental Justice Populations layer updated 11/2022); NMCOG (2024-2028 Transportation Improvement Plan projects); MassGIS (town boundaries, roads); MassDEP (2011 hydrography)

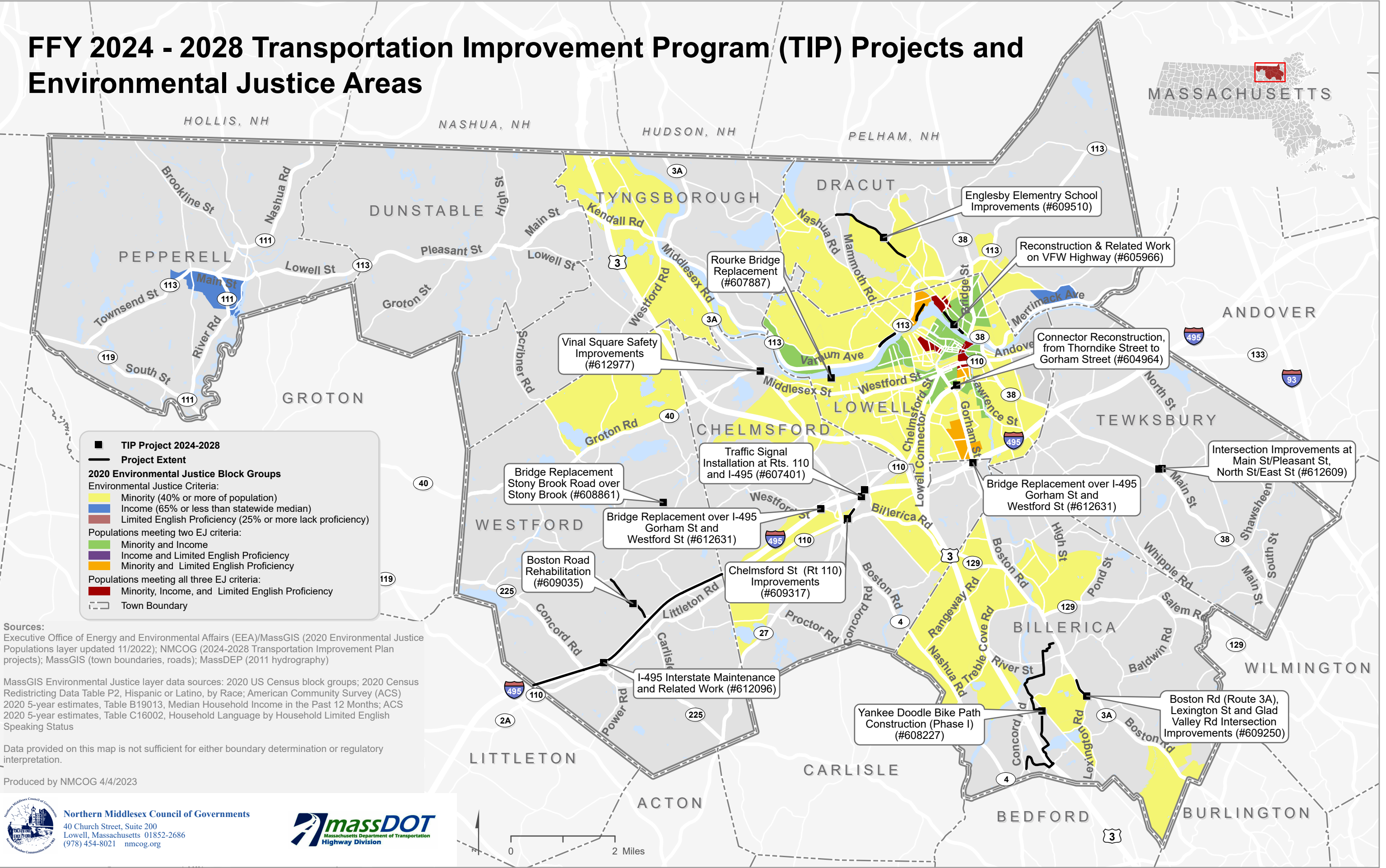
MassGIS Environmental Justice layer data sources: 2020 US Census block groups; 2020 Census Redistricting Data Table P2, Hispanic or Latino, by Race; American Community Survey (ACS) 2020 5-year estimates, Table B19013, Median Household Income in the Past 12 Months; ACS 2020 5-year estimates, Table C16002, Household Language by Household Limited English Speaking Status

Data provided on this map is not sufficient for either boundary determination or regulatory interpretation.

Produced by NMCOG 4/4/2023

Northern Middlesex Council of Governments
 40 Church Street, Suite 200
 Lowell, Massachusetts 01852-2686
 (978) 454-8021 nmco.org

massDOT
 Massachusetts Department of Transportation
 Highway Division



Vinal Square Safety Improvements (#612977)

Rourke Bridge Replacement (#607887)

Englesby Elementary School Improvements (#609510)

Reconstruction & Related Work on VFW Highway (#605966)

Connector Reconstruction, from Thorndike Street to Gorham Street (#604964)

Intersection Improvements at Main St/Pleasant St, North St/East St (#612609)

Bridge Replacement over I-495 Gorham St and Westford St (#612631)

Traffic Signal Installation at Rts. 110 and I-495 (#607401)

Bridge Replacement over I-495 Gorham St and Westford St (#612631)

Bridge Replacement Stony Brook Road over Stony Brook (#608861)

Chelmsford St (Rt 110) Improvements (#609317)

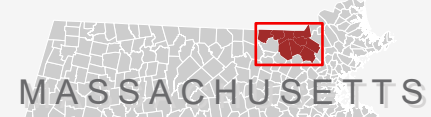
Boston Road Rehabilitation (#609035)

I-495 Interstate Maintenance and Related Work (#612096)

Yankee Doodle Bike Path Construction (Phase I) (#608227)

Boston Rd (Route 3A), Lexington St and Glad Valley Rd Intersection Improvements (#609250)

FFY 2014 - 2023 Transportation Improvement Program (TIP) Projects and Environmental Justice Areas



■ TIP Project 2014-2023
— Project Extent

2020 Environmental Justice Block Groups
 Environmental Justice Criteria:
 ■ Minority (40% or more of population)
 ■ Income (65% or less than statewide median)
 ■ Limited English Proficiency (25% or more lack proficiency)

Populations meeting two EJ criteria:
 ■ Minority and Income
 ■ Income and Limited English Proficiency
 ■ Minority and Limited English Proficiency

Populations meeting all three EJ criteria:
 ■ Minority, Income, and Limited English Proficiency

▭ Town Boundary

Sources:
 Executive Office of Energy and Environmental Affairs (EEA)/MassGIS (2020 Environmental Justice Populations layer updated 11/2022); NMCOG (2014-2023 Transportation Improvement Plan projects); MassGIS (town boundaries, roads); MassDEP (2011 hydrography)

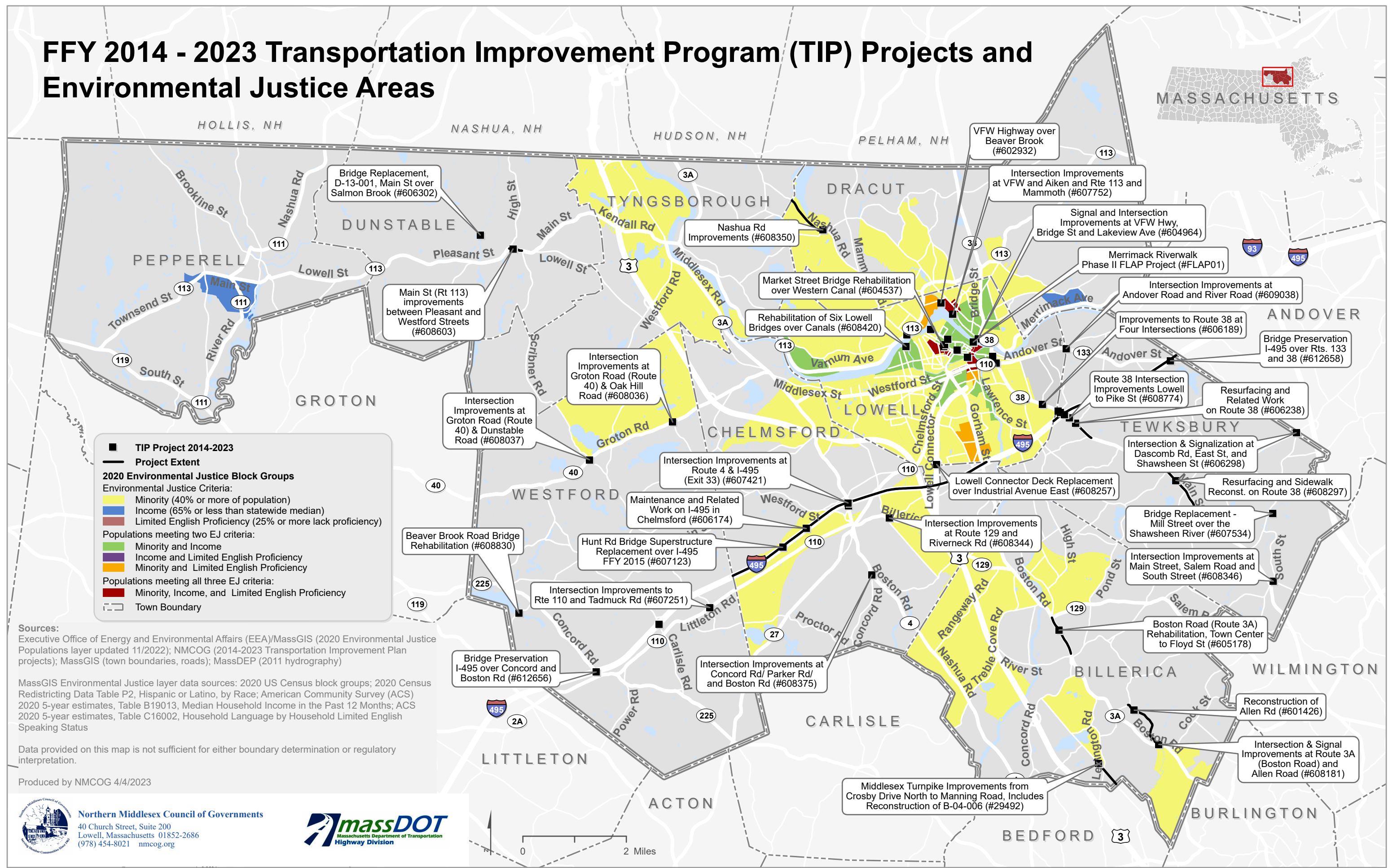
MassGIS Environmental Justice layer data sources: 2020 US Census block groups; 2020 Census Redistricting Data Table P2, Hispanic or Latino, by Race; American Community Survey (ACS) 2020 5-year estimates, Table B19013, Median Household Income in the Past 12 Months; ACS 2020 5-year estimates, Table C16002, Household Language by Household Limited English Speaking Status

Data provided on this map is not sufficient for either boundary determination or regulatory interpretation.

Produced by NMCOG 4/4/2023

Northern Middlesex Council of Governments
 40 Church Street, Suite 200
 Lowell, Massachusetts 01852-2686
 (978) 454-8021 nmco.org

massDOT
 Massachusetts Department of Transportation
 Highway Division



Bridge Replacement, D-13-001, Main St over Salmon Brook (#606302)

Main St (Rt 113) improvements between Pleasant and Westford Streets (#608603)

Intersection Improvements at Groton Road (Route 40) & Oak Hill Road (#608036)

Intersection Improvements at Groton Road (Route 40) & Dunstable Road (#608037)

Intersection Improvements at Route 4 & I-495 (Exit 33) (#607421)

Maintenance and Related Work on I-495 in Chelmsford (#606174)

Hunt Rd Bridge Superstructure Replacement over I-495 FFY 2015 (#607123)

Intersection Improvements to Rte 110 and Tadmuck Rd (#607251)

Bridge Preservation I-495 over Concord and Boston Rd (#612656)

Intersection Improvements at Concord Rd/ Parker Rd/ and Boston Rd (#608375)

Middlesex Turnpike Improvements from Crosby Drive North to Manning Road, Includes Reconstruction of B-04-006 (#29492)

VFW Highway over Beaver Brook (#602932)

Intersection Improvements at VFW and Aiken and Rte 113 and Mammoth (#607752)

Signal and Intersection Improvements at VFW Hwy, Bridge St and Lakeview Ave (#604964)

Merrimack Riverwalk Phase II FLAP Project (#FLAP01)

Intersection Improvements at Andover Road and River Road (#609038)

Improvements to Route 38 at Four Intersections (#606189)

Bridge Preservation I-495 over Rts. 133 and 38 (#612658)

Route 38 Intersection Improvements Lowell to Pike St (#608774)

Resurfacing and Related Work on Route 38 (#606238)

Intersection & Signalization at Dascomb Rd, East St, and Shawsheen St (#606298)

Resurfacing and Sidewalk Reconst. on Route 38 (#608297)

Bridge Replacement - Mill Street over the Shawsheen River (#607534)

Intersection Improvements at Main Street, Salem Road and South Street (#608346)

Boston Road (Route 3A) Rehabilitation, Town Center to Floyd St (#605178)

Reconstruction of Allen Rd (#601426)

Intersection & Signal Improvements at Route 3A (Boston Road) and Allen Road (#608181)

TABLE 12: TIP FUNDING BY ENVIRONMENTAL JUSTICE POPULATION

Community	FFY 2014 – 2028 TIP Projects in community's EJ Areas	Total TIP Projects in communities	TIP Funding in Environmental Justice Category				TIP funding outside of EJ Area
			TIP funding in areas with Minority Group Greater than regional average only	TIP funding in areas with Median income less than 65% of Statewide Average only*	TIP funding in areas with Limited English Proficiency Population only*	TIP Funding in multiple EJ Categories	
Billerica	4	6	\$24,739,463	\$0	\$0	\$0	\$ 15,777,548
Chelmsford	4	9	\$28,617,098	\$0	\$0	\$44,358,906	\$ 25,368,360
Dracut	2	2	\$8,280,759	\$0	\$0	\$0	\$0
Dunstable	0	2	\$0	\$0	\$0	\$0	\$6,405,014
Lowell	11	11	\$4,497,091	\$0	\$0	\$379,189,914	\$0
Pepperell	0	0	\$0	\$0	\$0	\$0	\$0
Tewksbury	1	9	\$3,339,235	\$0	\$0	\$0	\$ 196,847,286
Tyngsborough	0	0	\$0	\$0	\$0	\$0	\$0
Westford	2	8	\$5,248,616	\$0	\$0	\$0	\$25,270,406
Total	24	47	\$74,722,262	\$0	\$0	\$423,548,820	\$ 269,668,614

*Note: Median income less than 65% of Statewide Average and Limited English Proficiency Population columns are \$0 since there are no projects in areas where the project is only located in one EJ category.

Title VI of the Civil Rights Act of 1964 - National Origin Discrimination against Persons with Limited English Proficiency (LEP), and Presidential Executive Order 13166 require entities that receive federal funds to provide guidance on how they will address the needs of LEP individuals. The U.S. Department of Transportation (USDOT) has developed a guidance document entitled “A Policy Guidance Concerning Recipients’ Responsibilities to Limited English Proficient Persons”. This guidance was issued to ensure that persons in the United States are not excluded from participation in DOT-assisted programs and activities simply because they face challenges communicating in English.

As part of Title VI reporting, NMCOG maps minority, low income, Limited English Proficiency (LEP), as well as age, and disability as populations of concern for different aspects of the TIP including:

- Transportation Evaluation Criteria (TEC),
- Public outreach, and
- LRTA Title VI/LEP submissions.

In the Northern Middlesex region, approximately 7% of the region’s population speak English less than “very well”⁶. The five most spoken non-English languages in the region are Spanish, Vietnamese, Portuguese, Chinese and Khmer. All certification documents are available in these languages. The NMMPO strives to engage groups and organizations representing Title VI and Environmental Justice populations. Most of this engagement takes place during the development of the Long-Range Transportation Plan and the Coordinated Human-Services Transit Plan (CHSTP).

The RTP development includes extensive public outreach. NMCOG staff participate in meetings, engaging all NMMPO communities, including organizations that serve Title VI and Environmental Justice populations. Topics discussed at these meetings range from pedestrian, bicycle, and traffic safety to intersection and bridge priorities. The received feedback is presented and addressed in the RTP and plays a significant role in the prioritization of the projects in both the RTP and the TIP. The CHSTP examines the unmet transit needs of seniors and people with disabilities.

⁶ Data Source: Northern Middlesex Metropolitan Planning Organization Federal Fiscal Year 2023 Title VI Annual Update, Appendix F page 4.

HIGHWAY AND TRANSIT PROJECT LISTINGS



STIP Investments Report

2024 Northern Middlesex Region

STIP: 2024 - 2028 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Adjusted TFPC	Total Programmed Funds	Federal Funds	Non-Federal Funds	MPO Project Score	Entity Receiving Transfer	PSAC Score	Earmark Details	Proponent	Other Information
Federal Fiscal Year 2024								\$283,815,511	\$156,078,159	\$127,737,352						
Section 1A / Regionally Prioritized Projects								\$10,279,116	\$8,223,293	\$2,055,823						
Roadway Reconstruction								\$10,279,116	\$8,223,293	\$2,055,823						
2024	609035	Northern Middlesex	Westford	WESTFORD- REHABILITATION OF BOSTON ROAD	3	CMAQ	\$10,279,116	\$1,725,000	\$1,380,000	\$345,000	8.60				Town of Westford	Total Cost: \$10,279,116; Funding: STBG, CMAQ, TAP; TEC Score: 8.60 out of 18;
2024	609035	Northern Middlesex	Westford	WESTFORD- REHABILITATION OF BOSTON ROAD	3	STBG	\$10,279,116	\$8,272,207	\$6,617,766	\$1,654,441	8.60				Town of Westford	Total Cost: \$10,279,116; Funding: STBG, CMAQ, TAP; TEC Score: 8.60 out of 18;
2024	609035	Northern Middlesex	Westford	WESTFORD- REHABILITATION OF BOSTON ROAD	3	TAP	\$10,279,116	\$281,909	\$225,527	\$56,382	8.60				Town of Westford	Total Cost: \$10,279,116; Funding: STBG, CMAQ, TAP; TEC Score: 8.60 out of 18;
Section 1B / Earmark or Discretionary Grant Funded Projects								\$169,000,000	\$135,200,000	\$33,800,000						
Bridge On-System NHS NB								\$169,000,000	\$135,200,000	\$33,800,000						
2024	607887	Northern Middlesex	Lowell	LOWELL- ROURKE BRIDGE REPLACEMENT, L-15-088, WOOD STREET EXTENSION OVER BOSTON AND MAINE RAILROAD AND MERRIMAC RIVER	4	HIP-BR	\$169,000,000	\$169,000,000	\$135,200,000	\$33,800,000	13.45				MassDOT	Total cost: \$169,000,000; Funding: HIP-BR; TEC: 13.45 out of 18
Section 2A / State Prioritized Reliability Projects								\$44,358,906	\$0	\$44,358,906						
Bridge On-system Non-NHS								\$44,358,906	\$0	\$44,358,906						
2024	612631	Northern Middlesex	Chelmsford	CHELMSFORD- BRIDGE REPLACEMENT, C-08-039, GORHAM STREET (ST 3A) OVER I-495 AND REPLACEMENT OF C-08-036, WESTFORD STREET OVER I-495 (DB)	4	NGBP	\$44,358,906	\$44,358,906	\$0	\$44,358,906	5.57				MassDOT	Total cost: \$44,358,906; Funding: NGBP; TEC: 5.57 out of 18
Section 2C / State Prioritized Expansion Projects								\$15,818,583	\$12,654,866	\$3,163,717						
Bicycle and Pedestrian								\$15,818,583	\$12,654,866	\$3,163,717						
2024	608227	Northern Middlesex	Billerica	BILLERICA- YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE I)	4	CMAQ	\$15,818,583	\$15,818,583	\$12,654,866	\$3,163,717	12				Town of Billerica	Total cost: \$15,818,583; Funding: CMAQ; TEC: 12 out of 18;
Section 3B / Non-Federal Aid Funded								\$44,358,906	\$0	\$44,358,906						



STIP Investments Report
2024 Northern Middlesex Region

STIP: 2024 - 2028 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Adjusted TFPC	Total Programmed Funds	Federal Funds	Non-Federal Funds	MPO Project Score	Entity Receiving Transfer	PSAC Score	Earmark Details	Proponent	Other Information	
Federal Fiscal Year 2024								\$283,815,511	\$156,078,159	\$127,737,352							
Bridge On-system Non-NHS								\$44,358,906	\$0	\$44,358,906							
2024	612631	Northern Middlesex	Chelmsford	CHELMSFORD- BRIDGE REPLACEMENT, C-08-039, GORHAM STREET (ST 3A) OVER I-495 AND REPLACEMENT OF C-08-036, WESTFORD STREET OVER I-495 (DB)	4	NGBP	\$44,358,906	\$44,358,906	\$0	\$44,358,906	5.57				MassDOT	Total cost: \$44,358,906; Funding: NGBP; TEC: 5.57 out of 18	



STIP Investments Report

Program Activity: Transit, 2024 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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							\$35,282,905	\$23,546,591	\$8,633,939	\$3,102,375			
Lowell Regional Transit Authority							\$35,282,905	\$23,546,591	\$8,633,939	\$3,102,375			
2024	RTD0010684		Operating	LRTA - OPERATING ASSISTANCE 2024 (5307)	5307	\$10,089,723	\$2,921,280	\$2,921,280				30.09.01	This project is associated with RTD 10706 and 11204 which are for the CARES and ARP funds toward the federal share of 2024 operating
2024	RTD0010684		Operating	LRTA - OPERATING ASSISTANCE 2024 (5307)	LF	\$10,089,723	\$3,080,375			\$3,080,375		30.09.01	This project is associated with RTD 10706 and 11204 which are for the CARES and ARP funds toward the federal share of 2024 operating



