



Boston Road (Route 4) at Concord Road: Intersection improvements are programmed in FFY 2020 of the 2020-2024 Transportation Improvement Program.



Northern Middlesex Regional Transportation Improvement Program Federal Fiscal Years 2020-2024



May 2019

Prepared for the Northern Middlesex Metropolitan Planning Organization
by the Northern Middlesex Council of Governments

FFY 2020-2024 TRANSPORTATION IMPROVEMENT PROGRAM

(OCTOBER 1, 2019 – SEPTEMBER 30, 2024)

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

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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: 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 US DOT.

ENDORSEMENT OF THE FFY 2020 – 2024 TRANSPORTATION IMPROVEMENT PROGRAM FOR THE NORTHERN MIDDLESEX REGION

This document certifies that the Northern Middlesex Metropolitan Planning Organization hereby endorses the FFY 2020-2024 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 Fixing America's Surface Transportation Act (FAST).

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;

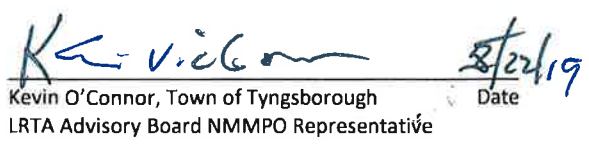
Whereas, the air quality conformity analysis prepared for the FFY 2020-2024 Transportation Improvement Program also demonstrates air quality conformity of the Northern Middlesex Regional Transportation Plan, and that all regionally significant transportation projects in the FFY 2020-2024 Transportation Improvement Program are contained in the Regional Transportation Plan, and that all regionally significant projects in the 2016 to 2040 timeframe of the Regional Transportation Plan are modeled in the FFY 2020-2024 Transportation Improvement Program's air quality conformity analyses;

Whereas, the Northern Middlesex MPO 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 2020-2024 TIP is financially constrained and that the implementation of the Northern Middlesex Regional Transportation Plan 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 Northern Middlesex Regional Transportation Plan and FFY 2020-2024 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 450.322 (Development and content of the Metropolitan Transportation Plan) and the Northern Middlesex MPO Regional Public Participation Plan (23 CFR 450.316 (a)), the MPO hereby endorses the FFY 2020-2024 Transportation Improvement Program.


Stephanie Pollack, Secretary and CEO
Massachusetts Department of Transportation
Date: 5/22/19


Pat Wojtas, Town of Chelmsford
Chair, Northern Middlesex Council of Governments
Date: 5/22/19


Kevin O'Connor, Town of Tyngsborough
LRTA Advisory Board NMMPO Representative
Date: 5/22/19

Edward Kennedy
NMMPO Representative - Lowell City Council
Date: 5/22/19

Ron Keohane, Town of Tyngsborough
NMMCOG MPO Representative
Date: 5/22/19


Tom Bomil, Town of Dracut
Chair, Lowell Regional Transit Authority
Date: 5-22-19

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 2020-2024 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:

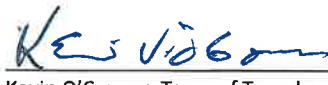
1. 310 CMR 60.05, 3(b)(1)(a): Evaluate and track the GHG emissions and impacts of RTPs and TIPs;
2. 310 CMR 60.05, 3(b)(1)(b): In consultation with MassDOT, develop and utilize procedures to prioritize and select projects in RTPs, TIPs, and STIPs based on factors that include GHG emissions and impacts;
3. 310 CMR 60.05, 3(b)(1)(c): Quantify net GHG emissions and impacts resulting from the projects in RTPs and TIPs and have made efforts to minimize GHG emissions and impacts;
4. 310 CMR 60.05, 3(b)(1)(d): Determine in consultation with MassDOT that the appropriate planning assumptions used for 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, 4(a)(2)(e): Develop public consultation procedures for GHG reporting and related GWSA requirements consistent with current and approved regional public participation plans;
6. 310 CMR 60.05, 4(c): Prior to making final endorsements on the RTPs, TIPs, STIPs, and projects included in these plans, MassDOT and the MPOs shall include the GHG Assessment and information on related GWSA activities in RTPs and TIPs and provide an opportunity for public review and comment on the RTPs, and TIPs.
7. 310 CMR 60.05, 6(a): After a final GHG assessment has been made by MassDOT and the MPOs, MassDOT and the MPOs shall submit MPO-endorsed RTPs and TIPs within 30 days of endorsement to the Department for review of the GHG assessment.


Stephanie Pollack, Secretary and CEO
Massachusetts Department of Transportation

Date

 5/22/19
Pat Wojtas, Town of Chelmsford
Chair, Northern Middlesex Council of Governments

Date

 5/22/19
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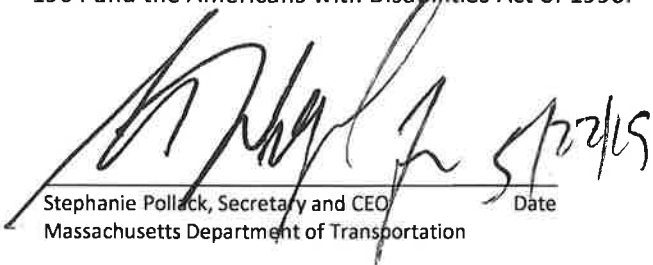
Date

SELF-CERTIFICATION OF THE 3C PLANNING PROCESS


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 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.

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 FAST, 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.


Stephanie Pollack, Secretary and CEO
Massachusetts Department of Transportation
Date 5/22/15


Pat Wojtas, Town of Chelmsford
Chair, Northern Middlesex Council of Governments
Date 5/22/15


Kevin O'Connor, Town of Tyngsborough
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Date 5-22-15

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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. 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 has been prepared in accordance with the provisions of the Fixing America's Surface Transportation (FAST) Act and with Federal Highway Administration (FHWA) and Federal Transit Authority (FTA) planning emphasis areas and guidance.

The FAST Act has not significantly changed the Federal planning factors originally outlined under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). In developing the FFY 2020-2024 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;
- Improving transportation system resiliency and reliability and reducing (or mitigating) the stormwater impacts of surface transportation; and
- Enhancing travel and tourism.”

PERFORMANCE BASED APPROACH TO PLANNING

The FAST Act continues many of the policies of the Moving Ahead for Progress in the 21st Century Act (MAP-21), which created a performance-based and outcome-based program to address the many challenges facing the U.S. transportation system. The objective of the performance-based program 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 FAST Act includes the following national goal areas:

- Safety;
- Infrastructure Condition;
- Congestion Reduction;
- System Reliability;
- Freight Movement and Economic Vitality;
- Environmental Sustainability;
- Accelerated Project Delivery;
- Improving transportation system resiliency and reliability and reducing (or mitigating) the stormwater impacts of surface transportation; and
- Enhancing travel and tourism.

FHWA has 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 Table 1. 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 new goals.

TABLE 1: NATIONAL PERFORMANCE MANAGEMENT RULES AND PERFORMANCE MEASURES

National Performance Management Rule	National Performance Measures	Final Rule Effective Date
National Performance Management Measures to Assess Safety (PM1: 23 CFR 490.207)	# of Fatalities	14-Apr-16
	Rate of Fatalities per 100 million VMT	
	# of Serious Injuries	
	Rate of Serious Injuries per 100 million VMT	
National Performance Management Measures to Assess Pavement Condition (PM2: 23 CFR Part 490.307)	Percentage of pavements of the Interstate System in Good Condition	20-May-17
	Percentage of pavements of the Interstate System in Poor Condition	
	Percentage of pavements of the non-Interstate NHS in Good condition	
	Percentage of pavements of the non-Interstate NHS in Poor condition	

TABLE 1: NATIONAL PERFORMANCE MANAGEMENT RULES AND PERFORMANCE MEASURES

National Performance Management Rule	National Performance Measures	Final Rule Effective Date
National Performance Management Measures to Assess Bridge Condition (PM 2: 23 CFR 490.407)	Percentage of NHS bridges classified as being in Good condition	20-May-17
	Percentage of NHS bridges classified as being in Poor condition	
Performance of the National Highway System (PM 3: 23 CFR 490.507)	Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the Interstate that are reliable	20-May-17
	Non-Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the non-Interstate NHS that are reliable	
	Greenhouse Gas Measure: Percent change in tailpipe CO2 emissions on the NHS compared to the calendar year 2017 level	
Freight Movement on the Interstate System (PM 3: 23 CFR 490.607)	Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index	20-May-17
Measures to Assess the CMAQ Program - Traffic Congestion (PM 3: 23 CFR 490.707)	Peak Hour Excessive Delay (PHED) Measure: Annual Hours of Peak Hour Excessive Delay (PHED) per Capita	20-May-17
	Non-Single Occupancy Vehicle Travel (SOV) Measure: Percent of Non-Single Occupancy Vehicle (SOV) Travel	
Measure to Assess the CMAQ Program - On-Road Mobile Source Emissions (PM 3: 23 CFR 490.807)	Emissions Measure: Total Emission Reductions	20-May-17

Prior to establishment of the national rulemakings, the NMMPO worked with MassDOT on performance management activities. The Unified Planning Work Program (UPWP) includes a task on development and assessment of performance measures. The 2016 Regional Transportation Plan outlined initial performance measures 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.

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 the statewide targets in January 2018.

In setting these targets, MassDOT has followed FHWA guidelines by using statewide crash data and Highway Performance Monitoring System (HPMS) data for vehicle miles traveled (VMT) in order to calculate 5 year, rolling average trend lines for all FHWA-defined safety measures. For CY 2019 targets, four of the five safety measures—total number of fatalities, rate of fatalities per 100 million vehicle miles traveled, total number of incapacitating injuries, and rate of incapacitating injuries per 100 million VMT—were established by extending their trend lines into the 2015-2019 period. All four of these measures reflect a modest decrease in statewide trends. The fifth safety measure, the total number of combined incapacitating injuries and fatalities for non-motorized modes, is the only safety measure for which the statewide trend line depicts an increase. MassDOT’s effort to increase non-motorized mode share throughout the Commonwealth has posed a challenge to simultaneously reducing non-motorized injuries and fatalities. Rather than adopt a target that depicts an increase in the trend line, MassDOT has elected to establish a target of non-motorized fatalities and injuries, and for CY 2019 that remains constant from the rolling average for 2012–2016. 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 2020 state targets at the February 27th, 2019 meeting. Adoption of these targets means that the NMMPO agrees to plan and program projects designed to achieve the State’s goals. Table 2 outlines the currently adopted safety performance measures and targets.

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

Table 2: Northern Middlesex Safety Performance Measures and Targets

Category	Performance Measures	Current Performance - Rolling Five Year Average 2012-2016	CY 2019 Performance Target - Rolling Five Year Average 2015-2019
Safety	Fatalities	364	353
	Rate of Fatalities per 100 million VMT	0.61	0.58
	Incapacitating Injuries	3,146	2,801
	Rate of Incapacitating Injuries per 100 million VMT	5.24	4.37
	Total Number of Non-Motorized Incapacitating Injuries and Fatalities	541	541

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), which is due to be finalized in July 2019.

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.

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 are to be revisited at the 2-year mark (2020), once three years of data are available, for more informed target setting.

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

The NMMPO 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. Table 3 describes the pavement measures and targets adopted.

TABLE 3: PAVEMENT AND BRIDGE CONDITION PERFORMANCE MEASURES AND TARGETS

Performance Measures	Current Condition 2017	2020 Performance Target	2022 Performance Target
Interstate Pavement Condition			
% of pavement in Good Condition ²	74.2%	70%	70%
% of pavement in Poor Condition	0.1%	4%	4%
Non-Interstate Pavement Condition			
% of pavement in Good Condition	32.9%	30%	30%
% of pavement in Poor Condition	31.4%	30%	30%
Bridges			
% of Bridges in Good Condition ³	15.22%	15%	16%
% of Bridges in Poor Condition	12.37%	13%	12%

SYSTEM PERFORMANCE MEASURES

As part of MAP-21 and the FAST Act’s 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.

The Northern Middlesex MPO - an agency whose planning area includes communities in the Boston Urbanized Area (UZA), and as a signatory to the 2018 Boston UZA Memorandum of Understanding

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.

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.

(Boston UZA MOU)—has 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 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 an October 2018 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. Table 4 summarizes each system performance measure and target adopted by the NMMPO.

TABLE 4: SYSTEM PERFORMANCE MEASURES AND TARGETS

Performance Measures	2017 Current Conditions	2020 Target	2022 Target
Percentage of Travel Time Reliability	68% Interstate (State); 66.9% Interstate (Region); 80% Non-Interstate (State); and 80.6% Non-Interstate (Region)	68% Interstate 80% Non-Interstate	68% Interstate 80% Non-Interstate
Level of Truck Travel Time Reliability	1.85 (State); 2.481 (Region)	1.85	1.85

TABLE 4: SYSTEM PERFORMANCE MEASURES AND TARGETS

Performance Measures	2017 Current Conditions	2020 Target	2022 Target
Peak Hour Excessive Delay (annual hours per capita – Boston UZA)	18.31	18.31	18.31
Non-SOV Travel (Boston UZA)	33.60% (2016)	34.50%	35.10%
CO Benefit (kg/day)	11.76 kg/day (FFY14-17 regional baseline); 24.452 kg/day (State baseline condition)	0.00 (FFY 18-19 regional target) 1,596.514 (State target)	0.00 (FFY 2018-2022 regional target) 1,596.514 (State target)
NOx Emissions Reduction (kg/day)	0.742 (FFY 14-17 Obligated STIP Projects using CMAQ Funding)	0.500	1.600
VOC Emissions Reduction (kg/day)	1.667 (FFY 14-17 Obligated STIP Projects using CMAQ Funding)	0.600	0.900
Ozone (kg/day)	FFY 14-17 baseline condition	497.9	1.1

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 Plans. LRTA, as a Tier II Provider⁴, adopted their respective TAM Plan on August 28, 2018. The NMMPO reviewed and adopted the performance measures outlined in the Plan on February 27, 2019. The TAM Plan covers a 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. Table 5 outlines the MPO adopted TAM performance measures and targets.

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

TABLE 5: TRANSIT ASSET MANAGEMENT PERFORMANCE MEASURES AND TARGETS

Asset Category -Performance Measure	Asset Class	2019 Target	2020 Target	2021 Target	2022 Target	2023 Target
REVENUE VEHICLES						
Age -% of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark	BU -Bus	12%	20%	10%	5%	3%
	CU -Cutaway Bus	11%	24%	35%	13%	4%
EQUIPMENT						
Age -% of vehicles that have met or exceeded their Useful Life Benchmark	Non Revenue/Service Automobile	50%	0%	0%	0%	0%
	Trucks and other Rubber Tire Vehicles	70%	70%	70%	70%	70%
	Maintenance Equipment*	30%	30%	22%	22%	10%
	Facilities Equipment*	0%	0%	0%	0%	0%
FACILITIES						
Condition -% of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	Administration	0%	0%	0%	0%	0%
	Maintenance	0%	0%	0%	0%	0%
	Parking Structures	0%	0%	0%	0%	0%
	Passenger Facilities	50%	50%	0%	0%	0%

Table 6 outlines each project programmed in the FFY 2020-2024 TIP aimed at addressing targets adopted by the NMMPO.

TABLE 6: FFY 2020-2024 TIP PROJECTS WITH PM CATEGORY ADDRESSED

Community	Project #	Project Description	Proposed TIP Year	2020-2024 TIP Funding with 4% annual YOY increase	Performance Measures Category
Tewksbury	609038	TEWKSBURY-INTERSECTION IMPROVEMENTS AT ANDOVER STREET (ROUTE 133) AND RIVER ROAD	2020	\$3,236,724	Safety, Pavement, Air Quality, Travel Time Reliability and Delay
Chelmsford	608375	CHELMSFORD- INTERSECTION IMPROVEMENTS AT BOSTON ROAD AND CONCORD ROAD	2020	\$2,440,923	Safety, Pavement, Air Quality, Travel Time Reliability and Delay
LRTA	NMFLEX20-01	FLEX FUNDING TO TRANSIT FOR GALLAGHER STAIRWELL AND CORRIDOR PROJECT	2020	\$500,000	State of Good Repair

TABLE 6: FFY 2020-2024 TIP PROJECTS WITH PM CATEGORY ADDRESSED

Community	Project #	Project Description	Proposed TIP Year	2020-2024 TIP Funding with 4% annual YOY increase	Performance Measures Category
LRTA	NMFLEX20-02	FLEX FUNDING TO TRANSIT FOR GALLAGHER INTERMODAL TRANSPORTATION CENTER AND PARKING GARAGE WAYFINDING	2020	\$200,000	State of Good Repair
LRTA	NMFLEX20-03	FLEX FUNDING TO TRANSIT FOR GALLAGHER II PARKING GARAGE DECK REPAIRS	2020	\$120,000	State of Good Repair
LRTA	NMFLEX20-04	FLEX FUNDING TO TRANSIT FOR LRTA ADMIN OFFICE RENOVATIONS	2020	\$100,000	State of Good Repair
LRTA	RTD0007616	PREVENTATIVE MAINTENANCE	2020	\$1,784,189	State of Good Repair
LRTA	RTE0007618	PURCHASE OF CAPITAL SPARE PARTS	2020	\$81,250	State of Good Repair
LRTA	RTD0007635	PURCHASE OF ASSOCIATED CAPITAL MAINTENANCE ITEMS	2020	\$200,000	State of Good Repair
LRTA	RTD0007620	PURCHASE OF REPLACEMENT BUSES	2020	\$2,375,000	State of Good Repair
LRTA	RTD0007643	PURCHASE OF REPLACEMENT VANS	2020	\$187,500	State of Good Repair
LRTA	RTD0007634	TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE / REHAB OF TERMINAL HUB	2020	\$400,000	State of Good Repair
Lowell	607885	LOWELL-PEDESTRIAN WALKWAY & BICYCLE CONNECTION AT PAWTUCKET FALLS OVERLOOK FROM VANDENBERG ESPLANADE TO SCHOOL STREET (STATEWIDE CMAQ)	2021	\$2,321,280	Air Quality
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	2021	\$4,368,000	Pavement
Dunstable	608603	DUNSTABLE-IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	2021	\$4,424,682	Safety, Pavement, Air Quality, Travel Time Reliability and Delay
LRTA	RTD0007624	PREVENTATIVE MAINTENANCE	2021	\$1,837,715	State of Good Repair
LRTA	RTD0007622	PURCHASE OF CAPITAL SPARE PARTS	2021	\$100,000	State of Good Repair
LRTA	RTD0007632	PURCHASE OF REPLACEMENT BUSES	2021	\$3,876,000	State of Good Repair
LRTA	RTD0007630	PURCHASE OF REPLACEMENT VANS	2021	\$300,000	State of Good Repair
LRTA	RTD0007621	TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE / REHAB OF TERMINAL HUB	2021	\$281,250	State of Good Repair
Billerica	605178	BILLERICA- REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	2022/2023	\$12,180,423	Safety, Pavement, Air Quality, Travel Time Reliability and Delay
Dracut	608350	DRACUT- IMPROVEMENTS ON NASHUA ROAD	2022	\$5,635,564	Safety, Pavement, Air Quality, Travel Time Reliability and Delay

TABLE 6: FFY 2020-2024 TIP PROJECTS WITH PM CATEGORY ADDRESSED

Community	Project #	Project Description	Proposed TIP Year	2020-2024 TIP Funding with 4% annual YOY increase	Performance Measures Category
Westford	608830	WESTFORD- BRIDGE REHABILITATION BEAVER BROOK ROAD OVER BEAVER BROOK (W-26-014)	2022	\$1,752,192	Bridge Performance
Westford	608861	WESTFORD-BRIDGE REPLACEMENT STONY BROOK ROAD OVER STONY BROOK (BRIDGE PROJECT OUTSIDE TARGETS)	2022	\$2,205,120	Bridge Performance
LRTA	RTD0007627	PREVENTATIVE MAINTENANCE	2022	\$1,892,846	State of Good Repair
LRTA	RTD0007629	PURCHASE OF CAPITAL SPARE PARTS	2022	\$130,000	State of Good Repair
LRTA	RTD0008095	PURCHASE OF REPLACEMENT VANS	2022	\$300,000	State of Good Repair
LRTA	RTD0008093	TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE / REHAB OF TERMINAL HUB	2022	\$400,000	State of Good Repair
Tewksbury	608774	LOWELL-TEWKSBURY- ROUTE 38 INTERSECTION IMPROVEMENTS	2023	\$3,360,000	Safety, Pavement, Air Quality, Travel Time Reliability and Delay
LRTA	RTD0007640	PREVENTATIVE MAINTENANCE	2023	\$2,211,871	State of Good Repair
LRTA	RTD0007642	PURCHASE OF CAPITAL SPARE PARTS	2023	\$81,250	State of Good Repair
LRTA	RTD0007637	PURCHASE OF ASSOCIATED CAPITAL MAINTENANCE ITEMS	2023	\$9,375	State of Good Repair
LRTA	RTD0007638	PURCHASE OF REPLACEMENT BUSES	2023	\$641,250	State of Good Repair
LRTA	RTD0007636	TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE / REHAB OF TERMINAL HUB	2023	\$200,000	State of Good Repair
Chelmsford	607401	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	2024	\$1,371,659	Safety, Pavement, Air Quality, Travel Time Reliability and Delay
Billerica	608227	BILLERICA-YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE I) (STATEWIDE CMAQ OUTSIDE TARGETS)	2024	\$11,221,761	Air Quality
Westford	609035	WESTFORD- REHABILITATION OF BOSTON ROAD	2024	\$7,130,288	Safety, Pavement, Air Quality, Travel Time Reliability and Delay
LRTA	RTD0008101	PREVENTATIVE MAINTENANCE	2024	\$2,278,227	State of Good Repair
LRTA	RTD0008104	PURCHASE OF CAPITAL SPARE PARTS	2024	\$100,000	State of Good Repair
LRTA	RTD0008107	PURCHASE OF ASSOCIATED CAPITAL MAINTENANCE ITEMS	2024	\$10,000	State of Good Repair
LRTA	RTD0008106	PURCHASE OF REPLACEMENT BUSES	2024	\$521,000	State of Good Repair
LRTA	RTD0008103	TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE / REHAB OF TERMINAL HUB	2024	\$100,000	State of Good Repair

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 and the STIP. This TIP document includes projects programmed in Federal Fiscal Years 2020 through 2024. 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 2021 projects include a 4% YOE increase, FFY 2022 includes an 8% YOE increase, FFY 2023 projects include a 12% YOE increase, and FFY 2024 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, NMCOG 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 Northern Middlesex Metropolitan Planning Organization (NMMPO), which reviews and endorses all federal certification documents. The document is developed by updating information from the previous TIP, and with input solicited from the 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.

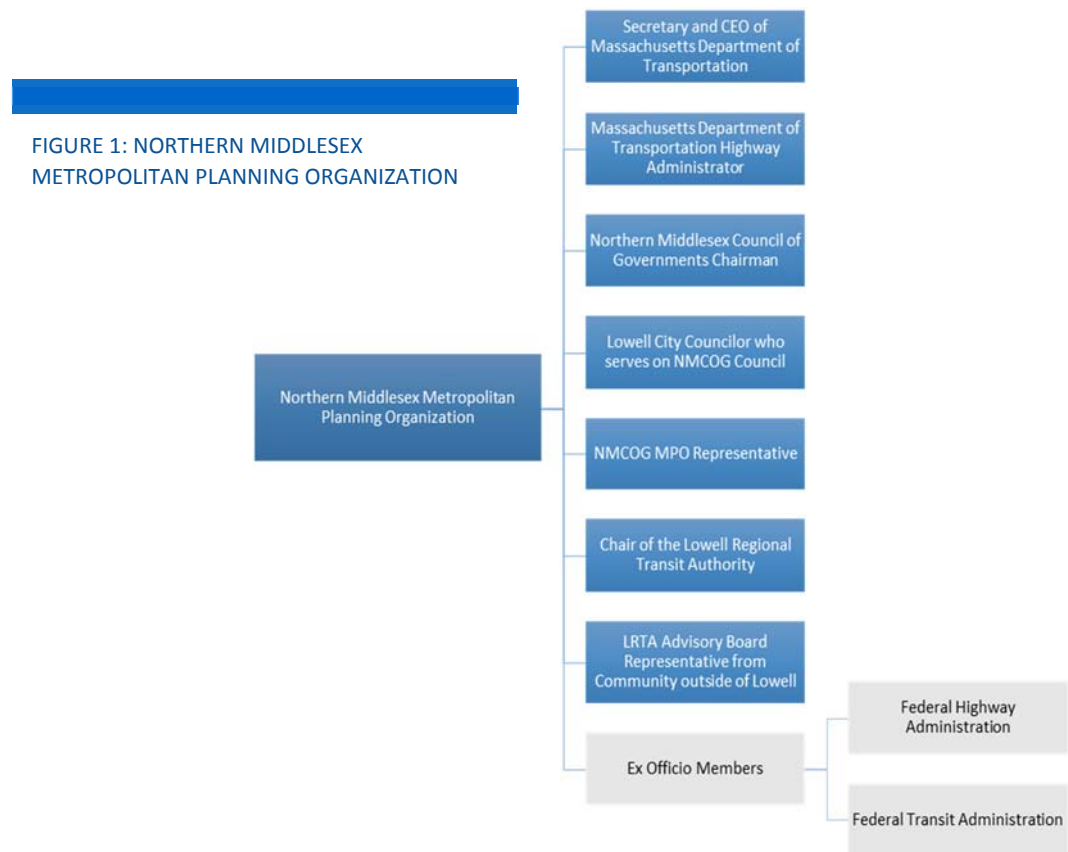
ROLE OF THE NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION

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 Northern Middlesex MPO 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 Northern Middlesex MPO 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.

A Memorandum of Understanding outlines the membership of the MPO, which includes 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 Chairman of NMCOG, the Chairman of the LRTA, the chief elected official from the City of Lowell who serves as the City’s representative to NMCOG, a Selectman 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 shows the structure of the NMMPO.



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 Northern Middlesex Council of Governments 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 FAST Act outlines a performance management approach, to encourage investment of resources in projects that make progress toward national goals. TIP eligible projects that make progress toward national goals receive priority for the limited funding available. To prioritize projects, Transportation Evaluation Criteria (TEC) developed by the state transportation agencies and the former Office for Commonwealth Development (OCD) were utilized. The NMMPO staff applied the criteria to all highway projects considered viable for FFY 2020-2024. 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 scores projects based on the following categories and takes 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?

The FAST Act requires that the MPO conduct a competitive process for Transportation Alternatives (TA) 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 is included in Appendix D.

Table 7: TEC SCORING SUMMARY OF TIP ELIGIBLE PROJECTS

Project ID	Project Description	Community	Cost Estimate (Not Factored)	Design Status	Proposed TIP Year	TEC Score
608227	BILLERICA-YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE 1)	Billerica	\$9,673,932	25%	2024	12.00
609050	LOWELL - CHURCH STREET 2 WAY CONVERSION	Lowell	\$3,050,000	pre 25%	-	9.03
609038	WESTFORD - REHABILITATION OF BOSTON ROAD	Westford	\$6,095,000	pre 25%	2024	8.18
608350	DRACUT- IMPROVEMENTS ON NASHUA ROAD	Dracut	\$5,210,396	25%	2022	7.42
609250	BILLERICA-INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	Billerica	\$3,003,500	pre 25%	-	6.77
607885	LOWELL-PEDESTRIAN WALKWAY & BICYCLE CONNECTION AT PAWTUCKET FALLS OVERLOOK FROM VANDENBERG ESPLANADE TO SCHOOL STREET	Lowell	\$2,232,000	pre 25%	2021	6.67
608603	DUNSTABLE-IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	Dunstable	\$4,895,986	25%	2021	6.60
605178	BILLERICA-REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	Billerica	\$10,910,825	25%	2022 / 2023	6.40
609035	TEWKSBURY - ANDOVER ROAD (ROUTE 133)/ RIVER ROAD INTERSECTION IMPROVEMENTS	Tewksbury	\$3,518,633	25%	2020	6.30
608774	TEWKSBURY-ROUTE 38 INTERSECTION IMPROVEMENTS	Tewksbury	\$3,000,000	pre 25%	2023	6.27
608830	WESTFORD-BRIDGE REHABILITATION BEAVER BROOK ROAD OVER BEAVER BROOK (W-26-014)	Westford	\$1,620,000	pre 25%	2022	6.07
604694	LOWELL- CONNECTOR RECONSTRUCTION, FROM THORNDIKE STREET TO GORHAM STREET	Lowell	\$3,409,870	pre 25%	-	5.72
605966	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	Lowell	\$6,215,865	pre 25%	-	5.50
607401	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	Chelmsford	\$1,172,500	pre 25%	2024	5.48
608861	WESTFORD - BRIDGE REPLACEMENT, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK	Westford	\$2,205,120	pre 25%	2022	5.23
608375	CHELMSFORD- INTERSECTION IMPROVEMENTS AT BOSTON ROAD AND CONCORD ROAD	Chelmsford	\$2,440,923	25%	2020	5.02
608297	TEWKSBURY- RESURFACING AND SIDEWALK RECONSTRUCTION ON ROUTE 38	Tewksbury	\$4,200,000	pre 25%	2021	5.00
602945	BILLERICA-MIDDLESEX CANAL ENHANCEMENT	Billerica	\$3,036,300	pre 25%	-	4.42

TEC Scoring Summary prepared by the Northern Middlesex Council of Governments and MassDOT for the Northern Middlesex Metropolitan Planning Organization

MassDOT staff has applied evaluation criteria to any projects included in statewide funding programs, outside of regional target projects, using Project Selection Advisory Criteria (PSAC). The criteria take into consideration the following state policies:

- **Communities First:** emphasizes context sensitive design that protects and enhances the surrounding community and landscape while addressing mobility for all transportation modes. The purpose of this policy is to prevent sprawl, recognize the communities as transportation agency customers, avoid the costs associated with unnecessary widening and associated conflicts, free up additional funding to complete future construction projects, and to provide enhanced mobility for sustainable transportation modes (walking, bicycling, and public transportation).
- **Sustainable Development Principles:** The Commonwealth of Massachusetts shall care for the built and natural environment by promoting sustainable development through integrated energy and environment, housing and economic development, transportation and other policies, programs, investments, and regulations. The Commonwealth will encourage the coordination and cooperation of all agencies, invest public funds wisely in smart growth and equitable development, give priority to investments that will deliver good jobs and good wages, transit access, housing, and open space, in accordance with the following sustainable development principles. Furthermore, the Commonwealth shall seek to advance these principles in partnership with regional and municipal governments, non-profit organizations, business, and other stakeholders.
- **Concentrate Development and Mix Uses:** Support the revitalization of city and town centers and neighborhoods by promoting development that is compact, conserves land, protects historic resources, and integrates uses. Encourage remediation and reuse of existing sites, structures, and infrastructure rather than new construction in undeveloped areas. Create pedestrian friendly districts and neighborhoods that mix commercial, civic, cultural, educational, and recreational activities with open spaces and homes.
- **Advance Equity:** Promote equitable sharing of the benefits and burdens of development. Provide technical and strategic support for inclusive community planning and decision making to ensure social, economic, and environmental justice. Ensure that the interests of future generations are not compromised by today's decisions.
- **Make Efficient Decisions:** Make regulatory and permitting processes for development clear, predictable, coordinated, and timely in accordance with smart growth and environmental stewardship.
- **Protect Land and Ecosystems:** Protect and restore environmentally sensitive lands, natural resources, agricultural lands, critical habitats, wetlands and water resources, and cultural and historic landscapes. Increase the quantity, quality and accessibility of open spaces and recreational opportunities.
- **Use Natural Resources Wisely:** Construct and promote developments, buildings, and infrastructure that conserve natural resources by reducing waste and pollution through efficient use of land, energy, water, and materials.
- **Expand Housing Opportunities:** Support the construction and rehabilitation of homes to meet the needs of people of all abilities, income levels, and household types. Build homes near jobs, transit, and where services are available. Foster the development of housing, particularly

multifamily and smaller single-family homes, in a way that is compatible with a community's character and vision and with providing new housing choices for people of all means.

- **Provide Transportation Choice:** Maintain and expand transportation options that maximize mobility, reduce congestion, conserve fuel and improve air quality. Prioritize rail, bus, boat, rapid and surface transit, shared-vehicle and shared-ride services, bicycling, and walking. Invest strategically in existing and new passenger and freight transportation infrastructure that supports sound economic development consistent with smart growth objectives.
- **Increase Job and Business Opportunities:** Attract businesses and jobs to locations near housing, infrastructure, and transportation options. Promote economic development in industry clusters. Expand access to education, training, and entrepreneurial opportunities. Support the growth of local businesses, including sustainable natural resource-based businesses, such as agriculture, forestry, clean energy technology, and fisheries.
- **Promote Clean Energy:** Maximize energy efficiency and renewable energy opportunities. Support energy conservation strategies, local clean power generation, distributed generation technologies, and innovative industries. Reduce greenhouse gas emissions and consumption of fossil fuels.
- **Plan Regionally:** Support the development and implementation of local and regional, state and interstate plans that have broad public support and are consistent with these principles. Foster development projects, land and water conservation, transportation and housing that have a regional or multi-community benefit. Consider the long-term costs and benefits to the Commonwealth.

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 the FAST Act, 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 Federal Transit Administration 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 Lowell Regional Transit Authority 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, NMMCOG provides a local match for planning programs and the LRTA provides a local match for operating assistance.

TIP PUBLIC PARTICIPATION PROCESS

The Transportation Improvement Program (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 developed by the Northern Middlesex MPO in May 1994 and most recently revised in June 2016. A copy of the Public Participation Plan is contained in Appendix G. The following procedures and policies will be utilized to ensure adequate public review of the draft TIP document.

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:

- Electronic mailings;
- Newspaper articles and advertisements;
- NMCOG website;
- Social Media;
- Project fact sheets;
- Meetings with neighborhood groups, non-profit organizations and special interest groups;
- Public meetings;
- Interactive local meetings and public forums; and
- NMCOG and NMMPO meetings.

NOTICE OF THE AVAILABILITY OF THE TIP

Notice of the availability of the TIP and opportunity for public comment is published in the *Lowell 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 web site at: www.nmcog.org. A notice and link is also posted on the LRTA website at: www.lрта.com. An email is sent to the NMMPO public outreach list notifying interested stakeholders of the availability of the TIP. Notices are also made available on social media. Copies of the Draft and Final TIP are forwarded to the NMMPO members and all stakeholders and interested parties.

A 21-day public comment period commences once a draft TIP document is approved by a vote of the NMMPO. A minimum of one 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 www.nmco.org and disseminated to stakeholders through the NMMPO public outreach list.

MILESTONES IN FFY 2020-2024 TIP DEVELOPMENT:

Endorsement of the FFY 2020-2024 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. The following lists key meeting dates where staff provided updated TIP development information.

- January 23, 2019: Staff present the TIP development schedule to the NMMPO
- January 30, 2019: MPOs meet with State and Federal partners to discuss funding the TIP.
- February 13, 2019: MPOs meet with MassDOT partners to discuss potential programming of TIP Projects
- February 21, 2018: Staff present the TIP development schedule and TIP funding information to the NMCOG Council
- February 27, 2019: Staff present TIP funding information and TIP day recommendations to the NMMPO
- March 27, 2019: Staff present potential TIP project lists to the NMMPO
- April 17, 2019: Staff present proposed TIP projects to the NMCOG Council
- April 24, 2019: Staff present the draft FFY 2020-2024 TIP to the NMMPO for a vote to release the document for a public comment period
- May 14, 2019: Staff host a public meeting to hear comments on the draft FFY 2020-2024 TIP.
- May 22, 2019: Staff present comments received on the draft TIP and the NMMPO votes to endorse the document
- May-June 2019: The NMMPO endorsed TIP is finalized and submitted for FHWA, FTA, and MassDOT approval
- October 1, 2019: The NMMPO FFY 2020-2024 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 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. Table 8 provides an overview of what constitutes an administrative adjustment versus an amendment to the TIP.

TABLE 8: TIP ADMINISTRATIVE ADJUSTMENT/AMENDMENT SCENARIOS

TIP Administrative Adjustment	TIP Amendment
Moving a project from Year 2 to Year 1	Addition or deletion of project
Minor changes to scope and description of project	Advancement of a project from Year 3 or later to Year 1
Funding changes ≤ 10% increase in project cost	Funding increases > 10% of project cost
Change in funding source	Major scope changes

Minor adjustments, such as moving a project from FY '21 to FY '20, may be accomplished through an agreed upon administrative modification. 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". 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 covers a period of at least twenty years and must be 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 FAST Act. As projects advance, NMMPO staff will identify which goal areas introduced in the Regional Transportation Plan will be addressed within the TIP. 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

The explanations that follow outline the basic uses and requirements of the major funding categories contained in this TIP. Specific information related to a particular project's eligibility for funding can be provided by NMCOG staff by calling (978) 454-8021. Questions regarding transit projects and funding are best directed to LRTA staff at (978) 459-0164.

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 On and Off System (BR, BR-On & BR-Off): Finances the replacement or repair of structurally deficient or functionally obsolete bridge structures. 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. 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 FAST Act eliminated the MAP-21 Transportation Alternatives Program (TAP) and replaced it with a set-aside of STBG funding for transportation alternatives (TA). These set-aside funds include all projects and activities that were previously eligible under TAP, encompassing a variety of smaller-scale transportation projects, such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, and community improvements, such as historic preservation and vegetation management, and environmental mitigation related to stormwater 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.

Table 9 provides an overview of regional target funding available for programming by the NMMPO in development of the FFY 2020-2024.