STIP Investments Report

Program Activity: Transit, 2024 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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
2024	RTD0010684		Operating	LRTA - OPERATING ASSISTANCE 2024 (5307)	SCA	\$10,089,723	\$4,378,539		\$4,378,539			30.09.01	This project is associated with RTD 10706 and 11204 which are for the CARES and ARP funds toward the federal share of 2024 operating
2024	RTD0010685	Lowell	RTA Facility & Vehicle Maintenance	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	5307	\$200,000	\$160,000	\$160,000				11.42.20	
2024	RTD0010685	Lowell	RTA Facility & Vehicle Maintenance	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	RTACAP	\$200,000	\$40,000		\$40,000			11.42.20	
2024	RTD0010686		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE CAPITAL SPARE PARTS	5307	\$100,000	\$80,000	\$80,000				11.42.20	
2024	RTD0010686		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE CAPITAL SPARE PARTS	RTACAP	\$100,000	\$20,000		\$20,000			11.42.20	
2024	RTD0010687		Operating	LRTA - SHORT RANGE TRANSIT PLANNING 2024	5307	\$110,000	\$88,000	\$88,000				44.24.00	
2024	RTD0010687		Operating	LRTA - SHORT RANGE TRANSIT PLANNING 2024	LF	\$110,000	\$22,000			\$22,000		44.24.00	
2024	RTD0010688		RTA Vehicle Replacement	LRTA - REVENUE VEHICLE REPLACEMENT - 35FT HYBRIDS (1)	5307	\$817,000	\$653,600	\$653,600				11.12.02	
2024	RTD0010688		RTA Vehicle Replacement	LRTA - REVENUE VEHICLE REPLACEMENT - 35FT HYBRIDS (1)	RTACAP	\$817,000	\$163,400		\$163,400			11.12.02	
2024	RTD0010689		RTA Facility & Vehicle Maintenance	LRTA - IT EQUIPMENT & MAINTENANCE	5307	\$10,000	\$8,000	\$8,000				11.42.20	
2024	RTD0010689		RTA Facility & Vehicle Maintenance	LRTA - IT EQUIPMENT & MAINTENANCE	RTACAP	\$10,000	\$2,000		\$2,000			11.42.20	



STIP Investments Report

Program Activity: Transit, 2024 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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
2024	RTD0010696	Lowell	RTA Facility & System Modernization	LRTA - Lowell - GALLAGHER PARKING GARAGE UPGRADES	5307	\$250,000	\$200,000	\$200,000				11.34.04	Upgrading parking system to include hourly rates and credit card/kiosk payment options, as well as facility entrance/exit design changes to accommodate new system
2024	RTD0010696	Lowell	RTA Facility & System Modernization	LRTA - Lowell - GALLAGHER PARKING GARAGE UPGRADES	RTACAP	\$250,000	\$50,000		\$50,000			11.34.04	Upgrading parking system to include hourly rates and credit card/kiosk payment options, as well as facility entrance/exit design changes to accommodate new system



STIP Investments Report

Program Activity: Transit, 2024 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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
2024	RTD0010706		Operating	LRTA - OPERATING ASSISTANCE 2024 (CARES ACT)	OF	\$1,700,000	\$1,700,000	\$1,700,000				30.09.08	This project is associated with RTD10684 (5307/SCA/Local Assessment share) and RTD11204 (ARP) shares of 2024 operating
2024	RTD0011204		Operating	LRTA - OPERATING ASSISTANCE 2024 (ARPA)	OF	\$1,815,711	\$1,815,711	\$1,815,711				30.09.08	This project is associated with projects RTD10684 (5307/SCA/Local Assessment share) and RRD10706 (CARES share) operating funds
2024	RTD0011205		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE BACKUP GENERATOR FOR ADMIN/GALLAGHER TERMINAL	5307	\$300,000	\$240,000	\$240,000				11.42.20	
2024	RTD0011205		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE BACKUP GENERATOR FOR ADMIN/GALLAGHER TERMINAL	RTACAP	\$300,000	\$60,000		\$60,000			11.42.20	



STIP Investments Report

Program Activity: Transit, 2024 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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
2024	T00039		RTA Facility & System Modernization	LRTA - Purchase AVL/APC/Annunciators system for Fixed Route	5307	\$1,000,000	\$575,884	\$575,884				11.42.20	Upgraded AVL system with Automated Passenger Counters (APCs) and Stop Annunciator system for 50 Fixed Route buses
2024	T00039		RTA Facility & System Modernization	LRTA - Purchase AVL/APC/Annunciators system for Fixed Route	5339	\$1,000,000	\$224,116	\$224,116				11.42.20	Upgraded AVL system with Automated Passenger Counters (APCs) and Stop Annunciator system for 50 Fixed Route buses
2024	T00039		RTA Facility & System Modernization	LRTA - Purchase AVL/APC/Annunciators system for Fixed Route	RTACAP	\$1,000,000	\$200,000		\$200,000			11.42.20	Upgraded AVL system with Automated Passenger Counters (APCs) and Stop Annunciator system for 50 Fixed Route buses



STIP Investments Report

Program Activity: Transit, 2024 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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
2024	T00040	Lowell	RTA Facility & Vehicle Maintenance	LRTA - Lowell - Rehab ADA/Commuter Access Way	OF	\$15,000,000	\$12,000,000	\$12,000,000				11.34.01	LRTA plans to seek discretionary 5339b funds for the federal share of this project. This will include the ongoing ADA/Commuter Access Rehab project at the Gallagher Intermodal Center that is currently under design
2024	T00040	Lowell	RTA Facility & Vehicle Maintenance	LRTA - Lowell - Rehab ADA/Commuter Access Way	RTACAP	\$15,000,000	\$3,000,000		\$3,000,000			11.34.01	LRTA plans to seek discretionary 5339b funds for the federal share of this project. This will include the ongoing ADA/Commuter Access Rehab project at the Gallagher Intermodal Center that is currently under design



STIP Investments Report

Program Activity: Transit, 2024 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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
2024	T00058	Lowell	RTA Facility & Vehicle Maintenance	LRTA - LOWELL - MAGUIRE & PARATRANSIT MAINTENANCE FACILITY IMPROVEMENTS	OF	\$3,600,000	\$2,880,000	\$2,880,000				11.44.03	LRTA will be seeking a Bus & Facilities Discretionary 5339b grant for the federal share of this project, which includes replacing the windows and facade of the Admin and Paratransit Maintenance and Operations Facility, and associated interior rehab to stop water leakage/improve drainage



STIP Investments Report

Program Activity: Transit, 2024 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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
2024	T00058	Lowell	RTA Facility & Vehicle Maintenance	LRTA - LOWELL - MAGUIRE & PARATRANSIT MAINTENANCE FACILITY IMPROVEMENTS	RTACAP	\$3,600,000	\$720,000		\$720,000			11.44.03	LRTA will be seeking a Bus & Facilities Discretionary 5339b grant for the federal share of this project, which includes replacing the windows and facade of the Admin and Paratransit Maintenance and Operations Facility, and associated interior rehab to stop water leakage/improve drainage



STIP Investments Report
2025 Northern Middlesex Region

STIP: 2024 - 2028 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Adjusted TFPC	Total Programmed Funds	Federal Funds	Non-Federal Funds	MPO Project Score	Entity Receiving Transfer	PSAC Score	Earmark Details	Proponent	Other Information		
Federal Fiscal Year 2025								\$20,238,106	\$17,099,936	\$3,138,170								
Section 1A / Regionally Prioritized Projects								\$11,685,706	\$9,348,565	\$2,337,141								
Roadway Reconstruction								\$4,997,841	\$3,998,273	\$999,568								
2025	605966	Northern Middlesex	Lowell	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	4	STBG	\$12,488,366	\$4,997,841	\$3,998,273	\$999,568	7.40				MassDOT	Total cost: \$12,488,366; YOE: 12,176,157; Funding: STBG, TAP; TEC: 7.40 out of 18; AC 2025-2026;		
2025	605966	Northern Middlesex	Lowell	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	4	TAP	\$12,488,366	\$0	\$0	\$0	7.40				MassDOT	Total cost: \$12,488,366; YOE: 12,176,157; Funding: STBG, TAP; TEC: 7.40 out of 18; AC 2025-2026;		
Intersection Improvements								\$6,687,865	\$5,350,292	\$1,337,573								
2025	607401	Northern Middlesex	Chelmsford	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	4	STBG	\$1,258,150	\$1,258,150	\$1,006,520	\$251,630	7.43				MassDOT	Total cost: \$1,258,150; YOE: 1,226,697; Funding: STBG; TEC: 7.43 out of 18;		
2025	609250	Northern Middlesex	Billerica	BILLERICA- INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	4	STBG	\$5,429,715	\$5,147,806	\$4,118,245	\$1,029,561	7.55				Town of Billerica	Total cost: \$5,220,880; YOE: \$5,429,715; Funding: STBG, TAP; TEC: 7.55 out of 18;		
2025	609250	Northern Middlesex	Billerica	BILLERICA- INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	4	TAP	\$5,429,715	\$281,909	\$225,527	\$56,382	7.55				Town of Billerica	Total cost: \$5,220,880; YOE: \$5,429,715; Funding: STBG, TAP; TEC: 7.55 out of 18;		
Section 1B / Earmark or Discretionary Grant Funded Projects								\$1,701,816	\$1,701,816	\$0								
Bridge Off-system Local NB								\$1,701,816	\$1,701,816	\$0								
2025	608861	Northern Middlesex	Westford	WESTFORD- BRIDGE REHABILITATION, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK	3	BROFF	\$1,701,816	\$1,701,816	\$1,701,816	\$0	4.93				Town of Westford	Total cost: \$1,636,362; YOE: \$1,701,816; Funding: BROFF; TEC: 4.93 out of 18		



STIP Investments Report
2025 Northern Middlesex Region

STIP: 2024 - 2028 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Adjusted TFPC	Total Programmed Funds	Federal Funds	Non-Federal Funds	MPO Project Score	Entity Receiving Transfer	PSAC Score	Earmark Details	Proponent	Other Information		
Federal Fiscal Year 2025								\$20,238,106	\$17,099,936	\$3,138,170								
Section 2A / State Prioritized Reliability Projects								\$5,690,880	\$5,121,792	\$569,088								
Interstate Pavement								\$5,690,880	\$5,121,792	\$569,088								
2025	612096	Northern Middlesex	Westford	WESTFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-495	3	NHPP-I	\$5,690,880	\$5,690,880	\$5,121,792	\$569,088	5.57				MassDOT	Total cost: \$5,472,000; YOE: \$5,690,880; Funding: NHPP-I; TEC: 5.57 out of 18;		
Section 2B / State Prioritized Modernization Projects								\$1,159,704	\$927,763	\$231,941								
Safe Routes to School								\$1,159,704	\$927,763	\$231,941								
2025	609510	Northern Middlesex	Dracut	DRACUT- IMPROVEMENTS AT GEORGE ENGLESBY ELEMENTARY SCHOOL (SRTS)	4	TAP	\$1,159,704	\$1,159,704	\$927,763	\$231,941	8				Town of Dracut	Total cost: \$1,115,100; YOE: \$1,159,704; Funding: TAP TEC: 8 out of 18;		



STIP Investments Report

Program Activity: Transit, 2025 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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							\$17,128,073	\$8,836,794	\$5,111,895	\$3,179,384			
Lowell Regional Transit Authority							\$17,128,073	\$8,836,794	\$5,111,895	\$3,179,384			
2025	RTD0010690		RTA Facility & Vehicle Maintenance	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	5307	\$200,000	\$160,000	\$160,000				11.42.20	
2025	RTD0010690		RTA Facility & Vehicle Maintenance	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	RTACAP	\$200,000	\$40,000		\$40,000			11.42.20	
2025	RTD0010691		RTA Facility & Vehicle Maintenance	LRTA - IT EQUIPMENT & MAINTENANCE	5307	\$10,000	\$8,000	\$8,000				11.42.20	
2025	RTD0010691		RTA Facility & Vehicle Maintenance	LRTA - IT EQUIPMENT & MAINTENANCE	RTACAP	\$10,000	\$2,000		\$2,000			11.42.20	
2025	RTD0010692		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE CAPITAL SPARE PARTS	5307	\$100,000	\$80,000	\$80,000				11.42.20	
2025	RTD0010692		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE CAPITAL SPARE PARTS	RTACAP	\$100,000	\$20,000		\$20,000			11.42.20	
2025	RTD0010693		Operating	LRTA - OPERATING ASSISTANCE 2025 (5307)	5307	\$13,362,649	\$5,695,370	\$5,695,370				30.09.01	This project is associated with RTD11206 (CARES) share of 2025 operating
2025	RTD0010693		Operating	LRTA - OPERATING ASSISTANCE 2025 (5307)	LF	\$13,362,649	\$3,157,384			\$3,157,384		30.09.01	This project is associated with RTD11206 (CARES) share of 2025 operating



STIP Investments Report

Program Activity: Transit, 2025 Lowell Regional Transit Authority

STIP: 2024 - 2028 (D)

2025	RTD0010693		Operating	LRTA - OPERATING ASSISTANCE 2025 (5307)	SCA	\$13,362,649	\$4,509,895		\$4,509,895			30.09.01	This project is associated with RTD11206 (CARES) share of 2025 operating
2025	RTD0010694		Operating	LRTA - SHORT RANGE TRANSIT PLANNING 2025	5307	\$110,000	\$88,000	\$88,000				44.24.00	
2025	RTD0010694		Operating	LRTA - SHORT RANGE TRANSIT PLANNING 2025	LF	\$110,000	\$22,000			\$22,000		44.24.00	
2025	RTD0011206		Operating	LRTA - OPERATING ASSISTANCE 2025 (CARES)	OF	\$645,424	\$645,424	\$645,424				30.09.08	This project is associated with RTD10693 (5307/SCA/Local Assessments share) operating funds
2025	RTD0011207	Lowell	RTA Facility & Vehicle Maintenance	LRTA - Lowell - GARAGE DECKING REPAIRS	5307	\$250,000	\$160,000	\$160,000				11.34.04	
2025	RTD0011207	Lowell	RTA Facility & Vehicle Maintenance	LRTA - Lowell - GARAGE DECKING REPAIRS	RTACAP	\$250,000	\$40,000		\$40,000			11.34.04	
2025	RTD0011208	Lowell	RTA Fleet Upgrades	LRTA - Lowell Regional Transit Authority - FACILITY UPGRADES & CHARGING INFRASTRUCTURE FOR ELECTRIC VEHICLES - DISCRETIONARY	OF	\$2,500,000	\$2,000,000	\$2,000,000				11.52.20	The LRTA plans to seek discretionary 5339b/c funds for the federal share of this project
2025	RTD0011208	Lowell	RTA Fleet Upgrades	LRTA - Lowell Regional Transit Authority - FACILITY UPGRADES & CHARGING INFRASTRUCTURE FOR ELECTRIC VEHICLES - DISCRETIONARY	RTACAP	\$2,500,000	\$500,000		\$500,000			11.52.20	The LRTA plans to seek discretionary 5339b/c funds for the federal share of this project



STIP Investments Report
2026 Northern Middlesex Region

STIP: 2024 - 2028 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Adjusted TFPC	Total Programmed Funds	Federal Funds	Non-Federal Funds	MPO Project Score	Entity Receiving Transfer	PSAC Score	Earmark Details	Proponent	Other Information		
Federal Fiscal Year 2026								\$11,399,814	\$9,119,851	\$2,279,963								
Section 1A / Regionally Prioritized Projects								\$11,399,814	\$9,119,851	\$2,279,963								
Roadway Reconstruction								\$11,399,814	\$9,119,851	\$2,279,963								
2026	605966	Northern Middlesex	Lowell	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	4	STBG	\$12,488,366	\$7,010,203	\$5,608,162	\$1,402,041	7.40				MassDOT	Total cost: \$12,488,366; YOE: 12,176,157; Funding: STBG, TAP; TEC: 7.40 out of 18; AC 2025-2026;		
2026	605966	Northern Middlesex	Lowell	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	4	TAP	\$12,488,366	\$480,322	\$384,258	\$96,064	7.40				MassDOT	Total cost: \$12,488,366; YOE: 12,176,157; Funding: STBG, TAP; TEC: 7.40 out of 18; AC 2025-2026;		
2026	609317	Northern Middlesex	Chelmsford	CHELMSFORD- IMPROVEMENTS ON CHELMSFORD STREET (ROUTE 110)	4	STBG	\$11,826,000	\$3,909,289	\$3,127,431	\$781,858	7.17				Town of Chelmsford	Total Cost: \$10,950,000; YOE: \$11,826,000; Funding: STBG; TEC: 7.17 out of 18; AC 2026-2027;		



STIP Investments Report

Program Activity: Transit, 2026 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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							\$22,878,275	\$13,292,764	\$6,327,192	\$3,258,319			
Lowell Regional Transit Authority							\$22,878,275	\$13,292,764	\$6,327,192	\$3,258,319			
2026	RTD0010697		Operating	LRTA - OPERATING ASSISTANCE 2026	5307	\$14,358,275	\$6,476,764	\$6,476,764				30.09.01	
2026	RTD0010697		Operating	LRTA - OPERATING ASSISTANCE 2026	LF	\$14,358,275	\$3,236,319			\$3,236,319		30.09.01	
2026	RTD0010697		Operating	LRTA - OPERATING ASSISTANCE 2026	SCA	\$14,358,275	\$4,645,192		\$4,645,192			30.09.01	
2026	RTD0010698		Operating	LRTA - SHORT RANGE TRANSIT PLANNING 2026	5307	\$110,000	\$88,000	\$88,000				44.24.00	
2026	RTD0010698		Operating	LRTA - SHORT RANGE TRANSIT PLANNING 2026	LF	\$110,000	\$22,000			\$22,000		44.24.00	
2026	RTD0010699		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE CAPITAL SPARE PARTS	5307	\$100,000	\$80,000	\$80,000				11.42.20	
2026	RTD0010699		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE CAPITAL SPARE PARTS	RTACAP	\$100,000	\$20,000		\$20,000			11.42.20	
2026	RTD0010700	Lowell	RTA Facility & Vehicle Maintenance	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	5307	\$200,000	\$160,000	\$160,000				11.42.20	
2026	RTD0010700	Lowell	RTA Facility & Vehicle Maintenance	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	RTACAP	\$200,000	\$40,000		\$40,000			11.42.20	
2026	RTD0010701		RTA Facility & Vehicle Maintenance	LRTA - IT EQUIPMENT & MAINTENANCE	5307	\$10,000	\$8,000	\$8,000				11.42.20	
2026	RTD0010701		RTA Facility & Vehicle Maintenance	LRTA - IT EQUIPMENT & MAINTENANCE	RTACAP	\$10,000	\$2,000		\$2,000			11.42.20	
2026	RTD0010703		RTA Fleet Upgrades	LRTA - REVENUE VEHICLE REPLACEMENT - BATTERY ELECTRIC BUSES (6)	OF	\$6,600,000	\$5,280,000	\$5,280,000				11.12.02	The LRTA plans to seek discretionary 5339c funds for the federal share of this project



STIP Investments Report

Program Activity: Transit, 2026 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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
2026	RTD0010703		RTA Fleet Upgrades	LRTA - REVENUE VEHICLE REPLACEMENT - BATTERY ELECTRIC BUSES (6)	RTACAP	\$6,600,000	\$1,320,000		\$1,320,000			11.12.02	The LRTA plans to seek discretionary 5339c funds for the federal share of this project
2026	T00041	Lowell	RTA Facility & System Modernization	LRTA - LOWELL - SOLAR ARRAY AT GALLAGHER INTERMODAL CENTER	OF	\$1,500,000	\$1,200,000	\$1,200,000				11.51.20	
2026	T00041	Lowell	RTA Facility & System Modernization	LRTA - LOWELL - SOLAR ARRAY AT GALLAGHER INTERMODAL CENTER	RTACAP	\$1,500,000	\$300,000		\$300,000			11.51.20	



STIP Investments Report
2027 Northern Middlesex Region

STIP: 2024 - 2028 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Adjusted TFPC	Total Programmed Funds	Federal Funds	Non-Federal Funds	MPO Project Score	Entity Receiving Transfer	PSAC Score	Earmark Details	Proponent	Other Information		
Federal Fiscal Year 2027								\$12,611,017	\$10,088,814	\$2,522,203								
Section 1A / Regionally Prioritized Projects								\$12,611,017	\$10,088,814	\$2,522,203								
Roadway Improvements								\$7,916,711	\$6,333,369	\$1,583,342								
2027	609317	Northern Middlesex	Chelmsford	CHELMSFORD- IMPROVEMENTS ON CHELMSFORD STREET (ROUTE 110)	4	STBG	\$11,826,000	\$7,916,711	\$6,333,369	\$1,583,342	7.17				Town of Chelmsford	Total Cost: \$10,950,000; YOE: \$11,826,000; Funding: STBG; TEC: 7.17 out of 18; AC 2026-2027;		
Roadway Reconstruction								\$4,694,306	\$3,755,445	\$938,861								
2027	612609	Northern Middlesex	Tewksbury	TEWKSBURY- INTERSECTION IMPROVEMENTS AT MAIN STREET/PLEASANT STREET & NORTH STREET/EAST STREET	4	STBG	\$4,694,306	\$4,694,306	\$3,755,445	\$938,861	9.25				Town of Tewksbury	Total cost: \$4,191,345; YOE: \$4,694,306; Funding: STBG; TEC: 9.25 out of 18;		