TABLE 9: FEDERAL HIGHWAY TIP FUNDING APPORTIONMENT FOR NMMPO

Federal Fiscal Year	Federal Funding for Regional Priorities	Northern Middlesex Federal Aid Apportionment (3.6%)	MassDOT Matching Funds	Northern Middlesex Regional Target Funding
2020	\$238,504,702	\$7,459,671	\$1,864,918	\$9,324,589
2021	\$243,332,161	\$7,610,659	\$1,902,665	\$9,513,324
2022	\$248,286,997	\$7,765,631	\$1,941,408	\$9,707,039
2023	\$253,709,792	\$7,935,238	\$1,983,810	\$9,919,048
2024	\$257,035,098	\$8,039,243	\$2,009,811	\$10,049,054
2020-2024	\$1,240,868,750	\$38,810,442	\$9,702,612	\$48,513,054

TRANSIT FUNDING CATEGORIES

Section 5307/Urbanized Area Formula Grants: This 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, 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/preventive maintenance: Federal 35%/State 40%/LRTA 25% (varies annually)

Section 5311/Rural Area Formula Grant Program: 49 U.S.C. Section 5311 monies finance operating expenses for the LRTA rural service area. Although these are federal monies, in Massachusetts the program is administered through the Massachusetts Department of Transportation (MassDOT). These are 50% federal monies with a 25% state match and a 25% local match. Activities eligible under the former Job Access and Reverse Commute (JARC) program, which provided services to low-income individuals to access jobs, are now eligible under the Rural Area Formula program.

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 elderly and disabled. The Massachusetts MAP program 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 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.

Flexible funding: In some cases, funds allocated under the categories of Surface Transportation Block Grant Program, National Highway System, and Congestion Mitigation Air Quality 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 – 2012-2024

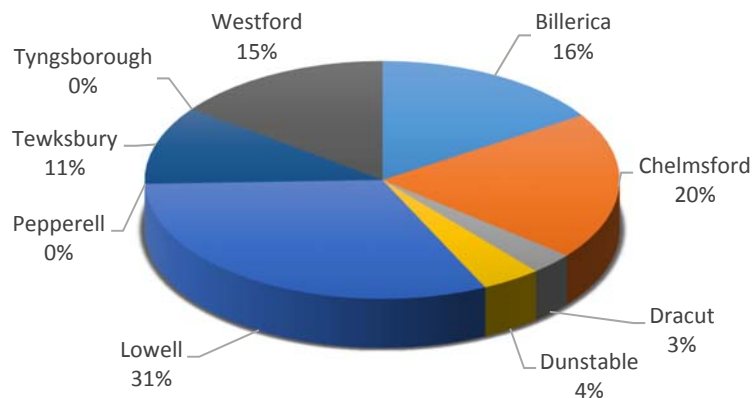
A geographic distribution analysis of TIP funded projects has been undertaken to assess regional equity in the transportation planning process. Environmental Justice (EJ) areas have been identified and TIP projects have been mapped based on minority populations, low income populations and areas with both minority and low income populations. Previous TIP funded projects (FFY 2012-2019) are included, as well as programmed projects in this (FFY 2020-2024) TIP. Table 10 summarizes the number of TIP projects for each community and total project funding allocated. Based on American Community Survey (ACS) population estimates (2013-2017), funding per capita in each community is also provided.

TABLE 10: SUMMARY OF TIP FUNDING 2012-2024

Community	Population (2013-2017 ACS Pop. Est.)	# of TIP Projects 2012-2024	Total Project funding	TIP Funding per capita per year
Billerica	42,791	5	\$ 27,996,896	\$ 59
Chelmsford	35,067	7	\$ 35,479,289	\$ 92
Dracut	31,113	1	\$ 5,210,396	\$ 15
Dunstable	3,337	3	\$ 7,153,866	\$ 195
Lowell	110,964	9	\$ 55,811,392	\$ 46
Pepperell	12,049	0	\$ -	\$ -
Tewksbury	30,666	7	\$ 18,906,039	\$ 56
Tyngsborough	12,232	0	\$ -	\$ -
Westford	24,087	8	\$ 26,192,486	\$ 99
Total	302,306	40	\$ 176,750,364	\$ 53

Forty (40) projects have been funded since 2012, or are being programmed in this TIP. These projects include MassDOT Statewide Program projects, as well as community-initiated projects. Lowell, with the largest population in the region, receives the highest percentage of TIP funds. The towns of Chelmsford and Westford receive more funding from the State than some of the other communities without interstate infrastructure, mainly due to I-495 maintenance and bridge projects. 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 2 shows the percentage of NMMPO TIP funding by community.

FIGURE 2: TIP FUNDING BY NORTHERN MIDDLESEX 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 11). 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. Sixty three percent (63%) of all TIP projects programmed between 2012 and 2024 are located in Environmental Justice areas. Map 1 presents projects in the 2020-2024 TIP and Map 2 outlines projects programmed between 2012 and 2019. Each map displays the existing Environmental Justice areas and project locations relative to those EJ areas.

TABLE 11: TIP FUNDING BY ENVIRONMENTAL JUSTICE AREA

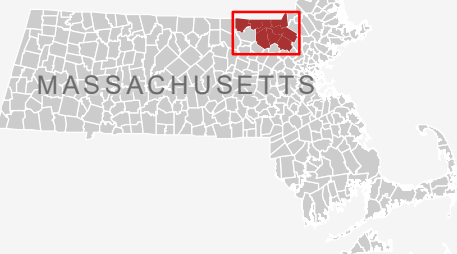
Community	FFY 2012 – 2024 TIP Projects in EJ Areas (Total TIP Projects)	TIP Funding in Environmental Justice Category			TIP funding outside of EJ Area
		Minority Group Greater than regional average	Median income less than 65% of Statewide Average	Funding both Minority and Low Income EJ Categories	
Billerica	5 (5)	\$17,086,071	\$10,910,825	\$0	\$0
Chelmsford	0 (7)	\$0	\$0	\$0	\$35,479,289
Dracut	1 (1)	\$5,210,396	\$0	\$0	\$0
Dunstable	3 (3)	\$7,153,866	\$0	\$0	\$0
Lowell	9 (9)	\$2,232,000	\$0	\$53,579,392	\$0
Pepperell	0 (0)	\$0	\$0	\$0	\$0
Tewksbury	6 (7)	\$1,829,832	\$0	\$0	\$17,076,207
Tyngsborough	0 (0)	\$0	\$0	\$0	\$0
Westford	2 (8)	\$5,248,616	\$0	\$0	\$20,943,870
Total	25 (40)	\$38,760,781	\$10,910,825	\$53,579,392	\$73,499,366

701 CMR 7.00 USE OF ROAD FLAGGERS AND POLICE DETAILS ON PUBLIC WORKS PROJECTS

In 2008, the Patrick Administration through the Massachusetts Department of Transportation (MassDOT) and the Executive Office of Public Safety and Security (EOPSS), revised the State’s regulations for the use of road flaggers and police details on public works projects. The revised regulations allow for the use of road flaggers instead of police details on certain public works projects. MassDOT and EOPSS have developed guidelines outlining when the use of road flaggers is acceptable and when police details are needed. MassDOT intends to apply these guidelines to all transportation projects funded or constructed using state and federal funds. Therefore, any transportation project funded through the Transportation Improvement Program will be subject to the regulations and guidelines regarding the use of road flaggers or police details during construction. The Municipal Limitation referenced in the Regulation (701 CMR 7.0) is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with the regulation. By placing a project on the TIP, the Municipality is acknowledging that 701 CMR 7.00 is applicable to the project, and that construction will be fully compliant with the Regulation. Additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website:

<http://www.massdot.state.ma.us/Highway/flaggers/main.aspx>.

Map 1: FFY 2020 - 2024 Transportation Improvement Program (TIP) Projects and Environmental Justice Areas



Legend

- TIP Project 2020-2024
- Project Extent
- Income Environmental Justice Population
- Minority Environmental Justice Population
- Minority and Income Environmental Justice Population
- Town Boundary

Sources:
 MassDOT/NMCOG (TIP projects); US Census 2010 (Demographic Profile Tables 8 and 11); American Community Survey 2007-2011 Five-Year Poverty Estimates (Demographic Profile 3, pre-joined field DP3_HC03_VC166, displaying tracts above regional average of 9.9%); MassDOT/NMCOG (roads); MassGIS (town boundaries); MassDEP (water).

Environmental Justice areas were identified where the average percentage population of any major racial or ethnic group exceeded the Northern Middlesex regional average and/or median income was less than 65 percent of the statewide average. Data provided on this map is not sufficient for either boundary determination or regulatory interpretation. Data provided on this map is not sufficient for either boundary determination or regulatory interpretation.

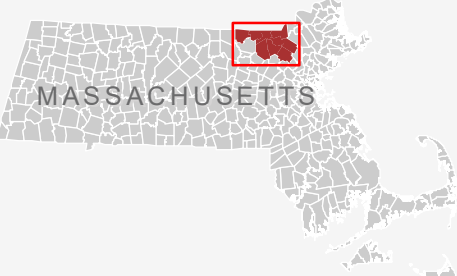
Produced 4/8/2019 by NMCOG.



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

Map 2: FFY 2012 - 2019 Transportation Improvement Program (TIP) Projects and Environmental Justice Areas

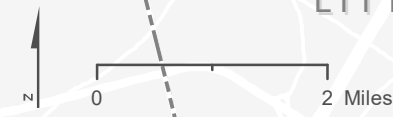


- TIP Project 2012-2019
- Project Extent
- Income Environmental Justice Population
- Minority Environmental Justice Population
- Minority and Income Environmental Justice Population
- Town Boundary

Sources:
 MassDOT/NMCOG (TIP projects); US Census 2010 (Demographic Profile Tables 8 and 11); American Community Survey 2007-2011 Five-Year Poverty Estimates (Demographic Profile 3, pre-joined field DP3_HC03_VC166, displaying tracts above regional average of 9.9%); MassDOT/NMCOG (roads); MassGIS (town boundaries); MassDEP (water).

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Produced 4/8/2019 by NMCOG.



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massDOT
 Massachusetts Department of Transportation
 Highway Division

HIGHWAY AND TRANSIT PROJECT LISTINGS

2020 Northern Middlesex Region Transportation Improvement Program

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
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Present information as follows, if applicable: a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information

► Section 1A / Regionally Prioritized Projects

► Regionally Prioritized Projects

	Intersection Improvements	608375	Northern Middlesex	Chelmsford	CHELMSFORD- INTERSECTION IMPROVEMENTS AT BOSTON ROAD AND CONCORD ROAD	4	STBG	\$ 2,440,923	\$ 1,952,738	\$ 488,185	a) Construction; b) Total Project Cost \$2,440,923; STBG; d) NMMPO TEC Score: 5.02 out of 18.
	Intersection Improvements	609038	Northern Middlesex	Tewksbury	TEWKSBURY-INTERSECTION IMPROVEMENTS AT ANDOVER STREET (ROUTE 133) AND RIVER ROAD	4	STBG	\$ 3,236,724	\$ 2,589,379	\$ 647,345	a) Construction; b) Total Project Cost \$3,518,633; STBG, TAP; d) NMMPO TEC Score: 7.25 out of 18; h) Proponent: Tewksbury.
	Intersection Improvements	609038	Northern Middlesex	Tewksbury	TEWKSBURY-INTERSECTION IMPROVEMENTS AT ANDOVER STREET (ROUTE 133) AND RIVER ROAD	4	TAP	\$ 281,909	\$ 225,527	\$ 56,382	a) Construction; b) Total Project Cost \$3,518,633; STBG, TAP; d) NMMPO TEC Score: 7.25 out of 18; h) Proponent: Tewksbury.
	Planning / Adjustments / Pass-throughs	NM0003	Northern Middlesex	Multiple	FLEX FUNDING TO TRANSIT FOR GALLAGHER STAIRWELL AND CORRIDOR PROJECT	4	STBG	\$ 500,000	\$ 400,000	\$ 100,000	a) Construction; b) Total cost: \$500,000, STBG; e) Transfer funds to FTA; f) Match provided by LRTA
	Planning / Adjustments / Pass-throughs	NM0004	Northern Middlesex	Multiple	FLEX FUNDING TO TRANSIT FOR GALLAGHER INTERMODAL TRANSPORTATION CENTER AND PARKING GARAGE WAYFINDING	4	STBG	\$ 200,000	\$ 160,000	\$ 40,000	a) Construction; b) Total cost: \$200,000, STBG; e) Transfer funds to FTA; f) Match provided by LRTA
	Planning / Adjustments / Pass-throughs	NM0005	Northern Middlesex	Multiple	FLEX FUNDING TO TRANSIT FOR GALLAGHER II PARKING GARAGE DECK REPAIRS	4	STBG	\$ 120,000	\$ 96,000	\$ 24,000	a) Construction; b) Total cost: \$120,000, STBG; e) Transfer funds to FTA; f) Match provided by LRTA
	Planning / Adjustments / Pass-throughs	NM0006	Northern Middlesex	Multiple	FLEX FUNDING TO TRANSIT FOR LRTA ADMIN OFFICE RENOVATIONS	4	STBG	\$ 100,000	\$ 80,000	\$ 20,000	a) Construction; b) Total cost: \$100,000, STBG; e) Transfer funds to FTA; f) Match provided by LRTA
Regionally Prioritized Projects subtotal ►								\$ 6,879,556	\$ 5,503,645	\$ 1,375,911	◀ Funding Split Varies by Funding Source

► Section 1A / Fiscal Constraint Analysis

Section 1A instructions: MPO Template Name) Choose Regional Name from dropdown list to populate header and MPO column; **Column C)** Enter ID from ProjectInfo; **Column E)** Choose Municipality Name from dropdown list; **Column H)** Choose the Funding Source being used for the project - if multiple funding sources are being used enter multiple lines; **Column I)** Enter the total amount of funds being programmed in this fiscal year and for each funding source; **Column J)** Federal funds autocalculates. Please verify the amount and only change if needed for flex. **Column K)** Non-federal funds autocalculates. Please verify the split/match - if matching an FTA flex, coordinate with Rail & Transit Division before programming; **Column L)** Enter Additional Information as described - please do not use any other format.

Total Regional Federal Aid Funds Programmed ►	\$ 6,879,556	\$ 9,324,589	◀ Total	\$ 2,445,033	Target Funds Available
STBG programmed ►	\$ 6,597,647	\$ 5,278,118	◀ STBG		
HSIP programmed ►	\$ -	\$ -	◀ HSIP		
CMAQ programmed ►	\$ -	\$ -	◀ CMAQ		
TAP programmed ►	\$ 281,909	\$ 225,527	◀ TAP		

► Section 1B / Earmark or Discretionary Grant Funded Projects

► Other Federal Aid

			Northern Middlesex		Other Federal Aid		HPP	\$ -	\$ -	\$ -	
			Northern Middlesex		Other Federal Aid		HPP	\$ -	\$ -	\$ -	
Other Federal Aid subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 2A / State Prioritized Reliability Projects

► Bridge Program / Inspections

	Bridge Program		Northern Middlesex		Bridge Inspection			\$ -	\$ -	\$ -	
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2020 Northern Middlesex Region Transportation Improvement Program

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
	Bridge Program		Northern Middlesex		Bridge Inspection			\$ -	\$ -	\$ -	
Bridge Program / Inspections subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Bridge Program / Off-System											
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
Bridge Program / Off-System subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Bridge Program / On-System (NHS)											
	Bridge Program		Northern Middlesex		Bridge Program / On-System (NHS)			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / On-System (NHS)			\$ -	\$ -	\$ -	
Bridge Program / On-System (NHS) subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Bridge Program / On-System (Non-NHS)											
	Bridge Program		Northern Middlesex		Bridge Program / On-System (Non-NHS)			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / On-System (Non-NHS)			\$ -	\$ -	\$ -	
Bridge Program / On-System (Non-NHS) subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Bridge Program / Systematic Maintenance											
	Bridge Program		Northern Middlesex		Bridge Program / Systematic Maintenance			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Systematic Maintenance			\$ -	\$ -	\$ -	
Bridge Program / Systematic Maintenance subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Interstate Pavement											
	Interstate Pavement		Northern Middlesex		Interstate Pavement			\$ -	\$ -	\$ -	
	Interstate Pavement		Northern Middlesex		Interstate Pavement			\$ -	\$ -	\$ -	
Interstate Pavement subtotal ▶								\$ -	\$ -	\$ -	◀ 90% Federal + 10% Non-Federal
► Non-Interstate Pavement											
	Non-Interstate Pavement		Northern Middlesex		Non-Interstate Pavement			\$ -	\$ -	\$ -	
	Non-Interstate Pavement		Northern Middlesex		Non-Interstate Pavement			\$ -	\$ -	\$ -	
Non-Interstate Pavement subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Roadway Improvements											
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	
Roadway Improvements subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Safety Improvements											
	Safety Improvements		Northern Middlesex		Safety Improvements			\$ -	\$ -	\$ -	
	Safety Improvements		Northern Middlesex		Safety Improvements			\$ -	\$ -	\$ -	
Safety Improvements subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

2020 Northern Middlesex Region Transportation Improvement Program

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
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Additional Information ▼
Present information as follows, if applicable: a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information

► Section 2B / State Prioritized Modernization Projects

► ADA Retrofits												
	ADA Retrofits		Northern Middlesex		ADA Retrofits			\$ -	\$ -	\$ -		
	ADA Retrofits		Northern Middlesex		ADA Retrofits			\$ -	\$ -	\$ -		
								ADA Retrofits subtotal ►	\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

► Intersection Improvements												
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -		
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -		
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -		
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -		
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -		
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -		
								Intersection Improvements subtotal ►	\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Intelligent Transportation Systems												
	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -		
	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -		
	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -		
								Intelligent Transportation System subtotal ►	\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

► Roadway Reconstruction												
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -		
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -		
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -		
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -		
								Roadway Reconstruction subtotal ►	\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 2C / State Prioritized Expansion Projects

► Bicycles and Pedestrians												
	Bicycles and Pedestrians		Northern Middlesex		Bicycles and Pedestrians			\$ -	\$ -	\$ -		
	Bicycles and Pedestrians		Northern Middlesex		Bicycles and Pedestrians			\$ -	\$ -	\$ -		
	Bicycles and Pedestrians		Northern Middlesex		Bicycles and Pedestrians			\$ -	\$ -	\$ -		
								Bicycles and Pedestrians subtotal ►	\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

2020 Northern Middlesex Region Transportation Improvement Program

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼
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Additional Information ▼
Present information as follows, if applicable: a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information

► Capacity											
	Capacity		Northern Middlesex		Capacity			\$ -	\$ -	\$ -	
	Capacity		Northern Middlesex		Capacity			\$ -	\$ -	\$ -	
Capacity subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 3 / Planning / Adjustments / Pass-throughs

► Planning / Adjustments / Pass-throughs											
			Northern Middlesex		ABP GANS Repayment	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		ABP GANS Repayment	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Metropolitan Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Metropolitan Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		State Planning and Research Work Program I, (SPR I), Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		State Planning and Research Work Program II, (SPR II), Research	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Railroad Crossings	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Railroad Crossings	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Recreational Trails	Multiple		\$ -	\$ -	\$ -	
Other Statewide Items subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 4 / Non-Federally Aided Projects

► Non-Federally Aided Projects											
	Non Federal Aid		Northern Middlesex		Non-Federal Aid			\$ -		\$ -	
	Non-Federally Aided Projects		Northern Middlesex		Non-Federal Aid			\$ -		\$ -	
Non-Federal Aid subtotal ►								\$ -		\$ -	◀ 100% Non-Federal

2020 Summary

	TIP Section 1 - 3: ▼	TIP Section 4: ▼	Total of All Projects ▼	
Total ►	\$ 6,879,556	\$ -	\$ 6,879,556	◀ Total Spending in Region
Federal Funds ►	\$ 5,503,645		\$ 5,503,645	◀ Total Federal Spending in Region
Non-Federal Funds ►	\$ 1,375,911	\$ -	\$ 1,375,911	◀ Total Non-Federal Spending in Region

701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects / 701 CMR 7.00 (the Regulation) was promulgated and became law on October 3, 2008. Under this Regulation, the CMR is applicable to any Public works Project that is performed within the limits of, or that impact traffic on, any Public Road. The Municipal Limitation referenced in this Regulation is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with 701 CMR 7.00, and the Road Flagger and Police Detail Guidelines. By placing a project on the TIP, the Municipality acknowledges that 701 CMR 7.00 is applicable to its project and design and construction will be fully compliant with this Regulation. This information, and additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website: <http://www.massdot.state.ma.us/Highway/flaggers/main.aspx>

2021 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable: a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information</i>
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► Section 1A / Regionally Prioritized Projects

► Regionally Prioritized Projects

Roadway Improvements	608603	Northern Middlesex	Dunstable	DUNSTABLE-IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	3	CMAQ	\$ 1,021,080	\$ 816,864	\$ 204,216	a) Construction; b) Total Project Cost at 2021 YOY: \$4,424,682 (\$4,254,502); CMAQ, TAP, STBG; d) NMMPO TEC Score: 6.60 out of 18; h) TAP Proponent: Dunstable.
Roadway Improvements	608603	Northern Middlesex	Dunstable	DUNSTABLE-IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	3	TAP	\$ 281,909	\$ 225,527	\$ 56,382	a) Construction; b) Total Project Cost at 2021 YOY: \$4,424,682 (\$4,254,502); CMAQ, TAP, STBG; d) NMMPO TEC Score: 6.60 out of 18; h) TAP Proponent: Dunstable.
Roadway Improvements	608603	Northern Middlesex	Dunstable	DUNSTABLE-IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	3	STBG	\$ 3,121,693	\$ 2,497,354	\$ 624,339	a) Construction; b) Total Project Cost at 2021 YOY: \$4,424,682 (\$4,254,502); CMAQ, TAP, STBG; d) NMMPO TEC Score: 6.60 out of 18; h) TAP Proponent: Dunstable.
Non-Interstate Pavement	608297	Northern Middlesex	Tewksbury	TEWKSBURY- RESURFACING AND SIDEWALK RECONSTRUCTION ON ROUTE 38 BEGINNING AT COLONIAL DRIVE NORTH TO THE INTERSECTION OF OLD BOSTON ROAD APPROXIMATELY 1.5 MILES	4	NHPP	\$ 4,086,091	\$ 3,268,873	\$ 817,218	a) Construction; b) Total Project Cost at 2021 YOY: \$4,368,000 (\$4,200,000); TAP, NHPP; d) NMMPO TEC Score: 5.00 out of 18; h) TAP Proponent: Tewksbury.
Non-Interstate Pavement	608297	Northern Middlesex	Tewksbury	TEWKSBURY- RESURFACING AND SIDEWALK RECONSTRUCTION ON ROUTE 38 BEGINNING AT COLONIAL DRIVE NORTH TO THE INTERSECTION OF OLD BOSTON ROAD APPROXIMATELY 1.5 MILES	4	TAP	\$ 281,909	\$ 225,527	\$ 56,382	a) Construction; b) Total Project Cost at 2021 YOY: \$4,368,000 (\$4,200,000); TAP, NHPP; d) NMMPO TEC Score: 5.00 out of 18; h) TAP Proponent: Tewksbury.

Regionally Prioritized Projects subtotal ► **\$ 8,792,682** \$ 7,034,146 \$ 1,758,536 ◀ Funding Split Varies by Funding Source

► Section 1A / Fiscal Constraint Analysis

Section 1A instructions: MPO Template Name) Choose Regional Name from dropdown list to populate header and MPO column; **Column C**) Enter ID from ProjectInfo; **Column E**) Choose Municipality Name from dropdown list; **Column H**) Choose the Funding Source being used for the project - if multiple funding sources are being used enter multiple lines; **Column I**) Enter the total amount of funds being programmed in this fiscal year and for each funding source; **Column J**) Federal funds autocalculates. Please verify the amount and only change if needed for flex. **Column K**) Non-federal funds autocalculates. Please verify the split/match - if matching an FTA flex, coordinate with Rail & Transit Division before programming; **Column L**) Enter Additional Information as described - please do not use any other format.

Total Regional Federal Aid Funds Programmed ►	\$ 8,792,682	\$ 9,513,324	◀ Total	\$ 720,642	Target Funds Available
STBG programmed ►	\$ 7,207,784	\$ 3,268,873	◀ STBG		
HSIP programmed ►	\$ -	\$ -	◀ HSIP		
CMAQ programmed ►	\$ 1,021,080	\$ 816,864	◀ CMAQ		
TAP programmed ►	\$ 563,818	\$ 451,054	◀ TAP		

► Section 1B / Earmark or Discretionary Grant Funded Projects

► Other Federal Aid

		Northern Middlesex		Other Federal Aid		HPP	\$ -	\$ -	\$ -	
		Northern Middlesex		Other Federal Aid		HPP	\$ -	\$ -	\$ -	

Other Federal Aid subtotal ► **\$ -** \$ - \$ - ◀ Funding Split Varies by Funding Source

2021 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable: a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information</i>
► Section 2A / State Prioritized Reliability Projects											
► Bridge Program / Inspections											
	Bridge Program		Northern Middlesex		Bridge Inspection			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Inspection			\$ -	\$ -	\$ -	
Bridge Program / Inspections subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Bridge Program / Off-System											
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
Bridge Program / Off-System subtotal ►								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Bridge Program / On-System (NHS)											
	Bridge Program		Northern Middlesex		Bridge Program / On-System (NHS)			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / On-System (NHS)			\$ -	\$ -	\$ -	
Bridge Program / On-System (NHS) subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Bridge Program / On-System (Non-NHS)											
	Bridge Program		Northern Middlesex		Bridge Program / On-System (Non-NHS)			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / On-System (Non-NHS)			\$ -	\$ -	\$ -	
Bridge Program / On-System (Non-NHS) subtotal ►								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Bridge Program / Systematic Maintenance											
	Bridge Program		Northern Middlesex		Bridge Program / Systematic Maintenance			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Systematic Maintenance			\$ -	\$ -	\$ -	
Bridge Program / Systematic Maintenance subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Interstate Pavement											
	Interstate Pavement		Northern Middlesex		Interstate Pavement			\$ -	\$ -	\$ -	
	Interstate Pavement		Northern Middlesex		Interstate Pavement			\$ -	\$ -	\$ -	
Interstate Pavement subtotal ►								\$ -	\$ -	\$ -	◀ 90% Federal + 10% Non-Federal
► Non-Interstate Pavement											
	Non-Interstate Pavement		Northern Middlesex		Non-Interstate Pavement			\$ -	\$ -	\$ -	
	Non-Interstate Pavement		Northern Middlesex		Non-Interstate Pavement			\$ -	\$ -	\$ -	
Non-Interstate Pavement subtotal ►								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Roadway Improvements											
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	

2021 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable: a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information</i>
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Roadway Improvements subtotal ► \$ - \$ - \$ - ◀ 80% Federal + 20% Non-Federal

► Safety Improvements

	Safety Improvements		Northern Middlesex		Safety Improvements			\$ -	\$ -	\$ -	
	Safety Improvements		Northern Middlesex		Safety Improvements			\$ -	\$ -	\$ -	

Safety Improvements subtotal ► \$ - \$ - \$ - ◀ Funding Split Varies by Funding Source

► Section 2B / State Prioritized Modernization Projects

► ADA Retrofits

	ADA Retrofits		Northern Middlesex		ADA Retrofits			\$ -	\$ -	\$ -	
	ADA Retrofits		Northern Middlesex		ADA Retrofits			\$ -	\$ -	\$ -	

ADA Retrofits subtotal ► \$ - \$ - \$ - ◀ 80% Federal + 20% Non-Federal

► Intersection Improvements

	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -	
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -	

Intersection Improvements subtotal ► \$ - \$ - \$ - ◀ Funding Split Varies by Funding Source

► Intelligent Transportation Systems

	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -	
	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -	

Intelligent Transportation System subtotal ► \$ - \$ - \$ - ◀ 80% Federal + 20% Non-Federal

► Roadway Reconstruction

	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -	
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -	

Roadway Reconstruction subtotal ► \$ - \$ - \$ - ◀ Funding Split Varies by Funding Source

► Section 2C / State Prioritized Expansion Projects

► Bicycles and Pedestrians

	Bicycles and Pedestrians	607885	Northern Middlesex	Lowell	LOWELL- PEDESTRIAN WALKWAY & BICYCLE CONNECTION AT PAWTUCKET FALLS OVERLOOK, FROM VANDENBERG ESPLANADE TO SCHOOL STREET	4	CMAQ	\$ 2,321,280	\$ 1,857,024	\$ 464,256	Construction; Total Project Cost \$2,321,280; CMAQ; NMMPO TEC Score: 6.67 out of 18.
	Bicycles and Pedestrians		Northern Middlesex		Bicycles and Pedestrians			\$ -	\$ -	\$ -	

Bicycles and Pedestrians subtotal ► \$ 2,321,280 \$ 1,857,024 \$ 464,256 ◀ 80% Federal + 20% Non-Federal

► Capacity

2021 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable: a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information</i>
	Capacity		Northern Middlesex		Capacity			\$ -	\$ -	\$ -	
	Capacity		Northern Middlesex		Capacity			\$ -	\$ -	\$ -	
Capacity subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 3 / Planning / Adjustments / Pass-throughs

► Planning / Adjustments / Pass-throughs

			Northern Middlesex		ABP GANS Repayment	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		ABP GANS Repayment	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Metropolitan Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Metropolitan Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		State Planning and Research Work Program I, (SPR I), Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		State Planning and Research Work Program II, (SPR II), Research	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Railroad Crossings	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Railroad Crossings	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Recreational Trails	Multiple		\$ -	\$ -	\$ -	
Other Statewide Items subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 4 / Non-Federally Aided Projects

► Non-Federally Aided Projects

	Non Federal Aid		Northern Middlesex		Non-Federal Aid			\$ -		\$ -	
	Non-Federally Aided Projects		Northern Middlesex		Non-Federal Aid			\$ -		\$ -	
Non-Federal Aid subtotal ▶								\$ -		\$ -	◀ 100% Non-Federal

2021 Summary

	TIP Section 3: ▼	TIP Section 4: ▼	Total of All Projects ▼	
Total ▶	\$ 11,113,962	\$ -	\$ 11,113,962	◀ Total Spending in Region
Federal Funds ▶	\$ 8,891,170		\$ 8,891,170	◀ Total Federal Spending in Region
Non-Federal Funds ▶	\$ 2,222,792	\$ -	\$ 2,222,792	◀ Total Non-Federal Spending in Region

701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects / 701 CMR 7.00 (the Regulation) was promulgated and became law on October 3, 2008. Under this Regulation, the CMR is applicable to any Public works Project that is performed within the limits of, or that impact traffic on, any Public Road. The Municipal Limitation referenced in this Regulation is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with 701 CMR 7.00, and the Road Flagger and Police Detail Guidelines. By placing a project on the TIP, the Municipality acknowledges that 701 CMR 7.00 is applicable to its project and design and construction will be fully compliant with this Regulation. This information, and additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website: <http://www.massdot.state.ma.us/Highway/flaggers/main.aspx>

2022 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable:</i> a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information
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► Section 1A / Regionally Prioritized Projects

► Regionally Prioritized Projects

	Roadway Improvements	608350	Northern Middlesex	Dracut	DRACUT-IMPROVEMENTS ON NASHUA ROAD	4	STBG	\$ 5,353,655	\$ 4,282,924	\$ 1,070,731	a) Construction; b) Total Project Cost at 2022 YOY: \$5,635,564 (\$5,210,395) STBG, TAP; d) NMMPO TEC Score: 7.42 out of 18; h) TAP proponent: Dracut.
	Roadway Improvements	608350	Northern Middlesex	Dracut	DRACUT-IMPROVEMENTS ON NASHUA ROAD	4	TAP	\$ 281,909	\$ 225,527	\$ 56,382	a) Construction; b) Total Project Cost at 2022 YOY: \$5,635,564 (\$5,210,395) STBG, TAP; d) NMMPO TEC Score: 7.42 out of 18; h) TAP proponent: Dracut.
	Roadway Reconstruction	605178	Northern Middlesex	Billerica	BILLERICA- REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	4	STBG	\$ 2,319,281	\$ 1,855,425	\$ 463,856	a) Construction; b) Total Project Cost at 2022 and 2023 YOY \$12,180,423 (\$10,910,825) STBG, TAP; c) ac yr 1 of 2; d) NMMPO TEC Score: 6.40 out of 18; h) TAP Proponent: Billerica.
	Bridge Program	608830	Northern Middlesex	Westford	WESTFORD-BRIDGE REHABILITATION BEAVER BROOK ROAD OVER BEAVER BROOK (W-26-014)	3	STBG	\$ 1,752,192	\$ 1,401,754	\$ 350,438	a) Construction; b) Total project Cost at 2022 YOY: \$1,752,192 (\$1,620,000) STBG; d) NMMPO TEC Score: 6.07 out of 18.
			Northern Middlesex					\$ -	\$ -	\$ -	
Regionally Prioritized Projects subtotal ►								\$ 9,707,037	\$ 7,765,630	\$ 1,941,407	◀ Funding Split Varies by Funding Source

► Section 1A / Fiscal Constraint Analysis

Section 1A instructions: MPO Template Name) Choose Regional Name from dropdown list to populate header and MPO column; **Column C**) Enter ID from ProjectInfo; **Column E**) Choose Municipality Name from dropdown list; **Column H**) Choose the Funding Source being used for the project - if multiple funding sources are being used enter multiple lines; **Column I**) Enter the total amount of funds being programmed in this fiscal year and for each funding source; **Column J**) Federal funds autocalculates. Please verify the amount and only change if needed for flex. **Column K**) Non-federal funds autocalculates. Please verify the split/match - if matching an FTA flex, coordinate with Rail & Transit Division before programming; **Column L**) Enter Additional Information as described - please do not use any other format.