STIP Investments Report

Program Activity: Transit, 2027 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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							\$31,607,232	\$20,127,457	\$8,140,548	\$3,339,227			
Lowell Regional Transit Authority							\$31,607,232	\$20,127,457	\$8,140,548	\$3,339,227			
2027	RTD0011231		Operating	LRTA - SHORT RANGE TRANSIT PLANNING 2027	5307	\$110,000	\$88,000	\$88,000				44.24.00	
2027	RTD0011231		Operating	LRTA - SHORT RANGE TRANSIT PLANNING 2027	LF	\$110,000	\$22,000			\$22,000		44.24.00	
2027	RTD0011232		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE CAPITAL SPARE PARTS	5307	\$100,000	\$80,000	\$80,000				11.42.20	
2027	RTD0011232		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE CAPITAL SPARE PARTS	RTACAP	\$100,000	\$20,000		\$20,000			11.42.20	
2027	RTD0011233		RTA Facility & Vehicle Maintenance	LRTA - IT EQUIPMENT & MAINTENANCE	5307	\$10,000	\$8,000	\$8,000				11.42.20	
2027	RTD0011233		RTA Facility & Vehicle Maintenance	LRTA - IT EQUIPMENT & MAINTENANCE	RTACAP	\$10,000	\$2,000		\$2,000			11.42.20	
2027	RTD0011234		Operating	LRTA - OPERATING ASSISTANCE 2027	5307	\$14,717,232	\$6,615,457	\$6,615,457				30.09.01	
2027	RTD0011234		Operating	LRTA - OPERATING ASSISTANCE 2027	LF	\$14,717,232	\$3,317,227			\$3,317,227		30.09.01	
2027	RTD0011234		Operating	LRTA - OPERATING ASSISTANCE 2027	SCA	\$14,717,232	\$4,784,548		\$4,784,548			30.09.01	
2027	RTD0011235		RTA Fleet Upgrades	LRTA - REVENUE VEHICLE REPLACEMENT - BATTERY ELECTRIC BUSES (12) - DISCRETIONARY	OF	\$16,430,000	\$13,144,000	\$13,144,000				11.12.02	The LRTA plans to seek discretionary 5339b/c funds for the federal share of this project
2027	RTD0011235		RTA Fleet Upgrades	LRTA - REVENUE VEHICLE REPLACEMENT - BATTERY ELECTRIC BUSES (12) - DISCRETIONARY	RTACAP	\$16,430,000	\$3,286,000		\$3,286,000			11.12.02	The LRTA plans to seek discretionary 5339b/c funds for the federal share of this project



STIP Investments Report

Program Activity: Transit, 2027 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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
2027	RTD0011236	Lowell	RTA Facility & Vehicle Maintenance	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	5307	\$200,000	\$160,000	\$160,000				11.42.20	
2027	RTD0011236	Lowell	RTA Facility & Vehicle Maintenance	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	RTACAP	\$200,000	\$40,000		\$40,000			11.42.20	
2027	RTD0011237		RTA Vehicle Replacement	LRTA - NONREVENUE VEHICLE REPLACEMENT - ADMINISTRATIVE VEHICLE	5307	\$40,000	\$32,000	\$32,000				11.42.11	
2027	RTD0011237		RTA Vehicle Replacement	LRTA - NONREVENUE VEHICLE REPLACEMENT - ADMINISTRATIVE VEHICLE	RTACAP	\$40,000	\$8,000		\$8,000			11.42.11	



STIP Investments Report
2028 Northern Middlesex Region

STIP: 2024 - 2028 (D)

Year	MassDOT Project ID	MPO	Municipality	MassDOT Project Description	District	Funding Source	Adjusted TFPC	Total Programmed Funds	Federal Funds	Non-Federal Funds	MPO Project Score	Entity Receiving Transfer	PSAC Score	Earmark Details	Proponent	Other Information
Federal Fiscal Year 2028								\$13,181,809	\$11,185,836	\$1,995,973						
Section 1A / Regionally Prioritized Projects								\$13,181,809	\$11,185,836	\$1,995,973						
Roadway Reconstruction								\$13,181,809	\$11,185,836	\$1,995,973						
2028	604694	Northern Middlesex	Lowell	LOWELL- CONNECTOR RECONSTRUCTION, FROM THORNDIKE STREET TO GORHAM STREET	4	STBG	\$6,496,012	\$6,496,012	\$5,196,810	\$1,299,202	7.47				City of Lowell	Total cost: \$5,600,010; YOE: \$6,496,012; Funding: STPG; TEC: 7.47 out of 18;
2028	612977	Northern Middlesex	Chelmsford	CHELMSFORD- VINAL SQUARE SAFETY IMPROVEMENTS	4	HSIP	\$6,685,797	\$6,403,888	\$5,763,499	\$640,389	9.03				Town of Chelmsford	Total cost: \$5,763,618; YOE: \$6,685,797; Funding: HSIP, TAP TEC: 9.03 out of 18;
2028	612977	Northern Middlesex	Chelmsford	CHELMSFORD- VINAL SQUARE SAFETY IMPROVEMENTS	4	TAP	\$6,685,797	\$281,909	\$225,527	\$56,382	9.03				Town of Chelmsford	Total cost: \$5,763,618; YOE: \$6,685,797; Funding: HSIP, TAP TEC: 9.03 out of 18;



STIP Investments Report

Program Activity: Transit, 2028 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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 2028							\$17,560,162	\$8,736,920	\$5,401,084	\$3,422,158			
Lowell Regional Transit Authority							\$17,560,162	\$8,736,920	\$5,401,084	\$3,422,158			
2028	T00043		Operating	LRTA - OPERATING ASSISTANCE (2028)	5307	\$15,085,162	\$6,756,920	\$6,756,920				30.09.01	
2028	T00043		Operating	LRTA - OPERATING ASSISTANCE (2028)	LF	\$15,085,162	\$3,400,158			\$3,400,158		30.09.01	
2028	T00043		Operating	LRTA - OPERATING ASSISTANCE (2028)	SCA	\$15,085,162	\$4,928,084		\$4,928,084			30.09.01	
2028	T00044		RTA Facility & Vehicle Maintenance	LRTA - IT EQUIPMENT & MAINTENANCE	5307	\$15,000	\$12,000	\$12,000				11.42.20	
2028	T00044		RTA Facility & Vehicle Maintenance	LRTA - IT EQUIPMENT & MAINTENANCE	RTACAP	\$15,000	\$3,000		\$3,000			11.42.20	
2028	T00045		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE CAPITAL SPARE PARTS	5307	\$150,000	\$120,000	\$120,000				11.42.20	
2028	T00045		RTA Facility & Vehicle Maintenance	LRTA - PURCHASE CAPITAL SPARE PARTS	RTACAP	\$150,000	\$30,000		\$30,000			11.42.20	
2028	T00046		RTA Facility & Vehicle Maintenance	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	5307	\$200,000	\$160,000	\$160,000				11.42.20	
2028	T00046		RTA Facility & Vehicle Maintenance	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	RTACAP	\$200,000	\$40,000		\$40,000			11.42.20	
2028	T00047	Lowell	RTA Facility & System Modernization	LRTA - LOWELL - HALE ST SOLAR ROOF REHAB	OF	\$2,000,000	\$1,600,000	\$1,600,000				11.54.20	The LRTA plans to seek discretionary 5339b/c funds for the federal share of this project
2028	T00047	Lowell	RTA Facility & System Modernization	LRTA - LOWELL - HALE ST SOLAR ROOF REHAB	RTACAP	\$2,000,000	\$400,000		\$400,000			11.54.20	The LRTA plans to seek discretionary 5339b/c funds for the federal share of this project



STIP Investments Report

Program Activity: Transit, 2028 Lowell Regional Transit Authority

STIP: 2024 - 2028 (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
2028	T00048		Operating	LRTA - SHORT RANGE TRANSIT PLANNING 2028	5307	\$110,000	\$88,000	\$88,000				44.24.00	
2028	T00048		Operating	LRTA - SHORT RANGE TRANSIT PLANNING 2028	LF	\$110,000	\$22,000			\$22,000		44.24.00	

REGIONAL FINANCIAL PLAN

The TIP must be a financially constrained document and must be consistent with the Regional Transportation Plan and planning process (23 CFR 450.104 and 23 CFR 450.326(j) and (k)). The TIP is updated at least every four years. Approval responsibility rests with the Metropolitan Planning Organization and the Governor. Projections of federal resources are based upon the apportionments of the federal authorizations contained in the BIL, as allocated to the region by the State, or as allocated among the various MPOs, according to federal formulae or MPO agreement, and adjusted to reflect obligation authority or priority. The projects programmed for this region meet the funding estimates of federal funds available in each year as shown in Table 13. These estimates were provided by the Massachusetts Department of Transportation and were refined as part of the State Transportation Improvement Program development process. Table 14 contains similar information for the transit program of projects and was developed in conjunction with the LRTA’s Capital Plan and the MassDOT Rail and Transit Division. Transit year constraint differs from highway in that it includes carryover of FTA 5307 funds from previous Federal fiscal years.

TABLE 13: FFY 2024-2028 TIP HIGHWAY PROGRAMMED FUNDING/CONSTRAINT

Fiscal Year	Highway Program Regional Target (Federal + Non Federal)	Target Funding Programmed (Federal + Non Federal)	Target Funding unprogrammed	Regional Programmed Funding (Outside of Targets)	Total Amount Programmed (Federal + Non Federal)
2024	\$11,887,651	\$10,279,116	\$1,608,535	\$229,177,489	\$239,456,605
2025	\$11,685,706	\$11,685,706	\$0	\$8,552,400	\$20,238,106
2026	\$11,399,813	\$11,399,813	\$0	\$0	\$11,399,813
2027	\$14,115,559	\$12,611,017	\$1,504,542	\$0	\$12,611,017
2028	\$14,381,254	\$13,181,809	\$1,199,445	\$0	\$13,181,809
Total	\$63,469,983	\$59,157,461	\$4,312,522	\$237,729,889	\$296,887,350

TABLE 14: FFY 2024-2028 TIP TRANSIT PROGRAMMED FUNDING/CONSTRAINT

Fiscal Year	Federal Apportionment to LRTA (5307)	Federal Apportionment to LRTA (5339)	Other Federal (Cares ACT, ARPA, CRRSA, 5339b)	Federal Amount Programmed (5307, 5339, 5339b, CARES, ARPA, CRRSA)	Federal Apportionment vs Programmed	Federal Financial Constraint/ carryover funds
Prior years carryover	\$17,519,372	\$65,016	\$6,239,670	-	-	\$23,824,058
2024	\$5,104,158	\$15,867	-	\$23,546,591	(\$18,426,566)	\$5,397,492
2025	\$5,155,200	\$15,788	-	\$8,845,794	(\$3,674,806)	\$1,722,686
2026	\$5,206,752	\$15,709	-	\$13,292,764	(\$8,070,303)	(\$6,347,617)
2027	\$5,258,819	\$15,630	-	\$20,127,457	(\$14,853,008)	(\$21,200,625)
2028	\$5,311,408	\$15,552	-	\$8,736,920	(\$3,409,960)	(\$24,610,585)

Title 23 CFR section 450.326 (j) and 310 CMR 60.03(9) requires the TIP to be “financially constrained by year to include a financial plan that demonstrates which projects can be implemented using the current revenue sources and which projects are to be implemented using proposed revenue sources (while the existing transportation system is being adequately operated and maintained).” Moreover, regulations have further defined financial constraint to exclude a state’s unspent federal balances. Projects can only be programmed up to an amount that the Congress is expected to allow the state to spend in any individual fiscal year.

The financial plan contained herein is financially constrained. Only projects for which funds can be expected have been included. Table 15 provides an overview of programmed projects by Federal funding categories.

TABLE 15: PROGRAMMED TIP FUNDING BY FEDERAL AID CATEGORY

Federal Aid Category	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028
STBG	\$8,272,207	\$11,403,797	\$7,014,112	\$12,611,017	\$6,496,012
CMAQ	\$17,543,583	\$0	\$0	\$0	\$0
HSIP	\$0	\$0	\$0	\$0	\$6,403,888
NHPP	\$0	\$5,690,880	\$0	\$0	\$0
Transportation Alternatives	\$281,909	\$1,441,613	\$480,322	\$0	\$281,909
HIP-BR	\$169,000,000	\$0	\$0	\$0	\$0
NGBP	\$44,358,906	\$0	\$0	\$0	\$0
Bridge Program/Off System (STBG-BR-OFF)	\$0	\$1,701,816	\$0	\$0	\$0
Total - Highway	\$239,456,605	\$20,238,106	\$7,494,434	\$12,611,017	\$13,181,809
Section 5307	\$4,926,764	\$6,191,370	\$6,812,764	\$6,983,457	\$7,136,920
Section 5339	\$224,116	\$0	\$0	\$0	\$0
Other Federal	\$18,395,375	\$2,645,424	\$6,480,000	\$13,144,000	\$1,600,000
Non-Federal	\$11,736,314	\$8,291,279	\$9,585,511	\$11,479,775	\$8,823,242
Total - Transit (includes carryover)	\$35,282,569	\$17,128,073	\$22,878,275	\$31,607,232	\$17,560,162

The financial constraint of the total state program will be depicted in the FFY 2024-2028 State Transportation Improvement Program (STIP). Funding levels for Fiscal Years 2024-2028 have been developed cooperatively between the State and regional members of the MPO, as part of the MPO TIP development process.

STATUS OF NMMPO TIP PROJECTS

Table 16 provides a description of recently advertised highway projects in the Northern Middlesex Region (as of March 17, 2023).

TABLE 16: NORTHERN MIDDLESEX HIGHWAY TIP PROJECTS UNDER CONSTRUCTION

Community	MassDOT Project ID	Project Description	Construction Advertisement Date	Total Federal Participating Construction Cost (TFPCC)	Expected Construction Completion Date
Dracut	608350	DRACUT- IMPROVEMENTS ON NASHUA ROAD	12/18/2021	\$7,661,779	7/20/2024
Tewksbury	608297	TEWKSBURY- RESURFACING AND SIDEWALK RECONSTRUCTION ON ROUTE 38 BEGINNING AT COLONIAL DRIVE NORTH TO THE INTERSECTION OF OLD BOSTON ROAD APPROXIMATELY 1.5 MILES	9/11/2021	\$4,214,149	9/5/23
Dunstable	608603	DUNSTABLE- IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	9/11/2021	\$5,212,263	11/17/2023
Chelmsford	610724	CHELMSFORD- MEDFORD- SOMERVILLE- STONEHAM- INTERSTATE PRESERVATION ON I-93 & I-495	1/23/2021	\$7,122,057	8/22/2023
Chelmsford	608375	CHELMSFORD-INTERSECTION IMPROVEMENTS AT BOSTON ROAD AND CONCORD ROAD	8/29/2020	\$3,224,497	4/2/2023
Billerica	605178	BILLERICA- REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	3/19/2022	\$7,745,327	9/26/26
Tewksbury	609038	LOWELL-TEWKSBURY-INTERSECTION IMPROVEMENTS AT ANDOVER STREET (ROUTE 133) AND RIVER ROAD	5/9/2020	\$4,662,126	9/23/2024
Lowell	608420	LOWELL-RECONSTRUCTION AND REHABILITATION OF FIVE BRIDGES (ENEL BRIDGES) TIGER GRANT	8/12/2017	\$13,389,750	11/30/2023

Table 17 describes the status of LRTA projects listed in FFY 2023 of the NMMPO TIP Projects.

TABLE 17: STATUS OF FFY 2023 NMMPO TIP PROJECTS - TRANSIT

Description	Funding Category	Federal Amount	Total Amount	Status Update
Operating Assistance	5307	\$2,004,594	\$9,539,532	Ongoing
Short Range Transit Planning	5307	\$88,000	\$110,000	Ongoing
Purchase Capital Spare Parts	5307	\$80,000	\$100,000	Ongoing
Terminal & Building Equipment and Maintenance	5307	\$320,000	\$400,000	Ongoing
S&B Fare Collection Upgrades	RTACAP	\$0	\$98,045	Ongoing
IT Equipment and Maintenance	5307	\$12,000	\$15,000	Ongoing
LRTA-Revenue Vehicle Replacement - 35ft Hybrids (2)	OF	\$400,000	\$500,000	Complete
LRTA-Revenue Vehicle Replacement - 35ft Hybrids (2)	5307	\$792,000	\$990,000	Complete
Rehab ADA/Commuter Access Way	RTACAP	\$0	\$600,000	Ongoing
Rehab Fueling Station	5307	\$320,000	\$400,000	Ongoing
Revenue Vehicle Replacement Of Fixed Route Cutaway Vans (5339B)	OF	\$540,000	\$720,000	Ongoing
Parking system upgrade at GITC	RTACAP	\$0	\$110,000	Ongoing
Flex funding for Commuter/ADA Access Improvements at the Gallagher Terminal Intermodal Transportation Center	5307	\$3,987,912	\$3,987,912	Ongoing

REGIONALLY SIGNIFICANT TRANSPORTATION PROJECTS

In accordance with 23 CFR 450.326(f), the TIP must include a listing of regionally significant projects in the region. There are three regionally significant projects in the Northern Middlesex region: the Middlesex Turnpike Phase III in Bedford and Billerica, the Exit 91 (old Exit 36) Interchange Project in Tyngsborough and Nashua, and the replacement of the Rourke Bridge in Lowell. Preliminary design and environmental permitting is underway on the Rourke Bridge replacement project and construction funding is programmed in FFY 2024 of the TIP. The Middlesex Turnpike Phase III project in Bedford and Billerica is under construction, expected to be complete in 2023.

AIR QUALITY CONFORMITY DETERMINATION – NMMPO

This section documents the latest air quality conformity determination for the 1997 ozone National Ambient Air Quality Standards (NAAQS) in the Northern Middlesex 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 (CAA) require metropolitan planning organizations within nonattainment and maintenance areas to perform air quality conformity determinations prior to the approval of Long-Range Transportation Plans (L RTPs) and Transportation Improvement Programs (TIPs), and at such other times as required by regulation. 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 (NOx), 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 Northern Middlesex FFY 2024-2028 Transportation Improvement Program, and Massachusetts’ FFY 2024-2028 STIP, as each is developed from the conforming 2024-2044 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 the 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 (Region) FFY 2024-2028 Transportation Improvement Program and 2024-2044 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 applies 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 in accordance with the region’s public participation plan (www.nmcog.org/public-participation).

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 NMMPO's Public Participation Plan was formally adopted in 2016. 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 28, 2023. 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 19, 2023 and subsequently, the NMMPO is expected to endorse this air quality conformity determination on May 24, 2023. 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 and must be fiscally constrained consistent with DOT's metropolitan planning regulations at 23 CFR part 450. The Northern Middlesex 2024-2028 Transportation Improvement Program and 2024-2044 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 Lowell has expired. On April 22, 2002, the EPA classified Lowell as being in attainment (in compliance) for CO emissions. Subsequently, an 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 Lowell. 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 NMMPO 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
Draft FFY 2024-2028 Northern Middlesex Metropolitan Planning Organization Transportation Improvement Program

process demonstrates that the FFY 2024-2028 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 NMMPO's FFY 2024-2028 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.

APPENDIX A: PROJECT DESCRIPTION FOR FFY 2024-2028 TIP PROJECTS

- **PROJECT PROPONENT:** TOWN OF WESTFORD
- **ESTIMATED CONSTRUCTION COST:** \$10,279,116
- **FUNDING SOURCE:** REGIONAL TARGET FUNDS - STBG, CMAQ, TAP
- **TIP PROGRAMMING YEAR:** FFY 2024
- **ESTIMATED CONSTRUCTION ADVERTISEMENT DATE:** 05/04/2024
- **MPO TRANSPORTATION EVALUATION SCORE:** 8.60 (REGIONAL RANK: 7)
- **GHG ANALYSIS TYPE:** QUANTITATIVE
- **GHG ANALYSIS RESULTS:** 4,259 KG/YR CARBON DIOXIDE REDUCTION



PROJECT DESCRIPTION

The project will reconstruct Boston Road from the Town Common (Boston Road at Main Street) to the I-495 Southbound Ramps, correcting existing geometric deficiencies and providing a sidewalk on one side and new on-road bicycle lanes in each direction. A primary goal is to provide all users (pedestrian, bicyclists, and vehicles) safe passage along the corridor. The area between the Town Common and Crown Road is designated as a historic district with homes from as early as 1713 and a goal is to preserve the character of this area.

The pavement will be reconstructed via full depth pavement reclamation due to the poor condition of the existing pavement and extensive trenching for drainage and water main to be replaced as part of the project. The drainage system will be completely reconstructed with a new wet detention basin constructed on town-owned land behind #66 and # 0 Boston Road, improving stormwater quality before out letting to adjacent wetlands.

PROJECT FUNDING SUMMARY

	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028
Federal	\$1,286,828	-	-	-	-
Non Federal	\$321,707	-	-	-	-
Total	\$1,608,535	-	-	-	-

- **PROJECT PROPONENT:** MASSDOT
- **ESTIMATED CONSTRUCTION COST:** \$12,008,044
- **FUNDING SOURCE:** REGIONAL TARGET FUNDS - STBG, TAP
- **TIP PROGRAMMING YEAR:** FFY 2025 & 2026
- **ESTIMATED CONSTRUCTION ADVERTISEMENT DATE:** 11/30/2024
- **MPO TRANSPORTATION EVALUATION SCORE:** 7.40 (REGIONAL RANK: 13)
- **GHG ANALYSIS TYPE:** QUANTITATIVE
- **GHG ANALYSIS RESULTS:** 28,741 KG/YR CARBON DIOXIDE REDUCTION



PROJECT DESCRIPTION

This project includes separating the roadway drainage system from the municipal sewer system, cold planing and resurfacing the roadway, restoring sidewalks, reconstructing wheelchair ramps, installing hook lock inlet grates on catch basins, restoring traffic signal loop detectors, and restoring roadway pavement markings. The project begins south of the intersection of Varnum Avenue with Pawtucket Boulevard and ends approximately 500’ west of the intersection of Bridge Street and VFW Highway. The facility length is 1.5 miles. The project is segmented into 4 which excludes several locations which have been recently reconstructed.