Total Regional Federal Aid Funds Programmed ►	\$ 9,707,037	\$ 9,707,038	◀ Total	\$ 1	Target Funds Available
STBG programmed ►	\$ 9,425,128	\$ -	◀ STBG		
HSIP programmed ►	\$ -	\$ -	◀ HSIP		
CMAQ programmed ►	\$ -	\$ -	◀ CMAQ		
TAP programmed ►	\$ 281,909	\$ 225,527	◀ TAP		

► Section 1B / Earmark or Discretionary Grant Funded Projects

► Other Federal Aid

			Northern Middlesex		Other Federal Aid		HPP	\$ -	\$ -	\$ -	
			Northern Middlesex		Other Federal Aid		HPP	\$ -	\$ -	\$ -	
Other Federal Aid subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 2A / State Prioritized Reliability Projects

► Bridge Program / Inspections

	Bridge Program		Northern Middlesex		Bridge Inspection			\$ -	\$ -	\$ -	
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2022 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable: a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information</i>
	Bridge Program		Northern Middlesex		Bridge Inspection			\$ -	\$ -	\$ -	
Bridge Program / Inspections subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Bridge Program / Off-System											
	Bridge Program	608861	Northern Middlesex	Westford	WESTFORD- BRIDGE REPLACEMENT, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK	3	STBG-BR-OFF	\$ 2,205,120	\$ 1,764,096	\$ 441,024	Construction; Total Project Cost: \$2,205,120; STBG-BR-OFF; NMMPO TEC Score: 5.23 out of 18.
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
Bridge Program / Off-System subtotal ▶								\$ 2,205,120	\$ 1,764,096	\$ 441,024	◀ 80% Federal + 20% Non-Federal
► Bridge Program / On-System (NHS)											
	Bridge Program		Northern Middlesex		Bridge Program / On-System (NHS)			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / On-System (NHS)			\$ -	\$ -	\$ -	
Bridge Program / On-System (NHS) subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Bridge Program / On-System (Non-NHS)											
	Bridge Program		Northern Middlesex		Bridge Program / On-System (Non-NHS)			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / On-System (Non-NHS)			\$ -	\$ -	\$ -	
Bridge Program / On-System (Non-NHS) subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Bridge Program / Systematic Maintenance											
	Bridge Program		Northern Middlesex		Bridge Program / Systematic Maintenance			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Systematic Maintenance			\$ -	\$ -	\$ -	
Bridge Program / Systematic Maintenance subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Interstate Pavement											
	Interstate Pavement		Northern Middlesex		Interstate Pavement			\$ -	\$ -	\$ -	
	Interstate Pavement		Northern Middlesex		Interstate Pavement			\$ -	\$ -	\$ -	
Interstate Pavement subtotal ▶								\$ -	\$ -	\$ -	◀ 90% Federal + 10% Non-Federal
► Non-Interstate Pavement											
	Non-Interstate Pavement		Northern Middlesex		Non-Interstate Pavement			\$ -	\$ -	\$ -	
	Non-Interstate Pavement		Northern Middlesex		Non-Interstate Pavement			\$ -	\$ -	\$ -	
Non-Interstate Pavement subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Roadway Improvements											
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	

2022 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable:</i> a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information
Roadway Improvements subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Safety Improvements											
	Safety Improvements		Northern Middlesex		Safety Improvements			\$ -	\$ -	\$ -	
	Safety Improvements		Northern Middlesex		Safety Improvements			\$ -	\$ -	\$ -	
Safety Improvements subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Section 2B / State Prioritized Modernization Projects											
► ADA Retrofits											
	ADA Retrofits		Northern Middlesex		ADA Retrofits			\$ -	\$ -	\$ -	
	ADA Retrofits		Northern Middlesex		ADA Retrofits			\$ -	\$ -	\$ -	
ADA Retrofits subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Intersection Improvements											
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -	
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -	
Intersection Improvements subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Intelligent Transportation Systems											
	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -	
	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -	
Intelligent Transportation System subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Roadway Reconstruction											
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -	
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -	
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -	
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -	
Roadway Reconstruction subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Section 2C / State Prioritized Expansion Projects											
► Bicycles and Pedestrians											
	Bicycles and Pedestrians		Northern Middlesex		Bicycles and Pedestrians			\$ -	\$ -	\$ -	
Bicycles and Pedestrians subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Capacity											

2022 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable:</i> a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information
	Capacity		Northern Middlesex		Capacity			\$ -	\$ -	\$ -	
	Capacity		Northern Middlesex		Capacity			\$ -	\$ -	\$ -	
Capacity subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 3 / Planning / Adjustments / Pass-throughs

► Planning / Adjustments / Pass-throughs

			Northern Middlesex		ABP GANS Repayment		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		ABP GANS Repayment		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		Metropolitan Planning		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		Metropolitan Planning		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		State Planning and Research Work Program I, (SPR I), Planning		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		State Planning and Research Work Program II, (SPR II), Research		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		Railroad Crossings		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		Railroad Crossings		Multiple	\$ -	\$ -	\$ -	
			Northern Middlesex		Recreational Trails		Multiple	\$ -	\$ -	\$ -	
Other Statewide Items subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 4 / Non-Federally Aided Projects

► Non-Federally Aided Projects

	Non Federal Aid		Northern Middlesex		Non-Federal Aid			\$ -		\$ -	
	Non-Federally Aided Projects		Northern Middlesex		Non-Federal Aid			\$ -		\$ -	
Non-Federal Aid subtotal ▶								\$ -		\$ -	◀ 100% Non-Federal

2022 Summary

	TIP Section 3: ▼	TIP Section 4: ▼	Total of All Projects ▼	
Total ▶	\$ 11,912,157	\$ -	\$ 11,912,157	◀ Total Spending in Region
Federal Funds ▶	\$ 9,529,726		\$ 9,529,726	◀ Total Federal Spending in Region
Non-Federal Funds ▶	\$ 2,382,431	\$ -	\$ 2,382,431	◀ Total Non-Federal Spending in Region

701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects / 701 CMR 7.00 (the Regulation) was promulgated and became law on October 3, 2008. Under this Regulation, the CMR is applicable to any Public works Project that is performed within the limits of, or that impact traffic on, any Public Road. The Municipal Limitation referenced in this Regulation is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with 701 CMR 7.00, and the Road Flagger and Police Detail Guidelines. By placing a project on the TIP, the Municipality acknowledges that 701 CMR 7.00 is applicable to its project and design and construction will be fully compliant with this Regulation. This information, and additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website: <http://www.massdot.state.ma.us/Highway/flaggers/main.aspx>

2023 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable:</i> a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information
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► Section 1A / Regionally Prioritized Projects

► Regionally Prioritized Projects

	Roadway Improvements	605178	Northern Middlesex	Billerica	BILLERICA- REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	4	STBG	\$ 9,579,233	\$ 7,663,386	\$ 1,915,847	a) Construction; b) Total Project Cost at 2022 and 2023 YOE \$12,180,423 (\$10,910,825) STBG, TAP; c) ac yr 2 of 2; d) NMMPO TEC Score: 6.40 out of 18; h) TAP Proponent: Billerica.
	Roadway Improvements	605178	Northern Middlesex	Billerica	BILLERICA- REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	4	TAP	\$ 281,909	\$ 225,527	\$ 56,382	a) Construction; b) Total Project Cost at 2022 and 2023 YOE \$12,180,423 (\$10,910,825) STBG, TAP; c) ac yr 2 of 2; d) NMMPO TEC Score: 6.40 out of 18; h) TAP Proponent: Billerica.
			Northern Middlesex					\$ -	\$ -	\$ -	
			Northern Middlesex					\$ -	\$ -	\$ -	
			Northern Middlesex					\$ -	\$ -	\$ -	
Regionally Prioritized Projects subtotal ►								\$ 9,861,142	\$ 7,888,914	\$ 1,972,228	◀ Funding Split Varies by Funding Source

► Section 1A / Fiscal Constraint Analysis

Section 1A Instructions: MPO Template Name) Choose Regional Name from dropdown list to populate header and MPO column; **Column C)** Enter ID from ProjectInfo; **Column E)** Choose Municipality Name from dropdown list; **Column H)** Choose the Funding Source being used for the project - if multiple funding sources are being used enter multiple lines; **Column I)** Enter the total amount of funds being programmed in this fiscal year and for each funding source; **Column J)** Federal funds autocalculates. Please verify the amount and only change if needed for flex. **Column K)** Non-federal funds autocalculates. Please verify the split/match - if matching an FTA flex, coordinate with Rail & Transit Division before programming; **Column L)** Enter Additional Information as described - please do not use any other format.

Total Regional Federal Aid Funds Programmed ►	\$ 9,861,142	\$ 9,919,048	◀ Total	\$ 57,906	Target Funds Available
STBG programmed ►	\$ 9,579,233	\$ -	◀ STBG		
HSIP programmed ►	\$ -	\$ -	◀ HSIP		
CMAQ programmed ►	\$ -	\$ -	◀ CMAQ		
TAP programmed ►	\$ 281,909	\$ 225,527	◀ TAP		

► Section 1B / Earmark or Discretionary Grant Funded Projects

► Other Federal Aid

			Northern Middlesex		Other Federal Aid		HPP	\$ -	\$ -	\$ -	
			Northern Middlesex		Other Federal Aid		HPP	\$ -	\$ -	\$ -	
Other Federal Aid subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 2A / State Prioritized Reliability Projects

► Bridge Program / Inspections

	Bridge Program		Northern Middlesex		Bridge Inspection			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Inspection			\$ -	\$ -	\$ -	
Bridge Program / Inspections subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Bridge Program / Off-System

2023 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable:</i> a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
Bridge Program / Off-System subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Bridge Program / On-System (NHS)											
	Bridge Program		Northern Middlesex		Bridge Program / On-System (NHS)			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / On-System (NHS)			\$ -	\$ -	\$ -	
Bridge Program / On-System (NHS) subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Bridge Program / On-System (Non-NHS)											
	Bridge Program		Northern Middlesex		Bridge Program / On-System (Non-NHS)			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / On-System (Non-NHS)			\$ -	\$ -	\$ -	
Bridge Program / On-System (Non-NHS) subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Bridge Program / Systematic Maintenance											
	Bridge Program		Northern Middlesex		Bridge Program / Systematic Maintenance			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Systematic Maintenance			\$ -	\$ -	\$ -	
Bridge Program / Systematic Maintenance subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Interstate Pavement											
	Interstate Pavement		Northern Middlesex		Interstate Pavement			\$ -	\$ -	\$ -	
	Interstate Pavement		Northern Middlesex		Interstate Pavement			\$ -	\$ -	\$ -	
Interstate Pavement subtotal ▶								\$ -	\$ -	\$ -	◀ 90% Federal + 10% Non-Federal
► Non-Interstate Pavement											
	Non-Interstate Pavement		Northern Middlesex		Non-Interstate Pavement			\$ -	\$ -	\$ -	
	Non-Interstate Pavement		Northern Middlesex		Non-Interstate Pavement			\$ -	\$ -	\$ -	
Non-Interstate Pavement subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Roadway Improvements											
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	
Roadway Improvements subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Safety Improvements											
	Safety Improvements		Northern Middlesex		Safety Improvements			\$ -	\$ -	\$ -	
	Safety Improvements		Northern Middlesex		Safety Improvements			\$ -	\$ -	\$ -	
Safety Improvements subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Section 2B / State Prioritized Modernization Projects											
► ADA Retrofits											

2023 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable:</i> a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information
	ADA Retrofits		Northern Middlesex		ADA Retrofits			\$ -	\$ -	\$ -	
	ADA Retrofits		Northern Middlesex		ADA Retrofits			\$ -	\$ -	\$ -	
ADA Retrofits subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Intersection Improvements											
	Intersection Improvements	608774	Northern Middlesex	Multiple	LOWELL-TEWKSBURY- ROUTE 38 INTERSECTION IMPROVEMENTS	4	HSIP	\$ 3,360,000	\$ 3,024,000	\$ 336,000	Construction; Total Cost: \$3,000,000; HSIP; NMMPO TEC Score: 6.27 out of 18.
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -	
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -	
Intersection Improvements subtotal ▶								\$ 3,360,000	\$ 3,024,000	\$ 336,000	◀ Funding Split Varies by Funding Source
► Intelligent Transportation Systems											
	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -	
	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -	
Intelligent Transportation System subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Roadway Reconstruction											
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -	
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -	
Roadway Reconstruction subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Section 2C / State Prioritized Expansion Projects											
► Bicycles and Pedestrians											
	Bicycles and Pedestrians		Northern Middlesex		Bicycles and Pedestrians			\$ -	\$ -	\$ -	
	Bicycles and Pedestrians		Northern Middlesex		Bicycles and Pedestrians			\$ -	\$ -	\$ -	
Bicycles and Pedestrians subtotal ▶								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Capacity											
	Capacity		Northern Middlesex		Capacity			\$ -	\$ -	\$ -	
	Capacity		Northern Middlesex		Capacity			\$ -	\$ -	\$ -	
Capacity subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Section 3 / Planning / Adjustments / Pass-throughs											
► Planning / Adjustments / Pass-throughs											
			Northern Middlesex		ABP GANS Repayment	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		ABP GANS Repayment	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	

2023 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable:</i> a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Metropolitan Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Metropolitan Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		State Planning and Research Work Program I, (SPR I), Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		State Planning and Research Work Program II, (SPR II), Research	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Railroad Crossings	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Railroad Crossings	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Recreational Trails	Multiple		\$ -	\$ -	\$ -	
Other Statewide Items subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 4 / Non-Federally Aided Projects

► Non-Federally Aided Projects

	Non Federal Aid		Northern Middlesex		Non-Federal Aid			\$ -		\$ -	
	Non-Federally Aided Projects		Northern Middlesex		Non-Federal Aid			\$ -		\$ -	
Non-Federal Aid subtotal ▶								\$ -		\$ -	◀ 100% Non-Federal

2023 Summary

	TIP Section 3: ▼	TIP Section 4: ▼	Total of All Projects ▼	
Total ▶	\$ 13,221,142	\$ -	\$ 13,221,142	◀ Total Spending in Region
Federal Funds ▶	\$ 10,912,914		\$ 10,912,914	◀ Total Federal Spending in Region
Non-Federal Funds ▶	\$ 2,308,228	\$ -	\$ 2,308,228	◀ Total Non-Federal Spending in Region

701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects / 701 CMR 7.00 (the Regulation) was promulgated and became law on October 3, 2008. Under this Regulation, the CMR is applicable to any Public works Project that is performed within the limits of, or that impact traffic on, any Public Road. The Municipal Limitation referenced in this Regulation is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with 701 CMR 7.00, and the Road Flagger and Police Detail Guidelines. By placing a project on the TIP, the Municipality acknowledges that 701 CMR 7.00 is applicable to its project and design and construction will be fully compliant with this Regulation. This information, and additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website: <http://www.massdot.state.ma.us/Highway/flaggers/main.aspx>

2024 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable:</i> a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information
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► Section 1A / Regionally Prioritized Projects

► Regionally Prioritized Projects

	Roadway Improvements	609035	Northern Middlesex	Westford	WESTFORD- REHABILITATION OF BOSTON ROAD	3	STBG	\$ 6,848,379	\$ 5,478,703	\$ 1,369,676	a) Construction; b) Total Project Cost at 2024 YOY: \$7,130,288 (\$6,095,000) STBG, TAP; d) NMMPO TEC Score: 7.55 out of 18; h) TAP Proponent: Westford.
	Roadway Improvements	609035	Northern Middlesex	Westford	WESTFORD- REHABILITATION OF BOSTON ROAD	3	TAP	\$ 281,909	\$ 225,527	\$ 56,382	a) Construction; b) Total Project Cost at 2024 YOY: \$7,130,288 (\$6,095,000) STBG, TAP; d) NMMPO TEC Score: 7.55 out of 18; h) TAP Proponent: Westford.
	Intersection Improvements	607401	Northern Middlesex	Chelmsford	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	4	HSIP	\$ 1,371,659	\$ 1,234,493	\$ 137,166	a) Construction; b) Total Project Cost at 2024 YOY: \$1,371,659 (\$1,172,500) HSIP; d) NMMPO TEC Score: 5.82 out of 18.
			Northern Middlesex					\$ -	\$ -	\$ -	
			Northern Middlesex					\$ -	\$ -	\$ -	
Regionally Prioritized Projects subtotal ►								\$ 8,501,947	\$ 6,938,724	\$ 1,563,224	◀ Funding Split Varies by Funding Source

► Section 1A / Fiscal Constraint Analysis

Section 1A instructions: MPO Template Name) Choose Regional Name from dropdown list to populate header and MPO column; **Column C**) Enter ID from ProjectInfo; **Column E**) Choose Municipality Name from dropdown list; **Column H**) Choose the Funding Source being used for the project - if multiple funding sources are being used enter multiple lines; **Column I**) Enter the total amount of funds being programmed in this fiscal year and for each funding source; **Column J**) Federal funds autocalculates. Please verify the amount and only change if needed for flex. **Column K**) Non-federal funds autocalculates. Please verify the split/match - if matching an FTA flex, coordinate with Rail & Transit Division before programming; **Column L**) Enter Additional Information as described - please do not use any other format.

Total Regional Federal Aid Funds Programmed ►	\$ 8,501,947	\$ 10,049,054	◀ Total	\$ 1,547,107	Target Funds Available
STBG programmed ►	\$ 6,848,379	\$ -	◀ STBG		
HSIP programmed ►	\$ 1,371,659	\$ 1,234,493	◀ HSIP		
CMAQ programmed ►	\$ -	\$ -	◀ CMAQ		
TAP programmed ►	\$ 281,909	\$ 225,527	◀ TAP		

► Section 1B / Earmark or Discretionary Grant Funded Projects

► Other Federal Aid

			Northern Middlesex		Other Federal Aid		HPP	\$ -	\$ -	\$ -	
			Northern Middlesex		Other Federal Aid		HPP	\$ -	\$ -	\$ -	
Other Federal Aid subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 2A / State Prioritized Reliability Projects

► Bridge Program / Inspections

	Bridge Program		Northern Middlesex		Bridge Inspection			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Inspection			\$ -	\$ -	\$ -	
Bridge Program / Inspections subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

2024 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable: a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information</i>
► Bridge Program / Off-System											
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Off-System			\$ -	\$ -	\$ -	
Bridge Program / Off-System subtotal ►								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Bridge Program / On-System (NHS)											
	Bridge Program		Northern Middlesex		Bridge Program / On-System (NHS)			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / On-System (NHS)			\$ -	\$ -	\$ -	
Bridge Program / On-System (NHS) subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Bridge Program / On-System (Non-NHS)											
	Bridge Program		Northern Middlesex		Bridge Program / On-System (Non-NHS)			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / On-System (Non-NHS)			\$ -	\$ -	\$ -	
Bridge Program / On-System (Non-NHS) subtotal ►								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Bridge Program / Systematic Maintenance											
	Bridge Program		Northern Middlesex		Bridge Program / Systematic Maintenance			\$ -	\$ -	\$ -	
	Bridge Program		Northern Middlesex		Bridge Program / Systematic Maintenance			\$ -	\$ -	\$ -	
Bridge Program / Systematic Maintenance subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Interstate Pavement											
	Interstate Pavement		Northern Middlesex		Interstate Pavement			\$ -	\$ -	\$ -	
	Interstate Pavement		Northern Middlesex		Interstate Pavement			\$ -	\$ -	\$ -	
Interstate Pavement subtotal ►								\$ -	\$ -	\$ -	◀ 90% Federal + 10% Non-Federal
► Non-Interstate Pavement											
	Non-Interstate Pavement		Northern Middlesex		Non-Interstate Pavement			\$ -	\$ -	\$ -	
	Non-Interstate Pavement		Northern Middlesex		Non-Interstate Pavement			\$ -	\$ -	\$ -	
Non-Interstate Pavement subtotal ►								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Roadway Improvements											
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	
	Roadway Improvements		Northern Middlesex		Roadway Improvements			\$ -	\$ -	\$ -	
Roadway Improvements subtotal ►								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal
► Safety Improvements											
	Safety Improvements		Northern Middlesex		Safety Improvements			\$ -	\$ -	\$ -	
	Safety Improvements		Northern Middlesex		Safety Improvements			\$ -	\$ -	\$ -	
Safety Improvements subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source
► Section 2B / State Prioritized Modernization Projects											

2024 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable:</i> a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information
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► ADA Retrofits

	ADA Retrofits		Northern Middlesex		ADA Retrofits			\$ -	\$ -	\$ -	
	ADA Retrofits		Northern Middlesex		ADA Retrofits			\$ -	\$ -	\$ -	
ADA Retrofits subtotal ►								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

► Intersection Improvements

	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -	
	Intersection Improvements		Northern Middlesex		Intersection Improvements			\$ -	\$ -	\$ -	
Intersection Improvements subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Intelligent Transportation Systems

	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -	
	Intelligent Transportation Systems		Northern Middlesex		Intelligent Transportation Systems			\$ -	\$ -	\$ -	
Intelligent Transportation System subtotal ►								\$ -	\$ -	\$ -	◀ 80% Federal + 20% Non-Federal

► Roadway Reconstruction

	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -	
	Roadway Reconstruction		Northern Middlesex		Roadway Reconstruction			\$ -	\$ -	\$ -	
Roadway Reconstruction subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 2C / State Prioritized Expansion Projects

► Bicycles and Pedestrians

	Bicycles and Pedestrians	608227	Northern Middlesex	Billerica	BILLERICA- YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE I)	4	CMAQ	\$ 11,221,761	\$ 8,977,409	\$ 2,244,352	Construction; Statewide CMAQ; NMMPO TEC Score: 12.00 out of 18.
	Bicycles and Pedestrians		Northern Middlesex		Bicycles and Pedestrians			\$ -	\$ -	\$ -	
Bicycles and Pedestrians subtotal ►								\$ 11,221,761	\$ 8,977,409	\$ 2,244,352	◀ 80% Federal + 20% Non-Federal

► Capacity

	Capacity		Northern Middlesex		Capacity			\$ -	\$ -	\$ -	
	Capacity		Northern Middlesex		Capacity			\$ -	\$ -	\$ -	
Capacity subtotal ►								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 3 / Planning / Adjustments / Pass-throughs

► Planning / Adjustments / Pass-throughs

			Northern Middlesex		ABP GANS Repayment	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		ABP GANS Repayment	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	

2024 Northern Middlesex Region Transportation Improvement

Amendment / Adjustment Type ▼	STIP Program ▼	MassDOT Project ID ▼	Metropolitan Planning Organization ▼	Municipality Name ▼	MassDOT Project Description ▼	MassDOT District ▼	Funding Source ▼	Total Programmed Funds ▼	Federal Funds ▼	Non-Federal Funds ▼	Additional Information ▼ <i>Present information as follows, if applicable:</i> a) Planning / Design / or Construction; b) total project cost and funding sources used; c) advance construction status; d) MPO project score; e) name of entity receiving a transfer; f) name of entity paying the non-state non-federal match; g) earmark details; h) TAP project proponent; i) other information
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Award adjustments, change orders, etc.	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Metropolitan Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Metropolitan Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		State Planning and Research Work Program I, (SPR I), Planning	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		State Planning and Research Work Program II, (SPR II), Research	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Railroad Crossings	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Railroad Crossings	Multiple		\$ -	\$ -	\$ -	
			Northern Middlesex		Recreational Trails	Multiple		\$ -	\$ -	\$ -	
Other Statewide Items subtotal ▶								\$ -	\$ -	\$ -	◀ Funding Split Varies by Funding Source

► Section 4 / Non-Federally Aided Projects

► Non-Federally Aided Projects

	Non Federal Aid		Northern Middlesex		Non-Federal Aid			\$ -		\$ -	
	Non-Federally Aided Projects		Northern Middlesex		Non-Federal Aid			\$ -		\$ -	
Non-Federal Aid subtotal ▶								\$ -		\$ -	◀ 100% Non-Federal

2019 Summary

	TIP Section 1 3: ▼	TIP Section 4: ▼	Total of All Projects ▼	
Total ▶	\$ 19,723,708	\$ -	\$ 19,723,708	◀ Total Spending in Region
Federal Funds ▶	\$ 15,916,133		\$ 15,916,133	◀ Total Federal Spending in Region
Non-Federal Funds ▶	\$ 3,807,576	\$ -	\$ 3,807,576	◀ Total Non-Federal Spending in Region

701 CMR 7.00 Use of Road Flaggers and Police Details on Public Works Projects / 701 CMR 7.00 (the Regulation) was promulgated and became law on October 3, 2008. Under this Regulation, the CMR is applicable to any Public works Project that is performed within the limits of, or that impact traffic on, any Public Road. The Municipal Limitation referenced in this Regulation is applicable only to projects where the Municipality is the Awarding Authority. For all projects contained in the TIP, the Commonwealth is the Awarding Authority. Therefore, all projects must be considered and implemented in accordance with 701 CMR 7.00, and the Road Flagger and Police Detail Guidelines. By placing a project on the TIP, the Municipality acknowledges that 701 CMR 7.00 is applicable to its project and design and construction will be fully compliant with this Regulation. This information, and additional information relative to guidance and implementation of the Regulation can be found at the following link on the MassDOT Highway Division website: <http://www.massdot.state.ma.us/Highway/flaggers/main.aspx>

Approved Project List (APL) - Allocations Project List - Development (FY 2020)

Organization	Agency	ProjectFunding	Requested Amount	Project
		BCG0007615 2020->300901->OPERATING ASSISTANCE	\$8,129,935.00	RTD0007615
		<i>Type</i> <i>Year</i> <i>Program</i>	Amount	
Northern Middlesex Council of Governments	Lowell Regional Transit Authority	Federal 2020 Section 5307: Urbanized Area Formula	\$1,873,223.00	
		Local 2020 Local Funds	\$3,005,244.00	
		State 2020 State Contract Assistance (SCA)	\$3,251,468.00	
		BCG0007616 2020->117A00->PREVENTIVE MAINTENANCE	\$1,784,189.00	RTD0007616
		<i>Type</i> <i>Year</i> <i>Program</i>	Amount	
Northern Middlesex Council of Governments	Lowell Regional Transit Authority	Federal 2020 Section 5307: Urbanized Area Formula	\$274,943.00	
		State 2020 State Contract Assistance (SCA)	\$356,838.00	
		Federal 2020 Section 5307: Urbanized Area Formula	\$1,152,408.00	
		BCG0007617 2020->442400->SHORT RANGE TRANSIT	\$100,000.00	RTD0007617
		<i>Type</i> <i>Year</i> <i>Program</i>	Amount	
Northern Middlesex Council of Governments	Lowell Regional Transit Authority	Federal 2020 Section 5307: Urbanized Area Formula	\$80,000.00	
		Local 2020 Local Funds	\$20,000.00	
		BCG0007618 2020->111240->BUY CAPITAL SPARE PARTS	\$81,250.00	RTD0007618
		<i>Type</i> <i>Year</i> <i>Program</i>	Amount	
Northern Middlesex Council of Governments	Lowell Regional Transit Authority	Federal 2020 Section 5307: Urbanized Area Formula	\$65,000.00	
		State 2020 Regional Transit Authority Capital	\$16,250.00	
		BCG0007619 2020->111240->BUY ASSOC CAP MAINT	\$10,000.00	RTD0007619
		<i>Type</i> <i>Year</i> <i>Program</i>	Amount	
Northern Middlesex Council of Governments	Lowell Regional Transit Authority	State 2020 Regional Transit Authority Capital	\$10,000.00	
		BCG0007620 2020->111202->BUY REPLACEMENT 35-FT	\$2,375,000.00	RTD0007620
		<i>Type</i> <i>Year</i> <i>Program</i>	Amount	
Northern Middlesex Council of Governments	Lowell Regional Transit Authority	Federal 2020 Section 5307: Urbanized Area Formula	\$1,187,500.00	
		State 2020 Regional Transit Authority Capital	\$296,875.00	
		Federal 2020 Section 5339: Bus and Bus Facilities (NC)	\$890,625.00	
		Toll Credits 2020 Transportation Development Credits	\$222,656.00	
		BCG0007634 2020->113411->Rehab Intermodal Hub	\$400,000.00	RTD0007634
		<i>Type</i> <i>Year</i> <i>Program</i>	Amount	
Northern Middlesex Council of Governments	Lowell Regional Transit Authority	Federal 2020 Section 5307: Urbanized Area Formula	\$200,000.00	
		State 2020 Regional Transit Authority Capital	\$200,000.00	
		BCG0007635 2020->111240->BUY ASSOC CAP MAINT	\$200,000.00	RTD0007635
		<i>Type</i> <i>Year</i> <i>Program</i>	Amount	
Northern Middlesex Council of Governments	Lowell Regional Transit Authority	Federal 2020 Section 5307: Urbanized Area Formula	\$100,000.00	
		State 2020 Regional Transit Authority Capital	\$100,000.00	
		BCG0007643 2020->111215->BUY REPLACEMENT VAN (2)	\$187,500.00	RTD0007643
		<i>Type</i> <i>Year</i> <i>Program</i>	Amount	
Northern Middlesex Council of Governments	Lowell Regional Transit Authority	Federal 2020 Section 5307: Urbanized Area Formula	\$150,000.00	
		State 2020 Regional Transit Authority Capital	\$37,500.00	

Transportation Improvement Program (TIP)

Project List (FY2021)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
				Terminal& Building Equipment and						
	5307 RTD0007621	Lowell Regional Transit Authority	114220	Maintenance	2020 - \$225,000	\$225,000	\$56,250	\$0	\$0	\$281,250
	5307 RTD0007622	Lowell Regional Transit Authority	111240	BUY CAPITAL SPARE PARTS 2021	2020 - \$80,000	\$80,000	\$20,000	\$0	\$0	\$100,000
	5307 RTD0007623	Lowell Regional Transit Authority	300901	OPERATING ASSISTANCE 2021	2019 - \$1,590,437; 2020 - \$462,259	\$2,052,696	\$3,240,763	\$0	\$3,080,375	\$8,373,834
	5307 RTD0007624	Lowell Regional Transit Authority	117A00	PREVENTIVE MAINTENANCE 2021 SHORT RANGE TRANSIT PLANNING	2019 - \$1,470,172	\$1,470,172	\$367,543	\$0	\$0	\$1,837,715
	5307 RTD0007625	Lowell Regional Transit Authority	442400	(NMCOG) 2021	2020 - \$88,000	\$88,000	\$0	\$0	\$22,000	\$110,000
	5307 RTD0007630	Lowell Regional Transit Authority	111215	BUY REPLACEMENT FIXED ROUTE VANS (2)	2020 - \$240,000	\$240,000	\$60,000	\$0	\$0	\$300,000
	5307 RTD0007632	Lowell Regional Transit Authority	111202	BUY REPLACEMENT 35-FT DIESEL BUSES (8)	2020 - \$3,015,787	\$3,100,800	\$775,200	\$0	\$0	\$3,876,000
				Subtotal		\$7,256,668	\$4,519,756	\$0	\$3,102,375	\$14,878,799
5309										
				Subtotal		\$0	\$0	\$0	\$0	\$0
5310										
				Subtotal		\$0	\$0	\$0	\$0	\$0
5311										
				Subtotal		\$0	\$0	\$0	\$0	\$0
5337										
				Subtotal		\$0	\$0	\$0	\$0	\$0
5339										
				Subtotal		\$0	\$0	\$0	\$0	\$0
5320										
				Subtotal		\$0	\$0	\$0	\$0	\$0
Other Federal										
				Subtotal		\$0	\$0	\$0	\$0	\$0
Other Non-Federal										
				Subtotal		\$0	\$0	\$0	\$0	\$0
				Total		\$7,256,668	\$4,519,756	\$0	\$3,102,375	\$14,878,799

Funds listed under the Carry Over column are included in the Federal Amount

Transportation Improvement Program (TIP)

Project List (FY2022)

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
	5307 RTD0007626	Lowell Regional Transit Authority		300901 UP TO 50% FEDERAL SHARE	2021 - \$2,237,927	\$2,237,927	\$3,229,737	\$0	\$3,157,384	\$8,625,048
	5307 RTD0007627	Lowell Regional Transit Authority	117A00	PREVENTIVE MAINTENANCE 2022	2021 - \$1,514,277	\$1,514,277	\$378,569	\$0	\$0	\$1,892,846
	5307 RTD0007628	Lowell Regional Transit Authority		442400 SHORT RANGE TRANSIT PLANNING 2022	2021 - \$88,000	\$88,000	\$0	\$0	\$22,000	\$110,000
	5307 RTD0007629	Lowell Regional Transit Authority		111240 BUY ASSOC CAP SPARE PARTS 2022	2021 - \$65,000	\$65,000	\$65,000	\$0	\$0	\$130,000
				Terminal & Building Equipment and						
	5307 RTD0008093	Lowell Regional Transit Authority		114220 Maintenance	2021 - \$206,339	\$320,000	\$80,000	\$0	\$0	\$400,000
	5307 RTD0008095	Lowell Regional Transit Authority		111215 BUY REPLACEMENT FIXED ROUTE VANS (2)		\$240,000	\$60,000	\$0	\$0	\$300,000
				Subtotal		\$4,465,204	\$3,813,306	\$0	\$3,179,384	\$11,457,894
5309				Subtotal		\$0	\$0	\$0	\$0	\$0
5310				Subtotal		\$0	\$0	\$0	\$0	\$0
5311				Subtotal		\$0	\$0	\$0	\$0	\$0
5337				Subtotal		\$0	\$0	\$0	\$0	\$0
5339				Subtotal		\$0	\$0	\$0	\$0	\$0
5320				Subtotal		\$0	\$0	\$0	\$0	\$0
Other Federal				Subtotal		\$0	\$0	\$0	\$0	\$0
Other Non-Federal				Subtotal		\$0	\$0	\$0	\$0	\$0
				Total		\$4,465,204	\$3,813,306	\$0	\$3,179,384	\$11,457,894

Funds listed under the Carry Over column are included in the Federal Amount

**Transportation Improvement Program (TIP)
Project List (FY2023)**

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
				Terminal& Building Equipment and						
	5307 RTD0007636	Lowell Regional Transit Authority	114220	Maintenance		\$100,000	\$100,000	\$0	\$0	\$200,000
	5307 RTD0007637	Lowell Regional Transit Authority	111240	BUY CAP MAINT ITEMS (ITS EQUIPMENT)		\$7,500	\$1,875	\$0	\$0	\$9,375
				BUY REPLACEMENT FIXED ROUTE 35FT BUS						
	5307 RTD0007638	Lowell Regional Transit Authority	111215	(2)		\$513,000	\$128,250	\$0	\$0	\$641,250
	5307 RTD0007639	Lowell Regional Transit Authority	300901	OPERATING ASSISTANCE 2023	2022 - \$2,160,686	\$2,219,309	\$3,165,932	\$0	\$3,236,319	\$8,621,560
	5307 RTD0007640	Lowell Regional Transit Authority	117A00	PREVENTIVE MAINTENANCE 2023	2022 - \$1,769,497	\$1,769,497	\$442,374	\$0	\$0	\$2,211,871
	5307 RTD0007641	Lowell Regional Transit Authority	442400	SHORT RANGE TRANSIT PLANNING 2023		\$88,000	\$0	\$0	\$22,000	\$110,000
				BUY ASSOC CAP MAINT ITEMS (SPARE						
	5307 RTD0007642	Lowell Regional Transit Authority	111240	PARTS)		\$65,000	\$16,250	\$0	\$0	\$81,250
				Subtotal		\$4,762,306	\$3,854,681	\$0	\$3,258,319	\$11,875,306
5309										
				Subtotal		\$0	\$0	\$0	\$0	\$0
5310										
				Subtotal		\$0	\$0	\$0	\$0	\$0
5311										
				Subtotal		\$0	\$0	\$0	\$0	\$0
5337										
				Subtotal		\$0	\$0	\$0	\$0	\$0
5339										
				Subtotal		\$0	\$0	\$0	\$0	\$0
5320										
				Subtotal		\$0	\$0	\$0	\$0	\$0
Other Federal										
				Subtotal		\$0	\$0	\$0	\$0	\$0
Other Non-Federal										
				Subtotal		\$0	\$0	\$0	\$0	\$0
				Total		\$4,762,306	\$3,854,681	\$0	\$3,258,319	\$11,875,306

Funds listed under the Carry Over column are included in the Federal Amount

**Transportation Improvement Program (TIP)
Project List (FY2024)**

FTA Program	Project Number	Transit Agency	FTA Activity Line Item	Project Description	Carryover (unobligated)	Federal Funds	State Funds	TDC	Local Funds	Total Cost
5307										
	5307 RTD0008101	Lowell Regional Transit Authority	117A00	PREVENTIVE MAINTENANCE	2023 - \$1,822,582	\$1,822,582	\$455,645	\$0	\$0	\$2,278,227
	5307 RTD0008102	Lowell Regional Transit Authority	300901	OPERATING ASSISTANCE 2024	2023 - \$1,718,243	\$2,410,320	\$3,152,661	\$0	\$3,317,227	\$8,880,208
				TERMINAL & BUILDING EQUIPMENT AND						
	5307 RTD0008103	Lowell Regional Transit Authority	114220	MAINTENANCE		\$80,000	\$20,000	\$0	\$0	\$100,000
				BUY ASSOC CAP MAINT ITEMS (SPARE						
	5307 RTD0008104	Lowell Regional Transit Authority	111240	PARTS)		\$80,000	\$20,000	\$0	\$0	\$100,000
	5307 RTD0008105	Lowell Regional Transit Authority	442400	SHORT RANGE TRANSIT PLANNING 2024		\$88,000	\$0	\$0	\$22,000	\$110,000
	5307 RTD0008106	Lowell Regional Transit Authority	111202	BUY REPLACEMENT 35-FT BUS (1)		\$416,800	\$104,200	\$0	\$0	\$521,000
				BUY ASSOC CAP MAINT ITEMS (ITS						
	5307 RTD0008107	Lowell Regional Transit Authority	111240	EQUIPMENT)		\$8,000	\$2,000	\$0	\$0	\$10,000
				Subtotal		\$4,905,702	\$3,754,506	\$0	\$3,339,227	\$11,999,435
5309				Subtotal		\$0	\$0	\$0	\$0	\$0
5310				Subtotal		\$0	\$0	\$0	\$0	\$0
5311				Subtotal		\$0	\$0	\$0	\$0	\$0
5337				Subtotal		\$0	\$0	\$0	\$0	\$0
5339				Subtotal		\$0	\$0	\$0	\$0	\$0
5320				Subtotal		\$0	\$0	\$0	\$0	\$0
Other Federal				Subtotal		\$0	\$0	\$0	\$0	\$0
Other Non-Federal				Subtotal		\$0	\$0	\$0	\$0	\$0
				Total		\$4,905,702	\$3,754,506	\$0	\$3,339,227	\$11,999,435

Funds listed under the Carry Over column are included in the Federal Amount

REGIONAL FINANCIAL PLAN

The TIP must be a financially constrained document, and must be consistent with the Regional Transportation Plan and planning process. 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 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 of federal funds available in each year as shown in Table 12. These estimates were provided by the Massachusetts Department of Transportation and were refined as part of the State Transportation Improvement Program development process and the MOU for the Statewide Road and Bridge Program. Table 13 contains similar information for the transit program of projects.

TABLE 12: FFY 2020-2024 TIP HIGHWAY PROGRAMMED FUNDING

Fiscal Year	Highway Program Federal Target (with State Match)	Target Funding Programmed (FHWA related categories only)	Target Funding unprogrammed	Regional Programmed Funding (Outside of Targets)	Total Amount Programmed (Federal + Non Federal)
2020	\$9,324,589	\$6,879,556	\$2,445,033	\$0	\$6,879,556
2021	\$9,513,324	\$8,792,682	\$720,642	\$2,321,280	\$11,113,962
2022	\$9,707,038	\$9,707,037	\$1	\$2,205,120	\$11,912,157
2023	\$9,919,048	\$9,861,142	\$57,906	\$3,360,000	\$13,221,142
2024	\$10,049,054	\$8,501,947	\$1,547,107	\$11,221,761	\$19,723,708
Total	\$48,513,053	\$43,742,364	\$4,770,689	\$19,108,161	\$62,850,525

TABLE 13: FFY 2020-2024 TIP TRANSIT PROGRAMMED FUNDING

Fiscal Year	Federal Amount Programmed (FTA related categories only)	State Amount Programmed	Local Funds Programmed	Total Amount Programmed (FTA related categories only)
2020	\$5,083,074	\$4,447,056	\$3,025,244	\$13,257,874
2021	\$7,256,668	\$4,519,756	\$3,102,375	\$14,878,799
2022	\$4,465,204	\$3,813,306	\$3,179,384	\$11,457,894
2023	\$4,762,306	\$3,854,681	\$3,258,319	\$11,875,306
2024	\$4,905,702	\$3,754,506	\$3,339,227	\$11,999,435
Total	\$26,472,954	\$20,389,305	\$15,904,549	\$62,766,808

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, and indicates that the Northern Middlesex Metropolitan Planning Organization’s Transportation Improvement Program reflects the highway program emphasis on maintenance and operations of the current roadway and bridge system, with the ability to provide for additional capital improvements. Only projects for which funds can be expected have been included. Table 14 provides an overview of programmed projects by Federal funding categories.