PROJECT FUNDING SUMMARY

	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028
Federal	-	\$3,998,273	\$5,608,162	-	-
Non Federal	-	\$999,568	\$1,402,041	-	-
Total	-	\$4,997,841	\$7,010,203	-	-

PROJECT ID 607401 – TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS) IN CHELMSFORD

- **PROJECT PROPONENT:** MASSDOT
- **ESTIMATED CONSTRUCTION COST:** \$1,209,760
- **FUNDING SOURCE:** REGIONAL TARGET FUNDS - STBG
- **TIP PROGRAMMING YEAR:** FFY 2025
- **ESTIMATED CONSTRUCTION ADVERTISEMENT DATE:** 1/4/2025
- **MPO TRANSPORTATION EVALUATION SCORE:** 7.43 (REGIONAL RANK: 12)
- **GHG ANALYSIS TYPE:** QUALITATIVE
- **GHG ANALYSIS RESULTS:** -



PROJECT DESCRIPTION

This intersection improvement project consists of the installation of two traffic signals at the intersection of Route 495 and Route 110 (Exit 34). This also includes the addition of left turn lanes with roadway pavement markings, improvements to pavements and pedestrian and bicycle improvements. The Route 110 corridor from Alpine Lane to Stedman Street/Golden Cove Road is scheduled to be reconstructed in 2025-2026 by the MassDOT Highway Division. Design development for the project is underway. The intersection Route 110 at Stedman Street and Golden Cove Road has been identified as a high crash location within the limits of the proposed reconstruction project.

PROJECT FUNDING SUMMARY

	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028
Federal	-	\$1,006,520	-	-	-
Non Federal	-	\$251,630	-	-	-
Total	-	\$1,258,150	-	-	-

PROJECT ID 609250 – INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON ROAD AND GLAD VALLEY ROAD IN BILLERICA

- **PROJECT PROPONENT:** TOWN OF BILLERICA
- **ESTIMATED CONSTRUCTION COST:** \$5,220,880
- **FUNDING SOURCE:** REGIONAL TARGET FUNDS - STBG, TAP
- **TIP PROGRAMMING YEAR:** FFY 2025
- **ESTIMATED CONSTRUCTION ADVERTISEMENT DATE:** 4/4/2026
- **MPO TRANSPORTATION EVALUATION SCORE:** 7.55 (REGIONAL RANK: 10)
- **GHG ANALYSIS TYPE:** QUANTITATIVE
- **GHG ANALYSIS RESULTS:** 2814 KG/YR CARBON DIOXIDE REDUCTION



PROJECT DESCRIPTION

This project improves traffic and safety for all users along Boston Road (Route 3A) from Tower Farm Road to 500 feet south of Lexington Road including the intersections of Boston Road with Lexington Road and Glad Valley Drive. Specific improvements will be made to pedestrian and bicycle accommodations and safety along the corridor, while also rehabilitating the roadway pavement. Proposed improvements include roadway widening with areas of full depth construction and pavement milling and overlay, traffic signal installation, sidewalk construction, bicycle accommodations and new signs and pavement markings. This project also involves a traffic island modification at the intersection of Route 3A (Boston Road), Lexington Road, and Glad Valley Drive.

PROJECT FUNDING SUMMARY

	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028
Federal	-	\$4,118,245	-	-	-
Non Federal	-	\$1,029,561	-	-	-
Total	-	\$5,147,806	-	-	-

- **PROJECT PROPONENT:** TOWN OF CHELMSFORD
- **ESTIMATED CONSTRUCTION COST:** \$10,950,000
- **FUNDING SOURCE:** REGIONAL TARGET FUNDS - STBG
- **TIP PROGRAMMING YEAR:** FFY 2026 & 2027
- **ESTIMATED CONSTRUCTION ADVERTISEMENT DATE:** 12/6/2025
- **MPO TRANSPORTATION EVALUATION SCORE:** 7.17 (REGIONAL RANK: 15)
- **GHG ANALYSIS TYPE:** QUALITATIVE
- **GHG ANALYSIS RESULTS:** -



PROJECT DESCRIPTION

This project involves improvements along Chelmsford Street including pavement improvements, access management, bicycle lanes, and improved pedestrian facilities. The Town of Chelmsford is advancing a 25% design of roadway improvements and traffic control for Route 110 (Chelmsford Street) in Chelmsford, MA. The project limits are Route 110 (Chelmsford Street) for ±2,400 feet from the intersection of Billerica Rd (Central Square) to the intersection with Alpine Lane. Roadway improvements include both roadway and sidewalk improvements, as well as considerations for bicycle facilities and parking. Upon completion of a 25% design, MassDOT will advance the design before targeting a construction date. Tentatively, the construction timeline is 2025/2026.

PROJECT FUNDING SUMMARY

	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028
Federal	-	\$4,118,245	\$3,127,431	-	-
Non Federal	-	\$1,029,561	\$781,858	-	-
Total	-	\$5,147,806	\$3,909,289	-	-

PROJECT ID 612609 – INTERSECTION IMPROVEMENTS AT MAIN STREET/PLEASANT STREET & NORTH STREET/EAST STREET IN TEWKSBURY

- **PROJECT PROPONENT:** TOWN OF TEWKSBURY
- **ESTIMATED CONSTRUCTION COST:** \$4,191,345
- **FUNDING SOURCE:** REGIONAL TARGET FUNDS - STBG
- **TIP PROGRAMMING YEAR:** FFY 2027
- **ESTIMATED CONSTRUCTION ADVERTISEMENT DATE:** 5/1/2027
- **MPO TRANSPORTATION EVALUATION SCORE:** 9.25 (REGIONAL RANK: 4)
- **GHG ANALYSIS TYPE:** QUALITATIVE
- **GHG ANALYSIS RESULTS:** -



PROJECT DESCRIPTION

This project includes designing a new intersection at Main Street (MA Route 38)/Pleasant Street/East Street, North Street/East Street, and Main Street/North Street. The design will assess adding coordinate signalization to the two North Street intersections which are currently unsignalized. The assessment will also consider the addition of turn lanes to better accommodate traffic volumes. The construction of the new intersection design is intended to provide better traffic flow and safety. Improved pedestrian and bicycle accommodations are anticipated to be included in the intersection design.

PROJECT FUNDING SUMMARY

	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028
Federal	-	-	-	\$3,755,445	-
Non Federal	-	-	-	\$938,861	-
Total	-	-	-	\$4,694,306	-

PROJECT ID 604694 – CONNECTOR RECONSTRUCTION, FROM THORNDIKE STREET TO GORHAM STREET IN LOWELL

- **PROJECT PROPONENT:** CITY OF LOWELL
- **ESTIMATED CONSTRUCTION COST:** \$5,600,010
- **FUNDING SOURCE:** REGIONAL TARGET FUNDS - STBG
- **TIP PROGRAMMING YEAR:** FFY 2028
- **ESTIMATED CONSTRUCTION ADVERTISEMENT DATE:** 10/1/2050
- **MPO TRANSPORTATION EVALUATION SCORE:** 7.47 (REGIONAL RANK: 11)
- **GHG ANALYSIS TYPE:** QUALITATIVE
- **GHG ANALYSIS RESULTS:** -



PROJECT DESCRIPTION

This project is to reconstruct the intersection of the Lowell Connector at Route 3A (Gorham Street) and replace the existing traffic signals with a roundabout to slow traffic at the intersection. Improvements as part of this project include improved pedestrian path with new sidewalks and pavement markings. The City of Lowell and MassDOT have been working together to improve intersection safety, relieve congestion through improved signalization and increase capacity using striping, signal, and by merging improvements at the intersection.

PROJECT FUNDING SUMMARY

	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028
Federal	-	-	-	-	\$5,196,810
Non Federal	-	-	-	-	\$1,299,202
Total	-	-	-	-	\$6,496,012

- **PROJECT PROPONENT:** TOWN OF CHELMSFORD
- **ESTIMATED CONSTRUCTION COST:** \$5,763,618
- **FUNDING SOURCE:** REGIONAL TARGET FUNDS – HSIP, TAP
- **TIP PROGRAMMING YEAR:** FFY 2028
- **ESTIMATED CONSTRUCTION ADVERTISEMENT DATE:** 10/2/2050 (NOTE 2050 IS A PLACEHOLDER AD DATE)
- **MPO TRANSPORTATION EVALUATION SCORE:** 9.03 (REGIONAL RANK: 5)
- **GHG ANALYSIS TYPE:** QUALITATIVE
- **GHG ANALYSIS RESULTS:** -



PROJECT DESCRIPTION

This project includes upgrades to traffic signal, pavement resurfacing, upgraded signs and lines, updated existing sidewalk network to conform to ADA standards, new bike lanes, improved visibility and accessibility to all existing crosswalks using pedestrian activated Rectangular Rapid Flashing Beacons. The development of this project began in 2016 with the development of Chelmsford’s Complete Streets Prioritization Plan. A rough draft of a potential intersection improvements concept was presented to the Vinal Square Strategic Action Committee which sparked interest in a larger capital improvements project in this busy commercial district in North Chelmsford. There are several needs in this area including improvements to traffic operations and safety, geometric changes, and Complete Streets improvements throughout the square. The project was approved through the MassDOT Project Review Committee in 2022 and has an estimated construction cost of approximately \$5.8M. The Town of Chelmsford is completing a 25% design process this spring and summer which then will be brought through a MassDOT 25% design public hearing for MassDOT to advance the design and set a target construction timeline.

PROJECT FUNDING SUMMARY

	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028
Federal	-	-	-	-	\$5,196,810
Non Federal	-	-	-	-	\$1,299,202
Total	-	-	-	-	\$6,496,012

APPENDIX B: GREENHOUSE GAS MONITORING SUMMARY

FFY 2024-2028 TIP: GREENHOUSE GAS SUMMARY

MassDOT Project ID	Project Description	TIP Year	Total Programmed Funds	GHG Analysis Type	GHG CO ₂ Impact (kg/yr)	GHG Impact Description
609035	WESTFORD- REHABILITATION OF BOSTON ROAD	2024	\$10,279,116	Quantified	-4,260	Quantified Decrease in Emissions from Complete Streets
607887	LOWELL- ROURKE BRIDGE REPLACEMENT, L-15-088, WOOD STREET EXTENSION OVER BOSTON AND MAINE RAILROAD AND MERRIMAC RIVER	2024	\$169,000,000	Qualitative		Qualitative Decrease in Emissions
608227	BILLERICA-YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE I) (Statewide CMAQ outside targets)	2024	\$15,818,583	Quantified	-143,173	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
612631	CHELMSFORD- BRIDGE REPLACEMENT, C-08-039, GORHAM STREET (ST 3A) OVER I-495 AND REHABILITATION OF C-08-036, WESTFORD STREET OVER I-495 (DB)	2024	\$44,358,906	Qualitative		No assumed impact/negligible impact on emissions
RTD0010684	LRTA - OPERATING ASSISTANCE 2024 (5307)	2024	\$10,380,194	Qualitative		No assumed impact/negligible impact on emissions
RTD0010685	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	2024	\$200,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010686	LRTA - PURCHASE CAPITAL SPARE PARTS	2024	\$100,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010687	LRTA -SHORT RANGE TRANSIT PLANNING 2024	2024	\$110,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010688	LRTA - REVENUE VEHICLE REPLACEMENT - 35FT HYBRIDS (1)	2024	\$817,000	Quantified	-11,163	Quantified Decrease in Emissions from Bus Replacement (hybrid to hybrid)
RTD0010689	LRTA - IT EQUIPMENT & MAINTENANCE	2024	\$10,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010696	LRTA - LOWELL - GALLAGHER PARKING GARAGE UPGRADES	2024	\$250,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010706	LRTA - OPERATING ASSISTANCE 2024 (CARES ACT)	2024	\$1,700,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0011204	LRTA - OPERATING ASSISTANCE 2024 (ARPA)	2024	\$1,815,711	Qualitative		No assumed impact/negligible impact on emissions
RTD0011205	LRTA - PURCHASE BACKUP GENERATOR FOR ADMIN/GALLAGHER TERMINAL	2024	\$300,000	Qualitative		No assumed impact/negligible impact on emissions
T00039	LRTA - Purchase AVL/APC/Annunciators system for Fixed Route	2024	\$1,000,000	Qualitative		No assumed impact/negligible impact on emissions
T00040	LRTA - Lowell - Rehab ADA/Commuter Access Way	2024	\$15,000,000	Qualitative		No assumed impact/negligible impact on emissions
T00058	LRTA - LOWELL - MAGUIRE & PARATRANSIT MAINTENANCE FACILITY IMPROVEMENTS	2024	\$3,600,000	Qualitative		No assumed impact/negligible impact on emissions
605966	LOWELL-RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	2025/2026	\$12,008,044	Quantified	-28,741	Quantified Decrease in Emissions from Complete Streets

FFY 2024-2028 TIP: GREENHOUSE GAS SUMMARY

MassDOT Project ID	Project Description	TIP Year	Total Programmed Funds	GHG Analysis Type	GHG CO ₂ Impact (kg/yr)	GHG Impact Description
607401	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	2025	\$1,209,760	Qualitative		Qualitative Decrease in Emissions
609250	BILLERICA-INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	2025	\$5,220,880	Quantified	-2,814	Quantified Decrease in Emissions from Traffic Operational Improvement
608861	WESTFORD-BRIDGE REPLACEMENT STONY BROOK ROAD OVER STONY BROOK (Bridge project outside targets)	2025	\$1,636,362	Qualitative		No assumed impact/negligible impact on emissions
609510	DRACUT- IMPROVEMENTS AT GEORGE ENGLSBY ELEMENTARY SCHOOL (SRTS)	2025	\$1,115,100	Qualitative		Qualitative Decrease in Emissions
612096	WESTFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-495	2025	\$5,472,000	Qualitative		Qualitative Decrease in Emissions
RTD0010690	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	2025	\$200,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010691	LRTA - IT EQUIPMENT & MAINTENANCE	2025	\$10,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010692	LRTA - PURCHASE CAPITAL SPARE PARTS	2025	\$100,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010693	LRTA - OPERATING ASSISTANCE 2025 (5307)	2025	\$13,362,649	Qualitative		No assumed impact/negligible impact on emissions
RTD0010694	LRTA - SHORT RANGE TRANSIT PLANNING 2025	2025	\$110,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0011206	LRTA - OPERATING ASSISTANCE 2025 (CARES)	2025	\$645,424	Qualitative		No assumed impact/negligible impact on emissions
RTD0011207	LRTA - Lowell - GARAGE DECKING REPAIRS	2025	\$200,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0011208	LRTA - LOWELL - FACILITY UPGRADES & CHARGING INFRASTRUCTURE FOR ELECTRIC VEHICLES - DISCRETIONARY	2025	\$2,500,000	Qualitative		No assumed impact/negligible impact on emissions
609317	CHELMSFORD-IMPROVEMENTS ON CHELMSFORD STREET (ROUTE 110)	2026/2027	\$10,950,000	Qualitative		Qualitative Decrease in Emissions
RTD0010697	LRTA - OPERATING ASSISTANCE 2026 (5307)	2026	\$14,358,275	Qualitative		No assumed impact/negligible impact on emissions
RTD0010698	LRTA - SHORT RANGE TRANSIT PLANNING 2026	2026	\$110,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010699	LRTA - PURCHASE CAPITAL SPARE PARTS	2026	\$100,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010700	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	2026	\$200,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010701	LRTA - IT EQUIPMENT & MAINTENANCE	2026	\$10,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0010703	LRTA - REVENUE VEHICLE REPLACEMENT - BATTERY ELECTRIC BUSES (6)	2026	\$6,600,000	Quantified	-158567	Quantified Decrease in Emissions
T00041	LRTA - LOWELL - SOLAR ARRAY AT GALLAGHER INTERMODAL CENTER	2026	\$1,500,000	Qualitative		Quantified Decrease in Emissions

FFY 2024-2028 TIP: GREENHOUSE GAS SUMMARY

MassDOT Project ID	Project Description	TIP Year	Total Programmed Funds	GHG Analysis Type	GHG CO ₂ Impact (kg/yr)	GHG Impact Description
612609	TEWKSBURY- INTERSECTION IMPROVEMENTS AT MAIN STREET/PLEASANT STREET & NORTH STREET/EAST STREET	2027	\$4,191,345	Qualitative		Qualitative decrease in emissions
RTD0011231	LRTA - SHORT RANGE TRANSIT PLANNING 2026	2027	\$110,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0011232	LRTA - PURCHASE CAPITAL SPARE PARTS	2027	\$100,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0011233	LRTA - IT EQUIPMENT & MAINTENANCE	2027	\$10,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0011234	LRTA - OPERATING ASSISTANCE 2027	2027	\$14,717,232	Qualitative		No assumed impact/negligible impact on emissions
RTD0011235	LRTA - REVENUE VEHICLE REPLACEMENT - BATTERY ELECTRIC BUSES (12) - DISCRETIONARY	2027	\$16,430,000	Quantified	-317134	No assumed impact/negligible impact on emissions
RTD0011236	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	2027	\$200,000	Qualitative		No assumed impact/negligible impact on emissions
RTD0011237	LRTA - NONREVENUE VEHICLE REPLACEMENT - ADMINISTRATIVE VEHICLE	2027	\$40,000	Qualitative		No assumed impact/negligible impact on emissions
T00043	LRTA - OPERATING ASSISTANCE (2028)	2027	\$15,085,162	Qualitative		No assumed impact/negligible impact on emissions
T00044	LRTA - IT EQUIPMENT & MAINTENANCE	2027	\$15,000	Qualitative		No assumed impact/negligible impact on emissions
T00045	LRTA - PURCHASE CAPITAL SPARE PARTS	2027	\$150,000	Qualitative		No assumed impact/negligible impact on emissions
T00046	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	2027	\$200,000	Qualitative		No assumed impact/negligible impact on emissions
T00047	LRTA - LOWELL - HALE ST SOLAR ROOF REHAB	2027	\$2,000,000	Qualitative		No assumed impact/negligible impact on emissions

APPENDIX C: NMMPO PUBLIC COMMENT SUMMARY

DRAFT FFY 2024-2028 TRANSPORTATION IMPROVEMENT PROGRAM

COMMENT PERIOD: APRIL 28 – MAY 19, 2023

PUBLIC MEETING DATE: MAY 9, 2023

COMMENT 1: CITY OF LOWELL – MAY 09, 2023

1. Elizabeth Oltman, Transportation Engineer from City of Lowell attended the public meeting and expressed that the Pawtucket Street Corridor Project is a priority for the City and would like to see it funded in the TIP if there are available funds.

Staff Response:

1. Noted. The MPO voted on March 22, 2023 on the preferred scenarios for the programming of the FFY 2024-2028 TIP.

COMMENT 2: MASSDOT OFFICE OF TRANSPORTATION PLANNING – MAY 17, 2022

Please see comment sheet on the following pages.

1. Please verify TOC page numbers and internal linking is up to date once all applicable comments have been incorporated into Final TIP Draft.
2. Please consider expanding font size on p.1 map of NMMPO member communities.
3. Please add NGBP (Next Generation Bridge Program) to acronym list.
4. It looks like a large chunk of Draft TIP is the Public Participation Plan in appendix. The Draft TIP would be a lot more concise and avoid confusion with secondary Table of Contents if PPP was referenced with weblink detail for access to an external document housed on NMMPO website.
5. MassDOT created a standalone appendix in FFY 2023 providing greater detail and reference information for STIP funding sources (second link in reference). Please consider referencing this in your Federal Aid Programs section or cross-referencing the content in your TIP.
6. Please perform one final STIP Investments Report export/refresh, particularly for highway projects. MassDOT locked in final project details the last week of February (including TFPC's, funding category assignments, and ad dates), some of which may have changed slightly since TIP release.
7. Please export Transit STIP Investments Report with Additional Information included. Please coordinate with LRTA to make sure any TIP projects using LF (Local Funds) and OF (Other Federal) provide sufficient details on these sources (i.e. match provider, discretionary program, award status, etc.).
8. Similar to D6 comment, please export Transit STIP Investments Report with Additional Information field included.
9. Please coordinate with LRTA on GHG quantitative analysis for transit investments where applicable.

Staff Response:

1. Staff verified that TOC, page numbers, and internal linking is up to date after all applicable comments have been incorporated into Final TIP Draft.
2. Font size of map of NMMPO member communities has been corrected.

3. NGBP (Next Generation Bridge Program) has been added to the acronym list in the TIP.
4. Northern Middlesex Public Participation Plan has been referenced with a web link on NMMPO's website. The Plan itself has been removed from Appendix H.
5. MassDOT's STIP FFY 2023 STIP funding sources has been referenced under the Federal Aid Programs section of the TIP.
6. STIP Investment reports from eSTIP were generated.
7. Transit STIP Investment reports from eSTIP were generated with additional information included.
8. Transit STIP Investment reports from eSTIP were generated with additional information included.
9. Added GHG analysis summary for the purchase of electric vehicles in FFY 2026 and 2027.