TABLE 14: PROGRAMMED TIP FUNDING BY FEDERAL AID CATEGORY

Federal Aid Category	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024
STBG	\$6,597,647	\$7,207,784	\$9,425,128	\$9,579,233	\$6,848,379
CMAQ	\$0	\$1,021,080	\$0	\$0	\$0
HSIP	\$0	\$0	\$0	\$0	\$1,371,659
Transportation Alternatives	\$281,909	\$563,818	\$281,909	\$281,909	\$281,909
Bridge Program/Off System (STP-BR-OFF)	\$0	\$0	\$2,205,120	\$0	\$0
Statewide HSIP	\$0	\$0	\$0	\$3,360,000	\$0
Statewide CMAQ	\$0	\$2,321,280	\$0	\$0	\$11,221,761
Total - Highway	\$6,879,556	\$11,113,962	\$11,912,157	\$13,221,142	\$19,723,708
Section 5307	\$12,545,374	\$14,878,799	\$11,457,894	\$11,875,306	\$11,999,435
Section 5309	\$0	\$0	\$0	\$0	\$0
Section 5310	\$0	\$0	\$0	\$0	\$0
Section 5311	\$0	\$0	\$0	\$0	\$0
Section 5337	\$0	\$0	\$0	\$0	\$0
Section 5339	\$712,500	\$0	\$0	\$0	\$0
Other Federal	\$0	\$0	\$0	\$0	\$0
Other Non-Federal	\$10,000	\$0	\$0	\$0	\$0
Total - Transit	\$13,267,874	\$14,878,799	\$11,457,894	\$11,875,306	\$11,999,435

Financial constraint of the total state program will be depicted in the FFY 2020-2024 State Transportation Improvement Program (STIP). Funding levels for Fiscal Years 2020-2024 have been developed cooperatively between the State and regional members of the MPO, as part of the MPO TIP development process, and in accordance with the MOU for the Statewide Road and Bridge program.

STATUS OF NORTHERN MIDDLESEX MPO TIP PROJECTS

Table 15 describes the status of LRTA projects listed in FFY 2019 of the Northern Middlesex MPO Transportation Improvement Program.

TABLE 15: STATUS OF FFY 2019 NMMPO TIP PROJECTS – TRANSIT

FFY	Description	Funding Category	Federal Amount	Total Amount	Status Update
2019	Operating Assistance	5307	\$1,480,527	\$7,710,038	Ongoing
2019	Preventive Maintenance	5307	\$1,348,050	\$1,685,063	Ongoing
2019	Short Range Transit Planning	5307	\$80,000	\$100,000	Ongoing
2019	Buy Capital Spare Parts	5307	\$80,000	\$100,000	Ongoing
2019	Acquire - Administrative Vehicle	5307	\$28,000	\$35,000	Complete
2019	Terminal & Building Equipment and Maintenance	5307	\$40,000	\$284,000	Ongoing
2019	Buy Replacement 35-FT Buses (10)	5307	\$1,150,000	\$4,600,000	Complete
2019	Buy Replacement Vans (6)	5310	\$308,480	\$385,600	Complete
		Other			
2019	Buy Assoc Cap Maint Items (IT Equipment	NFA	\$0	\$10,000	Ongoing

Table 16 provides a description of recently advertised highway projects and status of advertisement/ construction in the Northern Middlesex Region (as of April 2019).

TABLE 16: RECENTLY ADVERTISED/PROJECTS UNDER CONSTRUCTION IN THE NORTHERN MIDDLESEX REGION - HIGHWAY

Community	MassDOT Project ID	Project Description	AD Date	Total Contract Cost	Current Status
Lowell	606189	LOWELL-IMPROVEMENTS ON ROUTE 38 AT FOUR INTERSECTIONS	9/15/2018	\$4,112,241	Awaiting Contract Award and NTP
Westford	608037	WESTFORD-INTERSECTION IMPROVEMENTS @ GROTON ROAD (ROUTE 40) & DUNSTABLE ROAD	8/11/2018	\$3,194,265	Completion Date: May 2020
Lowell/ Chelmsford	607995	LOWELL-CHELMSFORD-STORMWATER IMPROVEMENTS ALONG I-495	7/7/2018	\$1,578,797	Completion Date: September 2020.
Westford	608209	LITTLETON-WESTFORD-INTERSTATE MAINTENANCE AND RELATED WORK ON I-495	6/2/2018	\$17,109,025	Completion Date: May 2021.
Lowell	607752	LOWELL-INTERSECTION & SIGNAL IMPROVEMENTS AT 2 LOCATIONS: SR 113 (VARNUM AVENUE & VFW HIGHWAY) AT MAMMOTH ROAD & VFW AT AIKEN STREET	9/9/2017	\$1,865,015	Completion Date: October 2019
Chelmsford	607421	CHELMSFORD- BRIDGE DECK REPLACEMENT, C-08-037, INCLUDING INTERSECTION IMPROVEMENTS AT ROUTE 4 & I-495 (EXIT 33)	9/9/2017	\$3,907,983	Completion Date: May 2020.

TABLE 16: RECENTLY ADVERTISED/PROJECTS UNDER CONSTRUCTION IN THE NORTHERN MIDDLESEX REGION - HIGHWAY

Community	MassDOT Project ID	Project Description	AD Date	Total Contract Cost	Current Status
Lowell	608420	LOWELL-RECONSTRUCTION AND REHABILITATION OF FIVE BRIDGES (ENEL BRIDGES) TIGER GRANT	7/29/2017	\$18,344,587	Completion Date: April 2022
Westford	608036	WESTFORD- INTERSECTION IMPROVEMENTS @ GROTON ROAD (ROUTE 40) & OAK HILL ROAD, INCLUDES NEW BRIDGE W-26-027	5/27/2017	\$3,209,800	Completion date: October 2019.
Billerica	608181	BILLERICA- INTERSECTION & SIGNAL IMPROVEMENTS AT ROUTE 3A (BOSTON ROAD) AND ALLEN ROAD	4/29/2017	\$3,137,049	Completion Date: April 2020.
Billerica/ Bedford/ Burlington	29492	BEDFORD- BILLERICA- MIDDLESEX TURNPIKE IMPROVEMENTS, FROM CROSBY DRIVE NORTH TO MANNING ROAD, INCLUDES RECONSTRUCTION OF B-04-006 (PHASE III)	9/24/2016	\$34,495,276	Completion Date: June 2023.
Lowell	602932	LOWELL- BRIDGE REPLACEMENT, L-15-058, VFW HIGHWAY OVER BEAVER BROOK	9/19/2015	\$17,435,326	Completion Date: October 2020. Project delayed due to HazMat
Lowell	604537	LOWELL- BRIDGE REPLACEMENT, L-15-045, MARKET STREET OVER THE WESTERN CANAL	9/19/2015	\$3,901,991	Completion Date: July 2019

REGIONALLY SIGNIFICANT TRANSPORTATION PROJECTS

There are four regionally significant projects in the Northern Middlesex region: the Middlesex Turnpike Phase III in Bedford and Billerica, the I-495 add-a-lane project in Lowell, Tewksbury, Chelmsford and Westford, The Exit 36 Interchange Project in Tyngsborough and Nashua, and the replacement of the Rourke Bridge in Lowell. The Middlesex Turnpike Phase III project in Bedford and Billerica is under construction. MassDOT is in the process of hiring a consultant for preliminary design and environmental permitting for the Rourke Bridge replacement project, though no construction funds have been identified.

AIR QUALITY CONFORMITY INFORMATION – NORTHERN MIDDLESEX MPO

INTRODUCTION

The 1990 Clean Air Act Amendments (CAAA) require metropolitan planning organizations within nonattainment and maintenance areas to perform air quality conformity determinations prior to the approval of Long-Range Transportation Plans (LRTPs) and Transportation Improvement Programs (TIPs), and at such other times as required by regulation. Clean Air Act (CAA) section 176(c) (42 U.S.C. 7506(c)) requires that federally funded or approved highway and transit activities are consistent with (“conform to”) the purpose of the State Implementation Plan (SIP). Conformity to the purpose of the SIP means

that means Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funding and approvals are given to highway and transit activities that will not cause or contribute to new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS or any interim milestones (42 U.S.C. 7506(c)(1)). EPA's transportation conformity rules establish the criteria and procedures for determining whether metropolitan transportation plans, transportation improvement programs (TIPs), and federally supported highway and transit projects conform to the SIP (40 CFR Parts 51.390 and 93).

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

LEGISLATIVE AND REGULATORY BACKGROUND

The entire Commonwealth of Massachusetts was previously classified as nonattainment for ozone, and was divided into two nonattainment areas. The Eastern Massachusetts ozone nonattainment area included Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and Worcester counties. Berkshire, Franklin, Hampden, and Hampshire counties comprised the Western Massachusetts ozone nonattainment area. With these classifications, the 1990 Clean Air Act Amendments (CAAA) required the Commonwealth to reduce its emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO_x), the two major precursors to ozone formation to achieve attainment of the ozone standard.

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

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

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

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

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

Also on May 21, 2012, the air quality designations areas for the 2008 NAAQS were published in the Federal Register. In this Federal Register, the only area in Massachusetts that was designated as nonattainment is Dukes County. All other Massachusetts counties were designated as attainment/unclassified for the 2008 standard. On March 6, 2015, (80 FR 12264, effective April 6, 2015) EPA published the Final Rulemaking, “Implementation of the 2008 National Ambient Air Quality Standards (NAAQS) for Ozone: State Implementation Plan Requirements; Final Rule.” This rulemaking confirmed the removal of transportation conformity to the 1997 Ozone NAAQS.

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. These 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 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, this conformity determination is being made for the 1997 ozone NAAQS on the Northern Middlesex FFY 2020-2024 Transportation Improvement Program and 2020-2040 Regional Transportation Plan.

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

For the 1997 ozone NAAQS areas, transportation conformity for TIPs and RTPs for the 1997 ozone NAAQS can be demonstrated without a regional emissions analysis, per 40 CFR 93.109(c). This provision states that the regional emissions analysis requirement applies one year after the effective date of EPA’s nonattainment designation for a NAAQS and until the effective date of revocation of such NAAQS for an

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

Therefore, transportation conformity for the 1997 ozone NAAQS for the Northern Middlesex FFY 2020-2024 Transportation Improvement Program and 2020-2040 Regional Transportation Plan can be demonstrated by showing that remaining requirements in Table 1 in 40 CFR 93.109 have been met. These requirements, which are laid out in Section 2.4 of EPA's guidance and addressed below, include:

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

Latest Planning Assumptions:

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

Consultation:

The consultation requirements in 40 CFR 93.112 were addressed both for interagency consultation and public consultation. Interagency consultation was conducted with FHWA, FTA, US EPA Region 1, MassDEP, and the other Massachusetts MPOs, with the most recent conformity consultation meeting held on March 6, 2019 (this most recent meeting focused on understanding the latest conformity-related court rulings and resulting federal guidance). 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 by and between Massachusetts Department of Environmental Protection, Massachusetts Executive Office of Transportation and Construction, Massachusetts Metropolitan Planning Organizations concerning the conduct of transportation-air quality planning in the development and implementation of the state implementation plan" (note: this MOU is currently being updated)

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 Northern Middlesex MPO'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 24, 2019. 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 closed on May 19, 2019 and subsequently, the Northern Middlesex MPO is expected to endorse this air quality conformity determination on May 22, 2019. 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.

DEP submitted to EPA its strategy of programs to show Reasonable Further Progress of a 15% reduction of VOCs in 1996 and the further 9% reduction of NO_x toward attainment of the National Ambient Air Quality Standards (NAAQS) for ozone in 1999. Within that strategy there are no specific TCM projects. The strategy does call for traffic flow improvements to reduce congestion and, therefore, improve air quality. Other transportation-related projects that have been included in the SIP control strategy are listed below:

- *Enhanced Inspection and Maintenance Program*
- *California Low Emission Vehicle Program*
- *Reformulated Gasoline for On- and Off-Road Vehicles*
- *Stage II Vapor Recovery at Gasoline Refueling Stations*
- *Tier I Federal Vehicle Standards*

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 2020-2024 Transportation Improvement Program is fiscally constrained, as demonstrated in Tables 12 and 13.

As of April 22, 2002, the city of Lowell was re-designated as being in attainment for carbon monoxide (CO) with an EPA-approved limited maintenance plan. In areas with approved limited maintenance plans, federal actions requiring conformity determinations under the transportation conformity rule are considered to satisfy the "budget test" (as budgets are treated as not constraining in these areas for the length of the initial maintenance period). Any future required "project level" conformity determinations for projects located within this community will continue to use a "hot-spot" analysis to assure that any new transportation projects in this CO attainment area do not cause or contribute to carbon monoxide non-attainment.

In summary and based upon the entire process described above, the Northern Middlesex MPO has prepared this conformity determination for the 1997 Ozone NAAQS in accordance with EPA's and Massachusetts' latest conformity regulations and guidance. This conformity determination process demonstrates that the FFY 2020-2024 Transportation Improvement Program meets 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 Northern Middlesex MPO's FFY 2020-2024 Transportation Improvement Program is consistent with the air quality goals of, and in conformity with, the Massachusetts State Implementation Plan.

APPENDIX A: GREENHOUSE GAS MONITORING SUMMARY

Greenhouse gas tracking

This section summarizes the greenhouse gas (GHG) impacts anticipated to result from the projects that are included in this FFY 2020 – 2024 TIP. It includes a summary of the state laws and policies that call for reducing greenhouse gas in order to mitigate global climate change; actions that respond to these state laws and policies; the role of regional planning and STIP development in reducing GHG emission and tracking these reductions; and the projected GHG emission impacts from the projects programmed in the STIP.

State policy context

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



The role of MPOs

The Commonwealth’s MPOs are integrally involved in supporting the GHG reductions mandated under the GWSA. The MPOs are most directly involved in helping to achieve the GHG emissions reductions through the promotion of healthy transportation modes through prioritizing and programming an appropriate balance of roadway, transit, bicycle and pedestrian investments – and assisting smart growth development patterns through the creation of a balanced multi-modal transportation system. This is realized through the transportation goals and policies espoused in the 2016 Regional Transportation Plans (RTPs); the major projects planned in those RTPs; and the mix of new transportation projects that are programmed and implemented through the TIPs. GHG tracking and evaluation processes enable the MPOs to identify anticipated GHG impacts of planned and programmed projects, and also to use GHG impacts as a criterion in prioritizing transportation projects.

Project-level GHG tracking and evaluation in TIPs

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

Calculation of GHG Impacts for TIP Projects

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

Projects with quantified impacts RTP Projects

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

Quantified Decrease in Emissions

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

- **Quantified Decrease in Emissions from Traffic Operational Improvement** - An intersection reconstruction or signalization project that is projected to reduce delay and congestion.
- **Quantified Decrease in Emissions from Pedestrian and Bicycle Infrastructure** - A shared-use path that enables increased walking and biking and decreases vehicle-miles traveled (VMT).
- **Quantified Decrease in Emissions from New/Additional Transit Service** - A bus or shuttle service that enables increased transit ridership and decreased VMT
- **Quantified Decrease in Emissions from a Park and Ride Lot** - A park and ride lot that enables increased transit ridership/ increased ridesharing and decreased VMT
- **Quantified Decrease in Emissions from Bus Replacement** - a bus replacement that directly reduces GHG emissions generated by service.
- **Quantified Decrease in Emissions from Complete Streets Improvements** - Improvements to roadway networks that include the addition of bicycle and pedestrian accommodations where none were present before.
- **Quantified Decrease in Emissions from Alternative Fuel Vehicle Procurements** – A vehicle procurement where alternative fuel/advanced technology vehicles replace traditional gas or diesel vehicles.
- **Quantified Decrease in Emissions from Anti-idling Strategies** – Implementation of policies such as limiting idling allowed, incorporating anti-idling technology into fleets and using LED lights on trucks for the purpose of illuminating worksites.

- **Quantified Decrease in Emissions from Bike Share Projects** – A new bike share project or capacity added to an existing project.
- **Quantified Decrease in Emissions from Induced Travel Projects** – A project that changes roadway capacity
- **Quantified Decrease in Emissions from Speed Reduction Programs** – Programs that reduce speed to no less than 55 miles per hour.
- **Quantified Decrease in Emissions from Transit Signal Priority Projects** – A project that applies this technology to a signal intersection or along a corridor that impacts bus service.
- **Quantified Decrease in Emissions from Truck Stop Electrification Projects** – A new truck stop electrification project or capacity added to an existing project.
- **Quantified Decrease in Emissions from Other Improvement**

Quantified Increase in Emissions

Projects expected to produce a measurable increase in emissions.

Projects with no assumed impacts

No Assumed Impact/Negligible Impact on Emissions

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

Qualitative Decrease in Emissions

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

Qualitative Increase in Emissions

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

Greenhouse gas impact tables for FFY 2020 – 2024 TIP

The tables summarizing the calculated quantitative and assumed qualitative impacts of the projects included in the FFY 2020 – 2024 TIP are included on the following pages.

2020 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
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▶ Section 1A / Regionally Prioritized Projects

▶ Regionally Prioritized Projects						
608375	CHELMSFORD- INTERSECTION IMPROVEMENTS AT BOSTON ROAD AND CONCORD ROAD	\$ 2,440,923	Qualitative		Qualitative Decrease in Emissions	
609038	TEWKSBURY-INTERSECTION IMPROVEMENTS AT ANDOVER STREET (ROUTE 133) AND RIVER ROAD	\$ 3,236,724	Qualitative		Qualitative Decrease in Emissions	
609038	TEWKSBURY-INTERSECTION IMPROVEMENTS AT ANDOVER STREET (ROUTE 133) AND RIVER ROAD	\$ 281,909	Qualitative		Qualitative Decrease in Emissions	
NMFLEX20-01	FLEX FUNDING TO TRANSIT FOR GALLAGHER STAIRWELL AND CORRIDOR PROJECT	\$ 500,000	Qualitative		No assumed impact/negligible impact on emissions	
NMFLEX20-02	FLEX FUNDING TO TRANSIT FOR GALLAGHER INTERMODAL TRANSPORTATION CENTER AND PARKING GARAGE WAYFINDING	\$ 200,000	Qualitative		No assumed impact/negligible impact on emissions	
NMFLEX20-03	FLEX FUNDING TO TRANSIT FOR GALLAGHER II PARKING GARAGE DECK REPAIRS	\$ 120,000	Qualitative		No assumed impact/negligible impact on emissions	
NMFLEX20-04	FLEX FUNDING TO TRANSIT FOR LRTA ADMIN OFFICE RENOVATIONS	\$ 100,000	Qualitative		No assumed impact/negligible impact on emissions	
Quantified Impact ▶				0		

▶ Section 1B / Earmark or Discretionary Grant Funded Projects

▶ Other Federal Aid						
0	Other Federal Aid	\$ -				
0	Other Federal Aid	\$ -				
Quantified Impact ▶				0		

▶ Section 2A / State Prioritized Reliability Projects

▶ Bridge Program / Inspections						
0	Bridge Inspection	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Inspection	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
Quantified Impact ▶				0		
▶ Bridge Program / Off-System						
0	Bridge Program / Off-System	\$ -				
0	Bridge Program / Off-System	\$ -				
0	Bridge Program / Off-System	\$ -				
0	Bridge Program / Off-System	\$ -				
Quantified Impact ▶				0		
▶ Bridge Program / On-System (NHS)						
0	Bridge Program / On-System (NHS)	\$ -				
0	Bridge Program / On-System (NHS)	\$ -				
Quantified Impact ▶				0		
▶ Bridge Program / On-System (Non-NHS)						
0	Bridge Program / On-System (Non-NHS)	\$ -				
0	Bridge Program / On-System (Non-NHS)	\$ -				
Quantified Impact ▶				0		
▶ Bridge Program / Systematic Maintenance						
0	Bridge Program / Systematic Maintenance	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Program / Systematic Maintenance	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
Quantified Impact ▶				0		
▶ Interstate Pavement						
0	Interstate Pavement	\$ -				
0	Interstate Pavement	\$ -				
Quantified Impact ▶				0		
▶ Non-Interstate Pavement						
0	Non-Interstate Pavement	\$ -	Qualitative		Qualitative Decrease in Emissions	
0	Non-Interstate Pavement	\$ -				

2020 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
Quantified Impact ▶				0		
▶ Roadway Improvements						
0	Roadway Improvements	\$ -				
0	Roadway Improvements	\$ -				
Quantified Impact ▶				0		
▶ Safety Improvements						
0	Safety Improvements	\$ -				
0	Safety Improvements	\$ -	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ▶				0		
▶ Section 2B / State Prioritized Modernization Projects						
▶ ADA Retrofits						
0	ADA Retrofits	\$ -				
0	ADA Retrofits	\$ -				
Quantified Impact ▶				0		
▶ Intersection Improvements						
0	Intersection Improvements	\$ -				
0	Intersection Improvements	\$ -				
0	Intersection Improvements	\$ -				
0	Intersection Improvements	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Intersection Improvements	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Intersection Improvements	\$ -				
Quantified Impact ▶				0		
▶ Intelligent Transportation Systems						
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ▶				0		
▶ Roadway Reconstruction						
0	Roadway Reconstruction	\$ -				
0	Roadway Reconstruction	\$ -				
0	Roadway Reconstruction	\$ -				
0	Roadway Reconstruction	\$ -				
Quantified Impact ▶				0		
▶ Section 2C / State Prioritized Expansion Projects						
▶ Bicycles and Pedestrians						
0	Bicycles and Pedestrians	\$ -				
0	Bicycles and Pedestrians	\$ -				
0	Bicycles and Pedestrians	\$ -				
Quantified Impact ▶				0		
▶ Capacity						
0	Capacity	\$ -				
0	Capacity	\$ -				
Quantified Impact ▶				0		
▶ Section 3 / Planning / Adjustments / Pass-throughs						
▶ Planning / Adjustments / Pass-throughs						
0	ABP GANS Repayment	\$ -				
0	ABP GANS Repayment	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Metropolitan Planning	\$ -				
0	Metropolitan Planning	\$ -				
0	State Planning and Research Work Program I, (SPR I), Planning	\$ -				
0	State Planning and Research Work Program II, (SPR II), Research	\$ -				
0	Railroad Crossings	\$ -				
0	Railroad Crossings	\$ -				
0	Recreational Trails	\$ -				
Quantified Impact ▶				0		

2020 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
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▶ Section 2A / Non-Federal Projects

▶ Non-Federally Aided Projects

0	Non-Federal Aid	\$ -				
0	Non-Federal Aid	\$ -				

Quantified Impact ▶ | 0

2020 X Region MPO GHG Tracking Summary

Total Quantified Impact ▼

Quantified Impact ▶ | 0

2021 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
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► Section 1A / Regionally Prioritized Projects

► Regionally Prioritized Projects

608603	DUNSTABLE-IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	\$ 1,021,080	Quantified	182	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
608603	DUNSTABLE-IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	\$ 281,909	Quantified		Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
608603	DUNSTABLE-IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	\$ 3,121,693	Qualitative		Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
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	\$ 4,086,091	Qualitative		Qualitative Decrease in Emissions	
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	\$ 281,909	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ►				182		

► Section 1B / Earmark or Discretionary Grant Funded Projects

► Other Federal Aid

0	Other Federal Aid	\$ -				
0	Other Federal Aid	\$ -				
Quantified Impact ►				0		

► Section 2A / State Prioritized Reliability Projects

► Bridge Program / Inspections

0	Bridge Inspection	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Inspection	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
Quantified Impact ►				0		

► Bridge Program / Off-System

0	Bridge Program / Off-System	\$ -				
0	Bridge Program / Off-System	\$ -				
Quantified Impact ►				0		

► Bridge Program / On-System (NHS)

0	Bridge Program / On-System (NHS)	\$ -				
0	Bridge Program / On-System (NHS)	\$ -				
Quantified Impact ►				0		

► Bridge Program / On-System (Non-NHS)

0	Bridge Program / On-System (Non-NHS)	\$ -				
0	Bridge Program / On-System (Non-NHS)	\$ -				
Quantified Impact ►				0		

► Bridge Program / Systematic Maintenance

0	Bridge Program / Systematic Maintenance	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Program / Systematic Maintenance	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
Quantified Impact ►				0		

► Interstate Pavement

0	Interstate Pavement	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Interstate Pavement	\$ -				
Quantified Impact ►				0		

► Non-Interstate Pavement

0	Non-Interstate Pavement	\$ -	Qualitative		Qualitative Decrease in Emissions	
0	Non-Interstate Pavement	\$ -				
Quantified Impact ►				0		

► Roadway Improvements

2021 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
0	Roadway Improvements	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Roadway Improvements	\$ -				
Quantified Impact ▶				0		
▶ Safety Improvements						
0	Safety Improvements	\$ -				
0	Safety Improvements	\$ -	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ▶				0		
▶ Section 2B / State Prioritized Modernization Projects						
▶ ADA Retrofits						
0	ADA Retrofits	\$ -				
0	ADA Retrofits	\$ -				
Quantified Impact ▶				0		
▶ Intersection Improvements						
0	Intersection Improvements	\$ -				
0	Intersection Improvements	\$ -				
Quantified Impact ▶				0		
▶ Intelligent Transportation Systems						
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ▶				0		
▶ Roadway Reconstruction						
0	Roadway Reconstruction	\$ -				
0	Roadway Reconstruction	\$ -				
Quantified Impact ▶				0		
▶ Section 2C / State Prioritized Expansion Projects						
▶ Bicycles and Pedestrians						
	LOWELL- PEDESTRIAN WALKWAY & BICYCLE CONNECTION AT PAWTUCKET FALLS OVERLOOK, FROM VANDENBERG ESPLANADE TO SCHOOL STREET	\$ 2,321,280	Quantified	4,669	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
0	Bicycles and Pedestrians	\$ -				
Quantified Impact ▶				0		
▶ Capacity						
0	Capacity	\$ -				
0	Capacity	\$ -				
Quantified Impact ▶				0		
▶ Section 3 / Planning / Adjustments / Pass-throughs						
▶ Planning / Adjustments / Pass-throughs						
0	ABP GANS Repayment	\$ -				
0	ABP GANS Repayment	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Metropolitan Planning	\$ -				
0	Metropolitan Planning	\$ -				
0	State Planning and Research Work Program I, (SPR I), Planning	\$ -				
0	State Planning and Research Work Program II, (SPR II), Research	\$ -				
0	Railroad Crossings	\$ -				
0	Railroad Crossings	\$ -				
0	Recreational Trails	\$ -				
Quantified Impact ▶				0		
▶ Section 2A / Non-Federal Projects						
▶ Non-Federally Aided Projects						
0	Non-Federal Aid	\$ -				
0	Non-Federal Aid	\$ -				
Quantified Impact ▶				0		
2021 Northern Middlesex Region MPO GHG Tracking Summary				Total Quantified Impact ▼		
Quantified Impact ▶				182		

2022 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
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▶ Section 1A / Regionally Prioritized Projects

▶ Regionally Prioritized Projects

608350	DRACUT-IMPROVEMENTS ON NASHUA ROAD	\$ 5,353,655	Qualitative		Qualitative Decrease in Emissions	
608350	DRACUT-IMPROVEMENTS ON NASHUA ROAD	\$ 281,909	Qualitative		Qualitative Decrease in Emissions	
605178	BILLERICA- REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	\$ 2,319,281	Qualitative		Qualitative Decrease in Emissions	
608830	WESTFORD-BRIDGE REHABILITATION BEAVER BROOK ROAD OVER BEAVER BROOK (W-26-014)	\$ 1,752,192	Qualitative		Qualitative Decrease in Emissions	
0		0 \$				

Quantified Impact ▶ 0

▶ Section 1B / Earmark or Discretionary Grant Funded Projects

▶ Other Federal Aid

0	Other Federal Aid	\$ -				
0	Other Federal Aid	\$ -				

Quantified Impact ▶ 0

▶ Section 2A / State Prioritized Reliability Projects

▶ Bridge Program / Inspections

0	Bridge Inspection	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Inspection	\$ -	Qualitative		No assumed impact/negligible impact on emissions	

Quantified Impact ▶ 0

▶ Bridge Program / Off-System

608861	WESTFORD- BRIDGE REPLACEMENT, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK	\$ 2,205,120	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Program / Off-System	\$ -				
0	Bridge Program / Off-System	\$ -				

Quantified Impact ▶ 0

▶ Bridge Program / On-System (NHS)

0	Bridge Program / On-System (NHS)	\$ -				
0	Bridge Program / On-System (NHS)	\$ -				

Quantified Impact ▶ 0

▶ Bridge Program / On-System (Non-NHS)

0	Bridge Program / On-System (Non-NHS)	\$ -				
0	Bridge Program / On-System (Non-NHS)	\$ -				

Quantified Impact ▶ 0

▶ Bridge Program / Systematic Maintenance

0	Bridge Program / Systematic Maintenance	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Program / Systematic Maintenance	\$ -	Qualitative		No assumed impact/negligible impact on emissions	

Quantified Impact ▶ 0

▶ Interstate Pavement

0	Interstate Pavement	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Interstate Pavement	\$ -				

Quantified Impact ▶ 0

▶ Non-Interstate Pavement

0	Non-Interstate Pavement	\$ -				
0	Non-Interstate Pavement	\$ -				

Quantified Impact ▶ 0

▶ Roadway Improvements

0	Roadway Improvements	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
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2022 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
0	Roadway Improvements	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Roadway Improvements	\$ -				
Quantified Impact ▶				0		
▶ Safety Improvements						
0	Safety Improvements	\$ -				
0	Safety Improvements	\$ -	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ▶				0		
▶ Section 2B / State Prioritized Modernization Projects						
▶ ADA Retrofits						
0	ADA Retrofits	\$ -				
0	ADA Retrofits	\$ -				
Quantified Impact ▶				0		
▶ Intersection Improvements						
0	Intersection Improvements	\$ -				
0	Intersection Improvements	\$ -				
Quantified Impact ▶				0		
▶ Intelligent Transportation Systems						
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ▶				0		
▶ Roadway Reconstruction						
0	Roadway Reconstruction	\$ -				
0	Roadway Reconstruction	\$ -				
0	Roadway Reconstruction	\$ -				
0	Roadway Reconstruction	\$ -				
Quantified Impact ▶				0		
▶ Section 2C / State Prioritized Expansion Projects						
▶ Bicycles and Pedestrians						
0	Bicycles and Pedestrians	\$ -				
Quantified Impact ▶				0		
▶ Capacity						
0	Capacity	\$ -				
0	Capacity	\$ -				
Quantified Impact ▶				0		
▶ Section 3 / Planning / Adjustments / Pass-throughs						
▶ Planning / Adjustments / Pass-throughs						
0	ABP GANS Repayment	\$ -				
0	ABP GANS Repayment	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Metropolitan Planning	\$ -				
0	Metropolitan Planning	\$ -				
0	State Planning and Research Work Program I, (SPR I), Planning	\$ -				
0	State Planning and Research Work Program II, (SPR II), Research	\$ -				
0	Railroad Crossings	\$ -				
0	Railroad Crossings	\$ -				
0	Recreational Trails	\$ -				
Quantified Impact ▶				0		
▶ Section 2A / Non-Federal Projects						
▶ Non-Federally Aided Projects						
0	Non-Federal Aid	\$ -				
0	Non-Federal Aid	\$ -				
Quantified Impact ▶				0		
2022 Northern Middlesex Region MPO GHG Tracking Summary				Total Quantified Impact ▼		
Quantified Impact ▶				0		

2023 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
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► Section 1A / Regionally Prioritized Projects

► Regionally Prioritized Projects

605178	BILLERICA- REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	\$ 9,579,233	Qualitative		Qualitative Decrease in Emissions	
605178	BILLERICA- REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	\$ 281,909	Qualitative		Qualitative Decrease in Emissions	
0		0 \$	-			
0		0 \$	-			
0		0 \$	-			
Quantified Impact ►				0		

► Section 1B / Earmark or Discretionary Grant Funded Projects

► Other Federal Aid

0	Other Federal Aid	\$ -				
0	Other Federal Aid	\$ -				
Quantified Impact ►				0		

► Section 2A / State Prioritized Reliability Projects

► Bridge Program / Inspections

0	Bridge Inspection	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Inspection	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
Quantified Impact ►				0		

► Bridge Program / Off-System

0	Bridge Program / Off-System	\$ -				
0	Bridge Program / Off-System	\$ -				
Quantified Impact ►				0		

► Bridge Program / On-System (NHS)

0	Bridge Program / On-System (NHS)	\$ -				
0	Bridge Program / On-System (NHS)	\$ -				
Quantified Impact ►				0		

► Bridge Program / On-System (Non-NHS)

0	Bridge Program / On-System (Non-NHS)	\$ -				
0	Bridge Program / On-System (Non-NHS)	\$ -				
Quantified Impact ►				0		

► Bridge Program / Systematic Maintenance

0	Bridge Program / Systematic Maintenance	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Program / Systematic Maintenance	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
Quantified Impact ►				0		

► Interstate Pavement

0	Interstate Pavement	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Interstate Pavement	\$ -				
Quantified Impact ►				0		

► Non-Interstate Pavement

0	Non-Interstate Pavement	\$ -	Qualitative		Qualitative Decrease in Emissions	
0	Non-Interstate Pavement	\$ -				
Quantified Impact ►				0		

► Roadway Improvements

0	Roadway Improvements	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Roadway Improvements	\$ -				
Quantified Impact ►				0		

► Safety Improvements

0	Safety Improvements	\$ -				
Quantified Impact ►				0		

2023 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
0	Safety Improvements	\$ -	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ▶				0		

▶ Section 2B / State Prioritized Modernization Projects

▶ ADA Retrofits						
0	ADA Retrofits	\$ -				
0	ADA Retrofits	\$ -				
Quantified Impact ▶				0		

▶ Intersection Improvements						
608774	LOWELL-TEWKSBURY- ROUTE 38 INTERSECTION IMPROVEMENTS	\$ 3,360,000	Qualitative		Qualitative Decrease in Emissions	
0	Intersection Improvements	\$ -				
0	Intersection Improvements	\$ -				
Quantified Impact ▶				0		

▶ Intelligent Transportation Systems						
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ▶				0		

▶ Roadway Reconstruction						
0	Roadway Reconstruction	\$ -				
0	Roadway Reconstruction	\$ -				
Quantified Impact ▶				0		

▶ Section 2C / State Prioritized Expansion Projects

▶ Bicycles and Pedestrians						
0	Bicycles and Pedestrians	\$ -				
0	Bicycles and Pedestrians	\$ -				
Quantified Impact ▶				0		

▶ Capacity						
0	Capacity	\$ -				
0	Capacity	\$ -				
Quantified Impact ▶				0		

▶ Section 3 / Planning / Adjustments / Pass-throughs

▶ Planning / Adjustments / Pass-throughs						
0	ABP GANS Repayment	\$ -				
0	ABP GANS Repayment	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Metropolitan Planning	\$ -				
0	Metropolitan Planning	\$ -				
0	State Planning and Research Work Program I, (SPR I), Planning	\$ -				
0	State Planning and Research Work Program II, (SPR II), Research	\$ -				
0	Railroad Crossings	\$ -				
0	Railroad Crossings	\$ -				
0	Recreational Trails	\$ -				
Quantified Impact ▶				0		

▶ Section 2A / Non-Federal Projects

▶ Non-Federally Aided Projects						
0	Non-Federal Aid	\$ -				
0	Non-Federal Aid	\$ -				
Quantified Impact ▶				0		

2023 Northern Middlesex Region MPO GHG Tracking Summary				Total Quantified Impact ▼
Quantified Impact ▶				0

2024 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
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▶ Section 1A / Regionally Prioritized Projects

Regionally Prioritized Projects						
609035	WESTFORD- REHABILITATION OF BOSTON ROAD	\$ 6,848,379	Qualitative		Qualitative Decrease in Emissions	
609035	WESTFORD- REHABILITATION OF BOSTON ROAD	\$ 281,909	Qualitative		Qualitative Decrease in Emissions	
607401	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	\$ 1,371,659	Qualitative		Qualitative Decrease in Emissions	
0		0 \$				
0		0 \$				
Quantified Impact ▶				0		

▶ Section 1B / Earmark or Discretionary Grant Funded Projects

Other Federal Aid						
0	Other Federal Aid	\$ -				
0	Other Federal Aid	\$ -				
Quantified Impact ▶				0		

▶ Section 2A / State Prioritized Reliability Projects

Bridge Program / Inspections						
0	Bridge Inspection	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Inspection	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
Quantified Impact ▶				0		
Bridge Program / Off-System						
0	Bridge Program / Off-System	\$ -				
0	Bridge Program / Off-System	\$ -				
Quantified Impact ▶				0		
Bridge Program / On-System (NHS)						
0	Bridge Program / On-System (NHS)	\$ -				
0	Bridge Program / On-System (NHS)	\$ -				
Quantified Impact ▶				0		
Bridge Program / On-System (Non-NHS)						
0	Bridge Program / On-System (Non-NHS)	\$ -				
0	Bridge Program / On-System (Non-NHS)	\$ -				
Quantified Impact ▶				0		
Bridge Program / Systematic Maintenance						
0	Bridge Program / Systematic Maintenance	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Bridge Program / Systematic Maintenance	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
Quantified Impact ▶				0		
Interstate Pavement						
0	Interstate Pavement	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Interstate Pavement	\$ -				
Quantified Impact ▶				0		
Non-Interstate Pavement						
0	Non-Interstate Pavement	\$ -	Qualitative		Qualitative Decrease in Emissions	
0	Non-Interstate Pavement	\$ -				
Quantified Impact ▶				0		
Roadway Improvements						
0	Roadway Improvements	\$ -	Qualitative		No assumed impact/negligible impact on emissions	
0	Roadway Improvements	\$ -				
Quantified Impact ▶				0		
Safety Improvements						
0	Safety Improvements	\$ -				