APPENDIX D: TIP PROGRAM SUMMARIES

TIP PROJECTS - PERFORMANCE MEASURE AND RTP INVESTMENT PROGRAM

Community	Project #	Project Description	Proposed TIP Year	Total Federal Participating Construction Cost (as of April 1, 2022)	NMMPO Regional Transportation Plan Investment Program	Primary Performance Measures Category
Westford	609035	WESTFORD- REHABILITATION OF BOSTON ROAD	2024	\$10,279,116	Roadway/ Corridor Improvements Investment Program	Pavement
Lowell	607887	LOWELL- ROURKE BRIDGE REPLACEMENT, L-15-088, WOOD STREET EXTENSION OVER BOSTON AND MAINE RAILROAD AND MERRIMAC RIVER	2024	\$169,000,000	Bridge Rehabilitation/ Reconstruction Investment Program	Bridge Performance
Billerica	608227	BILLERICA-YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE I) (Statewide CMAQ outside targets)	2024	\$15,818,583	Bicycle and Pedestrian Improvements Investment Program	Air Quality
Chelmsford	612631	CHELMSFORD- BRIDGE REPLACEMENT, C-08-039, GORHAM STREET (ST 3A) OVER I-495 AND REHABILITATION OF C-08-036, WESTFORD STREET OVER I-495 (DB)	2024	\$44,358,906	Bridge Rehabilitation/ Reconstruction Investment Program	Bridge Performance
LRTA	RTD0010684	LRTA - OPERATING ASSISTANCE 2024 (5307)	2024	\$10,380,194	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010685	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	2024	\$200,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010686	LRTA - PURCHASE CAPITAL SPARE PARTS	2024	\$100,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010687	LRTA -SHORT RANGE TRANSIT PLANNING 2024	2024	\$110,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010688	LRTA - REVENUE VEHICLE REPLACEMENT - 35FT HYBRIDS (1)	2024	\$817,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010689	LRTA - IT EQUIPMENT & MAINTENANCE	2024	\$10,000	Transit Facility Investment Program	State of Good Repair

Community	Project #	Project Description	Proposed TIP Year	Total Federal Participating Construction Cost (as of April 1, 2022)	NMMPO Regional Transportation Plan Investment Program	Primary Performance Measures Category
LRTA	RTD0010696	LRTA - LOWELL - GALLAGHER PARKING GARAGE UPGRADES	2024	\$250,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010706	LRTA - OPERATING ASSISTANCE 2024 (CARES ACT)	2024	\$1,700,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011204	LRTA - OPERATING ASSISTANCE 2024 (ARPA)	2024	\$1,815,711	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011205	LRTA - PURCHASE BACKUP GENERATOR FOR ADMIN/GALLAGHER TERMINAL	2024	\$300,000	Transit Facility Investment Program	State of Good Repair
LRTA	T00039	LRTA - Purchase AVL/APC/Annunciators system for Fixed Route	2024	\$1,000,000	Transit Facility Investment Program	State of Good Repair
LRTA	T00040	LRTA - Lowell - Rehab ADA/Commuter Access Way	2024	\$15,000,000	Transit Facility Investment Program	State of Good Repair
LRTA	T00058	LRTA - LOWELL - MAGUIRE & PARATRANSIT MAINTENANCE FACILITY IMPROVEMENTS	2024	\$3,600,000	Transit Facility Investment Program	State of Good Repair
Lowell	605966	LOWELL-RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	2025/2026	\$12,008,044	Roadway/ Corridor Improvements Investment Program	Pavement
Chelmsford	607401	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	2025	\$1,209,760	Intersection Improvements/ Safety Investment Program	Safety
Billerica	609250	BILLERICA-INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	2025	\$5,220,880	Intersection Improvements/ Safety Investment Program	Congestion
Westford	608861	WESTFORD-BRIDGE REPLACEMENT STONY BROOK ROAD OVER STONY BROOK (Bridge project outside targets)	2025	\$1,636,362	Bridge Rehabilitation/ Reconstruction Investment Program	Bridge Performance
Dracut	609510	DRACUT- IMPROVEMENTS AT GEORGE ENGLSBY ELEMENTARY SCHOOL (SRTS)	2025	\$1,115,100	Bicycle and Pedestrian Improvements Investment Program	Safety

Community	Project #	Project Description	Proposed TIP Year	Total Federal Participating Construction Cost (as of April 1, 2022)	NMMPO Regional Transportation Plan Investment Program	Primary Performance Measures Category
Westford	612096	WESTFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-495	2025	\$5,472,000	Roadway/ Corridor Improvements Investment Program	Pavement
LRTA	RTD0010690	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	2025	\$200,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010691	LRTA - IT EQUIPMENT & MAINTENANCE	2025	\$10,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010692	LRTA - PURCHASE CAPITAL SPARE PARTS	2025	\$100,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010693	LRTA - OPERATING ASSISTANCE 2025 (5307)	2025	\$13,362,649	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010694	LRTA - SHORT RANGE TRANSIT PLANNING 2025	2025	\$110,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011206	LRTA - OPERATING ASSISTANCE 2025 (CARES)	2025	\$645,424	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011207	LOWELL - GARAGE DECKING REPAIRS	2025	\$200,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011208	LRTA - LOWELL - FACILITY UPGRADES & CHARGING INFRASTRUCTURE FOR ELECTRIC VEHICLES - DISCRETIONARY	2025	\$2,500,000	Transit Facility Investment Program	State of Good Repair
Chelmsford	609317	CHELMSFORD-IMPROVEMENTS ON CHELMSFORD STREET (ROUTE 110)	2026/2027	\$10,950,000	Intersection Improvements/ Safety Investment Program	Congestion
LRTA	RTD0010697	LRTA - OPERATING ASSISTANCE 2026	2026	\$14,358,275	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010698	LRTA - SHORT RANGE TRANSIT PLANNING 2026	2026	\$110,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010699	LRTA - PURCHASE CAPITAL SPARE PARTS	2026	\$100,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010700	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	2026	\$200,000	Transit Facility Investment Program	State of Good Repair

Community	Project #	Project Description	Proposed TIP Year	Total Federal Participating Construction Cost (as of April 1, 2022)	NMMPO Regional Transportation Plan Investment Program	Primary Performance Measures Category
LRTA	RTD0010701	LRTA - IT EQUIPMENT & MAINTENANCE	2026	\$10,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0010703	LRTA - REVENUE VEHICLE REPLACEMENT - BATTERY ELECTRIC BUSES (6)	2026	\$6,600,000	Transit Facility Investment Program	State of Good Repair
LRTA	T00041	LRTA - LOWELL - SOLAR ARRAY AT GALLAGHER INTERMODAL CENTER	2026	\$1,500,000	Transit Facility Investment Program	State of Good Repair
Tewksbury	612609	TEWKSBURY- INTERSECTION IMPROVEMENTS AT MAIN STREET/PLEASANT STREET & NORTH STREET/EAST STREET	2027	\$4,191,345	Intersection Improvements/ Safety Investment Program	Safety
LRTA	RTD0011231	LRTA - SHORT RANGE TRANSIT PLANNING 2027	2027	\$110,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011232	LRTA - PURCHASE CAPITAL SPARE PARTS	2027	\$100,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011233	LRTA - IT EQUIPMENT & MAINTENANCE	2027	\$10,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011234	LRTA - OPERATING ASSISTANCE 2027	2027	\$14,717,232	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011235	LRTA - REVENUE VEHICLE REPLACEMENT - BATTERY ELECTRIC BUSES (12)-DISCRETIONARY	2027	\$16,430,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011236	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	2027	\$200,000	Transit Facility Investment Program	State of Good Repair
LRTA	RTD0011237	LRTA - NONREVENUE VEHICLE REPLACEMENT - ADMINISTRATIVE VEHICLE	2027	\$40,000	Transit Facility Investment Program	State of Good Repair
Lowell	604694	LOWELL- CONNECTOR RECONSTRUCTION, FROM THORNDIKE STREET TO GORHAM STREET	2028	\$5,600,010	Roadway/ Corridor Improvements Investment Program	Safety
Chelmsford	612977	CHELMSFORD-VINAL SQUARE SAFETY IMPROVEMENTS	2028	\$5,763,618	Intersection Improvements/ Safety Investment Program	Safety

Community	Project #	Project Description	Proposed TIP Year	Total Federal Participating Construction Cost (as of April 1, 2022)	NMMPO Regional Transportation Plan Investment Program	Primary Performance Measures Category
LRTA	T00043	LRTA - OPERATING ASSISTANCE (2028)	2028	\$15,085,162	Transit Facility Investment Program	State of Good Repair
LRTA	T00044	LRTA - IT EQUIPMENT & MAINTENANCE	2028	\$15,000	Transit Facility Investment Program	State of Good Repair
LRTA	T00045	LRTA - PURCHASE CAPITAL SPARE PARTS	2028	\$150,000	Transit Facility Investment Program	State of Good Repair
LRTA	T00046	LRTA - TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	2028	\$200,000	Transit Facility Investment Program	State of Good Repair
LRTA	T00047	LRTA - LOWELL - HALE ST SOLAR ROOF REHAB	2028	\$2,000,000	Transit Facility Investment Program	State of Good Repair
LRTA	T00048	LRTA - SHORT RANGE TRANSIT PLANNING 2028	2028	\$110,000	Transit Facility Investment Program	State of Good Repair

TIP ELIGIBLE PROJECTS WITHOUT IDENTIFIED FUNDING SOURCES

The following table includes TIP eligible, MassDOT approved projects that are currently not programmed in the FFY 2024-2028 Northern Middlesex Transportation Improvement Program.

NORTHERN MIDDLESEX TIP ELIGIBLE PROJECTS NOT FUNDED

Community	Project #	Project Description	Total Federal Participation Construction Cost (TFPCC) Estimate as of 04/01/22
Chelmsford	612535	CHELMSFORD-IMPROVEMENTS ON ROUTE 3A (PRINCETON STREET), FROM RICHARDSON ROAD TO TECHNOLOGY DRIVE	\$4,498,511
Lowell	609050	LOWELL-CHURCH STREET 2 WAY CONVERSION	\$3,050,000
Lowell	612549	LOWELL-PAWTUCKET STREET CORRIDOR IMPROVEMENTS	\$8,061,543
Westford	610930	WESTFORD - ROUTE 110 (LITTLETON RD) FROM POWERS ROAD TO MINOT'S CORNER	\$7,560,105

APPENDIX E: TRANSPORTATION EVALUATION CRITERIA INFORMATION

Transportation Evaluation Criteria Summary for FFY 2023-2027 Northern Middlesex Transportation Improvement Program

Project ID	Project Description	Community	Project Cost Estimate (Current Dollars)	Design Status	Transportation Evaluation Criteria Scoring Summary*						
					Condition	Mobility	Safety	Community Effects and Support	Land Use and Economic Development	Environmental Effects	Total TEC Score
607887	LOWELL- ROURKE BRIDGE REPLACEMENT, L-15-088, WOOD STREET EXTENSION OVER BOSTON AND MAINE RAILROAD AND MERRIMAC RIVER	Lowell	\$ 169,000,000	Approved	3.00	3.00	3.00	2.20	1.75	0.50	13.45
608227	BILLERICA-YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE 1)	Billerica	\$ 15,818,583	75%	2.00	3.00	3.00	1.25	1.75	1.00	12.00
612549	LOWELL-PAWTUCKET STREET CORRIDOR IMPROVEMENTS	Lowell	\$ 8,061,543	Approved	1.50	2.25	2.00	1.60	2.00	0.25	9.60
612609	TEWKSBURY-INTERSECTION IMPROVEMENTS AT MAIN STREET/PLEASANT STREET & NORTH STREET/EAST STREET	Tewksbury	\$ 4,191,345	Approved	1.00	2.00	3.00	1.00	1.50	0.75	9.25
612977	CHELMSFORD-VINAL SQUARE SAFETY IMPROVEMENTS	Chelmsford	\$ 5,763,618	-	1.00	2.00	2.33	1.20	1.75	0.75	9.03
609050	LOWELL - CHURCH STREET 2 WAY CONVERSION	Lowell	\$ 3,050,000	Approved	1.00	2.00	3.00	1.20	1.25	0.25	8.70
609038	WESTFORD - REHABILITATION OF BOSTON ROAD	Westford	\$ 10,279,116	75%	2.50	1.50	1.00	1.60	0.75	1.25	8.60
609510	DRACUT- IMPROVEMENTS AT GEORGE ENGLSBY ELEMENTARY SCHOOL (SRTS)	Dracut	\$ 1,115,100	Approved	2.00	1.67	2.50	1.25	0.25	0.33	8.00
610930	WESTFORD - ROUTE 110 (LITTLETON RD) FROM POWERS ROAD TO MINOT'S CORNER	Westford	\$ 7,560,105	Approved	1.50	2.25	1.67	1.00	1.25	0.25	7.92
609250	BILLERICA-INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	Billerica	\$ 5,220,880	75%	2.00	2.00	2.00	0.80	0.50	0.25	7.55
604694	LOWELL- CONNECTOR RECONSTRUCTION, FROM THORNDIKE STREET TO GORHAM STREET	Lowell	\$ 5,600,010	Approved	1.00	2.25	2.67	0.80	0.50	0.25	7.47
607401	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	Chelmsford	\$ 1,209,760	Approved	0.50	2.75	2.33	0.60	0.75	0.50	7.43
605966	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	Lowell	\$ 12,008,044	75%	1.50	1.00	2.00	1.40	0.75	0.75	7.40
612535	CHELMSFORD- IMPROVEMENTS ON ROUTE 3A (PRINCETON STREET), FROM RICHARDSON ROAD TO TECHNOLOGY DRIVE	Chelmsford	\$ 4,489,511	Approved	1.00	2.00	2.00	0.80	1.25	0.25	7.30
609317	CHELMSFORD-IMPROVEMENTS ON CHELMSFORD STREET (ROUTE 110)	Chelmsford	\$ 10,950,000	Approved	1.50	1.50	0.67	1.00	1.50	1.00	7.17
612631	CHELMSFORD-BRIDGE REPLACEMENT, C-08-039, GORHAM STREET (ST 3A) OVER I-495 AND REHABILITATION OF C-08-036, WESTFORD STREET OVER I-495 (DB)	Chelmsford	\$ 44,358,906	25%	2.50	1.50	0.67	1.20	0.25	0.25	6.37
612096	WESTFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-495	Westford	\$ 5,472,000	Approved	2.00	1.50	0.67	0.40	0.75	0.25	5.57
608861	WESTFORD - BRIDGE REPLACEMENT, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK	Westford	\$ 1,636,362	25%	2.50	1.00	0.33	0.60	0.25	0.25	4.93

TEC Scoring Summary prepared by NMCOG staff for the NMMPO. Each category evaluated is scored between -3 and 3, depending on impact. Each category is summed to determine total TEC score. The highest score possible is 18.

Project ID	Project Description	Community	Project Cost Estimate (Current Dollars)	Design Status	Transportation Evaluation Criteria Scoring Summary																																								
					Condition				Mobility					Safety					Community Effects and Support						Land Use and Economic Development					Environmental Effects															
					Magnitude of Pavement condition improvement	Magnitude of surface condition improvement	Magnitude of Improvement of other Infrastructure Elements	Subtotal	Effect on magnitude and duration of congestion	Effect on travel time and connectivity/access for existing users	Effect on other modes using facility	Effect on regional and local traffic	Number of New Users	Consistency with State Bicycle and/or Pedestrian Plans	Subtotal	Effect on crash rate compared to state average	Effect on bicycle and pedestrian safety	Effect on transportation security and evacuation routes	Effect on Bicycle Compatibility Index	Effect on pedestrian safety	Subtotal	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Environmental Justice effects	Public, local government, legislative, and regional support	Effect on service to minority or low income neighborhoods	Other impact/benefits to minority or low income neighborhoods	Effect on development and redevelopment of housing stock	Subtotal	Business effects: right-of-way, access, noise, traffic, parking, freight access	Sustainable development effects	Consistent with regional land use and economic development plans	Effect on job creation.	Subtotal	Air Quality/Climate effects	Water quality/supply effects; wetlands effects	Historic and cultural resource effects	Effect on wildlife and endangered species	Subtotal	Total TEC Score						
607887	LOWELL-ROCKLE BRIDGE REPLACEMENT, L-15-088, WOOD STREET EXTENSION OVER BOSTON AND MAINE	Lowell	\$ 169,000,000	Approved	3	NA	3	3.00	3	3	3	3	NA	NA	3.00	3	3	3	NA	NA	3.00	3	3	3	NA	NA	3.00	3	NA	3	3	2	0	2.20	3	1	3	0	1.75	1	-1	2	0	0.5	13.45
608227	BILLERICA-YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE 1)	Billerica	\$ 15,818,583	75%	NA	3	1	2.00	NA	3	NA	NA	3	3	3.00	NA	NA	NA	3	3	3.00	1	0	3	NA	NA	1	1.25	1	2	3	1	1.75	3	-1	1	NA	1.00	12.00						
612549	LOWELL-PAWTUCKET STREET CORRIDOR IMPROVEMENTS	Lowell	\$ 8,061,543	Approved	3	NA	0	1.5	2	2	3	2	NA	NA	2.25	3	3	0	NA	NA	2	1	NA	3	2	2	0	1.6	3	2	3	0	2	1	0	0	0	0.25	9.6						
612609	TEWKSBURY-INTERSECTION IMPROVEMENTS AT MAIN STREET/PLEASANT STREET & NORTH STREET/EAST STREET	Tewksbury	\$ 4,191,345	Approved	2	NA	0	1	2	2	2	2	NA	NA	2	3	3	3	NA	NA	3	2	NA	3	0	0	0	1	1	2	3	0	1.5	1	0	2	0	0.75	9.25						
612977	CHELMSFORD-VINAL SQUARE SAFETY IMPROVEMENTS	Chelmsford	\$ 5,763,618	-	2	NA	0	1.00	1	1	3	3	NA	NA	2.00	3	3	1	NA	NA	2.33	2	NA	3	0	0	1	1.20	2	2	3	0	1.75	1	1	1	0	0.75	9.03						
609050	LOWELL - CHURCH STREET 2 WAY CONVERSION	Lowell	\$ 3,050,000	Approved	2	NA	0	1.00	2	2	2	2	NA	NA	2.00	3	3	3	NA	NA	3.00	1	NA	1	2	2	0	1.20	2	1	2	0	1.25	1	0	0	0	0.25	8.70						
609038	WESTFORD - REHABILITATION OF BOSTON ROAD	Westford	\$ 10,279,116	75%	2	NA	3	2.50	1	2	2	1	NA	NA	1.50	1	1	1	NA	NA	1.00	1	NA	3	2	2	0	1.60	1	1	1	0	0.75	3	1	1	0	1.25	8.60						
610930	WESTFORD - ROUTE 110 (LITTLETON RD) FROM POWERS ROAD TO MINOT'S CORNER	Westford	\$ 7,560,105	Approved	3	NA	0	1.50	2	2	3	3	NA	NA	2.50	2	2	1	NA	NA	1.67	1	NA	2	0	0	2	1.00	2	2	1	0	1.25	1	0	0	0	0.25	8.17						
609510	DRACUT-IMPROVEMENTS AT GEORGE ENGBY ELEMENTARY SCHOOL (SRTS)	Dracut	\$ 1,115,100	Approved	NA	2	2	2.00	NA	1	NA	NA	1	3	1.67	NA	NA	NA	2	3	2.50	1	0	3	NA	NA	1	1.25	1	0	0	0	0.25	1	0	0	NA	0.33	8.00						
609250	IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	Billerica	\$ 5,220,880	75%	2	NA	2	2.00	2	2	2	2	NA	NA	2.00	2	2	2	NA	NA	2.00	2	NA	2	0	0	0	0.80	1	0	1	0	0.50	1	0	0	0	0.25	7.55						
604694	LOWELL-CONNECTOR RECONSTRUCTION, FROM THORNDIKE STREET TO	Lowell	\$ 5,600,010	Approved	2	NA	0	1.00	2	3	1	3	NA	NA	2.25	2	3	3	NA	NA	2.67	1	NA	1	1	1	0	0.80	1	0	1	0	0.50	1	0	0	0	0.25	7.47						
607401	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	Chelmsford	\$ 1,209,760	Approved	1	NA	0	0.50	3	3	2	3	NA	NA	2.75	3	2	2	NA	NA	2.33	1	NA	2	0	0	0	0.60	2	0	1	0	0.75	2	0	0	0	0.50	7.43						
605966	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	Lowell	\$ 12,008,044	75%	3	NA	0	1.50	1	1	1	1	NA	NA	1.00	2	2	2	NA	NA	2.00	1	NA	2	2	2	0	1.40	1	1	1	0	0.75	1	2	0	0	0.75	7.40						
612535	ON ROUTE 3A (PRINCETON STREET), FROM RICHARDSON ROAD TO TECHNOLOGY DRIVE	Chelmsford	\$ 4,489,511	Approved	2	NA	0	1	2	1	3	2	NA	NA	2	2	2	2	NA	NA	2	2	NA	1	0	0	1	0.8	2	1	2	0	1.25	1	0	0	0	0.25	7.30						
609317	CHELMSFORD-IMPROVEMENTS ON CHELMSFORD STREET (ROUTE 110)	Chelmsford	\$ 10,950,000	Approved	3	NA	0	1.50	1	1	2	2	NA	NA	1.50	1	1	0	NA	NA	0.67	2	NA	3	0	0	0	1.00	2	2	1	1	1.50	2	0	2	0	1.00	7.17						
612631	CHELMSFORD-BRIDGE REPLACEMENT, C-08-039, GORHAM STREET (ST 3A) OVER I-495 AND REHABILITATION OF C-08-036, WESTFORD STREET	Chelmsford	\$ 44,358,906	25%	2	NA	3	2.5	1	1	1	3	NA	NA	1.5	0	1	1	NA	NA	0.67	1	NA	3	1	1	0	1.2	1	0	0	0	0.25	1	0	0	0	0.25	6.37						