2024 GHG Tracking Northern Middlesex Region Transportation

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼
0	Safety Improvements	\$ -	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ▶				0		

▶ Section 2B / State Prioritized Modernization Projects

▶ ADA Retrofits						
0	ADA Retrofits	\$ -				
0	ADA Retrofits	\$ -				
Quantified Impact ▶				0		

▶ Intersection Improvements						
0	Intersection Improvements	\$ -				
0	Intersection Improvements	\$ -				
Quantified Impact ▶				0		

▶ Intelligent Transportation Systems						
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
0	Intelligent Transportation Systems	\$ -	Qualitative		Qualitative Decrease in Emissions	
Quantified Impact ▶				0		

▶ Roadway Reconstruction						
0	Roadway Reconstruction	\$ -				
0	Roadway Reconstruction	\$ -				
Quantified Impact ▶				0		

▶ Section 2C / State Prioritized Expansion Projects

▶ Bicycles and Pedestrians						
608227	BILLERICA- YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE I)	\$ 11,221,761	Quantified	147,642	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
0	Bicycles and Pedestrians	\$ -				
Quantified Impact ▶				147,642		

▶ Capacity						
0	Capacity	\$ -				
0	Capacity	\$ -				
Quantified Impact ▶				0		

▶ Section 3 / Planning / Adjustments / Pass-throughs

▶ Planning / Adjustments / Pass-throughs						
0	ABP GANS Repayment	\$ -				
0	ABP GANS Repayment	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Award adjustments, change orders, etc.	\$ -				
0	Metropolitan Planning	\$ -				
0	Metropolitan Planning	\$ -				
0	State Planning and Research Work Program I, (SPR I), Planning	\$ -				
0	State Planning and Research Work Program II, (SPR II), Research	\$ -				
0	Railroad Crossings	\$ -				
0	Railroad Crossings	\$ -				
0	Recreational Trails	\$ -				
Quantified Impact ▶				0		

▶ Section 2A / Non-Federal Projects

▶ Non-Federally Aided Projects						
0	Non-Federal Aid	\$ -				
0	Non-Federal Aid	\$ -				
Quantified Impact ▶				0		

2024 Northern Middlesex Region MPO GHG Tracking Summary	Total Quantified Impact ▼
Quantified Impact ▶	147,642

Northern Middlesex Region Transportation Improvement Program

MassDOT Project ID ▼	MassDOT Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼	Fiscal Year of Contract Award (2015 and forward) ▼
607251	WESTFORD-INTERSECTION & SIGNAL IMPROVEMENTS AT ROUTE 110 & TADMUCK ROAD	\$3,200,000	Quantified	16,063	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure		2016

Northern Middlesex Region Transportation Improvement Program

FTA Activity Line Item ▼	Transit Agency ▼	Project Description ▼	Total Cost ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Additional Description ▼	Fiscal Year Programmed (2015 and forward) ▼
1112015	LRTA	Purchase - Replacement: Fixed Route Vans (2)	\$180,000	Quantified	4,467	Quantified Decrease in Emissions from Bus Replacement	2005 Fleet	2016
	LRTA	Buy Replcement 30-ft bus diesel buses (12) Match	\$2,550,000	Quantified	161,086	Quantified Decrease in Emissions from Bus Replacement	2017 Purchase	
111204	LRTA	Buy Replacement Minibuses (12)	\$620,880	Quantified	84,868	Quantified Decrease in Emissions from Bus Replacement	5310 2018 purchase	

2020 Northern Middlesex Region Transportation Improvement Program

MassDOT/FTA Project ID ▼	MassDOT/FTA Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Total Cost ▼	Additional Information ▼	Fiscal Year of Contract Award (2015 and forward) ▼
RTD0007615	OPERATING ASSISTANCE 2020	\$8,129,935	Qualitative		No assumed impact/negligible impact on emissions	\$8,129,935		
RTD0007616	PREVENTIVE MAINTENANCE 2020	\$1,784,189	Qualitative		No assumed impact/negligible impact on emissions	\$1,784,189		
RTD0007617	SHORT RANGE TRANSIT PLANNING (NMCOG) 2020	\$100,000	Qualitative		No assumed impact/negligible impact on emissions	\$100,000		
RTD0007618	BUY CAPITAL SPARE PARTS 2020	\$81,250	Qualitative		No assumed impact/negligible impact on emissions	\$81,250		
RTD0007620	BUY REPLACEMENT 35-FT BUS (5)	\$2,375,000	Quantified	10,080	Quantified Decrease in Emissions from Bus Replacement	\$2,375,000		
RTD0007634	Rehab Intermodal Hub	\$400,000	Qualitative		No assumed impact/negligible impact on emissions	\$400,000		
RTD0007635	BUY ASSOC CAP MAINT ITEMS	\$200,000	Qualitative		No assumed impact/negligible impact on emissions	\$200,000		
RTD0007643	BUY REPLACEMENT VAN (2)	\$187,500	Quantified	4,150	Quantified Decrease in Emissions from Bus Replacement	\$187,500		

2021 Northern Middlesex Region Transportation Improvement Program

MassDOT/FTA Project ID ▼	MassDOT/FTA Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Total Cost ▼	Additional Information ▼	Fiscal Year of Contract Award (2015 and forward) ▼
RTD0007621	Terminal& Building Equipment and Maintenance	\$281,250	Qualitative		No assumed impact/negligible impact on emissions	\$281,250		
RTD0007622	BUY CAPITAL SPARE PARTS 2021	\$100,000	Qualitative		No assumed impact/negligible impact on emissions	\$100,000		
RTD0007623	OPERATING ASSISTANCE 2021	\$8,373,834	Qualitative		No assumed impact/negligible impact on emissions	\$8,373,834		
RTD0007624	PREVENTIVE MAINTENANCE 2021	\$1,837,715	Qualitative		No assumed impact/negligible impact on emissions	\$1,837,715		
RTD0007625	SHORT RANGE TRANSIT PLANNING (NMCOG) 2021	\$110,000	Qualitative		No assumed impact/negligible impact on emissions	\$110,000		
RTD0007630	BUY REPLACEMENT FIXED ROUTE VANS (2)	\$300,000	Quantified	4,150	Quantified Decrease in Emissions from Bus Replacement	\$300,000		
RTD0007632	BUY REPLACEMENT 35-FT DIESEL BUSES (8)	\$3,876,000	Quantified	18,170	Quantified Decrease in Emissions from Bus Replacement	\$3,876,000		

2022 Northern Middlesex Region Transportation Improvement Program

MassDOT/FTA Project ID ▼	MassDOT/FTA Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Total Cost ▼	Additional Information ▼	Fiscal Year of Contract Award (2015 and forward) ▼
RTD0007626	Operating Assistance 2022 PREVENTIVE	\$8,625,048	Qualitative		No assumed impact/negligible impact on emissions	\$8,625,048		
RTD0007627	MAINTENANCE 2022 SHORT RANGE TRANSIT	\$1,892,846	Qualitative		No assumed impact/negligible impact on emissions	\$1,892,846		
RTD0007628	PLANNING 2022 BUY ASSOC CAP SPARE	\$110,000	Qualitative		No assumed impact/negligible impact on emissions	\$110,000		
RTD0007629	PARTS 2022 Terminal & Building Equipment and	\$130,000	Qualitative		No assumed impact/negligible impact on emissions	\$130,000		
RTD0008093	Maintenance BUY REPLACEMENT FIXED	\$400,000	Qualitative		No assumed impact/negligible impact on emissions	\$400,000		
RTD0008095	ROUTE VANS (2)	\$300,000	Quantified	4,150	Quantified Decrease in Emissions from Bus Replacement	\$300,000		

2023 Northern Middlesex Region Transportation Improvement Program

MassDOT/FTA Project ID ▼	MassDOT/FTA Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Total Cost ▼	Additional Information ▼	Fiscal Year of Contract Award (2015 and forward) ▼
RTD0007636	Terminal& Building Equipment and BUY CAP MAINT ITEMS (ITS	\$200,000	Qualitative		No assumed impact/negligible impact on emissions	\$200,000		
RTD0007637	EQUIPMENT)	\$9,375	Qualitative		No assumed impact/negligible impact on emissions	\$9,375		
RTD0007638	BUY REPLACEMENT FIXED ROUTE 35FT BUS (2)	\$641,250	Quantified	4,543	Quantified Decrease in Emissions from Bus Replacement	\$641,250		
RTD0007639	OPERATING ASSISTANCE 2023	\$8,621,560	Qualitative		No assumed impact/negligible impact on emissions	\$8,621,560		
RTD0007640	PREVENTIVE MAINTENANCE 2023	\$2,211,871	Qualitative		No assumed impact/negligible impact on emissions	\$2,211,871		
RTD0007641	SHORT RANGE TRANSIT PLANNING 2023	\$110,000	Qualitative		No assumed impact/negligible impact on emissions	\$110,000		
RTD0007642	BUY ASSOC CAP MAINT ITEMS (SPARE PARTS)	\$81,250	Qualitative		No assumed impact/negligible impact on emissions	\$81,250		

2024 Northern Middlesex Region Transportation Improvement Program

MassDOT/FTA Project ID ▼	MassDOT/FTA Project Description ▼	Total Programmed Funds ▼	GHG Analysis Type ▼	GHG CO ₂ Impact (kg/yr) ▼	GHG Impact Description ▼	Total Cost ▼	Additional Information ▼	Fiscal Year of Contract Award (2015 and forward) ▼
RTD0008101	PREVENTIVE MAINTENANCE	\$2,278,227	Qualitative		No assumed impact/negligible impact on emissions	\$2,278,227		
RTD0008102	OPERATING ASSISTANCE 2024	\$8,880,208	Qualitative		No assumed impact/negligible impact on emissions	\$8,880,208		
RTD0008103	TERMINAL & BUILDING EQUIPMENT AND MAINTENANCE	\$100,000	Qualitative		No assumed impact/negligible impact on emissions	\$100,000		
RTD0008104	BUY ASSOC CAP MAINT ITEMS (SPARE PARTS)	\$100,000	Qualitative		No assumed impact/negligible impact on emissions	\$100,000		
RTD0008105	SHORT RANGE TRANSIT PLANNING 2024	\$110,000	Qualitative		No assumed impact/negligible impact on emissions	\$110,000		
RTD0008106	BUY REPLACEMENT 35-FT BUS (1)	\$521,000	Quantified	2,271	Quantified Decrease in Emissions from Bus Replacement	\$521,000		
RTD0008107	BUY ASSOC CAP MAINT ITEMS (ITS EQUIPMENT)	\$10,000	Qualitative		No assumed impact/negligible impact on emissions	\$10,000		

APPENDIX B: NMMPO PUBLIC COMMENT SUMMARY

DRAFT FFY 2020-2024 TRANSPORTATION IMPROVEMENT PROGRAM

COMMENT PERIOD: APRIL 25-MAY 17, 2019

PUBLIC MEETING DATE: MAY 14, 2019

COMMENT 1: MASSDOT – MAY 8, 2019

The Massachusetts Department of Transportation has provided a letter outlining their review comments on the Draft TIP. The letter has been included in this appendix. (MassDOT comments are italicized below and staff response is in red)

GENERAL:

- *Please proofread the document for spelling errors and consistency with capitalization*
- *For all pages containing tables and charts, please center them in the document and add a page break when appropriate to keep content from spilling to the next page (when possible)*

Staff Response:

- The document has been proofread by multiple staff members to ensure spelling and consistency are reviewed.
- Staff has taken the comment on tables and charts and adjusted when possible.

NARRATIVE:

- *Page 2: Management is Misspelled in the Table 1 Title – Corrected*
- *Page 3: Please insert page break at “Safety Measures and Targets” – Corrected*
- *Page 54: Please reformat the text sizes in Table 12 for lines ‘2023’ and ‘2024’ – Corrected*
- *Page 96: Please update the Public Meeting Date to May 14th (as referenced on the NMCOG website) – Corrected*
- *Page 158: Please remove MassRIDES from the affected public agencies and government entities list – Corrected*

Greenhouse Gas (GHG Emissions Impacts)

GENERAL

- *Please refer to the text in the most recent STIP “GHG tracking” section (available online) for updated language for use in Appendix A – Greenhouse Gas Monitoring Summary.*
- *Please remove the following sections in the Greenhouse Gas Monitoring and Evaluation part of the document:*
 - *Please remove “State Policy Context” and replace with the “State Policy Context” found in last year’s STIP. This is now outdated*
 - *Please remove “GreenDOT Policy” as is now outdated*
 - *Please remove “GreenDOT Policy and MPOs” as is now outdated*

Staff Response:

- **Staff replaced the draft narrative with text from the GHG Monitoring section of the FFY 2019-2023 STIP.**

2024 HIGHWAY

- *Project 608227- should be labeled*

Staff Response:

- **Staff corrected the project to reflect a quantified decrease in emissions due to new bicycle and pedestrian infrastructure as part of the Yankee Doodle Bike Path project in Billerica.**

APPENDIX C: SUPPLEMENTAL PROJECT LIST

MASSDOT APPROVED PROJECTS WITHOUT IDENTIFIED FUNDING SOURCES

The following table includes MassDOT approved projects that are currently not programmed in the FFY 2020-2024 Northern Middlesex Transportation Improvement Program.

Community	Project #	Project Description	Cost Estimate (4/14/19)
Billerica	609250	BILLERICA-INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	\$3,003,500
Billerica	602945	BILLERICA-MIDDLESEX CANAL ENHANCEMENT	\$3,036,300
Chelmsford	605645	BRIDGE BETTERMENT, C-08-036, WESTFORD STREET OVER I-495	\$12,851,020
Chelmsford	607681	CHELMSFORD- BRIDGE REPLACEMENT, C-08-039, GORHAM STREET (ST 3A) OVER I-495	\$14,341,305
Dracut	608816	DRACUT- METHUEN- RESURFACING AND RELATED WORK ON ROUTE 110	\$5,400,000
Lowell	607887	ROURKE BRIDGE REPLACEMENT, L-15-088, WOOD STREET EXTENSION OVER BOSTON AND MAINE RAILROAD AND MERRIMACK RIVER	\$69,000,000
Lowell	609050	LOWELL-CHURCH STREET 2 WAY CONVERSION	\$5,750,000
Lowell	604694	LOWELL- CONNECTOR RECONSTRUCTION, FROM THORNDIKE STREET TO GORHAM STREET	\$3,409,870
Lowell	605966	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	\$6,215,865
Lowell	609206	LOWELL- DOWNTOWN CANALWAY PEDESTRIAN IMPROVEMENTS & PAWTUCKET CANAL BRIDGE IMPROVEMENTS	\$8,355,900
Tewksbury	608826	TEWKSBURY- ANDOVER- INTERSTATE RESURFACING AND RELATED WORK ON I-93	\$15,014,400

APPENDIX D: TRANSPORTATION EVALUATION CRITERIA INFORMATION

Transportation Evaluation Criteria Summary for FFY 2020-2024 Northern Middlesex Transportation Improvement Program

Project ID	Project Description	Community	Project Cost Estimate (Current Dollars)	Design Status	Project Funded through Regional Targets?	Transportation Evaluation Criteria Scoring Summary*						Total TEC Score
						Condition	Mobility	Safety	Community Effects and Support	Land Use and Economic Development	Environmental Effects	
608227	BILLERICA-YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE 1)	Billerica	\$ 9,673,932	25%	No	2.00	3.00	3.00	1.25	1.75	1.00	12.00
609050	LOWELL - CHURCH STREET 2 WAY CONVERSION	Lowell	\$ 3,050,000	pre 25%	Yes	2.00	2.00	2.33	1.20	1.25	0.25	9.03
609038	WESTFORD - REHABILITATION OF BOSTON ROAD	Westford	\$ 6,095,000	pre 25%	Yes	3.00	1.75	1.33	0.60	0.50	1.00	8.18
608350	DRACUT- IMPROVEMENTS ON NASHUA ROAD	Dracut	\$ 5,210,395	25%	Yes	2.00	1.50	1.67	1.00	0.75	0.50	7.42
609250	BILLERICA-INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	Billerica	\$ 3,003,500	pre 25%	Yes	2.00	1.75	1.67	0.60	0.50	0.25	6.77
607885	LOWELL-PEDESTRIAN WALKWAY & BICYCLE CONNECTION AT PAWTUCKET FALLS OVERLOOK FROM VANDENBERG ESPLANADE TO SCHOOL STREET	Lowell	\$ 2,232,100	pre 25%	No	2.00	1.00	1.50	1.25	0.25	0.67	6.67
608603	DUNSTABLE-IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	Dunstable	\$ 4,254,502	25%	Yes	2.00	1.50	1.00	0.60	1.00	0.50	6.60
605178	BILLERICA-REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	Billerica	\$ 10,390,825	25%	Yes	2.50	1.00	1.00	0.40	0.75	0.75	6.40
609035	TEWKSBURY - ANDOVER ROAD (ROUTE 133)/ RIVER ROAD INTERSECTION IMPROVEMENTS	Tewksbury	\$ 3,518,633	25%	Yes	2.00	1.50	1.00	0.80	0.50	0.50	6.30
608774	TEWKSBURY-ROUTE 38 INTERSECTION IMPROVEMENTS FROM LOWELL LINE TO ASTLE/PIKE STREET	Tewksbury	\$ 3,000,000	pre 25%	No	1.50	1.25	1.67	0.60	1.00	0.25	6.27
608830	WESTFORD-BRIDGE REHABILITATION BEAVER BROOK ROAD OVER BEAVER BROOK (W-26-014)	Westford	\$ 1,620,000	pre 25%	Yes	3.00	1.50	0.67	0.40	0.25	0.25	6.07
604694	LOWELL- CONNECTOR RECONSTRUCTION, FROM THORNDIKE STREET TO GORHAM STREET	Lowell	\$ 3,409,870	pre 25%	Yes	1.00	1.00	1.67	0.80	0.75	0.50	5.72
605966	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	Lowell	\$ 6,215,865	pre 25%	Yes	2.00	0.25	1.00	1.00	0.75	0.50	5.50
607401	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	Chelmsford	\$ 1,172,500	pre 25%	Yes	1.00	1.00	1.33	0.40	1.00	0.75	5.48
608861	WESTFORD - BRIDGE REPLACEMENT, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK	Westford	\$ 2,205,120	pre 25%	No	3.00	1.00	0.33	0.40	0.25	0.25	5.23
608375	CHELMSFORD- INTERSECTION IMPROVEMENTS AT BOSTON ROAD AND CONCORD ROAD	Chelmsford	\$ 2,440,923	25%	Yes	1.50	1.00	1.67	0.60	0.25	0.00	5.02
608297	TEWKSBURY- RESURFACING AND SIDEWALK RECONSTRUCTION ON ROUTE 38	Tewksbury	\$ 4,200,000	pre 25%	Yes	2.00	0.25	1.00	1.00	0.50	0.25	5.00
602945	BILLERICA-MIDDLESEX CANAL ENHANCEMENT	Billerica	\$ 3,036,300	pre 25%	Yes	1.00	0.33	0.50	0.75	0.50	1.33	4.42

TEC Scoring Summary prepared by NMCOG and MassDOT 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

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 Surface Improvement	Magnitude of Improvement of other Infrastructure Elements	Subtotal	Effect on magnitude and duration of congestion	Effect on travel time and connectivity/access	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 Compatability Index	Subtotal	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	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 other	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
608227	BILLERICA-YANKEE DOODLE BIKE PATH CONSTRUCTION (PHASE 1)	Billerica	\$ 9,673,932	25%	3	1	2.00	NA	3	NA	NA	3	3	3.00	NA	3	NA	3	3.00	1	3	0	NA	1	1.25	1	2	3	1	1.75	3	-1	1	NA	1.00	12.00
609050	LOWELL - CHURCH STREET 2 WAY CONVERSION	Lowell	\$ 3,050,000	pre 25%	2	2	2.00	2	2	2	NA	NA	2.00	3	3	1	NA	2.33	2	2	2	0	0	1.20	2	1	2	0	1.25	1	0	0	0	0.25	9.03	
609038	WESTFORD - REHABILITATION OF BOSTON ROAD	Westford	\$ 6,095,000	pre 25%	3	3	3.00	2	2	1	2	NA	1.75	1	2	1	NA	1.33	1	2	0	0	0	0.60	1	1	0	0	0.50	1	2	1	0	1.00	8.18	
608350	DRACUT- IMPROVEMENTS ON NASHUA ROAD	Dracut	\$ 5,210,395	25%	2	2	2.00	1	1	2	2	NA	1.50	2	2	1	NA	1.67	2	2	0	0	1	1.00	1	1	1	0	0.75	1	1	0	0	0.50	7.42	
609250	BILLERICA-INTERSECTION IMPROVEMENTS AT BOSTON ROAD (ROUTE 3A), LEXINGTON STREET AND GLAD VALLEY ROAD	Billerica	\$ 3,003,500	pre 25%	2	2	2.00	2	2	1	2	NA	1.75	2	2	1	NA	1.67	1	2	0	0	0	0.60	1	0	1	0	0.50	1	0	0	0	0.25	6.77	
607885	LOWELL-PEDESTRIAN WALKWAY & BICYCLE CONNECTION AT PAWTUCKET FALLS OVERLOOK FROM VANDENBERG ESPLANADE TO SCHOOL STREET	Lowell	\$ 2,232,000	pre 25%	2	2	2.00	NA	2	NA	NA	1	0	1.00	NA	1	NA	2	1.50	1	2	2	NA	0	1.25	1	0	0	0	0.25	1	0	1	NA	0.67	6.67
608603	DUNSTABLE-IMPROVEMENTS ON MAIN STREET (ROUTE 113), FROM PLEASANT STREET TO 750 FT EAST OF WESTFORD STREET	Dunstable	\$ 4,254,502	25%	2	2	2.00	1	1	2	2	NA	1.50	1	2	0	NA	1.00	1	2	0	0	0	0.60	1	1	2	0	1.00	1	0	1	0	0.50	6.60	
605178	BILLERICA-REHABILITATION ON BOSTON ROAD (ROUTE 3A) FROM BILLERICA TOWN CENTER TO FLOYD STREET	Billerica	\$ 10,390,825	25%	2	3	2.50	1	1	1	1	NA	1.00	1	1	1	NA	1.00	1	1	0	0	0	0.40	1	1	1	0	0.75	1	1	1	0	0.75	6.40	
609035	TEWKSBURY - ANDOVER ROAD (ROUTE 133)/ RIVER ROAD INTERSECTION IMPROVEMENTS	Tewksbury	\$ 3,518,633	25%	2	2	2.00	1	1	2	2	NA	1.50	1	1	1	NA	1.00	2	2	0	0	0	0.80	1	1	0	0	0.50	2	0	0	0	0.50	6.30	
608774	TEWKSBURY-ROUTE 38 INTERSECTION IMPROVEMENTS FROM LOWELL LINE TO ASTLE/PIKE STREET	Tewksbury	\$ 3,000,000	pre 25%	2	1	1.50	1	1	1	2	NA	1.25	2	2	1	NA	1.67	0	2	1	0	0	0.60	2	1	1	0	1.00	1	0	0	0	0.25	6.27	
608830	WESTFORD-BRIDGE REHABILITATION BEAVER BROOK ROAD OVER BEAVER BROOK (W-26-014)	Westford	\$ 1,620,000	pre 25%	3	3	3.00	0	2	2	2	NA	1.50	0	2	0	NA	0.67	0	2	0	0	0	0.40	1	0	0	0	0.25	0	1	0	0	0.25	6.07	
604694	LOWELL- CONNECTOR RECONSTRUCTION, FROM THORNDIKE STREET TO GORHAM STREET	Lowell	\$ 3,409,870	pre 25%	1	1	1.00	1	1	1	1	NA	1.00	2	1	2	NA	1.67	1	1	1	1	0	0.80	1	1	1	0	0.75	1	1	0	0	0.50	5.72	
605966	LOWELL- RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY	Lowell	\$ 6,215,865	pre 25%	2	2	2.00	0	0	1	0	NA	0.25	0	1	2	NA	1.00	1	2	1	1	0	1.00	1	1	1	0	0.75	0	2	0	0	0.50	5.50	
607401	CHELMSFORD- TRAFFIC SIGNAL INSTALLATION AT ROUTE 110 & ROUTE 495 (2 LOCATIONS)	Chelmsford	\$ 1,172,500	pre 25%	1	1	1.00	1	1	1	1	NA	1.00	2	1	1	NA	1.33	1	1	0	0	0	0.40	1	1	2	0	1.00	2	1	0	0	0.75	5.48	
608861	WESTFORD - BRIDGE REPLACEMENT, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK	Westford	\$ 2,205,120	pre 25%	3	3	3.00	0	2	1	1	NA	1.00	0	1	0	NA	0.33	1	1	0	0	0	0.40	1	0	0	0	0.25	0	1	0	0	0.25	5.23	

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 Surface Improvement	Magnitude of Improvement of other Infrastructure Elements	Subtotal	Effect on magnitude and duration of congestion	Effect on travel time and connectivity/access	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 Compatability Index	Subtotal	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	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 other	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
608375	CHELMSFORD- INTERSECTION IMPROVEMENTS AT BOSTON ROAD AND CONCORD ROAD	Chelmsford	\$ 2,440,923	25%	1	2	1.50	1	1	1	1	NA	NA	1.00	2	2	1	NA	1.67	2	1	0	0	0	0.60	0	0	1	0	0.25	1	-1	0	0	0.00	5.02
608297	TEWKSBURY- RESURFACING AND SIDEWALK RECONSTRUCTION ON ROUTE 38	Tewksbury	\$ 4,200,000	pre 25%	3	1	2.00	0	0	1	0	NA	NA	0.25	1	2	0	NA	1.00	1	3	0	0	1	1.00	0	1	1	0	0.50	1	0	0	0	0.25	5.00
602945	BILLERICA-MIDDLESEX CANAL ENHANCEMENT	Billerica	\$ 3,036,300	pre 25%	1	1	1.00	NA	0	NA	NA	0	1	0.33	NA	1	NA	0	0.50	1	2	0	NA	0	0.75	0	1	1	0	0.50	1	0	3	NA	1.33	4.42

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: Lowell-Connector Reconstruction from Thorndike Street to Gorham Street

Project Cost: \$' ă \$- ž +\$

Project Number: 604694

Design status: Pre 25%

Jurisdiction: Lowell

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	1	1	2		1	1	1
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	1	1	1		1	1	1
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	1	2		1	1	0	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	1			1	0	0	
				Effect on development and redevelopment of housing stock			
				0			
Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
1.00		1.00	1.67		0.80	0.75	0.50

Total Score (-18 to +18)
5.72

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: LOWELL - CHURCH STREET 2 WAY CONVERSION
Project Cost: \$3,050,000
Project Number: 609050
Design status: PRELIMINARY DESIGN
Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other 2	Business effects: right-of-way, access, noise, traffic, parking, freight access other 2	Air Quality/Climate effects 1
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support 2	Sustainable development effects 1	Water quality/supply effects; wetlands effects 0
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods 2	Consistent with regional land-use and economic development plans 2	Historic and cultural resource effects 0
		Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods 0	Effect on job creation. 0	Effect on wildlife and endangered species 0
					Effect on development and redevelopment of housing stock 0		
Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
2		2	2.33		1.2	1.25	0.25
							Total Score (-18 to +18)
							9.03

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: TEWKSBURY - INTERSECTION IMPROVEMENTS AT ANDOVER ROAD AND RIVER ROAD

Project Cost: \$ 2.5 million

Project Number: 609035

Design status: ✈ Yg] b

Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other 2	Business effects: right-of-way, access, noise, traffic, parking, freight access other 1	Air Quality/Climate effects 2
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support 2	Sustainable development effects 1	Water quality/supply effects; wetlands effects 0
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods 0	Consistent with regional land-use and economic development plans 0	Historic and cultural resource effects 0
		Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods 0	Effect on job creation. 0	Effect on wildlife and endangered species 0
					Effect on development and redevelopment of housing stock 0		
Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
2		1.5	1.00		0.8	0.5	0.5
							Total Score (-18 to +18)
							6.30

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: **CK 9 @ TEWKSBURY - ROUTE 38 INTERSECTION IMPROVEMENTS**

Project Cost: **\$3,000,000**

Project Number: **608774**

Design status: **PRELIMINARY DESIGN**

Jurisdiction: **MassDOT**

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	2	1	2		0	2	1
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	1	1	2		2	1	0
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	1	1		1	1	0	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	2			0	0	0	
				Effect on development and redevelopment of housing stock			
				0			
Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
1.5		1.25	1.67		0.6	1	0.25
							Total Score (-18 to +18)
							6.27

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: CHELMSFORD - INTERSECTION IMPROVEMENTS AT BOSTON ROAD AND CONCORD ROAD

Project Cost: \$2,000,000

Project Number: 608375

Design status: 25% Design

Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	1	1	2		2	0	1
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	2	1	2		1	0	-1
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	1	1		0	1	0	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	1			0	0	0	
				Effect on development and redevelopment of housing stock			
				0			
Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
1.5		1	1.67		0.6	0.25	0

Total Score (-18 to +18)
5.02

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: DRACUT - IMPROVEMENTS ON NASHUA ROAD

Project Cost: \$5,822 -)

Project Number: 608350

Design status: DESIGN

Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	2	1	2		2	1	1
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	2	1	2		2	1	1
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	2	1		0	1	0	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	2			0	0	0	
				Effect on development and redevelopment of housing stock			
				1			
	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
	2	1.5	1.67		1	0.75	0.5
							Total Score (-18 to +18)
							7.42

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: TEWKSBURY - RESURFACING AND SIDEWALK RECONSTRUCTION ON ROUTE 38
Project Cost: \$4,200,000
Project Number: 608297
Design status: PRELIMINARY DESIGN
Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	3	0	1		1	0	1
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	1	0	2		3	1	0
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	1	0		0	1	0	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	0			0	0	0	
				Effect on development and redevelopment of housing stock			
				1			
	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
	2	0.25	1.00		1	0.5	0.25
							Total Score (-18 to +18)
							5.00

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Bicycle/Pedestrian Improvement/Expansion Projects

Project Name: BILLERICA - YANKEE DOODLE 6-9 D5 H< 7 CBGHFI 7 HCB fD< 5 G9 %L
Project Cost: \$2,828,000
Project Number: 608227
Design status: 25% Design
Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Bicycle/Pedestrian Facilities	Magnitude of surface condition improvement 3	Number of New Users 3	Effect on Bicycle Compatability Index 3	Cost per User	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other 1	Business effects: right-of-way, access, noise, traffic, parking, freight access other 1	Air Quality/Climate effects 3
	Magnitude of improvement of other infrastructure elements 1	Effect on travel time/access/connectivity/access for existing users 3	Effect on pedestrian safety 3	Cost per Linear Mile	Environmental Justice effects 0	Sustainable development effects 2	Water quality/supply effects; wetlands effects -1
		Consistency with State Bicycle and/or Pedestrian Plans 3			Public, local government, legislative, and regional support 3	Consistent with regional land-use and economic development plans 3	Historic and cultural resource effects 1
					Effect on development and redevelopment of housing stock. 1	Effect on job creation. 1	
	Avg. Score (-3 to +3) 2	Avg. Score (-3 to +3) 3	Avg. Score (-3 to +3) 3		Avg. Score (-3 to +3) 1.25	Avg. Score (-3 to +3) 1.75	Avg. Score (-3 to +3) 1.00
Total Score (-18 to +18)							12.00

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Bicycle/Pedestrian Improvement/Expansion Projects

Project Name: @CK 9 @@! D5 K HI 7 9 ? H: 5 @@G CJ9F @CC?
Project Cost: \$2,232,000
Project Number: 607885
Design status: Pre 25% Design
Jurisdiction: Lowell

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Bicycle/Pedestrian Facilities	Magnitude of surface condition improvement 2	Number of New Users 1	Effect on Bicycle Compatability Index 1	Cost per User	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other 1	Business effects: right-of-way, access, noise, traffic, parking, freight access other 1	Air Quality/Climate effects 1
	Magnitude of improvement of other infrastructure elements 2	Effect on travel time/access/connectivity/access for existing users 2	Effect on pedestrian safety 2	Cost per Linear Mile	Environmental Justice effects 2	Sustainable development effects 0	Water quality/supply effects; wetlands effects 0
		Consistency with State Bicycle and/or Pedestrian Plans 0			Public, local government, legislative, and regional support 2	Consistent with regional land-use and economic development plans 0	Historic and cultural resource effects 1
					Effect on development and redevelopment of housing stock. 0	Effect on job creation. 0	
	Avg. Score (-3 to +3) 2	Avg. Score (-3 to +3) 1	Avg. Score (-3 to +3) 1.5		Avg. Score (-3 to +3) 1.25	Avg. Score (-3 to +3) 0.25	Avg. Score (-3 to +3) 0.67
							Total Score (-18 to +18) 6.67

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: Chelmsford - Traffic Signal Installation at Route 110 and I-495 (2 locations)
Project Cost: \$1,172,500
Project Number: 607401
Design status: Pre 25%
Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	1	1	2		1	1	2
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	1	1	1		1	1	1
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	1	1		0	2	0	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	1			0	0	0	
				Effect on development and redevelopment of housing stock			
				0			
Avg. Score (-3 to +3)					Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
1					0.4	1	0.75
							Total Score (-18 to +18)
							5.48

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: LOWELL-RECONSTRUCTION & RELATED WORK ON VFW HIGHWAY
Project Cost: \$6,215,865
Project Number: 605966
Design status: Preliminary
Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	2	0	0		1	1	0
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	2	0	1		2	1	2
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	1	2		1	1	0	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	0			1	0	0	
				Effect on development and redevelopment of housing stock			
				0			
Avg. Score (-3 to +3)					Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
2					1	0.75	0.5
					Total Score (-18 to +18)		
					5.5		

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: Billerica:Rehab of Boston Road
Project Cost: \$10,910,825
Project Number: 605178
Design status: 25% DESIGN
Jurisdiction: Municipal

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	2	1	1		1	1	1
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	3	1	1		1	1	1
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	1	1		0	1	1	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	1			0	0	0	
				Effect on development and redevelopment of housing stock			
				0			
Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
2.5		1	1.00		0.4	0.75	0.75

Total Score (-18 to +18)
6.40

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: Billerica - Intersection Improvements at Boston Road (Route 3A), Lexington Street and Glad Valley Road
Project Cost: \$3,003,500
Project Number: 609250
Design status: Preliminary Design
Jurisdiction: Billerica

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other 1	Business effects: right-of-way, access, noise, traffic, parking, freight access other 1	Air Quality/Climate effects 1
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support 2	Sustainable development effects 0	Water quality/supply effects; wetlands effects 0
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods 0	Consistent with regional land-use and economic development plans 1	Historic and cultural resource effects 0
		Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods 0	Effect on job creation. 0	Effect on wildlife and endangered species 0
					Effect on development and redevelopment of housing stock 0		
Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
2.00		1.75	1.67		0.60	0.50	0.25
							Total Score (-18 to +18)
							6.77

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: Improvements on Main Street (Rte 113), from Pleasant Street to 750 feet East of Westford Street, Dunstable
Project Cost: \$4,894,986
Project Number: 608603
Design status: 25% Design
Jurisdiction: Dunstable

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	2	1	1		1	1	1
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	2	1	2		2	1	0
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	2	0		0	2	1	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	2			0	0	0	
				Effect on development and redevelopment of housing stock			
				0			
Avg. Score (-3 to +3)					Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
2.00					0.60	1.00	0.50
				Total Score (-18 to +18)			
				6.60			

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: WESTFORD-BOSTON ROAD REHABILITATION
Project Cost: \$6,095,000
Project Number: 609038
Design status: PRELIMINARY DESIGN
Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other 1	Business effects: right-of-way, access, noise, traffic, parking, freight access other 1	Air Quality/Climate effects 1
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support 2	Sustainable development effects 1	Water quality/supply effects; wetlands effects 2
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods 0	Consistent with regional land-use and economic development plans 0	Historic and cultural resource effects 1
		Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods 0	Effect on job creation. 0	Effect on wildlife and endangered species 0
					Effect on development and redevelopment of housing stock 0		
	Avg. Score (-3 to +3) 3	Avg. Score (-3 to +3) 1.75	Avg. Score (-3 to +3) 1.33		Avg. Score (-3 to +3) 0.6	Avg. Score (-3 to +3) 0.5	Avg. Score (-3 to +3) 1

Total Score (-18 to +18)
8.18

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: WESTFORD-BRIDGE REPLACEMENT, W-26-002, STONY BROOK ROAD OVER THE STONY BROOK
Project Cost: \$2,205,120
Project Number: 608861
Design status: PRELIMINARY DESIGN
Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	3	0	0		1	1	0
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	3	2	1		1	0	1
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	1	0		0	0	0	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	1			0	0	0	
				Effect on development and redevelopment of housing stock			
				0			
	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
	3	1	0.33		0.4	0.25	0.25

Total Score (-18 to +18)
5.23

TRANSPORTATION EVALUATION CRITERIA

Highway-funded Roadway Improvement/Expansion Projects

Project Name: WESTFORD-BEAVER BROOK ROAD BRIDGE OVER BEAVER BROOK REHABILITATION
Project Cost: \$1,620,000
Project Number: 608830
Design status: PRELIMINARY DESIGN
Jurisdiction: MassDOT