Transportation Evaluation Criteria Scoring Summary																																							
Project ID	Project Description	Community	Project Cost Estimate (Current Dollars)	Design Status	Condition				Mobility					Safety					Community Effects and Support					Land Use and Economic Development				Environmental Effects				Total TEC Score							
					Magnitude of Pavement condition Improvement	Magnitude of surface condition Improvement	Magnitude of Improvement of other Infrastructure Elements	Subtotal	Effect on magnitude and duration of congestion	Effect on travel time and connectivity/access for existing users	Effect on other modes using facility	Effect on regional and local traffic	Number of New Users	Consistency with State Bicycle and/or Pedestrian Plans	Subtotal	Effect on crash rate compared to state average	Effect on bicycle and pedestrian safety	Effect on transportation security and evacuation routes	Effect on Bicycle Compatibility Index	Effect on pedestrian safety	Subtotal	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Environmental Justice effects	Public, local government, legislative, and regional support	Effect on service to minority or low income neighborhoods	Other impact/benefits to minority or low income neighborhoods	Effect on development and redevelopment of housing stock	Subtotal	Business effects: right-of-way, access, noise, traffic, parking, freight access	Sustainable development effects	Consistent with regional land use and economic development plans		Effect on job creation.	Subtotal	Air Quality/ Climate effects	Water quality/ supply effects; wetlands effects	Historic and cultural resource effects	Effect on wildlife and endangered species	Subtotal
612096	WESTFORD- INTERSTATE MAINTENANCE AND RELATED WORK ON I-495	Westford	\$ 5,472,000	Approved	3	NA	1	2.00	2	2	0	2	NA	NA	1.50	1	0	1	NA	NA	0.67	1	NA	1	0	0	0	0.40	2	0	1	0	0.75	1	0	0	0	0.25	5.57
608861	REPLACEMENT, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK	Westford	\$ 1,636,362	25%	2	NA	3	2.50	0	2	1	1	NA	NA	1.00	0	1	0	NA	NA	0.33	2	NA	1	0	0	0	0.60	1	0	0	0	0.25	0	1	0	0	0.25	4.93

APPENDIX F: STATEWIDE FUNDING TARGETS

Northern Middlesex Regional Transportation Improvement Program (TIP) State and Regional Apportionment, FFY 2024-2028

Federal Fiscal Year	Proposed Obligation Authority	Planned Redistribrution	ABP GANS Repayment	FFY 2024-2028 Total Proposed non-earmarked Funding Available (Federal only)	FFY 2023-2027 non-earmarked Funding (Federal Only)	Comparison to FFY 2023-2027 Funding Projections	FFY 2024-2028 Highway Division Program (includes State Match)*	FFY 2024-2028 TIP Funding For Regional Priorities (includes State Match)	FFY 2023-2027 TIP Funding for Regional Priorities (includes State Match)	Difference	Comparison to FFY 2023-2027 Funding Projections
2024	\$ 753,409,685	\$ 50,000,000	\$ 93,985,000	\$ 803,409,685	\$ 709,424,685	11.7%	\$ 387,540,156	\$ 304,063,097	\$ 304,063,096	\$ 1	0.0%
2025	\$ 768,478,798	\$ 50,000,000	\$ 122,185,000	\$ 818,478,798	\$ 696,320,798	14.9%	\$ 378,062,666	\$ 298,897,735	\$ 298,897,735	\$ -	0.0%
2026	\$ 783,849,292	\$ 50,000,000	\$ 133,620,000	\$ 833,849,292	\$ 700,229,292	16.0%	\$ 387,277,751	\$ 291,585,160	\$ 291,585,161	\$ (1)	0.0%
2027	\$ 799,526,278	\$ 50,000,000	\$ -	\$ 849,526,278	\$ 715,907,245	15.7%	\$ 479,960,755	\$ 361,048,668	\$ 307,317,191	\$ 53,731,477	14.9%
2028	\$ 815,516,804	\$ 50,000,000	\$ -	\$ 865,516,804	\$ -	-	\$ 507,704,973	\$ 367,844,642	\$ -	\$ -	-
2024-2028	\$ 3,920,780,857	\$ 250,000,000	\$ -	\$ 4,170,780,857	\$ -	-	\$ 2,140,546,301	\$ 1,623,439,302	\$ -	\$ -	-

Federal Fiscal Year	Northern Middlesex Federal Aid Apportionment	State Match	FFY 2024-2028 Northern Middlesex Regional Target Funding (3.9096%)**	FFY 2023-2027 Regional Target Funding (3.9096%)	Difference	Comparison to FFY 2023-2027 Target Funding Projections
2024	\$ 9,510,121	\$ 2,377,530	\$ 11,887,651	\$ 11,887,651	\$ -	0.0%
2025	\$ 9,348,565	\$ 2,337,141	\$ 11,685,706	\$ 11,685,706	\$ -	0.0%
2026	\$ 9,119,851	\$ 2,279,963	\$ 11,399,814	\$ 11,399,814	\$ -	0.0%
2027	\$ 11,292,447	\$ 2,823,112	\$ 14,115,559	\$ 12,014,873	\$ 2,100,686	14.9%
2028	\$ 11,505,003	\$ 2,876,251	\$ 14,381,254	\$ -	\$ -	-
2024-2028	\$ 60,286,108	\$ 15,071,527	\$ 75,357,635	\$ -	\$ -	-

Federal Fiscal Year 2024		Development STIP: FFY 2024 - 2028		
		Federal Aid Funds	Matching Funds	FFY 2024 (Proposed) (Fed Aid + Match)
Balance Obligation Authority		\$753,409,685		
Planned Redistribution Request		\$50,000,000		
Total Non-earmarked Funding Available		\$803,409,685	\$267,803,228	\$1,071,212,913
Planning/Adjustments/Pass-throughs		\$172,619,052	\$18,783,638	\$191,402,690
GANS Repayment		\$93,985,000	\$0	\$93,985,000
Award Adjustments, Change Orders, etc.		\$22,225,500	\$5,274,500	\$27,500,000
Metropolitan Planning		\$11,103,730	\$2,775,933	\$13,879,663
State Planning & Research		\$22,934,299	\$5,733,575	\$28,667,874
Recreational Trails		\$1,186,729	\$296,682	\$1,483,411
SRTS Education		\$1,951,346	\$487,837	\$2,439,183
Railroad Crossings		\$2,371,999	\$0	\$2,371,999
Carbon Reduction		\$16,860,449	\$4,215,112	\$21,075,561
Regional Priorities				
Regional Share (%)	MPO	\$243,250,477	\$60,812,619	\$304,063,097
3.5596	Berkshire Region	\$8,658,744	\$2,164,686	\$10,823,430
42.9671	Boston Region	\$104,517,676	\$26,129,419	\$130,647,095
4.5851	Cape Cod	\$11,153,278	\$2,788,319	\$13,941,597
8.6901	Central Mass	\$21,138,710	\$5,284,677	\$26,423,387
2.5397	Franklin Region	\$6,177,832	\$1,544,458	\$7,722,290
0.3100	Martha's Vineyard	\$754,076	\$188,519	\$942,596
4.4296	Merrimack Valley	\$10,775,023	\$2,693,756	\$13,468,779
4.4596	Montachusett	\$10,847,998	\$2,712,000	\$13,559,998
0.2200	Nantucket	\$535,151	\$133,788	\$668,939
3.9096	Northern Middlesex	\$9,510,121	\$2,377,530	\$11,887,651
4.5595	Old Colony	\$11,091,006	\$2,772,751	\$13,863,757
10.8100	Pioneer Valley	\$26,295,377	\$6,573,844	\$32,869,221
8.9601	Southeastern Mass	\$21,795,486	\$5,448,872	\$27,244,358
Highway		\$387,540,156	\$86,666,496	\$474,206,651
Reliability		\$273,554,916	\$61,295,185	\$334,850,101
Interstate Pavement		\$38,473,514	\$4,274,835	\$42,748,349
Non-Interstate Pavement		\$58,162,826	\$14,540,707	\$72,703,533
Roadway Improvements		\$1,200,000	\$300,000	\$1,500,000
Safety Improvements		\$17,400,000	\$2,600,000	\$20,000,000
Resiliency Improvements		\$11,200,000	\$2,800,000	\$14,000,000
Bridge		\$147,118,575	\$36,779,644	\$183,898,219
Bridge Inspections		\$14,320,000	\$3,580,000	\$17,900,000
Bridge Systematic Maintenance		\$0	\$0	\$0
Bridge On-system NHS		\$94,856,125	\$23,714,031	\$118,570,156
Bridge Off-system		\$37,942,450	\$9,485,613	\$47,428,063
Modernization		\$73,985,240	\$15,371,311	\$89,356,551
ADA Retrofits		\$1,200,000	\$300,000	\$1,500,000
Intersection Improvements		\$22,500,000	\$2,500,000	\$25,000,000
Intelligent Transportation Systems		\$8,247,894	\$2,061,974	\$10,309,868
Roadway Reconstruction		\$29,748,912	\$7,437,228	\$37,186,140
Safe Routes To School**		\$12,288,434	\$3,072,109	\$15,360,543
Expansion		\$40,000,000	\$10,000,000	\$50,000,000
Bicycle and Pedestrian		\$40,000,000	\$10,000,000	\$50,000,000
Capacity		\$0	\$0	\$0
Grand Total Formula Funds		\$803,409,685	\$166,262,753	\$969,672,438
Difference from Funds Available		\$0	\$101,540,475	\$107,521,016

*The program sizes above are only for highway funding programs subject to Obligation Authority. The Bipartisan Infrastructure Law (BIL) includes non-core formula funding for a few additional program through from FFY 2022 through FFY 2026. This includes an estimated \$242.5M federal aid annually for Bridge Formula Program funds; \$13.5M federal aid annually for National Electric Vehicle Infrastructure (NEVI) funds; and \$1.4M federal aid annually for Ferry Boat Program funds. MassDOT is conservatively estimating no additional federal apportionment of non-core formula funding beginning in FFY 2027.

**Safe Routes to School (SRTS) projects have historically been listed under Roadway Reconstruction. This will now be reflected as its own program in the STIP & CIP, and sized to the estimated annual award amounts.

Federal Fiscal Year 2025		Development STIP: FFY 2024 - 2028		
		Federal Aid Funds	Matching Funds	FFY 2025 (Proposed) (Fed Aid + Match)
Balance Obligation Authority		\$768,478,798		
Planned Redistribution Request		\$50,000,000		
Total Non-earmarked Funding Available		\$818,478,798	\$272,826,266	\$1,091,305,064
Planning/Adjustments/Pass-throughs		\$201,297,944	\$18,903,361	\$220,201,305
GANS Repayment		\$122,185,000	\$0	\$122,185,000
Award Adjustments, Change Orders, etc.		\$22,225,500	\$5,274,500	\$27,500,000
Metropolitan Planning		\$11,325,805	\$2,831,451	\$14,157,256
State Planning & Research		\$22,853,908	\$5,713,477	\$28,567,385
Recreational Trails		\$1,186,729	\$296,682	\$1,483,411
SRTS Education		\$1,951,346	\$487,837	\$2,439,183
Railroad Crossings		\$2,371,999	\$0	\$2,371,999
Carbon Reduction		\$17,197,657	\$4,299,414	\$21,497,071
Regional Priorities				
Regional Share (%)	MPO	\$239,118,188	\$59,779,547	\$298,897,735
3.5596	Berkshire Region	\$8,511,651	\$2,127,913	\$10,639,564
42.9671	Boston Region	\$102,742,151	\$25,685,538	\$128,427,689
4.5851	Cape Cod	\$10,963,808	\$2,740,952	\$13,704,760
8.6901	Central Mass	\$20,779,610	\$5,194,902	\$25,974,512
2.5397	Franklin Region	\$6,072,885	\$1,518,221	\$7,591,106
0.3100	Martha's Vineyard	\$741,266	\$185,317	\$926,583
4.4296	Merrimack Valley	\$10,591,979	\$2,647,995	\$13,239,974
4.4596	Montachusett	\$10,663,715	\$2,665,929	\$13,329,643
0.2200	Nantucket	\$526,060	\$131,515	\$657,575
3.9096	Northern Middlesex	\$9,348,565	\$2,337,141	\$11,685,706
4.5595	Old Colony	\$10,902,594	\$2,725,648	\$13,628,242
10.8100	Pioneer Valley	\$25,848,676	\$6,462,169	\$32,310,845
8.9601	Southeastern Mass	\$21,425,229	\$5,356,307	\$26,781,536
Highway		\$378,062,666	\$83,859,623	\$461,922,289
Reliability		\$273,680,691	\$60,889,129	\$334,569,820
Interstate Pavement		\$38,473,514	\$4,274,835	\$42,748,349
Non-Interstate Pavement		\$58,162,826	\$14,540,707	\$72,703,533
Roadway Improvements		\$1,200,000	\$300,000	\$1,500,000
Safety Improvements		\$21,750,000	\$3,250,000	\$25,000,000
Resiliency Improvements		\$12,800,000	\$3,200,000	\$16,000,000
Bridge		\$141,294,350	\$35,323,588	\$176,617,938
Bridge Inspections		\$8,495,775	\$2,123,944	\$10,619,719
Bridge Systematic Maintenance		\$0	\$0	\$0
Bridge On-system NHS		\$94,856,125	\$23,714,031	\$118,570,156
Bridge Off-system		\$37,942,450	\$9,485,613	\$47,428,063
Modernization		\$76,381,975	\$15,970,494	\$92,352,469
ADA Retrofits		\$1,200,000	\$300,000	\$1,500,000
Intersection Improvements		\$22,500,000	\$2,500,000	\$25,000,000
Intelligent Transportation Systems		\$8,247,894	\$2,061,974	\$10,309,868
Roadway Reconstruction		\$39,173,843	\$9,793,461	\$48,967,304
Safe Routes To School**		\$5,260,238	\$1,315,060	\$6,575,298
Expansion		\$28,000,000	\$7,000,000	\$35,000,000
Bicycle and Pedestrian		\$28,000,000	\$7,000,000	\$35,000,000
Capacity		\$0	\$0	\$0
Grand Total Formula Funds		\$818,478,798	\$162,542,532	\$981,021,330
Difference from Funds Available		\$0	\$110,283,734	\$110,283,734

*The program sizes above are only for highway funding programs subject to Obligation Authority. The Bipartisan Infrastructure Law (BIL) includes non-core formula funding for a few additional program through from FFY 2022 through FFY 2026. This includes an estimated \$242.5M federal aid annually for Bridge Formula Program funds; \$13.5M federal aid annually for National Electric Vehicle Infrastructure (NEVI) funds; and \$1.4M federal aid annually for Ferry Boat Program funds. MassDOT is conservatively estimating no additional federal apportionment of non-core formula funding beginning in FFY 2027.

**Safe Routes to School (SRTS) projects have historically been listed under Roadway Reconstruction. This will now be reflected as its own program in the STIP & CIP, and sized to the estimated annual award amounts.

Federal Fiscal Year 2026		Development STIP: FFY 2024 - 2028		
		Federal Aid Funds	Matching Funds	FFY 2026 (Proposed) (Fed Aid + Match)
Balance Obligation Authority		\$783,849,292		
Planned Redistribution Request		\$50,000,000		
Total Non-earmarked Funding Available		\$833,849,292	\$277,949,764	\$1,111,799,056
Planning/Adjustments/Pass-throughs		\$213,303,413	\$19,045,979	\$232,349,392
GANS Repayment		\$133,620,000	\$0	\$133,620,000
Award Adjustments, Change Orders, etc.		\$22,225,500	\$5,274,500	\$27,500,000
Metropolitan Planning		\$11,552,321	\$2,888,080	\$14,440,401
State Planning & Research		\$22,853,908	\$5,713,477	\$28,567,385
Recreational Trails		\$1,186,729	\$296,682	\$1,483,411
SRTS Education		\$1,951,346	\$487,837	\$2,439,183
Railroad Crossings		\$2,371,999	\$0	\$2,371,999
Carbon Reduction		\$17,541,610	\$4,385,403	\$21,927,013
Regional Priorities				
Regional Share (%)	MPO	\$233,268,128	\$58,317,032	\$291,585,160
3.5596	Berkshire Region	\$8,303,412	\$2,075,853	\$10,379,265
42.9671	Boston Region	\$100,228,550	\$25,057,137	\$125,285,687
4.5851	Cape Cod	\$10,695,577	\$2,673,894	\$13,369,471
8.6901	Central Mass	\$20,271,234	\$5,067,808	\$25,339,042
2.5397	Franklin Region	\$5,924,311	\$1,481,078	\$7,405,388
0.3100	Martha's Vineyard	\$723,131	\$180,783	\$903,914
4.4296	Merrimack Valley	\$10,332,845	\$2,583,211	\$12,916,056
4.4596	Montachusett	\$10,402,825	\$2,600,706	\$13,003,532
0.2200	Nantucket	\$513,190	\$128,297	\$641,487
3.9096	Northern Middlesex	\$9,119,851	\$2,279,963	\$11,399,813
4.5595	Old Colony	\$10,635,860	\$2,658,965	\$13,294,825
10.8100	Pioneer Valley	\$25,216,285	\$6,304,071	\$31,520,356
8.9601	Southeastern Mass	\$20,901,058	\$5,225,264	\$26,126,322
Highway		\$387,277,751	\$86,163,394	\$473,441,145
Reliability		\$273,742,089	\$60,904,479	\$334,646,568
	Interstate Pavement	\$38,473,514	\$4,274,835	\$42,748,349
	Non-Interstate Pavement	\$52,000,000	\$13,000,000	\$65,000,000
	Roadway Improvements	\$2,400,000	\$600,000	\$3,000,000
	Safety Improvements	\$21,750,000	\$3,250,000	\$25,000,000
	Resiliency Improvements	\$12,000,000	\$3,000,000	\$15,000,000
	Bridge	\$147,118,575	\$36,779,644	\$183,898,219
	Bridge Inspections	\$14,320,000	\$3,580,000	\$17,900,000
	Bridge Systematic Maintenance	\$0	\$0	\$0
	Bridge On-system NHS	\$94,856,125	\$23,714,031	\$118,570,156
	Bridge Off-system	\$37,942,450	\$9,485,613	\$47,428,063
Modernization		\$85,535,662	\$18,258,916	\$103,794,578
	ADA Retrofits	\$2,000,000	\$500,000	\$2,500,000
	Intersection Improvements	\$22,500,000	\$2,500,000	\$25,000,000
	Intelligent Transportation Systems	\$8,247,894	\$2,061,974	\$10,309,868
	Roadway Reconstruction	\$41,380,332	\$10,345,083	\$51,725,415
	Safe Routes To School**	\$11,407,436	\$2,851,859	\$14,259,295
Expansion		\$28,000,000	\$7,000,000	\$35,000,000
	Bicycle and Pedestrian	\$28,000,000	\$7,000,000	\$35,000,000
	Capacity	\$0	\$0	\$0
Grand Total Formula Funds		\$833,849,292	\$163,526,405	\$997,375,697
Difference from Funds Available		\$0	\$114,423,359	\$114,423,359

*The program sizes above are only for highway funding programs subject to Obligation Authority. The Bipartisan Infrastructure Law (BIL) includes non-core formula funding for a few additional program through from FFY 2022 through FFY 2026. This includes an estimated \$242.5M federal aid annually for Bridge Formula Program funds; \$13.5M federal aid annually for National Electric Vehicle Infrastructure (NEVI) funds; and \$1.4M federal aid annually for Ferry Boat Program funds. MassDOT is conservatively estimating no additional federal apportionment of non-core formula funding beginning in FFY 2027.

**Safe Routes to School (SRTS) projects have historically been listed under Roadway Reconstruction. This will now be reflected as its own program in the STIP & CIP, and sized to the estimated annual award amounts.

Federal Fiscal Year 2027		Development STIP: FFY 2024 - 2028		
		Federal Aid Funds	Matching Funds	FFY 2027 (Proposed) (Fed Aid + Match)
Balance Obligation Authority		\$799,526,278		
Planned Redistribution Request		\$50,000,000		
Total Non-earmarked Funding Available		\$849,526,278	\$283,175,748	\$1,132,702,026
Planning/Adjustments/Pass-throughs		\$80,726,588	\$19,306,772	\$100,033,361
GANS Repayment		\$0	\$0	\$0
Award Adjustments, Change Orders, etc.		\$22,225,500	\$5,274,500	\$27,500,000
Metropolitan Planning		\$11,783,367	\$2,945,842	\$14,729,209
State Planning & Research		\$23,315,205	\$5,828,801	\$29,144,006
Recreational Trails		\$1,186,729	\$296,682	\$1,483,411
SRTS Education		\$1,951,346	\$487,837	\$2,439,183
Railroad Crossings		\$2,371,999	\$0	\$2,371,999
Carbon Reduction		\$17,892,442	\$4,473,111	\$22,365,553
Regional Priorities				
Regional Share (%)	MPO	\$288,838,935	\$72,209,734	\$361,048,668
3.5596	Berkshire Region	\$10,281,511	\$2,570,378	\$12,851,888
42.9671	Boston Region	\$124,105,714	\$31,026,428	\$155,132,142
4.5851	Cape Cod	\$13,243,554	\$3,310,888	\$16,554,442
8.6901	Central Mass	\$25,100,392	\$6,275,098	\$31,375,490
2.5397	Franklin Region	\$7,335,642	\$1,833,911	\$9,169,553
0.3100	Martha's Vineyard	\$895,401	\$223,850	\$1,119,251
4.4296	Merrimack Valley	\$12,794,409	\$3,198,602	\$15,993,012
4.4596	Montachusett	\$12,881,061	\$3,220,265	\$16,101,326
0.2200	Nantucket	\$635,446	\$158,861	\$794,307
3.9096	Northern Middlesex	\$11,292,447	\$2,823,112	\$14,115,559
4.5595	Old Colony	\$13,169,611	\$3,292,403	\$16,462,014
10.8100	Pioneer Valley	\$31,223,489	\$7,805,872	\$39,029,361
8.9601	Southeastern Mass	\$25,880,257	\$6,470,064	\$32,350,322
Highway		\$479,960,755	\$108,896,645	\$588,857,401
Reliability		\$342,010,687	\$77,534,128	\$419,544,815
Interstate Pavement		\$38,473,514	\$4,274,835	\$42,748,349
Non-Interstate Pavement		\$58,162,826	\$14,540,707	\$72,703,533
Roadway Improvements		\$1,600,000	\$400,000	\$2,000,000
Safety Improvements		\$26,100,000	\$3,900,000	\$30,000,000
Resiliency Improvements		\$13,200,000	\$3,300,000	\$16,500,000
Bridge		\$204,474,346	\$51,118,587	\$255,592,933
Bridge Inspections		\$8,838,012	\$2,209,503	\$11,047,515
Bridge Systematic Maintenance		\$16,000,000	\$4,000,000	\$20,000,000
Bridge On-system NHS		\$141,693,884	\$35,423,471	\$177,117,355
Bridge Off-system		\$37,942,450	\$9,485,613	\$47,428,063
Modernization		\$103,550,069	\$22,762,517	\$126,312,586
ADA Retrofits		\$2,000,000	\$500,000	\$2,500,000
Intersection Improvements		\$22,500,000	\$2,500,000	\$25,000,000
Intelligent Transportation Systems		\$8,247,894	\$2,061,974	\$10,309,868
Roadway Reconstruction		\$58,802,175	\$14,700,544	\$73,502,719
Safe Routes To School**		\$12,000,000	\$3,000,000	\$15,000,000
Expansion		\$34,400,000	\$8,600,000	\$43,000,000
Bicycle and Pedestrian		\$34,400,000	\$8,600,000	\$43,000,000
Capacity		\$0	\$0	\$0
Grand Total Formula Funds		\$849,526,278	\$200,413,151	\$1,049,939,429
Difference from Funds Available		\$0	\$82,762,597	\$82,762,597

*The program sizes above are only for highway funding programs subject to Obligation Authority. The Bipartisan Infrastructure Law (BIL) includes non-core formula funding for a few additional program through from FFY 2022 through FFY 2026. This includes an estimated \$242.5M federal aid annually for Bridge Formula Program funds; \$13.5M federal aid annually for National Electric Vehicle Infrastructure (NEVI) funds; and \$1.4M federal aid annually for Ferry Boat Program funds. MassDOT is conservatively estimating no additional federal apportionment of non-core formula funding beginning in FFY 2027.