PROJECT TYPE	TRANSPORTATION CRITERIA				OTHER IMPACT CRITERIA		
	Condition	Mobility	Safety	Cost Effectiveness	Community Effects and Support	Land Use and Economic Development	Environmental Effects
Roadways	Magnitude of pavement condition improvement	Effect on magnitude and duration of congestion	Effect on crash rate compared to state average	Cost per Unit Change in Condition	Residential effects: right-of-way, noise, aesthetics, cut-through traffic, other	Business effects: right-of-way, access, noise, traffic, parking, freight access other	Air Quality/Climate effects
	3	0	0		0	1	0
	Magnitude of improvement of other infrastructure elements	Effect on travel time and connectivity/access	Effect on bicycle and pedestrian safety	Cost per Linear Mile	Public, local government, legislative, and regional support	Sustainable development effects	Water quality/supply effects; wetlands effects
	3	2	2		2	0	1
		Effect on other modes using facility	Effect on transportation security and evacuation routes	Cost per AADT	Effect on service to minority or low income neighborhoods	Consistent with regional land-use and economic development plans	Historic and cultural resource effects
	2	0		0	0	0	
	Effect on regional and local traffic			Other impact/benefits to minority or low income neighborhoods	Effect on job creation.	Effect on wildlife and endangered species	
	2			0	0	0	
				Effect on development and redevelopment of housing stock			
				0			
	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)		Avg. Score (-3 to +3)	Avg. Score (-3 to +3)	Avg. Score (-3 to +3)
	3	1.5	0.67		0.4	0.25	0.25
							Total Score (-18 to +18)
							6.07

APPENDIX E: STATEWIDE FUNDING TARGETS

**FFY 2020-2024 STIP
2020 BUDGET**

	Obligation authority <i>(federal aid only)</i>	Matching funds	FFY 2020 (Proposed) <i>(federal aid + match)</i>
Base obligation authority	\$ 626,330,019		
Planned redistribution request	\$ 50,000,000		
Total Estimated Funding Available	\$ 676,330,019		
ABP GANS Repayment	\$ (81,570,000)		
Total non-earmarked funding available	\$ 594,760,019	\$ 139,025,281	\$ 733,785,300
Planning / Adjustments / Pass-throughs			
Award adjustments, change orders, etc.	\$ 27,084,260	\$ 6,771,065	\$ 33,855,325
Metropolitan planning	\$ 10,008,876	\$ 2,502,219	\$ 12,511,095
State planning and research	\$ 20,431,055	\$ 5,107,764	\$ 25,538,819
Freight Plan flex to Rail and Transit	\$ 2,245,872	\$ 561,468	\$ 2,807,340
Recreational trails	\$ 1,186,729	\$ 296,682	\$ 1,483,411
Railroad grade crossings	\$ 2,000,000	\$ 222,222	\$ 2,222,222
SRTS education	\$ 1,080,000	\$ 270,000	\$ 1,350,000
Transit grant program	\$ 1,580,000	\$ 395,000	\$ 1,975,000
<i>subtotal of planning / adjustments / pass-throughs</i>	\$ 65,616,792	\$ 16,126,420	\$ 81,743,212
Funding for regional priorities	regional share %	MPO	Total federal aid
			Matching funds
			Total funding (proposed)
	3.5596%	Berkshire	\$ 6,791,857
	42.9671%	Boston	\$ 81,982,925
	4.5851%	Cape Cod	\$ 8,748,552
	8.6901%	Central Mass	\$ 16,581,054
	2.5397%	Franklin	\$ 4,845,848
	0.3100%	Martha's Vineyard	\$ 591,492
	4.4296%	Merrimack Valley	\$ 8,451,852
	4.4596%	Montachusett	\$ 8,509,093
	0.2200%	Nantucket	\$ 419,769
	3.9096%	Northern Middlesex	\$ 7,459,671
	4.5595%	Old Colony	\$ 8,699,706
	10.8099%	Pioneer Valley	\$ 20,625,716
	8.9601%	Southeastern Mass	\$ 17,096,225
		<i>Total funding of regional priorities</i>	\$ 190,803,952
Highway Division programs			\$ 47,700,940
Reliability programs			\$ 75,197,921
Bridge program			\$ 63,681,254
			\$ 347,620,529
		<i>Inspections</i>	\$ 151,472,055
		<i>Systematic maintenance</i>	\$ 14,320,000
		<i>On-system NHS (minimum)</i>	\$ 8,000,000
		<i>On-System Non-NHS</i>	\$ 94,900,000
		<i>Off-system</i>	\$ 9,100,000
Interstate pavement program			\$ 28,500,000
			\$ 7,125,000
			\$ 37,585,665
			\$ 4,176,185
			\$ 41,761,850

**FFY 2020-2024 STIP
2020 BUDGET**

Non-interstate DOT pavement program	\$ 65,185,665	\$ 16,296,416	\$ 81,482,081
Roadway improvements program	\$ 3,000,000	\$ 750,000	\$ 3,750,000
Safety improvements program	\$ 20,000,000	\$ 2,916,667	\$ 22,916,667
Modernization programs	\$ 34,400,000	\$ 6,516,667	\$ 40,916,667
ADA retrofits program	\$ -	\$ -	\$ -
Intersection improvements program	\$ 17,000,000	\$ 2,166,667	\$ 19,166,667
Intelligent Transportation Systems program	\$ 10,000,000	\$ 2,500,000	\$ 12,500,000
Roadway reconstruction program	\$ 7,400,000	\$ 1,850,000	\$ 9,250,000
Expansion programs	\$ 20,000,000	\$ 5,000,000	\$ 25,000,000
Bicycles and pedestrians program	\$ 20,000,000	\$ 5,000,000	\$ 25,000,000
Capacity program	\$ -	\$ -	\$ -

**FFY 2020-2024 STIP
2021 BUDGET**

		Obligation authority <i>(federal aid only)</i>	Matching funds	FFY 2021 (Proposed) <i>(federal aid + match)</i>	
Base obligation authority		\$ 641,988,270			
Planned redistribution request		\$ 50,000,000			
Total Estimated Funding Available		\$ 691,988,270			
ABP GANS Repayment		\$ (85,190,000)			
Total non-earmarked funding available		\$ 606,798,270	\$ 143,814,674	\$ 750,612,944	
Planning / Adjustments / Pass-throughs					
Award adjustments, change orders, etc.		\$ 18,903,344	\$ 4,725,836	\$ 23,629,180	
Metropolitan planning		\$ 10,008,876	\$ 2,502,219	\$ 12,511,095	
State planning and research		\$ 20,431,055	\$ 5,107,764	\$ 25,538,819	
Freight Plan flex to Rail and Transit		\$ 2,245,872	\$ 561,468	\$ 2,807,340	
Recreational trails		\$ 1,186,729	\$ 296,682	\$ 1,483,411	
Railroad grade crossings		\$ 2,000,000	\$ 222,222	\$ 2,222,222	
SRTS education		\$ 1,080,000	\$ 270,000	\$ 1,350,000	
Transit grant program		\$ 1,580,000	\$ 395,000	\$ 1,975,000	
<i>subtotal of planning / adjustments / pass-throughs</i>		\$ 57,435,876	\$ 14,081,191	\$ 71,517,067	
Funding for regional priorities					
	regional share %	MPO	Total federal aid	Matching funds	Total funding (proposed)
	3.5596%	Berkshire	\$ 6,929,328	\$ 1,732,332	\$ 8,661,660
	42.9671%	Boston	\$ 83,642,302	\$ 20,910,575	\$ 104,552,877
	4.5851%	Cape Cod	\$ 8,925,627	\$ 2,231,407	\$ 11,157,034
	8.6901%	Central Mass	\$ 16,916,663	\$ 4,229,166	\$ 21,145,829
	2.5397%	Franklin	\$ 4,943,930	\$ 1,235,983	\$ 6,179,913
	0.3100%	Martha's Vineyard	\$ 603,464	\$ 150,866	\$ 754,330
	4.4296%	Merrimack Valley	\$ 8,622,922	\$ 2,155,730	\$ 10,778,652
	4.4596%	Montachusett	\$ 8,681,322	\$ 2,170,330	\$ 10,851,652
	0.2200%	Nantucket	\$ 428,265	\$ 107,066	\$ 535,331
	3.9096%	Northern Middlesex	\$ 7,610,659	\$ 1,902,665	\$ 9,513,324
	4.5595%	Old Colony	\$ 8,875,793	\$ 2,218,948	\$ 11,094,741
	10.8099%	Pioneer Valley	\$ 21,043,192	\$ 5,260,798	\$ 26,303,990
	8.9601%	Southeastern Mass	\$ 17,442,261	\$ 4,360,565	\$ 21,802,827
<i>Total funding of regional priorities</i>		\$ 194,665,923	\$ 48,666,432	\$ 243,332,161	
Highway Division programs		\$ 351,348,526	\$ 81,067,051	\$ 432,415,577	
Reliability programs		\$ 242,628,526	\$ 55,414,829	\$ 298,043,354	
Bridge program		\$ 143,847,945	\$ 35,961,986	\$ 179,809,931	
	<i>Inspections</i>	\$ -	\$ -	\$ -	
	<i>Systematic maintenance</i>	\$ 8,000,000	\$ 2,000,000	\$ 10,000,000	
	<i>On-system NHS (minimum)</i>	\$ 94,900,000	\$ 23,725,000	\$ 118,625,000	
	<i>On-System Non-NHS</i>	\$ 9,100,000	\$ 2,275,000	\$ 11,375,000	
	<i>Off-system</i>	\$ 28,500,000	\$ 7,125,000	\$ 35,625,000	

**FFY 2020-2024 STIP
2021 BUDGET**

Interstate pavement program	\$ 24,744,581	\$ 2,749,398	\$ 27,493,979
Non-interstate DOT pavement program	\$ 54,036,000	\$ 13,509,000	\$ 67,545,000
Roadway improvements program	\$ 3,000,000	\$ 750,000	\$ 3,750,000
Safety improvements program	\$ 17,000,000	\$ 2,444,444	\$ 19,444,444
Modernization programs	\$ 80,720,000	\$ 18,652,222	\$ 99,372,222
ADA retrofits program	\$ 1,400,000	\$ 350,000	\$ 1,750,000
Intersection improvements program	\$ 16,000,000	\$ 2,472,222	\$ 18,472,222
Intelligent Transportation Systems program	\$ 8,000,000	\$ 2,000,000	\$ 10,000,000
Roadway reconstruction program	\$ 55,320,000	\$ 13,830,000	\$ 69,150,000
Expansion programs	\$ 28,000,000	\$ 7,000,000	\$ 35,000,000
Bicycles and pedestrians program	\$ 28,000,000	\$ 7,000,000	\$ 35,000,000
Capacity program	\$ -	\$ -	\$ -

**FFY 2020-2024 STIP
2022 BUDGET**

	Obligation authority <i>(federal aid only)</i>	Matching funds	FFY 2022 (Proposed) <i>(federal aid + match)</i>
Base obligation authority	\$ 658,744,163		
Planned redistribution request	\$ 50,000,000		
Total Estimated Funding Available	\$ 708,744,163		
ABP GANS Repayment	\$ (89,590,000)		
Total non-earmarked funding available	\$ 619,154,163	\$ 147,301,057	\$ 766,455,220
Planning / Adjustments / Pass-throughs			
Award adjustments, change orders, etc.	\$ 25,270,365	\$ 6,317,591	\$ 31,587,956
Metropolitan planning	\$ 10,008,876	\$ 2,502,219	\$ 12,511,095
State planning and research	\$ 20,431,055	\$ 5,107,764	\$ 25,538,819
Freight Plan flex to Rail and Transit	\$ 2,245,872	\$ 561,468	\$ 2,807,340
Recreational trails	\$ 1,186,729	\$ 296,682	\$ 1,483,411
Railroad grade crossings	\$ 2,000,000	\$ 222,222	\$ 2,222,222
SRTS education	\$ 1,080,000	\$ 270,000	\$ 1,350,000
Transit grant program	\$ 1,580,000	\$ 395,000	\$ 1,975,000
<i>subtotal of planning / adjustments / pass-throughs</i>	\$ 63,802,897	\$ 15,672,946	\$ 79,475,843
Funding for regional priorities	regional share %	MPO	Total federal aid
			Matching funds
			Total funding (proposed)
	3.5596%	Berkshire	\$ 7,070,426
	42.9671%	Boston	\$ 85,345,463
	4.5851%	Cape Cod	\$ 9,107,375
	8.6901%	Central Mass	\$ 17,261,128
	2.5397%	Franklin	\$ 5,044,601
	0.3100%	Martha's Vineyard	\$ 615,752
	4.4296%	Merrimack Valley	\$ 8,798,505
	4.4596%	Montachusett	\$ 8,858,094
	0.2200%	Nantucket	\$ 436,986
	3.9096%	Northern Middlesex	\$ 7,765,631
	4.5595%	Old Colony	\$ 9,056,526
	10.8099%	Pioneer Valley	\$ 21,471,682
	8.9601%	Southeastern Mass	\$ 17,797,428
<i>Total funding of regional priorities</i>			\$ 198,629,796
Highway Division programs			\$ 356,721,470
Reliability programs			\$ 57,429,045
Bridge program			\$ 158,167,945
		<i>Inspections</i>	\$ 14,320,000
		<i>Systematic maintenance</i>	\$ 8,000,000
		<i>On-system NHS (minimum)</i>	\$ 94,900,000
		<i>On-System Non-NHS</i>	\$ 9,100,000
		<i>Off-system</i>	\$ 28,500,000
			\$ 39,541,986
			\$ 17,900,000
			\$ 2,000,000
			\$ 23,725,000
			\$ 2,275,000
			\$ 7,125,000
			\$ 10,000,000
			\$ 11,375,000
			\$ 35,625,000

**FFY 2020-2024 STIP
2022 BUDGET**

Interstate pavement program	\$ 22,909,525	\$ 2,545,503	\$ 25,455,028
Non-interstate DOT pavement program	\$ 51,144,000	\$ 12,786,000	\$ 63,930,000
Roadway improvements program	\$ 1,000,000	\$ 250,000	\$ 1,250,000
Safety improvements program	\$ 17,000,000	\$ 2,305,556	\$ 19,305,556
Modernization programs	\$ 78,500,000	\$ 17,541,667	\$ 96,041,667
ADA retrofits program	\$ -	\$ -	\$ -
Intersection improvements program	\$ 15,000,000	\$ 1,666,667	\$ 16,666,667
Intelligent Transportation Systems program	\$ 8,000,000	\$ 2,000,000	\$ 10,000,000
Roadway reconstruction program	\$ 55,500,000	\$ 13,875,000	\$ 69,375,000
Expansion programs	\$ 28,000,000	\$ 7,000,000	\$ 35,000,000
Bicycles and pedestrians program	\$ 28,000,000	\$ 7,000,000	\$ 35,000,000
Capacity program	\$ -	\$ -	

**FFY 2020-2024 STIP
2023 BUDGET**

		Obligation authority <i>(federal aid only)</i>	Matching funds	FFY 2023 (Proposed) <i>(federal aid + match)</i>	
Base obligation authority		\$ 676,662,005			
Planned redistribution request		\$ 50,000,000			
Total Estimated Funding Available		\$ 726,662,005			
ABP GANS Repayment		\$ (93,985,000)			
Total non-earmarked funding available		\$ 632,677,005	\$ 150,023,500	\$ 782,700,504	
Planning / Adjustments / Pass-throughs					
Award adjustments, change orders, etc.		\$ 12,257,029	\$ 3,064,257	\$ 15,321,286	
Metropolitan planning		\$ 10,008,876	\$ 2,502,219	\$ 12,511,095	
State planning and research		\$ 20,431,055	\$ 5,107,764	\$ 25,538,819	
Recreational trails		\$ 1,186,729	\$ 296,682	\$ 1,483,411	
Railroad grade crossings		\$ 2,000,000	\$ 222,222	\$ 2,222,222	
SRTS education		\$ 1,080,000	\$ 270,000	\$ 1,350,000	
Transit grant program		\$ 1,580,000	\$ 395,000	\$ 1,975,000	
<i>subtotal of planning / adjustments / pass-throughs</i>		\$ 48,543,689	\$ 11,858,144	\$ 60,401,833	
Funding for regional priorities					
	regional share %	MPO	Total federal aid	Matching funds	Total funding (proposed)
	3.5596%	Berkshire	\$ 7,224,850	\$ 1,806,213	\$ 9,031,063
	42.9671%	Boston	\$ 87,209,479	\$ 21,802,370	\$ 109,011,849
	4.5851%	Cape Cod	\$ 9,306,287	\$ 2,326,572	\$ 11,632,859
	8.6901%	Central Mass	\$ 17,638,125	\$ 4,409,531	\$ 22,047,657
	2.5397%	Franklin	\$ 5,154,779	\$ 1,288,695	\$ 6,443,474
	0.3100%	Martha's Vineyard	\$ 629,201	\$ 157,300	\$ 786,501
	4.4296%	Merrimack Valley	\$ 8,990,672	\$ 2,247,668	\$ 11,238,340
	4.4596%	Montachusett	\$ 9,051,563	\$ 2,262,891	\$ 11,314,453
	0.2200%	Nantucket	\$ 446,530	\$ 111,632	\$ 558,162
	3.9096%	Northern Middlesex	\$ 7,935,238	\$ 1,983,810	\$ 9,919,048
	4.5595%	Old Colony	\$ 9,254,328	\$ 2,313,582	\$ 11,567,910
	10.8099%	Pioneer Valley	\$ 21,940,642	\$ 5,485,160	\$ 27,425,802
	8.9601%	Southeastern Mass	\$ 18,186,139	\$ 4,546,535	\$ 22,732,674
<i>Total funding of regional priorities</i>		\$ 202,968,036	\$ 50,741,958	\$ 253,709,792	
Highway Division programs		\$ 381,165,279	\$ 87,423,397	\$ 468,588,676	
Reliability programs		\$ 267,601,252	\$ 61,384,440	\$ 326,834,487	
Bridge program		\$ 166,996,123	\$ 41,749,031	\$ 207,515,202	
	<i>Inspections</i>		\$ -	\$ -	
	<i>Systematic maintenance</i>	\$ 8,629,176	\$ 2,157,294	\$ 10,722,914	
	<i>On-system NHS</i>	\$ 94,900,000	\$ 23,725,000	\$ 118,625,000	
	<i>On-System Non-NHS</i>	\$ 9,815,687	\$ 2,453,922	\$ 12,197,315	
	<i>Off-system</i>	\$ 28,500,000	\$ 7,125,000	\$ 35,625,000	
Interstate pavement program		\$ 24,711,290	\$ 2,745,699	\$ 27,456,989	
Non-interstate DOT pavement program		\$ 56,414,722	\$ 14,103,681	\$ 70,518,403	

**FFY 2020-2024 STIP
2023 BUDGET**

Roadway improvements program	\$ 1,142,119	\$ 285,530	\$ 1,427,648
Safety improvements program	\$ 18,336,998	\$ 2,500,500	\$ 20,837,498
Modernization programs	\$ 84,673,787	\$ 18,816,397	\$ 102,880,407
ADA retrofits program	\$ 1,400,000	\$ 350,000	\$ 1,750,000
Intersection improvements program	\$ 16,934,757	\$ 1,881,640	\$ 18,705,529
Intelligent Transportation Systems program	\$ 8,000,000	\$ 2,000,000	\$ 10,000,000
Roadway reconstruction program	\$ 58,339,029	\$ 14,584,757	\$ 72,424,878
Expansion programs	\$ 28,890,241	\$ 7,222,560	\$ 36,112,801
Bicycles and pedestrians program	\$ 28,890,241	\$ 7,222,560	\$ 36,112,801
Capacity program	\$ -	\$ -	\$ -

**FFY 2020-2024 STIP
2024 BUDGET**

	Obligation authority <i>(federal aid only)</i>	Matching funds	FFY 2024 (Proposed) <i>(federal aid + match)</i>
Base obligation authority	\$ 689,684,333		
Planned redistribution request	\$ 50,000,000		
Total Estimated Funding Available	\$ 739,684,333		
ABP GANS Repayment	\$ (98,715,000)		
Total non-earmarked funding available	\$ 640,969,333	\$ 151,980,325	\$ 792,949,658
Planning / Adjustments / Pass-throughs			
Award adjustments, change orders, etc.	\$ 12,257,029	\$ 3,064,257	\$ 15,321,286
Metropolitan planning	\$ 10,008,876	\$ 2,502,219	\$ 12,511,095
State planning and research	\$ 20,431,055	\$ 5,107,764	\$ 25,538,819
Recreational trails	\$ 1,186,729	\$ 296,682	\$ 1,483,411
Railroad grade crossings	\$ 2,000,000	\$ 222,222	\$ 2,222,222
SRTS education	\$ 1,080,000	\$ 270,000	\$ 1,350,000
Transit grant program	\$ 1,580,000	\$ 395,000	\$ 1,975,000
<i>subtotal of planning / adjustments / pass-throughs</i>	\$ 48,543,689	\$ 11,858,144	\$ 60,401,833
Funding for regional priorities	regional share %	MPO	Total federal aid
			Matching funds
			Total funding (proposed)
	3.5596%	Berkshire	\$ 7,319,544
	42.9671%	Boston	\$ 88,352,510
	4.5851%	Cape Cod	\$ 9,428,262
	8.6901%	Central Mass	\$ 17,869,304
	2.5397%	Franklin	\$ 5,222,342
	0.3100%	Martha's Vineyard	\$ 637,448
	4.4296%	Merrimack Valley	\$ 9,108,510
	4.4596%	Montachusett	\$ 9,170,199
	0.2200%	Nantucket	\$ 452,382
	3.9096%	Northern Middlesex	\$ 8,039,243
	4.5595%	Old Colony	\$ 9,375,622
	10.8099%	Pioneer Valley	\$ 22,228,212
	8.9601%	Southeastern Mass	\$ 18,424,500
		<i>Total funding of regional priorities</i>	\$ 205,628,284
Highway Division programs			\$ 88,715,161
Reliability programs			\$ 62,291,428
Bridge program			\$ 211,829,562
		<i>Inspections</i>	\$ 14,320,000
		<i>Systematic maintenance</i>	\$ 8,756,680
		<i>On-system NHS</i>	\$ 94,900,000
		<i>On-System Non-NHS</i>	\$ 9,960,724
		<i>Off-system</i>	\$ 28,500,000
Interstate pavement program			\$ 25,076,422
Non-interstate DOT pavement program			\$ 57,248,203

**FFY 2020-2024 STIP
2024 BUDGET**

Roadway improvements program	\$ 1,158,995	\$ 289,749	\$ 1,448,743
Safety improvements program	\$ 18,607,945	\$ 2,537,447	\$ 21,145,392
Modernization programs	\$ 85,924,923	\$ 19,094,427	\$ 105,019,350
ADA retrofits program	\$ -	\$ -	\$ -
Intersection improvements program	\$ 17,184,985	\$ 1,909,443	\$ 19,094,427
Intelligent Transportation Systems program	\$ 8,000,000	\$ 2,000,000	\$ 10,000,000
Roadway reconstruction program	\$ 60,739,938	\$ 15,184,985	\$ 75,924,923
Expansion programs	\$ 29,317,223	\$ 7,329,306	\$ 36,646,529
Bicycles and pedestrians program	\$ 29,317,223	\$ 7,329,306	\$ 36,646,529
Capacity program	\$ -	\$ -	\$ -

APPENDIX F: SYSTEM PRESERVATION, OPERATIONS AND MAINTENANCE

The numbers in the table below represent actual figures for the previous year, the current year budget/forecast approved by the LRTA Advisory Board, and projections for the out-years as used in the Program Preview meetings with the State. This data indicates that there are sufficient revenues projected to meet the operating needs of the LRTA.

LRTA OPERATING REVENUE AND EXPENSES SUMMARY

Operating Revenue	SFY 2020	SFY 2021	SFY 2022	SFY 2023	SFY 2024
Farebox	\$1,517,994	\$1,540,764	\$1,563,875	\$1,587,333	\$1,611,144
Section 5307	\$3,308,644	\$3,044,830	\$3,131,664	\$3,194,900	\$3,285,644
Section 5311	-0-	-0-	-0-	-0-	\$0
CMAQ/TDM	-0-	-0-	-0-	-0-	\$0
Fully Funded*	-0-	-0-	-0-	-0-	\$0
Jobs Access/ Reverse Commute	\$0	\$0	\$0	\$0	\$0
Advertising	\$75,000	\$75,000	\$75,000	\$80,000	\$80,000
Interest Income	\$21,500	\$21,500	\$21,500	\$21,500	\$21,500
Rental Income	\$1,380,000	\$1,421,400	\$1,464,042	\$1,507,963	\$1,553,202
State Contract Assistance**	\$3,608,306	\$4,055,736	\$4,157,129	\$4,281,843	\$4,388,889
Local Assessment	\$3,005,244	\$3,080,375	\$3,157,384	\$3,236,319	\$3,317,227
Other: operation and maintenance of No. Billerica station and other miscellaneous revenues	\$156,192	\$160,097	\$164,099	\$168,202	\$172,407
TOTAL	\$13,072,880	\$13,399,702	\$13,734,694	\$14,078,061	\$14,430,013
Operating Expenses***	SFY 2020	SFY 2021	SFY 2022	SFY 2023	SFY 2024
TOTAL (see description below)	\$13,072,880	\$13,399,702	\$13,734,694	\$14,078,061	\$14,430,012

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.

APPENDIX G: PUBLIC PARTICIPATION PLAN

Public Participation Plan for the Northern Middlesex Metropolitan Planning Organization



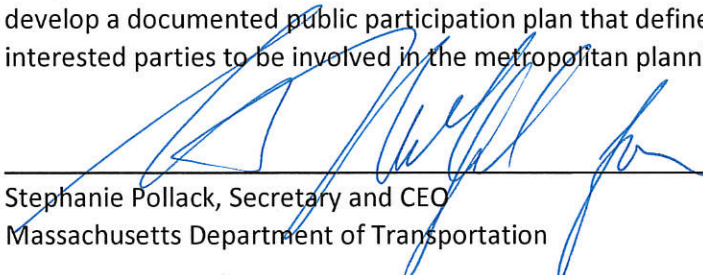
Northern Middlesex Metropolitan Planning Organization
Endorsement: June 20, 2016
Amended: March 22, 2017

Prepared by:
Northern Middlesex Council of Governments
40 Church Street, Suite 200
Lowell, MA 01852


NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION


ENDORSEMENT OF AMENDMENT TO THE 2016 PUBLIC PARTICIPATION PLAN FOR
THE NORTHERN MIDDLESEX REGION

This document will certify that the Northern Middlesex Metropolitan Planning Organization (NMMPO) hereby endorses an Amendment to the 2016 Public Participation Plan (PPP) for the Northern Middlesex Region. This Plan is being endorsed in accordance with the 3C Transportation Planning Process and complies with Title 23 Section 450 if the Code of Federal Regulations (CFR) specifying that the NMMPO develop a documented public participation plan that defines the process for providing opportunities to interested parties to be involved in the metropolitan planning process.

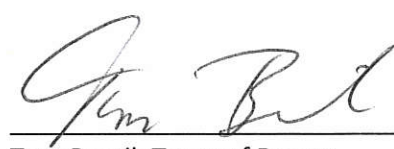

Stephanie Pollack, Secretary and CEO
Massachusetts Department of Transportation
3/22/17
Date


Pat Wojtas, Town of Chelmsford
Chair, Northern Middlesex Council of Governments
3-22-17
Date


Kevin O'Connor, Chair,
Lowell Regional Transit Authority
3/22/17
Date


David Gay, Town of Tewksbury,
NMCOG MPO Representative
3/22/17
Date

Corey Belanger, City Councilor,
City of Lowell MPO Representative
Date


Tom Bomil, Town of Dracut
Lowell Regional Transit Authority Advisory Board MPO Representative
3-22-17
Date

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Notice of Nondiscrimination Rights and Protections to Beneficiaries

Federal "Title VI/Nondiscrimination" Protections

The Northern Middlesex Council of Governments (NMCOG) and the Northern Middlesex Metropolitan Planning Organization (NMMPO) operate 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 within 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 US Department of Transportation policy and guidance on federal Executive Order 13166.

State Nondiscrimination Protections

NMCOG and the NMMPO also comply 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, NMCOG and NMMPO comply 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:

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

Or

Title VI Specialist
Massachusetts Department of Transportation (MassDOT)
Office of Diversity and Civil Rights (ODCR)
10 Park Plaza
Boston, MA 02116
857-368-8580
TTY: 857-368-0603
MASSDOT.CivilRights@state.ma.us

Complaint Filing

To file a complaint alleging a violation of Title VI or related federal nondiscrimination law, contact the Title VI Specialist 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 discriminatory conduct at:

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

Translation

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

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

Se esta informação é necessária em outro idioma, entre em contato com o Especialista NMMPO Título VI em 978-454-8021

ប្រសិនបើលោក-អ្នកត្រូវការបកប្រែព័ត៌មាននេះ សូមទាក់ទងអ្នកឯកទេសលើជំពូកទី៦ របស់NMMPO តាមរយៈលេខទូរស័ព្ទ 978-454-8021

Nếu thông tin này là cần thiết trong một ngôn ngữ khác, xin vui lòng liên hệ với Chuyên NMMPO Tiêu đề VI tại 978-454-8021

如果此信息需要以另一种语言，请聯繫 NMMPO 第六章專家 978-454-8021

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CHAPTER 1: INTRODUCTION

The development of the Northern Middlesex Metropolitan Planning Organization's (NMMPO) Public Participation Plan (PPP) is a key component of the overall transportation planning process. Federal funding for planning and implementing transportation projects requires that projects be derived through a continuing, comprehensive and cooperative (3C) planning process. The Northern Middlesex Metropolitan Planning Organization is the body charged with carrying out the 3C process in the Northern Middlesex region, which consists of the City of Lowell and eight surrounding suburban communities: Billerica, Chelmsford, Dracut, Dunstable, Pepperell, Tewksbury, Tyngsborough and Westford. Public involvement and participation plays a critical role in the decision making process, particularly as it relates to meeting the needs by underserved and under-represented populations, including low income and minority stakeholders, as well as those with disabilities.

1.1 PURPOSE OF THE PUBLIC PARTICIPATION PLAN

The purpose of the Public Participation Plan (PPP) is to describe and outline all outreach activities to be performed by the NMMPO, in order to ensure that **ALL** members of the public are given an opportunity to participate in the transportation planning process. This PPP strives to include those members of the public who are often overlooked during the outreach process. The PPP serves as a guide to NMMPO members and staff in their efforts to provide meaningful opportunities for engaging the public relative to the social, economic and environmental impacts of proposed transportation policies, projects and initiatives within the Northern Middlesex region.

The PPP is based on state and federal guidance and describes the NMMPOs goals, principles and decision-making processes. The Plan outlines the methods and techniques that the NMMPO will utilize to reach out to persons who are low income, minority, Limited English Proficient (LEP), or who have a disability or are otherwise underrepresented. The PPP will be modified as needed based on feedback and input provided by community members.

1.2 GOALS OF THE PUBLIC PARTICIPATION PLAN

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. In accordance with MassDOT's public outreach goals, the Northern Middlesex MPO has adopted the following public outreach goals:

- Solicit inclusive and quality input, and respect the viewpoints of all transportation constituents;
- Provide multiple opportunities for public involvement that are open, meaningful and inclusive, and that consider the need for accessibility, scheduling, informational materials format and the language needs of those with Limited English Proficiency;
- Provide a predictable process that is understandable, with notification provided well in advance (21 days for the Transportation Improvement Program (TIP), Unified Planning Work Program (UPWP), and Regional Transportation Plan (RTP); and 45 days for the Public Participation Plan);

- Increase and maintain partnerships with local and community-based organizations as means of ensuring an open and meaningful involvement process;
- Provide informational materials that are clear, concise and responsive to community needs;
- Periodically evaluate new tools for improving, updating and refining the NMMPO's existing public participation process; and
- Strive to increase public participation and improve outreach to minority, low-income, elderly, youth, Limited English Proficiency (LEP) and accessibility-challenged communities.

1.3 THE PUBLIC PARTICIPATION PLAN UPDATE

Last updated in 2010, the Northern Middlesex Metropolitan Planning Organization's Public Participation Plan has been reviewed in light of new federal requirements and current outreach practices. Updates and revisions to the 2010 PPP are summarized in this section, reflecting directives and requirements outlined in MAP-21 and the FAST Act.

Regional needs are constantly evolving and public participation techniques have been updated to reflect the most current methods to effectively engage the public. The NMMPO will quantitatively monitor the effectiveness of outreach efforts by tracking attendance at public meetings, survey responses, website usage, social media postings, and numbers of comments received through the process. As a result of MassDOT's civil rights guidance, this document also includes specific protocols designed to ensure inclusivity, diversity and accessibility above and beyond what was contained in previous versions of the PPP.

1.4 THE NORTHERN MIDDLESEX MPO AND THE TRANSPORTATION PLANNING PROCESS

The Northern Middlesex Metropolitan Planning Organization (NMMPO) is the policymaking body for the Greater Lowell area, and is required by federal law to carry out a continuing, cooperative and comprehensive planning process that is called the "3C" planning process. These three elements of the 3C planning process are described as follows:

- Continuing: Planning must be maintained as an ongoing activity and should address both short-term needs and the long-term vision for the region;
- Cooperative: The process must involve a wide variety of interested parties through a public participation process; and
- Comprehensive: The process must cover all transportation modes and be consistent with regional and local land use and economic development plans.

The NMMPO has five core functions:

- Establish and manage a fair and impartial setting for effective regional transportation decision making in the metropolitan area;
- Identify and evaluate transportation improvement options and information needed for NMMPO decision making, through planning studies described in the NMMPO's Unified Planning Work Program (UPWP);
- Prepare and maintain a Regional Transportation Plan (RTP) for the metropolitan area, with at least a 20-year horizon, that promotes: mobility and access for people and goods,

as well as an efficient system performance and preservation, and that addresses quality of life, sustainability, resiliency and equity;

- Develop the Transportation Improvement Program (TIP), a short-range (four-year) program of capital improvements drawn from the RTP; and
- Involve the general public by offering all interested persons, including affected constituencies, opportunities to participate in the NMMPO decision-making process, including the development of the RTP, TIP, and UPWP documents.

The end products of the NMMPO's work include studies, reports, plans, technical memoranda, data on transportation issues region, and the production and endorsement of three federally required certification documents: the RTP, TIP and UPWP. Each MPO must produce the three required certification documents in order to be federally certified as eligible to program federal transportation funds.

The membership of the NMMPO is outlined in Table 1.1. The Secretary of MassDOT acts as Chairman of the MPO. Elected officials representing communities in the Northern Middlesex region serve key roles as voting members of the NMMPO. The Chairman of NMCOG is either a Planning Board member or Chief Elected Official. The City Councilor who sits on NMCOG's board is also a voting member of the NMMPO, and the NMCOG MPO representative representing a suburban community is either a Selectmen or Planning Board members from one of the region's nine communities.

Table 1.1: Northern Middlesex MPO Membership Structure

NMMPO Voting Members

Chairman of the Northern Middlesex Council of Governments (NMCOG) (Elected Official)

Chairman of the Lowell Regional Transit Authority (LRTA)

Secretary and Chief Executive Officer of the Massachusetts Department of Transportation (MassDOT)

Administrator of the Highway Division of MassDOT

Chief elected official from the City of Lowell who serves as the City's representative to NMCOG

Selectman elected to serve on the NMCOG Council and further elected by the Council to serve as that town's representative to the NMMPO

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

NMMPO Non Voting Ex-Officio Members

Federal Highway Administration

Federal Transit Administration

1.5 ROLES AND RESPONSIBILITIES OF PARTICIPATING AGENCIES

The primary agencies involved in the transportation planning process for the Northern Middlesex region include the Northern Middlesex Council of Governments (NMCOG), the Lowell Regional Transit Authority (LRTA), the Massachusetts Department of Transportation (MassDOT), the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). These agencies comprise the NMMPO membership and function at the regional, state and federal levels of government to ensure that the transportation needs of the region are met for all modes of transportation.

1.5.1 NORTHERN MIDDLESEX COUNCIL OF GOVERNMENTS

The Northern Middlesex Council of Governments (NMCOG) is the regional planning agency for the Greater Lowell area and serves as technical staff to the NMMPO. NMCOG was created under Chapter 40B of the General Laws of Massachusetts, and is one of thirteen regional planning agencies (RPAs) in the Commonwealth. NMCOG serves its member communities in an advisory capacity and has expertise in transportation, economic and community development, housing, land use, historic preservation, municipal service delivery, environmental and energy issues, municipal service delivery, emergency management, public safety, hazard mitigation and public health. NMCOG's policy-making body is comprised of three members from each community (a Planning Board member, a Board of Selectmen member or City Councilor, and an alternate), and provides policy guidance to the Council's professional staff. The NMCOG planning district includes Billerica, Chelmsford, Dracut, Dunstable, Lowell, Pepperell, Tewksbury, Tyngsborough and Westford. The NMCOG Chairman and a NMCOG representative to the MPO are elected annually by the Council and serve as voting members of the NMMPO.



1.5.2 LOWELL REGIONAL TRANSIT AUTHORITY

The Lowell Regional Transit Authority (LRTA) has statutory responsibility for providing mass transportation under the provisions of Chapter 161B of the Massachusetts General Laws. The LRTA service area includes the following communities: Acton, Billerica, Carlisle, Chelmsford, Dracut, Dunstable, Groton, Lowell, Maynard, Pepperell, Tewksbury, Townsend, Tyngsborough and Westford. A chief elected official or designee from each member community serves on the LRTA Advisory Board. The LRTA Chairman and another Advisory Board member from a community outside of Lowell serve as voting members of the NMMPO. The LRTA Chairman is elected by the LRTA Advisory Board. All voting LRTA Advisory Board members are appointed by the Chief Elected Officials in their community.



1.5.3 MASSACHUSETTS DEPARTMENT OF TRANSPORTATION

In June 2009, Chapter 25 of the Acts of 2009, “An Act Modernizing the Transportation Systems of the Commonwealth of Massachusetts”, was signed into law. The transportation reform legislation integrated all Massachusetts transportation agencies and authorities into a new MassDOT. A five-member Board of Directors appointed by the Governor oversees the organization. MassDOT is administered by a Secretary of Transportation, who is appointed by the Governor to serve as the agency’s Chief Executive Officer. MassDOT is comprised of four divisions: Highway, Mass Transit, Aeronautics and the Registry of Motor Vehicles (RMV), in addition to Enterprise Services, which includes an Office of Transportation Planning. The MassDOT Highway Administrator and the Secretary of Transportation or their designees serve as members of the NMMPO.

1.5.4 FEDERAL HIGHWAY ADMINISTRATION AND FEDERAL TRANSIT ADMINISTRATION

An annual certification process through FHWA and FTA ensures that the State and the NMMPO are adhering to the 3C transportation planning process in accordance with federal requirements. Approval of federally-aided transportation projects requires the planning process to be “cooperative, comprehensive, and continuing.” FHWA and FTA are ex-officio non-voting members of the NMMPO.

1.6 CURRENT FEDERAL REGULATIONS

Transportation decision making follows specific procedures as directed by federal and state regulations and further shaped by the NMMPO’s commitment to civil rights and sound civic engagement. The NMMPO strives to maintain a collaborative relationship with community stakeholders and has developed this PPP to foster collaboration that is all-inclusive.

1.6.1 TITLE 23 SECTION 450 OF THE CODE OF FEDERAL REGULATIONS

Title 23, Section 450.316 of the Code of Federal Regulations (CFR) specifies that the NMMPO develop and use a documented participation plan that defines the process for providing opportunities to interested parties to be involved in the metropolitan transportation planning process. The PPP developed by the NMMPO, in consultation with all interested parties, complies with Title 23, Section 450 in that it describes explicit procedures, strategies and desired outcomes, and by:

- Providing adequate public notice of public participation activities and time for public review and comment;
- Providing timely notice and reasonable access to information about transportation issues and processes;
- Making public information available on websites and social media;
- Holding public meetings at convenient and accessible locations and times;
- Demonstrating explicit consideration and response to public input received during development of NMMPO documents;
- Seeking out and considering the needs of traditionally underserved populations, such as low-income and minority households in the region; and
- Periodically reviewing the effectiveness of the procedures and strategies contained in the public participation plan.

The Title 23, Section 450.316 of the CFR requires a minimum public comment period of 45 calendar days prior to adoption of a public participation plan by the NMMPO. The NMMPO complies with this requirement.

1.6.2 TITLE VI, ENVIRONMENTAL JUSTICE AND LIMITED ENGLISH PROFICIENCY

The NMMPO strives to develop materials that are easily understood and clear. Maps, graphics and visualization techniques are utilized to assist in this effort. Federal regulations include requirements that reasonable efforts be made to address Title VI, Executive Order 12898 (Environmental Justice) and Executive Order 13166 (Limited English Proficiency).

Title VI of the Civil Rights Act of 1964 states that “no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance.” All federal agencies which provide financial assistance for any program are authorized and directed by the United States Department of Justice to apply provisions of Title VI to each program by issuing applicable rules, regulations, or requirements.

Through the planning process, the Northern Middlesex Metropolitan Planning Organization (NMMPO) monitors the impacts that transportation projects, including capital projects, have on low-income and minority populations. Additionally, NMCOG assists the Lowell Regional Transit Authority in developing its Title VI reports, including the development of maps which visually display the relationship between the transit routes and low-income and minority populations. The NMMPO endorsed the regional Title VI Assessment Report in August 2014.

Issued in 1994, Executive Order 12898 organized and explained in detail the Federal government’s commitment to promote environmental justice. Each Federal agency was directed to review its procedures and to make environmental justice part of its mission, by identifying and addressing the effects of all programs, policies, and activities on minority populations and low-income populations.

1.6.3 LIMITED ENGLISH PROFICIENCY PLAN

Title VI of the Civil Rights Act of 1964 and **Presidential Executive Order 13166** require entities that receive federal funds to take reasonable steps to provide meaningful access to individuals who are LEP. The U.S. Department of Transportation (USDOT) has created 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.

The NMMPO, as a recipient of federal funding, takes reasonable steps to ensure meaningful access to information and services. The federal guidance suggests that four factors be considered in determining the level and extent of language-assistance measures needed to ensure meaningful access to programs, activities and services:

- The number and percent of LEP persons in the region who are served by the program;
- The frequency with which LEP persons come in contact with the program;
- The importance to the LEP person of accessing the particular program or service; and
- The resources available to the NMMPO and the costs involved.

The USDOT Policy Guidance gives recipients substantial flexibility in determining what language assistance is appropriate based on a local assessment of the four factors listed above. The Limited English Proficiency (LEP) plan is an assessment of language assistance needs in the Northern Middlesex region in relation to the transportation planning process.

The intent of the LEP plan is to ensure that residents of the region who do not speak or read English proficiently have access to the planning process and published information, and that public notification is provided to these individuals. The production of multilingual publications and documents and/or interpretation at meetings/events is provided upon request to the degree that funding permits, based on current laws and regulations.

1.6.4 AMERICANS WITH DISABILITY ACT OF 1990

The purposes of the **Americans with Disabilities Act of 1990** are to carry out the act's objectives of providing "a clear and comprehensive national mandate for the elimination of discrimination" and "clear, strong, consistent, enforceable standards addressing discrimination" by reinstating a broad scope of protection available under the ADA. The NMMPO through its planning efforts (Certification documents, UPWP studies and plans, public meetings/workshops, etc.), works to assure all services have compliance with ADA regulations. The NMMPO also monitors the impacts that transportation projects, including capital projects, have on individuals with disabilities. Additionally, NMCOG assists the Lowell Regional Transit Authority in developing its Title VI reports, including the determination of regional population with disabilities currently using public transit and ADA compliance.

These activities include but are not limited to:

- Stop driver announcement monitoring
- Eligibility determinations
- Reservations
- On-time performance
- Trip times

To the extent possible, the MPO addresses each issue in a fair and equitable manner. Comments received from the public, including the disabled population, are addressed as they are raised. The NMMPO continues to improve its responsiveness in terms of addressing disability barriers.

1.7 NMMPO PLANNING DOCUMENTS

The NMMPO's transportation decision making and project development processes include public participation opportunities. The NMMPO commits to civil rights obligations, including the removal of barriers to participation, diversity, and inclusive outreach. The Public Participation Plan outlines the public involvement and notification requirements and methods relative to the development of specific federal certification documents including:

- The Public Participation Plan (PPP)
- The Regional Transportation Plan (RTP – Long Term Transportation Plan)
- The Transportation Improvement Program (TIP)
- The Unified Planning Work Program (UPWP)

- Transportation Planning Studies outlined in the UPWP
- Section Transit 5307 Grants

Public outreach processes for all NMMPO planning documents are informed by the Northern Middlesex Limited English Proficiency (LEP) Plan, which outlines policies for reaching out to LEP populations. The intent of the LEP Plan is to ensure that residents of the region who do not speak or read English proficiently have access to the planning process and to published information and public notices.

Notices of availability and opportunity for public comment on NMMPO documents are publicized in the *Lowell Sun* and other local newspapers, including the *Khmer Post*, which reaches the region's Cambodian population. The publishing deadlines for the *Khmer Post* do not always align with the NMMPO's schedule, but every effort is made to meet the publishing deadline when possible. In addition, NMMPO outreach events are posted by the City/Town Clerks at all City/Town Halls across the region. Emails to the NMMPO distribution list and postings on the NMCOG website are also utilized as part of the outreach plan, as well as postings on social media (Facebook and Twitter). The production of multilingual publications and documents and interpretation at meetings and events is provided upon request. The NMMPO also uses email distribution by other organizations, such as CTI, Coalition for a Better Acre, the Greater Lowell Chamber of Commerce, and the Greater Lowell Workforce Investment Board, as a means of getting the word out. NMMPO staff also reaches out to local neighborhood organizations and some of these organizations will include NMMPO announcements with their newsletter.

1.7.1 THE PUBLIC PARTICIPATION PLAN (PPP)

As required by Federal legislation outlined in 23 CFR 450.316, a forty-five (45) day minimum comment period must be provided prior to adopting or revising the PPP. The following procedures and policies are utilized in adopting the Public Participation Plan for the Northern Middlesex MPO.

Notice of the Availability of the Public Participation Plan and Opportunities for Public Comment

Notice providing an opportunity for public comment shall be published in the *Lowell Sun*, as well as other local news media. The notice will also be posted at the Town and City Clerk offices in each municipality. A public meeting will be held during the 45-day comment period, and the Public Meeting Notice and Draft PPP will be available on the NMCOG web site at: www.nmcog.org. A notice and link will also be provided on the LRTA website at: www.lрта.com. Copies of the Public Participation Plan will be forwarded to the NMMPO members and all stakeholders and interested parties. Comments may be submitted in writing, through conventional mail, by email or fax, by phone or through social media.

Upon completion of the comment period, all meaningful and relevant public comments will be considered and incorporated into the final Public Participation Plan. The NMMPO will then vote on the endorsement of the Plan.

Future substantive changes or amendments to the Public Participation Plan will require an additional 45-day public comment period and will follow the above notification and public involvement procedures.

1.7.2 THE REGIONAL TRANSPORTATION PLAN (RTP)

All future transportation projects funded in part or entirely with federal monies must be drawn from a conforming Regional Transportation Plan. The Regional Transportation Plan is updated every four years,

as presently required by Federal regulation. The RTP 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 (3)(b). The following procedures and policies will be utilized to ensure adequate public input into the preparation and review of the RTP document.

Public Participation Procedures for the Regional Transportation Plan

The involvement and engagement of the public in the decision-making process is integral to successful transportation planning in the Northern Middlesex region. All outreach activities associated with development of the Regional Transportation Plan are derived from the desire to encourage broad and active participation by members of the public, special interest groups, and local and State officials throughout the region.

RTP public outreach goals (excerpted from the NMMPO RTP Public Outreach Plan) include the following:

- To inform the public of transportation meetings, workshops, and other events associated with the Regional Transportation Plan (RTP) update;
- To educate members of the public regarding their role in the transportation planning and decision-making process;
- To involve members of the public by providing ample opportunities and avenues for involvement, early and often in the Plan update process;
- To reach out to communities in the Northern Middlesex region with special emphasis on engaging individuals who may have been underrepresented or underserved; and
- To continuously seek ways to improve public outreach activities throughout the Plan development process.

Public Outreach Tools

A number of outreach and engagement tools are used to communicate with the public and solicit input in the development of the Plan. These same tools are also utilized to provide information on the progress of the Plan and include:

- Electronic mailings;
- Newspaper articles and advertisements;
- RTP Project website;
- Social Media;
- Project fact sheets;
- Meetings with neighborhood groups, non-profit organizations and special interest groups;
- Public meetings;
- Interactive local meetings and public forums;
- Visualization techniques, such as participatory photography; and
- Written surveys.

Pre-Plan Development

Activities in the Pre-Plan Development period focus on soliciting input on various transportation issues from the NMMPO, NMCOG, the Lowell Regional Transit Authority (LRTA) Cities/Towns, local and regional interest groups and members of the public. All material associated with the RTP update will be posted on the NMCOG website www.nmco.org. The following steps will be taken to ensure that the RTP input process is comprehensive:

- Initiate the formation of an advisory committee to the NMMPO and meet with this group at least twice during the pre-plan development period to discuss regional transportation goals, objectives and priorities.
- Disseminate a transportation needs assessment survey in the Northern Middlesex Region to gauge local needs and priorities.
- Activate and promote a plan update website via the existing NMCOG website. This website will announce all Plan-related activities, provide a question and answer section regarding the transportation planning process, and will allow members of the public to electronically submit comments directly to the NMMPO. All comments and suggestions received will be acknowledged, catalogued, and summarized for the NMMPO and NMCOG.
- Prepare and disseminate an informational pamphlet or fact sheet that describes the role and responsibilities of the NMMPO and summarizes the transportation planning process. This material will also function as a resource guide for members of the public and local officials who want to stay informed, and have their voices heard in the transportation decision-making process.
- Attend various meetings in the Northern Middlesex region to solicit input on transportation issues from local boards (Planning Boards, Selectmen, etc.), chambers of commerce, economic development committees, public works departments, and neighborhood, non-profit and civic organizations.
- Update and use the NMMPO email distribution list to keep local officials, local transit operators, local media outlets, State transportation officials, neighborhood and civic organizations and other stakeholders abreast of RTP-related events, such as workshops and meetings.
- Distribution information via social media utilizing the NMCOG Twitter and Facebook accounts.
- Use visualization techniques, such as participatory photography to solicit input from youth and LEP populations.
- Utilize a written survey to solicit input from those who may be uncomfortable speaking in a public setting.

Post-Plan Development

Activities during the Post-Plan Development period involve the circulation and presentation of the draft RTP to the NMMPO, NMCOG, LRTA, and at public workshops and meetings, in order to solicit comments on the draft document. All materials associated with the formation of the draft RTP will be posted on the NMCOG RTP update website and the following steps will be taken to ensure that the public is given access to the document and has an opportunity to provide input:

- Present the draft RTP, along with summary of all the public comments received, to the NMMPO, NMCOG and the LRTA Advisory Board.
- Utilize local media outlets including newspapers, radio stations, and local cable access stations to announce the availability of the draft Plan.
- Hold widely advertised public meetings to present the draft plan to members of the public, local officials, and regional interest groups. Presentation materials associated with the public meetings will be posted on the NMCOG website and a link to this material will be provided via social media.
- Post the draft RTP on the NMCOG website and distribute to regional stakeholder via the NMMPO email distribution list to allow for the timely submission of comments. All comments received will be acknowledged, catalogued, and summarized for the NMMPO and NMCOG. The final document will include a summary of the response to comments.

Notice of the Availability of the Regional Transportation Plan

Notice providing an opportunity for public comment shall be published in the Lowell Sun, as well as other local news media, such as Town specific or foreign language newspapers. Such notices will also be posted at the Town and City Clerk offices. The Public Meeting Notice and Plan will also be posted on the NMCOG web site at www.nmco.org and made available through social media. A notice and link will also be provided on the LRTA website at www.lrta.com. An email to the NMMPO public outreach email distribution list will be sent to interested stakeholders, notifying them of the availability of the RTP. Copies of the Regional Transportation Plan shall be forwarded to the NMMPO members and all stakeholders and interested parties described above.

A 21-day public comment period will commence once the draft RTP document has been approved by a vote of the NMMPO. A minimum of two public meetings shall be held to receive comments. Comments may also be submitted, in writing, through conventional mail, by email, by phone or social media. A consultative process will also be provided for environmental permitting agencies and advocacy groups.

Upon completion of the comment period, public comments shall be incorporated into the draft Regional Transportation Plan as appropriate. The NMMPO will then vote on the endorsement the Plan. The endorsed RTP document will be posted on the NMCOG website www.nmco.org and disseminated to stakeholders through the NMMPO public outreach list.

Future substantive changes or amendments to the Regional Transportation Plan will require an additional 21-day public comment period, and will follow the process outlined above.

1.7.3 THE TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The Transportation Improvement Program (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 (3)(b). The following procedures and policies will be utilized to ensure adequate public review of the draft TIP document.

Public Participation Procedures for the Transportation Improvement Program

Title 23 CFR Section 450.324 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:

- Electronic mailings;
- Newspaper articles and advertisements;
- NMCOG website;
- Social Media;
- Project fact sheets;
- Meetings with neighborhood groups, non-profit organizations and special interest groups;
- Public meetings;
- Interactive local meetings and public forums; and
- NMCOG and NMMPO meetings.

Notice of the Availability of the TIP

Notice of the availability of the TIP and opportunity for public comment shall be published in the *Lowell Sun*, as well as other local news media such as community-specific or foreign language newspapers, and will also be posted at the Town and City Clerk offices. The Public Meeting Notice and the Draft and Final TIP documents will also be posted on the NMCOG web site at: www.nmcog.org. A notice and link will also be provided on the LRTA website at: www.lrt.com. An email to the NMMPO public outreach list will be sent to interested stakeholders notifying them of the availability of the TIP. Notices will also be made available on social media. Copies of the Draft and Final TIP will be forwarded to the NMMPO members and all stakeholders and interested parties.

A 21-day public comment period will commence once a draft TIP document is approved by a vote of the NMMPO. A minimum of one public meeting shall be 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 shall be considered, and if appropriate, incorporated into the final TIP. The final TIP will include a summary of comments received and a report of responses/actions taken by the NMMPO. The NMMPO will then vote on the endorsement of the final TIP document. The endorsed TIP document will be posted on the NMCOG website www.nmcog.org and disseminated to stakeholders through the NMMPO public outreach list.

1.7.4 THE UNIFIED PLANNING WORK PROGRAM (UPWP)

The Unified Planning Work Program (UPWP) describes the scope and budget for the work tasks and transportation planning activities of the NMMPO staff for the coming year. The UPWP is updated annually and endorsed by the NMMPO. The following procedures and policies will be utilized to ensure adequate public review of the draft UPWP document.

Public Participation Procedures for the Unified Planning Work Program

Title 23 CFR Section 450.324 and 310 CMR 60.03(6)h require adequate opportunity for public review and comment be provided during the development of the UPWP. The outreach process for the development of the NMMPO's UPWP guarantees the following:

- Public access to the UPWP and all supporting documentation;
- Public notification of the availability of the UPWP;
- Respects the public's right to review the document and comment thereon; and
- Provides a 21-day public review and comment period prior to endorsement of the UPWP by the NMMPO.

Public Outreach Tools

A number of public outreach tools are used to communicate with the public and to allow for adequate input into the development of the UPWP. These same tools are used to provide information on the progress of the UPWP projects and include the following:

- Electronic mailings;
- Newspaper articles and advertisements;
- NMCOG website;
- Social Media;
- Project fact sheets;
- Meetings with neighborhood groups, non-profit organizations and special interest groups;
- Public meetings;
- Interactive local meetings and public forums; and
- NMCOG and NMMPO meetings.

Notice of the Availability of the UPWP

Notice of availability and opportunity for public comment shall be published in the *Lowell Sun*, as well as other local news media such as community-specific or foreign language newspapers, and will be posted at each Town and City Clerk offices. The Public Meeting Notice and draft UPWP document will also be posted on the NMCOG web site at: www.nmcog.org. A notice and link will also be provided on the LRTA website at: www.lrta.com. An email to the NMMPO public outreach list will be sent to interested stakeholders notifying them of the availability of the draft UPWP. Notices will also be made available on social media websites. Copies of the draft UPWP shall be forwarded to the NMMPO members and all stakeholders and interested parties.

A 21-day public comment period will commence once the draft UPWP has been approved by a vote of the NMMPO. A minimum of one public meeting shall be held to receive comments. Comments may also be submitted, in writing, through conventional mail, by email, phone or social media. At the completion of the comment period, all public comments shall be considered and incorporated into the draft UPWP if appropriate. The UPWP will include a summary of comments received and a report of responses/actions taken by the NMMPO. The NMMPO will then vote on the endorsement of the document.

The endorsed UPWP document will be posted on the NMCOG website www.nmcog.org and disseminated to stakeholders through the NMMPO public outreach list. Future substantive changes or amendments to the UPWP will require an additional 21-day comment period and will follow the outreach process outlined above.

1.7.5 TRANSPORTATION PLANNING STUDIES OUTLINED IN THE UPWP

NMMPO staff prepares transportation planning studies that address all modes of transportation, as identified in the UPWP. Many of the studies are technical in nature and are undertaken at the request of local communities to address transportation problems, deficiencies and issues. Generally, the studies examine the existing conditions and expected future conditions within each study area. Techniques used for public outreach in undertaking UPWP studies include but are not limited to: surveys of affected residents/businesses in a study area, public meetings to review study data and findings, to gather input, and to review and received feedback on recommendations; open house style meetings; newsletters; and email updates to invested stakeholders. For example, a recently completed Westford Center Parking and Safety Study consisted of several public meetings with neighborhood residents, individual stakeholder meetings, and presentations to community board and organizations, such as the Board of Selectmen, Library Trustees, and Historic Commission, where each stakeholder expressed their concerns and provided comments that were incorporated into the study. Those unable to make the public meetings were encouraged to submit comments via email.

UPWP studies help to inform the NMMPO decision-making process, lead to future transportation improvement projects, and alleviate congestion and safety problems across the region. Improving the transportation system is important in improving the quality of life for area residents, enhancing mobility, promoting economic development and improving environmental quality through reduced emissions. All transportation studies include an opportunity for community and public input, and all improvement recommendations consider Environmental Justice implications.

1.7.6 SECTION 5307 GRANTS

FTA's Urbanized Area Formula Funding program (49 U.S.C. 5307) provides Federal resources for transit capital and operating assistance, and for transportation planning related activities in urbanized areas with a population of more than 50,000 persons. The TIP public review process will satisfy the opportunity for the public hearing requirement for most routine, traditional Section 5307 grants, per Section 5307 Circular C-9030.1B. Any Section 5307 grant that requires completion of an environmental analysis, or involves specific controversies or complications (such as issues relating to land acquisition, environmental factors such as Section 106, or 4(f) not addressed at the TIP stage, or having inadequate description at the TIP stage) will be required to follow the Section 5307 hearing process as well. These situations will be handled on a case-by-case basis between FTA and the grantee. It is expected that the majority of Section 5307 grant public hearing requirements shall be satisfied by the NMMPO TIP public involvement process.

The Lowell Regional Transit Authority (LRTA), as the FTA Section 5307 applicant/recipient, has consulted with the NMMPO and concurred that the public involvement process adopted by the NMMPO for the development of the TIP satisfies the public hearing requirements that pertain to the development of the Program of Projects for regular Section 5307, Urbanized Area Formula grant applications, including the provision for public notice and the time established for public review and comment.

For FTA projects that are not routine, i.e. Section 5307 applications that require an environmental assessment or environmental impact statement, the public involvement provided herein for TIP review is not sufficient. Additional public involvement, as presented in the joint FHWA/FTA environmental regulations, 23 CFR Part 771 will be required by FTA for grant approval.

1.7.7 PUBLIC PARTICIPATION PROCEDURES FOR MAKING CHANGES TO FEDERAL CERTIFICATION DOCUMENTS

The NMMPO's federal certification documents are dynamic in nature and often need to be modified throughout the year. Such revisions and changes are made either through an amendment or an administrative adjustment to the document in question.

The amendment process begins with a discussion and vote by the NMMPO to release a proposed change to the TIP, UPWP, or the RTP. Once released for public comment, the proposed amendment is posted on the NMCOG website and on the agency's social media sites. NMMPO staff also sends out the proposed amendment to the NMMPO email distribution list. The notice of availability and opportunity for public comment notice, and an announcement of a public meeting to hear comments is then advertised in news media and posted at Town Halls throughout the region. An email is also sent with this information to the email distribution list. All public comments received in person, by email, conventional mail, and phone or through social media are collected and presented to the NMMPO prior to a vote to endorse the amendment. The NMMPO fully considers each comment before voting on the proposed amendment.

A public comment period can be extended if the proposed amendment is significantly altered during the initial public comment period. If the document changes significantly during the initial public comment period, an additional 21-day comment period can be provided by the NMMPO. The public comment period can also be abbreviated by the NMMPO when extraordinary circumstances arise. This period can be abbreviated to no less than 10 calendar days.

Administrative adjustments can be made without formal MPO action and do not require a public comment period. However, the NMMPO can vote to release the adjustment for a public comment period if they feel it is in the best interest of the NMMPO and the transportation planning process. Should this occur, the public participation process will mirror the process for amending a certification document.

TIP amendments must be undertaken to add or delete a project, to advance a project from an outer year to Year 1, to increase a project's cost by more than 10%, and for any major scope changes to existing TIP projects. Administrative adjustments can be made for minor changes to scope and description of a TIP project, funding changes that are less than 10% of the project cost, to move a project from Year 2 to Year 1, and to change a funding source for a project.

The UPWP typically requires less frequent revisions than the TIP. A change to the UPWP includes the addition or deletion of a UPWP Task, which is handled through a 21-day public comment period prior to NMMPO action on the proposed amendment. Adjustments to the UPWP include moving funds from one task to another to reflect changes in level of effort.

Generally, changes to the RTP are treated as amendments and follow the amendment procedure outlined above. Changes to the RTP include addition of projects and changes in funding availability.

CHAPTER 2: THE NMMPO APPROACH TO PUBLIC PARTICIPATION

Transportation decision making and project development processes follow set procedures and practices in order to ensure that the public opportunities is provided with opportunities to participate. The NMMPO's public involvement goals and objectives are further enhanced by its commitment to civil rights related obligations, such as removal of barriers to participation, diversity, and inclusive outreach. This Public Participation Plan generally describes participation opportunities and outlines specific protocols and resources available for facilitating diverse and inclusive public outreach and involvement. The Plan is flexible and evolving, and will be revised based on recurring assessments of successes and/or challenges associated with outreach, as well as suggestions that are received, and the overall results of public engagement process.

2.1 PUBLIC PARTICIPATION TECHNIQUES

NMMPO takes pride in its work to maintain a collaborative relationship with community and municipal stakeholders, and has strategically developed this Public Participation Plan to ensure that process is conducted in an all-inclusive manner. The NMMPO public outreach effort rests on utilizing multiple communication channels to distribute information and to solicit input from affected constituencies. The NMMPO typically communicates with the general public through one or more of the following methods:

- NMCOG website
- Public news media (including Lowell Sun and Khmer Post)
- Press releases
- Brochures, Flyers, Newsletters
- Social media including Facebook, Twitter, etc
- Postings at City and Town Halls
- Community Websites
- Mailing and email lists
- Information stands at local events
- Presentations, public meetings, public hearings, open houses, and workshops
- Civic advisory committees and working groups

2.1.1 THE NMCOG WEBSITE

The NMCOG website (www.nmcog.org) is a comprehensive resource for people seeking information about NMMPO programs, projects, and activities. Public notices of all NMMPO meetings, public hearings, and public comment periods are posted on this site, along with information about NMMPO programs, projects, and activities. Some programs and projects have dedicated web pages on the website that include:

- Information about past/upcoming meetings
- Project presentations, flyers and fact sheets
- Summary notes for meetings/workshops on the project

- Draft reports for public review
- Final reports and work products
- Staff contact information

Project websites are important information tools for people who cannot attend meetings. Members of the public can review presentations and meeting summaries and provide comments through emails and letters to the project team. People with disabilities that limit their ability to attend meetings can also review project information and provide comments on the website, and thereby have an alternative to physically attending a meeting.

2.1.2 MEETING NOTICE CONTENT AND DISTRIBUTION

The NMMPO announces all meetings, public meetings, and public comment periods through stakeholder email distribution lists, mailings, social media and the distribution of notices to City/Town Halls through City/Town Clerks, in addition to placing all meeting information on the NMCOG website. Notices are published in the *Lowell Sun*, the region's English newspaper. Given the large Cambodian population in Lowell, NMMPO press releases are also posted in the *Khmer Post*, a regional Cambodian newspaper published every two weeks. Meeting notices include information about getting to a meeting location using public transportation, when transit is available. NMMPO notices also make people aware that they can request foreign language assistance, and that sign-language interpreters and other accommodations are available on request for persons with disabilities (upon notification before the meeting). There is also information that identifying the appropriate contact person should an individual have questions or concerns. The information for these meetings and the informational materials provided at the meetings are translated into languages other than English, as needed.

2.1.3 LANGUAGE SERVICES

Language assistance is provided to LEP individuals through the translation of some key materials, as well as through oral language interpretation when necessary and possible. The NMMPO provides reasonable accommodations and/or language assistance, free of charge, upon request (including but not limited to American Sign Language and foreign language interpreters, open or closed captioning for videos, assistive listening devices and alternate material formats), as available. Translation of all NMMPO plans and materials is not possible due to cost restrictions. However, the NMMPO will provide the following translated/interpreted materials:

- **NMCOG Web Site** – The NMMPO's website, the source for all transportation related materials, provides a free translator program powered by Google Translate which allows the NMMPO and NMCOG website to be translated for users into 80 languages including the five NMMPO regional language groups of Spanish, Portuguese, Khmer, Vietnamese and Chinese.
- **Certification Documents**- An Executive Summary of the following key documents will be made available in Spanish, Portuguese, Khmer, Vietnamese and Chinese:
 - The Regional Transportation Plan;
 - The Unified Planning Work Program; and
 - The Transportation Improvement Program.

- **Outreach Materials** – Spanish, Portuguese, Khmer, Vietnamese and Chinese language outreach materials will be utilized when indicated by the LEP or in response to a request when appropriate.
- **Oral translation services** - The NMMPO will provide limited oral language services to Spanish, Portuguese, Khmer, Vietnamese and Chinese speaking LEP individuals upon request. In order to provide these services, NMMPO staff will do the following:
 - Maintain a list of the points of contact where a LEP person interacts with the organization. At this time, it is anticipated that the key points of contact for LEP individuals are the front-desk receptionist and the NMMPO staff performing outreach activities;
 - Inventory staff language capabilities; and
 - Maintain a list of outside resources that can provide translation and language assistance upon request from the NMMPO.
- **NMMPO Meeting Assistance** – Upon request, the NMMPO can provide Communication Access Real-time Translation (CART) services, sign language, or assistive listening devices for hearing impaired individuals.

2.1.4 PUBLIC OUTREACH ORGANIZATIONS/STAKEHOLDERS

The most recent revisions to the Public Participation Plan were initiated as a result of requirements set forth in MAP-21. MAP-21 highlights the need to develop MPO public participation plans “in consultation with all interested parties”, and stresses the importance of establishing and maintaining an inclusive and interactive process. On February 14, 2007, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) jointly released final rules governing the transportation planning process in metropolitan areas. Included in these rules are specific criteria that must be followed in developing and amending Regional Transportation Plans (RTP) and Transportation Improvement Programs (TIPs). Section 450.316 of these final rules entitled “Interested parties, participation, and consultation”, requires that all MPOs develop a Public Participation Plan (PPP) that “defines a process for providing citizens... (with a) reasonable opportunity to be involved in the metropolitan transportation planning process.” Specific groups identified include but are not limited to:

- Public Agencies;
- Representatives of Public Transportation Employees;
- Freight Shippers;
- Providers of Freight Transportation Services;
- Representatives of Users of Public Transportation;
- Representatives of Users of Pedestrian Walkways and Bicycle Transportation; and
- Representatives of the Disabled.

The NMMPO Public Participation Plan distribution list includes the following stakeholders and interested parties:

- Stakeholders
 - Libraries;
 - City/Town Clerks;
 - Area Congressional Delegation;

- State Legislators;
- Interested Community Members; and
- Local Neighborhood Organizations.
- **Affected Public Agencies and Government Entities**
 - MassDOT-Executive Office (NMMPO Member);
 - MassDOT- Highway Division (NMMPO Member);
 - LRTA (NMMPO Member);
 - FHWA (Ex-officio NMMPO Member);
 - FTA (Ex-officio NMMPO Member);
 - US Environmental Protection Agency,
 - Massachusetts Department of Environmental Protection;
 - Local Chief Elected Officials;
 - Nashua Regional Planning Commission;
 - Merrimack Valley Planning Commission;
 - Metropolitan Area Planning Council;
 - Montachusett Regional Planning Commission;
 - MassRides;
 - Local DPWs;
 - Local Planning Boards;
 - City/Town Engineers;
 - City/ Town Managers and Administrators;
 - City/Town Conservation Commissions;
 - City/Town Historical Commissions,
 - Lowell National Historical Park;
 - Massachusetts Department of Conservation and Recreation (DCR),
 - Middlesex Canal Commission; and
 - Transportation Coordinators for Municipal School Departments.
- **Representatives of Public Transportation Employees**
 - Teamsters Local; and
 - Amalgamated Transit Union.
- **Freight Transportation Services**
 - United Parcel Service;
 - PanAm/Guilford Transportation; and
 - U.S. Postal Service.
 - Private Providers of Transportation
 - Local Taxi Companies; and
 - Private Transportation Providers.
- **Representatives of Senior Users of Public Transportation**
 - Councils on Aging; and
 - Local Senior Centers.
- **Representatives of Users of Pedestrian Walkways and Bicycle Transportation Facilities**
 - Friends of the Bruce Freeman Rail Trail;
 - Lowell Parks and Conservation Trust; and
 - Municipal Bike and Pedestrian Committees.

- Advocates for the Community of Individuals with Disabilities
 - Northeast Independent Living Program;
 - Renaissance Club;
 - Greater Lowell Association for the Blind; and
 - Community Disability Commissions.
- Diverse Community Contacts
 - Community Teamwork, Inc.;
 - Coalition for a Better Acre;
 - Lowell Transitional Living Center;
 - Cambodian American League of Lowell;
 - United Teen Equality Center;
 - International Institute; and
 - Cambodian Mutual Assistance Association.
- Agencies and Officials responsible for State and Local Planned Growth
 - Local Planning Boards;
 - City/Town Planners and Community Development Directors;
 - Zoning Boards of Appeal;
 - Northern Middlesex Council of Governments;
 - Mass Housing Partnership;
 - Massachusetts Smart Growth Alliance; and
 - Massachusetts Department of Housing and Community Development.
 - Economic Development Interests:
 - Greater Lowell Chamber of Commerce;
 - Greater Lowell CEDS Committee;
 - Lowell Plan;
 - Lowell Development Finance Corporation;
 - Municipal Economic Development Committees;
 - Billerica Plan;
 - Greater Lowell Workforce Investment Board;
 - Chelmsford Business Association;
 - University of Massachusetts Lowell;
 - Merrimack Valley Venture Forum;
 - Merrimack Valley Economic Development Council;
 - Middlesex Community College;
 - Massachusetts Office of Business Development;
 - MassDevelopment;
 - Massachusetts Executive Office of Housing and Economic Development; and
 - Billerica Development and Finance Corporation.

In addition to receiving input from representative groups, such as Community Teamwork, Inc. (CTI), the Coalition for a Better Acre (CBA) and various neighborhood organizations, NMCOG also receives feedback from its minority and low-income representatives on the Greater Lowell Comprehensive Economic Development Strategy (CEDS) Committee, which reviews regional development on a comprehensive basis. NMCOG has also benefited from the comments received at public meetings related to the development of Housing Production Plans and Master Plans throughout the region.

The list of stakeholders is dynamic and opportunities to add to the outreach list are outlined in this section. The NMMPO maintains a database of stakeholders with contact information. When a new contact is identified, the NMMPO will send a welcome letter with information relative to the metropolitan transportation planning process. The NMMPO asks the contact to confirm interest in being part of the outreach process, and newly identified participant is given an opportunity to identify new stakeholders who may also be interested in participating. In addition, a similar letter is sent to the existing database of stakeholders on an annual basis, in an effort to maintain contact with existing stakeholders and identify new contacts.

2.1.5 PUBLIC MEETINGS, OPEN HOUSES AND WORKSHOPS

Public Meetings

Public meetings are held to present information and to obtain input from interested members of the public. Meetings provide a time and place for face-to-face contact and two-way communication. They are generally tailored to specific issues or community groups, and can be either informal or formal. Massachusetts Open Meeting Law requires that notice of the time and place of all meetings of a public body be given prior to every meeting. The notice must include reference to the date, time and location of the meeting and be posted forty-eight hours in advance. The NMMPO adheres to all requirements outlined in the Commonwealth's Open Meeting Law.

Open Houses

Open Houses are informal settings where people can obtain information about a plan, program, or project. At Open Houses, people receive information informally from exhibits and staff, and they are encouraged to give opinions, make comments, and state preferences orally or in writing. Informal presentations, slide shows, and one-on-one discussions take place continuously throughout the event, which usually includes a series of stations: a reception table, a presentation area, stations for one-on-one discussions, and displays of background information, activities to date and anticipated next steps. Open Houses usually last between one and three hours, so that people can drop in at their convenience and fully participate.

Workshops

Workshops are organized around a particular topic or activity and typically involve a relatively small group of people who want to participate intensively. These events are usually one to three hours in duration, and small groups work on a specific agenda. NMMPO staff provide information, answer questions, and participate as individuals in workshops. Workshops are inherently participatory and encourage dialogue and an exchange of ideas.

2.1.6 MEETING ACCESSIBILITY

State and Federal Law requires that all meeting locations be accessible to those with disabilities. The Massachusetts Public Accommodation Law and the Americans with Disabilities Act (ADA) both mandate that persons with disabilities be allowed to participate in public meetings. Scheduled meetings of the Northern Middlesex MPO are generally located at the NMCOG offices, and are accessible to people with disabilities and close to public transportation (LRTA bus routes 2, 3, 9, 11, 12 stop in front of NMCOG

offices on Church Street). It should also be noted that secure bicycle parking is available on the second floor.

For meetings outside of the NMCOG offices, the NMMPO is required to hold public meetings, open houses, and workshops in accessible facilities that are, wherever possible, at locations close to or served by fixed-route transit service. Public meeting notices include information letting people know that the meeting location is accessible. NMMPO staff conducts an analysis of the demographics of the area where the meeting is to be held to determine whether notices should be translated into languages other than English. The availability of handout materials in alternative formats—Braille, large print, and/or audio cassette, and languages other than English—as well as other accommodations (language interpreters, sign language interpreters, CART translators, etc.) is indicated in the meeting notices, along with specific information on how to request these accommodations. Staff will research and make every effort to select the location, size, and setup of meeting facilities based on the specific characteristics of the audience and the type of information to be presented. Whenever possible, meetings, and workshops will be held in places that are centrally located to the project and likely to attract a cross section of the people and businesses representative of the community stakeholders. City/Town Halls, public libraries, public schools, and community centers are often used for public meetings.