**Safe Routes to School (SRTS) projects have historically been listed under Roadway Reconstruction. This will now be reflected as its own program in the STIP & CIP, and sized to the estimated annual award amounts.

Federal Fiscal Year 2028		Development STIP: FFY 2024 - 2028		
		Federal Aid Funds	Matching Funds	FFY 2028 (Proposed) (Fed Aid + Match)
Balance Obligation Authority		\$815,516,804		
Planned Redistribution Request		\$50,000,000		
Total Non-earmarked Funding Available		\$865,516,804	\$288,505,929	\$1,154,022,733
Planning/Adjustments/Pass-throughs		\$63,536,118	\$15,009,155	\$78,545,273
GANS Repayment		\$0	\$0	\$0
Award Adjustments, Change Orders, etc.		\$22,225,500	\$5,274,500	\$27,500,000
Metropolitan Planning		\$12,019,035	\$3,004,759	\$15,023,794
State Planning & Research		\$23,781,509	\$5,945,377	\$29,726,886
Recreational Trails		\$1,186,729	\$296,682	\$1,483,411
SRTS Education		\$1,951,346	\$487,837	\$2,439,183
Railroad Crossings		\$2,371,999	\$0	\$2,371,999
Carbon Reduction		\$18,250,291	\$4,562,573	\$22,812,864
Regional Priorities				
Regional Share (%)	MPO	\$294,275,713	\$73,568,928	\$367,844,642
3.5596	Berkshire Region	\$10,475,038	\$2,618,760	\$13,093,798
42.9671	Boston Region	\$126,441,740	\$31,610,435	\$158,052,175
4.5851	Cape Cod	\$13,492,836	\$3,373,209	\$16,866,045
8.6901	Central Mass	\$25,572,854	\$6,393,213	\$31,966,067
2.5397	Franklin Region	\$7,473,720	\$1,868,430	\$9,342,150
0.3100	Martha's Vineyard	\$912,255	\$228,064	\$1,140,319
4.4296	Merrimack Valley	\$13,035,237	\$3,258,809	\$16,294,046
4.4596	Montachusett	\$13,123,520	\$3,280,880	\$16,404,400
0.2200	Nantucket	\$647,407	\$161,852	\$809,259
3.9096	Northern Middlesex	\$11,505,003	\$2,876,251	\$14,381,254
4.5595	Old Colony	\$13,417,501	\$3,354,375	\$16,771,876
10.8100	Pioneer Valley	\$31,811,205	\$7,952,801	\$39,764,006
8.9601	Southeastern Mass	\$26,367,398	\$6,591,850	\$32,959,248
Highway		\$507,704,973	\$114,832,700	\$618,537,673
Reliability		\$364,917,461	\$83,260,822	\$448,178,283
	Interstate Pavement	\$38,473,514	\$4,274,835	\$42,748,349
	Non-Interstate Pavement	\$58,162,826	\$14,540,707	\$72,703,533
	Roadway Improvements	\$1,600,000	\$400,000	\$2,000,000
	Safety Improvements	\$26,100,000	\$3,900,000	\$30,000,000
	Resiliency Improvements	\$14,400,000	\$3,600,000	\$18,000,000
	Bridge	\$226,181,120	\$56,545,280	\$282,726,401
	Bridge Inspections	\$14,320,000	\$3,580,000	\$17,900,000
	Bridge Systematic Maintenance	\$16,000,000	\$4,000,000	\$20,000,000
	Bridge On-system NHS	\$157,918,670	\$39,479,668	\$197,398,338
	Bridge Off-system	\$37,942,450	\$9,485,613	\$47,428,063
Modernization		\$102,787,512	\$22,571,878	\$125,359,390
	ADA Retrofits	\$2,000,000	\$500,000	\$2,500,000
	Intersection Improvements	\$22,500,000	\$2,500,000	\$25,000,000
	Intelligent Transportation Systems	\$8,247,894	\$2,061,974	\$10,309,868
	Roadway Reconstruction	\$58,039,618	\$14,509,905	\$72,549,523
	Safe Routes To School	\$12,000,000	\$3,000,000	\$15,000,000
Expansion		\$40,000,000	\$9,000,000	\$45,000,000
	Bicycle and Pedestrian	\$40,000,000	\$9,000,000	\$45,000,000
	Capacity	\$0	\$0	\$0
Grand Total Formula Funds		\$865,516,804	\$203,410,783	\$1,064,927,587
Difference from Funds Available		\$0	\$85,095,147	\$89,095,146

APPENDIX G: SYSTEM PRESERVATION, OPERATIONS AND MAINTENANCE

The numbers in the table below represent the operations and maintenance budget approved by the LRTA Advisory Board, and projections for the out-years as used in the Program Preview meetings based on State Fiscal Year (SFY). This data projects that revenues will meet the operating needs of the LRTA.

LRTA OPERATIONS AND MAINTENANCE SUMMARY

Operating Revenue	SFY 2024	SFY 2025	SFY 2026	SFY 2027	SFY 2028
Farebox	\$885,000	\$929,250	\$975,713	\$1,024,498	\$1,075,723
Section 5307	\$2,480,087	\$5,374,709	\$6,165,276	\$6,250,073	\$6,371,406
Section 5311	\$0	\$0	\$0	\$0	\$0
CMAQ/TDM	\$0	\$0	\$0	\$0	\$0
Federally Funded Contract Work*	\$0	\$0	\$0	\$0	\$0
Jobs Access/ Reverse Commute	\$0	\$0	\$0	\$0	\$0
CARES/ARPA Act	\$3,515,711	\$847,373	\$0	\$0	\$0
Advertising	\$55,000	\$56,650	\$58,350	\$60,100	\$61,903
Interest Income	\$3,090	\$3,167	\$3,246	\$3,328	\$3,411
Parking Revenue	\$345,000	\$150,000	\$345,000	\$400,000	\$420,000
State Contract Assistance**	\$4,779,731	\$5,018,718	\$5,219,466	\$5,428,245	\$5,645,375
Local Assessment	\$3,080,375	\$3,157,384	\$3,236,319	\$3,317,227	\$3,400,158
Other: sale of used equipment and other miscellaneous revenues	\$15,000	\$15,450	\$15,914	\$16,391	\$16,883
TOTAL	\$15,158,994	\$15,552,702	\$16,019,283	\$16,499,862	\$16,994,858
Operating Expenses***	SFY 2024	SFY 2025	SFY 2026	SFY 2027	SFY 2028

TOTAL (see description below)

Source: LRTA

* Federally funded refers to contract work, often to Human Service Agencies

** Operating assistance provided by the State

*** Description of Operating Expenses: Salaries and wages; fringe benefits; legal, accounting and professional services; promotion/marketing; insurance; equipment leases and rentals; real property leases and rentals; non-capitalized maintenance/repair; fuel costs; tire costs; office supplies and equipment; interest expense; utilities; management fees; travel and training; and other miscellaneous expense items.

Operating and Maintenance Expenditures as of March 2023								
Statewide and District Contracts plus Expenditures within MPO boundaries								
Program Group/Sub Group	Est SFY 2023 Spending	Est SFY 2024 Spending	Est SFY 2025 Spending	Est SFY 2026 Spending	Est SFY 2027 Spending			
Part 1: Non-Federal Aid								
Section I - Non Federal Aid Maintenance Projects - State Bondfunds								
01 - ADA Retrofits								
Sidewalk Construction and Repairs	\$ 578,675	\$ 1,835,065	\$ 1,712,292	\$ 210,024	\$ -			
02 - Bicycles and pedestrians program								
Bikeway/Bike Path Construction	\$ -	\$ -	\$ -	\$ -	\$ -			
03 - Bridge								
Bridge Inspections	\$ -	\$ -	\$ -	\$ -	\$ -			
Bridge Maintenance	\$ 47,059,926	\$ 32,973,019	\$ 12,653,389	\$ 294,446	\$ -			
Bridge Maintenance - Deck Repairs	\$ 17,822,818	\$ 6,025,391	\$ 4,129,146	\$ 750,679	\$ -			
Bridge Maintenance - Joints	\$ 4,538,192	\$ 1,497,000	\$ -	\$ -	\$ -			
Bridge Preservation	\$ 13,690,335	\$ 6,945,387	\$ 2,808,182	\$ 1,069,091	\$ -			
Drawbridge Maintenance	\$ 11,208,941	\$ 6,926,247	\$ 5,616,282	\$ 1,517,600	\$ -			
Painting - Structural	\$ 2,342,316	\$ 492,945	\$ 415,475	\$ -	\$ -			
Structures Maintenance	\$ 384,173	\$ -	\$ -	\$ -	\$ -			
04 - Capacity								
Highway Relocation	\$ -	\$ -	\$ -	\$ -	\$ -			
Hwy Reconst - Added Capacity	\$ -	\$ -	\$ -	\$ -	\$ -			
Hwy Reconst - Major Widening	\$ -	\$ -	\$ -	\$ -	\$ -			
05 - Facilities								
Vertical Construction (Ch 149)	\$ 12,240,086	\$ 15,061,146	\$ 2,483,199	\$ 963,458	\$ -			
07 - Intersection Improvements								
Traffic Signals	\$ 3,372,014	\$ 1,802,864	\$ -	\$ -	\$ -			
08 - Interstate Pavement								
Resurfacing Interstate	\$ -	\$ -	\$ -	\$ -	\$ -			
09 - Intelligent Transportation Systems Program								
Intelligent Transportation System	\$ -	\$ -	\$ -	\$ -	\$ -			
10 - Non-Interstate DOT Pavement Program								
Milling and Cold Planing	\$ 1,696,450	\$ 65,316	\$ -	\$ -	\$ -			
Resurfacing	\$ 8,580,527	\$ 15,675,205	\$ 14,333,540	\$ 3,186,441	\$ -			
Resurfacing DOT Owned Non-Interstate	\$ 9,480,716	\$ 3,277,740	\$ 556,452	\$ 140,348	\$ -			
11 - Roadway Improvements								
Asbestos Removal	\$ -	\$ -	\$ -	\$ -	\$ -			
Catch Basin Cleaning	\$ 2,770,846	\$ 1,397,444	\$ 1,080,147	\$ 222,198	\$ -			
Contract Highway Maintenance	\$ 5,924,953	\$ 3,360,014	\$ 1,483,986	\$ -	\$ -			
Crack Sealing	\$ 1,678,385	\$ 997,442	\$ -	\$ -	\$ -			
Culvert Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -			
Culvert Reconstruction/Rehab	\$ -	\$ -	\$ -	\$ -	\$ -			
Drainage	\$ 9,006,958	\$ 5,897,263	\$ 3,395,005	\$ 662,851	\$ -			
Dredging	\$ -	\$ -	\$ -	\$ -	\$ -			
Guard Rail & Fencing	\$ 7,013,409	\$ 4,913,810	\$ 1,918,876	\$ 89,739	\$ -			
Highway Sweeping	\$ 2,158,651	\$ 882,245	\$ 613,047	\$ -	\$ -			
Landscaping	\$ 800,000	\$ 244,014	\$ -	\$ -	\$ -			
Mowing and Spraying	\$ 3,124,482	\$ 2,989,678	\$ 1,721,246	\$ 374,034	\$ -			
Sewer and Water	\$ 136,525	\$ 261,650	\$ -	\$ -	\$ -			
Tree Trimming	\$ 5,497,656	\$ 3,072,476	\$ 1,481,148	\$ -	\$ -			
12 - Roadway Reconstruction								
Hwy Reconst - No Added Capacity	\$ 2,000	\$ -	\$ -	\$ -	\$ -			
Hwy Reconst - Restr and Rehab	\$ 689,151	\$ 369,739	\$ 496,749	\$ 165,565	\$ -			
Roadway - Reconst - Sidewalks and Curbing	\$ 1,616,313	\$ -	\$ -	\$ -	\$ -			
13 - Safety Improvements								
Electrical	\$ 250,085	\$ -	\$ -	\$ -	\$ -			
Impact Attenuators	\$ 1,861,793	\$ 765,000	\$ 134,201	\$ -	\$ -			
Lighting	\$ 3,584,140	\$ 2,093,264	\$ 1,172,202	\$ 683,784	\$ -			
Pavement Marking	\$ 5,217,164	\$ 3,914,558	\$ 1,484,295	\$ 75,006	\$ -			
Safety Improvements	\$ 22,691	\$ -	\$ -	\$ -	\$ -			
Sign Installation/Upgrading	\$ 1,530,285	\$ 1,201,730	\$ 290,837	\$ -	\$ -			
Structural Signing	\$ 213,951	\$ 320,000	\$ 98,584	\$ -	\$ -			
Section I Total:	\$ 186,094,609	\$ 125,257,651	\$ 60,078,278	\$ 10,405,265	\$ -			
Section II - Non Federal Aid Highway Operations - State Operating Budget Funding								
Snow and Ice Operations & Materials								
	\$ 86,100,000	\$ 95,000,000	\$ 95,000,000	\$ 95,000,000	\$ 95,000,000			
District Maintenance Payroll								
Mowing, Litter Mgmt, Sight Distance Clearing, Etc.	\$ 35,000,000	\$ 36,050,000	\$ 37,140,000	\$ 38,260,000	\$ 39,410,000			
Section II Total:	\$ 121,100,000	\$ 131,050,000	\$ 132,140,000	\$ 133,260,000	\$ 134,410,000			
Grand Total NFA:	\$ 307,194,609	\$ 256,307,651	\$ 192,218,278	\$ 143,665,265	\$ 134,410,000			

Operating and Maintenance Expenditures as of March 2023

Statewide and District Contracts plus Expenditures within MPO boundaries

Program Group/Sub Group	Est SFY 2023 Spending	Est SFY 2024 Spending	Est SFY 2025 Spending	Est SFY 2026 Spending	Est SFY 2027 Spending
Part 2: Federal Aid					
Section I - Federal Aid Maintenance Projects					
01 - ADA Retrofits					
Sidewalk Construction and Repairs	\$ -	\$ -	\$ -	\$ -	\$ -
02 - Bicycles and pedestrians program					
Bikeway/Bike Path Construction	\$ -	\$ -	\$ -	\$ -	\$ -
03 - Bridge					
Bridge Maintenance	\$ 1,702,831	\$ -	\$ -	\$ -	\$ -
Bridge Maintenance - Deck Repairs	\$ -	\$ -	\$ -	\$ -	\$ -
Bridge Maintenance - Joints	\$ -	\$ -	\$ -	\$ -	\$ -
Bridge Preservation	\$ 510,000	\$ 1,260,000	\$ 747,097	\$ -	\$ -
Bridge Reconstruction/Rehab	\$ -	\$ -	\$ -	\$ -	\$ -
Drawbridge Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Painting - Structural	\$ 1,068,387	\$ 1,640,000	\$ 213,917	\$ -	\$ -
Structures Maintenance	\$ 5,046,803	\$ 754,257	\$ -	\$ -	\$ -
04 - Capacity					
Hwy Reconstr - Added Capacity	\$ -	\$ -	\$ -	\$ -	\$ -
05 - Facilities					
Vertical Construction (Ch 149)	\$ -	\$ -	\$ -	\$ -	\$ -
07 - Intersection Improvements					
Traffic Signals	\$ -	\$ -	\$ -	\$ -	\$ -
08 - Interstate Pavement					
Resurfacing Interstate	\$ -	\$ -	\$ -	\$ -	\$ -
09 - Intelligent Transportation Systems Program					
Intelligent Transportation System	\$ -	\$ -	\$ -	\$ -	\$ -
10 - Non-interstate DOT Pavement Program					
Milling and Cold Planing	\$ -	\$ -	\$ -	\$ -	\$ -
Resurfacing	\$ -	\$ -	\$ -	\$ -	\$ -
Resurfacing DOT Owned Non-Interstate	\$ -	\$ -	\$ -	\$ -	\$ -
11 - Roadway Improvements					
Asbestos Removal	\$ -	\$ -	\$ -	\$ -	\$ -
Catch Basin Cleaning	\$ -	\$ -	\$ -	\$ -	\$ -
Contract Highway Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Crack Sealing	\$ -	\$ -	\$ -	\$ -	\$ -
Culvert Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Culvert Reconstruction/Rehab	\$ -	\$ -	\$ -	\$ -	\$ -
Drainage	\$ -	\$ -	\$ -	\$ -	\$ -
Guard Rail & Fencing	\$ -	\$ -	\$ -	\$ -	\$ -
Highway Sweeping	\$ -	\$ -	\$ -	\$ -	\$ -
Landscaping	\$ -	\$ -	\$ -	\$ -	\$ -
Mowing and Spraying	\$ -	\$ -	\$ -	\$ -	\$ -
Sewer and Water	\$ -	\$ -	\$ -	\$ -	\$ -
Tree Trimming	\$ -	\$ -	\$ -	\$ -	\$ -
12 - Roadway Reconstruction					
Hwy Reconstr - Restr and Rehab	\$ -	\$ -	\$ -	\$ -	\$ -
13 - Safety Improvements					
Electrical	\$ -	\$ -	\$ -	\$ -	\$ -
Impact Attenuators	\$ -	\$ -	\$ -	\$ -	\$ -
Lighting	\$ 451,357	\$ 1,213,925	\$ -	\$ -	\$ -
Pavement Marking	\$ -	\$ -	\$ -	\$ -	\$ -
Safety Improvements	\$ -	\$ -	\$ -	\$ -	\$ -
Sign Installation/Upgrading	\$ -	\$ -	\$ -	\$ -	\$ -
Structural Signing	\$ 423,744	\$ -	\$ -	\$ -	\$ -
Section I Total:	\$ 9,203,122	\$ 4,868,181	\$ 961,014	\$ -	\$ -
Grand Total Federal Aid:	\$ 9,203,122	\$ 4,868,181	\$ 961,014	\$ -	\$ -