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CHAPTER 3: TITLE VI AND ADA PROTOCOLS, POLICIES AND RESOURCES

The NMMPO follows the civil rights protocols and policies set forth in the Public Participation Plan. These protocols have been developed based on those set out in MassDOT's Public Participation Plan as adopted in 2014. This chapter contains two sections: (1) protocols and resources designed to ensure inclusivity and diversity in public engagement activities; and (2) protocols and resources designed to ensure the accessibility of all NMMPO public outreach activities.

3.1 CIVIL RIGHTS PROTOCOLS ENSURING INCLUSIVITY AND DIVERSITY IN PUBLIC ENGAGEMENT

These protocols provide links, resources, and contacts to achieve public engagement that is compliant with civil rights law. These protocols support, but do not replace, existing NMMPO protocols for public engagement, particularly in the conduct of meetings, workshops and other interactions. The NMMPO staff incorporates these protocols by reference into other NMMPO documents where relevant.

These protocols include steps and strategies that are to be implemented prior to holding a public meeting or other such activity and during the course of the public involvement process. Due to the varied nature of the NMMPO's engagement with the public, it is not the intent to include all required actions for each stage of the planning process. In the event that an NMMPO staff member encounters a difficult public involvement situation, he/she is advised to contact the MassDOT Title VI Specialist in the Office of Civil Rights to identify strategies and alternatives to address such situations.

The NMMPO intends that these Protocols be flexibly applied to each meeting or public outreach event. Meetings should be tailored to the intended target audience and relevant subject matter. Effective public participation from a civil rights perspective includes awareness of the local population (demographics) or individuals to be engaged, i.e. languages spoken, represented cultural groups, community organizations, and leaders and key players. Equally critical to an effective meeting are well communicated (effectively circulated across types of media, and translated when needed) and timely notices, early response, and coordination on requests for language assistance for limited English proficient individuals or reasonable accommodation for persons with disabilities.

Federal nondiscrimination obligations, through Title VI of the Civil Rights Act of 1964, Sections 504 and 508 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA), reach the categories of race, color, national origin (including LEP), age, sex, and disability. These protocols are designed to ensure that the NMMPO's public engagement procedures address federal and Commonwealth-level nondiscrimination obligations.

While the following protocols highlight specific resources, the NMMPO staff uses their experience with the public to identify individual and community needs, including civil rights related considerations, such as language assistance needs, accessibility accommodations, and inclusive public participation.

3.1.1 CIVIL RIGHTS PROTOCOLS BY TYPE OF PUBLIC ENGAGEMENT

The following protocols outline four common types of public engagement opportunities for NMMPO staff members:

- General Public Meetings
- Targeted Outreach
- Open Houses
- One-on-One Interactions

Each of these forms of public engagement is described in greater detail below.

General Public Meetings

Public meetings, both at the project level and more broadly, are an opportunity for members of the public to engage in the transportation decision making process. The civil rights considerations described in this section are designed to inform and guide all NMMPO staff involved in planning and conducting such events. Incorporation of these processes and utilization of these resources, when planning or participating in public meetings or workshops will help ensure that these events are Title VI compliant.

Targeted Outreach

At times, the complexity of a project, controversial issues, or the reality of having multiple large Title VI groups to address, may require engaging targeted audiences of stakeholders. The NMMPO may at times host selected people within study advisory committees, research efforts, and/or small groups. The general work of understanding the demographics of people in a locality or project area still apply to determine what Title VI groups are impacted. However, there may be a need to include community leaders within Title VI populations. This can require more subtle and challenging efforts to secure participation and needed contribution to discussions.

Open Houses

NMMPO staff may also interact with stakeholders through an “open house” session. The open house method serves to provide the public with opportunities to view project/plan concepts in an informal session. Staff members are available to interested public and regional stakeholders, often raising critical issues relative to the plan/project. NMMPO staff gathers all comments and addresses them during/after each session.

One-on-One Interactions

NMMPO staff members often interact directly with the public. These interactions can include planned meetings, such as those with property and business owners directly impacted by transportation projects, and spontaneous interactions with members of the public. These interactions, whether in person, over the phone, or electronic, present particular civil rights related risk factors that can be mitigated through the strategies articulated herein.

3.1.2 GENERAL PUBLIC MEETINGS

Initial and Ongoing Tasks

- Identify the population and composition of the individuals/communities impacted by the NMMPO program, plan, or project by considering the following:
 - Determine project limits, such as location, areas that will be impacted by construction phases, and benefit/burden areas;
 - Consider the nature of the program, plan, study, or project;
 - Determine the Title VI features of the community to be engaged by referring to the NMMPO's Title VI Assessment, which includes the limited English proficient (LEP) and minority populations of the region;
 - Identify key Title VI-related and other community based organizations and community leaders. It may be helpful to utilize well established connections with individuals and groups. These instructions provide the steps to identify previously unknown points of contact to diversify outreach:
 - Use the MassDOT Civil Rights GovDelivery database to update existing NMMPO contact lists
 - Update the NMMPO contact list on a bi-annual basis, reaching out to community organizations to identify any new contacts for inclusion in the process, as outlined in the Title VI plan.

Meeting Location and Time

Title VI Considerations

- Consult with community leaders and community-based organizations to identify any critical factors that affect setting the time and location of the public engagement activity;
- Consider factors such as cultural sensitivities and/or professional and academic commitments in setting the number of meetings. Multiple meetings can be held at various locations and times, if doing so promotes meaningful access to the public engagement opportunity; and
- Where possible, select a meeting location near public transportation options (up to a ½ mile walking distance is reasonable)

ADA Considerations

- Identify a public meeting venue that is ADA compliant and accessible to persons with disabilities. MassDOT maintains an Accessible Facilities Database that contains updated information regarding venues that have been previously assessed for ADA compliance;
- If NMMPO staff cannot identify an appropriate venue in the database, check the following additional resources to identify public meeting venues that may be accessible:
 - The Massachusetts Office on Disability <http://www.mass.gov/anf/employment-equal-access-disability/oversight-agencies/mod/>
 - Municipal Disability Commissions
 - Lowell Commission on Disabilities

- Billerica Commission on Disabilities
 - Chelmsford Commission on Disabilities
 - Westford Commission on Disabilities
 - The Northeast Independent Living Program www.nilp.org
- Once a location is selected, contact venue staff to identify any pre-existing accessibility accommodations, such as assistive listening devices and Communication Access Real-Time Translation (CART) equipment.

Public Meeting Notices

1. Draft the public meeting notice document with a template that ensures that the following civil rights related components are included:
 - Notice of Nondiscrimination;
 - Availability of language services and reasonable accommodations; and
 - Contact information and procedures for requesting the above services or additional information, or to express a concern.
2. Public meeting notices must be accessible;
3. Address language needs and utilize non-English language outreach resources in the dissemination area if individuals who have limited proficiency in English are present, by:
 - Identifying non-English language media and locations with an LEP population that may be effective in communicating notices to individuals who have limited English proficiency. The following resources may be helpful to consult:
 - MassDOT Office of Diversity and Civil Rights
<http://www.massdot.state.ma.us/OfficeofCivilRights.aspx>
 - MassDOT Public Affairs Office
 - NMCOG Council Members
 - Community Leaders
 - Lowell Regional Transit Authority (LRTA)
 - Public Libraries
 - Schools/Universities – UMass Lowell, Merrimack Community College
 - Greater Lowell Chamber of Commerce
 - Community Teamwork, Inc
 - International Institute
 - Develop translated version(s) of the notice document based on the extent of LEP need and available media sources. If there is a large population of individuals who are LEP in the meeting or project locale, consider translating the meeting notice in full. If there is less likely to be individuals who are LEP, include the following statement translated into the appropriate languages from the English language version of the notice:

“If this information is needed in another language, please contact the NMCOG Title VI Specialist at 978-454-8021.”
 - Consult the following resources for translation needs:
 - UMass Translation Center. To request a translation use the following link:
<http://www.umasstranslation.com/services/request-an-estimate/>

- Statewide Language Services Contract (NMMPO has employed Language Connections in the past and have contacts) website:
<https://www.commbuys.com/bsa/>
4. The final distribution of the public engagement notice should incorporate the following:
- Distribution of the public notice occurred sufficiently in advance of the meeting to ensure adequate processing time for language and accessibility accommodation requests.
 - The public notice/announcement materials have been delivered to non-English language outreach resources and sites, as need is identified in the NMMPO LEP Plan's four factor analysis.
 - The public notice has been delivered directly to individuals, organizations, and other stakeholders that represent Title VI populations in the region. Notice may be sent to the entities below with the instruction that they forward the notice among their own distribution lists and/or post it:
 - MassDOT Office of Diversity and Civil Rights
 - Community Leaders
 - NMCOG Council Members
 - Lowell Regional Transit Authority
 - Community Clerks
 - Public Libraries
 - UMass Lowell and Middlesex Community College
 - Greater Lowell Chamber of Commerce
 - Community Teamwork, Inc.
 - International Institute

Note: This stakeholder listed above is only a small sample of the full NMMPO distribution list.

Preparation for the Meeting

It is important to consider the following questions when preparing for the meeting:

- Are there civil rights implications in the background/history of the project?
- What public involvement has already been accomplished and did it illuminate civil rights concerns?
- What are the known benefits and burdens of the NMMPO program, service, or activity on Title VI populations? Consult the following resources:
 - Public meeting minutes and notes
 - Written public comments
 - News articles
 - The NMMPO staff involved in planning and/or conducting prior related meetings

NMMPO staff should maintain an ongoing dialogue with the individuals and organizations in order to remain well informed on the level of community interest and likely involvement in the public outreach event.

Electronic documents related to the subject of the public meeting and intended for public dissemination and review should be accessible. Adobe Acrobat Professional and Microsoft Word have built-in "accessibility checkers." The period between notice dissemination and the meeting date should be used to identify and

arrange accommodations and produce meeting materials in alternate languages and formats (such as large-print), if requested.

Meeting Set-Up

ADA considerations in public outreach are fully articulated in the NMMPO's Civil Rights Protocols designed to ensure accessibility section of this plan. Meeting setup should address the following meeting accessibility questions:

- If the main entrance to the building is not accessible, is the accessible entrance unlocked?
- If the main entrance to the building is not accessible, is there directional signage towards the accessible entrance?
- If the meeting is taking place at night, is the path leading to the alternate entrance well lit?
- If a stage or platform will be used during the public meeting, is it accessible?
- If a podium will be used during the public meeting, is the podium height adjustable? If not, is there a small table (between 28 and 34 inches in height) provided to the side of the podium?
- Are there integrated seating areas for individuals who use a wheeled mobility device in the meeting room?
- Is there seating available for attendees who are deaf or hard of hearing, and have requested an accommodation, near the front of the meeting room so that attendees may see the interpreter?
- Is the space allotted to sign language interpreters and/or the CART screen or monitor clearly visible?
- Are the aisles at least three feet wide and clear of obstacles or tripping hazards?
- If microphones are used during the public meeting, are adjustable microphone stands available for attendees? Can staff be used as floaters with microphones as an alternative?
- Have assistive devices been tested for full functionality immediately prior to the start of the event?
- Is there directional signage for accessible restrooms and/or emergency exits, if applicable?

Title VI considerations can be addressed through the following:

- Based on identified language need requests, has signage in multiple languages been posted?
- Is the space allotted to any foreign language interpreters clearly visible to the entire audience?
- Has space been given to foreign language interpreters to sit with individuals who need language assistance?
- Have Title VI related materials been made available at the welcome desk and/or in the meeting packet? This should include:
 - US Census Language Identification Flashcards (currently located at reception desk)

- Translated versions of materials, as needed.

During the Meeting

1. At the official start of the meeting, make the following statements. If a foreign language translator(s) is present, instruct them to repeat.
 - General statement regarding nondiscrimination and availability of language and accessibility accommodations.
 - Include instructions on site-specific accessibility considerations, such as accessible emergency exits.
2. The NMMPO is required to “demonstrate explicit consideration and response to public input” (Title 23 CFR 450.316 (2) – Interested parties, participation, and consultation). During a public outreach event, this requires affording attendees with opportunities to voice comments, questions, and concerns and provide an adequate response at the event or by following up in writing or at subsequent public outreach opportunities. All comments received from the public during the meeting should be noted by NMMPO staff, compiled and be made available post meeting.

Post Meeting

1. All public comments (written and oral), testimonials, and sentiments expressed during the public outreach event have been gathered/documentated by NMMPO staff that attended the meeting and passed on to the appropriate NMMPO staff member.
2. Once received, NMMPO staff catalogue all public comments. All comments received will be followed by a response indicating that the comment has been received and presented to the NMMPO.
3. NMMPO staff members are responsible for coordinating responses to public comments. Methods of responses can include:
 - Individualized written responses;
 - General distribution written statements (web, email, newsletter, newspaper, etc.);
 - Postings to project specific website, if available; and
 - In-person or telephone conversations with individuals/organizations regarding the topics of discussion at the public outreach event.
4. NMMPO staff reviews the public comments to determine and draft an appropriate response that “demonstrate[s] explicit consideration... to public input” (23 CFR 450.316).
 - NMMPO staff should prepare a summary of comments received and note the response made to each comment. This summary should be noted in the appropriate plan or study and should be presented to the NMMPO.
5. In instances where the NMMPO will draft a written response to a public comment, the content of the response should consider the following:
 - Description of considerations made for how the comment received will prompt changes to the plan/study;
 - Description of mitigation measures prompted by the comment received;
 - Description of what agencies were consulted during formulation of the response;
 - Notation describing whether the comment is new or has been previously noted; and
 - Notation of whether the comment has been received from multiple sources or one source.

6. Responses should contain contact information and/or notice of upcoming related public engagement opportunities.
7. The NMMPO Title VI specialist will track all civil rights considerations experienced throughout the process including translation requests or foreign languages encountered during a public engagement event.

3.1.3 OPEN HOUSES

Title VI Considerations

1. US Census Language Identification Flashcards have been provided at the reception desk. <http://www.lep.gov/ISpeakCards2004.pdf>
2. If the NMMPO is providing interpretive services during the open house session, their availability should be made clear through signage and/or announcements. After the session, the NMMPO staff in attendance should relay the nature of questions and concerns identified through interaction with the public to the Transportation Program Manager (or designee). It is important for NMMPO staff to know and understand community concerns.
3. Written descriptions of display items may need to be translated depending on requests received and/or the anticipated level of LEP participation.

ADA Considerations

1. The open house set up should be ADA compliant. Refer to the “Civil Rights Protocols Designed to Ensure Accessibility” section outlined in this plan.
2. Consider the following protocols when setting up an open house style meeting:
 - Consult the following “best practices” guide for text and color considerations when preparing materials for the open house. <http://www.lighthouse.org/accessibility/design/accessible-print-design/>
 - Pathways in and around the room that guide attendees to displays and staff should be clear of obstruction.
 - Display materials should be set up at proper heights and viewing angles to make the accessible. (Maximum 48” above the floor for mounted wall displays. The clear floor space should be 30”-48” wide. For tabletop displays, the table should be 28”-34” in height and there should be at least 27” of knee space from the floor to the underside of the table.)
 - NMMPO staff should be able to describe visual displays to blind or visually impaired attendees.
 - Alternate versions (large print, Braille, etc) of public documents should be made available if requested prior to the meeting date.

3.1.4 TARGETED OUTREACH GATHERINGS

Strategic planning for the involvement of Title VI community members in special purpose meeting groups or committees is essential to an inclusive and successful effort.

Preliminary Steps

1. Identify and analyze the project/study area to determine the Title VI populations affected.
2. Establish a clear objective and role for the envisioned targeted group.
3. Create a public participation database to identify the different types of community representation and interests that reflect the community affected by an initiative, with careful attention to Title VI populations. Types of organizations or interests that may include representatives of Title VI populations:
 - transit-dependent community
 - affected businesses
 - civic organizations (women, seniors, youth, people with disabilities)
 - freight interests
 - the disability community
 - neighborhood associations
 - schools
 - churches
4. Beyond demographic data and identification of the types of Title VI related groups or individuals in the community, there are certain key questions to help determine the individuals or groups to invite to a targeted outreach gathering. Consider answering the following questions:
 - Who can represent these diverse groups and constituencies in a credible and responsible way?
 - Who needs to be at the table for the work to be accomplished?
 - What is the history of relationships between stakeholder representatives and groups? Is there any past tension that may be a deterrent to participation? If so, are there other community leaders who could help mediate to encourage participation despite differences?
 - Are there any critical stakeholders who may be reluctant to participate in the process? What would be the impact of their refusal to participate in the process? Are there any alternatives to alleviate their concerns/issues with participation?
 - What commitments do you want from participants?
 - Other than known stakeholders, what other individuals or groups may have an interest in the project that are (a) not in the immediate project area, and/or (b) are not otherwise represented in the outreach strategy?

Conduct Targeted Research

NMMPO staff should research communities and targeted groups/individuals that have been identified.

Reaching out to Potential Title VI Group Members

1. Outreach approaches:
 - Look for formal and informal opportunities to engage, collaborate, and build relationships.
 - Use multiple outreach methods including email, phone calls, etc.

- Prepare materials based on the targeted audience, including translations
- Identify existing channels of communication
- Experiment and reflect on the effectiveness of new approaches.

In Title VI communities, a range of factors can lead to reluctance to participate for individuals and/or groups that could be helpful in the transportation planning or development process. For example, many times natural leaders are leaders of agencies or community groups, often limiting their ability to participate because of the many demands on their time, resources and commitment. Identify the factors that would encourage participation and involvement before reaching out, to be in the best position to explain how it is important for this individual or group to participate.

The following are some common barriers to participation, and reasonable responses that a meeting planner should anticipate, understand and be able to articulate to encourage potential participants to get involved:

- **Limited English language skills and/or limited literacy** – it is first important to know that the NMMPO convey the message that the organization has the ability and obligation to fund translation and interpretation support. It would be ideal to have a colleague or staff person who speaks the language or is of the culture in question to support the outreach effort, or to use a translator as an intermediary.
- **Lack of trust due to past experiences** - it is important to be in a position to respond with as much information as will demonstrate that both participation and the project are being honestly and openly addressed.
- **Lack of experience with transportation decision making processes** – if this process is not well understood, it is important to have NMMPO staff on hand to clearly explain the process.
- **Economic barriers** – transportation costs, work schedules – meetings should be located in the community of interest to avoid cost factors, and they should be timed to meet the schedule of the majority of participants, after consideration of all schedules, alternatives and needs.
- **Cultural barriers** – There may be intergroup dynamics that make bringing groups together problematic due to class, racial, ethnic or political differences. Research on these issues will help build a better understanding and provide suggestions to mediate the different groups or determine whether there is a need for separate meetings.
- **Common Barriers** – Time and other demands may hinder public participation. The key is to clear convey the importance of an effort to the stakeholder, including the benefits to the representative(s) being recruited to participate.

Responding to a Refusal to Participate from a Potential Title VI Participant

1. If a person or group declines to participate in a particular effort, thank them for their time, keeping in mind that the group may choose to participate in another effort in the future.
2. Consider sending the individual or organizations updates on the effort that are sent to others. This effort could be informative and demonstrate inclusiveness for the project.

Documenting the Effort to Achieve Diversity and Next Steps

Given the obstacles to participation in the transportation planning process, it is likely impossible to achieve a perfectly diverse committee. Nonetheless, it is important to document outreach efforts made towards Title VI inclusion. NMMPO staff should consider the following steps:

1. Staff should keep files on available resources and methods used to identify individuals and groups, the nature of the outreach effort, the people invited and the results of recruitment efforts. Possible resources include:
 - Lists of potential invitees who were considered and/or accepted
 - Samples of research conducted and/or consultations made for recruitment
 - Copies of invitation e-mails or other correspondence
 - Group membership lists, with indications of the Title VI communities represented
 - Meeting sign in sheets
2. NMMPO staff should plan to discuss with the members of the group that is ultimately recruited the efforts made to reach out and recruit individuals, including the potential need that may remain after the fact for additional participation by certain Title VI group members or related organizations.
3. Document NMMPO relationships with the Title VI community and demonstrate that the NMMPO has considered Title VI stakeholder input in development of policies, plans, studies, and projects.

3.1.5 ONE-ON-ONE INTERACTIONS

The following protocols for interactions with Limited English Proficiency (LEP) individuals are generally recommended for NMMPO staff, based on type of interaction.

1. In-person (such as NMCOG offices)
 - The first step is to identify the preferred language of the individual. The following resources are available:
 - Language Identification Flashcards (currently located at the NMCOG office reception area) <http://www.lep.gov/ISpeakCards2004.pdf>
 - Google Translate (<http://translate.google.com/>) or a similar real-time free online language translator can be used to identify the language.
 - Assistance from co-workers that may be able to identify the language.
 - Interpretive services (Note: Language Connections can provide real time telephonic interpretations on an as needed basis)
 - Once the language has been identified, the methods you use to address the needs of the individual will depend on the circumstances.
 - Simple inquiries can be solved with the aid of Google Translate (<http://translate.google.com/>) or a similar product. Staff and LEP individuals can communicate by typing into Google Translate software.
 - For more intricate conversations about issues, NMMPO staff should inform LEP individuals that professional language services are available.
 - Professional language services often take time to secure. NMMPO staff should attempt to convey this message with Google Translate or a similar service.

2. Phone Interactions - The NMMPO staff is proficient in English only. In the event that the NMMPO staff receives a call in a language other than English, staff will transfer a caller to NMCOG's voice mail system so that the caller's request can be recorded and replayed by persons with language skills other than English.

The staff has the ability to request language identification and translation services through several agencies and/or professional translation services. The NMMPO staff is considering how partner with local organizations, i.e. CMAA, CTI, CBA and/or the International Institute, to access these services.

3. Electronic Interactions – email, website comments, online surveys, etc., translation services will be sought through either UMass or Language Connections.
4. For correspondence in a language other than English, Google Translate may be used; more complex interactions may require professional translators/interpreters (Note UMass Translation Services or Language Connections have provided services to the NMMPO in the past).

3.2 CIVIL RIGHTS PROTOCOLS DESIGNED TO ENSURE ACCESSIBILITY

Specific civil rights criteria must be fulfilled in order to ensure that all public meetings are fully accessible to persons with disabilities similar to those with limited English proficiency, as outlined in this accessible meeting policy. State and Federal laws require that all members of the community be allowed to access and participate in NMMPO related public meetings. The Massachusetts Public Accommodation Law and the Americans with Disabilities Act mandate that persons with disabilities must not be denied participation in public meetings, and that reasonable accommodation requests made by attendees shall be honored.

This section provides policy guidelines for ensuring the accessibility of public meetings hosted by the NMMPO. Public meeting guidelines such as the meeting location, room setup, alternate formats and translations of handouts, and the requirement to provide CART and/or sign language and/or foreign language interpreters (upon request) are presented in the following section.

General Considerations

- The NMMPO will designate a staff member to be responsible for ensuring that the public meeting is accessible for all attendees. This individual shall serve as the contact for attendees requesting reasonable accommodations.
- Public meetings will be planned and publicized as early as possible. An ideal planning/publicizing period is at least fourteen (14) days, but no less than ten (10) days in advance. Meeting notices will include a date by which attendees would request reasonable accommodations. Attendees should make such requests at least seven (7) days before the meeting. After the cutoff date, staff will still try to provide an accommodation but cannot guarantee provision of the requested accommodation.
- Attendees are not charged for any reasonable accommodation provided.

Choosing a Meeting Location

- All public meetings shall be within ¼ mile of an accessible bus stop or rail station, where feasible. The path of travel from the transit stop to the meeting location shall be

accessible. Specifically, it should be at least three (3) feet wide, unobstructed (not blocked by trash cans, light poles, etc.), and free of steps, drop-offs or curbs.

- If parking is available to meeting attendees, meeting planners shall ensure that the number of accessible parking spaces available complies with State and Federal regulations. The path of travel from the parking area to the meeting location shall be accessible. Specifically, it should be at least three (3) feet wide, unobstructed (not blocked by trash cans, light poles, etc.), and free of steps, drop-offs or curbs.

Identifying the Accessible Entrance

The accessible entrance to the building hosting the meeting should be identified. If a building's main entrance is not the accessible entrance, a sign shall be posted at that entrance containing the universal accessibility symbol with an arrow pointing to the accessible entrance.

Alternate Accessible Entrance

The NMMPO will ensure that the alternate accessible entrance is unlocked, can be used independently, and that the path of travel to the alternate entrance is well lit. If the door is locked and intercom service or another device is used to gain access, an attendant must be at the door to accommodate deaf or hard of hearing individuals, as well as others with disabilities.

Accessible Restrooms

If restrooms are available for use by the public, then all public meetings shall have at least one accessible restroom for men and one accessible restroom for women, or one accessible gender-neutral restroom. The accessible restrooms shall be within reasonable proximity to the meeting room.

Accessible Telephones

If two or more public payphones are available at the meeting facility, at least one should be equipped with TTY and mounted no higher than 48" from the floor and provide clear floor space 30" wide and 48" wide (so that attendees using wheeled mobility can properly access the phone).

Meeting Room

The public meeting room shall be made accessible for persons with disabilities. The following shall be provided:

1. The room shall have an integrated seating area for wheeled mobility device users.
2. Such spaces for wheeled mobility device users should be dispersed throughout the room, and not clustered (i.e. all in the front or all in the back) to allow attendees using wheeled mobility a variety of seating/viewing options.
3. A well-lit area and chairs facing the audience shall be made available for sign language interpreters at the front of the room.
4. If using a CART provider, a small table for the laptop and space for a screen and projector should be provided near an electrical outlet.
5. Priority seating at the front of the audience and in direct line of sight of the interpreters/CART provider shall be provided for attendees who are deaf/hard of hearing.

6. For foreign language interpreters, provide space where they can sit with individuals requiring language assistance.
7. Aisles within the meeting room shall be clear of tripping hazards (e.g. electric cords), and at least three (3) feet wide.
8. Microphones used at public meetings shall be available on a stand that is height-adjustable. Note: While wireless microphones have become popular, some attendees with disabilities will not be able to hold a microphone independently. In this situation, allowing an attendee use of a microphone stand adjusted to their height is almost always preferable to holding the microphone for them. Alternatively, and particularly for larger meetings, staff with a floating microphone would be preferable to facilitate communication.
9. Podiums: If any attendee may have an opportunity to speak at a podium, NMMPO staff shall ensure that either:
 - The podium is height adjustable, or a small table is provided to the side of the podium.
 - The table shall be between 28 and 34 inches in height.
 - There shall be at least 27 inches of knee space from the floor to the underside of the table.
 - If a microphone is provided at the podium, one shall also be provided at the small table.
10. Raised Platforms. If any attendee may have an opportunity to move onto a raised platform or stage during the meeting, the raised platform or stage shall be accessible by:
 - A ramp that is at least 3 feet wide;
 - Does not have a slope that exceeds 1/12;
 - A Platform lift.
11. High Speed Internet Connection: Public meeting rooms shall provide for a high-speed internet connection to allow attendees who rely on video remote interpreting or CART. There should also be a conference capable telephone with a speakerphone function available.

3.2.1 AMERICAN SIGN LANGUAGE AND FOREIGN LANGUAGE INTERPRETERS, ASSISTIVE LISTENING, DEVICES, CART, AND VIDEO REMOTE INTERPRETING

The NMMPO provides reasonable accommodations and/or language assistance free of charge upon request (including but not limited to interpreters in American Sign Language and foreign languages, open or closed captioning for videos, assistive listening devices and alternate material formats), as funding allows. To request accommodations, individuals must contact the NMMPO Title VI Coordinator at 978-454-8021 or email to jhoward@nmcog.org. Requests should be made as soon as possible for services requiring advanced arrangements, including sign-language, CART or language translation or interpretation. Procedures for provision of ASL, interpreters, assistive listening devices, CART, and video remote interpreting are as follows:

1. American Sign Language and/or foreign language interpreters will, to the best of the NMMPO's ability, be provided at all public meetings upon request. Interpreters should be requested at least ten (10) days in advance of the public meeting by contacting the NMMPO Title VI Specialist. Attendees will not be charged for any costs associated with providing sign language or foreign language interpreters for the meeting.

2. Assistive Listening Devices for attendees who are hard of hearing will, to the best of the NMMPO's ability, be provided at all public meetings upon request.
3. CART services will, to the best of the NMMPO's ability, be provided at all public meetings upon request. Staff should schedule or make CART services requests at least two weeks in advance of the meeting, and preferably as soon as an attendee makes this need known. When remote CART services are to be used (the CART reporter is not in the room), the NMMPO staff should try to provide the reporter any technical terms or acronyms to be used, as well as the names of key meeting attendees before the meeting date.
4. Video Remote Interpreting will, to the best of the NMMPO's ability, be provided at all public meetings upon request via a computer/laptop with a webcam and high speed internet connection.
 - Video Remote Interpreting is a relatively new form of technology and may be an adequate alternative to providing ASL interpreters in certain situations. However, if an attendee requests Video Remote Interpreting, ASL interpreters will be an adequate substitute, if staff cannot secure the requested technology.

3.2.2 ALTERNATIVE FORMATS AND TRANSLATION OF HANDOUTS/PRESENTATION MATERIAL

These accessibility protocols are identical for translation into foreign languages, where the language requested is identified through application of the NMMPO Title VI Limited English Proficiency Plan (LEP). Strong evidence of compliance with Title VI under the "Safe Harbor" provision involves providing written translations of vital documents for each language group of LEP persons that constitutes 5% of the population or 1,000 persons, whichever is less, eligible to be served or likely to be affected or encountered by the recipient. If that 5% is comprised of less than 50 persons, then translation of vital documents can be provided orally. Also, under the "Safe Harbor" provision, oral translation of non-vital documents is deemed sufficient to meet the requirements of Title VI. This requirement does not affect the requirement to provide meaningful translation to one or more in a small group of LEP individuals through competent oral interpreters or translation where language services are needed and are reasonable. Attendees will not be charged for any cost affiliated with the creation of alternate formats of meeting material.

Large Print Version

Large print versions of all printed material shall be available at all public meetings upon request to the NMMPO Title VI specialist. Requests should be made at least twenty-four (24) hours prior to the meeting. If requests for alternative formats are made at or following the meeting, the alternative format shall be provided within seven (7) days of the request.

Large print meeting materials shall:

1. Be created using a sans serif font at 16 point font size
2. Have the same information as the original handout
3. Have the highest contrast possible (e.g. black on white)
4. If graphics (such as images, tables, or graphs) are used in the original document, the same graphics shall be included in the large print version of the document

5. If images are used in the large print document, a brief description of the image shall be provided as alternative text. Alternative text image descriptions shall be brief and provide the viewer of the document with a general idea of what is in the image.
6. If tables or graphs are used in the large print document, a summary of the table or graph shall be provided in the document narrative.

Electronic Versions

If an electronic version of materials is requested within twenty-four (24) hours of the meeting to the NMMPO Title VI specialist, this version shall be available for the meeting. If no advance request is made, but rather is requested at or after the meeting, then the meeting materials shall be made available electronically, within seven (7) days of the request.

Note: Whenever possible, NMMPO staff should bring several copies of an electronic accessible version of the material to the public meeting. Some individuals with visual impairments or other disabilities may attend with portable screen reading software that would allow them to access electronic material during the meeting.

Braille Versions

If a Braille version of materials is requested within one week in advance of the meeting to the NMMPO Title VI specialist, this version shall be available for the meeting. If no advance request is made, but rather is requested at or after the meeting, then meeting materials shall be made available in Braille within seven (7) days of the request.

Audible Versions

If an audible version of materials is requested within one week in advance of the meeting to the NMMPO Title VI specialist, this version shall be available for the meeting, if no advance request is made, but rather is requested at or after the meeting, then meeting materials shall be made audible, within seven (7) days of the request.

Foreign Language Versions

If a common foreign language version of materials is requested to the NMMPO Title VI specialist within one week in advance of the meeting, this version shall be available for the meeting. If no advance request is made, but rather is requested at or after the meeting, then meeting materials shall be made available in the language requested within seven (7) days of the request.

Other requests for alternate formats

Individual attendees may have unique specifications for alternate formats. All reasonable requests for alternate formats made to the NMMPO Title VI specialist shall be honored within seven (7) days of the request.

3.2.3 PUBLICIZING THE MEETING

Public meetings shall be publicized as early as possible—ideally 14 days in advance, but not less than 10 days in advance. This allows attendees time to submit requests for reasonable accommodations and for NMMPO staff to set deadlines for accommodation requests to be made in a timely manner. The meeting notice should also be translated into the languages that are identified through application of the four factor analysis set forth in the NMMPO Title VI Assessment. Based on the 2010 US Census, these languages include:

- Spanish
- Portuguese
- Khmer
- Chinese
- Vietnamese

All meeting notices shall be publicized on the NMCOG website www.nmcog.org and in local newspapers, namely the *Lowell Sun* and *Khmer Post*.

All meeting notices shall include:

- The statement “This location is accessible to persons with disabilities”.
- A statement outlining the public transportation service available.
- A brief listing of accessibility features that either are available or may be made available upon request, or during the public meeting (e.g. sign language, CART, assistive listening devices and/or foreign language interpreters).
- Information on how to request reasonable accommodations by phone, e-mail or fax and the deadline for requests.
- Information on how to request language interpreter assistance.

3.2.4 ADDITIONAL CONSIDERATIONS

Within 48 hours of receiving a request, NMMPO staff should respond to the attendee that the request has been received and is being processed.

Emergency Preparedness

In the event of an emergency, some attendees with disabilities may not be able to evacuate independently. Meeting planners shall familiarize themselves with the evacuation plan for the meeting space. At the beginning of each meeting, meeting presenters shall announce the safety briefing - including information regarding where those attendees who would require assistance should wait during an emergency.

When opening a public meeting, presenters shall announce:

- The presence and function of sign language interpreters (if interpreters are in the room), and/or CART providers;
- That assistive listening equipment is available;
- The location of accessible restrooms; and

- The safety briefing.

When presenting, presenters at public meetings shall:

- Speak slowly and clearly so that the sign language interpreters have time to interpret.
- Verbally describe information presented visually (e.g. PowerPoint) so that visually impaired attendees can process the information.
- Ensure that any videos shown during the meeting are encoded with closed captioning and are shown on a closed caption compatible device. Subtitles are an acceptable alternative.
- Provide an alternate version of the video with descriptive video/described narration.
Note: It may not always be a good choice to use a described video in an open meeting as this can be a problem for other viewers.

Updates and Revisions

The NMMPO staff will utilize this Plan in order to fully understand the region's needs and be more responsive in its interaction with community members. Due to varied and evolving nature of the transportation planning process, it is expected that there will be a need to revise and update this plan periodically. To ensure that current and effective methods for public involvement are used, NMMPO staff will monitor the effectiveness of the strategies and techniques outlined in this plan. Toward this end, NMMPO staff will track attendance at public events, compiling figures on number of comments received and track social media and website activity. As mandated, the NMMPO will evaluate the effectiveness of its Public Involvement and Civil Rights strategies and practices on an on-going basis to ensure that low income and minority population classes are not adversely impacted. Adjustments to the PPP will be made as soon as deficiencies are noted. Any updates or revisions to the Plan will require a 45-day public comment period before NMMPO action is taken to adopt the proposed revisions.

Appendix A: Summary of Comments Received

NORTHERN MIDDLESEX MPO PUBLIC COMMENT SUMMARY

Draft Public Participation Plan

COMMENT PERIOD: MARCH 11-APRIL 25, 2016

PUBLIC MEETING DATE: APRIL 5, 2016

Comment 1: March 31, 2016

- Mark Goldman, a Lowell Resident, called staff to offer complete support of the draft public participation plan as presented. He offered two amendments to the report:
- Add Historic Commissions from each community to the outreach list in Section 2.1.4 beginning on page 19 of the document.
- Add Massachusetts Department of Conservation and Recreation (Mass DCR) to the outreach list in Section 2.1.4 beginning on page 19 of the document.

NMCOG Response:

- *These organizations will be added to the Draft Public Participation Plan prior to endorsement of the document.*

APPENDIX H: GLOSSARY OF ACRONYMS

- 3C Process: Continuing, Cooperative, Comprehensive
- ADA: Americans with Disabilities Act
- CBA: Coalition for a Better Acre
- CEDS: Comprehensive Economic Development Strategy
- CFR: Code of Federal Regulations
- CGI: Common Ground Inc.
- CMR: Code of Massachusetts Regulations
- CTI: Community Teamwork, Inc.
- DHCD: Department of Housing and Community Development
- DLTA: District Local Technical Assistance
- EDA: Economic Development Administration
- EDSAT: Economic Development Self-Assessment Tool
- 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
- LDFC: Lowell Development and Financial Corporation
- LEP: Limited English Proficiency
- LNHP: Lowell National Historic Park
- LRTA: Lowell Regional Transit Authority
- MAP-21: Moving Ahead for Progress in the 21st Century Act
- MassDOT: Massachusetts Department of Transportation
- MEPA: Massachusetts Environmental Protection Agency
- MOBD: Massachusetts Office of Business Development
- MOU: Memorandum of Understanding
- MPO: Metropolitan Planning Organization
- NMCOG: Northern Middlesex Council of Governments
- NMMPO: Northern Middlesex Metropolitan Planning Organization
- PL: Planning (Funds)
- PPP: Public Participation 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
- TIP: Transportation Improvement Program
- TMA: Transportation Management Association
- UMASS: University of Massachusetts
- UPWP: Unified Planning Work Program
- USDOT: United State Department of Transportation