Operating and Maintenance Expenditures as of March 2023

Statewide and District Contracts

Program Group/Sub Group	Est SFY 2023 Spending	Est SFY 2024 Spending	Est SFY 2025 Spending	Est SFY 2026 Spending	Est SFY 2027 Spending
Part 1: Non-Federal Aid					
Section I - Non Federal Aid Maintenance Projects - State Bondfunds					
01 - ADA Retrofits					
Sidewalk Construction and Repairs	\$ 578,675	\$ 1,835,065	\$ 1,712,292	\$ 210,024	\$ -
02 - Bicycles and pedestrians program					
Bikeway/Bike Path Construction	\$ -	\$ -	\$ -	\$ -	\$ -
03 - Bridge					
Bridge Maintenance	\$ 42,711,481	\$ 30,581,188	\$ 12,653,389	\$ 294,446	\$ -
Bridge Maintenance - Deck Repairs	\$ 17,822,818	\$ 6,025,391	\$ 4,129,146	\$ 750,679	\$ -
Bridge Maintenance - Joints	\$ 4,538,192	\$ 1,497,000	\$ -	\$ -	\$ -
Bridge Preservation	\$ 2,148,597	\$ 1,790,000	\$ 670,000	\$ -	\$ -
Drawbridge Maintenance	\$ 11,208,941	\$ 6,926,247	\$ 5,616,282	\$ 1,517,600	\$ -
Painting - Structural	\$ 1,457,297	\$ 530,000	\$ 415,475	\$ -	\$ -
Structures Maintenance	\$ 384,173	\$ -	\$ -	\$ -	\$ -
04 - Capacity					
Highway Relocation	\$ -	\$ -	\$ -	\$ -	\$ -
Hwy Reconstr - Added Capacity	\$ -	\$ -	\$ -	\$ -	\$ -
Hwy Reconstr - Major Widening	\$ -	\$ -	\$ -	\$ -	\$ -
05 - Facilities					
Vertical Construction (Ch 149)	\$ 7,302,206	\$ 5,415,780	\$ 2,483,199	\$ 963,458	\$ -
07 - Intersection Improvements					
Traffic Signals	\$ 3,372,014	\$ 1,802,864	\$ -	\$ -	\$ -
08 - Interstate Pavement					
Resurfacing Interstate	\$ -	\$ -	\$ -	\$ -	\$ -
09 - Intelligent Transportation Systems Program					
Intelligent Transportation System	\$ -	\$ -	\$ -	\$ -	\$ -
10 - Non-Interstate DOT Pavement Program					
Milling and Cold Planing	\$ 1,696,450	\$ 65,316	\$ -	\$ -	\$ -
Resurfacing	\$ 8,580,527	\$ 15,675,205	\$ 14,333,540	\$ 3,186,441	\$ -
Resurfacing DOT Owned Non-Interstate	\$ 9,480,716	\$ 3,277,740	\$ 556,452	\$ 140,348	\$ -
11 - Roadway Improvements					
Asbestos Removal	\$ -	\$ -	\$ -	\$ -	\$ -
Catch Basin Cleaning	\$ 2,770,846	\$ 1,397,444	\$ 1,080,147	\$ 222,198	\$ -
Contract Highway Maintenance	\$ 5,313,213	\$ 3,017,059	\$ 1,483,986	\$ -	\$ -
Crack Sealing	\$ 1,678,385	\$ 997,442	\$ -	\$ -	\$ -
Culvert Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Culvert Reconstruction/Rehab	\$ -	\$ -	\$ -	\$ -	\$ -
Drainage	\$ 8,134,212	\$ 5,823,287	\$ 3,395,005	\$ 662,851	\$ -
Dredging	\$ -	\$ -	\$ -	\$ -	\$ -
Guard Rail & Fencing	\$ 7,013,409	\$ 4,913,810	\$ 1,918,876	\$ 89,739	\$ -
Highway Sweeping	\$ 2,158,651	\$ 882,245	\$ 613,047	\$ -	\$ -
Landscaping	\$ 800,000	\$ 244,014	\$ -	\$ -	\$ -
Mowing and Spraying	\$ 2,901,606	\$ 2,864,639	\$ 1,721,246	\$ 374,034	\$ -
Sewer and Water	\$ 136,525	\$ 261,650	\$ -	\$ -	\$ -
Tree Trimming	\$ 5,497,656	\$ 3,072,476	\$ 1,481,148	\$ -	\$ -
12 - Roadway Reconstruction					
Hwy Reconstr - No Added Capacity	\$ 2,000	\$ -	\$ -	\$ -	\$ -
Hwy Reconstr - Restr and Rehab	\$ 689,151	\$ 369,739	\$ 496,749	\$ 165,565	\$ -
Roadway - Reconstr - Sidewalks and Curbing	\$ 1,616,313	\$ -	\$ -	\$ -	\$ -
13 - Safety Improvements					
Electrical	\$ 250,085	\$ -	\$ -	\$ -	\$ -
Impact Attenuators	\$ 1,861,793	\$ 765,000	\$ 134,201	\$ -	\$ -
Lighting	\$ 3,584,140	\$ 2,093,264	\$ 1,172,202	\$ 683,784	\$ -
Pavement Marking	\$ 5,217,164	\$ 3,914,558	\$ 1,484,295	\$ 75,006	\$ -
Safety Improvements	\$ 22,691	\$ -	\$ -	\$ -	\$ -
Sign Installation/Upgrading	\$ 1,204,949	\$ 1,020,815	\$ 290,837	\$ -	\$ -
Structural Signing	\$ 213,951	\$ 320,000	\$ 98,584	\$ -	\$ -
Section I Total:	\$ 162,348,827	\$ 107,379,238	\$ 57,940,096	\$ 9,336,174	\$ -
Section II - Non Federal Aid Highway Operations - State Operating Budget Funding					
Snow and Ice Operations & Materials					
	\$ 86,100,000	\$ 95,000,000	\$ 95,000,000	\$ 95,000,000	\$ 95,000,000
District Maintenance Payroll					
Mowing, Litter Mgmt, Sight Distance Clearing, Etc.	\$ 35,000,000	\$ 36,050,000	\$ 37,140,000	\$ 38,260,000	\$ 39,410,000
Section II Total:	\$ 121,100,000	\$ 131,050,000	\$ 132,140,000	\$ 133,260,000	\$ 134,410,000
Grand Total NFA:	\$ 283,448,827	\$ 238,429,238	\$ 190,080,096	\$ 142,596,174	\$ 134,410,000

Operating and Maintenance Expenditures as of March 2023

Statewide and District Contracts

Program Group/Sub Group	Est SFY 2023 Spending	Est SFY 2024 Spending	Est SFY 2025 Spending	Est SFY 2026 Spending	Est SFY 2027 Spending
Part 2: Federal Aid					
Section I - Federal Aid Maintenance Projects					
01 - ADA Retrofits					
Sidewalk Construction and Repairs	\$ -	\$ -	\$ -	\$ -	\$ -
02 - Bicycles and pedestrians program					
Bikeway/Bike Path Construction	\$ -	\$ -	\$ -	\$ -	\$ -
03 - Bridge					
Bridge Maintenance	\$ 1,678,476	\$ -	\$ -	\$ -	\$ -
Bridge Maintenance - Deck Repairs	\$ -	\$ -	\$ -	\$ -	\$ -
Bridge Maintenance - Joints	\$ -	\$ -	\$ -	\$ -	\$ -
Bridge Preservation	\$ -	\$ -	\$ -	\$ -	\$ -
Bridge Reconstruction/Rehab	\$ -	\$ -	\$ -	\$ -	\$ -
Drawbridge Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Painting - Structural	\$ 478,387	\$ -	\$ -	\$ -	\$ -
Structures Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
04 - Capacity					
Hwy Reconstr - Added Capacity	\$ -	\$ -	\$ -	\$ -	\$ -
05 - Facilities					
Vertical Construction (Ch 149)	\$ -	\$ -	\$ -	\$ -	\$ -
07 - Intersection Improvements					
Traffic Signals	\$ -	\$ -	\$ -	\$ -	\$ -
08 - Interstate Pavement					
Resurfacing Interstate	\$ -	\$ -	\$ -	\$ -	\$ -
09 - Intelligent Transportation Systems Program					
Intelligent Transportation System	\$ -	\$ -	\$ -	\$ -	\$ -
10 - Non-interstate DOT Pavement Program					
Milling and Cold Planing	\$ -	\$ -	\$ -	\$ -	\$ -
Resurfacing	\$ -	\$ -	\$ -	\$ -	\$ -
Resurfacing DOT Owned Non-Interstate	\$ -	\$ -	\$ -	\$ -	\$ -
11 - Roadway Improvements					
Asbestos Removal	\$ -	\$ -	\$ -	\$ -	\$ -
Catch Basin Cleaning	\$ -	\$ -	\$ -	\$ -	\$ -
Contract Highway Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Crack Sealing	\$ -	\$ -	\$ -	\$ -	\$ -
Culvert Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Culvert Reconstruction/Rehab	\$ -	\$ -	\$ -	\$ -	\$ -
Drainage	\$ -	\$ -	\$ -	\$ -	\$ -
Guard Rail & Fencing	\$ -	\$ -	\$ -	\$ -	\$ -
Highway Sweeping	\$ -	\$ -	\$ -	\$ -	\$ -
Landscaping	\$ -	\$ -	\$ -	\$ -	\$ -
Mowing and Spraying	\$ -	\$ -	\$ -	\$ -	\$ -
Sewer and Water	\$ -	\$ -	\$ -	\$ -	\$ -
Tree Trimming	\$ -	\$ -	\$ -	\$ -	\$ -
12 - Roadway Reconstruction					
Hwy Reconstr - Restr and Rehab	\$ -	\$ -	\$ -	\$ -	\$ -
13 - Safety Improvements					
Electrical	\$ -	\$ -	\$ -	\$ -	\$ -
Impact Attenuators	\$ -	\$ -	\$ -	\$ -	\$ -
Lighting	\$ -	\$ -	\$ -	\$ -	\$ -
Pavement Marking	\$ -	\$ -	\$ -	\$ -	\$ -
Safety Improvements	\$ -	\$ -	\$ -	\$ -	\$ -
Sign Installation/Upgrading	\$ -	\$ -	\$ -	\$ -	\$ -
Structural Signing	\$ 423,744	\$ -	\$ -	\$ -	\$ -
Section I Total:	\$ 2,580,607	\$ -	\$ -	\$ -	\$ -
Grand Total Federal Aid:	\$ 2,580,607	\$ -	\$ -	\$ -	\$ -

Operating and Maintenance Expenditures as of March 2023						
Program Group/Sub Group	Northern Middlesex					
	Est SFY 2023 Spending	Est SFY 2024 Spending	Est SFY 2025 Spending	Est SFY 2026 Spending	Est SFY 2027 Spending	
Part 1: Non-Federal Aid						
Section I - Non Federal Aid Maintenance Projects - State Bondfunds						
01 - ADA Retrofits						
Sidewalk Construction and Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	
02 - Bicycles and pedestrians program						
Bikeway/Bike Path Construction	\$ -	\$ -	\$ -	\$ -	\$ -	
03 - Bridge						
Bridge Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	
Bridge Maintenance - Deck Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	
Bridge Maintenance - Joints	\$ -	\$ -	\$ -	\$ -	\$ -	
Bridge Preservation	\$ -	\$ -	\$ -	\$ -	\$ -	
Drawbridge Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	
Painting - Structural	\$ -	\$ -	\$ -	\$ -	\$ -	
Structures Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	
04 - Capacity						
Highway Relocation	\$ -	\$ -	\$ -	\$ -	\$ -	
Hwy Reconstr - Added Capacity	\$ -	\$ -	\$ -	\$ -	\$ -	
Hwy Reconstr - Major Widening	\$ -	\$ -	\$ -	\$ -	\$ -	
05 - Facilities						
Vertical Construction (Ch 149)	\$ -	\$ -	\$ -	\$ -	\$ -	
07 - Intersection Improvements						
Traffic Signals	\$ -	\$ -	\$ -	\$ -	\$ -	
08 - Interstate Pavement						
Resurfacing Interstate	\$ -	\$ -	\$ -	\$ -	\$ -	
09 - Intelligent Transportation Systems Program						
Intelligent Transportation System	\$ -	\$ -	\$ -	\$ -	\$ -	
10 - Non-interstate DOT Pavement Program						
Milling and Cold Planing	\$ -	\$ -	\$ -	\$ -	\$ -	
Resurfacing	\$ -	\$ -	\$ -	\$ -	\$ -	
Resurfacing DOT Owned Non-Interstate	\$ -	\$ -	\$ -	\$ -	\$ -	
11 - Roadway Improvements						
Asbestos Removal	\$ -	\$ -	\$ -	\$ -	\$ -	
Catch Basin Cleaning	\$ -	\$ -	\$ -	\$ -	\$ -	
Contract Highway Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	
Crack Sealing	\$ -	\$ -	\$ -	\$ -	\$ -	
Culvert Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	
Culvert Reconstruction/Rehab	\$ -	\$ -	\$ -	\$ -	\$ -	
Drainage	\$ -	\$ -	\$ -	\$ -	\$ -	
Dredging	\$ -	\$ -	\$ -	\$ -	\$ -	
Guard Rail & Fencing	\$ -	\$ -	\$ -	\$ -	\$ -	
Highway Sweeping	\$ -	\$ -	\$ -	\$ -	\$ -	
Landscaping	\$ -	\$ -	\$ -	\$ -	\$ -	
Mowing and Spraying	\$ -	\$ -	\$ -	\$ -	\$ -	
Sewer and Water	\$ -	\$ -	\$ -	\$ -	\$ -	
Tree Trimming	\$ -	\$ -	\$ -	\$ -	\$ -	
12 - Roadway Reconstruction						
Hwy Reconstr - No Added Capacity	\$ -	\$ -	\$ -	\$ -	\$ -	
Hwy Reconstr - Restr and Rehab	\$ -	\$ -	\$ -	\$ -	\$ -	
Roadway - Reconstr - Sidewalks and Curbing	\$ -	\$ -	\$ -	\$ -	\$ -	
13 - Safety Improvements						
Electrical	\$ -	\$ -	\$ -	\$ -	\$ -	
Impact Attenuators	\$ -	\$ -	\$ -	\$ -	\$ -	
Lighting	\$ -	\$ -	\$ -	\$ -	\$ -	
Pavement Marking	\$ -	\$ -	\$ -	\$ -	\$ -	
Safety Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	
Sign Installation/Upgrading	\$ -	\$ -	\$ -	\$ -	\$ -	
Structural Signing	\$ -	\$ -	\$ -	\$ -	\$ -	
Section I Total:	\$ -	\$ -	\$ -	\$ -	\$ -	
Section II - Non Federal Aid Highway Operations - State Operating Budget Funding						
Snow and Ice Operations & Materials						
District Maintenance Payroll	\$ -	\$ -	\$ -	\$ -	\$ -	
Mowing, Litter Mgmt, Sight Distance Clearing, Etc.	\$ -	\$ -	\$ -	\$ -	\$ -	
Section II Total:	\$ -	\$ -	\$ -	\$ -	\$ -	
Grand Total NFA:	\$ -	\$ -	\$ -	\$ -	\$ -	

Operating and Maintenance Expenditures as of March 2023

Northern Middlesex					
Program Group/Sub Group	Est SFY 2023 Spending	Est SFY 2024 Spending	Est SFY 2025 Spending	Est SFY 2026 Spending	Est SFY 2027 Spending
Part 2: Federal Aid					
Section I - Federal Aid Maintenance Projects					
01 - ADA Retrofits					
Sidewalk Construction and Repairs	\$ -	\$ -	\$ -	\$ -	\$ -
02 - Bicycles and pedestrians program					
Bikeway/Bike Path Construction	\$ -	\$ -	\$ -	\$ -	\$ -
03 - Bridge					
Bridge Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Bridge Maintenance - Deck Repairs	\$ -	\$ -	\$ -	\$ -	\$ -
Bridge Maintenance - Joints	\$ -	\$ -	\$ -	\$ -	\$ -
Bridge Preservation	\$ -	\$ -	\$ -	\$ -	\$ -
Bridge Reconstruction/Rehab	\$ -	\$ -	\$ -	\$ -	\$ -
Drawbridge Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Painting - Structural	\$ -	\$ -	\$ -	\$ -	\$ -
Structures Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
04 - Capacity					
Hwy Reconstr - Added Capacity	\$ -	\$ -	\$ -	\$ -	\$ -
05 - Facilities					
Vertical Construction (Ch 149)	\$ -	\$ -	\$ -	\$ -	\$ -
07 - Intersection Improvements					
Traffic Signals	\$ -	\$ -	\$ -	\$ -	\$ -
08 - Interstate Pavement					
Resurfacing Interstate	\$ -	\$ -	\$ -	\$ -	\$ -
09 - Intelligent Transportation Systems Program					
Intelligent Transportation System	\$ -	\$ -	\$ -	\$ -	\$ -
10 - Non-interstate DOT Pavement Program					
Milling and Cold Planing	\$ -	\$ -	\$ -	\$ -	\$ -
Resurfacing	\$ -	\$ -	\$ -	\$ -	\$ -
Resurfacing DOT Owned Non-Interstate	\$ -	\$ -	\$ -	\$ -	\$ -
11 - Roadway Improvements					
Asbestos Removal	\$ -	\$ -	\$ -	\$ -	\$ -
Catch Basin Cleaning	\$ -	\$ -	\$ -	\$ -	\$ -
Contract Highway Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Crack Sealing	\$ -	\$ -	\$ -	\$ -	\$ -
Culvert Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
Culvert Reconstruction/Rehab	\$ -	\$ -	\$ -	\$ -	\$ -
Drainage	\$ -	\$ -	\$ -	\$ -	\$ -
Guard Rail & Fencing	\$ -	\$ -	\$ -	\$ -	\$ -
Highway Sweeping	\$ -	\$ -	\$ -	\$ -	\$ -
Landscaping	\$ -	\$ -	\$ -	\$ -	\$ -
Mowing and Spraying	\$ -	\$ -	\$ -	\$ -	\$ -
Sewer and Water	\$ -	\$ -	\$ -	\$ -	\$ -
Tree Trimming	\$ -	\$ -	\$ -	\$ -	\$ -
12 - Roadway Reconstruction					
Hwy Reconstr - Restr and Rehab	\$ -	\$ -	\$ -	\$ -	\$ -
13 - Safety Improvements					
Electrical	\$ -	\$ -	\$ -	\$ -	\$ -
Impact Attenuators	\$ -	\$ -	\$ -	\$ -	\$ -
Lighting	\$ -	\$ -	\$ -	\$ -	\$ -
Pavement Marking	\$ -	\$ -	\$ -	\$ -	\$ -
Safety Improvements	\$ -	\$ -	\$ -	\$ -	\$ -
Sign Installation/Upgrading	\$ -	\$ -	\$ -	\$ -	\$ -
Structural Signing	\$ -	\$ -	\$ -	\$ -	\$ -
Section I Total:	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total NFA:	\$ -	\$ -	\$ -	\$ -	\$ -

APPENDIX H: PUBLIC PARTICIPATION PLAN

Public participation is an integral and vital part of the overall transportation planning process. The information, viewpoints and perspectives provided through the public involvement process help guide decision makers and leads to a more meaningful and comprehensive planning process.

NMCOG and the NMMPO engage public participation by holding public meetings and by conducting targeted outreach to an identified list of stakeholders as a part of the transportation planning process. A copy of the Public Participation Plan is available on NMMPO's website.

Northern Middlesex Public Participation Plan can be found [here](#).

APPENDIX I: GLOSSARY OF ACRONYMS

- 3C Process: Continuing, Cooperative, Comprehensive
- ADA: Americans with Disabilities Act
- ARPA: American Rescue Plan Act
- BIL: Bipartisan Infrastructure Law
- BU: Bus
- CAA: Clean Air Act
- CAAA: Clean Air Act Amendments
- CAP: Capital Assistance Program
- CARES Act: Coronavirus Aid, Relief, and Economic Stimulus Act
- CBA: Coalition for a Better Acre
- CEDS: Comprehensive Economic Development Strategy
- CFR: Code of Federal Regulations
- CGI: Common Ground Inc.
- CHSTP: Coordinated Human-Services Transit Plan
- CIP: Capital Investment Plan
- CMAQ: Congestion Mitigation Air Quality
- CMR: Code of Massachusetts Regulations
- CRP: Carbon Reduction Program
- CTI: Community Teamwork, Inc.
- CU: Cutaway Bus
- DHCD: Department of Housing and Community Development
- DLTA: District Local Technical Assistance
- EDA: Economic Development Administration
- EDSAT: Economic Development Self-Assessment Tool
- EJ: Environmental Justice
- EOHED: Executive Office of Housing and Economic Development
- EPA: Environmental Protection Agency

- FAST: Fixing America’s Surface Transportation Act
- FFY: Federal Fiscal Year (October 1 through September 30)
- FHWA: Federal Highway Administration
- FTA: Federal Transit Administration
- GHG: Greenhouse Gas
- GLWIB: Greater Lowell Workforce Investment Board
- GWSA: Global Warming Solutions Act
- HPMS: Highway Performance Monitoring System
- HSIP: Highway Safety Improvement Program
- IIJA: Infrastructure Investment and Jobs Act
- IRI: International Roughness Index
- LDFC: Lowell Development and Financial Corporation
- LEP: Limited English Proficiency
- LNHP: Lowell National Historic Park
- LOTTR: Level of Travel Time Reliability
- LRTA: Lowell Regional Transit Authority
- MCAD: Massachusetts Commission Against Discrimination
- MAP-21: Moving Ahead for Progress in the 21st Century Act
- MAP: Mobility Assistance Program
- MassDOT: Massachusetts Department of Transportation
- MEPA: Massachusetts Environmental Protection Agency
- MOBD: Massachusetts Office of Business Development
- MOU: Memorandum Of Understanding
- MPO: Metropolitan Planning Organization
- NAAQS: National Ambient Air Quality Standard
- NBIS: National Bridge Inventory Standards
- NFA: Non-Federal Aid

- NGBP: Next Generation Bridge Program
- NHFP: National Highway Freight Program
- NHPP: National Highway Performance Program
- NHS: National Highway System
- NMCOG: Northern Middlesex Council of Governments
- NMMPO: Northern Middlesex Metropolitan Planning Organization
- OCD: Office for Commonwealth Development
- PHED: Peak Hour Excessive Delay
- PIF: Project Initiation Form
- PL: Planning (Funds)
- PM: Performance Management Measures Final Rules
- PPP: Public Participation Plan
- PRC: Project Review Committee
- PSI: Pavement Serviceability Index
- PTASP: Public Transportation Agency Safety Plan
- RFP: Request for Proposal
- RTA: Regional Transit Authority
- RTP: Regional Transportation Plan
- SAFETEA-LU: Safe Accountable Flexible Efficient Transportation Equity Act – A Legacy for Users
- SFY: State Fiscal Year
- SGR: State of Good Repair
- SIP: State Implementation Plan
- SMS: Safety Management Systems
- SRTS: Safe Routes To School
- STBG: Surface Transportation Block Grant
- STIP: Statewide Transportation Improvement Program
- SOV: Single Occupancy Vehicle
- TAMP: Transportation Asset Management Plan

- TA/TAP: Transportation Alternatives/Transportation Alternatives Program
- TCM: Transportation Control Measures
- TEC: Transportation Evaluation Criteria
- TERM: Transit Economic Requirements Model
- TFPC: Total Federal Participating Cost
- TFPCC: Total Federal Participating Construction Cost
- TIP: Transportation Improvement Program
- TMA: Transportation Management Association
- TTTR: Truck Travel Time Reliability
- UMASS: University of Massachusetts
- UPWP: Unified Planning Work Program
- USDOT: United States Department of Transportation
- UZA: Urbanized Area
- VMT: Vehicle Miles Traveled
- VOC: Volatile Organic Compounds
- YOЕ: Year of Expenditure